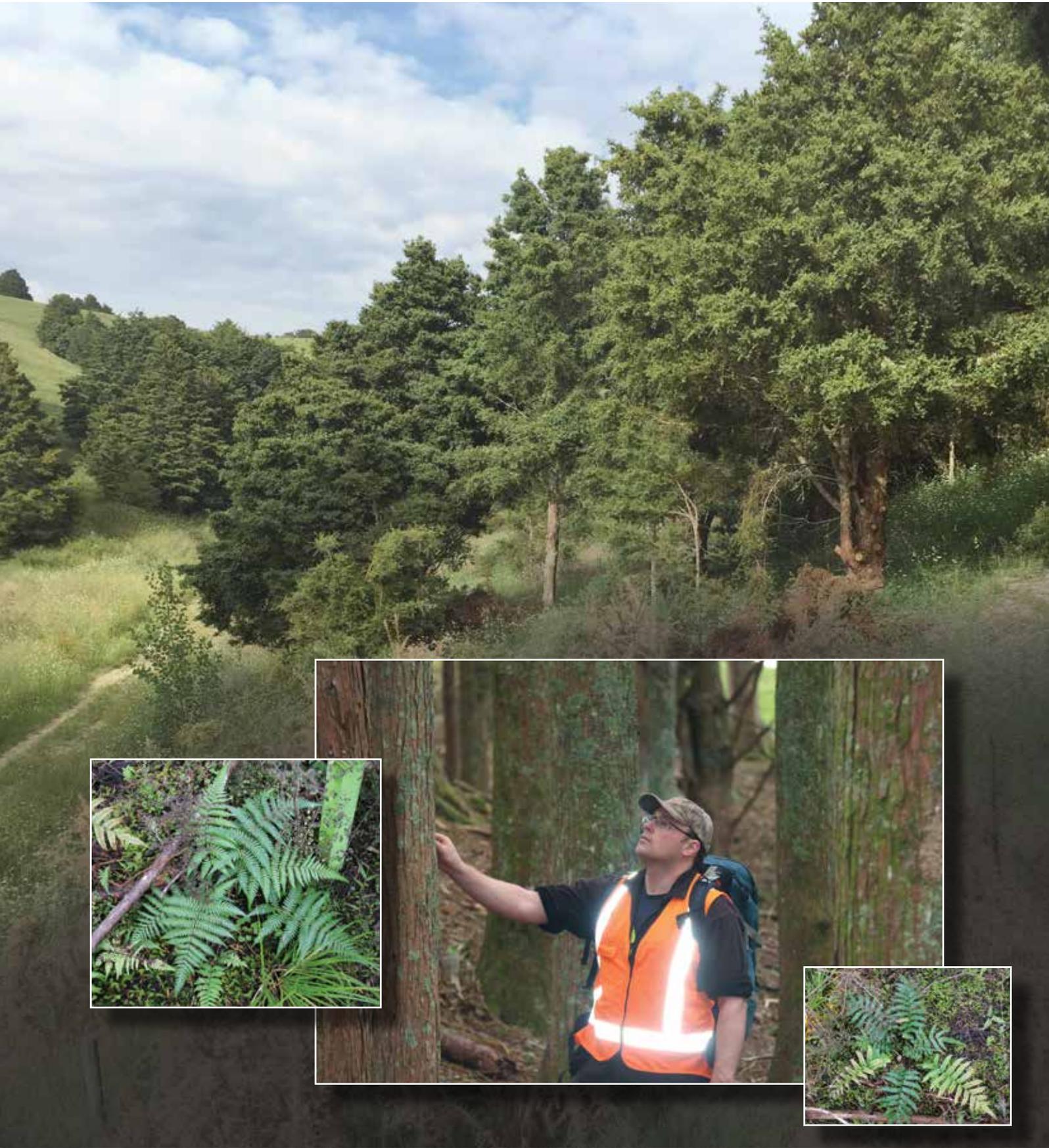


# Northland Totara Working Group NEWSLETTER 2016





New Northland Totara Working Group

## Database

Got totara trees?

Interested in managing them?

Like to see a tōtara industry develop?

Presently farm tōtara is not used at any significant commercial scale. Issues such as market demand needing scale and continuity of supply, legal issues, and research gaps, are being identified. Addressing these requires a communication network to inform, update and co-ordinate all stakeholders - from growers to timber processors and end users. It will also enable the collective interests of the group to be represented and heard. So, join now and tell your neighbours!

**- Free registration to the NTWG mailing list for info and updates -**

Do it yourself online: [www.tanestrees.org.nz](http://www.tanestrees.org.nz)  
or phone Paul Quinlan on (09) 4050052



# Totara Field-day

*Tōtara for timber, biodiversity and riparian management!*

**Wednesday  
23rd November 2016**

10:30am-2pm. Sausage sizzle provided.

Location: Rehford farms Ltd. 1792 Mangakahia Road, (approx. 3km north of Titoki and about 35mins drive from Whangarei). Follow the Field-day signs on the day.

This is for everyone interested in tōtara and land-management; landowners, farm-foresters, land management agencies, consultants, environmentalists, timber industry and community members.

Bring a hat, drink, raincoat and gumboots & 4wd if you have one.

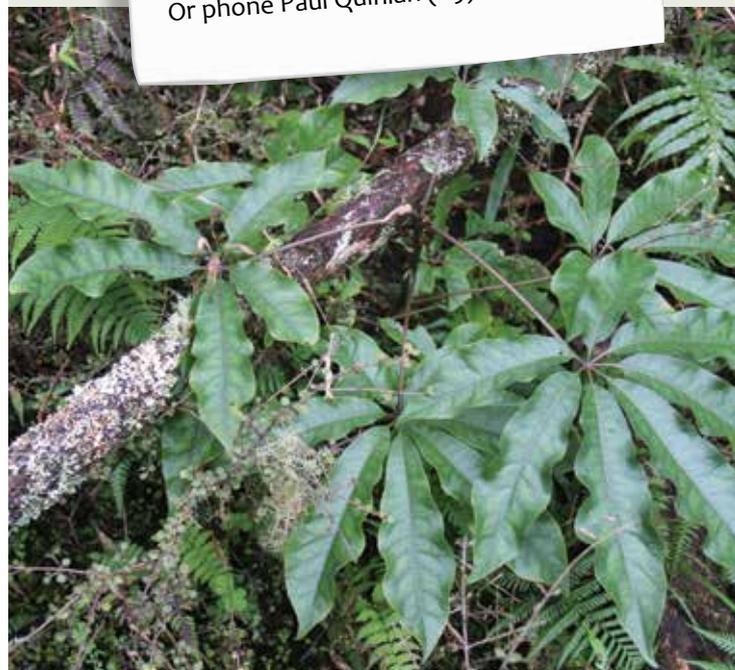
For more information contact: Paul Quinlan on email [pdq@pqla.co.nz](mailto:pdq@pqla.co.nz) or phone 09 405 0052.

See the 'The Northland Totara and Riparian Management Project' article in this newsletter for more details on what we are doing on this farm to demonstrate the benefits of managing tōtara on farms.

### *Things to do*

Remember to register on the new NTWG database! [www.tanestrees.org.nz](http://www.tanestrees.org.nz)

Or phone Paul Quinlan (09) 405-0052



# Totara heartwood and wood density – some early results

Greg Steward, Scion

A number of totara stands have been assessed and analysed by Scion to obtain a preliminary understanding of the variability and predictability of wood density and heartwood content. These characteristics are seen as being very important to the value proposition for this species. Stands from Northland to Taranaki and Hawkes Bay were studied with these characteristics assessed from 5 mm bark-to-pith increment cores and cross-sectional discs. The stands ranged in age from 14-110 years old at the time of assessment.

Whole tree density averaged 443 kg/m<sup>3</sup> across all sites from 681 observations made for wood density which compares well with density values for old-growth totara (480 kg/m<sup>3</sup>). Outerwood density averaged 438 kg/m<sup>3</sup> and was very closely related to whole tree density which means in future only small samples may be required to obtain a good understanding of tree density from new stands. Encouragingly wood density did not appear to be affected by tree age, diameter or rate of growth, and was not affected by where they were growing. Density across the diameter was also assessed which revealed a largely flat density gradient, with only a slight increase in density near the pith, probably reflecting something like a knotty core.

While analysing wood density was straight forward, identifying the heartwood boundary was not. Cut discs that come from totara with reasonable diameters often reveal a coloured centre that supposedly indicates the presence of heartwood. Confusing the identification of true-heartwood is the area between the sapwood and heartwood (called intermediate wood) that can look like heartwood. Typically intermediate wood contains low amounts of the extractives which impart durability and some colour, so it is neither true sapwood nor heartwood. Heartwood was assessed in over 320 totara from both planted and natural stands and what was assumed to be heartwood was found in all but one stand, but for the majority of trees only in relatively small amounts. The ability to identify heartwood will become more important as the drive towards creating a viable totara wood industry continues. Scion is hoping to be able to provide a better answer to that question and will look more closely at identifying the chemical and physical signatures that indicate durable heartwood in totara over the coming summer.



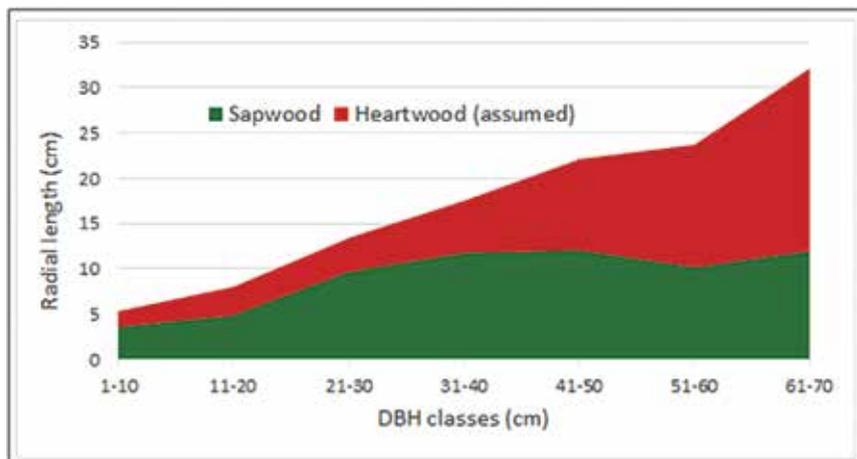
Owen Lewis measuring trees in a Northland Totara Working Group silvicultural trial

## OWEN LEWIS (1957-2016)

Owen was a long-term tree planter and enthusiast; a long-time member of the Far North branch of the NZ Farm-forestry Assoc., he was also a founding member of the Northland Totara Working Group. He was a visionary and was particularly enthusiastic about native forestry and the economic potential that native forestry holds in the Northland region. Like many of us, he grumbled that nobody was listening. He was a skilled silviculturalist with great prowess at climbing trees. With little equipment and great gusto he'd be 8 metres up a tree in a flash, cigarette in one hand and loppers in the other. His more recent adventures were into small-scale harvesting and processing of wood that he produced on his farm from seed, fulfilling the vision and achieving what many foresters only dream of (and why he planted those trees) - the full cycle.

A funeral service for Owen Lewis was held at Broadwood on the 15th October. Rest in peace Owen!

Dean Satchell



# The Northland Totara and Riparian Management Project

## Production + Biodiversity + Water quality

Reconnecting Northland funds a tōtara project on a dairy-farm exploring the integration of native timber production, indigenous biodiversity enhancement and riparian management issues. The project started in October 2014 and runs until December 2017. It is being run by the Northland Totara Working Group as one of several ongoing projects managed by Tāne's Tree Trust. This project has involved:

- Fencing-off a 6ha area of regenerated tōtara in one gully catchment;
- Setting up baseline data to enable testing and comparative monitoring of changes in water quality and stream health over the long term;
- Establishing several trial plots to measure changes within the existing tōtara forest as a result of management (thinning and pruning) for timber production (e.g. growth rate, forest structure and native biodiversity values);
- Preparing and submitting an application to MPI to enable sustainable harvests, under the Forests Act, (using the existing SFM Plan provision);
- Planting and maintenance of 1900 native plants as a demonstration area that extends the existing forest and enhances indigenous species diversity;
- Re-measurement and analysis of all trial areas one year after establishment.

Early results: - First year measurements indicate support for what has been observed elsewhere (but not previously quantified) - that management of naturally regenerating tōtara forest on farmland for timber production, could also be associated with increased native biodiversity, and development of understory vegetation cover. This is thought to be a result of increased light-levels reaching the understory and reduced competition as a result of thinning the tōtara forest. This may also be associated with riparian management on the farm that has included fencing to prevent stock access.

Full analysis of the benefits of managing tōtara-dominant forest along waterways on farmland will follow the 2 year re-measurement of all plots, scheduled for the end of 2017, including the water-quality/stream health monitoring record.



Vegetation trial plots compare the understory development between areas of naturally regenerated tōtara forest where no silvicultural management has occurred (left and above), and areas where thinning has been carried out (below). Note: Livestock grazing has been excluded from both areas.



Management trials comprise eight permanent sample plots (PSPs) - 4 thinned plots, and 4 control plots where no thinning has been undertaken. In addition various other sampling plots have been established within the PSPs including eight reconnaissance (RECCE) plots to record changes in forest structure, 32 2m diameter sub-plots to record woody seedling regeneration, and 64 1m diameter plots to record changes in ground cover vegetation over time.



For more information on this project contact Project Manager Paul Quinlan, [pdq@pqla.co.nz](mailto:pdq@pqla.co.nz)



# Pathways to Building Code compliance for farm-totara timber

Dean Satchell

**Building Code compliance is essential for developing timber markets for any tree species. Therefore, understanding the labyrinth of the regulatory framework and knowing how and what to do in order to achieve such compliance for Farm-totara timber is a necessary step. This has been the focus of a recent Tāne's Tree Trust project for farm-totara.**

The path to compliance would require research and testing, particularly into levels of durability, followed by submissions advocating for inclusion into compliance documents, based on the evidence obtained. The broader issue, one which producers of farm-totara are currently facing, is the need to properly understand and quantify the physical properties of the timber and to get the necessary research done to produce the required evidence.

Durability performance is a key compliance issue and the Building Code gives guidance for expected service life of different building components. These vary from only 5 years for interior linings to 50 years for structural components that are not easily replaced. Durability performance of farm-totara interior linings is well proven and does not require testing. However, other farm-totara products that do require testing for levels of durability, include structural timber, exterior cladding, exterior joinery and decking.

Below: Chris Kennedy's office renovation trialling farm-totara timber in various applications.

## A mechanism for change

The NZ Farm Forestry Association (NZFFA) has representation at various Ministry of Business, Innovation and Employment (MBIE) and Standards NZ-led committees looking at changes to the Building Code. This representation is essential for minor forestry species with special properties such as natural durability. A seat at the table ensures those interests are served, but this needs to be backed by evidence of code-compliance.

Results from a well-planned and targeted testing programme, would provide the evidence required to submit to MBIE for the inclusion of farm-totara in compliance documents such as NZS 3602 Durability as an 'Acceptable Solution'. This would mean that Building Consent Authorities could not question the suitability of the timber for the application.

This outcome would allow architects and designers to specify farm-totara timber without hesitation for applications requiring code-compliance. Removing the present uncertainty around Building Code compliance, particularly relating to durability performance, is likely to have an immediate and significant impact on market demand and greatly increase the potential value of the farm-totara resource to land-owners.

This project work has been funded by the Ministry for Primary Industries' Sustainable Farming Fund with cofounding from the NZ Farm Forestry Association and Tāne's Tree Trust (TTT). The full report is available for download on the NZFFA, MPI and TTT websites: [www.tanestrees.org.nz](http://www.tanestrees.org.nz)

Ministry for Primary Industries  
Manatū Ahu Matua



Tāne's Tree Trust  
Native Trees for the Future





Paul Quinlan measures a potential harvest tree.

## Legal processes to harvest farm-totara

### ARE WE MAKING PROGRESS?

Dealing with the Forests Act has long been a significant disincentive for landowners, hindering the supply of tōtara and frustrating its potential markets. While it is possible to legally harvest tōtara, on a sustainable basis, the process has been far too costly and time consuming. The NTWG have long been in dialogue with The Ministry for Primary Industries (MPI) – (and MAF & MoF before them) on this matter. Recently, we submitted a proposal for a simpler and cheaper option, as a way to address this problem.

Essentially the proposal is to avoid the significant costs involved with detailed assessment of every individual forest area, by simply applying a conservative harvest rate to areas mapped as tōtara forest. This would provide a simpler option to complement the existing provisions under the Forests Act and yet equally meet the purpose of the Act – that is: ensuring the sustainable management of the resource. We look forward to working with MPI on developing this option further and finding workable solutions to the present legal impediments.

Many thanks to Jon Dronfield (NZ Sustainable Forest Products), and to the Far North District Council, for their expert assistance with the preparation and submission of this proposal to MPI.

Come to the tōtara field-day on the 23rd November, and hear from MPI on progress!

## NTWG Background

The Northland Totara Working Group (NTWG) was formed in 2005 to address the need to understand and promote the potential management of substantial regeneration of tōtara on pastoral farmland that is characteristic in many regions, but particularly in Northland. The group is convened and managed within Tāne's Tree Trust.

The NTWG has five objectives:

- To quantify the resource of naturally regenerating tōtara
- To establish demonstration trials, evaluating a range of thinning and pruning options
- To determine wood qualities and uses of farm-grown trees
- To investigate the feasibility of developing a supply chain
- To identify and overcome hindrances to sustainable management of naturally regenerating tōtara.

Substantial progress has been made over the last few years to address many of these objectives with several completed and current projects. Check out our NTWG page on the Tāne's Tree Trust web-site [www.tanestrees.org.nz](http://www.tanestrees.org.nz), and for information and access to all the NTWG projects and reports to date! Please register now on the new NTWG data-base to be kept up to date!

## Acknowledgements

The NTWG gratefully acknowledges the generous support of many landowners and many organisations (including; NZ Farm-forestry Association, Reconnecting Northland, Ministry for Primary Industries, NZ Landcare Trust, Northland Inc., The Tindall Foundation, Scion, Northland Regional Council & the Far North District Council).

All photographs courtesy of Michael Bergin and Paul Quinlan.

### Things to do

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