

Crown Pastoral Land Tenure Review

Lease name :

GLENROCK, HOLBROOK, ROLLESBY

Lease number :

PT 084, PT 120, PT 108

Conservation Resources Report - Part 2

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.

February

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- Vehicle tracking is visible across its surface in places, and a gravel pit exists in the northeast corner at the junction of SH8 and Haldon Road. A fenceline subdivides the area north of SH8 into two large paddocks, along with two power lines (one a line of pylons) crossing the area from east to west.
- (e) *Sawdon Stream and Grays River Floodplains*
- (i) *Sawdon Stream*
- winding to braided small river in a greywacke gravel floodplain. Water volume greatest in upper reaches, reducing as it travels across the open excessively draining plains of the Basin floor. No water was visible at the southern boundary on Holbrook. Floodplain varies in width from being quite constricted in the upper valley to spreading out across the basin floor south of Sterickers Mound.
 - Comprises a mix of fresh gravel floodplain and older, more stable vegetated surfaces with short tussock and sweet vernal and browntop grassland, "grey" scrub, sweet briar, and various riverbed herb species, exotic and native. Some wetter areas have cutty grass (*Carex coriacea*). Floodplain areas south of Sterickers Mound have grey appearance, being much drier. Willows dot the river course in places, mostly around the Holbrook homestead area.
 - A 4WD track winds up the riverbed for about 5km from SH8, and three or four fences cross the riverbed along its course as well as SH8.
- (ii) *Grays River*
- south of Sterickers Mound and the swamp area, the Grays River forms a wide floodplain extending to the Glen Rock homestead. From there it turns west and flows beyond the property.
 - For the first kilometre or so, the floodplain has a golden grassland cover probably mostly sweet vernal and browntop, but then it becomes a dry-looking grey plain, with the stream on the western edge forming a well vegetated, grassy swamp area (probably a mix of short tussock, *Carex* spp, and exotic grasses) edged with a pine shelter belt. A few willows are dotted along the course nearer the road bridge. A tributary drains from Sterickers Mound, and has formed a smaller dry "grey" floodplain between the Haldon Road and its channel.
 - The Haldon road bisects the area at its upper end. Otherwise the two areas appear to be grazed as whole areas, fenced off from adjacent hill slopes. A power line passes down the western edge of the lower part.
- (iii) *Holbrook Terrace*
- part of a large (about 3 sq. km), flat, piedmont alluvial plain several metres above the younger Sawdon outwash surface. Comprises outwash and alluvial greywacke gravels of Dead Mans Creek draining the Mt Edward valley. Dead Mans Creek today runs through the area angling southeast to join Sawdon Stream south of Sterickers Mound. The terrace falls evenly to the southeast from around 680m to 640 m asl, with a short scarp face along the southern margin. The northern end has deeper moister soils, becoming shallower, stonier and drier towards the southeast end and where the floodplain is more recent.
 - Vegetation cover is a relatively dense short tussock/sweet vernal and browntop/low matagouri grassland, becoming sparser over the drier areas.
 - Fenced into a grid of large rectangular paddocks bordered by pine shelterbelts on most sides, for semi-extensive grazing close to Holbrook homestead. Power lines and pylon cross the northern part of the flat.
- (iv) *Glen Rock Flats*
- a small part (about 3 sq. km) of a large area of well drained floodplains, terraces and fans along the eastern perimeter of the Mackenzie Basin. The Glenrock flats comprise the northern third of that part of the plain enclosed by the Mackenzie

Pass and Haldon Road. Formed on free draining greywacke gravels with dry stony soils. Some older surfaces have deeper soils. Slopes gently west and drains the lower slopes of the Rollesby Range, ranging from 620m to 560 m asl.

- Similar in appearance to the Sawdon outwash with "grey" depleted vegetation cover and hummocky surface with pedestals of hieracium, but lacking the swale and dune topography and with more sweet vernal and browntop grass cover. A wetter looking area marked by taller, denser grass growth in the southwest corner, is part of the large Grays River swamp area further west, on the other side of Haldon Road. These areas, whilst looking dry now, gets wet in winter and spring. A willow-lined stream feeding in to the top end of Grays River Swamp runs across the fan at the north end, taking all the drainage from the northern half of the Rollesby Range.
- A belt of conifers is on the southern boundary, from which there is recent wilding spread. There is a gravel pit in the south-west corner as well. The plain ends in the north at a small rectangular area bordered by evergreen shelterbelts (not in the leasehold area). A fence crosses the plain along the base of the hills but apart from the gravel pit there are no apparent modifications to the area.

(v) *Glen Rock Valley Floors*

- small valley plains between S1 trig hill and the spurs of the Rollesby Range, merging with hill slope colluvium and alluvial fans.
- Covered in short tussock/sweet vernal and browntop grassland with often extensive thickets of matagouri (probably due to fertiliser runoff from the bare hill slopes). Carex species and lush grass growth signal wetter areas.
- Extensively grazed as part of the hill blocks, with a couple of fences crossing them. Traversed by 4WD tracks.

3. Developed Fans and Flats

Valley and basin floor terraces and flats have in places been cleared of native vegetation, subdivided into smaller, generally rectilinear paddocks, cultivated and sown in exotic pasture and fodder crops. Evergreen shelter-belts of mostly pine species border some of the paddocks.

Areas include:

- (i) alluvial terrace paddocks on true right of Sawdon Stream 1 to 2.5 km upstream of SH8
- (ii) Holbrook homestead paddocks, with a lot of shelter planting
- (iii) paddock to south of Sterickers Mound (dense sweet vernal and browntop grassland) with shelterbelt along southern margin
- (iv) area between Grays River and Sawdon Stream has been more recently cultivated and planted in fodder crops, and on the east side of Haldon road there is a paddock (sweet vernal and browntop grass or possibly a hay paddock) with shelter belt along east edge.
- (v) Glen Rock homestead paddocks - piedmont terrace on west side of S1 Trig Hill has been developed into hay paddocks, flats between Haldon road and homestead area in sweet vernal and browntop paddocks with clump of large willows along stream passing through, and piedmont terraces just to north of homestead along west side of Rollesby Range have also been developed into hay paddocks.
- (vi) lower part of the Rollesby Basin and part of the swamp area in Burkes Pass has been developed into hay paddock and a large sweet vernal and browntop paddock, with associated shelter planting. They are directly behind the Council pine plantation.

4. Low Hills

This comprises the 5 landscape units - (i) the lower parts of the western Rollesby Range, (ii) S1 Trig Hill, (iii) Burkes Pass hills, (iv) Sterickers Mound, and (v) Corner Hill. All are greywacke/argillite hills of moderately hard rock (Chlorite subzone1, Torlesse Group), meaning they have undergone a small degree of metamorphism and are slightly harder and less shatter

prone or "rotten" than the greywacke of many Canterbury ranges. There is very little scree and exposed bedrock, and summit ridges tend to be broad and rolling with rock tors rather than narrow and sharp with extensive scree, rock bluffs and exposed bedrock.

(i) *Rollesby Range*

- the mid to lower slopes of the range, steep to moderately steep, and well dissected by streams forming 4 major valleys between 4 spurs like fingers extending south-west out into the Mackenzie Basin, and a number of smaller side slope gullies and small basins. Ridges and spurs are narrowly rounded to angular, often with many small knobs and saddles forming a roller-coaster profile. Side-slopes are generally smooth and planar with some broadly convex or concave forms. Hills at south end of property are more rolling. Extensive colluvium and alluvial fans slope more gently out from base of slopes, joining imperceptibly with valley floor floodplains and terraces. There are numerous rock outcrops with small areas of shrub-encircled talus below them and a few patches of exposed bedrock.
- Vegetation cover is predominantly short tussock/sweet vernal and browntop grassland in moister areas, and raoulia, verbascum and hieracium with much bare ground over drier areas, with the typical hummocky appearance where soil has been lost between patches of vegetation. Overall the hills have a grey-brown appearance with golden patches where there is denser grass growth, yet there is surprisingly little visibly active erosion. Wind erosion and runoff downslope is probably occurring however. "Grey" scrub is widespread over the hills, most often in gullies but also in sharply edged thickets with expanses of "clear" slope in between or speckled across the slopes. Grass cover is generally much denser and suffused with matagouri on the lower eastern slopes of the range. In places there are scattered remnant tall tussocks, the former cover over much of the area before the combined pressures of burning, grazing by sheep and rabbits and drought as well as competition from exotic species caused the change to short tussock, hieracium etc.
- The lower hills are fenced into several large blocks for extensive grazing, and there are two or three unobtrusive 4WD tracks. A few wilding trees are dotted through the hills, relying on on-going grazing to keep them at bay.

(ii) *S1 Trig Hill -*

- a small hard rock hill range immediately south of the Glen Rock homestead, isolated from the main Rollesby Range. Rises to 750m asl highest point. Very similar in appearance to Rollesby Range hills.

(iii) *Burkes Pass Hills -*

- a pair of low rounded hills at the northeast end of the Rollesby Range rising to 829m and 885m asl Their rounded hard rock form, dissected by gullies radiating out, with more exposed bedrock, is noticeably different from the rest of the Rollesby Range, possibly due to harder rock.
- There is also extensive "grey" scrub all over the hills (matagouri, coprosma, olearia, Muehlenbeckia and porcupine shrub is a likely mix), they lack the clear grassy slopes of the Range. Tall and short tussock and exotic grasses are mixed with the scrub - the tall tussock restricted to moister areas. There is a young pine plantation in the saddle between the hills. Wilding larch, pine and oregon are also growing over the hill, noticeably in Burkes Pass. These trees originate from the long-established Council plantation in Burkes Pass, their presence signals much less grazing has occurred over this area recently. A low spur reaching out across the mouth of the Rollesby basin has been cleared and sown in exotic grassland.
- 4WD tracks wind around the west side and through the saddle, where there is also a small reservoir.

(iv) *Sterickers Mound -*

- a prominent, isolated, low pyramid-shaped hill rising to a trig station at 769m asl. Has a more rounded form than the Rollesby hills but still has the rather planar colluvial side slopes gently merging with the plains around. Summit has low jagged rock outcrop in places.
 - Similar vegetation with greater short tussock cover (although still quite sparse). Appearance is more golden than grey-brown. Extensive grey scrub in valley swale on west side.
 - South face fenced off as small semi-extensive grazing block in association with alluvial terrace below. Summit well used as sheep camps. Remainder part of extensive grazing block in conjunction with flats to north of hill. There are at least 3 private memorials on top of the hill.
- (v) *Corner Hill* -
- low narrowly rounded hill trending northeast-southwest at the south end of the Two Thumb Range (Mt Burgess ridge) and rising to 737m asl. Separated from the Range by a low saddle. Side slopes are planar or of smooth, shallow, convex and concave forms.
 - West and north aspects have sparse short tussock/sweet vernal and browntop grassland with scattered low matagouri, etc, and some scattered tall tussock. East side has sparse to moderately dense tall tussock cover down to 660m asl, with low matagouri and spear grass scattered through. Patches between tall tussock mainly sweet vernal and browntop and short tussock.
 - Extensively grazed as part of larger grazing blocks. Power line and access tracking crosses north end at saddle. SH8 passes around the hill at its base, at Dog Kennel Corner where a sheep dog used to be chained to keep sheep from passing through before there were fences.

5. High Hills

(i) *Rollesby Range*

- large, broad, high hill range rising to 1377m asl at highest point with much of the summit above 1200m asl. Trends north-south between Burkes Pass and Mackenzie Pass, being about 10km long and around 7km across (much of the range is described in Low Hills). Characterised by shorter, steeper east side overlooking Rollesby valley, and longer, gentler sloping west side, deeply dissected into five valleys with long spurs running out into the Mackenzie Basin in a southwest direction. Summit of range is rounded with many knobs and rock tors. One large rock outcrop is visible about half way along, rearing up on the skyline. A large stable talus area exists below it, encircled in shrubs. Slopes are planar, covered in colluvium, to broadly convex or concave with moderate to large basins at the gully heads. Valleys are winding with overlapping spurs. Rock outcrop is common throughout, some with associated talus. Secondary ridges have "roller coaster" profiles with many small knobs and saddles. The range has not been glaciated but has undergone peri-glacial processes.
- Tall tussock grassland is the dominant cover due to the relatively cooler moister conditions associated with the easterly, varying from sparse on dry, sunny or rocky slopes to taller denser cover on smoother, south or east aspects. On the east side, there is a striking visual contrast between different sides of valleys with dense sweet vernal and browntop/short tussock/matagouri on one side and thick, uniform, tall tussock on the other. Spear grass and dracophyllum are common throughout, the latter forming extensive dark olive patches in places. A rich variety of native shrubs and herbs occur around the rock outcrops including *Helichrysum* species, snowberry, edelweiss, spear grass, heaths, etc. "Grey" scrub species are also common throughout but tend to be restricted to gullies and around talus, rock outcrops, etc. There is greater shrub component in Mackenzie Pass. There is little active erosion visible although the tussock often forms a mosaic with bare ground, and the "rotten" rock and scree so typical of Canterbury mountains is largely absent. Tall tussock grassland would have extended much lower downslope before pastoral occupation of the Basin. In Mackenzie Pass, it

remains the dominant cover right to the valley bottom at around 700m asl. But elsewhere, burning and grazing combined with dry conditions have led to its retreat up-slope or restriction to shadier slopes and moister areas, displaced by short tussock, exotic grasses and hieracium. Remaining areas often have smaller individual tussocks now, with bare ground or finer grasses and prostrate plants occupying the spaces between resulting in speckled appearance to the drier slopes.

- The area is very extensively grazed, subdivided into large grazing blocks. Some fencelines are bulldozed such as the summit fence, others are barely visible. A 4WD track winds along the summit descending west along the southern-most main spur where it is really more of a road. It services the Mt Rollesby Radio Station on a high knob directly above the Bauchops Hill homestead in Rollesby valley. A short track also is cut to the top of the main knob overlooking Mackenzie Pass.

6. Mountain Range

Mt Maude Valley -

- a large valley about 12km long running north-south then turning southwest, containing Sawdon Stream. Rises to Mt Maude at its head at 1797m asl. Mt Edward on the upper true right is actually the highest point at 1916m asl. Most of the eastern side of the valley, the Mt Burgess ridge, is over 1200m high, Mt Burgess itself, about half way along being 1430m high. Most the Mt Edward ridge is over 1600m high. This ridge is very steep, rugged and narrow with much scree, exposed Torlesse Group greywacke/argillite bedrock and rock outcrop. The rock type is the same as the Rollesby Range but is probably not as hard and more bedded, meaning it erodes more easily especially due to frost shatter. Side slopes are large and planar to broadly rounded, well dissected by gullies. Small cirque basins exist along the ridge top and a larger one at the head of the valley with associated small plateau areas and lumpy morainic deposits. The valley has probably not been valley-glaciated to any great extent.
- The Mt Burgess ridge has a narrowly to broadly rolling summit with numerous rounded knobs and rocky outcrops. Side slopes are mostly sheer and planar to broadly rounded, and well-dissected by streams. These mostly flow straight down with the exception of the deep, hook-shaped Bullock Creek at the southeast end of the ridge. Rock outcrops in this area are made of conglomerate, a softer sedimentary rock possibly explaining the shape of the gully and giving a knobby appearance to the rock outcrops rather than angular. The ridge overall however is probably comprised of harder rock than the Mt Edward ridge. It grades into weakly schistose, non-foliated, greywacke/argillite (a metamorphic rock, Chlorite Subzone 2 of the Haast Schist Group) at the head of the valley and on the east side, explaining the distinctive sculpted, angular micro-topography of the surface of the eastern slopes with numerous little criss-crossing ledges, slabby appearance and the absence of scree. The ridge summit itself has large areas of mostly stable scree with peri-glacial patterns evident (such as frost stripes), extending down-slope into the valley. Colluvium mantles the lower slopes and numerous alluvial fans spread out on to the valley floor, some with their streams incised in them. Fans are often truncated with a short scarp face, by Sawdon Stream. A large lumpy rock slide/debris flow exists on the true right, with a truncated toe.
- Tall tussock grassland is the dominant vegetation cover, varying from sparse to dense in similar pattern to the Rollesby Range and reflecting the effect of the easterly, which often fills much of the valley with cold mist. It extends to the valley floor virtually all along the true right and over the upper half of the valley on the true left. Downstream of this point it progressively retreats up-slope. All of the summit area and upper slopes retain a tall tussock cover. Cover on the eastern side is generally uniform and dense although at the time of field work, sheep had heavily grazed the summit tussocks down to stumps. Tall tussock extends right down to the highway in Burkes Pass reflecting the moister conditions. Topdressing has encouraged vigorous matagouri growth here. Various native shrubs and herbs such as hebes, cassinia, spear grass and celmisia exist throughout the grassland with richer variety of species around the rock outcrops including Helichrysum. Dracophyllum forms extensive dark olive patches on shadier aspects. Exotic grasses and hieracium are spread throughout also but are not visibly obvious except in localised areas. Special communities exist on the scree and rock

field areas, such as "flocks" of vegetable sheep. Short tussock/sweet vernal and browntop/hieracium/"grey scrub"/sweet briar covers the mid to lower slopes and fans in the lower true left, with *Carex* spp. in wet areas). Cover is generally sparse and dry looking. Wilding trees are spreading high up the valley, dotted across the slopes. These represent a serious threat to the grassland if not removed very soon as many are at or near seeding age. Cessation of grazing has probably resulted in this spread of trees.

- The only visible cultural modification is a 4WD track that winds along the Mt Burgess ridge to within about 4km of Mt Maude. There are the snow-damaged remains of a boundary fence that ringed the entire valley as far as Mt Edward (Dave Massam, pers. comm.). The lower part of the valley is fenced off from the larger upper 2/3 or so. The summit fence from this point is in good repair continuing right down to the flats at the south end. The Bullock Creek/Burkes Pass area is fenced off as separate grazing block from the rest of the eastern side. A power pylon line and power pole line and associated access tracking pass through the Burkes Pass area. They were sighted twice in the valley, one mob at the head and two nannies far down on the Mt Burgess ridge.

Mt Edward Valley

- upper third of the Dead Mans Creek valley, with Mt Edward at its head, centrally placed. Very steep and rugged, Mt Edward a rocky, scree-covered pyramidal peak. Much scree and exposed bedrock. Side-ridges are narrow and rocky. Similar vegetation to Mt Maude valley although probably more open and drier, not benefiting so much from the easterly mist and rain. Understood to not be grazed now.

Appendix 2 – Visual values – description and analysis

Views from SH8

The first views of the property are from the straight approach to Burkes Pass village, where a small basin and a conical peak at the north end of the Rollesby Range, above Rollesby homestead, forms the skyline and is directly in front view, framed by large trees along the sides of the road. A tracking scar is readily visible angling high across a slope. Other parts of the range are also glimpsed for a short time before trees block or fragment views.

On rising up towards Burkes Pass, the visually impressive east side of the Burgess ridge comes into view. In my opinion, this is one of the most memorable and visually pleasing aspects of the Burkes Pass area, and is a "high public profile" landscape as gateway to the renowned Mackenzie Basin. It is one of the key landscapes giving the special natural landscape character to the Basin (through climatic/vegetation/landform contrast). This is due to the uniform, relatively dense tall tussock cover high-lighting the distinctive Otago-like micro-topography described in section 4, as well as the actual scale and steepness of the mountain-side towering over the valley. The almost continuous cover of tall tussock right down to the road is visually impressive and has a special attractive visual quality, far more so than the narrow stretch of Scenic Reserve on the south side of the road. This is experienced in detail as the road passes around Corner Hill. A sense of anticipation of high country experience is also built up by looking at this landscape just before entering the Basin which is still largely hidden from view.

The low, rounded Burkes Pass hills come into full view to the south approaching the Pass, and form the steep, rocky native shrub-covered south side of the road corridor as it climbs up to the Pass through the valley. They could not be described as visually impressive in any way and are really part of the "down-country" farmland of the Rollesby valley, although the valley hill-side in Burkes Pass provides close-up detail and visual interest, the dryness contrasting with the apparent moist coolness of the tall tussock on the other side. The existing Council-owned plantations at the Pass are of poor visual quality and seriously detract from the overall scene, in my opinion, especially after harvest.

The site for the Burkes Memorial sits at the pass proper, and the sheep dog memorial is located at Dog Kennel Corner. The east side of the Mt Burgess ridge and Corner Hill, the north end of the Rollesby Range and the Rollesby basin provide the wider landscape setting for these very poorly developed

cultural sites. The highly natural looking, mountainous slopes to the north are most important in imparting the sense of the hardship of human survival in an extreme environment, and the loneliness the dog must have felt. However the monument inscription to "plant forest trees for your lives so shall your river flats and mountain facings be preserved .. for evermore" is perhaps not so well-received today and the trees now vigorously spreading across the area are not viewed with quite the same enthusiasm and satisfaction they once might have been.

The sense of arriving at a high pass is also emphasized by the presence of snow tussock right down to the highway and the relative absence of elements common to lowland "tame farm" landscapes. The presence of plantation trees and shelter belt do not add to the Pass experience or the presently screened cultivated paddocks behind the plantation. The experience of highway driving through a tall tussock landscape is a rare one in Canterbury. The power lines and access tracks across the lower gentle of the Mt Burgess ridge are also a visual detraction, although the pylons with their towering, rugged, industrial beauty are somehow in keeping with the landscape. Hydro-electric power generation and its physical expression is really an accepted integral part of the Mackenzie Basin landscape now.

The pine plantation and a pine shelterbelt screen views of the lower north end of the Rollesby Range in Burkes Pass, and of the Grays River swamp - travellers would hardly know the swamp was there. The upper slopes and summit are visible, forming the skyline. They lack any special visual quality but the natural looking appearance is of importance to the overall Pass experience. Travelling east, down the Holbrook straight, the northwest slopes are in direct and increasingly close view and are thus of visual significance. Whilst the vegetation cover is induced through pastoral use, the hills do appear highly natural with no noticeably visible fencelines, tracking, tree planting etc, to visually modify them.

The first of the long distance across-the-Basin views is gained from Burkes Pass, from the highway through the Pass between Sterickers Mound and the Rollesby Range. Sadly, the pine shelterbelt is gradually preventing this view as the trees get higher. These views are one of the key elements of the natural Basin landscape and every effort should be made to protect them.

As the highway rounds Corner Hill, close-up views of the texture and individual forms of the tall tussocks can be readily seen. This corner is perhaps most memorable however for the sudden change in vegetation cover seen as one rounds the corner - from reasonably dense tall tussock to sparse dry short grassland - the most vivid example or manifestation of the effect of the easterly. It is also the immediate setting for the boundary sheepdog memorial.

The first main Basin-wide view and sense of the vast openness of the Basin is also gained here, looking southwest across the flats by Sterickers Mound to the distant Ben Ohau Range. The flats area is a Scenic Viewing Area identified in the Mackenzie District Plan. The continuous low grassland cover with no trees, buildings etc is essential to this view. The gravel pit in the corner by the Haldon Road-SH8 junction detracts from the visual quality of this area.

The north side of Sterickers Mound is clearly visible. It is a visually prominent isolated feature rising out of the plain. The current natural appearance of the landform, unscarred by fencing, tracking or tree planting, is of significance. The image of a steep sided hard-rock hill rising suddenly out of the plains, like an island, is one of the special natural features of the Basin, and the hill is one of the Basin landmarks.

Along the Holbrook straight, there are significant views across the grassland flats to the south end of the Mt Burgess ridge and the start of the Mt Maude valley. The curving form of the valley allows little of it to be seen from here. Part of the ridge in the upper valley can be briefly glimpsed in passing, hinting at the existence of an impressive, hidden and somewhat remote and mysterious mountain valley (and it is an impressive, remote mountain valley).

One of the most vivid images in my opinion in the Mackenzie Basin is the direct view up the Mt Edward valley. The steep, rugged, highly natural character and the particular arrangement of the centrally-placed peak and the long spurs reaching out into the basin is visually arresting. The straight alignment allows virtually the whole of the valley to be seen in one view. There are no other views like this in the Basin

from SH8. From other parts of the Basin as far away as Simons Pass, Mt Edward is a significant skyline feature, the highest peak in this locality. The very distinctive relationship of long spurs to central peak, reminiscent of a sphinx, also underlies its visual magnetism.

Another of the most vivid images in the Basin is from almost the same place but southwards across the vast Sawdon outwash plain from Whisky Cutting. This is one of the very extensive, long distance, across-the-Basin views so characteristic of the Basin. The outwash plain itself is a special and unique element of the Basin, due to its scale, and the remarkable unity in landform and surface cover. The sinuous braided pattern of low dunes and shallow swales, emphasized by the pattern of vegetation cover, is visually fascinating. Whilst some may see these plains as hostile, barren and lifeless, they are a significant natural feature of the Basin, in fact one of its key elements. Whilst the plains vegetation has been depleted by the ravages of drought and rabbits and there is extensive hieracium, closer inspection reveals a surprising variety of native plants and animals. These plains have always been an extreme environment, exposed to frost and strong winds and naturally very dry with often thin stony soils.

The Holbrook part of the plain is in the middle distance and is only obliquely visible from the highway. However it has the same visual qualities as that part seen directly below Whisky Cutting and its open, flatness is important in allowing the distant views.

The extensive short tussock/SVB grassland-covered elevated terrace to the west of Holbrook homestead would also have been a visually impressive foreground to distant Basin views, but an imposed grid of evergreen shelterbelts has fragmented its visual scale, weakened its natural character and also is progressively preventing the long-distance views. The remaining unplanted and uncultivated triangle of terrace at the top end, which is part of Sawdon station, gives an idea of what it was like prior to development.

The Rollesby Range as a whole, along with the Dalgety and Grampians Ranges, is important as an obvious enclosing range on the eastern side of the Basin. It is the mountain backdrop to the extensive views across the Basin from SH8 in the Simons Hill-Mary Burn-Wolds area and in the Balmoral area. These views are in my opinion also some of the most dramatic in the Basin and highly significant to the unique natural character of the Basin. The largely unmodified appearance of the range when viewed from this distance, the rhythmic overlapping of spurs and triangular faces especially when highlighted in contrasting light and shadow in still, clear, sunny conditions is very important to the high aesthetic quality of the views. Poorly sited tracking, fencelines and tree planting could detract from this quality.

Other Visual Values

Much of the Rollesby and Glen Rock properties can be seen at much closer range from the Rollesby Valley, Mackenzie Pass and Haldon Roads which encircle it. These roads are minor shingle roads primarily servicing the local farming community. Mackenzie Pass however is an historic route, the original route in to the Mackenzie, and site of some of its most colourful history commemorated by the Mackenzie Memorial. It is important as one of Canterbury's relatively remote "back road" experiences and is an alternative high montane/subalpine pass entry to the Mackenzie Basin. The high, steep, tall tussock-clad slopes forming the north side of the pass are its character, in a similar way to the east Mt Burgess ridge in Burkes Pass. The extension of tall tussock right to the road is particularly important. The high triangular slope at the south end of the Range forms the immediate visual backdrop to the Mackenzie Memorial. Again, the cool moist conditions effected by the easterly are felt and contrast strongly with the arid conditions of the west facing slopes and plains just west of the Memorial.

Out of public view (or at least close public view) but with impressive and aesthetically pleasing visual character are the high basins and rock tor-studded summits of the Rollesby Range and the Mt Maude valley. These are highly natural areas where native vegetation and landform, often of a large scale, dominate. The virtual absence of obvious cultural features, the tall tussock and where dense enough, short tussock cover and the visual harmony and unity inherent in natural landscapes underlie the visual quality. The Mt Rollesby Radio Station and associated access roading does detract from the overall quality of the summit area in its vicinity, as a man-made unnatural intrusion. The view down into the big basin below it however is largely unaffected once the building is not in the actual view.

Excellent panoramic views are gained from the summit of the Rollesby Range both into the Mackenzie Basin and east over the Albury Range and Fairlie area and southeast towards the Hunters Hills.

Excellent views of the Rollesby Valley, Ashwick Flat area/ Two Thumb Range and distant Blue Mountain/Mt Peel ranges, over Lake Tekapo and its surrounding ranges, to the Ben Ohau range and south across the Basin are gained from the Mt Burgess ridge and Mt Maude. 360 degree views of the Mackenzie Basin would also be possible from Mt Edward (not visited on field trip). Sterickers Mound also offers very easily accessible all-round views of the Mackenzie Basin.

Wilding conifers are scattered throughout the Rollesby Range, these in the past having been subject to control. On Holbrook wildings are sparsely scattered throughout the high country block, all at various age classes with some at seeding age

- To go into designation report - On occasions some groups exceeding the criteria contained within the Thar Control Plan. Again, this area would not be difficult to achieve reduction in population given the options we have available to us. Control of rabbits within these areas could be hampered if these areas remain unfenced and populations increase.
- Rabbits are present on the low flats area, numbers still relatively low due to RHD, however, again like all others, if RHD should die out then this area would require intensive secondary control. Additional to the secondary control, a serious look at rabbit fencing the area would be required due to the size and location of this area. Both secondary control (~\$6k/annum) and rabbit fencing (~\$20-30k) are very expensive burdens with land such as this.
- Wilding trees are scattered throughout the Rollesby Range area, these in the past having been subject to control. Ongoing maintenance control shall be required on the standard 3-5 year cycle as the seed source surrounds this mountain range on all sides.
- There have been unconfirmed reports of fallow deer being present along the Rollesby Range, again, if corroborated these sightings would not pose any significant threat, but may be difficult to eradicate.
- Wilding trees are known to be sparsely scattered upon the hill country block, all at various age classes with some at seeding age. There would be an initial one off cost (undetermined as yet) for control, then the ongoing 3-5 year (~\$2-3k/annum) control regime.

Rabbits – problem on flats and sunny slopes – properties were part of RLMP. Do we have any info. on densities, -

Notes – not finished yet, if anyone can add, go for it - Thar – seen on Holbrook chamois (probably, but did we have separate sighting?). – what else can I say about them.