

## EXECUTIVE SUMMARY

- This review, version 12, presents the professional opinions of Graham Densem, landscape architect. It modifies version 11, which was the one publicly notified, in respect of paragraphs 7.2 and 7.3. Version 12 is the one lodged with the Court.
- It reviews landscape provisions proposed for the Mackenzie Basin Subzone (the Subzone) following decisions of the Environment and High Courts on Plan Change 13 (PC13).
- It concludes that outstanding natural landscape (ONL) values will not be maintained by firm district plan controls solely on the Lakeside Protection Areas, Scenic Viewing Areas and proposed Scenic Grasslands, and that controls also are required on all medium and high visual vulnerability areas of the Subzone.
- It also concludes that pastoral intensification under dryland regimes will generally maintain outstanding natural landscape values, but that beyond certain degrees, irrigation or cultivation will adversely affect or potentially remove those values. Farm Base Areas, areas of consented irrigation and areas of low visual vulnerability are identified as the localities where intensification either is fait accompli or will have least effect on ONL values. To best maintain landscape values, these areas are recommended for ‘enabling’ management under the District Plan.
- Boundaries of High/Medium/Low Visual Vulnerability areas were drawn at a Basin-wide scale. Where they may come to form the boundary between differing rules regimes in the District Plan, they will require remapping at 1:50,000 scale, in order to be definable at site-specific levels.
- The landscape values considered are largely visual and do not include ecological or natural science assessments. Natural science values are likely to be generally maintained in proposed dryland management areas, but are likely to be lost in intensified management areas. Ecological

assessments of intensification areas should therefore be carried out to identify and avoid important sites that may exist.

## 1. INTRODUCTION

1.1 In light of the Environment and High Court decisions on PC13, and to assist the Council in preparing the section 293 package of amended PC13 provisions (Section 293 package), this document will:

- Review the 2012 mapping of Scenic Viewing Areas and Scenic Grasslands and provide commentary on the reasoning behind them;
- Consider if outstanding natural landscape areas beyond the Scenic Viewing Areas, Scenic Grasslands and Lakeside Protection Areas warrant a restrictive planning regime;
- Consider which areas of the Subzone are appropriate for pastoral intensification, from a landscape perspective;

1.2 The various areas referred to are shown in **Map 1** 'Areas of Landscape Management', attached before the Appendices in this document.

1.3 **AREA INCLUDED:** This review concerns the Mackenzie Basin Subzone as defined in the District Plan. It differs from the 'Mackenzie Basin' as defined by the Environment Court (Court) in its First (Interim) Decision (Interim Decision) in that it includes those parts of Ohau catchment within Mackenzie District – that is, the Dobson and Hopkins Valleys. Plan Change 13 excludes the town areas of Tekapo and Twizel and the rural-residential areas west of Twizel, which also are not within the Subzone. Land within Mt Cook National Park also is not considered.

1.4 **LANDSCAPE SOURCES:** This review is based on the landscape values accepted in the Court decisions. It relates these to the landscape values identified in my 2007 Council report on PC13 '*The Mackenzie Basin Landscape, Character and Capacities*'; my 2010 Environment Court evidence including Rebuttal and Additional Rebuttal evidence; and the 'Extra Maps' prepared at the Court's request in 2010 and 2012. A list of Landscape documents and sources is included in Appendix 1.

1.5 This review presents the professional opinions of Graham Densem, landscape architect. I am a qualified landscape architect with 40 years' experience. I am a non-registered member of the NZ Institute of Landscape Architects.

## 2. LANDSCAPE ASSESSMENT OF 2010

### 2.1 ONL AREA: The Court's Interim Decision accepted:<sup>1</sup>

- that nearly the whole of the Mackenzie Basin (excluding the towns at Tekapo and Twizel) is an outstanding natural landscape (ONL);
- that the large Mackenzie Basin is, despite all the modifications to its endemic naturalness, one of the quintessential outstanding natural landscapes in New Zealand;

### 2.2 Excluded from the ONL, beside the two towns, were:<sup>2</sup>

- the rural area west of Twizel, where rural-residential subdivision has occurred; and
- the Dobson River catchment, upstream from Lake Ohau.

2.3 The Dobson catchment was excluded by the Court because it was not part of the Mackenzie Basin, not because it did not necessarily constitute an ONL<sup>3</sup>. However being within the Subzone, and having been identified as an outstanding natural landscape in my 2010 evidence, this review includes that catchment as part of the ONL.

2.4 REGIONAL LANDSCAPE STUDY: The Court's First Interim Decision took into account the findings of the 2010 Canterbury Regional Landscape Review, presented to the Court by Ms Yvonne Pfluger. These were that the Mackenzie Basin constituted a regionally outstanding natural landscape.<sup>4</sup> The regional and district assessments were accepted by the Court as being in accord.<sup>5</sup>

2.5 HIGH COURT APPEAL: The ONL status confirmed in the Interim Decision was subsequently unchallenged and upheld by the High Court<sup>6</sup>. The principal concern of the High Court, from a landscape perspective (i.e. section 6(b) RMA), was the insufficient policies and objectives to properly protect the Basin from inappropriate subdivision, use and development.<sup>7</sup> In particular this referred to a failure to consider 'greening' of the landscape through pastoral intensification.<sup>8</sup>

---

<sup>1</sup> Interim Decision, [2011] NZEnvC 387, para 105.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid (footnote 221).

<sup>4</sup> [2011] NZEnvC 387, para 88.

<sup>5</sup> Ibid.

<sup>6</sup> [2013] NZHC 518 [Interim Decision Appeal] paras 18 – 20.

<sup>7</sup> [2014] NZHC 2616 [Judgement of Gendall J], paras 156 – 157.

<sup>8</sup> Ibid.

2.6 LANDSCAPE CHARACTERISTICS: To assist the developing and administering of such policies and objectives, the landscape characteristics of the Mackenzie Basin, accepted by the Interim Decision, are:

- long open views over brown grassland;
- dramatic visual backdrop of the Southern Alps;
- visual backdrop of other mountains encircling the Basin;
- glacial valleys, moraines and blue glacier-fed lakes (Tekapo, Pukaki);
- straight lines of hydro canals, transmission lines and roads;
- scattered homesteads;
- occasional shelterbelts, plantations and wilding areas of exotic conifers;
- grassland vegetation of native tussock and introduced browntop species;
- braided rivers lined with exotic willow and poplar;
- remaining native vegetation (matagouri, Spaniard, smaller herbs);
- native bird species of riverbeds and moraine ponds (pied stilt, pied oyster-catcher, double-banded dotterel, wrybill);
- other native bird species of the Basin generally (black-fronted terns, gulls, NZ falcon, swamp harriers);
- habitat of insects and lizards;

2.7 The above is a paraphrased, bullet-pointed list of elements noted in the Court's First Interim Decision.<sup>9</sup> A fuller list, from para 3.18 of the 2007 Mackenzie Basin Landscape document, is included as **Appendix 2**.

2.8 LANDSCAPE ASSESSMENT: the whole-of-basin assessment of outstanding natural landscape values was arrived at following an area-by-area assessment using the following Landscape Character Areas (area names are as listed in the Interim Decision, with earlier names from the 2007 study in parenthesis if different):

Outwash Plains:

- Eastern Plains (East Basin);
- The Centre (Central Basin);
- Pukaki River Plain (South Basin);
- Twizel River Plain (Rhoroborough and Twizel );

Mountains and Valleys:

- Tekapo;

---

<sup>9</sup> [2011]NZEvc 387, para 33 – 34.

- Pukaki;
- Dobson (Ohau);
- Benmore.

While the names vary, boundaries of the Court's and the 2007 areas are the same.

- 2.9 A summary of the area-by-area assessments and map of the Landscape Character Areas from my 2010 evidence are attached to this review as **Appendix 3**.
- 2.10 **CAPACITY TO ABSORB DEVELOPMENT:** Map 7 of the 2007 Study showed the Basin categorised into areas of Low, Medium and High Vulnerability to Development. The categories refer to change of *visual* environment and take no account of change to *natural* environment, for example through removal of plants and habitats, draining wetlands or cultivating natural soils. The respective Vulnerability areas are shown in Map 1 at the end of this review.
- 2.11 **Areas of High Visual Vulnerability** are those with little capacity for change without lessening the ONL values. These are summarised as:
- The wide basins;
  - Lakes and lakesides, including shorelines and lakeside hills and mountain flanks;
  - Raised mountain ranges, hills and isolated mountains;
  - River corridors;
  - Areas of particularly pristine or continuous natural grassland, low development areas and visual vividness.
- 2.12 **Areas of Medium Visual Vulnerability** are those which remain vulnerable to change but are not highly vulnerable through being less prominent to view or through having existing development such as tree growth or land surface disturbance. These are areas where modest or light developments may be considered but should not be extensive and should be configured to fit into the landscape with a high degree of conformity.
- 2.13 **Areas of Low Visual Vulnerability** are those with capacity to absorb development and where it would be possible to provide for economic and social development while maintaining the wider ONL values of the Subzone. These are summarised as:
- Recessed valleys at the meeting point between plains and surrounding hills;
  - Valleys and gullies incised below the generally-seen surfaces;

- Recessed gullies and indentations back from lake shorelines;
- Locations away from view behind hills;
- Areas within the tree shelter and buildings of existing Farm Base Areas;
- Areas where subdivision and rural residential development have occurred.

2.14 Farm Base Areas have capacity to absorb development by virtue of their existing infrastructure, paddocks and shelter trees. These traditional homestead areas are characteristic of the cultural pattern of the Mackenzie Basin and it would not lessen the ONL values to concentrate developments here. Many Farm Base Areas are within wider areas of high visual vulnerability but this does not lessen their capacities for development so long as it is within the defined area.

2.15 An effective way to maintain the visual ONL values of the Subzone is to concentrate change in low visual vulnerability areas and limit it in high visual vulnerability areas. Where change may be contemplated, a separate assessment of natural values such as vegetation, wetlands and wildlife should also be done, to identify and avoid any areas of significant natural values.

### 3. MAINTAINING ONL VALUES:

3.1 The 2010 landscape assessments identified ONL values across the Subzone generally, not just within Scenic Viewing Areas (SVA), Scenic Grassland Areas (SVA) and Lakeside Protection Areas (LPA). Controls for SVA and SG will maintain values within those defined areas but not within the landscape generally. To maintain the ONL values of the Subzone generally, the District Plan should establish subdivision, development, building and land use controls across the whole landscape. It should then define the specific areas where these do not apply and where pastoral intensification may be enabled. The question of what areas should be enabled is discussed in section 4 below.

3.2 **Areas of High Visual Vulnerability:** In principle, to properly maintain ONL values, restrictive provisions should apply to all areas of High Visual Vulnerability. This covers a significant majority of the Basin as shown in **Map 1** attached. Restrictive provisions also should apply to scientific reserves, Significant Natural Areas (SNA), conservation land and Mt Cook National Park, although in practice, and

with the exception of SNAs, DOC reserves are likely to be managed under stricter regimes than the District Plan would impose.

3.3 **Areas of Medium Visual Vulnerability** (see **Map 1**): These are areas with ONL values but some capacity to absorb development with conditions. This mostly arises from being out of mainstream views within valleys, behind hills or in hollows below the general visual environment. They differ from areas of Low Visual Vulnerability in being more marginally hidden from wider views. It is not that Medium Visual Vulnerability areas would not be affected by change but that the effects would not be on the Basin generally. Given the aim of maintaining ONL values, areas of Medium Visual Vulnerability should be included in the restrictive regime but with scope to absorb appropriate developments with conditions.

3.4 **Appropriateness:** Acceptance of some degrees of modification raises the question of what modifications would be appropriate or inappropriate? From the landscape perspective appropriate developments would be those which maintain the visual and natural values that led to the ONL assessment. Inappropriate developments would be those that erode those values. In general these developments/uses are:

**appropriate:**

- extensive pastoralism;
- conservation and low-impact recreation;
- structures and facilities of minor scale, located away from views and ecological sites, without developed curtilages, and with low impact services (power, water, sewerage, etc);
- minor earthworks, roads and tracks, located away from views and ecological sites, following landscape lines, of minimal volumes, and properly naturalised and reinstated.

**inappropriate:**

- pastoral intensification (including irrigation and cultivation) unless located out of sight;
- residential buildings and structures generally;
- residential subdivision;
- roads and tracks generally, unless minor and located out of sight;

- high impact recreation;
- forestry blocks, tree plantings;
- wilding spread.

3.5 **Discussion:** Summarising the above is complex, being dependant on interrelated factors of scale, location, context and visual impact. PC13 has prioritised these through the concept of Visual Vulnerability, that is, the capacity of different areas to absorb, or not absorb, change. ‘Vulnerability’ and ‘Capacity’ are opposites, that is, High Visual Vulnerability indicates low capacity to absorb change, visually. Low Visual Vulnerability indicates greater capacity to absorb change. These categories indicate possible locations where future change would minimise erosion of ONL values.

3.6 Appropriate developments in the Subzone are those of very low density which change the land surface very little, avoid ecologically-sensitive sites, are located in hollows, behind hills or out of widespread view, are of modest size and are sited and shaped to follow landscape forms. An approach to maintaining ONL values therefore would be for the District Plan to require developments not meeting those criteria to be confined to Farm Base Areas or Low Visual Vulnerability Areas.

3.7 The ONL evaluations were based on the unique features of the Mackenzie landscape, which are:

- Extensive, uninterrupted views over the highly natural (albeit pastorally modified) tawny-coloured High Country landscape;
- Sense of continuity from plains and rivers to mountainsides and skylines, giving a vivid sense of the formative processes;
- Views of isolated mountains, skylines, the ice fields of the high Alps, and Aoraki/Mt Cook, often from very distant locations;
- Sense of the sky patterns, uninterrupted by high densities of ground level development;
- The different landscape character and higher degree of naturalness of the alpine basin from lowland New Zealand;
- The vivid feelings engendered by the climatic, natural and sensory environment;



- The sense of scale engendered by the spatial continuity between foreground, middle ground and background.

3.8 The approach of generally limiting inappropriate developments except in Farm Base Areas and Low Visual Vulnerability areas seems to achieve a workable balance between landowner needs and the maintaining of ONL values. The areas are shown on **Map 1** attached.

3.9 It therefore is recommended that, to maintain ONL values, the District Plan adopt a strategy of channelling pastoral intensification, subdivision and rural residential development into Farm Base Areas and Low Visual Vulnerability areas. Conversely the High and Medium Visual Vulnerability areas should be protected by generally restricting developments, and requiring most developments to be by way of individual Plan Change, to ensure stringent standards are set.

3.10 **Landscape Assessments:** The values assessed as outstanding in each area of the Subzone are restated in **Appendix 3** attached. This is a restatement of the 2010 landscape assessments in tabular form. The Assessment Areas are wider than the defined Scenic Viewing Areas, Scenic Grasslands and Lakeside Protection Areas, as shown in the Map with Appendix 3. It is central to the maintaining of the ONL values that values be regulated over the wider Subzone, and not solely over Scenic Viewing Areas, Scenic Grassland Areas and Lakeside Protection Areas.

3.11 **Boundary Definition:** High/Medium/Low Vulnerability boundaries were drawn for PC13 at a Basin-wide scale. Those which come to be used for District Plan purposes will require review and redrawing at 1:50,000 scale, to be useable at site-specific scales. This should include consultation with affected landowners.

#### 4. PASTORAL INTENSIFICATION

4.1 In the Interim Decision the Court accepts the ONL status of the Subzone<sup>10</sup> and also that pastoral intensification can have more than minor effects on ONL values<sup>11</sup>. However the ONL values exist within a landscape already partly intensified from its pre-human state by 150 years of runholding. In scientific and aesthetic terms it already is a partly modified landscape. Additionally, the ONL values exist alongside instabilities arising from desertification, hieraceum, rabbits,

---

<sup>10</sup> Interim Decision, para 105

<sup>11</sup> Interim Decision, para 116

wildings, water abstraction, recreational growth and change triggered by tenure review. It thus is challenging to determine what further pastoral intensification could occur while maintaining ONL values for the future.

- 4.2 **Natural landscape:** Generally, it is believed the public view the Mackenzie Basin as a natural landscape, with the aesthetic judgement that the brown grassland character is typically 'High Country'. Environmental interests however regard the Basin as a significantly denaturalised landscape, through changes to the indigenous flora and fauna by runholding and power generation. This refers particularly to loss of tussock, wetland, river and lakeshore ecosystems.
- 4.3 The Court accepted the Subzone as a natural landscape for its remaining natural characteristics<sup>12</sup>, although lamenting the lack of evidence on natural science presented to it.<sup>13</sup> However even without such evidence it is clear that ongoing intensification would progressively lower aesthetic and natural science values to the point that ONL values are extinguished. In natural science terms, species diversity, groundwater/soil qualities and environmental resilience are lessened through such processes. In aesthetic terms, the difference between the brown high country landscape character and the green character of lowland New Zealand is lost.
- 4.4 Anecdotally, the public appear in particular to dislike the roadside irrigators and green paddocks associated with intensification, as seen outside Mackenzie District between Twizel and Omarama. The irrigators are an aesthetic matter, the greening a matter of perceived landscape character. Other features lessening the traditional high country character are the mucky raceways, large functional sheds and night-time lighting associated with intensification.
- 4.5 **DEGREE OF INTENSIFICATION:** It therefore needs to be determined, from a landscape perspective:
- a. what degrees of intensification maintain or diminish ONL values?;
  - b. what areas of the Subzone are more and less suited to intensification, while maintaining ONL values?
- 4.6 The Council's Section 293 package proposes the following definition of 'intensification' in s.7.2:

---

<sup>12</sup> Interim Decision paras 95 – 97.

<sup>13</sup> Interim Decision, para 121

**Pastoral intensification** means subdivisional fencing, cultivation, irrigation, topdressing and oversowing and/or direct drilling.

This is a development of the definition in the Operative District Plan and that proposed in the Interim Decision.

- 4.7 In the pastoral intensification process the two activities that most affect landscape values are cultivation and irrigation. The former creates irreversible change to natural soil structure and biological diversity. The latter creates a monocultural pasture covering that is green in character. The Council's proposed definition of 'pastoral intensification' is therefore preferred as it refers to irrigation.
- 4.8 In their degrees of landscape effects, the following six pastoral regimes are identified in the Subzone:

cultivated or irrigated regimes:

1. cultivated, irrigated pastures of largely 'green' character within traditional homestead areas, now defined as Farm Base Areas
2. cultivated, irrigated pastures of largely green character within consented irrigation areas outside Farm Base Areas, following Environment Canterbury (ECAN) water allocation hearings;
3. seasonally green cultivated but unirrigated crop areas outside Farm Base Areas;

dryland regimes:

4. extensive dryland grazing at low stocking rates, that maintains the 'tussock' land cover of the Basin. This may include oversown but uncultivated grasslands of largely exotic browntop grasses, generally 'brown' throughout the year;
5. Retired, conservation areas managed for ecological values, particularly its tussock cover, which may involve grazing management; and
6. Retired, protected areas with specific identified ecological values.

- 4.9 **Extensive Grazing Areas (Regime 1):** Of the above, these comprise the greatest bulk of the Basin, leading to the brown open tussock landscapes identified as characteristically High Country in the public mind. This public perception is the basis of the ONL aesthetic assessments of the Subzone. This regime has

moderate but sometimes degraded natural diversity. It maintains future environmental options, and embodies the aesthetic image of the high country. With continued good management, ONL values can be expected to be maintained under regime 4 management processes.

- 4.10 **Conservation Areas (Regimes 5 and 6):** Retired areas (Regime 5) have become prevalent at higher altitudes following tenure review, whereas protected areas (regime 6) are more widely distributed, comprising wetlands, rivers and lakes, breeding sites, areas of valuable species or habitat and sites of other identified ecological values. Retired areas generally are those above 900m and this contour is shown on **Map 1**. As Regime 5 and 6 areas will be managed for increased diversity and natural science values in the future their ONL values can be expected to be at least maintained.
- 4.11 **Farm Base Areas (Regime 1):** These areas were assessed to be an integral part of the traditional high country landscape pattern, comprising periodic ‘nodes’ of intensified development and shelter around homesteads, within the generally-open wilderness. It was the intention of PC13 to channel development as far as possible to these traditional areas, thereby taking development pressures off the wider landscape. The delineated Farm Base Areas were of a size intended to provide for foreseen developments on that property, while retaining their isolated, periodic cultural character.
- 4.12 By maintaining the cultural pattern of the Mackenzie landscape, intensification within Farm Base Areas will maintain ONL values so long as the scale of buildings and shelter plantings remain similar to the present, each area is not extended beyond that currently delineated, and new Farm Base Areas do not proliferate inappropriately.
- 4.13 **Consented Irrigation Areas (Regime 2):** These comprise the areas of ‘greening’ that have been consented for irrigation following the ECAN water allocation process that occurred in parallel to PC13. The consented areas are shown on **Map 1** attached. In some cases these are likely to remove ONL values, but being consented, are *fait accompli* for District Plan purposes. Landscape assessments were taken into account by ECAN as part of the regional consenting process, and consent conditions were imposed for landscape reasons, for instance that no irrigation occurs within 250m of SH8.

- 4.14 The Interim Decision refers to pastoral intensification being enabled ‘*generally east and south of SH8*’<sup>14</sup>. However unintensified areas of important landscape values also exist east of SH8 and these should be maintained.
- 4.15 Regime 2 areas are not compatible with ONL values due to change in both the natural and aesthetic environment. Given the availability of water they are unlikely to become so extensive as to extinguish values over the Basin as a whole. However they will extinguish them in the smaller localities they occupy. These could potentially have widespread visual effects if located on areas of open plains or where exposed to view from Tourist Roads. It is recommended that to minimise the influence of regime 2 management on ONL values of the Subzone, they be located from now on as far as possible in areas of Low Visual Vulnerability.
- 4.16 **Cultivated Crop areas (Regime 3):** These areas are ploughed and oversown but not irrigated. Such practises alter soil structure and biodiversity and are seasonally visible when flushed green, but may brown off through the summer.
- 4.17 Natural science values (soil and plant diversity) are not maintained under regime 3, nor aesthetic values during green periods. Such areas therefore should be treated as for fully irrigated areas, located as far as possible in Low Visual Vulnerability areas out of sight of Tourist Roads and wide views across the Basin. They should not be located on raised hillsides, where the visual impacts can be widespread. As far as possible they should be in areas of Low Visual Vulnerability such as isolated side valleys, hollows and behind hills.
- 4.18 **SUMMARY, DEGREE OF INTENSIFICATION:** From a landscape perspective, intensification regimes 1, 4, 5 & 6 are likely to maintain existing ONL values by maintaining the traditional high country character of the Subzone. Regimes 2 and 3 are likely to erode ONL natural science or aesthetic values. The points of change occur when land is ploughed and sown, irrigated or subdivided and Plan rules on pastoral intensification should be set accordingly.
- 4.19 **AREAS SUITED AND UNSUITED TO INTENSIFICATION:** To maintain ONL values, intensified and irrigated areas should be located as far as possible where they will have least effects on natural science values, visual landscape values, and landscape character. This is not entirely possible given the various consents

---

<sup>14</sup> Interim Decision, para 153.

already in place and has already happened to some extent. However it should be the general aim of the District Plan from now on.

- 4.20 For this purpose, Farm Base Areas and areas of consented irrigation are shown in **Map 1**, along with the areas of Low Visual Vulnerability. These indicate an approach to the prioritising of areas for future intensification, from a landscape point of view, while seeking to maintain ONL values elsewhere.
- 4.21 **Map 1** does not show Sites of Natural Significance, other areas of natural science values, areas of cultivation (Regime 3), or Tourist Roads and these also should be considered in defining the areas enabled for future pastoral intensification.
- 4.22 CONCLUSION, PASTORAL INTENSIFICATION: Outside Farm Base Areas, the dryland regimes (3, 5 and 6) will generally maintain ONL values whereas irrigated and cultivated regimes (2 and 3) will erode them. It is recommended the two groupings of regimes 3,5&6 and 1,2&4 form the basis for public consultation, particularly with landowners, Department of Conservation and Environment Canterbury, and presented to the Court, towards finalising the pattern of enabled and restrictive management areas in the District Plan.

## 5. SUBDIVISION & BUILDINGS:

- 5.1 The original focus of PC13, as notified, was to protect the open, extensive character of the Subzone from the rural-residential subdivisions common in lowland New Zealand. This was to be achieved by limiting residential buildings to Farm Base Areas and limiting subdivision of rural land to a 200 ha minimum lot size.
- 5.2 **Subdivision:** The Section 293 package continues to provide for subdivision and residential buildings within Farm Base Areas. Outside Farm Base Areas all subdivision is proposed as a discretionary activity with a minimum lot size of 200ha. Applications for subdivision consent should be assessed against the criteria in the 2007 Study, as restated in **Appendix 2** of this review.
- 5.3 **Residential buildings:** While subdivision may be for agricultural or non-residential purposes, it remains problematic for ONL values if a residence can be built as of right on any subdivided lot. Cumulatively, this would allow the spread of residences, their curtilages, access roads, power lines, services etc through the

open landscape. For landscape reasons it is preferable these be discouraged as far as possible in the Plan Rules. If discretionary, any such applications should be assessed against the criteria in the 2007 Study.

- 5.4 It also is desirable, for landscape reasons, that the right to subdivide be separated from the right to build a dwelling in the public mind.
- 5.5 **Farm buildings:** Working buildings such as hay sheds or pump houses have potential to detract from the visual landscape if poorly sited. On principle, stations should be allowed farm buildings so long as they are only occasional in number outside Farm Base Areas, are of small size, and are for non-residential purposes.
- 5.6 The Court's suggested rules for farm buildings outside Farm Base Areas seek to achieve this by setting a maximum footprint of 30m x 20m and separation of at least 1000m from any farm building (other than a building in an approved farm base). These are appropriate in landscape terms but the existing 15m height in the Operative Plan is too high. It could allow for undesirably bulky buildings in sensitive locations. To minimise visual impacts it would be preferable to set a maximum height of 7m and maximum reflectance value of 30%. As far as possible farm buildings should be within areas of Low Visual Vulnerability and out of sight of Tourist Roads.

## 6. AFFORESTATION:

- 6.1 This refers to the establishing of forestry plantations, woodlots, shelterbelts and wilding spread.
- 6.2 **Plantation Forestry** was an issue for the Council in the 1990's but consent applications for such activity have not eventuated since. At issue is the potential for change to the open grassland landscape character if applications for extensive or poorly located forests were to eventuate. Under the Operative Plan all plantation forests require land use consent in the Subzone.
- 6.3 Under the Operative Plan **Shelterbelts** are provided for in the Subzone by requiring that they avoid obscuring long views of the Basin. This is done by requiring they be set back from or be perpendicular to any road, and be at least 1000m apart. The landscape issue is that they reduce ONL values by introducing

geometric pattern to the highly natural landscape. Also that they obscure views where aligned along roads, and subdivide the characteristic openness of the landscape.

- 6.4 From a landscape perspective the Plan provisions are supported as a bare minimum. However they do not eliminate the potential for further visual fragmentation of the open landscape character through inappropriate new shelterbelts.
- 6.5 **Wildings** are not directly required to be removed by proposed Plan rules but there is an ability for the Council to make removal a condition of consent where relevant. Proposed rules in the section 293 package prohibit further planting of specified wilding-prone species, and these are supported. They do not however overcome the problem of future spread from existing plantations.
- 6.6 Major investment has gone into wilding removal in some quarters but active spread is occurring along SH80, west of the SH 8/80 turnoff, along the west and upper east sides of Lake Pukaki, and along the Pukaki River. These comprise a major instability for the landscape values of those areas.
- 6.7 From a landscape perspective, where landowners may seek to develop their way out of wilding infestation by stocking and fertilizing, cultivation or residential subdivision, the long term implications of such activity should be paramount. Any proposal should suit the overall ONL aims of the Subzone and not be a means of initiating irreversible change through cultivation or residential subdivision.

## 7. SUMMARY:

- 7.1 This review presents the professional views of Graham Densem, landscape architect, which in some respects may differ from the chosen approach of the Council.
- 7.2 The aims of PC13 as notified, of the series of Court decisions, and of the section 293 package, continue to be highly relevant for maintaining the unique landscape values in the Mackenzie Basin Subzone. Several of these mountain, valley, lake, river and basin values are of, or are among, the highest of their type in New Zealand, which justifies strong measures in the District Plan to maintain them. However the outstanding natural landscape defined by the Court also contains



smaller areas of sub-outstanding values due to development or degradation. Plan measures therefore need to be tempered by environmental and landowner realities.

- 7.3 To effectively maintain the outstanding landscape values, planning measures should provide for the entire Subzone and not just delineated Lakeside Protection Areas, Scenic Viewing Areas and Scenic Grassland Areas. Residential subdivision, buildings and continuing pastoral intensification, particularly irrigation and cultivation, pose the main threats to those values currently. A strategy is proposed which encourages these to occur in Farm Base Areas, consented irrigation areas, and Low Visual Vulnerability areas.
- 7.4 In landscape terms such an approach is seen as the best way of maintaining ONL values while allowing for appropriate development.

**Graham Densem**

**8 September 2015**

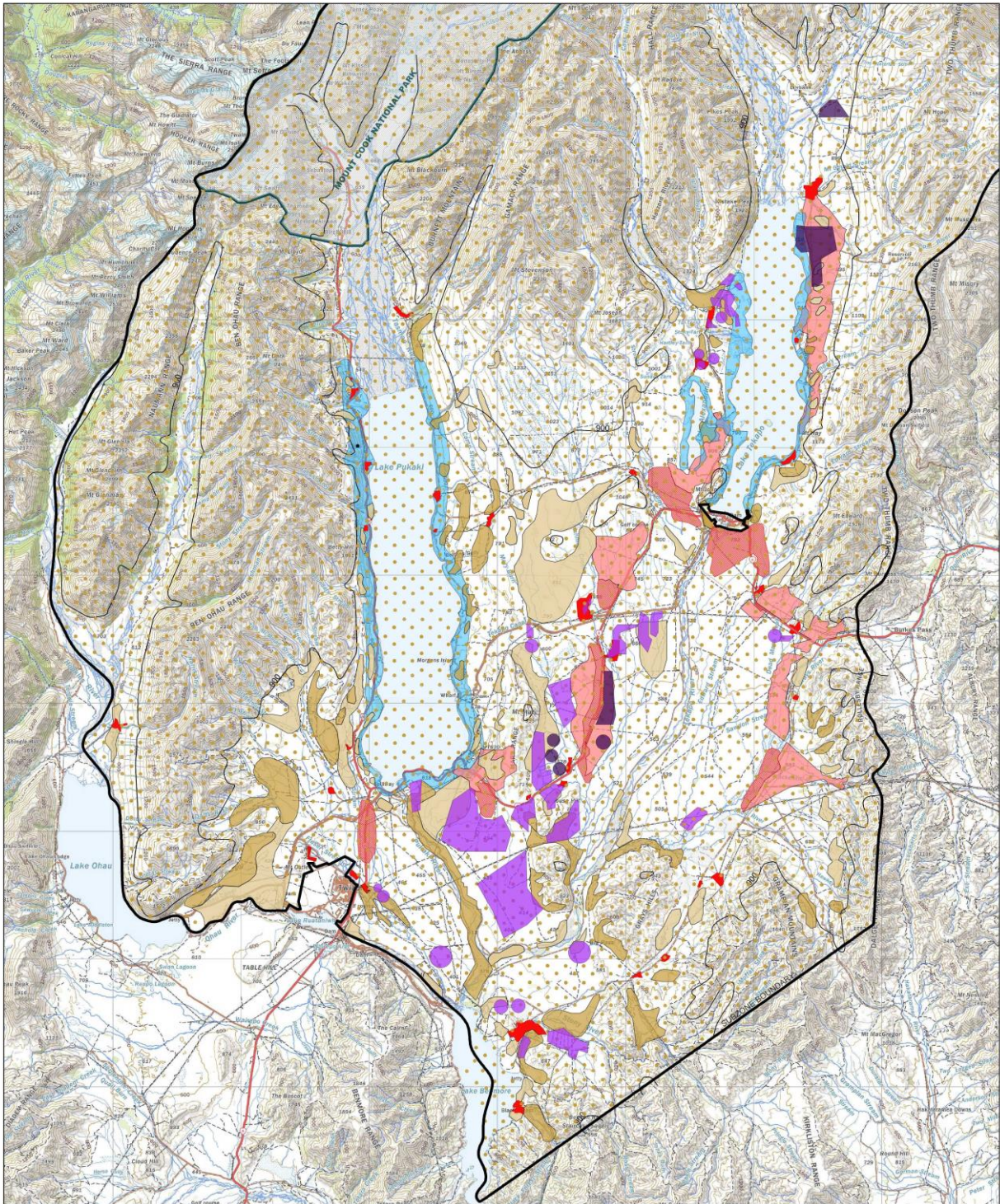
---

## ATTACHMENTS:

MAP 1: AREAS OF LANDSCAPE MANAGEMENT

## APPENDICES:

1. Landscape Documents Relating To PC13 .
  2. Landscape Attributes of the Mackenzie Basin.
  3. Chart and Map of 2010 Landscape Assessment.
-



**KEY**

High Visual Vulnerability Areas	Scenic Grasslands	Farm Base Areas	<b>Scale:</b> 1:30,000 @ A3 <b>Date:</b> 12 Nov 2015 <b>Map No:</b> 201501 V8 900m Contour
Medium Visual Vulnerability Areas	Scenic Viewing Areas	Consented Irrigation Sites	
Low Visual Vulnerability Areas	Lakeside Protection Area	Proposed Irrigation Sites (Application/Subject to Appeal)	

Mackenzie District Plan Change 13  
 2015 SERIES, MAP 1  
**AREAS OF LANDSCAPE MANAGEMENT**



APPENDIX 1:**LANDSCAPE DOCUMENTS RELATING TO PC13**PRIOR TO PC13

*Landscape Change in the Mackenzie/Waitaki Basins.* Report for the Department of Conservation Steering Group, September 1992, Boffa Miskell Partners Limited  
Contains an extensive bibliography of earlier publications.

PC13 COUNCIL PHASE

*Landscape Values of the Mackenzie Basin.* Discussion document for Council Planning Subcommittee. 23 February 2007, Graham Densem.

*The Mackenzie Basin Landscape: Character and Capacities.* Report to Council Planning Subcommittee. November 2007 Graham Densem,. Available on the Council website, [www.mackenzie.govt.nz](http://www.mackenzie.govt.nz).

*Landscape Assessment of Issues Arising From Public Submissions & Further Submissions.* Technical Report L1 accompanying the Council's Plan Change 13 documents, August 2008. Graham Densem.

ENVIRONMENT COURT EVIDENCE

*Statement of Evidence of Graham Densem.* 'Evidence in Chief', 13 May 2010. Accompanied by:

- Attachment 1: Maps and Photographs.
- Attachment 2: Appendices:
  - Appendix 1: *Graham Densem Landscape Assessment ('2010 Assessment');*
  - Appendix 2: *Te Runanga O Ngai Tahu Cultural Impact Assessment for Mackenzie Basin Proposed Plan Change 13 (May 2008);*
- Photo Book, Mackenzie Basin (76pp, August 2010)

*Statement of Rebuttal Evidence of Graham Densem.* 'Rebuttal Evidence' to Environment Court, 30 July 2008. Accompanied by Attachments:

- Appendix 4: Canterbury Regional Landscape Review, Extracts;
- Appendix 5: Comparison of Values Used For regional and District Assessments;
- Additional Maps and Photographs.

*Additional Rebuttal Evidence of Graham Densem Regarding Mt Gerald Station.* 'Additional Rebuttal Evidence' 23 August 2010. Accompanied by Attachment:

- Appendix 6: Notes on Water Transport, Lakes Tekapo and Wakatipu.

*Evidence of Yvonne Pfluger* Statement to the hearing regarding Canterbury Regional Landscape Review

*Evidence of Dr Michael Lawrence Steven*, on behalf of Federated Farmers (Mackenzie Branch), Rhoborough Downs Ltd, Fountainblue Ltd, Southern Serenity Ltd and Pukaki Tourism Holdings Partnership.

*Evidence of Tony Milne*, on behalf of Meridian Energy Ltd.

*Evidence of Christopher Glasson*, on behalf of Simons Hill Station.

*Evidence of Ralf Kruger*, on behalf of Mount Gerald Station.

continues...

Appendix 1: Landscape Documents relating to PC13 (Page 2)

*Extra Maps (1<sup>st</sup> Series), dated 8<sup>th</sup> September 2010, as requested by the Court per memo of 24 August 2010. Prepared by Graham Densem, comprising:*

- Map 1: All Information;
- Map 2: Cultural layers;
- Map 3: Natural and Aesthetic layers;

*Extra Maps (2<sup>nd</sup> Series), dated 24<sup>th</sup> May 2012, as requested in the Interim Decision. Prepared by Graham Densem, comprising:*

- Map 4.2: Proposed Scenic Grasslands, added to Map 1 above;
- Map 5.2: Proposed Scenic Grassland Areas;
- Map 6.2: Proposed Pukaki Tourism Zone and Rural residential Areas

COURT DECISIONS

[2011] NZEnvC 387: First (interim) Environment Court Decision, 14 December 2011.

[2014] NZEnvC 304: Eighth Environment Court Decision (re Landscape Objectives), 23 December 2013.

[2014] NZHC 2616: Judgement of Gendall, J, 23 October 2014 (High Court)

[2014] NZEnvC 246: Ninth (Procedural) Environment Court Decision, 4 December 2014.

PLAN CHANGE DOCUMENTS

*Mackenzie District Plan, Plan Change 13 (Mackenzie Basin), Section 293 Package (to which this present Review contributes).*

*Intensification and Outstanding Natural Landscape: Landscape Management of the Mackenzie Basin in Light of Court Decisions. Review of outstanding landscape matters as they currently stand, for the Council's Section 293 Package (this document). Graham Densem, 8<sup>th</sup> September 2015.*

---

APPENDIX 2:**LANDSCAPE ATTRIBUTES OF THE MACKENZIE BASIN**AS LISTED BY THE COURT

1. In paras 33 - 34 of the Interim Decision the following landscape characteristics of the Mackenzie Basin were accepted by the Court:
  - long open views over brown grassland;
  - dramatic visual backdrop of the Southern Alps;
  - visual backdrop of other mountains encircling the Basin;
  - glacial valleys, moraines and blue glacier-fed lakes (Tekapo, Pukaki);
  - straight lines of hydro canals, transmission lines and roads;
  - scattered homesteads;
  - occasional shelterbelts, plantations and wilding areas of exotic conifers;
  - grassland vegetation of native tussock and introduced browntop species;
  - braided rivers lined with exotic willow and poplar;
  - remaining native vegetation (matagouri, Spaniard, smaller herbs);
  - native bird species of riverbeds and moraine ponds (pied stilt, pied oyster-catcher, double-banded dotterel, wrybill);
  - other native bird species of the Basin generally (black-fronted terns, gulls, NZ falcon, swamp harriers);
  - habitat of insects and lizards;
  
2. In para 146 of the Interim Decision the following qualities of the Mackenzie Basin were listed as those which the District Plan objectives should both protect and enhance:
  - its unspoiled openness and vastness;
  - the sense of naturalness given by the golden brown vegetation;
  - the sense of landform continuity;
  - relative lack of trees, especially windbreaks and plantations;
  - lack of structures with unobtrusive development and isolated contained settlement;
  - the high apparent naturalness and spectacular nature of the views from State Highway 8.

AS LISTED IN GRAHAM DENSEM EVIDENCE-IN-CHIEF

3. In para 3.21 of my evidence I list the following nation-wide superlatives (i.e. potential national values) of the Mackenzie Basin:

continued ....

Appendix 2: Landscape Attributes (page 2)

- New Zealand's highest peak, Aoraki/Mount Cook;
  - New Zealand's 17 next highest peaks;
  - New Zealand's most continuous area of alpine environment, glaciers and perpetual snowpack;
  - New Zealand's largest glacier, the Tasman Glacier;
  - The only place with turquoise-coloured glacier-fed lakes;
  - New Zealand's largest inter-montaine basin;
  - Impressive views of the Main Divide across wide dry grassland;
  - A documented Ngai Tahu history of sacred peaks, values and evenys such as Aoraki and Te Rua Taniwha (the mountains), Tekapo and Pukaki (the lakes), waters, trails, passes and legends.
4. To the above could be added:
- The world's largest dark-sky reserve around Mount John;
5. In para 3.22 my evidence lists the following distinguishing characteristics of the Mackenzie Basin landscape:
- Long open views across brown grasslands (not necessarily native), unbroken over long distances through infrequency of trees or intensive improvements, particularly on the Basin floor [Openness, Naturalness, Scale];
  - A consciousness of the beauty of landform, through the unbroken grassland covering [Legibility, Naturalness];
  - Dramatic visual backdrop of the Southern Alps, including the high alpine area of Aoraki/Mt Cook and 14 others exceeding 3000 m [Vividness, Rarity, Scale];
  - Other encircling peaks, ranges and mountains Ben Ohau, the Dalgety Range and Mt John, defining the Basin, forming an interesting skyline and variable focal pointes [Enclosure, Landforms];
  - Grand U-shaped valleys providing dramatic views and north-south linkage between the Basin and Main Divide ]Grandeur, Scale, Formative Processes];
  - Beautiful lakes in these valleys, with vivid and unique turquoise colour under certain light conditions [Natural features, Legibility, Vividness, Rarity, Memorability];
  - Glacial landforms and moraines [Landforms, Legibility, Formative Processes];
  - Sense of naturalness and natural landforms due to the grassland surfaces and grazing practises [Legibility, Landform, Memorability];

continued ....

Appendix 2: Landscape Attributes (page 3)

- Yellow-brown landscape colour from the dry grassland covering [Landscape Character, Coherence];
  - Periodic homestead nodes of shelter around home paddocks, yards, farm buildings, homestead, staff quarters, etc [Cultural Pattern];
  - The simple roading pattern, formations and corridors [Cultural Character];
  - The hydro canals and power infrastructure [Cultural Patterns];
  - Harsh summer heat and dryness, prolonged winter cold, driving storms and rain, strong winds from a variety of directions, periodic snow cover [Atmosphere, Transience, Natural Processes];
  - Vivid nor-west cloud and atmospheric patterns, and wind patterns on grass, storm fronts, fogs, frosts, sunrises and sunsets, vivid low sun colours [Atmosphere, transience, Arsthetic];
  - Sharp east-west rainfall gradient, wet near mountains and semi-arid in east [Natural Patterns];
  - Astonishing brightness of stars and night sky [Vividness, Natural Patterns];
  - Noise environment of wind, birdlife, farm stock, flowing water and, away from roads, silence [Aesthetics, Sensory];
  - Tangata whenua legends of origin and relationship [Cultural, Spiritual];
  - European legends of Mackenzie and his dog, and pioneer runholders [Cultural];
  - Sense of differentness from lowland New Zealand [Landscape Character, Cultural Character, uniqueness];
-

## APPENDIX 3:

## SUMMARY, G. DENSEM 2010 LANDSCAPE ASSESSMENT

ASSESSMENT UNIT	ASSESSMENT								PARTICULARS
	NATURAL VALUE		NATURAL CHARACTER		AESTHETIC VALUE		CULTURAL VALUE		
	Outstanding	Significant	Outstanding	Significant	Outstanding	Significant	Outstanding	Significant	
<b>TEKAPO</b>									
T1 Mt Hay		0		0	●				Legibility, scenic
T2 Richmond/MtGerald	●		●		●			0	Naturalness, legibility, scenic
T3 Lilybank	●		●		●		●		Pristine naturalness, alpine character, iconic high country
T4 Tekapo Lake	●		●		●		●		Glacial character, naturalness, scenic, tangata whenua
T5 Tekapo Village		0				0		0	Scenic, developed, popular, ONF church, sheep dog,
T6 Alexandrina	●		●		●		●		Glacial character, naturalness, clarity, tangata whenua
T7 Balmoral	●		●		●				Natural character, legibility, scenic
T8 Gammack Range	●		●		●				Naturalness, legibility, scenic
<b>EAST</b>									
E1 East Basin	●		●		●			0	Naturalness, vast scale, atmosphere, tourist views
E2 Grampians	●		●		●				Naturalness, hill character, atmosphere, views
E3 East Ranges	●		●		●				Naturalness, vast scale, basin/hill character, transient
E4 Hakataramea Pass	●		●		●			0	Naturalness, scenic character, tangata whenua
E5 Mackenzie Pass	●			0	●		●		Naturalness, scenic character, historic, tangata whenua
E6 Burkes Pass		0		0		0	●		Relative naturalness, high country entry tangata whenua
E7 Sawdon	●		●		●			0	Naturalness, legibility, continuity, tourist views
<b>CENTRAL</b>									
C1 Central Basin	●		●			0			Naturalness, basin character, scale, tourist views, rarity
C2 Maryburn		0	●		●				Relative naturalness, hill/basin character, tourist views
C3 Simons Hill		0	●		●				Natural character, scenic views
<b>BENMORE</b>									
B1 Grays Hills	●		●		●				Naturalness, dry hill character, scenic
B2 Haldon		0		0	●			0	Relative naturalness, scenic views, historic station
B3 Lake Benmore	●		●		●		●		Naturalness, extreme natural beauty, tangata whenua
<b>PUKAKI</b>									
P1 Mary Range	●		●		●				Lakeside moraine & hill character, classic tourist views
P2 Pukaki East	●			0		0			Lateral moraines, relative naturalness, lakeside views
P3 Braemar Surfaces	●		●		●				Naturalness despite wildings, legibility, high visibility
P4 Mt Cook Station	●		●		●		●		Naturalness despite wildings, scenic alpine character
P5 Tasman	●		●		●		●		Pristine alpine valley, scale, views, tourist centre
P6 Pukaki West	●		●		●		●		Naturalness, moraine/lakeside character, tourist views
P7 Pukaki Downs	●			0					Naturalness despite wildings, lakeside tourist views
P8 Pukaki Outlet		0		0		0			Lakeside moraines,, Mt Cook tourist views, development
P9 Pukaki Lake	●		●		●		●		Modified glacial character, Mt Cook views, tangata whenua
<b>SOUTH</b>									
S1 Pukaki Flats		0	●		●			0	Relative naturalness, scenic views to Lake Benmore, SH8
S2 Bendrose		0	●		●			0	Relative naturalness, basin character, tourist views
S3 Twizel									Natural character lost to development,
S4 Ohau River		0		0				0	Modified, moraines, river character, tangata whenua
S5 Rhoborough		0	●		●				Relative naturalness, natural character, views, wildings
S6 Twizel Valley		0	●		●				Naturalness, natural character, scenic visibility
<b>OHAU</b>									
O1 Glen Lyon	●		●		●		●		Natural character, lake setting, tangata wheua
O2 Hopkins	●		●		●				Pristine naturalness, isolated scenic alpine valley/peaks
O3 Dobson	●		●		●				Pristine naturalness, isolated alpine valley/peaks



