Young kahikatea trees at the Mormon Temple grounds, Hamilton City.
Photo by Gary Blake.

Biodiversity Possibilities at Temple View

By Gary Blake

The impressive Temple of The Church of Jesus Christ of the Latter Day Saints sits high on a hill surrounded by extensive grounds, gardens and trees near Dinsdale in Hamilton. The trees include 0.5ha of mature kahikatea surrounded by related native species. On an adjacent grass slope, two-year-old kahikatea seedlings were planted on a 5m grid. These are now 5 years old, 4m tall and have a diameter at breast height of 7cm.

On a similar grassed site, plantings of rewarewa, totara and titoki were made at the same time, which could possibly restore the biodiversity of a kahikatea forest in time. Wati Greening, Supervisor of Grounds said he "would like to see exotic species around the grounds replaced with natives".

Summarised Notes from the Field day held on 1st March 2007 at Turua, Hauraki Plains

By Nardene Berry

In Waihou and Piako:

- there are 250 ha of forest, of which a third is fenced.
- kahikatea stands are highly rated by farmers for shade value.
- all landowners value the trees highly.
- there are 10 QEII covenants.

Discussion regarding rate relief for covenants was had, including Environment Waikato and District Council covenants.

In the north of the Waihou and Piako area, kahikatea dominate. In the south, totara, kanuka and kowhai are more prevalent in the better drained soils. There are also pukatea, rewarewa, tawa and titoki.

Native birds include kaka, kereru and tui. Kereru are the only bird that is big enough to eat tawa seeds.

Weeds are a major problem. Tradescantia and privet were discussed. At present, tradescantia isn't required to be controlled by law. Often weeds occur at the edges where there is light. One landowner had experimented with introducing kune kune pigs to graze the tradescantia, and they did a good job of doing so (they will also eat seedlings, so take care). Chickens and sheep will also graze tradescantia. The understorey of many stands is poor due to lack of native plants and abundance of weeds.

Someone suggested using heifers to control convolvulus, but you need to keep an eye on them, because if you leave them too long, they will also eat seedlings and trees. Wind and drainage are also threats to stands. Currently existing wetlands are still being drained. David Suzuki's book *Good news for a Change* was mentioned as worth reading.

What can be done?

- Information and advice
  - expert advice, e.g. Biodiversity Advice Waikato 0800 BIODIV
  - successful examples of preservation and enhancement
- Assistance with fencing, e.g. Environment Waikato's Clean Streams; Matamata/Piako District Council has $35,000 which may be able to help fence significant natural areas
- Field days, e.g. why and how to plant trees

The value of stands includes the plant, bird and animal biodiversity; shade; shelter; aesthetics and heritage. Potential sustainable use could include shade, shelter and timber. There needs to be a stepwise approach to managing kahikatea forest fragments that integrates the kahikatea into farm management.

Comment from the floor met with general affirmation: we should focus our efforts on working with those who are enthusiastic rather than trying to persuade those who are not.

For more information and advice on kahikatea, call 0800 BIODIV (246 348)

Project Kahikatea is supported by the Biodiversity Advice Fund, Waikato Branch of the Farm Forestry Association, Environment Waikato, Biodiversity Advice Waikato, QEII National Trust, Landcare Research, Federated Farmers, Department of Conservation, Hauraki District Council, Fonterra and Waikato Biodiversity Forum. For more information, or to become involved in the Project, please contact Nardene Berry (07 825 9112 or email nardene@tepahu.co.nz) or Gary Blake (07 868 2336 or email gary.blake@clear.net.nz).

Project Kahikatea

Issue Two, June 2007

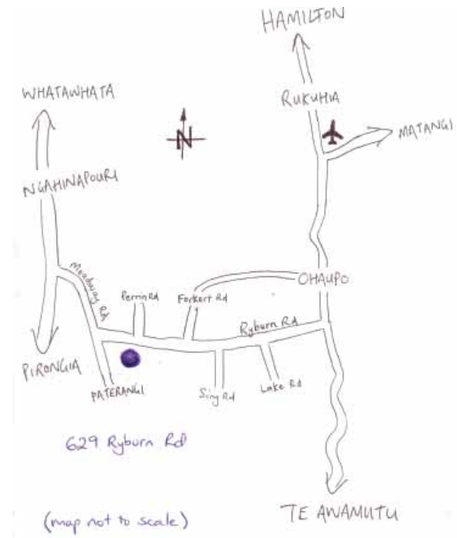
Field Day at the Dench farm

You are invited to a field day at Roy and Annette Dench's farm:

- Friday 22 June, 2007
- 10.00am - 2.00pm
- 629 Ryburn Road, Ohaupo

Learn how Roy and Annette have integrated Kahikatea stands into their farming system. This is a great opportunity to discuss the positives and negatives of managing remnant kahikatea stands. Morning tea and lunch will be provided.

Please RSVP for catering purposes to: nardene@tepahu.co.nz or phone 0800 246 348 by 19 June.



Large kahikatea tree at Ohaupo.
Photo by Gary Blake.

Project Kahikatea

By Gary Blake

The origins of Project Kahikatea came from the kahikatea trees themselves; we appreciate their beautiful conifer form and want them to survive. The Waikato Branch of NZ Farm Forestry Association and the Biodiversity Advice Fund decided to survey as many stands as possible throughout the Waikato lowlands to assess the present condition of the stands and get the views of landowners. How do the owners see their stands in the future and what role will they play in the biodiversity of the Waikato region?

Attitudes

The survey will be completed by the end of 2007 and data collected will be available for all landowners. It will also be time to get together and decide what to do next. There are a number of options and these are listed on the Introductory Sheet given out when visiting landowners. No-one will be compelled to do anything, but the reality is that if landowners had done nothing, we would not be blessed with the magnificent remnant stands we have today. I don't see this attitude changing and we hope that some of this spirit will pass to neighbouring properties with fewer or no trees.

Biodiversity

The variability of all living organisms is biological diversity (biodiversity). The biodiversity of the Hauraki Plains when Captain Cook measured the kahikatea tree was different from what it is now.

Rudolf Steiner, creator of Biodynamic farming, suggested one third of the land should be in forest to protect the soil profile. Whatever your views, an understanding of biodiversity should ensure a more sustainable use of the land and finances. Only two per cent of the original kahikatea forest remains, yet this may still contain substantial biodiversity at the macro and micro organism levels.

Survey progress

Survey work is going well and we are right on schedule. Part of the original brief was to complete a lowland corridor of stands between Thames and Te Kuiti linking the mountain ranges of Coromandel, Hapuakohe and Pirongia with the ultimate aim of increasing biodiversity.

Three major river catchments are involved: Waihou, Piako and Waipa. The Districts of Thames/Coromandel, Hauraki, Matamata/Piako, Waikato, Hamilton City, Waipa, Otorohanga and Waitomo are covered. Fieldwork is currently in Waipa and Otorohanga and data from as far west as Waikato is being processed by Jan Blake. Nardene Berry is handling information and Jan Hoverd, Biodiversity Advice Waikato, is assisting several land owners. Dr Bruce Burns is about to date some trees.

The response from land owners continues to be interested, helpful and enlightening. There is a lot of good sense out there and thanks to a very supportive Waikato NZFFA committee, led by Chairman Chris Ingram, this has made Project Kahikatea a reality.

400 year old canopy at Te Awamutu.
Photo by Gary Blake.

Netherton bush railway.

Observations

Data on tree ages in the Waipa area shows the majority of trees are around 100 years old, except for rare - probably parent - trees, which were up to 450 years old. Data from the Hauraki area is yet to be collected, but we expect a similar result.

Most stands appear in reasonable condition except where excessive drainage has occured, over use by stock or farm infrastructure has interfered with growth. Most canopies are intact, the understorey is often missing and ground cover is highly variable. Weeds are of concern in many stands. From a distance all stands have the cone shape of kahikatea but once inside, the older stands contain other species like pukatea, titoki, tawa, rimu, rewarewa, totara, miro, matai and maire. In all cases kahikatea is dominant but sometimes not by much.

To date at least 440ha of forest has been identified. Some characteristics are:

District	Area ha	Height m	Dbh cm	Fenced %	Part %
Hauraki	200	23	47	40	30
Matamata/Piako	92	26	46	47	33
Waikato	86	26	61	57	26
Waipa	60	29	73	55	0

Height is a mean for all stands in a District and Diameter at breast height (Dbh) is a median diameter averaged for all stands in a District. The largest tree measured to date is at Ohaupo standing 43m tall with a diameter of 224 cm.

While kahikatea can exist in a swamp environment most of the remaining stands are grouped at the edge of swamps or on river terraces close to rivers where the water table drops at least to the lower root zone for part of the year. Large gaps exist between the stand groups and the reasons may differ. The Awaiti and Tahuna gap south of the Kopuatai peat dome has been caused by extensive peat fires during land clearance.

Birds are present in all stands. The many foreign species are always present but the indigenous species less so. Of interest is the tui which has been seen in just about every stand at least once each year. The number and type of native birds depends on the location but the general feeling is numbers are increasing. A major pest management programme planned for Hamilton city will help.

If the survey is to lead to an increase in biodiversity throughout the Waikato region the goodwill of the landowners is vital and a move forward must be by consensus. Generations of initiatives and guidelines have got us this far. Why not develop this model further?

Remaining Programme Outline for Project Kahikatea 2007

May	Second newsletter, survey Te Awamutu/Te Kuiti (stage 3).
June	Complete fieldwork stage 3, hold field day in Waipa District.
July	Assess Lower Waikato and Franklin District.
August	Team to check and examine all data.
September	Draft report, which will include recommendations and proposals for advancing the quality of the kahihatea forest estate.
October	Final report and plan of action.

Publications

With the assistance of Scion (formerly Forest Research), Tane's Tree Trust have started publishing a series of booklets on indigenous tree management.
The following are now available:

- *Totara: Establishment, Growth and management* by David Bergin, $10 ea
- *Kauri: Ecology, establishment, growth and management* by David Bergin and Greg Steward, $15 ea
- *Native Trees: Planting and early management for wood production* by David Bergin and Luis Gea, $15 ea
- *Pohutukawa: Ecology, establishment, growth and management* by David Bergin and Gordon Hosking, $18 ea

To order, contact David Bergin:
Phone 07 347 5818
Email david.bergin@ensisjv.com

For more information about Tane's Tree Trust, visit **www.tanestrees.org.nz**

Farm Forestry Publications:
Tree Grower and Indigena
These are Journals of the NZ Farm Forestry Association. Tree Grower has been around for 28 years, providing a comprehensive source of forest industry information. Indigena is a more recent journal reflecting renewed interest in biodiversity and management of our indigenous forests. For more information, visit **www.nzffa.org.nz**

QEII National Trust

By Hamish Kendal

The QEII National Trust has been involved in Project Kahikatea as New Zealand's key agency that facilitates protection of unique values in our landscapes that are under private ownership. The Trust's principle mechanism of protection is the 'open space covenant' which has been most often used to exclusively protect significant biodiversity and landscape values from any development or use. This covenant mechanism has also been used to protect a variety of other values which are considered important to the natural and cultural landscape of New Zealand, such as pa sites, geological features, coastal margins and water bodies. Covenants are being used more often for protecting a broader range of New Zealand's unique environmental qualities, and this protection can be afforded within the flexibility that an open space covenant provides. Each covenant proposal to the Trust Board of Directors is unique, and each is considered on its own merits. Ultimately, and for a variety of reasons, the Board decide on whether or not to approve a covenant. Most importantly, the Trust must have the ability to monitor covenants to ensure the values protected by individual covenants are not subject to adverse impact.

There have been representations made to the Trust from time to time seeking covenants that could enable (in strictly controlled circumstances) sustainable harvest of planted native forest areas. It may well be that sustainable harvest will in the foreseeable future become a feature of especially-designed covenants. While the Trust has embraced the concept of enabling sustainable use covenants to apply to planted native forests the detail of each proposal will be closely scrutinised to ensure that the potential nature of protection is not compromised. As the design of potential sustainable harvest covenants becomes a reality the Trust will be able to communicate details to interested landowners and agencies. The QEII Trust supports the Project Kahikatea initiative, in which the forests that formally dominated the Hauraki Plains are once again encouraged in the landscape. The Trust offers landowners in these areas a mechanism of protection that can ensure that the values of remnant and planted native forests are protected, so that there may be some resource value available to encourage the integration of these forests into our lives again.

If you are interested in knowing more about covenants on private land, then please contact your local Waikato QEII Representative, and they will be happy to discuss this further with you. Otherwise check out **www.openspace.org.nz**

Hamish Kendal	**Thames Coromandel District**	07 866 0770
Hamish Dean	**Hauraki and Matamata Piako Districts**	07 543 1499
Johlene Kelly	**Waipa, Waikato and Franklin Districts**	07 858 2271
Malcolm Mackenzie	**Otorohanga and Waitomo Districts**	07 873 7728

An unfenced stand near Paeroa.
Photo by Gary Blake.