Appendix I: Norton, David and Pannell, Jennifer. 2018. Desk-top assessment of native vegetation on New Zealand sheep and beef farms.

School of Forestry, University of Canterbury, Christchurch and Institute for Applied Ecology, Auckland University of Technology, Auckland

Executive summary

1. This study is a desk-top assessment of the amount of native vegetation (forest, shrubland, grassland and wetland) and especially native woody vegetation (including old growth forest and regenerating forest) that occurs on sheep and beef farms in New Zealand.

Key findings

- 2. Sheep and beef farms contain the second most important amount of the remaining native vegetation in New Zealand after public conservation land. Specifically:
 - Sheep and beef farms contain 25% of the total native vegetation remaining in New Zealand, comprising 2.8 million ha.
 - Half of the native vegetation that occurs on sheep and beef farms (1.4 million ha), is woody. This represents 17% of the total native woody vegetation remaining in New Zealand.
 - The native woody vegetation on sheep and beef farms is particularly important because it typically occurs in those parts of New Zealand with the least remaining native woody vegetation (and the least public conservation land), especially at lower altitudes and in drier regions.
- 3. The large amounts of native vegetation and especially native woody vegetation on sheep and beef farms is likely to reflect a range of factors including the areas where sheep and beef farms occur (often steeper more remote country where some forest escaped early clearance), the extensive grazing patterns that characterises much of sheep and beef farming, and the values that farmers have placed on retaining such forest.
- 4. Native woody vegetation on sheep and beef farms is an important resource for biodiversity conservation in New Zealand because it occurs in those areas where there is the least public conservation land.

Recommendations

- 5. While wetland vegetation is present across sheep and beef farms nationally, the mapping scale we were working at was too coarse to be able to draw definitive conclusions on the amount present and will require smaller-scale approaches to quantify.
- 6. Further work is required to quantify historic patterns of change in native vegetation cover. Apart from some fairly general large-scale analyses, and an abundance of anecdotal observations, we know little about changing native vegetation cover on sheep and beef farms through time. This work is important to understand the priorities and to support work with sheep and beef farmers to better manage the remnants of native vegetation they have on their farms.
- 7. Exclusion of grazing animals (farmed and feral) is the single most effective thing farmers can do to sustain and enhance the remnants of native woody vegetation on their properties.