

Monitoring our tree species trials

At Rewanui we are trialling alternative species to radiata pine. Since we began planting our trials in 2006, all trees have been monitored annually. Our aim is to gather information over the long term on tree performance that will be useful to people considering new planting. The information will help guide decisions on what species to plant, where.



Young rimu with marker cane and unique ID tag.

The trials

We have planted trials of eight exotic (non-native) species, and fourteen native species. There are two or three plots of each species on contrasting sites. Each trial plot contains an average of 50 trees.

Individual tree identification

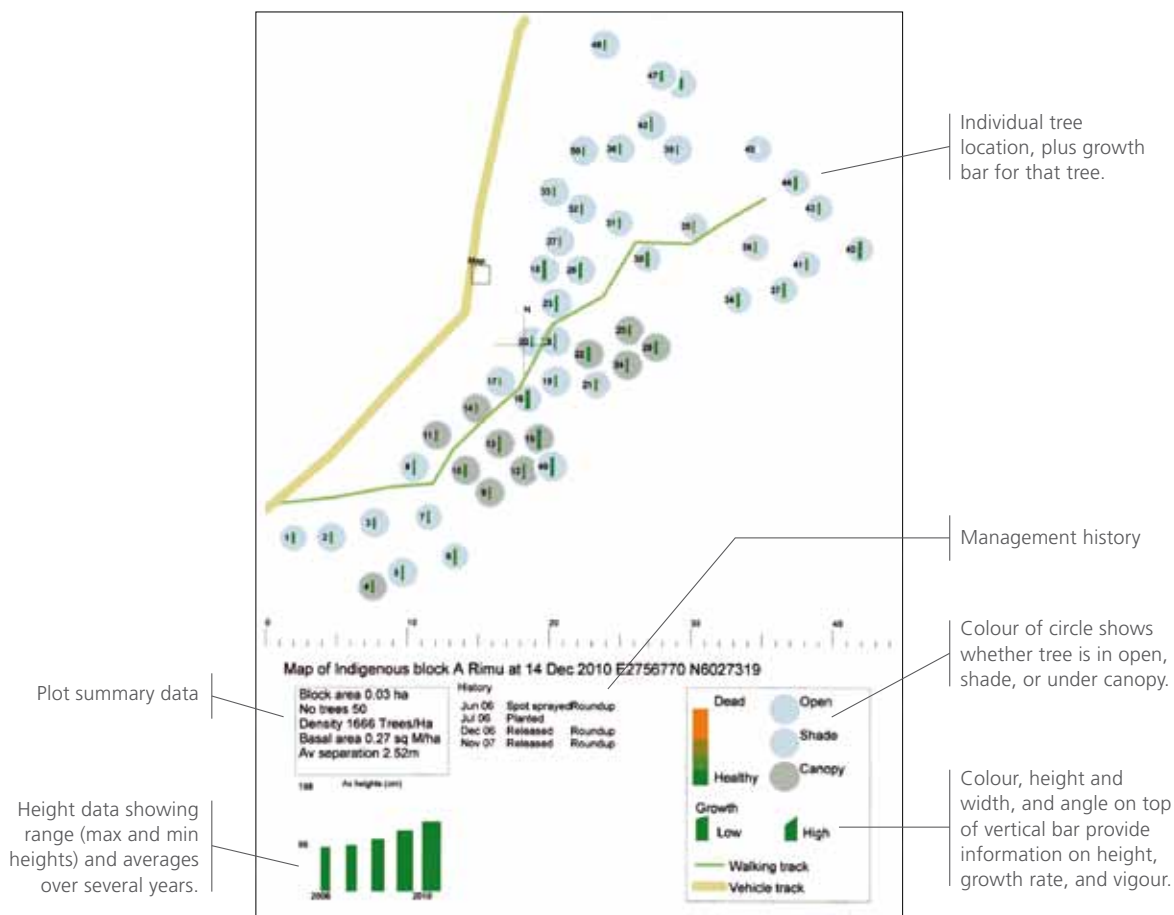
Each tree is individually identified and recorded in a database. The trees are identified on the ground using a fibre-glass cane and aluminum tag with an ID number inscribed. In addition, the location of each tree has been recorded by taking a bearing from a permanent marker peg in the centre of each plot.

What do we monitor?

Trees are monitored annually in June or July, when they are either dormant or growing relatively slowly. For each tree, we collect the following information:

- height
- diameter of the stem at ground level
- diameter of the stem at breast height ('dbh'), once the tree is tall enough. Dbh is taken at 1.4 metres
- vigour/health.

The information is collected on sheets and then manually entered into a database specifically designed for the Rewanui project.



The Trees software

The monitoring software has been designed by Ian Campbell, Chair of the Montfort Trimble Foundation. The software is easy to use, and readily transferable from one computer to another.

Data is held in spreadsheets and can be sorted or amalgamated. The novel element is the graphic output of the software. A graphic of each plot can be generated which provides an 'at-a-glance' assessment of how the trees are performing in each plot. On closer inspection of a plot graphic, you will find a wealth of information about the plot, and each tree within that plot.

Where is the monitoring data kept?

In a long-term project such as this, we need to be certain that our data is stored safely; also that it will be accessible in future, regardless of technological change. The data is stored on our website, and we also keep a printed record of each year's results. In time, full individual tree records will be available on our website.

Future improvements to monitoring

Labeling trees in a way that is going to last for many decades is proving quite a challenge. There may be potential for trees to be microchipped to solve this problem. We also envisage some type of hand-held technology for entering data directly into the database in the field in future. This will save administration time and also reduce the potential for errors.

Where to find our species trials

The trials are located on the eastern side of the farm. Maps are available in the carpark, or can be downloaded from our website. There are good walking tracks around the trials, and the different species are clearly labeled. You are welcome to visit at any time.

More information

1. Monitoring the trials at Rewanui

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2. About the work at Rewanui

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www.trimblefoundation.org.nz
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Acknowledgements

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Rewanui is a typical hill-country sheep and beef farm in eastern Wairarapa. The 344-hectare farm belongs to the Montfort Trimble Foundation, a trust dedicated to growing trees for the benefit of local people. The farm is being developed as a trial and demonstration property, with the focus on new approaches to adding trees to the farming mix.

Photo and graphic: Ian Campbell

