

## **Crown Pastoral Land Tenure Review**

**Lease name :Eweburn**

**Lease number :PO 074**

### **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**

DOC REPORT TO KNIGHT FRANK  
ON TENURE REVIEW OF  
EWEBURN PASTORAL LEASE

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Official Information Act

PART I

INTRODUCTION

Eweburn is a 2640 ha pastoral lease located at Naseby. It is in two blocks, a 2425 ha hill block immediately north of the Naseby forest and a 215 ha downland block 5 km away just south of Naseby township. The lease is run in conjunction with other land and is not large enough to be an economic unit on its own.

The majority of the hill block is in the Hawkdun Ecological district which was surveyed under the PNA programme in the summer of 1991/92 though no areas for protection were recommended on this property.

The lease was inspected in September and October 1996 by Department of Conservation staff to evaluate the conservation resource for tenure review.

There are no existing reserves or formally protected areas on the property though the top block of the property of approximately 700 ha has been retired from grazing under a run plan. This top block is surrounded by conservation land on three sides.

## PART II

### CONSERVATION RESOURCE DESCRIPTION AND ASSESSMENT OF SIGNIFICANCE.

#### 1 LANDSCAPE

The property is located on the southern edge of the Ida Range. In a broader context this block mountain range, along with the Hawkdun, forms a substantial part of the backbone of the Central Otago high country.

Eweburn is an integral part of the "edge" landscape that creates a visual backdrop to the Maniototo Valley. This edge landscape is primarily clad in tussock grasslands, which help to convey a feeling of intactness or uniformity to a large proportion of this pastoral lease. The steeper high country merges in naturally with the front farmland, while close to Naseby the finely textured grasslands contract sharply with plantation forestry.

The landscape attributes that give this property its distinctive inherent qualities include intactness, coherence and visibility which means that any further land use changes to the steeper slopes will compromise these high landscape values.

Activities that would have an adverse effect on the landscape particularly the highly visible slopes, include unsympathetic tracking, intensive farming patterns, plantation forestry and spread of wilding pines.

#### 2 LANDFORMS AND GEOLOGY

Basement geology and lithology of the Ida Range in general is dark grey greywacke and argillite transitioning to metaschist of Triassic age, outcropping as bluffs on the steeply incised portions of streams. Headwater gullies of the West and East branches of the Ewe Burn are steep as a consequence of uplift along the Waihemo Fault which produced the Ida Range, Kakanui Mountains, and Horse Range. Solifluction debris covers most upper slopes, producing limited exposures of coarse, angular, blocky screes that are stable and comparatively well vegetated compared to the traditionally finer-grained screes on the greywackes of Canterbury and Marlborough. Catchment slopes average 20° - 30° and at the head of the stream immediately below the summit of the Mt Ida range up to 75°. The East and West branches of the Eweburn

dominate the drainage network and produce relatively humid south facing deep valleys at their heads.

In striking contrast, the lower terrace or downland country immediately above Naseby Forest is formed on Kyeburn breccias of Cretaceous age. This geological unit occurs only between the Ewe Burn and Kyeburn (New Zealand Geological Survey 1963) and consists of grey carbonaceous sandstone and siltstone overlain by grey and red schist fanglomerate. This unit is one of the few erosion relicts from the Rangitata Orogeny left in New Zealand (Thornton 1985).

### Significance

The Kyeburn Breccia unit is of national significance, being the oldest sedimentary landform in southern New Zealand. It records an orogeny (mountain building event) with very few remnant landforms. Its ecological significance (as opposed to geological significance) is increased by the associated intact soil and native tussock grassland sequence.

### Soils

In general terms there has been a profound loss of the colluvial- and loess-derived soils from approximately 1000 m and above on the greywacke country. Only small remnants occur on lower valley slopes, which testify to a widespread erosion event probably dating to the original deforestation event. In contrast, soils of the Kyeburn breccia landforms on the lower terraces appear intact, consolidated, and probably of higher fertility than the loess soils above. Kyeburn breccia soils have pronounced horizon development and probably superior moisture retention, in contrast to the uniform morphology of remnants of loess soils above.

## 3 CLIMATE

Typical central Otago climate with hot summers and cold winters. Rainfall varies from 500 mm on the lower country to over 1000 mm on the tops where much of the precipitation occurs as snow which can lie for up to 4 months. The normal summer moisture deficit is aggravated by frequent NW winds. With altitude ranging from 600 m to over 1500 m unseasonal frosts or snow can occur at any time of year.

## 4 VEGETATION

Approximately 80% of the property is dominated by indigenous tussock grassland, the great majority of it narrow-leaved snow tussock.

### Summit ridges and spurs

Ridgetop landscapes are of scree and fellfield at the upper altitude limits of the property in the subalpine-alpine zone. Clumps of fellfield vegetation consist of sparse cushion and mat forming plants of *Raoulia hectorii*, *R. petriensis*, *R. eximia*, *Dracophyllum muscoides*, *D. pronum*, *Kelleria dieffenbachii*, *Luzula pumila*, and *Phyllachne colensoi* in a solifluction scree landscape. Down off summit ridges narrow-leaved and slim-leaved snow tussocks intermix on intact pockets of subalpine soils.

### Above retirement fence

Further below but above the retirement fence, narrow-leaved snow tussock dominates the grassland vegetation, but tussock density is low and bare ground constitutes 50% and more cover. Screes are often fringed with matagouri and the odd plant of *Hebe pinguifolia* and *Pimelea traversii*. There are scattered clumps of matagouri, *Gaultheria crassa*, *Dracophyllum uniflorum*, and *D. pronum* and one or two manuka and inaka deep down on valley slopes. Tussock cover is probably gradually increasing following retirement, but the process appears slow due to limited soil cover. Partly for the reason, shrubs are slow to invade the system. However, remnant pockets of the previous subalpine shrublands and scrub exist in headwater gullies of the West and East branches of the Ewe Burn. This locally significant and diverse woody vegetation is a link with the pre-human vegetation of the catchment.

### Below retirement fence

Narrow-leaved snow tussock dominates all topography below the retirement fence on the greywacke and breccia landforms. Although somewhat fragmented by pastoral use, tussock vegetation is often dense in the steeply-incised portions of streams where it is co-dominant with matagouri. A healthy cover of snow tussock also covers the lower altitude sequence of Kyeburn breccias in the south-eastern third of the property. Oversowing and topdressing is concentrated on the breccia landforms of the lower terrace country, yet only on the driest tops of interfluves is the tussock grassland rather depleted. Isolated shrubs of manuka, *Coprosma propinqua*, and inaka point to their increasing importance in the future. Above the original treeline at approximately 950 m on spur and ridge tops, fellfields support scattered cushions of *Dracophyllum muscoides*, tussock clumps of slim snow tussock, *Kelleria dieffenbachii*, and *Phyllachne colensoi*.

In summary, except for the diverse subalpine shrubland in headward gullies below the Ida Range, the vegetation pattern is rather uniform - narrow-leaved snow tussock in varying condition, with scattered matagouri increasing in valley bottoms. However, closer examination reveals a surprisingly diverse mix of prostrate and erect shrubs above the retirement fence.

### Significance

The higher altitude tussock grassland is of district significance however it is already well represented in the surrounding conservation areas. The tussock grassland communities of the Kyeburn Breccia terrace country are of national significance as a component of a geological/landform/soil/vegetation unit of considerable antiquity rarity and representatives.

## 5 FAUNA

### Invertebrates

The Ewe Burn Pastoral Lease contains several key ecosystems for Otago Conservancy invertebrates.

Firstly, the Ida Range is part of a mountain block (Kakanui Mountains to Hawkdun Range) system that contains a suite of invertebrate species not found elsewhere in Otago. Some are endemic to these mountains plus some South Canterbury alpine areas; others are typical of Canterbury and are represented here at their southern limit.

Biogeographic examples:

Local endemics	-	moth - <i>Notoreas</i> n.sp.
	-	giant weevil - <i>Lyperobius</i> n.sp. (1)
	-	giant weevil - <i>Lyperobius</i> n.sp. (2)
	-	black cicada - <i>Maoricicada phaeoptera</i>
Southern Limit	-	scree weta - <i>Deinacrida connectens</i>
	-	black cicada - <i>Maoricicada mangu</i>
	-	moth - <i>Notoreas ischnocyma</i>
	-	scree grasshopper - <i>Brachaspis nivalis</i>
	-	caddis - <i>Hydrobiosis kiddi</i>
Rare Species	-	<i>Asaphodes ida</i> (type locality Eweburn)

Undescribed Species - *Pseudoscorpion* - new genus (?), n.sp.

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### Summit fellfield-cushionfield and scree

The full suite of typical alpine and high-alpine invertebrate orders are present here reflecting both the age of this alpine area and range of communities present.

The black butterfly (*Percnodaimon merula*) and a range of diurnal moths (*Aponotoreas anthracias*, *Notoreas* n.sp., *Dasyuris bectori*) characterise this ecosystem together with a giant weevil associated with a small speargrass. Alpine spiders (esp. *Salticidae*) and a cockroach (*Celatoblatta quinquemaculata*) live under rocks with two large species of weta. The scree weta *Deinacrida connectens* is at its southern limit in Otago while the similarly large *Hemideina maori* is patchily distributed on mountains as far south as the Umbrella Mountains. Both species have patchy distributions in Otago, but quite healthy populations on the Ida Range, one of their safer refugia.

The cryptic scree grasshopper (*Brachaspis nivalis*) is common on the rocky slopes of the range, including the screes. It does not live on the Central Otago ranges further south. The small shrub *Pimelea traversii*, at its southern limit has three moth species larvae feeding on it.

### Alpine Grassland-Shrubland

A large native insect fauna frequents the snowgrass-shrubland areas of the range above 900 m. Beetles, flies, bugs, moths and wasps dominate in terms of species numbers and all groups contain a mixture of widespread alpine species mixed with North Otago mountain endemics with a few typically Canterbury species at their southern limit. The large shield bug *Cermatulus nasalis* and the gaily-coloured diurnal moth *Aponotoreas insignis* are typical examples - widespread species that characterise the alpine zone but with particularly good populations on the Eweburn Pastoral Lease.

### Ewe Burn Gorge Shrubland/Creeks

Particularly steep and erosion prone slopes at the base of the Ida Range 900-1120 m are in excellent condition containing dense and diverse examples of native woody vegetation that has mostly disappeared from the Hawkdun Ecological District. The West Ewe Burn is the best example with the following examples of species of plants together with their typical insect fauna:

Snow totara - moth leafminer *Chrysorthenches porphyritis*

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- tiny weevil
- Celery pine - leaf tying moth *Catamacta alopecana*
- tiny weevil
- Leonobebe odora* - bug *Rhyphodes spadix*

The freshwater aquatic fauna is impressive too, with the stoners *Zelandobius patricki*, *Austroperla cyrene* found together with the caddis *Hydrobisis kiddi*, *Costachorema psaropteryum* and *Tiphobiosis cataractae*. All are indicative of rich freshwater ecosystems as the caddis are all predacious as larvae and rely on a rich assortment of smaller animals on which to feed.

**East Ewe Burn Stream Banks and Stream Flats above 700 m**

These riparian areas are wetter and have deeper soils than adjacent slopes and ridges.

This habitat has minimal pasture establishment and is wetter with deeper soils - naturally more productive. Leaf litter here, enhances invertebrate community diversity and functioning. Five species of carabid beetles and skinks (invertebrate predators) appear more common here than in other habitats.

The leaf litter trapped here and in the stream is colonised by insects not generally found downstream since streams are broader and leaf litter input and retention is poorer there. Examples of these insects are - *Pycnocentria* species (caddis), *Orthocladrinae* species (midges) and *Tipulidae* species (craneflies).

**Montane Grass and Shrubland**

The soils here are thin, however, this is habitat for four lizard species, large weta (*Hemideina maori*) and an undescribed new species of pseudoscorpion. The presence of the lizards and large weta are important since they are patchily distributed. *H. maori* (up to 55 mm long) is found in isolated places from Mt Cook to Otago and not usually below 1100 m. Their presence indicates a less disturbed environment than nearby areas where they should also be distributed.

**Significance**

This property has significance for invertebrate conservation because of :

- 1 Species richness of the fauna typical of the Ida Range.



- 2 It contains the elements that make the Ida Range distinctive, ie local endemics and biogeographical limits.
- 3 There is an excellent array of communities supporting this distinctive fauna, sub-alpine shrublands, scree, riparian shrublands, in-stream fauna.
- 4 The relevant communities are both extensive and in excellent condition so the invertebrates populations appear to be viable.

### Scree Skinks

#### Distribution

Scree skinks (*Oligosoma waimatense*) are endemic to the eastern South Island from the Seward Kaikouras and Balaclava Ridge, Molesworth to the Mt Ida and Mt St Bathans. There are less than twelve known locations covering an altitude range of 700-1400 asl.

Almost all known locations are in unstable moving scree of the eastern South Island greywacke mountains.

The distribution of scree skinks shares a similar characteristic to the distribution of Otago skinks and grand skinks. They are apparently confined to a specific habitat, in this case unstable scree. There is an abundance of that kind of habitat but very few scree have scree skinks and the scree that do are not clearly different to those that do not have skinks. These characteristics suggest that their rarity is not a function of habitat but some other source of decline such as predator impacts.

The Eweburn location discovered in 1985 is one of six discovered on contiguous properties on the southern slopes of Mt Ida in the Ida and Wether Burn catchments. These sites were found after following up an historic report by W Martin in 1929 of grand skinks occurring on Mt Ida.

#### Threats

- They are vulnerable to the predators typical of that landscape, cats ferrets stoats weasels rats, may be mice, may be magpies and other birds.
- The scree are unstable and stock trampling impacts on their form. Stock could trample lizards sheltering in the scree. Improvement of the pasture by oversowing and top dressing

would increase the stock and so the level of disturbance. Pasture improvement would also favour higher rabbit numbers and sustain a greater number of predators.

- Wilding pines are already present, establishment of pine cover would detrimentally shade scree.
- Fire, while common, will not do anything good for native vegetation quality and the production of fruit and insects for the skinks.

### Significance

The scree skink was given a category B "Second priority species for conservation action" listing by B Molloy and Davis in 1994. It was not listed in the 1992 edition. It has gained this ranking because few new sites have been discovered in recent years and it appears to have disappeared from several known sites in the last 10 years. Populations are small and very scattered.

### Fish Species

A survey of the property undertaken during the tenure review located three freshwater fish species, brown trout (*Salmo trutta*), brook char (*Salvelinus fontinalis*) and *Galaxias anomalus* in the Eweburn. NIWA freshwater fish database records indicate the presence of brook char in Spec Gully No.2 just downstream of the property boundary and *Galaxias anomalus* is known to occur in Spec Gully No.1 and No.2 but is unlikely to be present in the Spec Gully sections within the property boundaries due to the small nature of the watercourses. *Galaxias anomalus* which was the only native species found on Eweburn and is part of the Otago galaxiid complex.

### Survey Sites

West Branch Eweburn site 1 (NZMS 260 H41 811 794)  
No fish species present at this site just upstream of a series of waterfalls

West Branch Eweburn site 2 (NZMS 260 H41 810 792)  
Brown trout were common at this site

West Branch Eweburn site 3 (NZMS 260 H41 812 783)  
Brown trout were common at this site

West Branch Eweburn site 4 (NZMS 260 H41 811 774)  
Brown trout were common at this site and the largest trout collected was found here.

*Galaxias anomalus* was present at this site in low numbers and generally restricted to side braids, all individuals collected appeared to be yearling fish.

*Galaxias anomalus* could be expected to occur in the open braided stream section from around site 4 downstream to the West Eweburn dam.

East Branch Eweburn site 1 (NZMS 260 H41 827 761)

Brown trout and brook char were present in low numbers at this site.

East Branch Eweburn site 2 (NZMS 260 H41 827 761)

Brown trout and brook char were found in the main channel, small brown trout, brook char and adult *Galaxias anomalus* were present in the side braids.

*Galaxias anomalus* could be expected to extend downstream from site 2 and upstream for a few hundred metres in areas of the stream that contain multiple channels.

The freshwater fish fauna while containing a category I galaxiid is of low conservation priority. The presence of the two introduced salmonid species limits the distribution of the galaxiid species and reduces the long term survival probability of the galaxiid population. The galaxiid population is most numerous in the areas of stream with braided unvegetated channels and the introduced salmonids exclude the galaxiid from the upstream single channel sections. Furthermore the low summer water levels in the Eweburn mean the permanent fish habitat is not always available within the property boundaries and the survival of the galaxiid is probably dependent on water course condition downstream of the property.

### **Problem Animals**

Mainly transient populations of deer pigs and goats occur on the Hawkdun/Ida range and are being monitored on the conservation land. These animals are not a problem at present but hunting (possibly recreational) would be considered if numbers increase.

Rabbits occur on the property and require regular control on the lower country. Provided this occurs however they are not liable to be a significant problem except perhaps along the boundary with the forestry.

## **6 HISTORIC**

Although a number of Maori sites are recorded in Maniatoto there are no sites known to DOC on this property. Any Ngai Tahu interest on the lease will be reported direct to the Commissioner by Trevor Howse.

The European history of the area began in 1855 when Peter Napier, Walter Pearson and James Saunders explored the Maniototo Plain looking for sheep runs (Cowan 1948:10).

For the purposes of the tenure review survey the larger block was separated into two areas: the valleys of both branches of the Ewe Burn and the area around the head of No.1 Spec gully.

The Ewe Burn valleys were inspected primarily by vehicle as the lessee had indicated there were no sluicings in the valleys and this was confirmed by Hamel who states that the most westerly of the gold workings in the Naseby area are in Coal Pit gully (Hamel 1985:48). The importance of the Ewe Burn was as a source of water for sluicing, particularly in the period before the construction of the Mt Ida race. One of the first races to be cut on the gold field was out of the Ewe Burn, probably the east branch (Cowan 1948:38).

Two large races commence near the head of the west branch of the Ewe Burn (only one is marked on the NZMS 260 map). The upper race is approximately 1.25m wide and still is quite deep. The lower race is only about 0.75m wide and is considerably more infield than the former. Therefore it is more likely that the upper race is more recent or at least was used for a longer period of time. Both races wind their way down the eastern side of the valley but only one (possibly the upper race) seems to continue around into the valley of the east branch.

Three races come out of the east branch. One high level race, and two races which come out of the valley low down, only about a kilometre above the forestry boundary.

The area around the head of No. 1 Spec gully contains a number of races, reservoirs and at least one area of workings. Three races enter the area from the east bringing water from Deep Stream, Near Undaunted and Far Undaunted Streams.

Associated with these races are at least four reservoirs or dams. In one of the gullies in the western head waters of No.1 Spec gully are two dams (grid ref. 844 762). The lower of the three races passes between the two dams (site 1). Both dams are earth walled (the lower dam is now breached); the lower is approximately 35m long while the upper is 30m long. The lower dam may have been filled with water from the lower race. A small race may have lead out of this dam but it is now difficult to trace. Just west of these dams the lower race originally took a long detour around the end of a spur, but a tunnel was driven through the spur at a later date.

Two reservoirs were recorded in this area (site 2). Both are on the top of the ridge between the Hog Burn and Spec gully (grid ref. 841 752).

Both upper races supplied water for these reservoirs as well as heading down the true right of the Hog Burn. Races leave each of the reservoirs and head down the true left of the Hog Burn valley. The lowest of the three original races continues down the Spec Gully side of the ridge line before swinging around into the Hog Burn.

The floor of the Hog Burn at this point may have been ground sluiced but there are no obvious signs of sluice faces or tailings heaps. The only definite area of gold workings (site 3) was in a branch of No.1 Spec Gully (grid ref. 840 752). This consisted of some low sluice faces, a few scattered small piles of tailings and a reasonably well defined tail race. These workings run for about 300 - 400 metres up a side gully. According to the lessee this site was tidied up with a bulldozer many years ago. This is confirmed by the generally "smooth" appearance of the workings and changes in vegetation.

The smaller block of land below Naseby contains two main areas of sluicings (sites 4 & 5); in the valley of the Hog Burn and a tributary to the east. All that remains are the sluice faces. The associated races and reservoirs have been destroyed by cultivation. At one time the Hog Burn sludge channel would have run down the western side of the block but no trace of it remains although it is presumably commemorated in the road name - Channel road.

Also of historic interest is a mud brick wool shed which was built around the turn of the century. This is an interesting example of local farm architecture (fig. 10). Notable features are the unusually narrow eaves and the existence of an interior, central load bearing wall, also of mud brick. Given its age the building is in relatively good condition and has been repaired in the past with mud brick (instead of the usual concrete which is ultimately destructive). However some of the corners have begun to erode badly largely due to the deterioration of the spouting.

### Significance

Of themselves the races and sluicings which were recorded during this survey are not particularly significant, they are typical examples from the sluicing industry which was wide spread throughout Central Otago during the latter part of the 19th century and the early 20th century. However when they are assessed as part of the Naseby sluicings they acquire more significance. The Naseby diggings were the site of one of the major rushes in Otago in the 1860s. It was one of the longer lived goldfields with significant mining taking place well into the 20th century. With the "obliteration" of almost all of the diggings under a thick cover of pine plantations and the resulting damage from road construction and log extraction these small parts that have survived

on the Eweburn pastoral lease have become of increased importance. The sluice faces are of particular significance as so few of the sluiced areas of Naseby are, now, clearly visible.

### Public Recreation

The property has spectacular scenery and large areas of a predominantly natural setting particularly at higher altitude. In this respect it is a contiguous part of the surrounding conservation lands. There is good vehicle access to approximately two thirds of the way up a leading ridge but from there to the main ridge crest is foot only.

There is a legal road, largely on the line of an existing farm track, running from the forestry to the main crest on the back boundary. It does not however connect at either end to any other legal road. A legal road from Naseby township to the property boundary would give foot but not vehicle access, however as it passes through forestry it can be closed for fire or public safety reasons. There are no marginal strips on or into the property. The access used by the lessees is not on a legal road.

Present use by the public is limited, mainly tramping. Some potential for increased use exists particularly with improved access. The property adjoins a large existing conservation area and Naseby is a minor holiday resort only 2 hours from Dunedin. Other than a one off orienteering event no commercial recreation activity has occurred.

### PART III

#### CONSULTATION AND DISTRICT PLAN

The Eweburn property was discussed with NGO's at a meeting on 23 May 1996. Their desired outcomes were :

- Land above 1000 - 1100 m to go to DOC
- All Class VIII and most Class VII land to go to DOC
- DOC/Freehold boundary to be consistent (Landscape) with neighbouring/related properties
- Foot access via Tourist Spur and Spur on the eastern boundary to provide a round trip, day trip to Mt Ida and/or the crest of the Ida Range
- Foot access to historic gold working sites in the East and West branches of Eweburn
- Foot access via the historic water race linking East and West branches of Eweburn
- All water courses greater than 3 m to have marginal strips laid off

#### District Plan

Eweburn Pastoral Lease is covered under the provisions of the Maniototo Section of the Central Otago Transitional District Plan.

The property is divided between two zones under the plan. The north and north-eastern portions of the property are situated within the Rural B (Ru B) zone, the boundary of which lies along the line of the existing retirement fence. The remainder of the property, including the portion which lies south of Naseby, is largely contained in the Rural A (Ru A) zone.

#### Rural A

The Rural A (Ru A) zone is designed to recognise those parts of the former Maniototo District which contain the natural resource to support economic and social well-being of the people living within it. This generally equates to what could accurately be described as the primary productive land of the former district. Consequently, the objectives, policies and rules of the plan associated with the Ru A zone tend to revolve around providing for this key focus.

Permitted activities include:

- farming;
- forestry;
- stalls for the sale of produce;
- recreation, scenic and historic reserves; and,
- buildings and dwellings associated with these activities.

Controlled activities include:

- rural industries;
- quarrying and mining;
- reserves (other than recreation, scenic and historic reserves); and,
- a number of other sundry activities associated with providing the infrastructure of a rural community (eg veterinary clinics, country stores, licensed premises etc).

The provisions relating to subdivision focus primarily on allowing properties to be subdivided into independent and/or "stepping" farming units. There are also controls for subdivision of existing dwellings and for individuals who have retired from a rural activity and wish to remain living within the rural environment. Subdivision for the purpose of establishing a reserve is not specifically addressed in the plan, however it is considered that a case could successfully be argued to allow the subdivision of properties for the purposes of establishing a reserve or conservation area in much the same way as you could argue for permission to subdivide for the purpose of establishing a number of other permitted activities not specifically mention under the subdivision provisions (presuming that this is an issue which needs to be overcome). Conservation areas have similar objectives to reserves under the Reserves Act 1977. They do not specifically appear in the plan because the plan was approved prior to the enactment of the Conservation Act.

### **Rural B**

The Rural B (Ru B) in zone in the plan is designed to apply to high country land within the former Maniototo District that is vulnerable because of its susceptibility to erosion. The areas situated within this zone generally believed unsuitable to be utilised for agricultural or forestry purposes.

Permitted activities are limited to those activities which are "sympathetic to the vulnerable state of the land concerned" and are "consistent with Council's [water and soil] conservation objectives for the area". Activities which are permitted include:



- retirement of land for water and soil conservation purposes;
- protection forestry for water and soil conservation purposes;
- periodic grazing; and,
- huts for overnight shelter (as opposed to a dwelling on a temporary or permanent basis).

Tracks are listed as a discretionary activity.

Controlled activities for the zone include:

- forestry; and,
- reserves under the Reserves Act 1977.

The subdivision provisions for this zone are the same as for the Ru A zone. The obvious restrictions relate to the activities which might be allowed to take place on any property which has been subdivided. Subdividing off an independent farming unit would not be appropriate given that the property which has been subdivided could not operate as an independent farming unit.

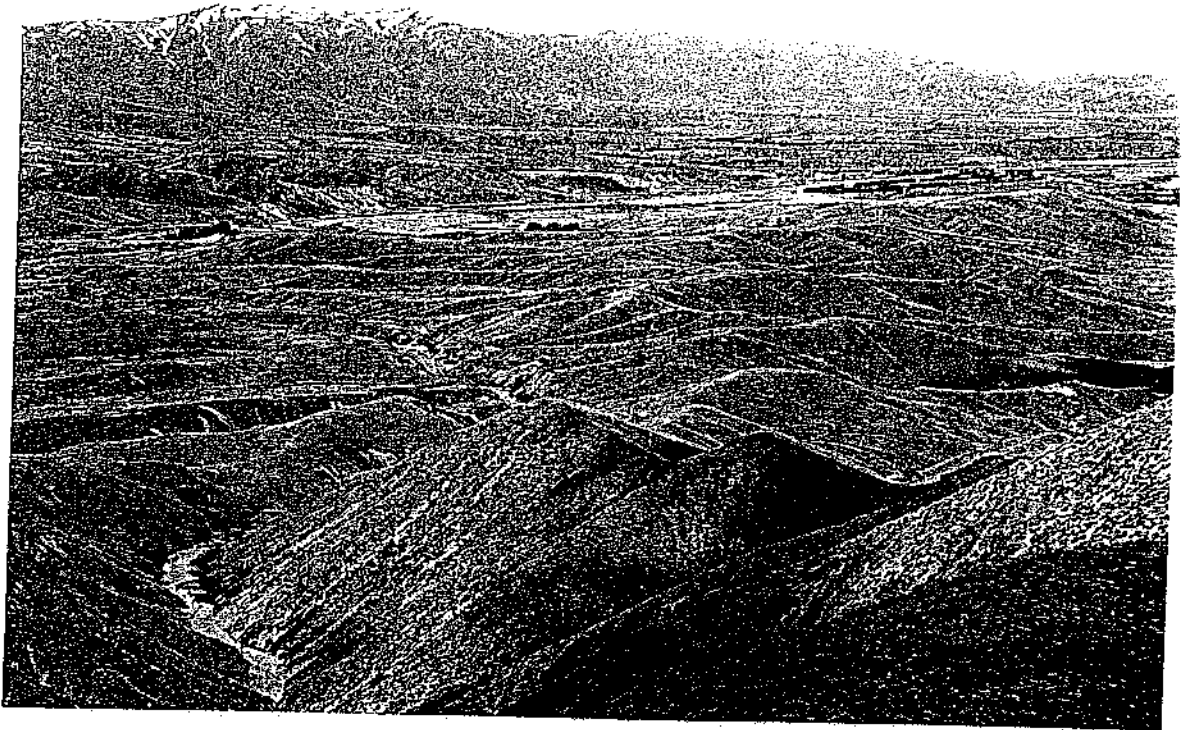


Fig 1  
Kyeburn breccias form the subdued terrace country below the foothills of the  
Kakanui Mountains (foreground). View down ~~the East Ewe Burn~~ *Deep Steam*



Fig 2  
Exotic pine plantation on the western Kyeburn breccias terrace country.



Fig 3  
No. 2 Spec Gully in the lower southeast corner of the property. Outcrops of the crimson red Kyeburn breccia parent gravels and soils are evident on lower valley



Fig 4  
Shrubland, tussock and pines in East Eweburn.

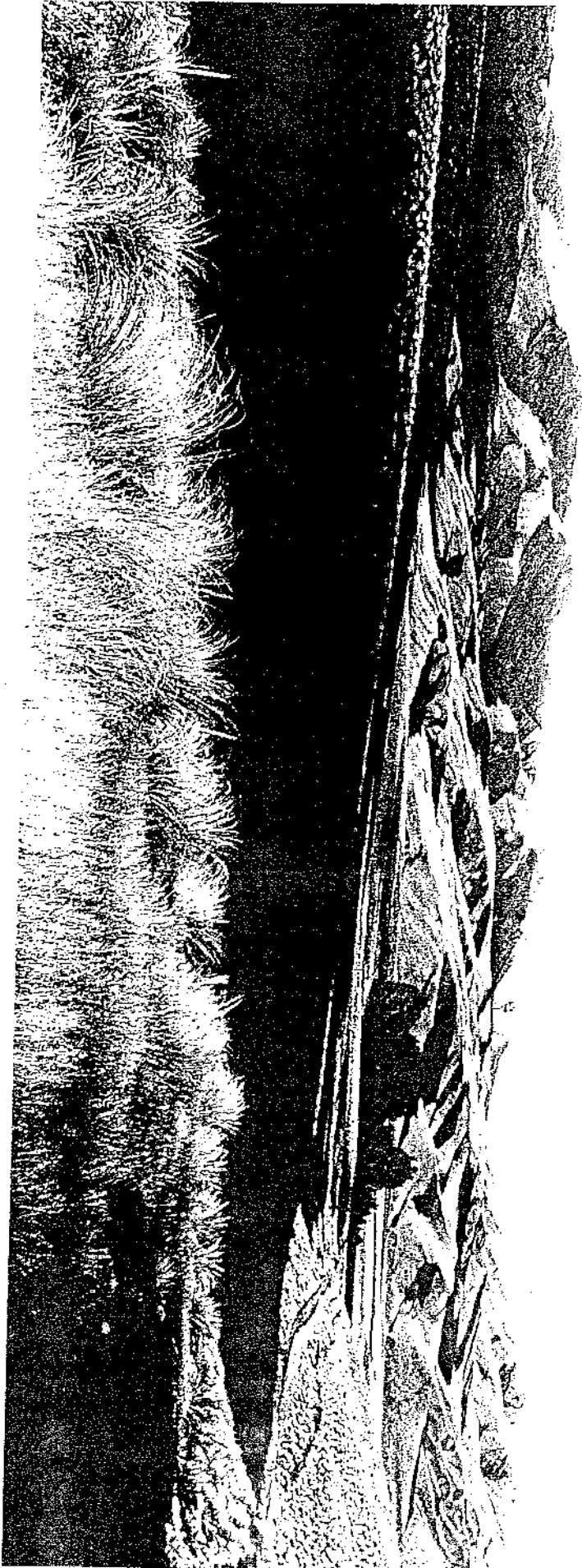


Fig 5  
Kyeburn breccia forms the low altitude rolling terrace country either side of the Kyeburn valley  
(middle distance).

Fig 6  
East EweBurn above the retirement fence.

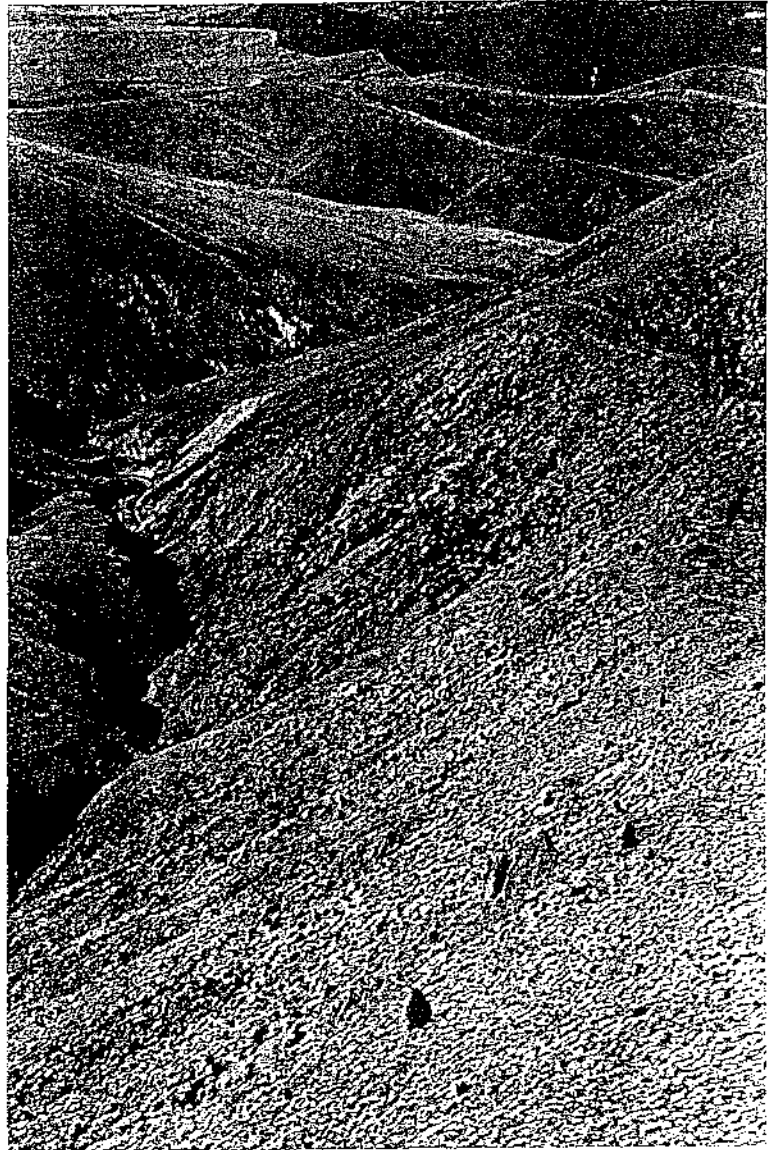
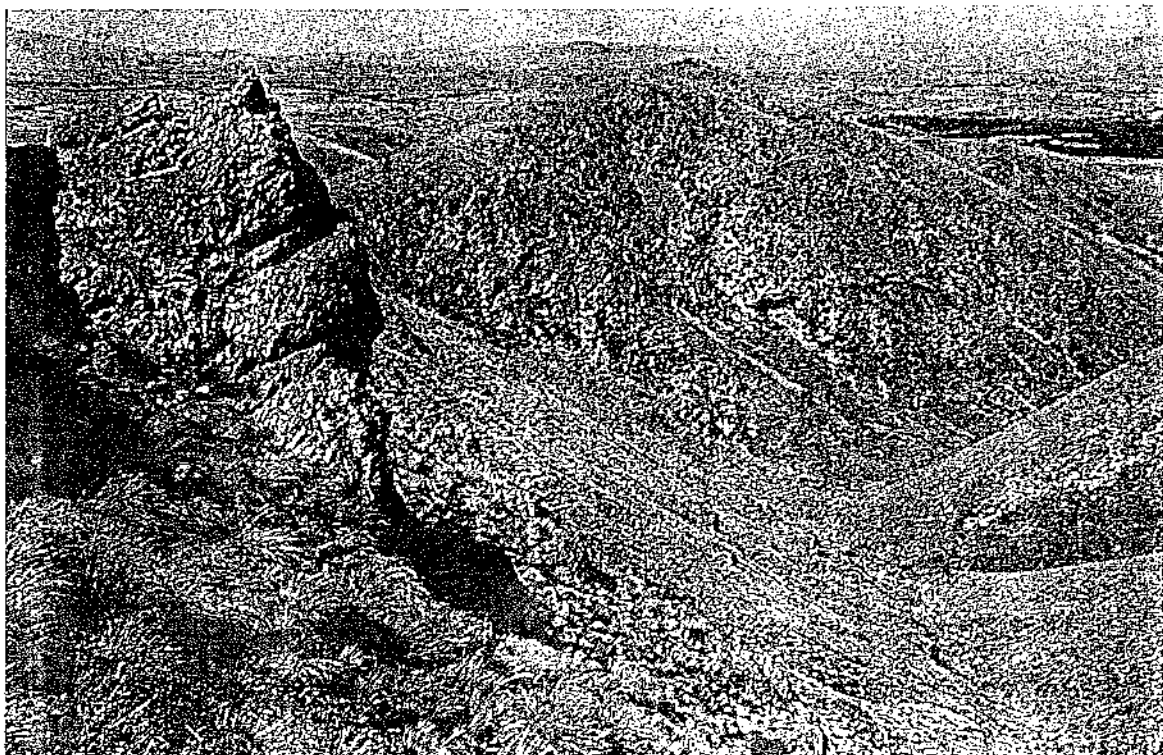


Fig 7  
and below the retirement fence.



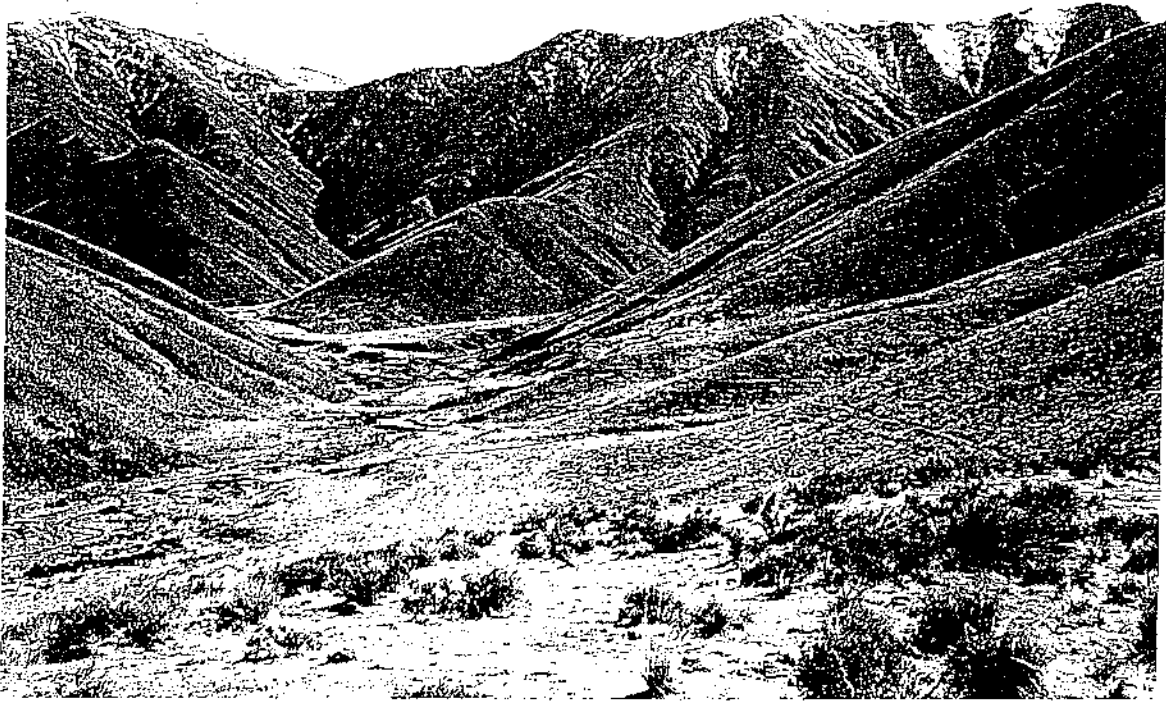


Fig 8  
The west branch of the EweBurn.

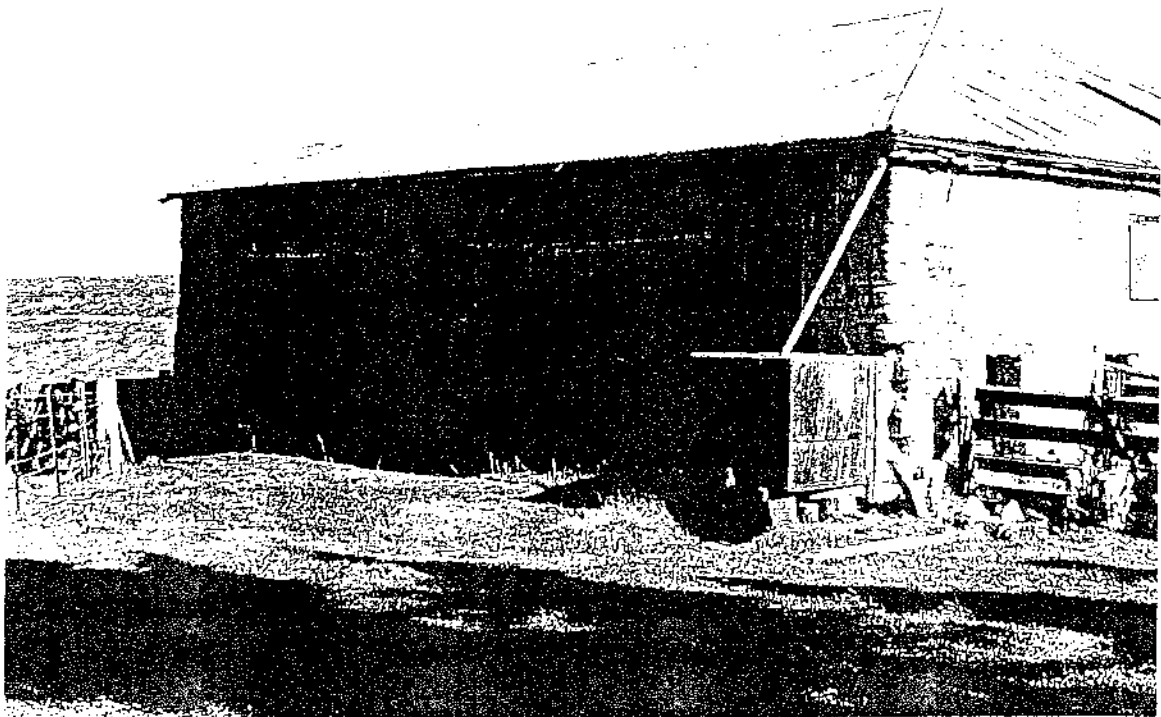


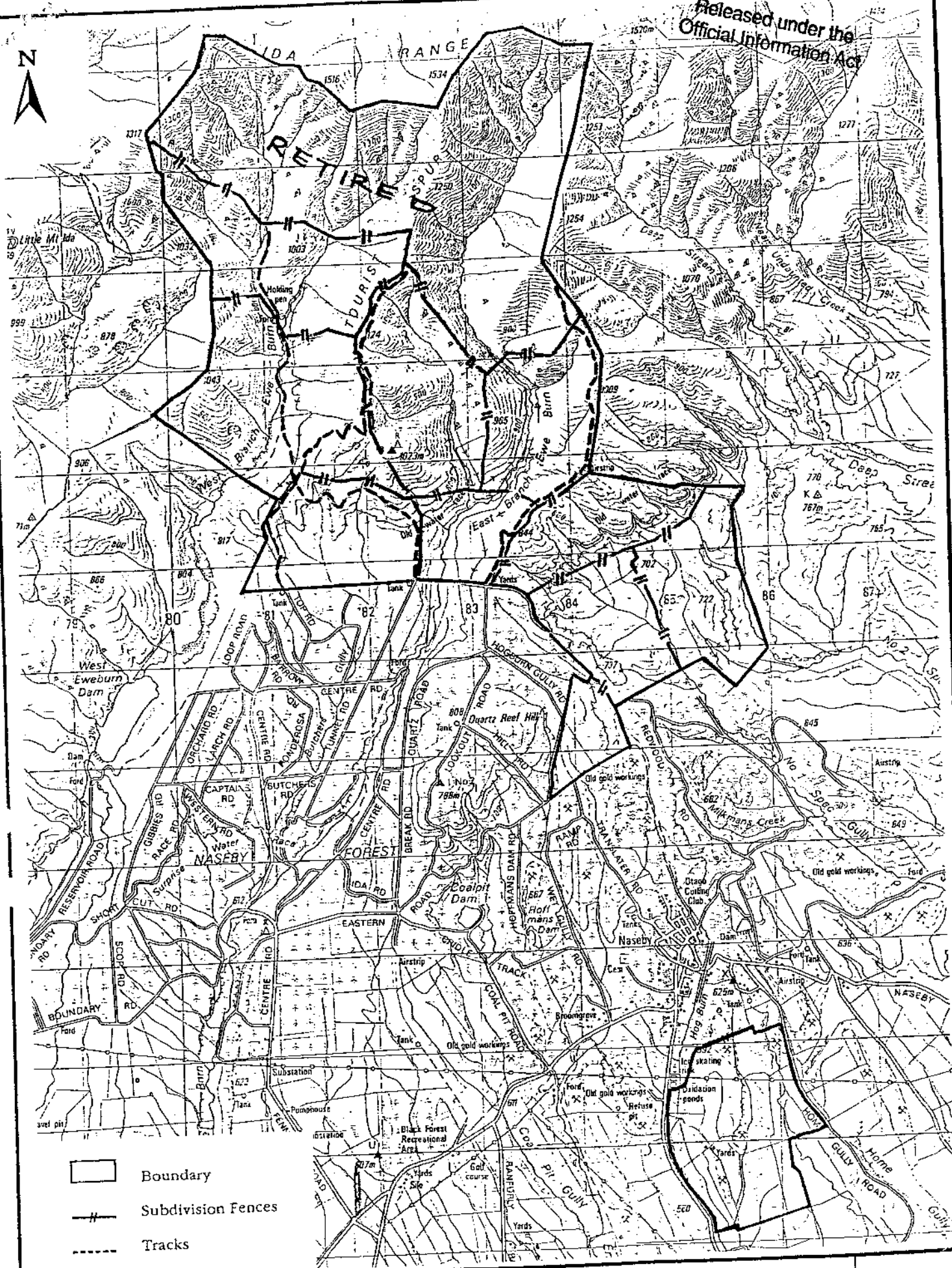
Fig 9  
The mud brick woolshed.






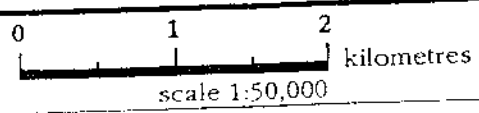
Fig 10  
East EweBurn Scree skink in typical basking and refuge habitat on unstable scree..



Fig 11  
East Eweburn showing all the screes on which skinks were observed on  
3 October 1996. This location identified n 1985. Grid 841 778



-  Boundary
-  Subdivision Fences
-  Tracks



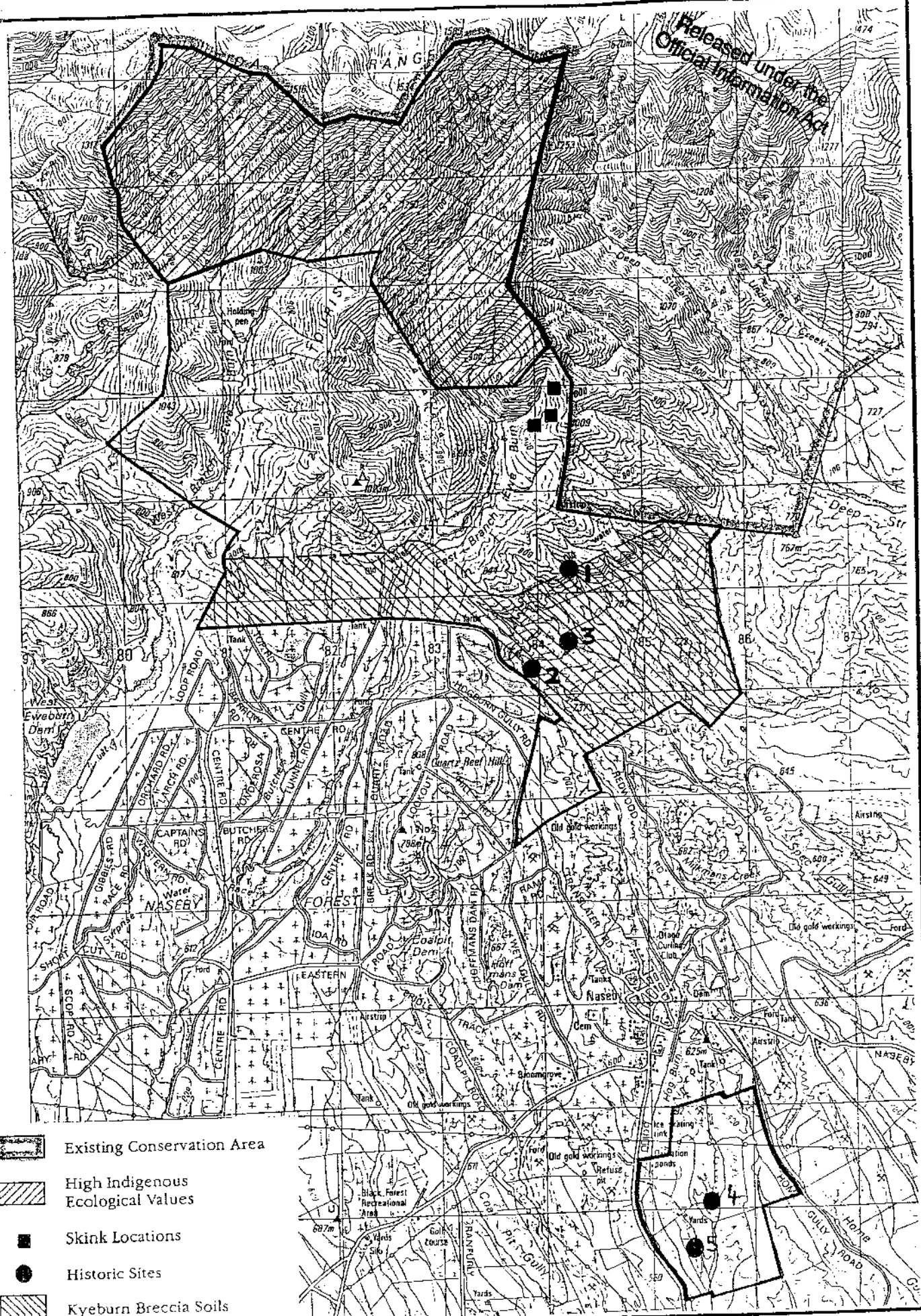
# Map 1 EWEBURN PASTORAL LEASE








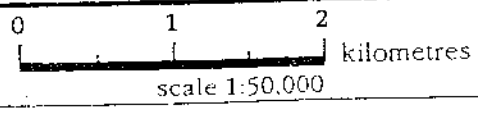
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-  Existing Conservation Area
-  High Indigenous Ecological Values
-  Skink Locations
-  Historic Sites
-  Kyeburn Breccia Soils



## Map 2 EWEBURN PASTORAL LEASE Conservation Resource



Released under the  
Official Information Act



N 791  
315.0

Little Mt Ida

PT RUN 219C  
1994.2908

RUN 738  
1413.5669

NASEBY STATE FOREST

17  
430.6285

16  
720.9475

06  
West Eweburn  
EK Dam

2  
417.1297  
PT RUN 219C  
356.9327

PT RUN 219C

Pt 114  
73.6508

111  
59.1094

1  
105.2183

3  
124.2385

Electricity  
Pt 19  
119.2710

18  
162.6836

95  
68.5057

State Forest  
Pt 7  
26.8

86  
57.1770

88  
59.1170

NASEBY

92  
62.9792

85  
60.6169

87  
31.2721

89  
59.1170

102  
75.0556

HOME JOB  
41  
53.8232

42  
38.5792

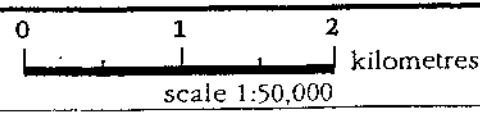
44  
38.546

102  
75.0556

41  
53.8232

42  
38.5792

44  
38.546



### Map 3 EWEBURN PASTORAL LEASE Cadastral



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CONSERVATION  
TE PAPA KAIHĀWHE

File Ref : PS 74 Map Ref : H41