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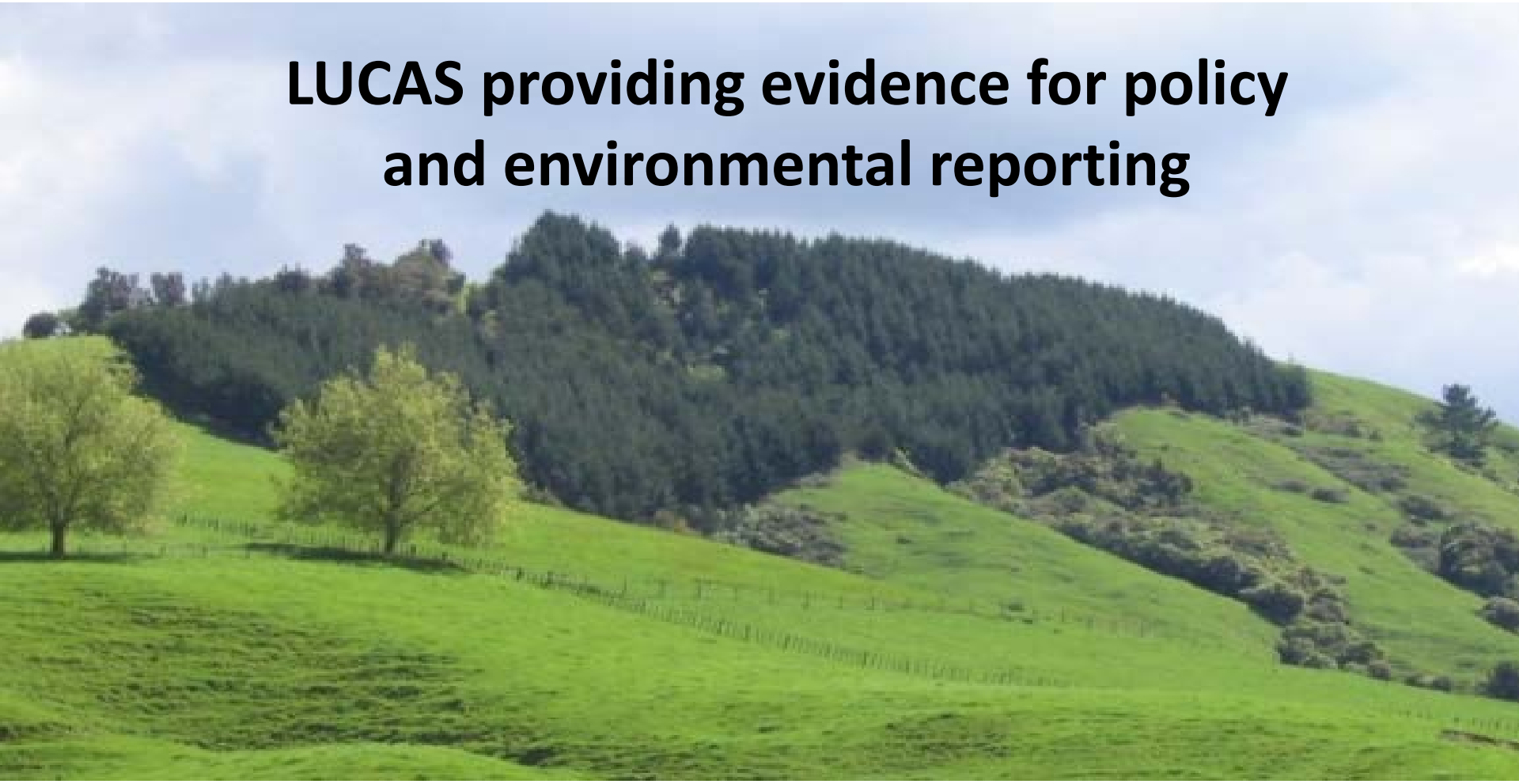
LUCAS providing evidence for policy and environmental reporting



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New Zealand's climate change reporting system

- First National Communication to the UNFCCC – 1994
- Data collection begins for LUCAS in natural forests – 2002
- First complete GHG inventory report – 2005
- First national land-use map for climate reporting – 2008
- First report under the Kyoto Protocol – 2010
- First report under the 2020 target – 2015

- Wider application (e.g. Environmental Reporting) – 2015 onwards

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New Zealand's greenhouse gas emissions by sector in 2016

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New Zealand's climate change reporting system

- Land-use activity data
  - Land-use and forest mapping
  - Deforestation mapping and field verification
  - Supplementary national datasets (e.g. NEFD)

- Forest and land-use emission factors
  - National natural and planted forest inventories

- Modelling of carbon stock change

  - Supported by research

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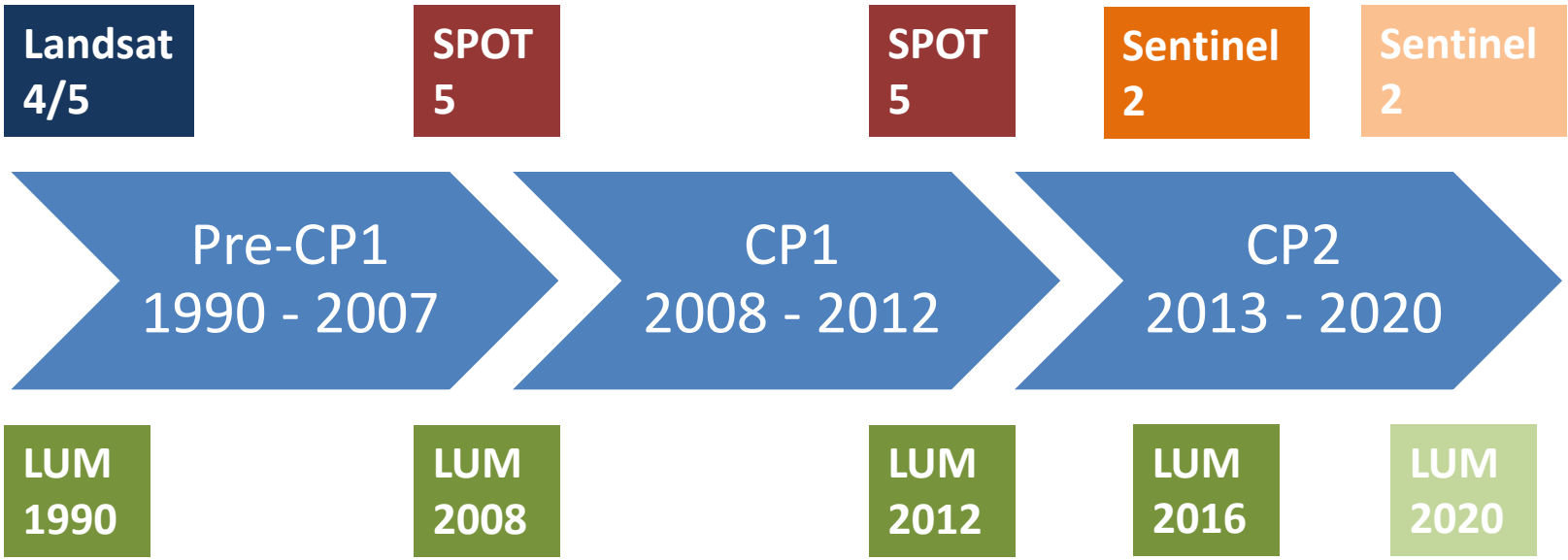
Imagery used for national land use maps



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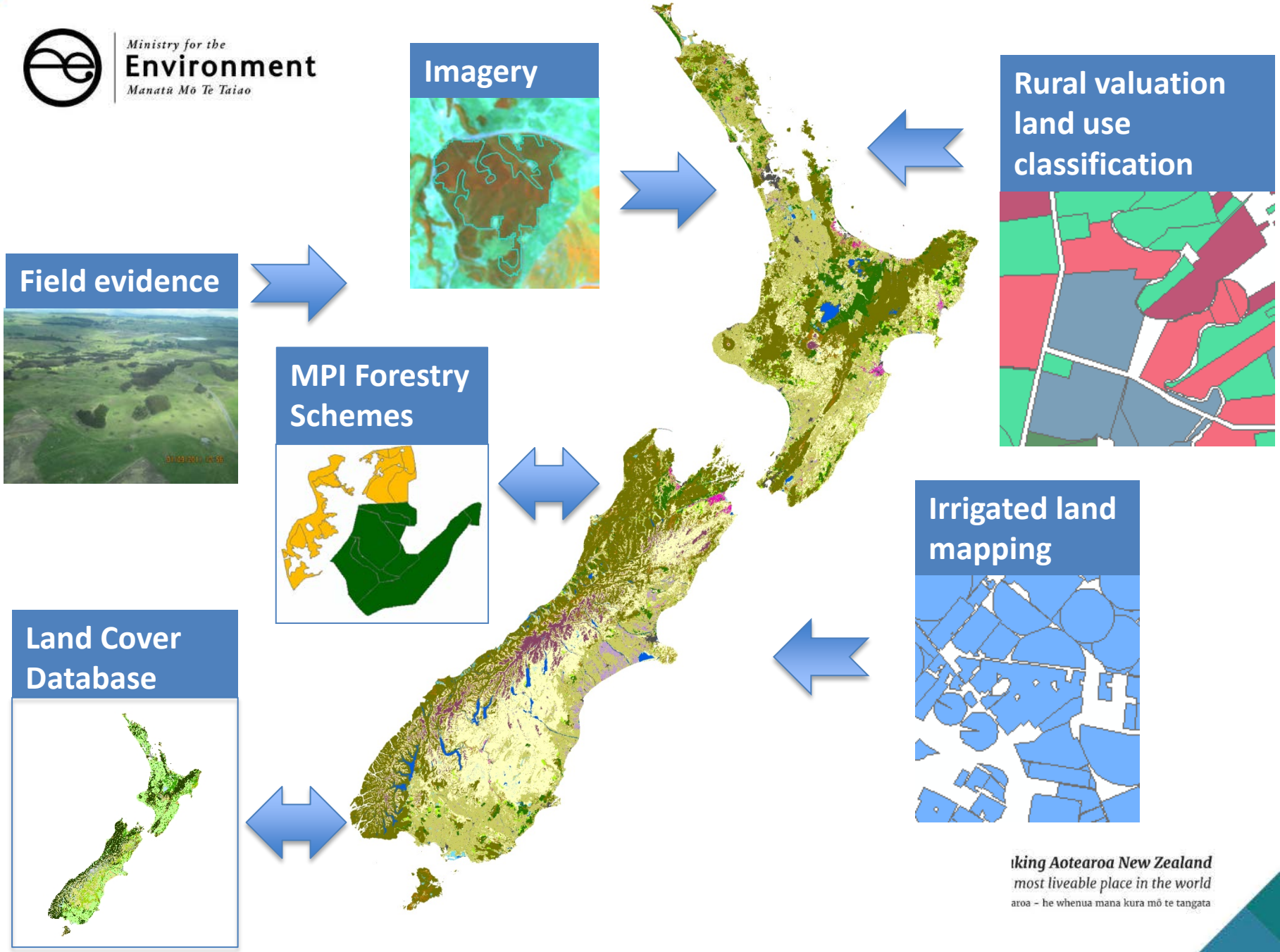

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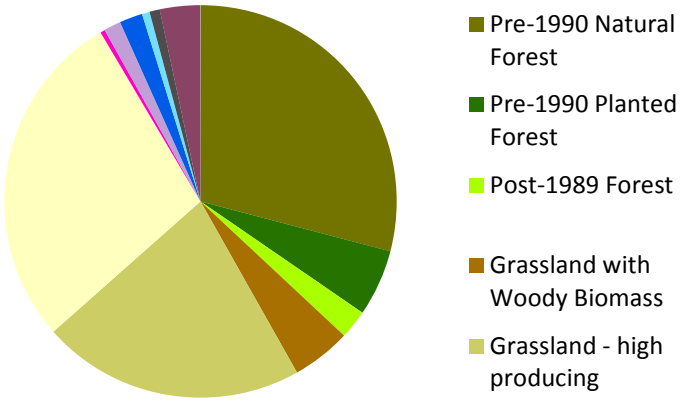
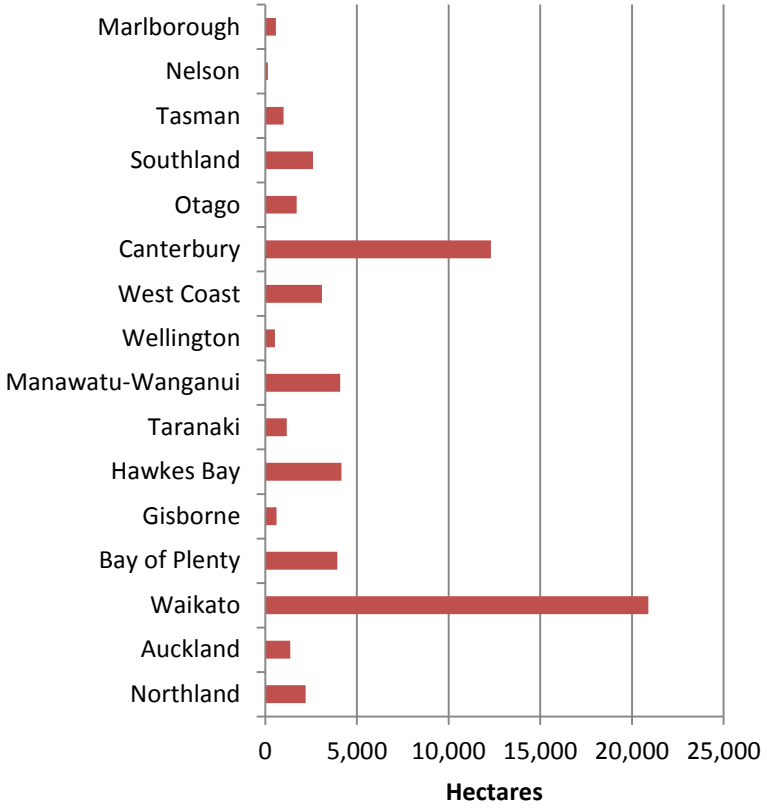
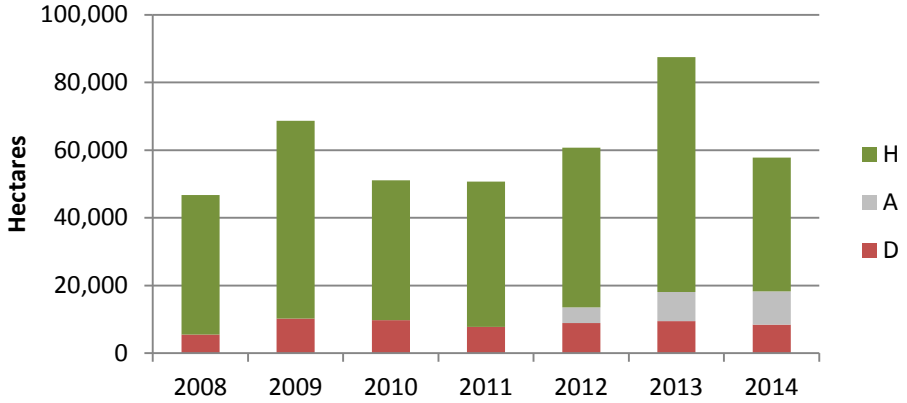
NZ land use by area, 2012



Deforestation area by region 2008 - 2014



New Zealand areas of harvesting and deforestation by year, 2008 - 2014



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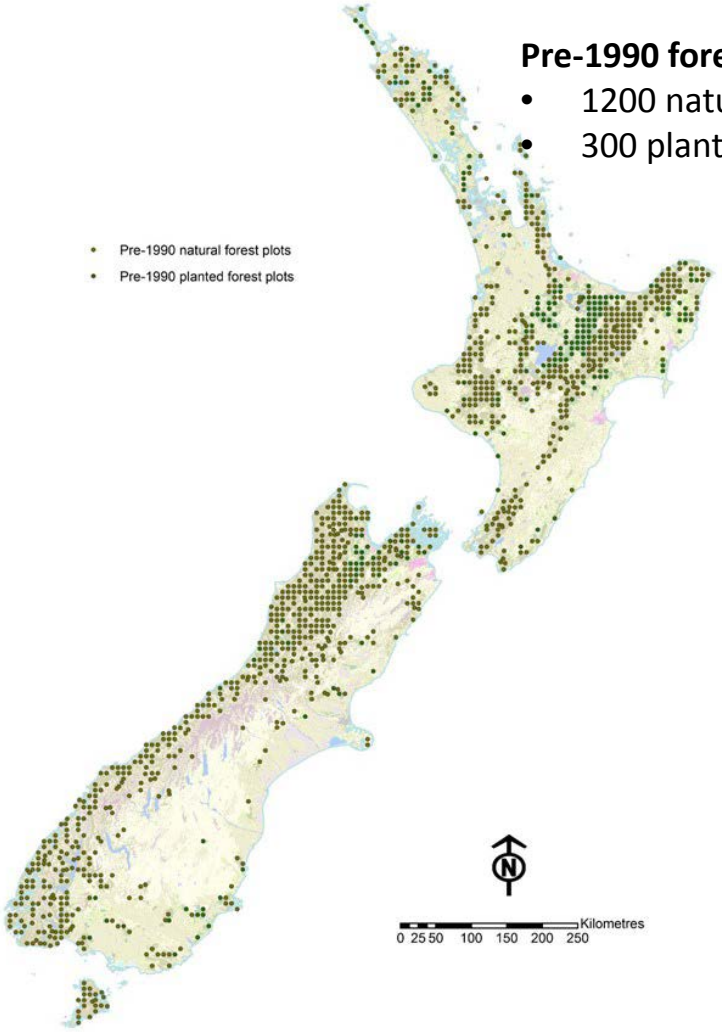
Natural and planted forest plot networks

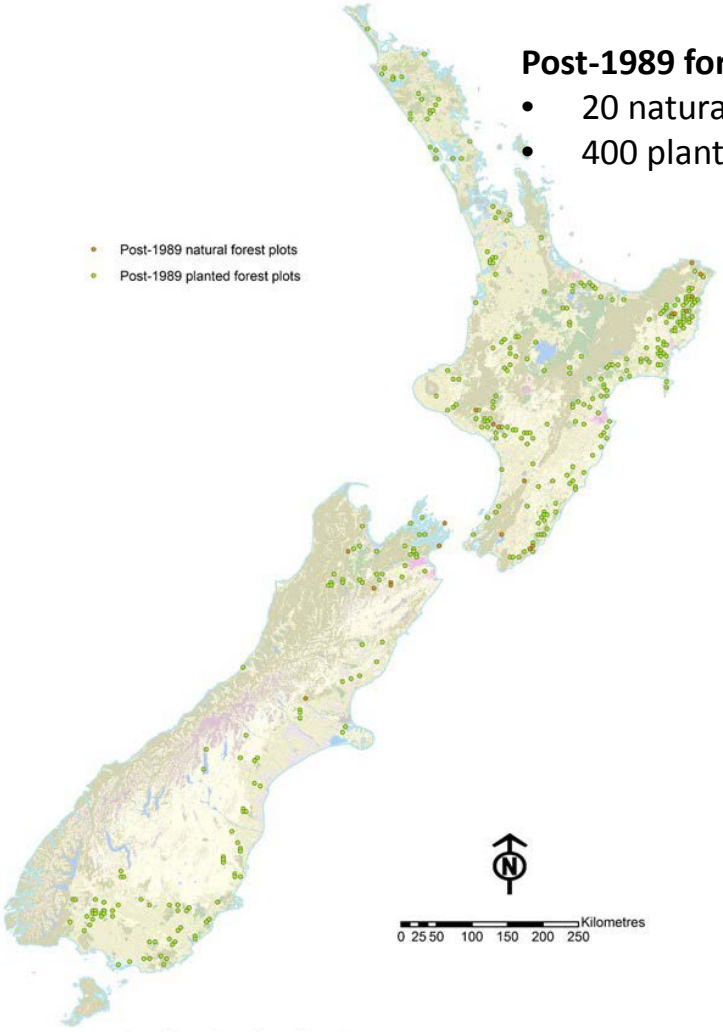
Pre-1990 forest

- 1200 natural forest
- 300 planted forest



Post-1989 forest

- 20 natural forest
- 400 planted forest



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Natural and planted forest data collection

Measurements

- Tree attributes (diameter and height)
- Plot attributes (plot size and layout)
- Biodiversity assessment (natural forests)
- Management (planted forests)

Data collection

- Forest measurement is ongoing with the natural and planted forest inventories undergoing their third measurement rounds

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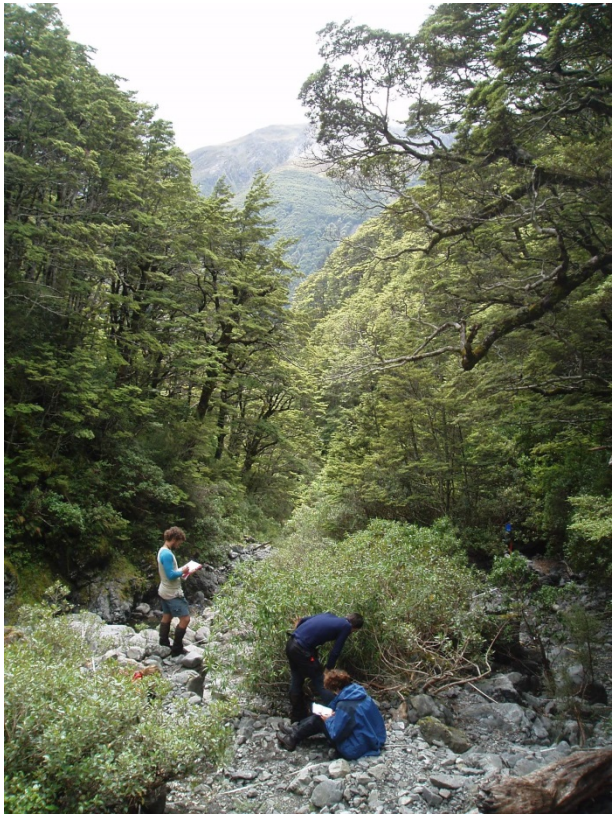
Looking ahead: focus on collaboration

- Continued sampling of forests for multiple benefits
- Collection of additional data where possible, e.g. collection of biodiversity data on post-1989 natural forest plots
- Multiple agencies using sample framework: DOC, Auckland Council, Wellington Regional Council
- 8km Grid Stakeholder Group, enhances ability to work together



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LUCAS geospatial and forest data is widely used

- New Zealand's Greenhouse Gas Inventory (progress towards targets)
- Environmental Reporting (Atmosphere and Climate, and Land)
- SEEA environmental accounts, Statistics NZ
- Climate change policy (NZ ETS and future targets)
- Montreal Process reporting
- Research purposes (Crown Research Institute (CRI), and local and central government agencies

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Further information:

- On the LUCAS programme: http://www.mfe.govt.nz/publications/rma/measuring-carbon-emissions-land-use-change-and-forestry-new-zealand-land-use-and

- Contact: LUCAS@mfe.govt.nz