Toitu te Land whenua Information New Zealand

Crown Pastoral Land Tenure Review

Lease name : Glynn Wye

Lease number : Pc 024

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.

Copied November 2002

CONSERVATION RESOURCES OF GLYNN WYE PASTORAL LEASE, CANTERBURY

Department of Conservation, Canterbury Conservancy, Pastoral Lease Tenure Review Report to Knight Frank Limited

March 31st, 1998.

PART 1 - INTRODUCTION

1.1 Glynn Wye

Glynn Wye pastoral lease covers 20,830 hectares on two runs, Runs 236 "Somerdale" and 255 "Glynn Wye". The lease includes the catchments of Evangeline Stream which drains into Lake Sumner, the Mandamus River and Glencoe River which drain southwards into the Hurunui River and the catchments of the Kakapo Brook, Skiddaw Stream and Gorge Stream which drain northwards into the Hope River. The Glynn Wye Range is the southern border of the Glynn Wye Run while the Somerdale Run stretches from the Organ Range in the north to the Big Island Hills in the south.

The Glynn Wye homestead is on 4500ha of freehold land on the flats adjacent to the Hope River to the north of the pastoral lease. State Highway 7, the Lewis Pass Highway, follows the Hope river and gives access to the homestead. The homestead is 49km west of Culverden.

The Lake Sumner Forest Park is adjacent to the lease on the southern and western boundaries. To the south-east are the Island Hills and Grampian pastoral leases. A forestry block abuts the lower reaches of the Glencoe River adjacent to the lease. On the north-eastern boundary is the Pahau Conservation Area, once part of the Lochiel Run. To the north, across the Waiau River, is a Conservation Area, once part of the Woodbank Run; further land which is part of the Lake Sumner Conservation Park; and Glenhope Pastoral Lease. To the north and west is the Poplars pastoral lease.

A run plan came into effect in 1965 and the Somerdale run was restricted to grazing by cattle only in the Glencoe Valley for 99 years. In 1974 a second Run Plan was proposed but never agreed while another plan supported by the Catchment Board in 1982 was not signed by the lessee.

Both the Somerdale and Glynn Wye runs lie within the Sumner Ecological District.There has been no survey of the area as part of the Protected Natural Area Programme but a vegetation assessment has been carried out as part of tenure review and an assessment of fish and game value has been undertaken by the North Canterbury Fish and Game Council. The adjoining pastoral lease, The Poplars, is also undergoing tenure review.

PART 2 - CONSERVATION RESOURCE DESCRIPTION

2.1 Landscape

A landscape assessment has been carried out as part of tenure review. The assessment noted that much of Glynn Wye has been identified within the Hurunui Proposed District Plan as an area of outstanding landscape value. The assessment divides the lease into six landscape units and uses the following criteria to determine the unit's distinctive inherent characteristics- landform, basic plant communities, land-use patterns, intactness, coherence, visibility and vulnerability.

The first four landscape units are aggregated into one unit and cover the top of the catchments on both sides of the Glynn Wye Range. The unit is considered to have minimal threats to further change, to have high visible significance and forms an intact and robust high country landscape.

The next major landscape unit comprises the front rangelands overlooking the confluence of the Hope and Boyle Rivers. This unit is also seen to be visually striking with it's angulated character contrasting sharply with the strong horizontal lines of the river terraces bordering the Hope River. The assessment believes this unit should not be looked at in isolation but as part of the rangelands that extend onto the neighbouring The Poplars run.

The last major landscape unit identified is the Somerdale Block. The unit has a core area which is completely intact in relation to natural processes and plant communities. The land surrounding this core area is recognised as being more modified but forms a good buffer zone where outside influences can be absorbed.

In summary the assessment states that the contrast between the highly developed front country and the expansive unmodified rangelands is a notable feature of this pastoral lease. Much of the back country of Glynn Wye has high inherent values and landscape values worthy of protection.

2.2 Landforms and Geology

The Glynn Wye block is characterised by steep, dissected mountain slopes rising rapidly to 1800 metres on the Glynn Wye Range. Exposed, shattered bedrock, scree and small glaciated cirque basins are features of these upper slopes. Towards the base of the Range, in the lower catchment, the slopes are more moderate with longer, flatter ridges extending from 600 metres a.s.l. to 1400 metres a.s.l.

The geology of the Glynn Wye catchments is predominantly strongly indurated greywacke and argillite with beds of basic volcanics from the Torlesse group of Triassic (early Mesozoic) age. Soils are hygrous upland and high country yellow brown earths, including Tekoa Steepland Soils progressively giving way, with increased altitude to Kaikoura soils. Alpine

soils persist on the top. Towards the wetter western end, Tekoas and Kaikoura soils do, however, give way to Bealey and Spenser soils.

On the terraces in the northern part of the lease, Craigieburn soils occur with small areas of Tasman soil along the Hope River bank. The basement rocks in the valleys are glacial outwash, kame terrace deposits and some morainic deposits from the Otira Glaciation of the Pleistocene (Quaternary) age.

The Hope River flows along the Hope Fault which extends from the Alpine Fault to near Kaikoura (200 kms). Recent movement of this fault has been almost entirely horizontal and in a dextral sense. In 1888, during an earthquake along the fault, fences were laterally displaced three metres. The much younger Kakapo Fault is a major active dextral fault. Displaced river terraces at Kakapo Brook indicate a rate of movement of 6 to 6.8 mm/yr.

In the Kakapo Catchment there are some areas of severe erosion at high altitudes but in general the catchment is in fair condition.

The Somerdale Block catchments are characterised by narrow, incised streambeds in their upper reaches, rising to shattered bedrock and extensive scree on upper range slopes, becoming more dissected and incised at lower altitudes with extensive gully, rill and sheet erosion. The geology in this block is predominantly moderately indurated greywacke and argillite with beds of basic volcanics. Soils are hygrous upland and high country yellow brown earths. Hurunui Steepland soils characterise the northern part of this run.

The Somerdale Run is subject to severe and extreme erosion over almost all of its higher country.

2.3 Climate

Rainfall at the Glynn Wye settlement averages 1041mm. Higher up the Hope Valley this increases to about 1270mm and estimates for the upper Kakapo Catchment have been given as around 1524mm per annum. Rainfall gradients are closely related to altitudinal variation with a west to east decline in annual rainfall occurring in the Glynn Wye Block and north to south decline in the Somerdale Block.

Strong nor-west winds blow down the Hope and Boyle Valleys and sweep through "the gap" in the hills on the property adjacent to the Boyle confluence. In winter, snow lies over the whole property for short periods after storms.

2.4 Vegetation

Communities present on the property are summarised as follows:

- Oversown and topdressed adventive grasslands
- Short tussock grasslands
- Slim leaved tall tussocklands
- Mid ribbed tall tussocklands

- Mixed grey shrublands
- Mixed Kanuka/Manuka shrublands
- *Dracophyllum* shrublands
- Mountain beech
- Forest

Minor communities also present include:

- Rock pavement and rockland
- Scree
- Fellfield
- *Schoenus* wetlands
- *Carex* sedgelands
- Red tussocklands
- Snow totara shrublands
- Red beech forest

The seven major vegetation communities present on Glynn Wye are described below.

2.4.1 Exotic/short tussock grasslands

The lease area has been extensively modified in the past by removal of forest and shrubland cover in the montane and subalpine zones. Much of this clearance has been relatively recent as evidenced by a high frequency or remnant red beech spars and fallen logs in developed areas. These are especially noticeable in the upper Kakapo River, Glencoe and Gorge River catchments. Vegetation pattern is generally characterised throughout both blocks by communities at higher altitudes retaining the greatest level of naturalness.

In general, the catchments of Kakapo Brook have undergone most development with cultivation of alluvial and glacial outwash surfaces and extensive OSTD of lower slopes and terraces from the catchment of Skiddaw Stream to the catchment of Bush Camp Stream. There has been little or no OSTD of lower slopes above Bush Camp Stream or of shaded south facing slopes on the true left of Kakapo Brook. The transition from more intensively managed to more natural communities is often rapid and generally occurs between 1000 and 1200 metres in altitude.

The short tussock grassland communities occur at altitudes between 600 and 1100 metres on the property. Oversown and topdressed grasslands predominate at lower altitudes and generally have high levels of vegetative cover. Browntop *(Agrostis capillaris)*, sweet vernal, crested dogstail and Yorkshire fog form thick swards in various combinations on lower slopes and valley floors, sometimes in association with silver tussock *(Poa cita)*. On sideslopes browntop and Yorkshire fog cover increases in damp or shaded areas and *Coriaria sarmentosa* may be locally more common. Fescue tussock (*Festuca novae-zelandiae)*, mouse eared hawkweed (*Hieracium pilosella)*, *Leucopogon fraseri, Raoulia subsericea* and *Dimeria oreophila* are

frequently present, especially on free draining slopes and towards the upper limits of OSTD.

In the upper Kakapo Valley, on terraces and hillslopes between 700-900 metres altitude, there has been little OSTD. In these areas fescue tussock forms a sparse cover (5-10%) above predominantly mouse eared hawkweed and a number of other species including sweet vernal, bracken *(Pteridium aquilinum* var *esculentum), Leucopogon fraseri,* blue wheat grass *(Elymus rectisetus),* bristle tussock *(Rytidosperma setifolia)* and *Raoulia subsericea.* Browntop and Yorkshire fog contribute higher levels of cover on damp or shaded faces and younger, more fertile terraces may commonly have silver tussock, Chewing's fescue (*Festuca rubra)* and white clover *(Trifolium repens)* present.

Along the upper margins of OSTD areas fescue tussock often dominates foliar cover (25-30%) in association with bristle tussock and sweet vernal. Intertussock gaps are well vegetated, often dominated by mouse eared hawkweed, but with *Pimelia orephila, Leucopogon fraseri, Wahlenbergia albomarginata,* blue tussock *(Poa colensoi), Gaultheria novae-zelandiae* and *Raoulia subsericea* also frequently present. Browntop, white clover and Yorkshire fog may also be present.

Short tussock grasslands are widespread in the Gorge and Glencoe Rivers, particularly in the lower catchment of the Glencoe River and in the upper Glencoe catchment below around 1100 metres. Well developed adventive grass swards associated with OSTD in Kakapo Brook are largely absent, with communities containing a lower frequency of introduced grasses and a generally more sparse and patchy cover of fescue tussock. (Exceptions are on shaded lower sideslopes which remain free of kanuka regeneration and gorse where browntop forms thick swards in association with sweet vernal).

2 4.2 Lowland Shrublands

Mixed kanuka/manuka

Mixed stands of kanuka *(Kunzea ericoides)* and manuka (*Leptospermum scoparium)* occur extensively on the property, especially on more eroded lower slopes of the Glencoe, Dove and Mandamus Rivers, Gorge Stream and dissected colluvial side slopes of tributary catchments between Mt Pan and Scaw Fell in the true right of Kakapo Brook. Quite large stands are also associated with the more gently sloping footslopes adjoining Manuka Creek which have been oversown and topdressed. Kanuka/manuka stands have a distributional range on the property which extends from low river terraces (500 metres a.s.l) to altitudes of approximately 1000 metres.

The Glencoe, Dove, Mandamus Rivers and Gorge Stream also support communities of mixed age in which kanuka is frequently the dominant canopy species. In younger stands kanuka typically forms a dense canopy (around 80% cover) with few other species growing beneath and high levels of bare soil and rock as ground cover. Associated species often reflect composition

of original communities into which kanuka has established, which in most areas are short tussock grasslands. In the Glencoe River, broom *(Cytisus scoparius)* or gorse *(Ulex europaeus)* may frequently contribute to canopy cover or become a dominant component of this community, especially in the middle reaches of the catchment, and scattered Scotts pine *(Pinus sylvestris)* may also be present.

Mature stands of kanuka reaching four metres in height occur locally in the Gorge Catchment and more commonly in the Glencoe and Dove Rivers, especially in lower portions of the catchment. These stands often have a well developed understorey of indigenous shrubs and small trees commonly including *Leucopogon fasciculatus, Coprosma rhamnoides, C. linariifolia, C.* spp 27, *C. propinqua, C. microcarpa* and *Corokia cotoneaster.* In localised areas more advanced regeneration of small broadleaved trees and shrubs such as broadleaf *(Griselinia littoralis)*, marble leaf *(Carpodetus serratus)*, lancewood *(Pseudopanax crassifolius), Pseudopanax simplex, Hebe salicifolia* and, less commonly, *Traversia baccharoides* are present.

On the footslopes adjoining Manuka Creek, mixed stands of manuka and kanuka occur, reaching a height of 2-3 metres in places. These sites have been oversown and topdressed in the past and typically adventive grasses form a sward beneath areas of sparse canopy, canopy gaps and open spaces between stands. Regenerating Scotts pine are scattered throughout and become prolific on lower terraces on the margin of the lease area. Many trees have reached, or are approaching, seeding age.

Tributary side streams of mid Kakapo Brook support stands in which manuka dominates the canopy. These catchments are broken and rocky with extensive sheet erosion. While the manuka canopy reaches heights of 2-3 metres, understorey plants are typically sparse with a high frequency of rock and bare soil as ground cover. Commonly occurring plants include *Gaultheria antipoda, G. novae-zelandiae, Leucopogon fraseri, L. fasciculatus,* bracken, *Olearia cymbifolia*, mouse eared hawkweed and bristle tussock.

Mixed matagouri shrublands

Matagouri *(Discaria toumatou)* forms localised shrublands on fans and topdressed lower slopes and terraces on the property. On topdressed slopes matagouri typically forms an open, scattered canopy over an adventive grass sward or modified short tussock grasslands. On lower slopes and fans of north facing mountain slopes on the true left of Kakapo Brook, species commonly associated with matagouri shrublands include bracken, *Coprosma rugosa, C. propinqua* and the climbers *Clematis marata* and *Rubus cissoides.*

2.4.3 Wetlands

Schoenus rushlands are commonly associated with poorly drained river terraces, especially in the upper reaches of Kakapo Brook. Floristic

composition is extremely variable although *Schoenus pauciflorus* remains a prominent community component throughout.

Three wetlands are located in the mid Kakapo Brook, one in Dismal Valley and two further upstream. The floristic composition of these wetlands are more diverse and vegetation pattern more varied than the schoenus rushlands described above. Toetoe *(Cortaderia richardii)* and flax *(Phormium tenax)* form prominent clumps with manuka *(Leptospermum scoparium)* also common on wetland fringes in association with scattered mingimingi *(Coprosma propinqua)* and *Cassinia leptophylla. Carex* species are common throughout, and in wetter areas *Elaeocharis acuta* and *Juncus articulatus* may be common. The introduced grass Yorkshire fog *(Holcus lanatus)* is often a prominent community component. The Dismal Valley wetland has been severely modified. It's hydrology has been affected by a drain through its centre, stock have caused severe pugging and pedestalling within the wetland and stature of vegetation is low with a high component of adventive plant species.

Raupo (*Typha orientalis)* forms small stands in corners of the Dismal Valley wetland and lake with few other species present. These stands are associated with margins of deeper water.

Carex coriacea sedgelands occur along the swampy margins of small water courses and streams, especially in small incised watercourses in upper Kakapo Brook. These communities are relatively small and localised, often surrounded by highly modified exotic grasslands. *Carex coriacea* usually dominates foliar cover, often in association with more sparse *Carex secta* to form a dense cover (50-70%). A number of introduced species including sheep's sorrel *(Rumex acetosella),* cocksfoot *(Dactylis glomerata),* crested dogstail *(Cynosurus cristatus),* a cress *(Rorippa microphylla)* and *Trifolium dubium* are common.

2.4.4 Forests

Mountain beech forest

Beech forest remnants are scattered throughout the property, usually associated with steep gully slopes and catchment heads. Larger, more continuous tracts of forest are located in the upper Kakapo Brook and Mandamus Rivers and to a lesser extent in the Gorge River, Dove River and upper un-named tributary catchment of Kakapo Brook between Scaw Fell and Mt Pan on the Glynn Wye Range. The larger remnants retain a high level of naturalness.

Mountain beech *(Nothofagus solandri* var *cliffortioides)* dominates the forest canopy throughout, although red beech *(Nothofagus fusca)* is a secondary canopy component associated with the upper Kakapo Brook forests and,along with silver beech *(Nothofagus menziesii)*,are minor components of the Mandamus and Dove River remnants. These remnants of red beech

forest are small examples of a community which has been substantially reduced from its former extent within the ecological district.

The larger forest remnants general retain a moderately dense canopy of mountain beech (60-70% cover) throughout with a poorly developed sub canopy and shrub tier structure. At higher altitudes, and associated with ridge spurs and shoulder slopes, species diversity is low (often less than five species recorded), subcanopy shrubs and small trees are often absent with an extremely open understorey and high levels of moss, rock and litter contributing to total ground cover.

On shaded aspects, in small gullies and along minor seeps, a sparse shrub tier is often developed containing a greater diversity of species, commonly comprising one or more of the following *Coprosma* species: *C. microphylla, C. linarifolia, C. ciliata, C. rhamnoides, C.* spp 27 (H. Wilson). Other plants which may be present include broadleaf, mingimingi *(Leucopogon fasciculatus), Pittosporum divaricatum, Pseudopanax simplex, P. crassifolius* and *Aristotelia fruiticosa.* The climbers *Rubus cissoides* and *Clematis forsteri* are also commonly present and prickly shield fern *(Polystichum vestitum)* is often associated with minor gullies. Halls totara *(Podocarpus hallii)* was noted to form a localised subcanopy component in minor gully sites in the Dove River. In the headwaters of Kakapo Brook (approximately 900 metres in altitude) on more gently sloping colluvial slopes, mountain totara *(Phyllocladus alpinus),* snow totara and *Coprosma pseudocuneata* are significant subcanopy components.

Regeneration of mountain beech is common throughout, especially on lower colluvial faces and river terraces where it may form dense thickets 2-3 metres tall or more commonly, carpets of small seedlings to 30cm tall. More advanced regeneration is associated with wind thrown trees, sparse canopy or dead trees. Subcanopy shrubs, especially *Coprosma* species, often form a more dense understorey on terraces adjoining larger rivers and on shaded lower slopes.

2.4.5 Tall tussock grasslands

Slim leaved snow tussock

In Kakapo Brook, slim-leaved snow tussock *(Chionochloa macra)* communities occur at altitudes from 1300 to 1500 metres and are often associated with colluvial slopes on sunny aspects, although they descend to around 1200 metres on shaded faces. Tussock stature varies considerably from around one metre to 30cm depending on location and community condition. Slim leaved snow tussocklands often merge into *Dracophyllum* shrubland and mid-ribbed snow tussock (*Chionochloa pallens)* communities at higher altitudes and short tussock grasslands below 1200-1300 metres.

In dense (70-80% cover) slim-leaved snow tussocklands, species diversity is relatively low with tall tussocks and few intertussock gaps for low growing species to establish. Other species commonly present include *Dracophyllum*

uniflorum, golden speargrass, blue tussock, *Celmisia spectabilis, Gaultheria nova-zelandiae, Anisotome flexuosa,* and *Celmisia viscosa.* Slim-leaved snow tussock communities in best condition are located in the Evangeline Valley. Areas of less steeply sloping or shaded planar slopes of the Glynn Wye Range also support tussocklands of good stature (>40cm) and tussock cover (40-50%).

In more open communities on colluvial sideslopes slim-leaved snow tussock has a low to moderate level of cover (10-30%) with larger intertussock gaps occupied by a range of indigenous herbs and small woody plants. These include the herbaceous plants *Celmisia lyallii, Celmisia spectabilis, Celmisia semicordata, Brachyglottis bellidioides,* harebell (*Wahlenbergia albomarginata),* woody sub shrubs *Leucopogon colensoi, Pimelia oreophila,* the mat plant *Raoulia subsericea*, and tussocks *Rytidosperma setifolia,* blue tussock and mathews tussock (*Festuca mathewsii).* These communities, with more depleted tall tussock cover, are characteristic of northfacing sideslopes of the Glynn Wye Range, especially the more stable sideslopes east of Scaw Fell.

Mid-ribbed snow tussock

Mid-ribbed snow tussocklands *(Chionochloa pallens)* are common on higher altitude colluvial slopes and spurs of the Glynn Wye Range and the Evangeline Valley, appearing more prevalent in damp hollows and shaded aspects than slim-leaved snow tussocklands although there is considerable mixing of both communities. The tall tussock communities in the Evangeline Valley are in excellent condition.

In general, mid-ribbed snow tussock dominates foliar cover, reaching over one metre in height and 80% cover on sites in which it is in best condition. Broad-leaved snow tussock *(Chionochloa flavescens)* is also present in this community but as a minor component and does not dominate cover at any of the sample sites. On colluvial slopes of the lower Glynn Wye Range mid-ribbed tussock dominates cover, often in association with golden spear grass and *Dracophyllum uniflorum.* This area is characterised by shallow sheet erosion with large intertussock gaps in which frequently occurring species include bristle tussock, *Celmisia lyalli, C. spectabilis, Luzula rufa,* harebell, *Anisotome flexuosa, Pimelia oreophila, Gaultheria novae-zealandiae, Dracophyllum pronum* and blue tussock.

On less disturbed colluvial mid slopes in the Evangeline Valley, tussock cover is dense (80-90%). Most associated species are shrubs *(Hebe subalpina, Dracophyllum uniflorum, Coprosma pseudocuneata* and *Cassinia leptophylla)* and tall herbaceous plants *(Dolichoglottis scorzoneroides, Astelia nervosa)* with very sparse vegetative cover below the dense tall tussock canopy. In areas of less dense mid-ribbed tussock species such as *Celmisia lyallii, C. semicordata, C. spectabilis,* bristle tussock, *Pratia macrodon,* blue tussock, *Blechnum penna-marina, Epilobium* spp., *Luzula rufa* and *Gaultheria novae-zelandiae* are frequently present in more developed inter-tussock gaps.

Red tussock

Red tussocklands are present as localised communities on poorly drained fan and terrace surfaces of the Evangeline Valley. These communities are of ecological importance, being a relatively uncommon example of a formerly more widespread community within the Ecological District.

Red tussock is often present in association with *Schoenus pauciflorus* on poorly drained fan surfaces with scattered shrubs of *Hebe odora* and *Hebe pauciramosa*. Mathew's tussock, *Microseris scapigera, anisotome aromatica, Drocera arcturi, Carpha alpina, Viola cunningham, Craspedia* spp., *Gentian* spp. and *Dolichoglottis lyallii* may also be locally common, especially on wetter sites.

On better drained slopes red tussock is often co-dominant with mid-ribbed snow tussock and scattered shrubs including *Hebe canterburiensis, Dracophyllum uniflorum, Cassinia leptophylla, Hebe odora* and *Podocarpus nivalis*.

On upper valley river terraces in Kakapo Brook red tussock occupies wet drainage channels where it dominates cover but rapidly merges to short tussock grasslands dominated by Mathew's tussock and mouse eared hawkweed on young surfaces or mid-ribbed snow tussock communities on older, more elevated sites. Other commonly occurring species in these wet, red tussock areas include *Celmisia lyallii,* blue tussock, *Celmisia semicordata, Anisotome aromatica*, and harebell.

2.4.6 Upland shrublands

Snow totara

At higher altitudes (> 1200 metres) snow totara *(Podocarpus nivalis)* often forms low shrublands, usually associated with stable rock debris, rocky ridge crests and spurs. Although usually localised in extent this community is common throughout the property. Commonly associated species, especially on rocky ridge crests and spurs include: *Dracophyllum unifiorm, Myrsine nummularia, Gaultheria crassa, Leucopogon colensoi, Coprosma aff. pseudocuneata* and *Lycopodium fastigiatum.*

Dracophyllum uniflorum/mixed shrublands

Shrublands in which *Dracophyllum uniflorum* is a dominant or significant canopy component occur on upper slopes throughout the property at altitudes above 1000 metres, usually associated with more shaded south or east facing slopes.

On sunny aspects and rounded ridge crests *Dracophyllum uniflorum* often forms a sparse or scattered cover. At lower altitudes on these sites it is more frequently associated with short tussockland communities with *Cassinia leptophylla* or *Olearia cymbifolia* also contributing to the sparse shrub canopy.

Other commonly occurring herbaceous plants and sub shrubs at these sites include *Celmisia semicordata, C, spectabilis, Gaultheria novae-zelandiae, G. crassa, Pimelia oreophila,* and *Leucopogon colensoi.* At higher altitudes on colluvial sideslopes the shrublands are associated with slim-leaved snow tussock communities, although the range of associated herbs and sub-shrubs is similar. Near rock outcrops and rocky ridge crests *Dracophyllum* shrublands merge into snow totara communities with an associated increase in occurrence of *Celmisia lyallii, Anisotome flexuosa, A. imbricata, Hebe pinguifolia, H. lycopodioides, Coprosma* aff. *pseudocuneata* and *Kelleria dieffenbachii.*

In gullies and on shaded aspects the diversity and cover of canopy shrub species generally increases although this is dependent to some degree on burning and other vegetation clearance history. In the Evangeline Valley, Gorge River and gully heads of the Glynn Wye Range, localised shrublands of good stature (1-2 metres) and total canopy cover (80-90%) are present. Canopy shrubs vary considerably from site to site but include mountain wineberry (*Aristotelia fruiticosa), Brachyglottis cassinioides, Coprosma ciliata, Traversia baccaroides, Hebe subalpine, H. venustula, H. glaucophylla, Olearia cymbifolia* and *Cassinia leptophylla. Dracophyllum uniflorum* is often only present as a minor canopy component and scattered trees of mountain ribbonwood *Hoheria lyallii* may be present. Composition and relative levels of cover for each species and associated subcanopy plants is highly variable.

2.4.7 Scree/rockland

Scree is extensive on slopes of the upper Glynn Wye Range and, to a lesser extent, on portions of the Organ and Tekoa Ranges within the lease. The communities on the Glynn Wye Range occur at the highest elevations and are probably the most extensive scree communities within the Ecological District. At sites sampled in the upper Glynn Wye Range, vegetative cover is typically extremely sparse, however, a good variety of scree plants were commonly noted including: *Hebe epacridea, Leptinella atrata, Stellaria roughii, Myosotis* spp, *Gentian* spp. *Epilobium pychnostachyum* and penwiper *(Notothlapsi rosulatum).* While scree communities were not sampled in the upper Glencoe catchment, a similar assemblage of species could be expected to occur.

On the upper Glynn Wye Range shattered greywacke bedrock ridge crests and more stable shoulder slopes support fellfield communities in which the vegetable sheep *Haastia sinclairii* and *H. pulivinaris* are prominent components in association with a scattered cover of other low growing herbs and small woody plants. At lower altitudes (1600 metres) on flat, rounded ridge crests of the Glynn Wye Range, fellfield communities are more diverse and support a greater level of vegetative cover (40-50%). Species composition and relative levels of cover for the above communities are variable from site to site.

Steeper rock faces and bluffs support a sparse but distinctive vegetative cover associated with small crevices and ledges. *Helichrysum intermedium,*

H. parvifolium, Hebe cheesemanii, Heliohebe raoulii, Pimelia traversii and *Coprosma* aff *pseudocuneata* are commonly occurring sub-shrubs which often dominate foliar cover. These areas are also refugia for sparsely scattered, palatable herbs such as *Anisotome pilifera* and *Gingidia montana.* Particularly good examples of this community were noted on rock faces and bluffs along the ridge dividing the upper Mandamus and Glencoe rivers.

Snowbank

Snowbank communities in the upper Glynn Wye Range are localised and variable in composition, associated with banks and hollows which collect and retain snow. Species which contribute to canopy cover or are commonly present include *Chionochloa oreophila, Chionochloa australis, Marsippospermum gracile, Carex pyrenaica, Coprosma perpusilla, Celmisia viscosa, Celmisia sessiliflora, Anisotome imbricata, Phyllachne colensoi, Luzula pumila, Ranunculus gracilipes* and *Astelia nivicola.*

2.5 Fauna

Wildlife Service records have been used for bird records and birdlife was recorded during the Vegetation Survey. The Fish and Game Council have reported on sports fish and game birds. No other fauna has been surveyed.

2.5.1 Birds

On the mountain tops, falcons and keas have been noted. In the beech forests and shrubland, typical forest birds such as bellbird, grey warbler, yellow-breasted tit and riflemen abound. On the valley floors, particularly around the ponds and swamps, paradise shellduck, South Island pied oystercatcher, pied stilt and white faced heron cohabit with Canada geese and grey and mallard ducks. The Kakapo Brook pond and swamp have been noted as significant sites of wildlife importance (SSWI).

The developed pastoral areas in Dismal Valley and along the Hope River are particularly attractive to paradise shelduck and Canada geese because of their browsing food opportunities. The wetlands are very important to game bird populations especially as an area for rearing juveniles. Upland game birds such as California quail and chukor have been sighted and heard. They favour different environments from those of ducks and geese - sunny lower and middle slopes with matagouri, broom and gorse for quail and ridges and higher slope areas for chukor.

2.5.2 Freshwater Fish

The upper Waiau and Hurunui catchments are valued as wilderness fishery areas. Such fisheries typically hold a small number of very large fish (almost always brown trout). The sharpness of the fall in the Kakapo Brook means it is unlikely that there will be a significant brown trout population. Chinook salmon, as well as brown trout, have been reported in the Mandamus River. Observations of Fish and Game Council staff revealed both healthy

invertebrate and bully *(Gobiomorphous* spp.) populations in the Glencoe River, as well as suitable habitat for brown trout. Protection of the upper catchments of the Mandamus and Glencoe rivers will have down-stream effects of great benefit to the sports fishery in the lower reaches.
Although not sampled, it also seems likely that Lake Sumner tributaries, including those waters which drain from within the lease area, support populations of koaro.

2.6 Historic Values

Glynn Wye was first taken up by J.S. Caverhill about 1861. Like most high country runs its early life consisted of quick turnovers but in 1863 the Count de la Pasture obtained the run and stocked it. He subsequently sold to W.A. Low in 1877. In 1883 the run was transferred to A.W. Rutherford and he held it until 1911. It was during this time that a homestead, cookshop and woolshed were built. These buildings are believed to the only historic structures on the farm and all are on the freehold land.

2.7 Public Recreation

2.7.1 Physical Characteristics

Glynn Wye pastoral lease is a back country environment in a natural setting. Opportunities for walking are restricted to farm tracks and valley floors. There are 4WD tracks up both the Mandamus and Glencoe Rivers and on to various parts of the northern face of the Glynn Wye Range. A well used tramping route follows the Hope River over Kiwi Saddle to Lake Sumner. This route is on the adjoining pastoral lease.

2.7.2 Public Access

State Highway 7, the Lewis Pass highway, provides access to the Glynn Wye homestead. The road beyond the homestead through the freehold land is a private road.

A legal roadline exists along the south bank of the Hope river from State Highway 7. There is a legal roadline on the north bank of the Kakapo Brook on the boundary of the pastoral lease but this does not connect to any other legal access. A legal road line also runs parallel to Gorge Stream into the adjacent property to the south, back into the Somerdale block and then follows the Mandamus River to the lease boundary.

In the Somerdale Block, legal roadlines leave the Tekoa Road and follow roughly up the Mandamus and Glencoe Rivers with the Glencoe "road" finishing just inside the pastoral lease while the Mandamus "road" traverses the lease but does not connect up with any legal access to SH7

A marginal strip and small conservation area has been laid off adjacent to the forestry block in the lower reaches of Glencoe River There are no other marginal strips within the lease.

2.7.3 Activities

Existing recreational use includes game bird hunting, sport fishing and wild animal hunting. All these are generally with the permission of the lessee and adjoining lessees. Some 4WD and family use is made of the Glencoe River with access via the Island Hills property. Mount Longfellow, the highest peak in the Lake Sumner area, is a climbing destination.

Access to adjoining land managed by the Department of Conservation is provided from outside the Glynn Wye pastoral lease. Easements as outlined below would provide good access into protected areas.

A possible circular tramping route exists utilising the Evangeline Stream from Lake Sumner, crossing over into the Kakapo Brook and then across a saddle east of Neschacker Hill to cross the Hope and rejoin the existing Hope Valley tramping track on the north bank.

A route from SH7 near Gorge Creek across to the Glencoe or Mandamus Rivers following an old pack track opened up by Charles Upham would also be another possible tramping experience for the area.

PART 3 - CONSULTATION AND DISTRICT PLANS

3.1 NGO Consultation

At a meeting held on 11December, 1997 the following comments were made by NGO representatives

* The Evangeline, Gorge Creek and Kakapo Brook catchments are of high conservation value

* There is an increasing problem with broom in the Mandamus and Glencoe catchments and spreading also on to the front faces. Finance should be set outside for the containment of the broom.

* Important to protect the faces visible from the state highway

* It would be good to add to and complement the forest park

* Access from the state highway at Horseshoe Lake would be difficult but good to have.

* It should be possible to swap the unformed legal road in the Somerdale block for an alternative horse and foot access route from the state highway.

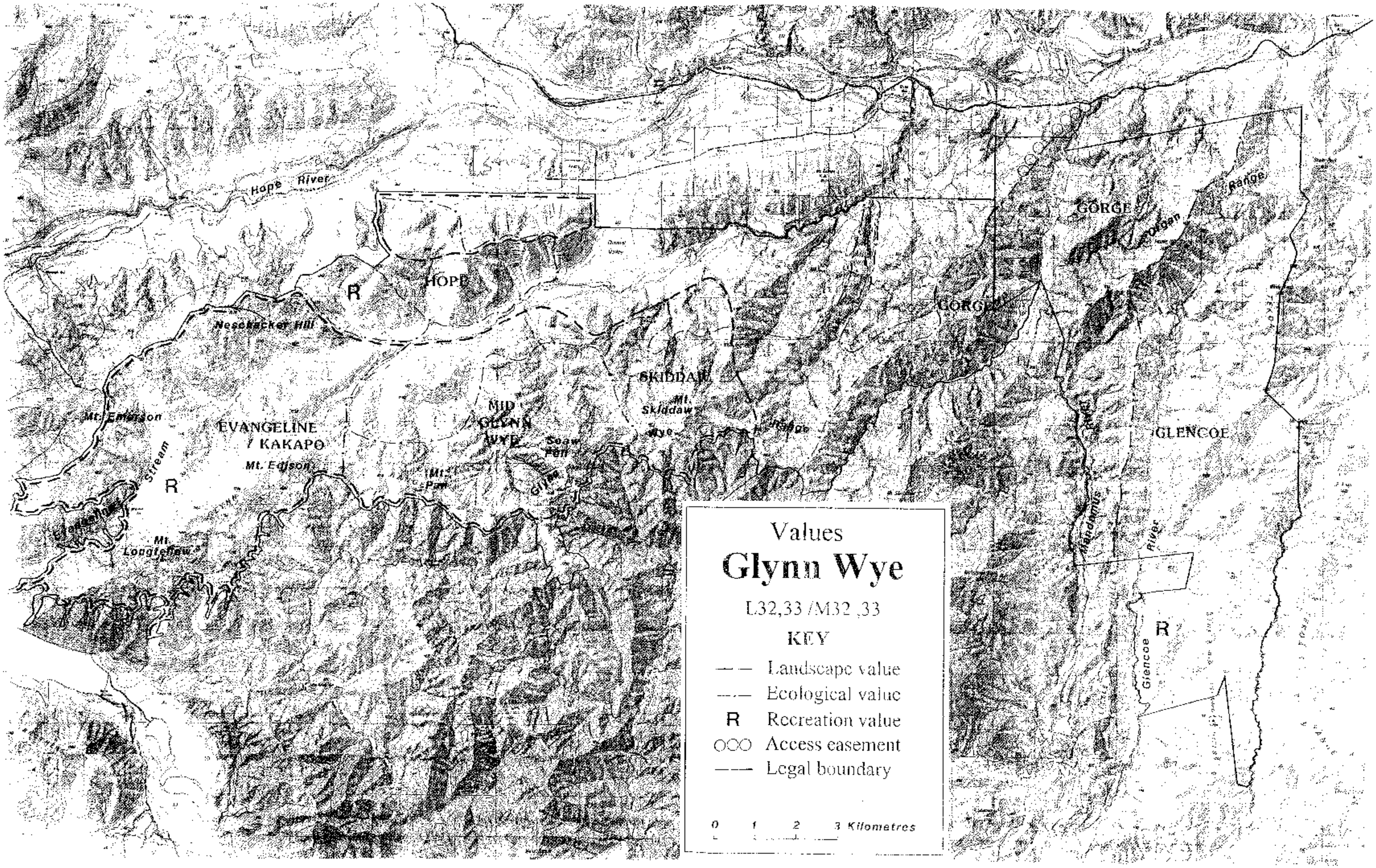
The Fish and Game Council has also produced a report on the Glynn Wye lease.

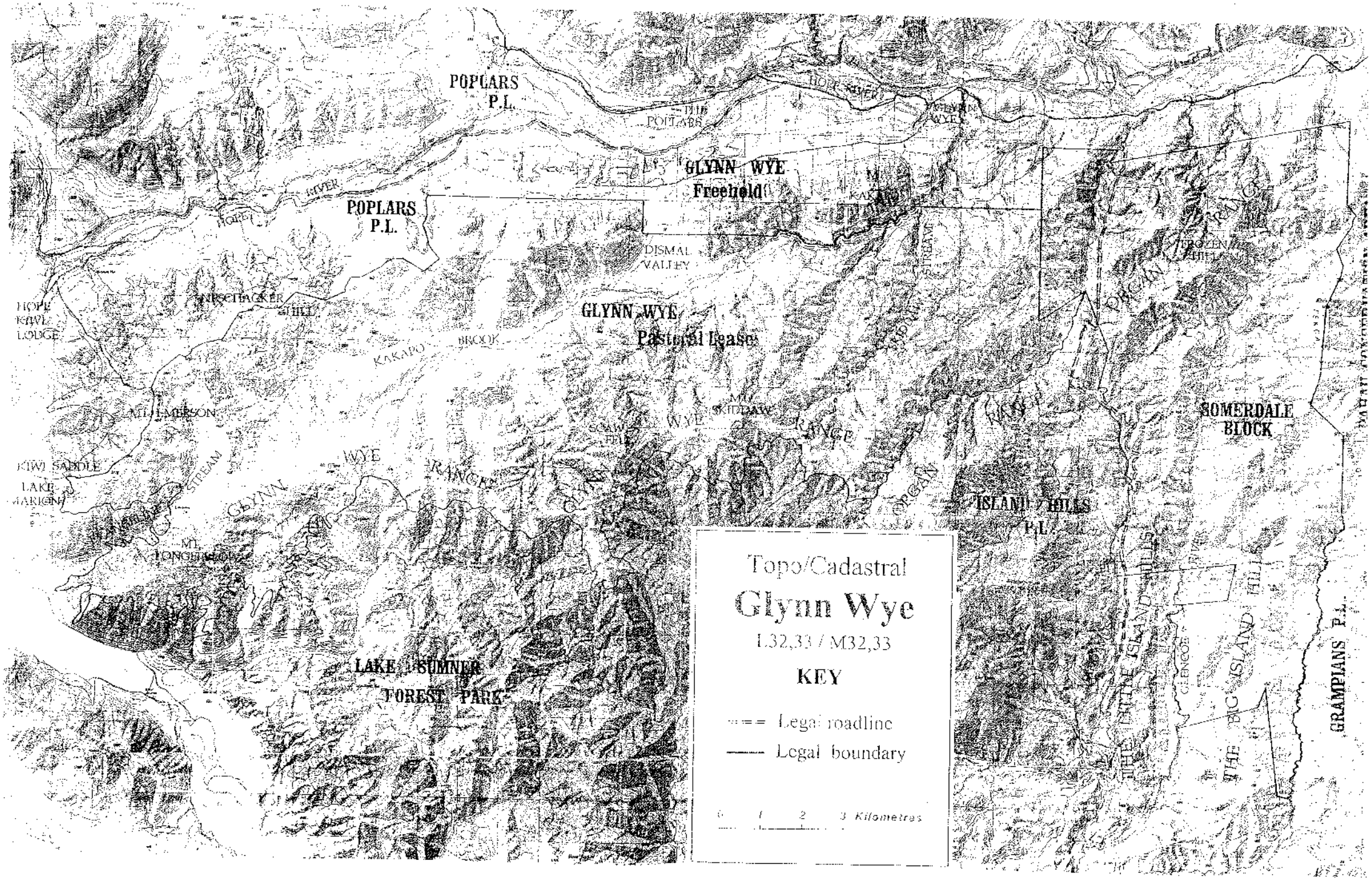
3.2 District Plan

Glynn Wye lies within the Hurunui District. Their proposed District Plan was notified in September 1995. Following hearings, a revised Plan incorporating decisions was released in Aug 1997. This Plan is subject to a number of References (Appeals) to the Environment Court. The Plan identifies nearly all of Glynn Wye as being of outstanding landscape value. The plan also identifies the Kakapo Pond and Swamp as significant natural sites.

In areas of outstanding landscape value forestry and buildings are discretionary activities. Earthworks and clearance of indigenous vegetation are, generally, permitted activities.

For significant natural sites it is a discretionary activity to damage, remove or destroy any feature, tree or indigenous vegetation. Any new planting, habitat restoration or enhancement work shall use locally occurring indigenous plant species, soil and rock.


Values
Glynn Wye
L32,33 /M32 ,33
KEY
Landscape value
Ecological value
R Recreation value
Access easement
Legal boundary
0 1 2 3 Kilometres
Hope River
HOPE
R
Nesbacker Hill
Mt. Emerson
EVANGELINE / KAKAPO
Stream
R
Mt. Edison
Mt. Longfellow
MID GLYNN WYE
Mt. Pan
Soaw Fell
SKIDDAW
Mt. Skiddaw
Range
GORGE
GORGE
Range
GLENCOE
Mandamus
River
Glencoe
R


POPLARS P.L.
GLYNN WYE Freehold
POPLARS P.L.
GLYNN WYE Pastoral Lease
LAKE SUMNER FOREST PARK
SOMERDALE BLOCK
ISLAND HILLS P.L.
GRAMPIANS P.L.
Topo/Cadastral
Glynn Wye
I32,33 / M32,33
KEY
Legal roadline
Legal boundary
0 1 2 3 Kilometres