

Proposed Afforestation, Makareao, Dunback

Landscape Assessment Report

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Introduction

Ngai Tahu Forest Estates Ltd (NTFE) is applying for Resource Consent to establish an area of approximately 950ha in forestry on a 1264ha property at Makareao, Dunback. Much of this property is within the Rural Scenic Zone in the Waitaki District Plan and in terms of Rule 4.3.3, forestry is a Discretionary Activity. Rule 4.4.3 (9) a) states that Council has reserved discretion over the following matters:

- Effects on indigenous vegetation and associated habitat
- Effects on landscape and visual amenity
- Provision of a management plan to avoid or mitigate erosion during harvesting

This report addresses the visual and landscape effects of the proposed afforestation. It is structured as follows:

- Site and area description
- Landscape Values
- The proposed development and recommended mitigation measures
- Landscape effects
- Visual amenity effects
- Assessment against the relevant District Plan provisions
- Conclusion

The site and area

As illustrated in **Figure 1**, the property is located north-east of Dunback on the foothills and south-west side of the Razorback Range, with some lower gently rolling valley land also included. The wider landscape context is that of the Waihemo (Shag) River valley. The Razorback Range rises to approximately 600m and a fault line delineates the main range from lower hills to the south-west, which are approximately 330m in height. The geology is predominantly schist but there is also an area of limestone, which is quarried on the property adjacent to the south-east. Small streams are present in the valleys.

Generally speaking, the landscape becomes more rugged and more natural in character with increasing elevation and distance north-eastward toward the main Razorback Range ridge. On the valley floor and lower slope areas there is high quality exotic pasture along with exotic shelter trees and woodlots and scattered farm buildings. Further back on the intermediate hillslopes, the pasture is rougher and characterized by a mixture of exotic and native grasses. Scattered native shrubs and trees, in particular Matagouri, Coprosma, Kowhai and Cabbage tree, are also present. On the slopes of the Razorback Range itself there are rocky outcrops and some significant swathes of indigenous bush and shrublands, concentrated within the gullies and shady slopes. The land is largely clear of exotic scrub such as gorse and broom. Built elements include McLay Road, fencelines and farm tracks.

Within the wider landscape context, the property forms part of the hill backdrop to the more modified and settled rural landscape of the Waihemo Valley. The predominant land use is pastoral farming but there is also some forestry existing. The Graymont Quarry and Limeworks is on the adjacent property to the south-east.

Figures 2 - 9 illustrate the character of the site and surrounding landscape.

Landscape values

The majority of the property, including all the higher parts, is within the Rural Scenic Zone in the Waitaki District Plan. This is identified to cover the hill and high country of the District (Section 16.5). As explained in Section 16.8.5, the boundaries of the Rural Scenic Zone have been informed by the Waitaki Landscape Study (Densem, 2004) and are drawn to include the identified significant landscapes. Section 16.8.5 states that:

The Rural Scenic Zone continues to be recognized as having particular visual amenity associated with the dominance of open space vistas and landforms and the lack of intensive subdivision and landuse and the overall absence of buildings and structures. Therefore, much of the Rural Scenic Zone can be considered to contain “visual amenity landscapes” in terms of section 7 of the Act.

These landscapes, although having a high degree of naturalness, also reflect in many instances the cultural patterns of previous landuses by both European and earlier Maori people – they are therefore in one sense both cultural as well as natural landscapes.'

In the Waitaki Landscape Study (Densem, 2004), the site is located within the Palmerston Land Unit. This is described as '*a general working rural landscape*'. This Unit includes the '*raised skyline of the Horse Range along its northern boundary*' and these hills are described as having '*value to the Palmerston Land Unit in view of their widespread visibility.*' This range is included within a 'significant landscape' for its visual values.

I agree that the hills in question are a visually prominent backdrop to the north-eastern side of the Waihemo Valley and in general, have moderate – high perceptual natural character values based on coherent natural landform overlaid with a modified agricultural land use, remaining indigenous vegetation cover in places, low impact of built elements, and in some areas - rugged bluff features. The natural landscape values vary and in general grade from lower to higher significance with elevation and with proximity to the main Razorback Range.

The proposed development and recommended mitigation measures

As shown in **Figure 10** it is proposed to plant approximately 950ha of the property in *Pinus radiata* and to manage the area as a plantation forest. All aspects of the operation will be in accordance with best forestry practice as outlined in The New Zealand Environmental Code of Practice for Plantation Forestry. Figure 10 shows the extent of afforestation proposed and the areas that will not be impacted, including areas under indigenous vegetation cover. The alignments and locations of the access tracks / roads will respond primarily to operational imperatives but it is recommended that account should also be taken to avoid running them across steep slopes or visually prominent slopes as viewed from State Highway 85 and Waihemo Valley wherever possible. It is proposed that planting will be undertaken around the contour rather than rows running up and down the slope to give a more natural appearance.

For the purpose of mitigating adverse effects on landscape values the areas to be excluded from afforestation include higher areas on the slopes of the main Razorback Range itself. This is to avoid forestry being seen too high in the landscape, to avoid areas with good native shrubland cover, and to ensure that boundary lines do not appear in unnatural relationship with landform. The applicant proposes to remove stock from all higher altitude areas to encourage the regeneration and improved quality of the existing native shrubland. A high point on the northern boundary of the property is also shown to be excluded to minimize an unnatural looking forest / grassland edge effect in a visually prominent position.

Limestone outcrops in the area shown as 'Blacks Mistake' above the adjacent quarry on the map (see Figure 1) also have some natural character landscape value. Whilst not shown as an exclusion area on the plan, this area will be unsuitable for planting anyway, and it is envisaged that the forestry will feather out in this vicinity in response to the ground conditions.

Landscape character effects

Landscape effects describe the impact of the proposal on the landscape elements, patterns, and processes. Their significance is determined with reference to the value and sensitivity of the landscape, and the scale and character of the proposal. I will assess both the nature and magnitude of the landscape effects, with reference to the following explicit scales and their common English meanings:

Nature of effect

- *Positive*
- *Neutral*
- *Adverse*

Magnitude of effect

- *Highly significant*
- *Significant*
- *Moderate*

- *Minor*
- *Negligible*

The location of the site within the Rural Scenic Zone in the Waitaki District Plan indicates that it has at least moderate – high significance and could be considered to be a ‘visual amenity landscape’ in terms of Section 7 of the RMA. As discussed, it is my assessment that whilst all the hill faces visible from State Highway 85 are relatively prominent, natural character and scenic values are greatest on the highest and most rugged land on the Razorback Range itself and that the intermediate more modified hills on which the majority of the afforestation is proposed, have more modest landscape values.

The proposal involves a change from pastoral farming to forestry over a substantial area of the lower hill country. The vegetation cover will change from pasture with scattered scrub to exotic forestry comprising *Pinus radiata* with native areas and an understory of scrub between rotations. The detail of the landform will be less legible under this cover and the predominant colour of the landscape will change. With the removal of stock, it is likely that the areas not planted in trees (such as the stream margins) will regenerate naturally with both native and exotic scrub, and the natural regeneration in the excluded indigenous forest and scrub areas will also be enhanced. Additional tracks, initially for access and widened eventually for harvesting, will be required and these will impact the natural landforms to an extent. The forestry will affect the hydrology of the streams by reducing the amount and rate of water runoff from the land but otherwise providing shade, reducing water temperature and nutrient content.

In the context of the wider landscape and as shown in Figures 4 – 9, the forestry will be seen as a swathe mainly covering the intermediate hills between the intensively farmed flats and foothills and the more rugged and natural higher hills beyond. Its boundaries with surrounding farmland will follow boundary lines that are already expressed in the landscape to varying extents and in my opinion will integrate fairly comfortably without undue prominence of straight lines at odds with landforms.

As with all forestry, the landscape and visual effects will change markedly when harvesting occurs, with the trees being removed, the access roads becoming visible and

slash being windrowed. These effects will be temporary and will reduce as the land is replanted and as the new crop establishes and matures.

It is my assessment that in the main, the landscape values of the property are of moderate significance only, with only the more natural areas on the Razorback Range itself at the back of the property having higher significance. In terms of the nature of the effect on landscape character, it is my assessment that this will be adverse because the blanket of exotic forest cover will result in the loss of the subtle variation in vegetation cover in response to the topography, and with this the reduction in both landform coherence at the finer scale, and apparent naturalness. Whilst a large area will change from grassland to forest, I do not rate the magnitude of the landscape character effects as more than minor however, because:

- The forestry will not extend onto the higher elevations that form the ultimate backdrop to the valley landscape, nor will it extend into areas with significant indigenous forest or scrub cover.
- Seen in the wider landscape context, forestry is already part of the land use mosaic and will integrate comfortably.

Visual effects

Visual effects describe the impact of the proposal on the views available to people and their visual amenity. They are determined with reference to the sensitivity of viewers to change and the value placed on existing views, and the scale and character of the proposal. I will rate these as per the landscape effects, and consider both the nature and magnitude of effects.

People impacted by the proposal will include both residents within the area and travelers passing through. It is my expectation that local residents are likely to have more attachment to the landscape than travelers and that there will be a variety of responses amongst both groups, toward the introduction of forestry. Overall however, forestry is a characteristic rural land use that is already part of the wider landscape mosaic in this area and it is therefore my assessment that sensitivity toward its introduction here is

likely to be relatively low. Apart from the general Rural Scenic zoning, there does not appear to be any specifically recognized significance attached to these hills.

The scale of the proposed afforestation is large, covering a distance of approximately 4.5km along the hills facing the Waihemo Valley and the development will certainly change the appearance of the landscape on the north-east side of the valley in this vicinity. It will be an element visible in the lower Waihemo Valley landscape over a relatively wide area including from Palmerston, approximately 10km distant to the south-east.

In terms of visibility from the public roads, the township of Dunback, and dwellings in the area, much of the proposed forestry will be screened by landform and visibility will be greatest from the higher, more distant viewpoints such as MacRaes and Stoneburn Roads from which it will be seen as part of a wider panorama (see **Figures 7 and 8**). From valley floor viewpoints (including Dunback and State Highway 85) the forestry will be seen on (but not completely covering) the hill backdrop behind intervening foreground elements including both landforms and vegetation, and its visual impact will be broken up by these and its interplay with the non-forested lower slope areas. **Figures 4 - 6** illustrate views from State Highway 85 and Dunback. From closer proximity viewpoints (see **Figure 9**) the proposed development will alter the character of the adjacent hills from open pasture land to forest – although both of these contribute to rural character. There are no dwellings (other than those on the property itself) closer than approximately 320m to the proposed forestry, and in my assessment, no residential viewpoints will be impacted to any significantly greater extent than the effects described for the area generally.

To varying extents from all these places, the site forms part of the hill country context to the north-east side of the Waihemo Valley and is presently seen as pleasant but largely unspectacular rural hills. From some viewpoints, the higher, more rugged ridgeline of the Razorback Range is visible behind, and from all, the more productive, improved pastureland of the valley floor and foothill areas is seen in front. The proposed afforestation will result in the inclusion of darker green exotic forest on the intermediate hills.

In my opinion this will integrate comfortably in this setting. In general, I conclude that visual effects will be adverse but minor. I believe they will be adverse because the existing subtle variation in vegetation cover and associated finer scale landform legibility will be lost under the forest cover. I rate these effects as minor however, because the area is already modified by farming activity, because the afforestation will not result in edges with adjacent pasture that relate unacceptably with the underlying landform, and because it will not extend to the higher more rugged and natural backdrop slopes.

It can be anticipated that during the harvesting phase, adverse visual amenity effects will be significant but that this will be a temporary situation of relatively short duration (approx. 4 – 5 years). The effects of harvesting are an accepted part of forestry in the rural landscape.

Assessment against the relevant District Plan provisions

The following are my brief comments in relation to the Waitaki District Plan provisions relevant to the landscape effects of this application.

16.5.1 Rural Objective 4 – Rural Amenity

A level of rural amenity that is consistent with the range of activities anticipated in the rural areas, but which does not create unacceptably unpleasant living or working conditions for the District's residents and visitors, nor a significant deterioration of the quality of the rural environment.

Comment

In my assessment, the proposed forestry is entirely compatible with this objective. Forestry would not be unexpected or inappropriate in this location, given the character of the site.

16.8.2 Rural - Landscape Objective

Subdivision, use and development are managed so that:

- *The overall landscape qualities of the Rural Scenic Zone are retained.*

Policies

3. *To manage landscape change in the Rural Scenic Zone in a manner that maintains the overall character of the significant landscape, which forms the basis of the visual amenity associated with this Zone.*
6. *To assist in achieving the outcomes in Policies 2 to 5 above, the following policies are to be considered against any subdivision, use or development applications:*
 - c) *In the Rural Scenic Zone:*
 - i *Forestry is to be generally limited to carefully sited and designed woodlots.*
 - d) *Subject to Policies 6(a) and 6(b) above, any exotic tree planting is encouraged to:*
 - i *be located on the lower portions of adjacent slopes, and to use natural features such as river terraces or drainage patterns to achieve a degree of visual coherence within the existing landscape where plantings are in valleys or basins;*
 - ii *be located so that mature trees will not obstruct views from main roads or viewpoints;*
 - iii *be shaped in sympathy with existing landforms, and where possible be tied to an existing landform or vegetation edge;*

Comment

Whilst Policy 6 (c) above could be read to suggest that forestry is not generally anticipated in the Rural Scenic Zone, the District Plan provides for it as a Restricted Discretionary Activity, and it is already present within the Rural Scenic Zone nearby (e.g. the area approximately 2 – 5km to the south-east, including Harrys Peak). It is my assessment that the proposed afforestation is not inappropriate in this location for the following reasons:

- The area involved is limited to the intermediate scale hills avoiding the higher more natural and visually distinctive areas on the hills behind. The area proposed for planting is already significantly modified by agricultural land use.
- As viewed from the Waihemo Valley, the forested area will largely conform to landform features with minimal artificial land use boundaries cutting across slopes. The lower boundary with more intensively farmed areas will typically

- follow changes in slope or existing changes in land use intensity and the character of the pasture cover.
- Whilst the forestry will alter the existing balance within the rural landscape in this area between pastoral and forested areas and change views, no views will be lost. The areas of most visual interest and natural value are the rugged back country slopes and these will remain as they are now, visible behind the forestry.

18. Resource Consent – Assessment Matters for the zone rules

XXV Areas of Landscape Importance – Rural Zones

- a) *The extent to which the activity would adversely affect the characteristics of the landscape, which give rise to its value.*
- b) *The extent to which the activity will cause:*
- i) the loss of key views or viewpoints;*
 - ii) the loss of accessibility to key views or viewpoints;*
 - iii) any obscuring of landforms or natural features*
 - iv) the loss of natural landscape pattern; including the loss of underlying landform pattern;*
 - v) the loss or obscuring of present vegetation patterns;*
 - iv) the loss of openness and spaciousness of the landscape, and the naturalness of the landscape.*
- c) *The extent to which the activity is in accordance with the policies in this Plan and in particular those policies listed under Chapter 16, Issue 7, Landscape Objective 16.8.2.*
- d) *The extent to which the activity is in accordance with the landscape guidelines in Appendix D to this District Plan.*

Comment

The proposed forestry avoids those parts of the property that have values that contribute most significantly to the Rural Scenic zone values – i.e. the higher most visually distinctive and natural areas. The hills included, whilst relatively visually prominent have a modified rural character able to accommodate this change in land use. Whilst all forestry results in the obscuring of landform and vegetation patterns at the more detailed scale, at the broader scale it will be sympathetic to landform through covering whole landform features and generally avoiding boundary lines that do not relate to landform

features. In my assessment it will reduce naturalness to some extent but will have little impact on the openness or spaciousness of the landscape at the larger scale. The hills involved define the Waihemo Valley landscape whether under pasture or forestry cover.

The Waitaki District Plan Landscape Guidelines on tree planting appear to be directed more toward smaller scale woodlots or amenity plantings but include some principles that are relevant to forestry. The table below lists these (leaving out those that are clearly not relevant to large scale forestry) and provides a brief comment on how the proposed afforestation relates.

WDP Guideline	Comment regarding proposed afforestation
<i>Follow and complement natural landform patterns and boundaries</i>	<i>The lower boundaries of the proposed afforestation generally follow existing changes in the character of the existing pasture cover and / or changes in slope. Whole hill forms are covered and / or upper boundaries are recommended to avoid incoherent vegetation changes cutting across slopes.</i>
<i>Build on and merge into existing vegetation.</i>	<i>Significant areas of native bush and scrub are to be retained and will merge in places with forested areas.</i>
<i>Avoid ridgetops, crests, promontories or where planting will obscure or screen important views.</i>	<i>The highest most natural and visually distinctive part of the property is excluded. The intermediate hills however are to be entirely covered as this will avoid the creation of incoherent boundary lines in the landscape. No important views will be obscured.</i>
<i>Avoid planting steeper slopes or where planting will obscure landscape features</i>	<i>Planting will avoid areas where there is significant bush or scrub. It will also avoid bluffy / rocky areas for reasons of practicality.</i>
<i>Avoid planting immediately adjacent to rivers, streams and wetland. Retain buffer areas along margins and existing riverside</i>	<i>Planting will follow forestry best practice guidelines and leave buffer areas of appropriate width along waterways.</i>

<i>vegetation.</i>	
<i>Use existing vegetation or enclosing landforms as screens.</i>	<i>See first guideline above.</i>
<i>Locate plantings in natural depressions or with dominant landform backdrop.</i>	<i>The afforestation proposed is too large to be confined to depressions but does not extend onto the main Razorback Range ridgeline – which will form the backdrop to both it, and the rural landscape within the valley.</i>
<i>Avoid straight line edges to plantings.</i>	<i>Whilst lineal fence lines will form the boundaries, these will not appear inappropriate at the larger landscape scale as illustrated in the Figures.</i>
<i>Vegetation which adds to the natural or historical character of an area should be retained and enhanced with similar planting.</i>	<i>Areas of native bush and scrub with significant natural character values will be retained.</i>

Conclusion

Whilst the proposed afforestation is within the Rural Scenic Zone in the Waitaki District Plan, it is located on lower and intermediate hills and avoids the higher more natural and visually significant main ridge of the Razorback Range. The area included is already modified by agricultural land use and it is my assessment that forestry will be a comfortable fit within this landscape context. I have concluded that both landscape character and visual effects will be adverse in nature but minor in magnitude and I believe that overall, the proposed development is consistent with the landscape relevant provisions of the Waitaki District Plan.

Mike Moore
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References

Densem G, 2004, Waitaki Landscape Study, Waitaki District Council.

Forsyth P J, 2001, Geology of the Waitaki Area, Geological and Nuclear Sciences, Lower Hutt, New Zealand.