

Crown Pastoral Land Tenure Review

Lease name : BEAUMONT STATION

Lease number : PO 362

Conservation Resources Report - Part 4

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.

December

10

APPENDIX 12: Submission – Royal Forest & Bird Protection Society (Dunedin Branch)

BEAUMONT STATION

Preliminary Report on the Conservation, Recreation and Historic Values and Recommendations for the Outcome of Tenure Review.

This submission is written on behalf of the **Dunedin Branch of the Royal Forest and Bird Protection Society** which has approximately 1000 members with strong interests in botany and natural history in general and in the High Country. Many of the members enjoy active recreation in the back country and are very aware of the need to ensure the protection of natural values, vegetation and landscape, historical sites and to improve public access through the tenure review process.

The submission is made on the basis of a two day inspection trip in January when we traversed the lease from the homestead through past Teviot Swamp and Red Swamp to the northern boundary overlooking Canadian Creek and also went across via Lammerlaw Top to the gate to Te Papanui. On the second day we went along the lower boundary from the homestead across and then up the track not close the eastern boundary as far as Moffats Stream looking up to Carsons Rock. I then had a further one day trip spent particularly in the area of the Teviot Swamp with a lichenologist, Dr David Galloway (both visits with the kind permission of Alan and Richard Hore) and I have a knowledge of part of the northern end of the lease obtained through day walks in recent and past years from the Iron Bridge at Lake Onslow towards Bottle Rock.

Introduction

Beaumont is a large pastoral lease of some 21,000 hectares which stretches from the northern end of Lake Onslow over a section of the Lammerlaw Range with Te Papanui and Castle Dent on the eastern boundary and Avenal Station to the northwest. The Taieri River defines the greater part of the eastern boundary and the Teviot River some part of the western boundary. The SW corner of the lease below Beaumont Station road runs down almost to the level of the Clutha River at the Millenium Track from Beaumont to Millers Flat.

As we followed the track from the homestead towards Teviot Swamp we noted that the lower area is largely modified pastureland but from a height of about 800m there a transition to good quality tussock was noted and a number of wetland areas in the Talla Burn catchment. At about 819m there is an extensive wetland towards the head of the Talla Burn which, also contains large patches of bog pine, *Halocarpus bidwillii*. We suggest that it is above 800m on Beaumont where we see significant inherent ecological and landscape values worthy of protection in terms of the CPL Act 1998, eg, the extensive and outstanding wetlands, their catchments of tussock grassland and especially along the Lammerlaw Top Ridge and Davidsons Top, some subalpine plants and snowbank communities. We note that the land above 800m is classed as LUC VIIc or VIIe which implies severe limitation for long-term sustainable productive use.

Landscape values are high with the rolling tussock country dissected by gullies and wetlands and very extensive views over the surrounding country, across to the Old Man Range, the Garvies and the Umbrellas, south to the Blue Mountains and beyond east to Te Papanui and round to the Loganburn and beyond Davidsons Top to the Upper Taieri.

Within the lease are other outstanding wetlands, particularly the Teviot Swamp, Mackays Creek, Fortification Creek, Red Swamp, and, as already mentioned at the head of the Talla Burn. The catchment areas of these wetlands are characterized by the extensive snow tussock cover. The sub-alpine vegetation on the higher areas such as Lammerlaw Top is complemented by the numerous snowbank communities seen between the Top and the gate to Te Papanui Conservation Park.

There are four areas on Beaumont recommended for protection in the PNAP survey report on the Waipori District, RAP 1 Fortification Creek, RAP 2 Teviot and Mackays, RAP 4, Lammermoor (mostly in Te Papanui) and RAP 8 Taieri Rapids

The outstanding ecological values were formally recognised in the Otago CMS (1998), which listed Lammermoor – Upper Taieri as one of the Special Places. It referred specifically to the high ecological, biodiversity, landscape and recreational values as well as the hydrological importance of the area for water production. The CMS stated among the objectives for the area, “protection of the high conservation, landscape, hydrological and historic values of the uplands while allowing and providing for appropriate recreational use”, with these also being a ‘priority’ for achievement.

Significant inherent values noted on inspection and through reference to botanical reports, the Otago CMS and the reports on the RAPs on Beaumont identified in the PNAP report on the Waipori Ecological District.

The Wetlands

The flora and vegetation of the Lammerlaw Range uplands and wetlands on Beaumont Station have been well described by Peter Johnson and others (Johnson, 1986, Johnson and Lee, 1988) and indeed Peter Johnson in his 1986 report identified Fortification Creek, Teviot Swamp and Red Swamp (all draining into Lake Onslow) “as a sequence of wetlands at different elevations with complex vegetation patterns of high conservation value”. The 1988 report described in addition the values of the Mackay’s Creek area which drains into the Taieri River. Johnson (1988) noted that around Fortification creek and Red Swamp that in many areas the stature and near continuous cover of tall tussock was reduced and the less palatable native species such as *Aciphylla* and hard tussock and invasive exotic weed such as *Hieracium* increased. He suggested that the likely explanation for this was local heavy grazing associated with more frequent burning. We believe that this state of affairs would be likely to reverse with the cessation of grazing and further burning.

The economic importance of the water conservation/harvesting that results from the tussock cover in the catchments of these wetlands cannot be stressed too highly. A report from Butcher Partners Ltd (Butcher Partners Ltd, 2006, - commissioned by DOC) estimates the economic values which are associated with the water which comes from the adjoining Te Papanui Conservation Park. The three major values identified in the report include irrigation on the Taieri and Waipori rivers, water for Dunedin City and water for hydro-electricity generation. The economic values for these three uses has been estimated in the terms of millions of dollars and the Beaumont uplands are similar to those within Te Papanui.

It is undoubtedly important to protect the whole of the catchment areas of each of the Beaumont wetlands. Simply fencing off the wetlands themselves would not be of long-term value unless the grasslands of the catchments were also protected. Permanent protection of the catchments would be of great benefit to Lake Onslow, used for irrigation and power generation, the Taieri River which is also used for irrigation and also for the Talla Burn power scheme presently under construction.

Teviot Swamp and Mackays Creek are contained within RAP 2 Teviot and Mackays, As stated in the description of this RAP, “Teviot Swamp and the headwaters of Mackays Stream have similar landforms and both drain off the north and east slopes of Lammerlaw Top. The ridges and spurs of Lammerlaw top have a repetitive pattern created in part by the angle of dip in the schist bedrock and by the action of cold climate processes leading to snowbank formation. Bog pools are common on the sphagnum flats of the Teviot Swamp and the streams at the head of the Teviot and Mackays catchments have a step-like longitudinal profile with miniature waterfalls alternating with shallow sphagnum basins. The pools are variable in dimension, they occur in steep steps with high downstream banks and in networks with string-like barriers between each pool. The vegetation has two components – *Chionochloa rigida* on the side slopes while *Sphagnum cristatum* dominates the

peat accumulating wetlands. *Oreobolus* and *Dracophyllum* give the wetlands a distinctive colour. The snowbank communities are a major part of the ecological character of the RAP. Banded dotterels and oyster catchers have been seen on the bogs. **This RAP represents some of the best alpine wetland vegetation in the highest westerly section of the Waipori Ecological District.**"

See also the paper by Rapson et al, 2006 for a detailed description of the Swamp .

Birdlife noted on Teviot Swamp included banded dotterels, oyster catchers, paradise duck, black-backed gulls, and spur-winged plovers.

Johnson (1986) recommended Teviot Swamp be preserved for its extremely high botanical values and as a representative portion of the Waipori Ecological District. Our observations from two visits to this amazing Swamp confirm absolutely that the plant biodiversity, birdlife (dependent on the Teviot swamp in particular) and the tussock catchment of both areas must be protected as a Conservation Area.

Teviot Swamp and Mackays Creek and their entire catchments right up to Lammerlaw Top should be returned to Crown ownership and control as conservation area to preserve the important ecological and hydrological system which is so important in maintaining the bog communities.

Fortification Creek RAPI covers the wetland area which is characterised by its meandering streams and ox-bow lakes. As stated in the RAP description "There is a relatively large area of patterned ground between the Teviot River and Fortification Creek. *Chionochloa rubra* is the dominant canopy species on the valley floor, giving the landscape its distinctive character. This is one of the last relatively uniform areas of red tussock combined with meandering streams remaining in the Waipori Ecological District. It is also valuable habitat for water fowl."

Although we did not have time to get right down to Fortification Creek we observed its wide alluvial bed from a distance and have noted the value placed on its "numerous and diverse turf-filled oxbows, set among red tussock grassland" by Johnson (1986). He noted that it is vulnerable to damage from trampling, particularly by cattle, which can seriously disturb the cushion plants and make the area prone to invasion by exotic plants and recommended that it be secured as a reserve. We note that there are also further oxbow systems in the bed of the Teviot River just west of Fortification Creek which should also be part of a Conservation Area

This area has been the subject of recommendations for reserve status since at least 1986 and the RAP and its full catchment together with the oxbow systems in the bed of the Teviot River should be retired from grazing and returned to full Crown ownership as a Conservation Area.

Red Swamp is surrounded by tussock grasslands with a border of red tussock, *Chionochloa rubra* round the swamp with *C. rigida* beyond. The Swamp has a diversity of wetland vegetation types, including some *Halocarpus bidwillii* and *Hebe odora* and has extremely high botanical values overall. Banded dotterels were seen there.

Red Swamp and its entire catchment extending west to Fortification Creek should be retired from grazing and returned to full Crown ownership as a Conservation Area.

Talla Burn wetlands

Towards the head of the Talla Burn adjacent to the road towards Teviot Swamp and Lammerlaw Top at about 815m there is quite an extensive bog complex with numerous patches of *Halocarpus bidwillii* and *Dracophyllum longifolium*. The bog plants include *D. prostratum*, *Pentachondra pumila*, *Oreobolus pectinatus*, *Utricularia* sp., *Herpoliron novae zelandiae*, *Drosera* sp. and a number of orchids and *Gentian* Sp. as well as numerous lichens.

The head of the Talla Burn and its catchment down to at least 800m should be Conservation Area, possibly with a grazing concession at a low stocking rate for sheep only. This would provide protection for the water harvest from its tussock catchment and the preservation of the botanical values in the bog and benefit the water storage for the Talla Burn power scheme currently under construction.

Uplands in general.

The extensive areas of snow tussock grassland on the uplands above about 850m are little modified, free of weeds such as *Hieracium* and of great value in their water conservation and harvesting capacity both for the benefit of the wetlands and ultimately the Taieri which provides irrigation water and Lake Onslow (irrigation and power) in the main. As in the case of Te Papanui the primary "ecosystem services" benefits appear to be related to this water.

On Davidsons Top there are some sub-alpine species including *Celmisia semicordata* var *aurigans*, *C. lyalli* (false Spaniard) and *Aciphylla aurea*. Along the Lammerlaw Top ridge there are blue tussock herbfields, flushes and snowbank communities where we noted *Hebe poppelwellii*, *Poa colensoi*, *Aciphylla hectori*, *Celmisia prorepens*, *Dracophyllum prostratum*, the cushion daisies *Celmisia argentea* and *C. sessiliflora*, *Phyllachne colensoi*, *Raoulia grandiflora*, *Ranunculus ensysii*, *Kelleria villosa*, *Pimelea oreophila*, *Gnaphalium mackayi*, and the snowberry *Gaultheria nubicola*.

The current lessees have obviously adopted a conservative management strategy which has contributed to the healthy state of the tussock grassland and the wetlands and are to be commended for this, however the outcome of tenure reviews must ensure protection of significant inherent values in perpetuity and since we need to allow for future changes in ownership of any land freeholded we have to recommend that the area above 900m be returned to Crown Ownership and Control. This includes the northern end of the property beyond Red Swamp which is not in such a healthy condition, but being at the far north of the lease would be likely to be too remote to be of economic use if freeholded. We believe that the condition of the tussock and the suppression of *Hieracium* would eventually happen once there was no more burning and grazing was removed.

The land above about 900m should become Conservation Area for protection of the water harvesting capacity of the tussock grassland which is of major economic value, the special ecological values of the bogs and swamps, in many cases the last examples of such wetlands left in Otago, their tussock lands catchments, the outstanding landscape and recreational values. It should eventually become part of Te Papanui Conservation Park.

The above land is classed as LUC VIIc or VIIe which implies that it is not suitable for long-term sustainable productive use.

Upper Taieri River – Canadian Flats – Taieri Rapids

This area can be accessed from the Rocklands side and has a number of attractive features including wetlands and the Taieri Rapids. Taieri Rapids is covered by 'RAP8 Taieri Rapids' and is described as a gorge formed where the river leaves the headwaters of the upland plateau and cuts down to the plains below to create a dramatic landform. It contains some significant shrublands which are noted in the RAP description. The rock faces and shrublands in this gorge also have high entomological values as described in the RAP report.

It also has a number of nationally threatened and at risk species; among them *Simplicia laxa*, *Kirkianella novae-zelandiae*, *Pachycladon cheesemanii*, *Carex tenuiculmus*, *Euchiton paludosis*, *Euchiton polylepis*, *Ranunculus ternatifolius*, *Ranunculus macropus* and *Brachyscome humilis*.

It should be designated as a Conservation Area.

Public Access provisions:

The provision of public access to 'reviewable land', is required under the CPL Act. It is extremely important that sufficient access be secured for Beaumont to allow the public to enjoy and appreciate the wealth of recreational opportunities on the Beaumont Lease. Trampers would enjoy the opportunity to cover a large area of the Lammerlaws adjoining Te Papanui Conservation Park, botanical trampers of all ages would revel in the opportunities to explore the diverse and wonderful wetland areas and the tussock and plant diversity within it. The herbfields and snowbank communities along the Lammerlaw Top towards Te Papanui would beckon and the plant and lichen communities on the tors and in the rocky gorges of the Teviot are well worth exploring.

Mountain bikers would enjoy the access to tracks and the remoteness of the area.

Given the size of the lease we believe that some 4WD access is essential, at the very least via the track from the homestead through to Lammerlaw Top and Te Papanui (already used by organised 4WD tours) and along at least as far as Davidsons Top and ideally beyond to the northern boundary and the hydro road.. It may be possible to make a route along the Fruid Burn to avoid traffic near the Homestead. Ideally access from the northern end of Lake Onslow should be established perhaps with an easement across the adjoining property, Stonehenge, from the Onslow road. Some access down to the Taieri at Canadian Flat would also be desirable.

A walking and biking route down to Fortification would also be needed such that users would be deterred from taking short cuts over sensitive areas.

We are also very aware of the potential for irresponsible drivers, bikers (trail and mountain) to cause irreparable damage to the bogs and swamps and maybe for this reason a system where keys would be available from DOC would be appropriate for 4WD vehicles at least.

There would also need to be education of horse riders to ensure that no wetland damage resulted from excursions across the wetland areas.

Land to be freehold

We believe that the land below approximately 900m on the lease is capable of being managed in a way that is ecologically sustainable and therefore could be available for freeholding. This would then include most of the Talla Burn and Moffats Stream catchments and the lower southern slopes of the Lammerlaw Range. This land is modified, largely pastureland with areas of dead kanuka and some gorse spread from the historic gorse fence that traverses the lease.

The freeholded land would include the part of the lease from below the homestead almost down to the level of the Clutha River and would complement the other freehold land on Beaumont.

Conclusion

We see the review outcome as stated above protecting the significant inherent values as required by the CPL Act and also contributing towards the outcome outlined in the Otago CMS for the 'Lammerlaw-Upper Taieri Special Place'. The review is the final opportunity to protect the very special wetlands on Beaumont as representatives of similar areas now lost in Otago due to, for example, flooding of the Great Moss Swamp and oversowing and topdressing to higher altitudes in the Otago Uplands (Johnson, 1986). It will provide outstanding recreational opportunities for a whole range of people and wonderful opportunities for botanical trampers and naturalists.

Acknowledgements.

The Dunedin Branch of Forest and Bird would like to thank the Hore Family for permission to inspect the lease on two occasions and the opportunity to stay overnight in the shearers quarters on the first occasion. We also appreciated our discussions with Alan and Richard Hore.

References

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- Johnson, PN. 1986. Lammerlaw Range Wetlands: Botanical Report. Botany Division, DSIR, Dunedin. (May, 1986).
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- Otago Conservation Management Strategy. Volume II. Forty Special Places, 1998. Department of Conservation, Dunedin.
- Rapson GL, Sykes MT, Lee WG, Hewitt AE, Agnew ADQ. 2006. Subalpine gully-head ribbon fens of the Lammerlaw and Lammermoor Ranges, Otago, New Zealand. *New Zealand Journal of Botany* 44: 351-75.

Figures



Figure 1. Looking down the Talla Burn form near the wetland in Figure 2..



Figure 2. The wetland towards the head of the Talla Burn, The wetland and catchment above it should be considered for designation as a Conservation Area -cattle should definitely be excluded.



Figure 3. Good tussock cover at the edge of the Talla Burn wetland. The track up to Lammerlaw Top beyond can be seen.



Figure 4. Head of Talla Burn and Lammerlaw Rock and Top, ideally all Conservation area.



Figure 5. The first of the many aspects of the magnificent Teviot Swamp, Lammerlaw Top behind.



Figure 6. Teviot Swamp



Figure 7. The huge extent of Teviot Swamp. The road to Lammerlaw Top is visible.



Figure 8. Teviot Swamp in ideal light conditions showing it at its best.

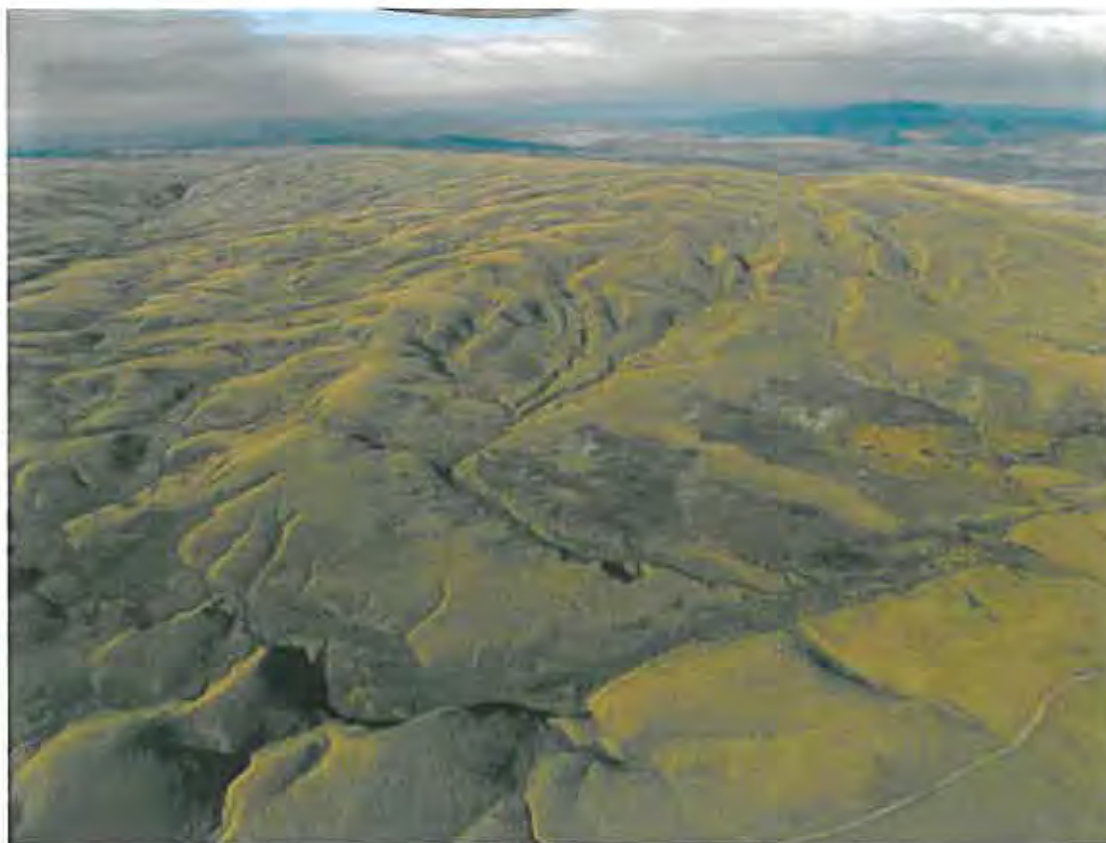


Figure 9. An aerial shot of Teviot Swamp giving an ideal picture of the extent of its catchment area. Photo courtesy of Geoff Rogers.



Figure 9. One of the numerous wetlands visible west from the road between Teviot Swamp and Davidsons Top



Figure 9. Another small wetland



Figure 10. The wonderful Fortification RAP which must, together with its Catchment be protected as a Conservation Area. Lake Onslow in the middle ground



Figure 11. An aerial view of Fortification showing the full extent of the wetland complex. Photo courtesy of Geoff Rogers.



Figure 12. An aerial view of Fortification Creek and wetland, looking west and showing the oxbow patterns. Photo courtesy of Geoff Rogers.



Figure 13. Red Swamp beyond Davidsons Top, worthy of protection. Lake Onslow beyond.



Figure 14. Looking down to the Upper Taieri and Canadian Flats



Figure 15. View towards the Taieri Rapids.



Figures 16 and 17

Views of wetlands in Mackays Creek from the track between Lammerlaw Top and the Te Papanui gate.





Figure 18. Tussock country between Moffats Creek and Lammerlaw Top at the eastern side of the lease.



Figure 19. Suitable for freeholding. The extensively modified country close to the Homestead and rising up almost to the main Talla Burn wetland.

APPENDIX 13: Submission – Royal Forest & Bird Protection Society (Central Otago-Lakes Branch)

APPENDIX 13: Submission – Royal Forest & Bird Protection Society (Upper Clutha Branch)

Royal Forest and Bird Protection Society of New Zealand Incorporated-

Central Otago-Lakes Branch
 Denise Bruns (Secretary)
 4 Stonebrook Drive
 WANAKA 9305

CONS	
A.M.	
C.P.M.	
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K.A.M.	
OTHER	

30 April 2010

Mr Tony Perrett
 Department of Conservation
 Lower Stuart Street
 DUNEDIN

*Helen
 Copy to Rob please
 [Signature] 6/5/10*

Dear Tony

Please accept this updated version of our submission dated 25 March 2010.

Tenure Review

At an early warning meeting of Non-Government Organisations held in September last year we were introduced to three pastoral leases. Please accept this report on **Beaumont Pastoral Lease Po362**; the Significant Inherent Values it contains and other matters pertaining to tenure review. This report is based on an inspection carried out during January 2010. We wish to thank the lessees Alan and Richard Hore for allowing us to do so, and also for allowing us the use of their shearing quarters during the inspection.

We have consulted the Conservation Management Strategy for Otago and various other reports while preparing this report.

1.0 General

- Beaumont is a large property (approximately 21,000ha) which takes in the actual top, or the main ridge of the Lammerlaw Range. Approximately three fifths of the property lies to the north of the range the greater part of which drains into the Taieri River, and the balance into Lake Onslow and the Teviot River system. To the south of the range the Talla Burn and its tributary Moffats Stream form the drainage system which flows into the Clutha River
- The property stretches over approximately 25kms from the Clutha River in the south to the Taieri River in the north. It actually has two climates; that lying to the south being colder and wetter than that lying to the north. The northern slopes will be more akin to the Central Otago climate; consequently this affects the ecology, tussock and other vegetation cover of the property.
- There are three Recommended Areas for Protection on the property; Beaumont having gone through the Protected Natural Area Programme conducted during the 1980s and 1990s.
- For pastoral land throughout Otago the accepted height above sea level (asl) for ecological sustainability, and consequently economical viability, is approximately 900m - 1000m. On Beaumont due to its situation at the southern edge of the block mountain system of Otago this level is much lower, mainly because it is colder.
- Although not a high range of mountains, the Lammerlaw Range and its tussock cover is very distinctive. Its tussock cover, although modified through grazing and burning over the years is much loved by photographers.

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- The homestead, or south side, of the range below about 800ms is mostly developed and now has very little tussock left, but there are remnant patches of kanuka/manuka.
- There is a belt of gorse stretching across the property at about the 800-900m contour which we understand is the remains of gorse hedges planted many years ago
- There is freehold land adjacent to the leasehold land belonging to the lessees below the southern part of the property running down to the Clutha River, but we are not aware of the boundaries of this land.

2.0 Land Use Capability

- Most of the country on the south side of the Lammerlaw Range up to about 750m is classed (LUC) Class VI and thus has been able to be developed by aerial over-sowing and top-dressing with fertiliser.
- There is a small area of Class VI land on the very north of the property on the true left of the Taieri River below the Taieri Rapids (RAP 8). If this land were to be over-sown and aerial top-dressed it would spell the end of the tall tussock that is remaining there, and so alter the landscape. It would also diminish the capacity of the tussock to harvest and store water.
- Most, if not all, of the higher country on the property is Class VIIc and Class VIIe which indicates that it should be returned to the Crown for protection.

3.0 The Landscape

- There can be no argument that the landscape contained in the Beaumont pastoral lease where it encompasses the Lammermoor Range is one of the most significant inherent values on the property.
- The landscape consists of the rolling ridges and incised gullies covered with tall tussock. The heads of these gullies usually contain wetter land and much red tussock.
- The several swamps, string bogs and stream bottoms and their different vegetation add contrast to the landscape.
- The Central Otago District Plan prescribes that the tussock cover and the resultant landscape be protected in and around Lake Onslow.

4.0 The Vegetation

- The tall tussock on Beaumont, although shorter in stature than it could be, is the result of many years of pastoral management. The inter tussock species have been modified to a certain extent by the introduction of exotic grasses such as brown-top and sweet vernal, but the main body of indigenous vegetation is still intact.
- It was noted that the tussock on the south side of the Lammerlaw Top was taller and more vigorous than that to the north, this will be due to the wetter climate.
- The vegetation is well documented in the various RAPs, and other reports; we fully support those findings.

- However we comment on RAP 2. This being a colder area facing south east carries more snow in winter which clears later in the season and has some snow bank vegetation - and thus a greater variety of indigenous vegetation than any other areas visited.
- As it is near the southern end of the Lammerlaw Range and next to Te Papanui, it will be a great addition to that Conservation Area if returned to the Crown.
- The Teviot Swamp, Red Swamp, Fortification Creek and other string bogs have red tussock and other associated plants peculiar to such areas. These types of areas are becoming increasingly rare in Otago and throughout New Zealand, therefore stock should not have access to them if they are to retain their significant values, especially their water holding values. See Photo No 3
- At the head of the Talla Burn, there are some significant wet lands containing bog pine (*dacrydium bidwillii*) See Photo No 1.

5.0 Threats

- Beaumont, whether under Crown control or not, is going to be subject to an invasion of wilding conifers, mostly Douglas Fir, from the north on Mt Teviot, and from the Glendhu Forest in the south.
- Fire will always be a threat, but providing there is no grazing after any fire the damage will be made up in time - if left to nature.

6.0 Recreation

- Up until now, due to its remoteness and lack of practicable access, the Lammerlaw Range is seldom visited. A few cross-country skiers may visit the area during winter via Te Papanui now that area is available to the public, so too may cyclists. On occasions we understand 4WD parties are given permission to travel through Beaumont.
- If returned to the Crown for protection and added to Te Papanui, and also when it becomes known to the public, the Lammerlaw Range will be visited by far more people than at present. It will have a special appeal for those who appreciate the vastness and remoteness of these tussock uplands, those who wish to study nature and/or, botany, and those who are interested in photography.
- Although the country may not have great appeal for trampers it will be much sort after by cyclists if suitable access to it can be obtained.

7.0 Access

- One of the functions of the CPLAct 1998 is to – *Make easier (i) the securing of public access to and enjoyment of reviewable land.*
- If returned to Crown control for protection the land under consideration will become part of a larger Te Papanui and access will be possible through that conservation area.

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- Access to Te Papanui from the west and south has never had any signage. However it can be obtained through the Glendhu Forest via Gabriels Gully or Munros Road, off SH8 north of Lawrence. There are other points of access off the Lawrence - Mahinerangi Road, via Malones Dam on to Gardners Road, or from about the saddle on the Mahinerangi Road. However most of these roads still have to pass through the Glendhu Forest which is closed to the public from time to time due to the logging of the forest. In spite of this we see no good reason why good 4WD vehicle access cannot be arrived at and properly signed for public use from this side.
- There is access to the north end of the property by fording the Taieri River at Canadian Flats.
- The Roxburgh - Halfway Bush transmission line has a road following the line. This road could be accessed from the Lake Onslow - Paerau Road. At present there are locked gates on the transmission line road but it would be advantageous to seek foot and cycle access from this point; every effort should be made to do so.

8.0 In Conclusion

1. Beaumont Station is part of the greater tussock upland area stretching south, from the Knobby Range (the south end of which contains the important Manorburn tussock reserve, half of which drains into the the Manorburn catchment, the other half into the Teviot catchment) then the surrounds of Lake Onslow, through to the headwaters of the Taieri River (now mostly in Te Papanui Conservation Park) to the Lammermoor Range, and on to the Old Dunstan Road and the Rock and Pillar Range in the east. See Photo No. 2. Not only is it the largest tussockscape in the country, it is the last remaining area of intact tussock grassland of any significance left in New Zealand. Its ecology is unique. No covenant that could ever be devised could protect the special qualities in its rare bogs and swamps and the many other inherent values on Beaumont, especially the valuable water producing capacity of its tussock. These must be protected by the "*preferred*" method in the CPL Act 1998 *By the restoration of the land concerned to full Crown ownership and control*
2. Tall tussock is able to harvest and hold water. A long term survey cited by Prof Allan Mark concluded that the water yield of former tussockland planted in pine 22 years ago was down by 42%. This study highlights the value of tussockland for producing water. This attribute is vital to the well being of all the water storage lakes in Central Otago area; the Upper Manorburn, the Greenland Reservoir, the Poolburn, Lake Onslow and the Great Moss Swamp – now the Loganburn dam. The retention of Beaumont Pastoral Lease in Crown control is essential to the well being of both the Teviot and Taieri River systems, and the areas they serve down-stream. Most importantly it is essential to the welfare of New Zealand as a whole.
3. The Conservation Management Strategy for Otago (1998) listed the Upper Taieri as one of the "Special Places" stating as one of the objectives of the area the "protection of the high conservation, landscape, hydrological, and historic values of the uplands while allowing and providing for appropriate recreational use"
4. The tussock landscape that is present, although pleasing to the eye, can and will be improved and made more so when it is returned to the Crown and stock is removed. It can but grow taller and more vigorous.

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5. A fence will have to be built between the land to become freehold and the land to be returned to the Crown for protection and added to the Te Papanui Conservation Area. This could start at spot height .927 next to Te Papanui boundary (and at the bottom edge of RAP 3) and head in a north westerly direction across the south side of the main Lammerlaw Ridge at about the 850m contour below Carsons Rock but above the gorse infestation until it reaches the western boundary at about spot height .873 on the western boundary. All the land below this fence could become freehold and that above returned to the Crown.

6. The wetland areas near the head of the Talla Burn containing the bog pine should be fenced off as a separate conservation area.

7. The main purpose of the CPL Act 1998 is to – *Manage reviewable land in a manner that is ecologically sustainable*. As the bulk of Beaumont is Class VII land it cannot be managed in an ecologically sustainable manner.

8. Wilderness areas are the economic backbone of the outdoor recreation industry. In regard to this Tenure Review it is important to recognize the economic values of this land in it's natural state. We believe conservation is now as much about economics as it is about less tangible aspects like the solace of open space.

9. We repeat the only acceptable result for the review of Beaumont we can recommend is that the land identified above be returned to the Crown for protection.

Yours faithfully

John L Turnbull

For Central Otago-Lakes Branch

-6-

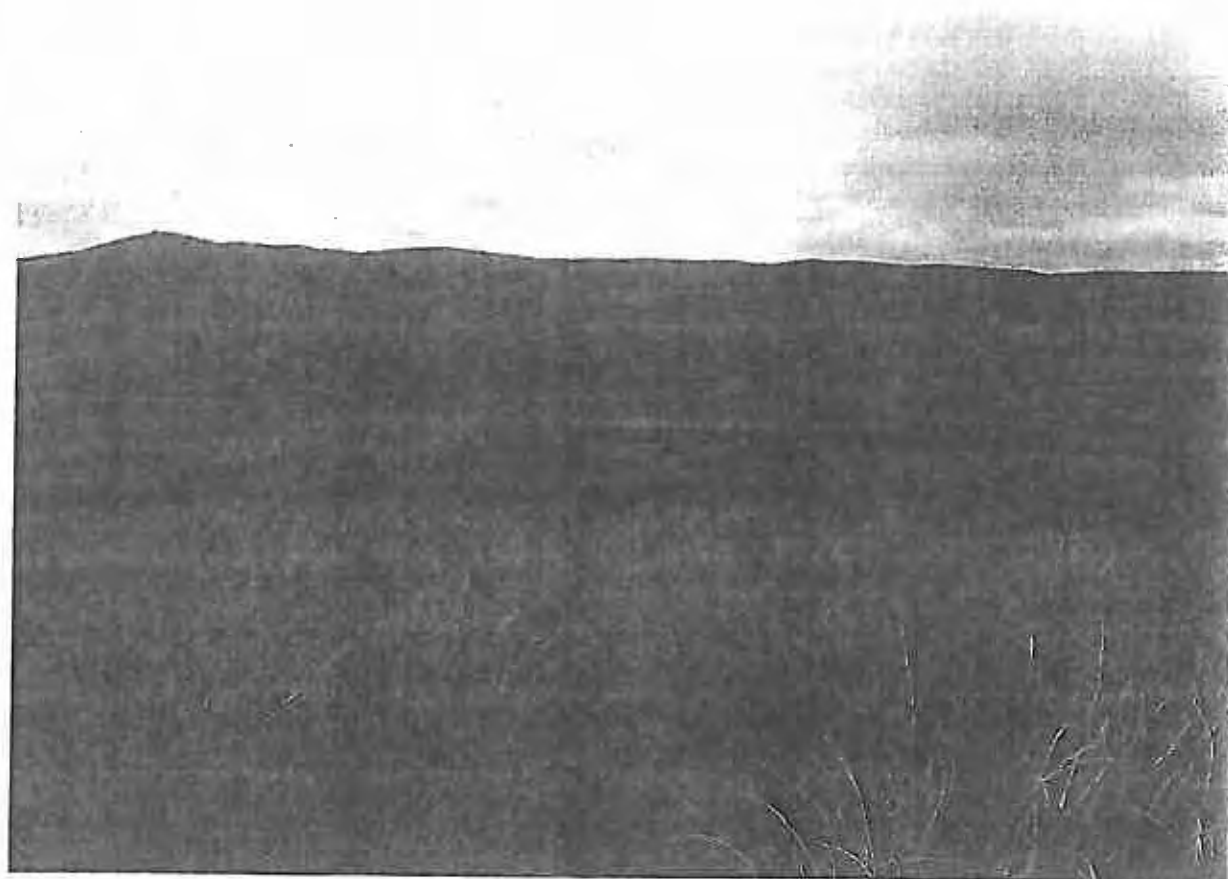


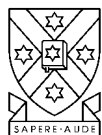
Photo No 1 Bog Pine at the head of the Talla Burn to be protected as a separate conservation area.



Photo No 2 Looking across Lake Onslow to the Pinelheugh Range and the Manorburn Tussock Reserve; shows the quality of the tall tussock present



Appendix 14: Submission - Dr Alan Mark



Department of Botany

Division of Sciences
PO Box 56, Dunedin
NEW ZEALAND

University of Otago
Te Whare Wananga o Otago

Tel: National 03 479 7573 International 64 3 479 7573
Fax: National 03 479 7583 International 64 3 479 7583
Email: amark@otago.ac.nz

December 9, 2010.

Manager,
Tenure Review,
Department of Conservation,
DUNEDIN.

**PRELIMINARY REPORT OF ECOLOGICAL-BIOLOGICAL VALUES OF
BEAUMONT STATION PASTORAL LEASE**

Dear Sir,

I appreciate the opportunity of commenting on the ecological and biological values of Beaumont Station Pastoral Lease following an “early warning” meeting in September 2009 and a subsequent two-day visit to the property on 19-20 January last, and discussions on-site with the lessees Alan and Richard Hore.

Being blessed by favourable weather and good road conditions an excellent appraisal of the property was obtained. I had considerable prior knowledge of the general area through co-supervision of the PNA Survey of the Waipori Ecological District by Ms Jill Carter in 1993-4, as well as several other personal studies in nearby areas.

Areas visited were mostly close to the main access route on the ridge to the west of the Tala Burn, traversing the property and included the northern boundary of the property above the Canadian Flats, a side route to Red Swamp and also to the Te Papanui boundary past Lammerlaw Top, the highest point on the property at 1210 m. I also traversed the lower ridge between the Little Beaumont Stream and Tala Burn catchments, almost to the property boundary in upper Moffats Creek where the upper section of the gorse fenceline crosses the 4WD track, about 1 km from the property boundary with Te Papanui Conservation Park. This was within view of, but ~4 km below Carsons Rock, which was visible on the skyline.

There are two major outstanding ecological features of the natural resources of Beaumont Station, these being firstly, the several important, essentially undisturbed wetlands and secondly, the excellent condition of the very extensive upland snow tussock grasslands which occupy the broad plateau crests of the Lammerlaw-Lammermoor Ranges on the property.

These manifold ecological values were formally recognised in the Otago Conservation Management Strategy (1998), which recognised the Lammermoor – Upper Taieri as one of the 41 Special Places (No. 16) in the Otago Conservancy. It referred specifically to the high ecological, biodiversity, landscape and recreational values as well as the hydrological importance of the area for water production. It also stated among the ‘Objectives’ for the area, protection of “the high conservation, landscape hydrological and historic values of the uplands while allowing and providing for appropriate recreational use”, with these also being a ‘priority’ for achievement. An important opportunity for fulfillment presents itself with the tenure review process.

Recent research into water yield on adjoining similar sites by me and PhD student David Holdsworth in 1977-79, and continued by me through the 1980s, together with the NZ Forest Service-Landcare Research long-term paired catchment study at nearby Glendhu in the upper Waipori system and a shorter-term study of the effects of burning on water yield by Water & Soil Division of Ministry of Works & Development (Duncan & Thomas 2004), have confirmed the exceptional water-yielding attributes of the upland snow tussock grasslands in this region (Holdsworth & Mark 1990; Fahey & Jackson 1997; Ingraham & Mark 2000; Ingraham et al. 2008), which has attracted documentation in an international ecological publication (Mark & Dickinson 2008).

I see this preliminary report as an important opportunity to review and present the scientific information relevant to the tenure review of this pastoral leasehold property, at a stage in the process when it should have maximum impact on the process leading to the completion of a “preliminary proposal” and hence also in the final outcome of the entire review process.

Beaumont Station occupies some 21,000 ha and is one of the larger pastoral leases. It extends from the Clutha River to the upper Taieri catchment and adjoins Te Papanui Conservation Park and other protected lands along an extended section of its eastern boundary. Three of the Recommended Areas for Protection from Carter's PNA Report (1994): RAP 1 (Fortification Creek: 400 ha), RAP 2 (Teviot Swamp & McKays Stream: 1080 ha), and RAP 8 (Taieri Rapids: 100 ha), are contained wholly or largely within the property.

Dealing first with the wetlands on the property:

Teviot Swamp and the surrounding catchment has been recognised as an outstanding upland wetland, by Carter (1994) and recently described in detail by Rapson et al. (2006). It has been classified as a "Gully-head ribbon fen" because of its very distinctive and unusual feature of having its main mires in several ribbon fens, each located within a gully head. Distinctive patterning apparently has been enhanced and accentuated by their location in gully heads on a broad-topped range and the "drainage of soligenous water [from rain and slope run-off] from up-slope gully sides. The patterns consist of a series of small scarps and peaty terraces which may contain pools elongated either down-slope in the narrow, lower-altitude mires or cross-slope in the broader upper mire (Rapson et al. 2006). Teviot Swamp, which receives drainage water from part of this mire system, is relatively dry and unpatterned (Fig. 1) but the mire system as described by Rapson et al. (2006; Fig. 1), actually extends well beyond the borders of RAP 2, into Te Papanui Conservation Park to the east and almost to Davidsons Top (1138 m) on Beaumont Station to the north. This Lammerlaw-Lammermoor patterned wetland is fundamentally different from those recently described from the southern Garvie Mountains (Roaring Lion and Dome Burn: Mark et al 1995; Dickinson et al. 2002). **Recommendation:** The entire area of this wetland complex associated with the Teviot Swamp, within Beaumont Station (Fig.), as outlined by Rapson et al (2006), justifies formal protection in relation to its national and even international importance.

Fortification Creek Wetland, including the lower reaches of the South Branch Teviot River, was recognised as ecologically important in the PNA Report (Carter 1994) because of both its plant cover and also the associated landforms of meandering streams and oxbow lakes. The dominant red (copper) tussock (*Chionochloa rubra* ssp. *cuprea*) cover is described by Carter as tall and in good condition, with a variety of inter-tussock species related to variation in drainage conditions, while this wetland was also recognised as providing "a very valuable habitat for water fowl". This wetland is also described as being very vulnerable to processes associated with land degradation which thereby signifies the importance of continued sympathetic management of the entire catchment (which is essentially upland snow tussock grassland). **Recommendation:** The Fortification Creek Wetland and associated catchment within Beaumont Station be formally protected.

Red Swamp Wetland immediately north of Davidson Top (1127 m) at about 1000 m altitude, also has some distinctive features, particularly an extensive cover of cushion vegetation comprising *Phyllachne colensoi*, *Oreobolus pectinatus* and *Dracophyllum prostratum*, together with several lichens and mosses. **Recommendation:** The Red Swamp Wetland, although relatively small (~100 ha) has some distinctive and important features which justifies formal protection, together with the relatively small surrounding catchment.

General statement and recommendation regarding the wetlands on Beaumont Station: The three major wetlands, discussed above and also in unpublished reports by Johnson (1986) and Johnson & Lee (1988), together with the numerous smaller wetlands on the property (Fig. 3), comprise a valuable and important sequence in terms of size, elevation and plant composition. Given the highly depleted state of New Zealand's wetlands (Stephenson et al. 1983), and the added importance of those on Beaumont Station for regulating water yield (particularly sustained low flows), it is strongly recommended that all wetlands and their associated catchments be formally transferred to the Crown, to be fully and formally protected, and managed for their overall inherent values.

Now dealing with the upland non-wetland vegetation on Beaumont Station:

The uplands above ~800 m are generally in exceptionally good condition, apart from some local fencelines where stock have congregated on the homeward side of large grazing blocks and where early gorse-planted fences have been allowed to persist and spread locally, apparently uncontrolled.

The main cover type is narrow-leaved snow tussock (*Chionochloa rigida*) grassland which, above ~800 m, is generally in excellent condition. The soils here are mostly High-country Yellow Brown Earths and podzolised variants, with very limited fertility which, combined with the generally severe climate at such altitudes, has been classified as having a Land Capability Classification of VIIc (= climatic) or VIIe (= eroded or vulnerable to erosion). The Class VII implies severe limitation for productive use (NOTE: only Class VIII land has more severe limitations, which are considered absolute). The entire area is notably free of recognised weeds (*Hieracium* spp.) and contains a rich assemblage of associated indigenous species. Obviously both fire and grazing have been managed very cautiously and pastoral use has been relatively conservative. The land at this relatively high altitude is recognised as being generally unresponsive to oversowing and topdressing. Localised areas of subdominant mountain daisies and speargrasses, which are potential fire-weeds; e.g. *Celmisia semicordata* var. *aurigans* (Fig. 4) and golden spaniard (*Aciphylla aurea*), which have become aggressive in

many areas of high country, attest to the conservative management of this station by the long-standing current lessees.

The extensive areas of semi-natural (i.e., little-modified) snow tussock grassland on the uplands are predictably providing a very valuable ecosystem service in the form of maximising water production and, given the importance of water production from the area for several purposes (town supply, irrigation, hydro-electric generation, conservation, recreation), it is vitally important that the grassland remains in its current healthy state. While the present lessees are clearly reliable and responsible in this respect, tenure review provides the important opportunity of securing the long-term to permanent, health and viability of these ecosystems. Although the stature and condition of the snow tussock cover decreases on the sunnier slopes towards the northern boundary of the property, beyond Davidsons Top, this area probably has the potential to improve with conservative management and this area remains important for water harvesting, as well as for its landscape values. Moreover, the area is so remote from the lower elevation areas (<800 m) on the southern half of the property that it is unlikely to be able to be managed in conjunction with the southern sector if the recommendations contained in this report are adopted.

Therefore it is **strongly recommended** that the extensive area on the northern half of the property be formally protected and returned to Crown management and control as conservation land, to be then added to the adjoining Te Papanui Conservation Park. Included in this extensive area are relatively small areas of blue tussock-herbfield and snowbanks, particularly on the summit and south to west-facing slopes below Lammerlaw Top. The blue tussock-herbfield contains considerable small tussocks of *Poa colensoi*, together with *Hebe poppelwellii*, *Celmisia prorepens* (Central Otago endemic), *C. argentea*, *Dracophyllum prostratum*, *Poa colensoi*, *Gaultheria nubiicola*, *Aciphylla hectorii*, *Ranunculus multiscapus* and several lichens (Fig. 2), while several localised snowbanks also contain an interesting plant assemblage: *Phyllachne colensoi*, *Gnaphalium mackayi*, *Kelleria villosa*, *Pimelea oreophila*, *Raoulia grandiflora*, and *Ranunculus ensyii*.

Areas for Freeholding: The remainder of the property, being most of the southern half, below ~800 m, has been much more intensively managed and farmed, and is much more obviously capable of being sustainably managed (a requirement under the Crown Pastoral Land Act, with which this process must comply). Substantial areas of indigenous and mixed indigenous-exotic shrubland on the steep lower Clutha faces immediately above Clutha River, clearly have some inherent values but are so limited in area and mostly under heavy grazing pressure from cattle, that their formal protection cannot be justified in conjunction with the other recommendation made in this report. The upper section of Moffat's Stream catchment between the gorse fenceline up to the ridgeline containing Carsons Rock is also good condition snow tussock grassland but this area could be included in the area to be freeholded provided it was protected with a landscape covenant to retain its landscape values, i.e., issued with conditions prohibiting cattle grazing, burning, tree-planting and oversowing-topdressing, together with adequate photographic monitoring from fixed points.

Public Access provisions: The provision of public access to 'reviewable land', is required under the CPL Act. Given the extensive area of the property and the existing conservation along part of its eastern boundary, public walking, mountain bike and horse access should be provided for from the north (Canadian Flat), the east (Te Papanui Conservation Park), the west (from the Lake Onslow road), and also from the south, along the existing 4WD track originating from near Beaumont Station homestead (this would require a formal easement across the land to be freeholded). The present vehicle access from the existing boundary of Te Papanui Conservation Park along the crest of the Lammerlaw Range via Lammerlaw Top should be maintained for public vehicle access, with the present Te Papanui-Beaumont boundary gate left unlocked during the snow-free season, as with other gates into the conservation park. Vehicle access from the north (from the Canadian Flat), from the west (from the Lake Onslow Road, through a locked gate on the Hydro Road), and from the south, from near the Beaumont Station homestead would also be highly desirable given the size and general remoteness and elevation of the property, but probably would best be conditional on prior permission from the relevant landowners (of Rocklands, Stonehenge and Beaumont Stations, respectively).

I trust that this preliminary report and particularly its recommendations will be given serious consideration. A map (Fig. 7) of the Station showing the extensive area recommended for transfer to the Crown for formal protection and management by the Department of Conservation in the public interest, as an addition to Te Papanui Conservation Park. I also thank you again for the opportunity to assess and comment on this important initial stage of the tenure review of Beaumont Station..

Sincerely,

Alan F. Mark. FRSNZ KNZM. Emeritus Professor.

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Figure 1. Teviot Swamp viewed from the north (road), showing the pattern of copper tussock and wetland across this extensive swamp. Most of the many small gullies draining into the swamp have patterned wetlands in their heads (see Fig. 2).



Figure 2. View northeast into one of the many gully-head wetlands draining into Teviot Swamp, this one near Lammerlaw Top, with localised herbfield of *Celmisia prorepens* (bright green) and low shrubs of *Hebe poppelwellii* in the foreground.

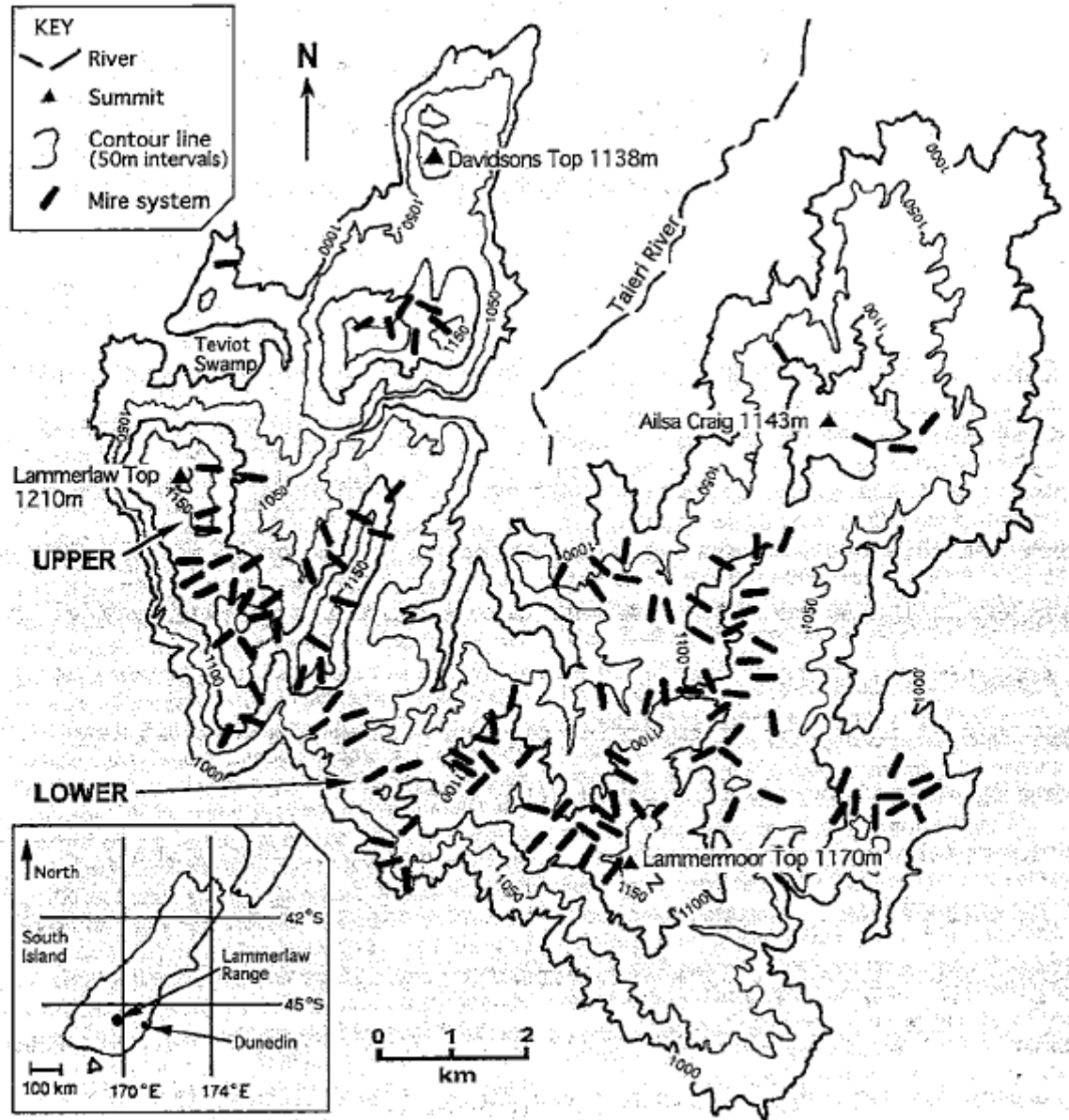


Fig. 1 The distribution of mire systems in the sub-alpine zone (land above 1000 m a.s.l.) in the Lammerlaw and Lammermoor Ranges, with the upper and lower mires studied marked. Inset: location of the Lammerlaw Range, South Island, New Zealand, and of Dunedin, the nearest city.

Figure 3. Map outlining the extent of the mire systems on Beaumont Station (and nearby to the east on TePapanui Conservation Park), from Rapson et al. (2006; Fig. 1). All of the area containing the mire systems on Beaumont Station should be formally protected.



Figure 4. Red Swamp among good condition snow tussock grassland, viewed from the southwest, with Lake Onslow in the distance.



Figure 5. One of the many small isolated wetlands among good condition snow tussock grassland, this one at 820 m alongside the main 4WD access track west of the Talla Burn. Note the scattered dark shrubs of bog pine, *Halocarpus bidwillii* through this wetland.



Figure 6. Area of snow tussock grassland showing two subdominant *Celmisia* species, the small bright green *C. prorepens*, an Otago endemic, and the larger *C. semicordata*, a species which may dominate as a fireweed in mismanaged grasslands.

Figure 7 (below). Map of Beaumont Station, showing the outline of areas recommended for formal protection (coarse hatching) and the areas recommended for freeholding (with a landscape covenant to cover the enclave in the north-east corner (see text for details).

