

Examining the Relationship between Biodiversity and Land Management in mid-altitude tall Tussock Grasslands

*Katherine Dixon*¹, *Peter Whigham*¹, *Katharine Dickinson*², *Grant Norbury*³

¹Spatial Information Research Centre
University of Otago, Dunedin, New Zealand,
Phone: +64 479-7391 Fax+64 3 479-8311
Email: kdixon@infoscience.otago.ac.nz
pwhigham@infoscience.otago.ac.nz

²Botany Department
University of Otago, Dunedin, New Zealand
Phone: +64 3 479-7577 Fax: +64 3 479-7583
Email: Kath.Dickinson@planta.otago.ac.nz

Landcare Research
PO Box 282, Alexandra, New Zealand
Phone +64 3 448 9930 Fax: +64 3 448 9939
Email: @Landcareresearch.co.nz

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Agricultural expansion is a major threat to the indigenous biodiversity of New Zealand's tussock grasslands. Options for integrating biodiversity conservation with agricultural management is a topic that requires further research. This talk presents a subset of the results from a doctoral study that investigated the relationship between land management and biodiversity within the tall tussock (*Chionochloa rigida*) grasslands of mid-altitude eastern Central Otago, New Zealand.

It was hypothesised that, in mid altitude tall tussock grasslands, limited modification resulting from land management could result in increased levels of indigenous biodiversity. A second hypothesis proposed that there would be a threshold of modification beyond which levels of indigenous biodiversity would rapidly decline. Thirdly, it was predicted that the spatial scale at which these hypotheses were tested would influence the results attained.

Surveys of soils, plants, invertebrates and common skinks (*Oligosoma Leiolopisma* sp.) within ten study sites of similar physiographic features but different land management histories were undertaken. Indices ranking the study sites according to modification were created. The relationship between the estimated intensity of modification and the abundance and diversity of the biotic groups at a range of spatial scales is presented.

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