



The Baton Passes



Ian Barton

At the Trust meeting of November 2012 I resigned as Chairman of the Trust, passing that task to my extremely capable Deputy Chair, Peter Berg.

When the Trust began in September 2002 we did not really know what the future held; but we did know that, if we did nothing, within a few years the use of indigenous trees as producers of high quality timber would probably be nothing but memory.

The ten years since 2002 have been a rollercoaster ride during which time we have raised funding grants of about \$750,000 for a wide range of projects. Most of these have involved collecting data and making the results available to anyone who wishes to grow native trees and, through our bulletins, handbook, newsletter and other publications New Zealanders are now better informed about growing native trees than ever before. A great deal of this work has been done by Trustees who, while being paid via our grants for some of it, have also contributed a great deal of their own unpaid time.

This attitude typifies the approach of most people involved with indigenous forest research and information transfer, for they are dedicated to the promotion of indigenous timber trees as an important part of this country's forestry programme (*witness Tony Beveridge who still soldiers on in his 80's*). While work relating to the management of existing indigenous forests also continues to forge slowly ahead, it is the establishment of new forests which has been of greater concern to Tāne's Tree Trust. Over the last ten years I have seen major advances in this area and am confident that the groundwork done will see a marked increase in

the area of native trees planted over the next ten years. In fact we may be getting to the point where our vision, "*of seeing the majority of landowners successfully planting and managing indigenous trees for multiple uses by 2020*", coming close to reality – only eight years to go!

Two years ago I stepped aside as the Trust's Executive Officer and we appointed Sarah Bodley-Davies as my replacement. Although Sarah came to the job with little knowledge of indigenous trees, she has learnt fast and is now running the Trust very efficiently. I have greatly appreciated her efforts and support over the past two years.

Our biggest problem over the last ten years has been obtaining insufficient funding for all the work we would like to do; so another move, made late last year, has been to consider the appointment of a company which specializes in raising funds for organizations such as ours and this effort will commence early this year. Although it will be a hard task I am sure that the Trust will prevail and increased funding will enable a more wide-spread and increased research effort.

I intend remaining as a Trustee for at least another year but the time has come for me to turn my efforts to a few other projects which I have, and the older you get the more *tempus fugit*.

Ian Barton

PROJECT UPDATE

Developing and managing farm-grown totara for high value timber

The joint project between TTT and NTW, involving silvicultural plots in naturally regenerating totara pole stands, is progressing well. It is over five years since their establishment and all 40 plots have been now been re-measured and some plots received a further thinning. The data analysis was completed this month. This draft information and a preliminary interpretation of the results will be sent to Alan Griffiths at the Indigenous Forestry Unit of MPI for peer-review. The next phase of the project, due for completion by June 2013, will involve publishing and circulating the results. This will be through this newsletter and the TTT Handbook, Tree-grower magazine, the Indigena journal articles and posted on the TTT, NZ Landcare-trust and MPI websites.

PROJECT UPDATE

Slashing the Cost: Implementing Forestry methods for Establishing Indigenous Plants

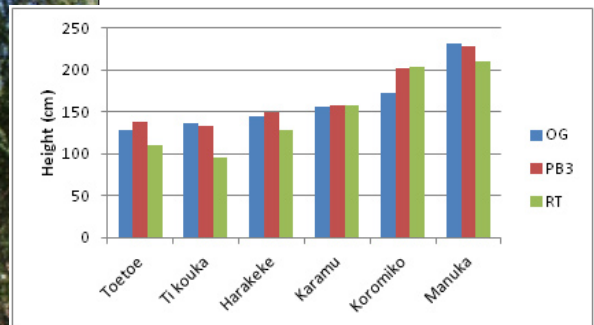
This 12-month Tāane’s Tree Trust project, funded through Ministry for Primary Industry’s Sustainable Farming Fund with support from the Mahurangi Action Group, Taupo Native Nursery, the Auckland Council, and the Waikato and Bay of Plenty regional councils is two thirds of the way towards completion. Re-measurement of planting

trials established at several sites in North Auckland, Waikato and Bay of Plenty is completed. Analysis of this data is underway and the findings will be available in June, through the TTT and Mahurangi Action newsletters and as technical articles in the TTT Handbook. Two field based workshops were held in November and December 2012 with the Farm

Forestry Association and Land Management Officers of several regional councils. The project will also be profiled at the Farm Forestry National Conference to be held in the North Auckland region in April 2013. We encourage our readers to take a look at the scope of the project as detailed on the Mahurangi Magazine <http://www.mahurangi.org.nz> and click onto Farm-Forestry Trail where you will see that this is a very extensive and well designed project in which TTT is contributing its expertise on managing planting of native species.



Riparian area adjacent to Sandspit Road being planted with natives to compare performance of 3 different stock types (left) and 4 years after planting (right).



Assessment of the North Auckland trials planted with a range of native shrub hardwood and monocotyledon species commonly used in revegetation programmes involved measurement of plant heights, canopy spread and plant vigour.

A sample height measurement result is given above in which it is clear that OG (open ground) plants grow as well as PB3 (container grown) or RT (root trainer) plants. With the cost of OG plants being as low as \$1 or less per plant, this study vindicates our advocacy for open ground planting stock. It now remains for TTT and others to persuade nurseries to implement these methods and lower the establishment costs of native cover species.

NEW PROJECT

Mahurangi Farm Forestry Trail: Demonstrating productive integration of indigenous and exotic forestry

THIS is a new joint project led by Mahurangi Action Incorporated and administered by Tāne's Tree Trust. A detailed project update follows written by Project Manager Cimino Cole from Mahurangi Action Incorporated. This project is the subject of a large Sustainable Farm Forestry grant application made jointly by TTT and Mahurangi Action.

The Mahurangi Farm Forestry trail is the happy marriage of catchment protection work under the Mahurangi Action Plan and long-held community plans to create a network of cycle and walkways within this most scenic of localities – the closest natural harbour north on Auckland's eastern coastline. Protection of the Mahurangi calls for at least nine million trees to be established – an arbitrary 10% of the catchment – but at the price typically charged for indigenous plants, this is clearly unaffordable. So, rather than take the position that every little bit helps, the help of Dr David Bergin and Jaap van Dorsser was sought to kick-start open-ground production of indigenous species. The first successful step was to demonstrate the superior cost-effectiveness of open-ground raised plants. The broad riparian site used, serendipitously, will now link the trail which, one day, will connect the Mahurangi and Matakana winegrowing districts, half a kilometre to the already popular Parsley Pot Café.

The trail follows Duck Creek a distance of 1.1 kilometres. The stream's name belies its beauty – totara-shaded, running clear over a bed of sandstone. Early on, the Mahurangi Action Plan focussed on building a coalition of the willing, and Shelley Trotter farms deer and beef on 265 hectares of the Duck Creek sub-catchment of the Mahurangi, the fourth generation of her family to farm there. An environmental scientist and geographer, Shelley completed her master's thesis on historical sedimentation rates in the Mahurangi. Even before the action plan was launched in 2004, Shelley was dedicated to fencing and planting the riparian margins of her farm, a job begun by her father. With regional council funding, the areas retired could now be planted with indigenous species. Shelley's other passion, meantime, is for walkways. When a

property key to providing public access between 'her' section of Duck Creek and the Mahurangi River, a winery, came onto the market, she bought it.

Thanks to Shelley long being a farm-forestry adherent, the trail already boasts of many stands of exotics: *Eucalyptus pilularis*; *Eucalyptus muelleriana*; *Pinus radiata* GF25; Pecan grown from rootstock trees from Paroa Bay and chestnuts, grown from nuts, but selected for timber growth rather than nuts. Also on the trail there are ornamental swamp cypresses, a couple of Andean cherries, grown for timber, and a shelterbelt of *Cryptomeria japonica*. All are circa 18 years old. Incredibly, however, the existing farm forestry is not confined to exotic species. Two separate stands of totara regrowth border the stream, providing the perfect opportunity to demonstrate, for the first time in the Auckland region, the management of naturally regenerating indigenous species, as pioneered by the Northland Totara Working Group. The time-consuming work has already been completed on the more accessible of the two stands, lying immediately beside Hamilton Road. Two circular, permanent sample plots have been established and measured, one for thinning and one to serve as a control

Opportunity to visit the project

Thanks to grants from the Rodney Local Board and an Auckland Council environmental education fund, a walk of the trail will be take place on the fifth day the New Zealand Farm Forestry Association's 57th annual conference on Wednesday 24 April. The field trip will begin with coffee at the adjacent Parsley Pot Café at 9.30am, and will culminate with a live demonstration of totara thinning at 11am.

To register interest contact:

Cimino Cole +64 27 462 4872, +64 9 422 0872 or visit www.mahurangi.org.nz

Contact Us

office@tanestrees.org.nz

www.tanestrees.org.nz

Ph 07 858 4404

PO Box 12094, Hamilton 3248

PUKATEA

Laurelia novae-zelandiae

by Ian Barton

INTRODUCTION

Pukatea is a member of the sub-tropical Family *Atherospermataceae*, the southern sassafrases, although it had for a long time been placed in Monimiaceae. The family is mostly confined to Australia. Pukatea is the only New Zealand species in this family.

DISTRIBUTION

Pukatea grows throughout the North Island, at the very north tip of the South Island (Lat. 42°) and extends down the West Coast to 46°. It is most abundant in the western areas of central North Island. The species grows in association with kahikatea, rimu, miro, tawa, northern rata, towai, taraire, kohekohe and totara. It grows up to an elevation of 600 metres in the north but only to 200 metres in the South Island. Pukatea is most common on deep fertile alluvial soils and can grow in semi-swamp; it is also quite common in damp, shaded gullies and grows on a wide range of damp soils including limestone.

TREE SIZE AND GROWTH

Allan records pukatea growing to 35 metres tall and up to 200 cm diameter. However the pukatea recorded by Burstall and Sale are smaller than Allan's maximum and in most forests seldom seem to grow more than 1 metre in diameter. Growth data for planted trees is limited with mean annual height growth rate ranging from 0.3 to 0.6 metres and diameter annual increment of between 0.4 and 0.9cm. Data from the latest survey of planted trees is expected to provide more information.

BUTTRESS ROOTS

Pukatea is characterized by having large plank like buttresses, up to 2 metres high, at the base of mature trees. This feature is common in tropical trees, to which general group pukatea belongs, and has evolved as a support for trees growing in wet conditions. Large pukatea are easily identified by this trait.

TIMBER

Timber characteristics, with *P radiata* figures shown in brackets for comparison, are as follows:

| | | |
|-------------------------------|------------------------|--------------------------|
| Density: | 465 kg/ m ³ | (500 kg/m ³) |
| Moisture content: green heart | 156% | (130%) |
| Tangential shrinkage | | |
| - green to 12% m.c. | 6.5 % | (4.7%) |
| Radial shrinkage | 2.2% | (2.2%) |
| Modulus of rupture | 89 Mpa | (90 Mpa) |
| Modulus of elasticity | 11 Gpa | (9 Gpa) |

The heartwood is an even, dull grey-brown colour, sometimes with a green tinge or green streaks and the sapwood is brownish-white. The wood, being light, is more like a softwood than a hardwood and is relatively easily dried.

FRUIT

The fruit of pukatea is wind dispersed and the species regenerates profusely close to seed trees and under moderate shade

POTENTIAL

This is a species which should be more closely investigated. It is an easily worked, stable and light timber and, although not naturally durable, is relatively tough and resistant to marine borer. Although it appears to grow slowly there is some indication that juvenile growth is quite rapid and that faster growth may be obtained by improving establishment and management practices. A potentially fast growth rate and lack of damaging agencies, together with the straight and tall natural form of the tree, indicates it could be one of the more useful of our hardwood species.

RESEARCH REQUIREMENTS

Establishment trials on suitable sites should be established to determine whether the indicative growth rate of 1cm diameter annually can be improved. More studies of the ecology of the species are also warranted as is deeper investigation of its timber qualities. The potential of chemical by-products from the bark also requires more study.

REFERENCES

- Allan H H. 1961 *Flora of New Zealand Vol. 1* Government Printer Wellington
- Brooker S G, Cambie R C & Cooper R C 1981 *New Zealand Medicinal Plants*. Heinmann
- Brooker S G, Cambie R C & Cooper R C 1988 *Economic native plants of New Zealand*. Botany Division DSIR
- Burstal S W & Sale E V 1984 *Great Trees of New Zealand*
- Clifton N C 1990 *New Zealand timbers* GP Publications
- Connor H E & Adams N M 1951 *The poisonous plants in New Zealand*. DSIR
- Dawson J, Lucas R & Connor J 2011 *New Zealand's Native Trees* Craig Potton Publishing
- Hinds H V & 1957 *Forest Trees and Timbers of New Zealand* Govt Printer. Wngton.
- Reid J S, 1992. *Survey of Native tree plantations*. FRI Bulletin 175
Pardy G F,
Bergin D O
& Kimberley M
- Wardle J 2011 *Wardle's Native trees of New Zealand and their story* NZ FFA

Bank Account Change

TTT is now banking with SBS. The change was motivated by no bank fees, competitive interest rates and free internet banking allowing all invoices to be paid with the click of a button rather than cheque.

Please take note of the new account number if paying by direct credit:

031355 0729129 00