



GUEST EDITORIAL

Peter Berg is our Deputy Chairman and is a person with wide ranging interests and expertise. For further information about Peter -see elsewhere in this issue.

For the last three years I have been one of a small team negotiating with Government Ministers and their officials a compensatory package which recognises the role of NZ foresters in getting NZ off the Kyoto hook. Under the provisions of the Protocol NZ is required to limit greenhouse gas emissions to 1990 levels during the first commitment period (2008-2012), and our Government has been comfortable ratifying the Protocol, secure in the knowledge that forests planted since 1989 will absorb up to twice the quantity of carbon required for us to attain our national target emission level.

Our foresters were probably the first to recognise the value of fast growing plantation forests in this respect and worked hard to ensure this was recognised, sending representatives to virtually every international climate change meeting since Hon Simon Upton first became involved about 13 years ago. So they were pretty pleased that the final agreement recognised the contribution of trees in this way, albeit that they had to be new forests planted after 1989 (Kyoto Forests). Estimates suggest carbon worth more than NZ\$2 billion was likely to be stored in Kyoto Forests during the first commitment period.

Governments are not known to readily ignore windfalls of this magnitude so we should not have been too surprised when ours decided it would retain all of the credits on the basis that this was necessary to protect the most vulnerable parts of our economy (agriculture and manufacturing). Foresters were somewhat galled to hear that much less energy efficient sectors such as steel, aluminium, concrete and brick (all key competitors of the wood

products sector) were to be shielded while the environmentally preferable forest industry was to get no benefit from the vast quantities of carbon the forests were storing.

Arguing that trees were the solution, not the problem foresters engaged with Government in some fairly heated debate over the role of forests and forest products compensating for growing climate change gas emissions, seeking support for the retention and expansion of forests and tree planting activities. Calculations by Government's Climate Change Office suggested the value of the surplus credits could be as much as NZ\$1 billion, and forester's argued that at least part of this should be targeted at programmes to encourage and incentivise the forest industry.

Somewhat reluctantly Ministers heard our request and industry representatives and officials embarked on the negotiation of a package of forestry related activities that would facilitate greater utilisation and wider promotion of the burgeoning harvest. The focus was particularly on;

- Generic market promotion and expansion of the "wood is good" environmental message.
- Lifting labour skills and capability across the industry.
- Improving infrastructure particularly in the "new" harvest growth areas such as the East Coast and Northland.

The industry also sought greater investment in bio-security, management and growth of alternative species and more of a focus on

forests and their ability to contribute to the overall national climate change strategy.

When Government revealed its package to industry a day or so before its public release they were somewhat cautious, partly because without Russia or someone else of significance ratifying the protocol it will not get off the ground, and partly because recent estimates of new planting in New Zealand confirm a drop below the anticipated levels. Nevertheless Government confirmed its commitment to the market development and tariff reduction programmes it had discussed with the forest industry, along with the infrastructure and labour enhancement projects. Other biosecurity, alternative species and research contributions have been put on hold pending more certainty about the fate of the Kyoto Protocol. Overall this part of the package didn't hold a lot of incentive for additional new planting, nor did it especially recognise the ability of forests to make further contributions towards our national climate change goals.

However both the industry and other interested parties (including TTT) had been pushing Government to recognise the very substantial part forests could play as permanent carbon sinks, even in conjunction

with some harvesting to allow forests to pay their way in the long term. It was therefore particularly pleasing to also hear Government's agreement to the establishment of permanent forest sinks, managed on a continuous cover basis but with sink credits allocated to the forest owner over time and up to the level equating with the permanent biomass retained on the site.

The proposal is equally valid for both exotic and native species and will certainly encourage the management of forest areas to produce high quality timbers on a selective harvesting basis. For those considering planting native trees this proposal immediately adds significant value and rationale to the project. The first harvest is permitted at age 35, so for anyone who has planted native trees since 1989 that could be as soon as 2025 while credits will presumably be earned from the start of the first commitment period in 2008. While it is still some distance from a comprehensive climate change policy with a real focus on what forestry could contribute, this part of the package certainly supports Tane Tree Trust's own vision of "Native trees for the future".

Peter Berg

TRUST ACTIVITIES (November 2003 to May 2004)

Funding:

Apart from success with some of our Sustainable Farming Fund (SFF) applications we have not been able to convince other organisations of the benefits of supporting indigenous forestry. Accordingly, the Trust decided to put \$5000 toward employing a person to work with us in identifying sources and obtaining funding. Since late March Kirsten Crawford, of Coastline Consultants Ltd, has been working at locating possible funding partners. Her first efforts have been directed at seeking supporting funds for the four SFF projects which are outlined below.

Website:

Mike Dodd is now controlling the website and has begun further additions, currently setting up a discussion site where members will be able to post messages, queries etc. More material, including copies of past newsletters will be posted soon. Keep checking www.tanestrees.org.nz

Sustainable Farming Fund:

Our current project "*Opportunities for Native Trees on Farms*" has begun with a series of workshops designed to get expert practitioners together (some of you will have been involved) at seven places in the Waikato and Northland. A report on progress to date is to be found elsewhere in this newsletter.

In February the Government announced a further round of funding under the SFF and the Trust applied for four projects: -

1. Archives project -*Retrieval and promulgation of indigenous forest research information*
2. To run a further 18 workshops on growing native trees -*Indigenous forest establishment workshops*
3. The publication of a manual being worked on by Ian Barton -*Continuous Cover Forestry: A primer for the management of New Zealand forests*
4. Development of a system to record all native tree plantings on the database system run by Forest Research. -*Interactive information database system for establishment and management of native timber plantations*

At the beginning of April we were informed that all four of our applications had been successful in getting through to phase two of the process. Consequently Trustees have been heavily involved in the writing of more detailed submissions and costings which were delivered to MAF early in May. We hope to be able to announce how successful we have been at the AGM.

Publications:

Accompanying this issue of the Newsletter is a copy of the first publication produced by the Trust in our proposed series of papers relating to indigenous forestry. Entitled "*Performance and tree health of a six year old planted kauri stand in the Bay of Plenty*", it describes the very fast growing stand of kauri owned by Maurice and Pat Sutton, near Tauranga. It is being sent free to all financial members. Further copies can be obtained for a small charge (see "List of publications available").

Membership:

Membership continues to increase. From 95 a year ago the number has now reached 148, of which 15 are corporate members. A handsome certificate, designed by Teresa McConchie, has been presented to all of our corporate members.

Tax Free Status:

Inland Revenue have now granted Tane's Tree Trust tax exemption as a charitable organization.

Strategic Plan:

Involvement in preparing funding activities has put us somewhat behind in attaining the targets of our strategic plan. It was also due for revision in March. However we have managed to achieve or partly achieve many of our targets. The plan has been reviewed at our May meeting and a full report will be made to the AGM. It is not intended to send hard copies to all members but it will be posted on the website and I will post or e-mail copies on request.

LETTERS TO EDITOR:

Our patron raises an interesting thought –any comments?

"Brought to my attention while in the South Island recently. Millions of H4 treated pine posts going in to the vineyards. Far more densely packed than on any farm. What is happening, or could happen to the ground water? Will treated posts be banned in the future? We have some excellent native ground durable timbers, totara, puriri, red beech, silver pine (very good) etc. This is an excellent reason for planting selected natives.

Gordon Stephenson"

NATIONAL HONOUR FOR DEPUTY CHAIR OF TRUST

Our congratulations go to Peter Berg, Deputy Chairman of Tane's Tree Trust, who was named an Officer of the New Zealand Order of Merit, for services to forestry, in the New Year's Honours List. Peter, a Fellow and Full Member of the NZ Institute of Forestry, is also currently Chairman of the New Zealand Forest Owners' Association and a former President of NZIF.

FUTURE FORESTS PROGRAMME

The Government has been listening!

On 19 May the Hon Pete Hodgson, the Convenor of the Ministerial Group on Climate Change made an announcement which could have considerable impact on the establishment of new indigenous forests.

"The owners of permanent forests established since 1990 will be able to get Kyoto Protocol carbon credits under a new government climate change policy. This programme creates an opportunity for landowners, probably of largely marginal land, to gain financially by re-establishing permanent forests," Mr Hodgson said. "Landowners meeting the requirements of the Future Forests programme will be able to get internationally tradeable carbon credits they can bank or sell."

As a further incentive for reforestation, owners will be able to harvest timber from their forests, but only after 35 years and on a continuous canopy basis. Earlier harvesting or clearfelling of the forest would incur penalty payments. Mr Hodgson said credits would be allocated through contracts between forest landowners and the Crown, registered against land titles and binding all future landowners.

The Future Forests programme will be administered by the Indigenous Forests Unit of the Ministry of Agriculture and Forestry.

More details about the proposal can be obtained from the Editor at: ibtrees@ihug.co.nz



OPPORTUNITIES FOR NATIVE TREES ON FARMS A SUSTAINABLE FARMING FUND PROJECT

If we want to see the majority of landowners planting and sustainably managing native trees by 2020, one of the key steps is to determine what useful roles our native trees can fulfil in the context of farm production systems. This need was signalled strongly in Morgan Williams' report, "Weaving resilience into our working lands" and meeting this challenge also lies at the heart of this Tane's Tree Trust project.

Already we know that many farmers invest time and money in managing native plants, be it fencing forest remnants, weed and pest control, or establishing new plantings. Their reasons for engaging in such activities are many and varied, and the first stage of this project aimed to find out exactly what those reasons are.

We held a series of small workshops during April and May, to which we invited farmers who are well recognised for their experience in actively managing indigenous vegetation. There

were three workshops in Northland (Whangarei, Kaitaia and Kerikeri) involving 25 participants, and four workshops in the Waikato (Te Kuiti, Cambridge, Waihi and Hamilton) involving 35 participants.

At each workshop the programme included four components:

1. An initial brainstorming of reasons why people were managing native plants in various ways;
2. An individual worksheet asking questions about the particular types of areas on farms where native plants were being managed, and how these interacted with the farm system;
3. A short presentation on recent research from the science agencies; and
4. A small group discussion asking questions about what key factors had helped or hindered farmers in their management, including information sources.

Out of the first session emerged some common themes across the workshops, including a mixture of “reasons why” landowners were planting and managing native plants on their farms. The reasons were wide ranging, and examples included:

- Most appropriate land management option
- Maintenance and enhancement of biodiversity (including wildlife)
- Shade and shelter for livestock and people
- Stewardship and heritage value
- Improvement of water quality
- Improved property value
- Aesthetic and amenity value
- Efficiency of stock management
- Personal learning and growth
- Long-term income from products (e.g. timber, honey)

In many cases the initial motivations for people were more focussed on personal growth, stewardship, biodiversity and aesthetic values, but with time and experience the other factors became clearer. Some reasons even appeared by accident, for example the value added to Angora goat fibre by fencing the animals out of forest fragments where burrs would get tangled in the fleece. One aspect that came up a couple of times as a question rather than a reason was the value of native vegetation as a carbon sink, and the possibility of gaining credits under the Kyoto Protocol system. Since the workshops there has been a significant development in this area with the recent announcement of the Future Forests Policy, which will be administered by the Indigenous Forestry Unit of MAF.

The participants were in every case very enthusiastic and forthcoming with information, which we are now collating for distribution to Trust members and other interested parties. We thank all of the farmers for their time and shared experience. Our next step is to hold a series of larger, open invitation workshops in Northland and the Waikato to add to the knowledge already collected. Look out for an invitation in the next couple of months.

Tane’s Tree Trust would also like to acknowledge that, in addition to funding from the Sustainable Farming Fund and the Transpower Landcare Trust Grant scheme, this project is being well supported by the following agencies (with contact people noted):

New Zealand Landcare Trust – Nardene Berry and Helen Moodie
Northland Regional Council – Kathy Mortimer
Environment Waikato – Peter Singleton
Forest Research – David Bergin and Greg Steward
Manaaki Whenua – Landcare Research – Bruce Burns
AgResearch – Mike Dodd

For more information, contact any of the above, but in particular the project manager:
Mike Dodd: ph (07) 838 5912; e-mail mike.dodd@agresearch.co.nz

PROTECTING LAKE TAUPO'S WATER QUALITY

The quality of the water in New Zealand's largest lake is deteriorating. This is mainly due to the increase in nitrogen levels which have risen between 50 and 300% since 1970 in streams which drain into the lake. This mainly caused by increased development in the catchment and particularly to an increase in dairying over recent years. While control of nitrogen movement might be fairly straightforward in many places it is not so here- because nitrogen is able to bypass riparian vegetation and, moving via the porous pumice soils of the district, enter the waterbodies. Further, because it can take decades for water to move through the soil to the lake, the worst impact of increased nitrogen levels has yet to come.

Much nitrogen enters the system from natural sources, which is a base level of input that cannot be changed. What can be reduced is the input of N from agricultural sources (35.3% of the total input) and urban sources (2.75 of the total).

For the past four years Environment Waikato and the Taupo District Council have been consulting with the people of the catchment to try and determine the best way forward. It has been decided that, in order to keep the lake healthy, a 20% reduction of nitrogen entering the lake must be achieved. To do this the following actions are among those required: -

- Ø Minimise leaching and contaminant runoff of fertilisers, faeces, agchem residues and sediment.
- Ø Avoid stream bank and streambed erosion.
- Ø Tighten up the R.M.A requirements to avoid, remedy or mitigate.
- Ø Undertake a risk analysis to discover riparian and water areas most at risk.
- Ø Investigate farm management techniques to determine the most effective methods of nutrient input.

Protecting Lake Taupo is an issue of high significance because deterioration of the lake will affect almost everyone in New Zealand to a greater or lesser extent. However remedial measures will limit landowners as to how they can use their land. While this impact falls heavily on the pastoral industry, it has been calculated that the benefits of reducing N inputs will be three times the cost.

It has been calculated that converting 13500 hectares of pastoral land to plantation forestry or indigenous regeneration can attain the 20% reduction in N levels required. The all up cost of doing this is expected to be \$81.5 million.

One possibility which arises is the setting up of a nitrogen credit trading regime, similar to the carbon credit proposals under the Kyoto agreement.

There is a part that Tane's Tree Trust can play in this project. As reported elsewhere in this issue the government has recently announced the possibility of carbon credits being made available for the establishment of Continuous Cover Forests. The path is thus created for the Trust to actively promote its concepts of re-establishing indigenous forests in the Taupo area, using both carbon and nitrogen credits. To replace pastoral farming or in some critical areas even exotic forestry with an indigenous forest, managed sustainably, makes good sense and must have a favourable influence on the levels of nitrogen entering Lake Taupo.

TIMBER TREES OF THE FUTURE

KOHEKOHE (*Dysoxylum spectabile*)

HISTORY

Maori used kohekohe for river canoes, although it was difficult to find trees large enough. It was highly regarded for this purpose giving canoes which were swift and strong. However its rapid rate of decay meant that it was not used for many other purposes. Medicinally it was important and was used in various ways; the leaves which contain a bitter component similar to quinine, were used for a range of illnesses including consumption, coughing, sore throats boils and women's disorders. A decoction of kohekohe bark and supple-jack roots was taken three times a day before meals for sexual diseases, while a mixture of kohekohe bark and parts of several other species relieved bleeding and general blood disorders.

Europeans soon saw that the wood of kohekohe was superb for furniture making; it is after all a member of the same family as mahogany. Unfortunately it does not have the same stability as that timber and its main attribute is the attractive reddish-brown finish. Because kohekohe seldom grows to a large size without becoming hollow, its timber potential has never been fully explored.

DISTRIBUTION

Like many New Zealand species kohekohe has an interrupted distribution, being commonest from Kaitaia south to a line between East Cape and North Taranaki but appearing again around Queen Charlotte Sound. It is generally more common in coastal and lowland forests. A study done in the Hunua Ranges, south of Auckland, shows the species to be an important component (30%) of the sub-canopy stratum in the *Beilschmiedia* / *Dysoxylum* forest type. It is a minor dominant (8%), but important in the scrub stratum (23%). In the Hunua's kohekohe is mainly found between altitudes 200 and 500 metres. No information on site preferences has been located but it is expected that kohekohe will grow faster on good loamy soils where the rainfall is between 1600 and 2000mm per annum. Will probably not establish where rainfall is < 800 mm per annum.

TREE SIZE and GROWTH

There is little information available on the growth rate of kohekohe. Trees normally grow to about 15 m tall and 100 cm diameter, although the large tree in Brooklands Park, New Plymouth was almost 20 m tall and 200 cm in diameter in 1983. The only data recorded for planted trees showed a height growth rate of 0.2 to 0.28 metres per year and 0.26 to 0.57 cm diameter growth per year. Observations of seedling/ sapling growth in a protected regeneration area suggest that growth rates will exceed those given above if the trees are on a suitable site and are appropriately managed.

TIMBER

The heartwood of kohekohe is described as an attractive light reddish brown with a fine, even texture; the sapwood is brownish-white. The wood is relatively soft and easier to work than tawa and taraire. It takes a high polish and is often referred to as New Zealand mahogany. Timber characteristics, with *P. radiata* figures shown in brackets for comparison, are as follows: -

Density: (at 12% M.C)	545 kg/ m ³	(500 kg/m ³)
Tangential shrinkage -green to 12% m.c	6.9%	(4.7%)
Radial shrinkage	4.2%	(2.2%)
Modulus of rupture (air dry)	70Mpa	(90 Mpa)
Modulus of elasticity (air dry)	9.5Gpa	(9 Gpa)

POTENTIAL

Kohekohe is a species that should receive a lot more attention because indications are that its growth rate on good sites could be quite fast. The fact that most naturally grown trees tend to be somewhat misshapen and hollow when over about 60 cm diameter may be the result of their growing on poorer soils and competition from other forest trees. A point in its favour is that it highly shade tolerant which means it has good potential for Continuous Cover Forestry

and can be grown in mixtures with species like kauri, totara, Tasmanian blackwood and Cupressus species.

RESEARCH REQUIREMENTS

Research into its optimum growth conditions is urgently needed. Being a species that germinates readily from seed, its propagation should be fairly straightforward. Planting trials involving pure kohekohe stands and mixtures with other species on a range of soils would be a useful first step. Laboratory studies to determine its moisture, light and temperature requirements should be done as soon as possible.

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PUBLICATIONS AVAILABLE

The following are available from Ian Barton

Back numbers of Newsletters 1, 2, 3 & 4	\$1.00 ea
Proceedings of the launch of Tane's Tree Trust (first copy free)	\$6.00
Trees, Timber and Tranquillity Lindsay Poole's autobiographical book	\$20.00
Tane's Tree Trust brochures (free copies to pass to others)	No charge
Totara: Establishment, growth and Management by David Bergin (first copy free to members)	\$10.00
Indigenous Forestry: Sustainable Management. MoF & NZFFA (212p)	\$25.00
Performance and tree health of a six year old planted kauri stand in the Bay of Plenty by Greg Steward & Ian Barton (first copy free to members)	
Tane Tree Trust Bulletin No. 1	\$3.00



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TANE'S TREE TRUST VISION

To see the majority of New Zealand landowners successfully planting and sustainably managing indigenous trees for multiple uses by 2020.

OUR OBJECTIVES

In order to realise the vision; the foundational objectives of the Trust are to promote indigenous forestry as an attractive land use option by:

1. Consolidating and advancing the state of knowledge of an increasing range of indigenous tree species – their establishment, growth, and productive use;
2. Maximising the economic incentives for establishing indigenous trees by reducing establishment costs;
3. Resolving legal and political obstacles currently serving as disincentives to the planting of indigenous trees;
4. Building a network of knowledge-sharing amongst stakeholders.



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MEMBERSHIP OF THE NETWORK GROUP

If you become a network member then you will receive quite a number of benefits: -

- 2 newsletters annually
- Notices of all workshops/seminars
- Copy of the Trust's annual report
- Input into research directions
- Copies of free publications
- Discounted price for priced publications

Subscriptions:

<i>Ordinary members</i>	<i>\$29.00 annually</i>
<i>Family members</i>	<i>\$40.00 annually</i>
<i>Corporate members</i>	<i>\$113.00 annually</i>

Subscriptions for the year April 1 2004 – 31 March 2005 are now due.