

To: Mt Gerald Station
From: Mark Sanders, Ryder Consulting
Date: 30 March 2017
Subject: Hay paddock vegetation assessment
Attn: Michael Burtscher

Mt Gerald currently grazes stock on and cuts hay from a 137-hectare block east of the Lilybank Road (Figure 1). I visited the site on 2 March 2017 to assess whether ongoing grazing and hay cutting on this block would comply with Rule 12.1 (Permitted Activities - Vegetation Clearance) in the Mackenzie District Plan. In making this assessment, I have taken account of Plan Change 17 to the District Plan, which suspends exemptions in rules 12.1.1.g and 12.1.1.h. The question of exemptions does not arise because, as described below, the vegetation complies with these rules.

Site description

The block consists of several paddocks on gently to moderately rolling country, rising from 740 metres above sea level beside the Lilybank Road, to 860 m on the eastern boundary. It has been oversown and top-dressed frequently in recent decades, and had previously been burned repeatedly. As a result of this management history, the vegetation comprises a dense sward of introduced grass, strongly dominated by browntop, with much lower densities of other exotic grasses (sweet vernal, Yorkshire fog, Timothy). White clover is present in varying densities throughout. Red clover is present but less common. Other common exotic pasture species are present, generally at low densities, e.g. yarrow, Californian thistle.

Indigenous short tussocks (mainly fescue tussock [*Festuca novae-zelandiae*], occasionally silver tussock [*Poa cita*]) are present throughout much of the block at low densities. Average indigenous short tussock average cover 2.9% (assessed from low elevation drone photographs and on the ground observations), as discussed in more detail below. Several patches of matagouri shrubland are retained at several discrete locations (e.g. Figures 2 & 4). There is no intention to clear these and they are essentially excluded from the hay paddock, although contained within the wider boundary (Figure 1). The block also includes several small, rocky hills (e.g. Figures 2 & 4) which have drier substrates and support a much lower density of grass cover. The indigenous creeping pohuehue (*Muehlenbeckia axillaris*) is often present around rocks on these hills.

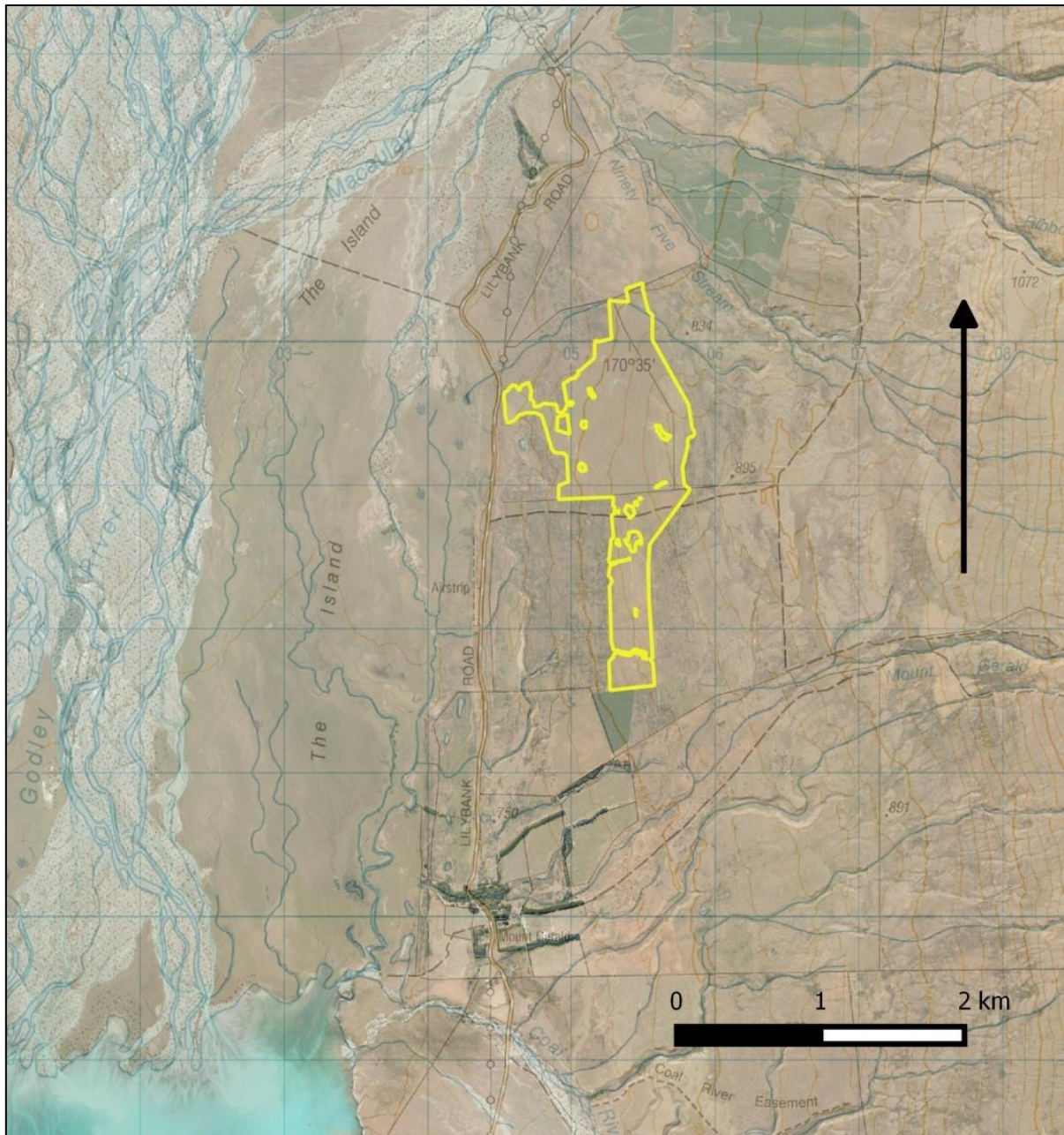


Figure 1. Location of hay paddocks east of Lilybank Road, Mt Gerald. Discrete patches shown within the wider boundary are small hills or patches of matagouri that are excluded from the site.

Site photographs



Figure 2. Hay paddocks visible as the clearly-delineated grassland in the centre of the photograph. See map in Figure 1.



Figure 3. Typical vegetation of the block, dominated by browntop and sweet vernal.



Figure 4. Boundary between hay paddock in upper left of photograph and open matagouri shrubland. Note that the patch of matagouri in the upper left is excluded from the hay paddock, as is the small hill to the upper right of the photograph.



Figure 5. Browntop-dominated sward.



Figure 5. White clover is present in varying densities throughout.

Assessment under Rule 12

The vegetation within the hay paddock is assessed below against the standards set out under Rule 12 (Vegetation Clearance) in the District Plan.

12.1.1.a. Riparian Areas

Complies. The hay paddocks contain no riparian areas. A small dry channel in the south of the site probably flows during periods of heavy rain but does not constitute a stream and therefore has no riparian area associated with it.

12.1.1.b. Sites of Natural Significance

Complies. The proposed house site and access track are not located within a Site of Natural Significance (SNS). The nearest SNS is the Godley River, west of the Lilybank Road.

12.1.1.c. Tall Tussock and Canopy

Complies. No tall tussock was seen. It is possible that some individual tall tussock plants survive as isolated individual plants, but if so these do not form continuous vegetation.

12.1.1.d. Wetlands

Complies. No wetlands are present.

12.1.1.e. High Altitude Areas

Complies. The site is entirely below 900 metres elevation (the highest location within the site is 860 m).

12.1.1.f. Shrublands

Complies. A number of discrete patches of matagouri shrub are present within the overall site, but these are specifically excluded from the hay paddock.

12.1.1.g. Short Tussock Grasslands

Complies. Short tussock grassland at the proposed sites across most of the site is typically between 0% and 3%, reflecting the strong dominance of exotic grasses, as described above. Patches of 5%-10% short tussock cover are present in places, especially toward the eastern end of the block. The highest density cover observed was a small (c. 20 m wide) patch of 15% cover. Average short tussock was 2.9%. The 95% confidence interval was 1.3% - 4.5%.

12.1.1.h. Indigenous Cushion and Mat Vegetation

Complies. No indigenous cushion and mat vegetation is present.

Conclusion

Ongoing grazing and hay production at the site shown in Figure 1 complies with all of the standards for a permitted activity in Rule 12.1 of the Mackenzie District Plan.



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