Current status of indigenous biodiversity

Total native vegetation (forest, shrubland, grassland and wetland)

<table>
<thead>
<tr>
<th>Region</th>
<th>% region in native vegetation (area ha*1000)</th>
<th>Percentage of total native vegetation in different land uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand</td>
<td>43.0 (11,490)</td>
<td>PCL 61.5, Sheep &amp; beef 24.5, Dairy 1.4, Plantation 2.8, Urban 0.0, Other 9.8</td>
</tr>
<tr>
<td>Nelson &amp; Tasman</td>
<td>39.6 (8,025)</td>
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<tr>
<td>West Coast</td>
<td>80.0 (1,868)</td>
<td></td>
</tr>
<tr>
<td>Canterbury</td>
<td>33.2 (1,500)</td>
<td>PCL 47.9, Sheep &amp; beef 48.0, Dairy 0.6, Plantation 0.5, Urban 0.0, Other 3.1</td>
</tr>
<tr>
<td>Otago</td>
<td>37.9 (1,207)</td>
<td></td>
</tr>
<tr>
<td>Southland</td>
<td>58.3 (1,856)</td>
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</tr>
</tbody>
</table>

These differing statistics reflect the distinctly different landscapes that different sectors occupy.

Main focus – protecting waterways and water quality

What do farmers think about planting riparian margins?

Researchers from AgResearch and The University of Queensland, with help from Taranaki Regional Council, recently undertook a research project to improve understanding of farmer’s experiences and perceptions of the costs, benefits, and liabilities of planted riparian margins. Taranaki ring plain dairy farmers were invited to participate in the project.

A total of 22 farmers and one rural professional attended one of two interactive meetings held in Stratford in May 2015. Participants were divided into two groups: Group A, who are currently implementing riparian planting; Group B, who have not yet started but are considering planting. Two meetings involved presentations, question and answer periods, and voting exercises.

How do riparian margins impact on the farm system?

How do riparian margins contribute to wider benefits?
What additional benefits does planting bring?

- Reduced stock deaths
- Loss of access to waterway
- Increased habitat for weeds and pests
- Loss of production land

- Increased biodiversity
- Increased aquatic habitat
- Increased value of property
- Good citizen
- Reduced bank erosion
- Reduced sedimentation
- Reduced grass growth
- Reduced labor costs
- Easier to allocate pasture
- Greater farm mapping precision
- Easier to monitor water supply

KEY
Type of impact:
- Positive
- Negative

Values:
- Production
- Environmental
- Social
Quantification of wider benefits

Provisioning
- Food provision via milk production
- Milk yield

Regulating
- Water quality via nutrient attenuation
- N & P losses
- Escherichia coli concentration (frequency of exceeding red alert)

Social/Cultural
- Contact recreation
- Amenity
- Landscape diversity index (proba LDI>0.7)

How we connect ecosystem services to farm business and resource management?

Maseyk FJF, Mackay AD, Possingham HP, Dominati EJ, Buckley YM 2016 Managing natural capital stocks for the provision of ecosystem services Conservation Letters
Challenges

• Sourcing data on the extent, condition and function of indigenous biodiversity at farm scale

• Poorly defined set of measures for monitoring the condition and function of indigenous ecosystems.

• Limited quantitative data on the provision of services from indigenous biodiversity and potential value to the farm business

• Understanding more about how services change as the ecosystem degrades or improves

• Understanding how service provision is changed if exotic species are providing the services rather than predominantly native

• The interactions between adjoining exotic and indigenous ecosystems and how current practices impact on those interactions are poorly understood

• Limited recognition and use of traditional knowledge (i.e. Mātauranga Māori)

• Biodiversity strategies are of limited value in informing farm scale decisions on biodiversity.