Tane's Tree Trust
Native Trees for the Future

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GUEST EDITORIAL

NEW ZEALAND - AN EVER CHANGING LANDSCAPE

John Kneebone, a Trustee of Tane's Tree Trust, has had a major impact in several areas of New Zealand life. A former President of Federated Farmers, he also Chaired the recent Bio-what? Study. He is a member of the Waitangi Tribunal and past member of the Board of Landcare Research

There is always surprise when viewing old photos of our more intensely used land, as to how much the vegetative cover has changed. Even in my lifetime I have witnessed huge change for in my youth farms in the Waikato/Hauraki region were generally devoid of trees. The skyline behind Coromandel Town was covered with sheep. In Tokoroa Town there were no houses and miserable pasture competed with tussock. On some properties could be seen Macrocarpa or Eucalyptus planted not for appearance but as a future source of fencing material. Poplars were generally confined to roadsides, where engineers had planted poles to stabilise steep banks.

Macrocarpa were blamed for abortions in cattle while the gum trees were used as pit props in coal mines and rail tunnels. Both were useless as fence posts. The majority of farmers in those days were preoccupied in putting food on the family table and doing manually all those tasks that are today done by machine. Planting trees for other than protection from a prevailing wind was an indulgence few could afford.

In my Father's time they were literally hacking farms out of the bush and scrub or draining swamps -all with hand tools. Those same farms today are either being amalgamated into bigger units, or subdivided into lifestyle blocks. The Waikato/Hauraki lands are a far cry from the hills fired by gold prospectors and settlers or the swamp and miserable scrub on the flood plains -a legacy of millions of years of volcanic activity and subsequent monumental floods. These same flood plains today resemble a great manicured park

Cambridge -which now proclaims itself a town of trees- only became that way, because the early settlers, so depressed by the sea of scrub in which they lived, began a planting program to replicate their home land in the U.K. Its sister town of Oxford to the south didn't fare so well. The railway bypassed the planned site so the name faded and the rail village became Tirau. Folk lore has it that a London based director of the Thames Valley Railway Co., when visiting for the opening of the Morrinsville-Litchfield extension, was so appalled by the dreary monotony of continuous scrub that he was instrumental in having the railway station land planted in European trees. As a child they stood out to me as sentinels of our local centres and many survive to this day but. Some, where the stations were closed, remain standing but where the towns grew -as Putaruru did- they gave way to buildings. Remnants remain on S.H 27, north of Tirau -identified as the Oak Tree rest area- while Matamata retains about *25%* of its original plantation.

Planting native trees was never a practical or cultural option. The settlers, even those N.Z. born, identified exotic species with progress and affluence. Indigenous plants were reminders of the bush and scrub from which they had won their farms. There were no tractors to clear logs and

stumps for fence lines, or to haul machinery. Mustering sheep and cattle must have been a nightmare. The dream was an English picture book landscape.

I have dwelt at length on the past to emphasise the dramatic cultural shift that has occurred over a brief 60 years. The U.K. is no longer referred to as the old country. Kiwi's now identify with Polynesia and with our indigenous flora, and fauna.

I had the good fortune in 2000 to chair a Ministerial Advisory Committee on how best to encourage private landowners to join in the race to halt the rapid loss of our unique biodiversity. We held over 80 meetings throughout N.Z. People, mostly landowners from very diverse backgrounds, all had an informed awareness that they collectively must accept their roll as custodians of internationally rare and endangered flora and fauna. They were also very aware that it was loss of sympathetic habitat that was the principal culprit.

Without exception they were all anxious to do their bit to protect and enhance any remnant bush. From their questions about how to re-establish native cover, we identified a thirst for advice and information. There are more people seeking to covenant areas than there is money available. Regional and District councils are identifying Key Ecological Areas and ensuring that pest control is adequate and providing help with fencing.

Tane's Tree Trust was established in 2001 to contribute to this new interest in our natural environment -especially that most important ingredient our unique and very special native trees. We the Trustees invite you to join us, in any way you can, to share your knowledge your enthusiasm and your ideas on how best to sustain and enhance our indigenous heritage.

John Kneebone

TRUST ACTIVITIES December 2003 to May 2003

Workshops and Meetings:
There was not a great deal of activity early in the period but much at the end. On 11 May David Bergin, Bruce Burns, Mark Dean and Ian Barton took part in a joint Bay of Plenty Landcare Trust, Bay of Plenty Farm Forestry and Environment bay of Plenty workshop: - "Native Trees on the Farm for pleasure, profit and nature". This was attended by about 50 people and presentations were given on totara, kauri, fencing native remnants, selection of best seedlings for planting, biodiversity restoration and monitoring. A highlight was the visit to Maurice and Pat Sutton's kauri block (see elsewhere this issue)

Two seminars on legal and taxation issues were run in May. Entitled "Profiting from Biodiversity" they were held in Hamilton and Wellington. About 80 people attended the two meetings and the results have been most encouraging. A notable feature was the wide range of people who came, in fact the only sector poorly represented were District Councils. Many important issues were raised and a lot of work will be required to realise the potential of these meetings.

Website:
This is now up and running on www.tanestrees.org.nz. However there is still a lot of work required in order to get it fully functional and we ask members to be patient while this is done. If you have any suggestions about the site contact Ian Barton on ian@tanestrees.org.nz.

Annual General Meeting:
Held at the Whatawhata research Station on 7 June this was attended by 28 members. It is not proposed to publish the minutes or the financial statement in full but if any financial member would like copies please ask. Following is the Chairman's report and a statement of the financial performance: -

CHAIRMAN'S REPORT 2001 to March 2003

This report should only cover the 5 months from the registration of the Trust in November last year until 31 March 2003. However, in order to make a complete record, it will cover the period of time from the launch of the Trust in September 2001 until 31 March.

The eighteen months covered by this report have been very busy and before going further. I wish to thank my fellow Trustees, and the three non trustees who are members of the management committee, very much for their efforts and for the great amount of time they have put into getting the Trust up and running.

TRUSTEES

The trustees are :-

Ian Barton
Peter Berg
David Bergin
Bruce Burns
Mark Dean
John Kneebone
Maggie Lawton
Roger MacGibbon
Robert McGowan
Warwick Silvester

Non Trustee members of the Management Committee are : -

Mike Dodd
Murray McAlonan
Greg Steward

GENERAL ACTIVITIES

Considerable effort has been put into publicising the Trust in various ways. In particular we have sought out Ministers of the Crown and other people who might be able to help and advise. Meetings have been held with both the Hon Pete Hodgson and the Hon Jim Sutton and with senior staff of several corporate organizations. In addition every opportunity has been taken by Trustees to speak to groups and organizations about the work of the Trust. A brochure, outlining the organization and work of the Trust has just been produced and it is intended, during the coming year, to distribute this as widely as possible.

FUNDING

A list of 50 or more potential funders has been drawn up and some of these have been contacted. So far we have not succeeded in getting a commitment from any private organization and it seems that finding large amounts of funding will not be easy. The most difficult area seems to be finding money to cover the administration costs of the Trust. Fortunately we have been successful in obtaining funding from the Sustainable Farming Fund. It is intended that we will apply for further funding from this source should, as has been indicated, further rounds of the Fund are announced.

SUSTAINABLE FARMING FUND

Some $76 000 was granted by the Fund to run workshops about growing native trees, to publish some material and to restore two existing planting trials in the Hunua Ranges. Workshops run up to 31 March 2003 were: -

- Launch of the Trust at Waharau and Mangatangi (Sept 01)
- With Kauri 2000 at Tairua (April 02)
- With New Plymouth District Council at New Plymouth. (Oct 02)
- With Northland Landcare Trust and Northland Regional Council at Glenbervie and Puhipuhi (Nov 02)

Work on the two trial areas is almost complete. At Mangatangi 225 plots of planted kauri, rimu and kawaka have been re-measured and an assessment made of the other vegetation in the

plots. The data collected is currently being analysed. At Moumoukai over 100 plots were redefined, repegged and measured. An assessment of invading native vegetation was done and the results published in our second newsletter. We have agreement from the ARC that further work on these two trials can be done by the Trust and that they will be available as demonstration areas.

Funding from the SFF was also used to help pay for publications, in particular the Proceedings of the Launch and the newsletters.

PROFITING FROM BIODIVERSITY

Considerable time has been spent preparing for two seminars on this subject. The objective is to highlight the taxation and legal (RMA) impediments to planting of native trees for productive purposes. The seminars were originally intended to have been held in February but have been put back to May.

NETWORK GROUP

The Trustees decided early in 2002 that the best way to communicate with those interested would be to set up a network group with a membership fee. There has been a good response to this and members at 31 March totalled 95 of which 11 were corporates. These numbers are not as high as we would like but group is growing steadily.

At this AGM we will be discussing how the network group should operate and how members of the group might become more involved in the work of the Trust.

COMMUNICATION

It was decided by the Trust that a Newsletter would be an appropriate way to communicate with our members. These will be produced 6 monthly and two have come out so far. Members of the network are invited to contribute by writing letters, comments and articles that we can publish. It had been hoped that, for those who wished, the newsletter could be sent by e-mail. This may take time to organise and is restricted by the slowness of transmission (of photos and illustrations) in rural areas.

Our website is operational at www.tanestrees.org.nz but a great deal more work is required before it becomes useful. It is hoped that the site will be fully functional by September 2003.

Ian Barton
Chairman, Tane's tree Trust

6 June 2003

TANE's TREE TRUST
STATEMENT OF FINANCIAL PERFORMANCE FOR YEAR ENDED 31 MARCH 2003

		2002/2003 (12 months)	2001/2002 (2 months)
Operating Revenue			
Sustainable Farming Fund		46862	14150
Sales		330	0
Subscriptions		4170	0
Interest Received		72	4
		$51,434	$14,154
Less cost of Sales		626	0
Purchases		-90	0
Closing Stock		536	0
Gross Profit		$50,898	$14,154
Expenses			
Bank Fees		41	11
Contractors & Consultants	1	33363	11237
General Expenses		33	0
Launch Costs		864	0
Postage		208	0
Printing & Stationary		4103	0
Promotion -signs		525	0
Promotion -hire costs		1379	0
Travel & Accommodation	2	4128	0
		$44,644	$11,248
Net Surplus		**$6,254**	**$2,906**

1. Work done to restore old trials and some workshop costs
2. Associated with workshops

Funding:
So far we have not been able to find a major sponsor but the search goes on. Meanwhile we have virtually completed one Sustainable Farming Project and have applied for funding from the new round in order to undertake more work. If we are successful, details of these projects will be in the next newsletter. Funding from the first round has enabled us to be involved with six workshops and seminars -all aimed at getting information about the planting of native trees to as many people as possible. We have also refurbished and re-measured two kauri trail planting areas in the Hunua Ranges. Some information from these has already been published and more will be when the results of measurements have been analysed.

We have also made application to the Biodiversity Fund (operated by the Department of Conservation) in order to run ten more workshops over the next two years. Any Network Members interested in having a workshop in their area should contact the Chairman. Note that the emphasis will be on getting to the Lower North Island and the South Island but northern areas will not be neglected.

Subcommittees:
These are a recent innovation and while some have held meetings, not all are functional yet. We would very much like to have Network members, who have skills to offer, as part of these sub committees. The existing committees are: -

Science	Bruce Burns Convenor
Publicity	John Kneebone Convenor
Funding	Peter berg Convenor
Policy/Advocacy	Maggie Lawton Convenor

If you feel you could help with any of these (distance is no barrier with e-mail), and anything else that the Trust is involved with- or could be involved with, please fill in the enclosed form and return with your Subscription

Meetings:
In November the Chairman met with the Minister of Forests, the Hon Jim Sutton. He is very supportive of our activities and accepts that there could be a case for funding the Trust via carbon credits when the scheme is up and running. What is needed in the interval is better data on how much more carbon than other forest systems; managed native forests can absorb. He has suggested that we follow up any funding opportunities that the Government makes available.

Subscriptions:
At the A.G.M it was decided that subscriptions should remain until the end of the 2004/05 year. However it was felt that the Corporate Subscriptions need altering so that smaller Corporations (say < 50 staff or members) pay less than large Corporates. There were no corporate members present at the A.G.M so I would like feedback from them as to a reasonable level of subscription. As a starting point it is suggested that small Corporates pay $100 and large ones $500.

Donations:
During the 2002/03 year donations were received from the following network members: -

S Anderson	W & P Aspin	N Bryant & B Austin	P Carr
A Edgar	H Gordon	D Grevatt	B McClure
A McPherson	J & B Mortimer	H Phibbs	J Purey-Cust
N Reid	D Wallace	T & S Wilding	A Williams

TIMBER TREES OF THE FUTURE

MANGEAO (Litsae calicaris)

HISTORY

Early settlers rapidly discovered that Mangeao was a very high quality timber with strength and bending capabilities that were very similar to ash. Accordingly it was used for such purposes as timber jack frames, ships blocks, boat frames, medium strength handles, railway carriages and sporting goods. Later it was used to produce high quality sliced veneer.

Maori people used it for its medicinal properties in vapour baths and midwifery.

DISTRIBUTION

The genus is of tropical origin also being found in Indonesia, Malaysia and New Caledonia. In New Zealand mangeao is found from North Cape south to near Mokau, Rotorua and East Cape. Strangely for a tree of tropical origin, it is commonest in the southern part of its range, especially in the hilly country between Te Kuiti and the west coast and the Kaimai Ranges between Katikati and Rotorua. Little information is available on its site preferences and climatic limits. However it is noted as being frost tender when young and prefers soils derived

from limestone, weathered pumice and heavy clays. It does not thrive on poorly drained soils or in areas subject to drought.

TREE SIZE

The “Flora of New Zealand Vol 1” records mangeao as growing to 12 metres tall and 80 cm diameter although other sources record greater dimensions. The only one listed by Burstall and Sale was planted at Putiki Mission House by the Rev Richard Taylor in 1860. At about 120 years old it was 13 metres tall with a trunk diameter of 92 cm.

TIMBER

The timber of mangeao is described as being white, firm, strong and of great elasticity being suitable for a great variety of purposes requiring strength, toughness and elasticity with light weight.

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

Density:	595 kg/ m^3	(500 kg/m^3)
Moisture content: green	100%	(130%)
Tangential shrinkage -green to 12% m.c	5.9%	(4.7%)
Radial shrinkage	2.3%	(2.2%)
Modulus of rupture	78 Mpa	(90 Mpa)
Modulus of elasticity	8.8 Gpa	(9 Gpa)

It should be noted that the above figures do not do justice to the most valuable property of mangeao –its general toughness and elasticity. It is rated as being four times tougher than *P radiata.*

POTENTIAL

Mangeao’s potential for management is relatively unknown, as this is a species, which never appears to have been considered for forestry purposes in the past. Some information on its potential growth rate was reported by Pardy et al, 1992. They found that height mean annual increments (MAI) ranged between 0.25 and 0.66 metres while diameter MAI’s ranged from 0.4 cm to 1.86 cm. Indications from these limited measurements indicate that mangeao, given optimum conditions, could grow reasonably fast and reach 16 metres tall and 45 cm diameter in 25 years.

Potential uses are many and varied. Apart from those listed above, other current uses are in the crafting of violins (by G H Thatcher in Hamilton) and it is the native wood of choice for the ribs of high quality kayaks.

RESEARCH REQUIREMENTS

It would be desirable to consider planting trials of mangeao on optimum sites. This could be done in either the Rotorua or Te Kuiti areas.

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LETTERS TO THE EDITOR

Following the article on pohutukawa in the last newsletter, three people have informed me about possible sources of straight growing trees: -thanks to Bunny Mortimer and Wayne Aspen for their comments. Bunny told of a tree at Taitua (Hamilton) which she grew from a cutting and which grew up straight –under similar conditions of competition as described by Rod in his letter and Wayne knows of a straight tree near the end of the Awhitu peninsula. Rod Bieleski 's letter contained several interesting comments and ideas and is reproduced here in full.

Dear Ian,
You asked about straight-trunked pohutukawa. Now I emphasise that what I write here is all what we lab scientists used to know as "data-free-observations", based on what we have seen and registered, but without the benefit of direct experimental testing. If a memory from 50 years back is correct, I have seen such a beast as straight-trunked pohutukawas, once, at Hingaia at the northeast corner of Little Barrier. I was there with a Field Club group in about 1952, when we camped there overnight. Some of the trees around the camp were "odd", and I realised that they were huge, tall, straight-stemmed pohutukawas, which were spread across the whole Hingaia area. This "flat" was actually a huge talus slope made up of andesite blocks ranging in size from outhouses to whole houses. We postulated at the time (and I think it's now accepted) that Hingaia had been created by a single huge rock slide from the cliffs behind on this exposed part of the island, where the cliffs themselves are over 350 m high. This left the rockfall as a mass of tumbled rocks which then became colonised. We felt that the rockfall may have happened as recently as a few hundred years before, and that we were looking at the primal plant colonists of the area. In other words, pohutukawas were the prime colonist, and the dense, uniform forest of pohutukawa seedlings which had developed pushed the trees up rather than letting them spread out in their normal way.

In general my impression is that pohutukawas can make straight trunks, but only under special conditions where there is enough light to allow their growth, but enough crowding to stop them spreading as they fight for position in the canopy. I believe it would be possible to grow straight-stemmed pohutukawas but only with some finely-tuned, intensive management. To me there are a couple of things that stand out about pohutukawa and to some degree all Metrosideros. Firstly, it is absolutely demanding of full sunlight to grow properly. Basically, if you plant seedlings in as little as 50% shade in presence of other plants, it struggles to compete. It would rather live on a rocky knob than compete with other species. That's a physiological constraint. The other is that there is a genetic constraint, where the whole genus is programmed to scramble, to branch, to put out aerial roots, and to sit half way between a vine and a shrub, though with the ambitions of a tree. There's a striking contrast with the quite closely-related eucalypts. Grow them on the same site (like our road frontage) and the pohutukawa will always sprawl while the eucalypt (well, many of the species) heads upwards as straight and as fast as it can grow.

Logically it should be possible to search for and find genotypes of pohutukawa that are relatively straight, though I doubt greatly that you will ever find anything to match the form of a

eucalypt. It would be possible to increase the mutation rate by use of radiation and mutagens like acridine orange, but I suspect that would be more likely to increase branching than decrease it. If molecular biologists that are currently focussing on forest species were to start looking at Eucalyptus, in the way they are presently looking at Pinus, it is very conceivable that they will identify genes which modulate form, and we would know where to begin and start transferring the knowledge to Metrosideros. But that's pie in the sky really — stuff that belongs 50 years hence rather than a decade. For me our best hope will be to indulge in some genotype selection on the current populations, and then apply aggressive management techniques using the Hingaia situation as a guide. Hope these thoughts are of some value

Yours sincerely, *Rod Bieleski*

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