



KauriKonnnect 24

FROM THE CHAIR

Kia ora katoua

Well, 2013 is already well advanced and no doubt all of you feel winter approaching!

I have heard the reports of a very active summer season, with our kauri forests busy with tourists and locals alike. Thank you to our many dedicated team members and voluntary supporters who continue to do much to advance our knowledge of kauri dieback and to spread the word on kauri safe behaviours when in the forest. Part of this was the fieldwork and analysis of the second round of soil sampling to build our knowledge of infected sites. All your efforts are hugely appreciated and are becoming even more crucial as we near the end of the first phase of the Kauri Dieback Programme.

Funding for the Programme was originally allocated for 2009–2014 as a Government commitment to build knowledge about what was, at the time, a completely unknown organism. We collectively confronted a very unusual situation of having a ground zero start with absolutely no knowledge to begin with. I once again wish to acknowledge Dr Ross Beever, who got us off to

such a robust start before tragically passing away.

We have done much, and learned much, but there is much more to do. Consequently, we are currently working on a recommendation for Government on the next phase of the Programme and I want to reassure you that the Ministry for Primary Industries will continue to be a key player and a funder of the Programme. What is also certain is that all Programme partners will need to continue to innovate and adapt to ensure both funding and people resources for the Programme continue in the face of myriad competing demands.

I urge you to continue the fine work you are all doing. Kia kaha.

Nga mihi

Katherine Clift

Chair of the Kauri Dieback Programme Leadership Team 



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Are you new to KauriKonnnect? Email lynn.mcilveen@mpi.govt.nz to register on the database and you'll never miss a copy.

Waipoua Forest guardians considering a rahui

The *Herald on Sunday* recently reported Waipoua Forest could be closed to the public to protect the trees from a fast-spreading killer disease (*Herald on Sunday*, 7 April).

Te Roroa iwi has talked with officials about imposing a rahui, or ban, as a drastic measure to protect kauri from kauri dieback disease in the 12,000 hectare Northland forest home to Tāne Mahuta. About 250,000 visitors pass through Waipoua every year, most stopping to gaze at the 2000-year-old tree with its 4.4 metre-diameter trunk, as well as the shorter but stouter Te Matua Ngahere. Tāne Mahuta is on the Automobile Association and Tourism New Zealand's lists of "must dos" for international visitors.

Te Roroa spokesman, and Kauri Dieback Programme Leadership Team member, Will Ngakuru said a rahui was a "precautionary measure" being considered to save the forest. "We don't want to stop people going to the forest but we do care about the trees."

Kauri dieback is carried in soil. A rahui would likely slow the disease's spread on tourist's shoes, buying time to research preventions and cures. Other measures include sanitation stations, boardwalks such as the one around Tāne Mahuta, and pig culling.

He said Waipoua may have been a launchpad for kauri dieback disease after infected seedlings raised in the New Zealand Forestry Service nurseries between the 1940s and 1960s were

distributed to other forests. It was possible kauri dieback entered the forest after World War II when the army brought contaminated machinery from the Pacific Islands.

Department of Conservation Kauri Coast area manager Mei Hardy-Birch said any decision on closing the forest would be made as part of "robust public debate".

Ultimately, the decision would be made by DOC though Te Roroa had a big influence on decisions in the area. "We have to take their values and their conservation principals into consideration," Hardy-Birch said. "This might be one of the practical tools that we need to apply in order for there to continue to be kauri forests in the future."

Kauri dieback expert Nick Waipara, Principal Adviser of biosecurity at Auckland Council and Kauri Dieback Planning & Intelligence team member, said, "Surveillance has shown Waipoua Forest is highly contaminated.....It's not just in little pockets."

Auckland Council's parks recreation and heritage forum chairwoman Sandra Coney said a rahui was already in place on some tracks in Hunua and Waitakere which were clean of kauri dieback. 🌿



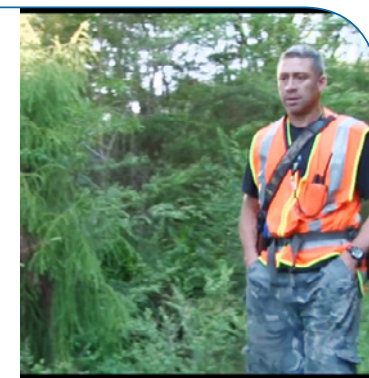
Will Ngakuru with the Tāne Mahuta kauri tree at Waipoua Forest. Photo: Malcolm Pullman.

Glen Osborne hosts new video

Watch our new video clip about kauri dieback disease and how you can help. Crafted by Small Blue Marble Productions, the short video features former All Black Glen Osborne (see KK 21) and friends as they cover what kauri dieback is, how it spreads and how to protect the healthy kauri that remain.

The video has been designed to support presentations or run as a background to public gatherings. A longer version that provides more complete information will also be available soon. Contact your local Education and Behaviour Change team member. 🌿

<http://www.kauridieback.co.nz/home/news-events/2013/3/6/new-video-clip-keep-kauri-standing.aspx>



Putting his feet where his mouth is (but not foot'n'mouth!)

The *NZ Herald* featured an article on MP Phil Twyford working (and walking!) to increase awareness of kauri dieback.

Labour's associate environment spokesman, West Auckland resident Phil Twyford, completed the Hillary Trail through the Waitakere Ranges in a bid to raise awareness of kauri dieback disease. A group of supporters, park rangers and Waitakere residents joined Phil at Arataki Visitor Centre at the start of the Hilary Trail before he set out (pictured).

Following a karakia from Fred Holloway, many of this group including Ngarimu Blair of Ngati Whatua, Simon Randall a local body politician (and MSC researcher), Ross Duder of Friends of Regional Parks, concerned community members and local school children continued with Phil on the first leg of his journey.

Daily blogs and media attention (journalists from radio, newspapers and magazines) from this endeavour greatly raised the profile of kauri dieback throughout January.

Read the full article here: http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10859146



It's a wrap

In March, SOAR 'gift wrapped' 60,000 *NZ Herald* newspapers with photos of diseased kauri and information on how to help stop the spread of kauri dieback.

"Kauri dieback is carried in soil, so the one simple thing we can all do to stop the spread is clean our shoes and equipment before and after visiting kauri forests," Jenny Carter, Director of SOAR says.

Ian Mitchell, Relationship Manager for the Kauri Dieback Management Programme, says they are extremely

grateful for the support of SOAR and the growing number of schools, community groups and corporates which are getting involved.

"SOAR are being innovative and proactive in helping us to get the message out to the public about the need for cleanliness, vigilance and care around kauri trees.

We need all the help we can get to stop the spread of kauri dieback disease and everyone can help right throughout the kauri land regions."

Post-2014 – where to from here?

On 13 October 2008, a joint agency kauri dieback response group was established involving tāngata whenua and the now Ministry for Primary Industries, Department of Conservation, Auckland Council, Northland Regional Council, Waikato Regional Council and Bay of Plenty Regional Council.

Despite various name changes for the Ministry and three councils, this group has continued to be responsible for jointly leading and co-ordinating the kauri dieback response to date.

The Programme was initially set up as a five year knowledge-building 'response', as there were many unknowns at the time. At the start of the Programme we did not know:

- » where the disease is and where it is not
- » what spreads the disease
- » how to test for the presence and absence of the organism
- » how to reduce and prevent the spread of the disease.

The response has led to significantly increased knowledge of kauri dieback's distribution, ecology, spread and techniques for control and prevention.

We now have:

- » a detection tool to find the disease
- » confirmed a number of locations that are infected and identified locations that appear to be free of the disease
- » an understanding of the basic information about the disease and its impacts including how it is spread
- » identified potential control tools and are now testing their ability to control the disease
- » developed and implemented measures to reduce the spread of the disease e.g. track cleaning stations and closing some tracks to protect disease-free areas

- » engaged with the public and communities to ensure people clean their gear before and after visiting forests.

However, there are still considerable gaps in our understanding of how this disease can be managed.

As 2014 approaches, the initial response programme and its funding are drawing to a close.

The Kauri Dieback Leadership Team (KDLT) is exploring a range of options for the leadership, management, delivery and funding of the post-2014 programme. The Programme is focusing on how to transition from the current short-term response model to a sustainable, truly long-term management programme potentially spanning 50 to 100 years.

To help achieve this outcome, the KDLT has appointed John Beachman and Tipene (Steven) Wilson to assemble the information required for a future business case. John has been with the Programme since its earliest days and has unparalleled knowledge of the disease. Tipene has most recently been the co-ordinator for the Tāngata Whenua Roopū. They will also be working with members from all the Programme partners.

The business case will include:

- » assessment of social, cultural, economic and environmental impacts and costs of kauri dieback disease and the impacts on the kauri ecosystems
- » five, ten, and 20–50 year outcomes, objectives and activities
- » identification of potential funding sources including a focus on not-for-profit and commercial sectors in addition to current partners
- » identification of the appropriate governance, management and operation structure to achieve the outcomes.

The business case will also indicate to the partners the level of financial contribution required to run a longer term Programme. Generating the level of support required will continue to require innovation and effort, particularly as the Programme partners face myriad competing demands for their baseline funding.

Already a significant development has occurred with philanthropic funding being applied for and granted. The KDLT is delighted to announce that the Tindall Foundation has agreed to contribute \$30,000 to the development of the business case. Caring about the environment is one of the six specific areas that the Foundation assists. Specifically, this involves environmental education, habitat protection and restoration as well as environmental sustainability, with the aim being "Helping people to be aware of, to develop and use ways of living that protect, restore and enhance the environment" (<http://www.tindall.org.nz>). This private public partnership approach is to be encouraged so that we can apply maximum resource and continue to grow community participation in our cause.

The KDLT would also like to express its gratitude and thanks to everyone helping us to slow the spread of this terrible disease. Kauri is an iconic species and a treasure for many New Zealanders. The Programme has attracted a passionate group of people working within a unique, and highly valued, partnership that has evolved over the past four years. We hope that you will continue to be involved, as we strongly believe that partnerships and working together are essential to the future success of this Programme.

We've come a long way and remain committed to continuing to "save our kauri forests". We encourage everyone to help. **Kia toitu he kauri.** 🌲

Kauri dieback nominated in the Great NZ science project

As the Ministry of Business, Innovation and Employment notes:
“New Zealand faces a number of important challenges and opportunities.

Many of these are complex issues that require new knowledge obtained through science and research. The Government has launched the National Science Challenges (the Challenges) to provide a means to address the most pressing of these complex issues, including fighting disease, climate change, biodiversity, food supply, material and manufacturing.

The Challenges will seek answers to questions of national significance to New Zealand by focusing effort and providing additional focus on key areas.

The Challenges provide an opportunity to identify which issues are most important to New Zealand and will allow Government to take a targeted, cross-government approach to addressing them.

Areas potentially covered under the Challenges model include: food, agriculture, environment, marine, biosecurity, energy and hazards, health, society, and economic growth.

The 2012 Budget set aside \$60 million over four years for the National Science Challenges.”



COTY, HOTY...now there's POTY and it's the kauri!

We see Car Of The Year and House Of The Year awards...but what about Plant Of The Year?

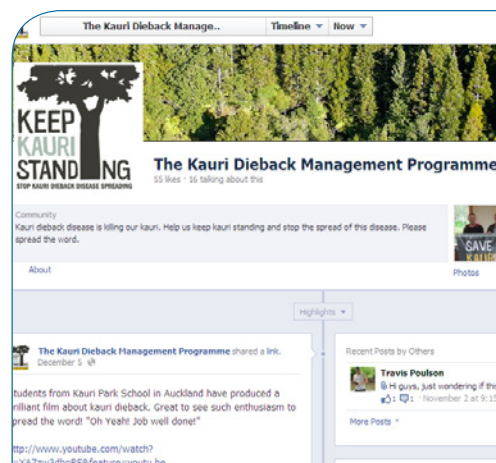
The New Zealand Plant Conservation Network (NZPCN) has run its favourite plant competition for years now and hundreds of people have been voting to show their love of our native plants.

The kauri tree was named New Zealand's plant of 2012 in the January poll results. It beat perennial competitors the pohutukawa, puriri, lancewood, cabbage tree and rata. NZPCN council member Jesse Bythell said the kauri tree is always a strong contender and people were full of praise for it once again this year.

She said it has mana and is a taonga which captures the New Zealand spirit.

Ms Bythell said the result has also helped raise awareness for the kauri dieback disease which is threatening the native tree.

Full poll results: http://www.nzpcn.org.nz/flora_vote_results.aspx



Share the love... share the likes!

We have just launched a Facebook page to increase awareness about kauri dieback in communities online. Please check us out at <https://www.facebook.com/TheKauriDiebackManagementProgramme>, 'like' our page and share it through your networks.

Kaitiaki Konnecting

Familiarisation hui

On 26-28 October 2012, the Kauri Dieback Programme invited interested communities throughout kaurilands to undertake a programme to become familiar with kauri dieback disease – to learn first-hand about the devastating effects the disease is having on our kauri forests. The programme was based at Hoani Waititi Marae in West Auckland. Ian Mitchell, Relationship Manager, Kauri Dieback Programme undertook the planning, invitations and bookings for the hui, with support from MPI in Wellington and Auckland Council Biosecurity.

The Friday night was based around whakawhanaungatanga – appreciating the familial links between the communities represented and building those rela-

tionships for the future. The main day was Saturday, with the group going to the Arataki Visitor Centre in Waitakere, where presentations were given from Ian Mitchell and Nick Waipara, Senior Scientist, Auckland Council Biosecurity. The group then travelled on to an infected site in the Waitakere Ranges, where they could experience first-hand, symptomatic trees, effects on the forest ecology and the practical realities of cleaning mud off shoes and equipment after a forest visit. This was a real eye-opener for the participants.

The general feedback was that the first-hand experience was invaluable and indeed a game-changer for communities inspired to stop the spread of the disease. Community groups attended from Northland,

Auckland and Waikato, Kawhia, Coromandel, Whangaroa, Great Barrier Island with support from the Tāngata Whenua Roopū members. Department of Conservation staff from Auckland attended and two Auckland Council interns from USA also attended. 🌲

Feedback from Daisy Scott, Kawhia

“The strong spiritual connection between kauri, the ngahere and whenua was explained, shared and felt. This spiritual connection is a powerful force to motivate action... The general consensus of the group is to offer support where ever we are able to. The devastation within the Huia (Waitakere) ngahere made a great impact on the group. Not surprisingly the enthusiasm to do something came home with us.”



Spreading the word at Te Matatini

Relationship Manager, Ian Mitchell, attended Te Matatini – the national Kapa Haka festival which was held in Rotorua during February.

The Ministry for Primary Industries had a stand there promoting other initiatives and Ian shared their space to spread the kauri dieback message, complete with pull up banners, a vinyl banner and tear drop flag and loaded with our other promotional materials. Ian said, “It was a fabulous opportunity to reach something like 20,000 people. Almost 1700 kapa haka performers from 41 teams competed at this year’s event.” He also noted, “it was also interesting to note that our mighty kauri featured in some of the most awesome performances. This kind of promotion is invaluable – when communities take our message on board and find their own ways to spread the word we get powerful connections happening.”

Another drawcard was a large Māori carving, chiselled from 4500-year-old Northland swamp kauri, that literally took centre stage at Te Matatini. A party of 50 escorted the 26-tonne mahau, or frontage, carving as it was transported in three sections on semi-trailers from the New Zealand Maori Arts and Crafts Institute at Whakarewarewa. Māori Arts and Crafts Institute director and head carver Karl Johnstone said the mahau carving

consisted of two front posts, or amo; maihi, or fascia; and a tekoteko figure at the apex of the frame.

A large headpiece, or koruru, was carved separately, from totara. When pieced together the carving, believed to be the biggest undertaken in New Zealand, was bolted upright on to a steel structure.

“It’s like a giant Lego-type setup,” Mr Johnstone said. The carving had taken 20 carvers at the institute about 15,000 man hours to complete during four months since August.

A 10-metre-long swamp kauri log, three metres in diameter, was trucked down from Kaihu, near Dargaville. The log was then dried and later cut in half by chainsaw to begin the carving.

Mr Johnstone said the institute’s carbon dating had estimated the log to be 4500 years old – about the same age as the pyramids at Giza.

“We know of kauri which are much older, perhaps 60,000 years, so this one was quite young. However, because it was young wood, it was easier to carve. It wasn’t dried out and splitting like the older trees can be.”

“We wanted to frame the stage in a way which would highlight the very best in kapa haka and performing arts from around the country,” he said. 🌲



Karl Johnstone with the kauri carving as it is transported to Rotorua.
Photo: Tracey Robinson/Fairfax NZ.

Kaitiaki Konnecting

New Te Reo Collateral

The new Te Reo collateral is now available to order. Please contact Lynn.McIveen@mpi.govt.nz for an updated order form. A big thanks to our own Steven (Tipene) Wilson, and Professor Pat Hohepa for doing the translations for us free of charge.

Te Reo A3 Posters 4000 posters have been printed using the powerful imagery of the live and dead kauri tree and our new “save the kauri forest” messaging. The posters are a relatively inexpensive item so can be used freely for example as giveaways to schools, community groups and on marae.

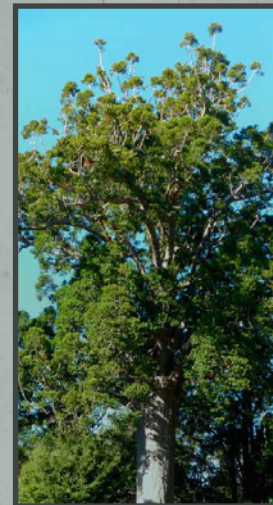
Te Reo A2 Interpretive Signs Only 200 outdoor signs have been produced. They are an expensive item costing around \$60 each. The priority use for these is at marae cleaning stations (outside wash facilities) near to kauri forest.

Bilingual Height Charts The ever popular Height Charts have been updated with our new messaging “save the kauri forest”. They are one of only two collateral items still using the kauri tree illustration due to the nature of the design and appeal of these products, the other being the online web banner ads (available on www.kauridieback.co.nz).

Only 2000 have been printed as these are an expensive item. To reduce costs, they have been printed in two parts and packaged together in plastic wrap. They will require self-assembly (sellotaped or staple each end together). Please be frugal with them, they would make good giveaways for a school class (one per classroom rather than one per child) or community groups/centres.



TIAKINA ŌU KAURI E PATUA ANA E TE MATE KAURI



Ka horahia mā te nekehanga o te oneone AUKATIA!

I NGĀ WĀ KATOA



HOROIA ŌU TAPUTAPU

Tangohia te oneone i mua, ā muri i te haerenga ngahere – horoia ō hū, ōu wira me ōu taputapu



WHĀIA TŪTURUTIA TE ARA

ā, kaua e takahi i ngā pakiaka kauri

WWW.KAURIDIEBACK.CO.NZ

KEEP KAURI STANDING
KIA TĪTUTU HE KAURI

Blooming great support

As part of a six-week display on kauri and kauri dieback, Auckland Botanic Gardens hosted two public information days on kauri dieback (Saturday 27 April and Wednesday 1 May). These two days let the public quiz the experts on the disease, get advice for their own kauri and learn more about how the disease is being managed. The information days particularly focused on keeping the Hunua Ranges dieback free by educating locals on how to stop the spread of kauri dieback.

http://events.nzherald.co.nz/2013/kauri-dieback-information-day/auckland/manurewa?utm_





Kauri tree being culled. Photo: Chris McBride.

McCahon House trees

Two dead kauri at the McCahon House (in Titirangi, west Auckland) were removed in late January. These were some of the same trees which inspired the artist Colin McCahon throughout the 1950s while he lived at the bach and produced a series of kauri paintings.

Unfortunately kauri dieback disease has spread throughout the property and many of these trees are in serious decline. The removal of the two kauri was both a significant and sombre occasion.

Auckland Council biosecurity staff together with the McCahon House Trust, members of the Kauri Dieback Management Programme and the local community held a small ceremony to note this occasion. The felled trees will be used in a study to better understand how the disease affects kauri, undertaken by Monique Wheat, a researcher from the Kauri Dieback Management Programme.

The sad situation at McCahon House highlights the continuing need for research, action to stop the spread of kauri dieback disease, and work to raise public awareness.

Death inspires public seminar

Two months following the felling, Auckland Council Biosecurity in association with the McCahon House Trust held a public seminar on kauri dieback and the connections between art and kauri. The seminar was attended by over 40 Aucklanders supporting kauri preservation.

Peter Simpson (author of *Colin McCahon: The Titirangi Years 1953-59*), gave a presentation about the numerous McCahon paintings and drawings of kauri at the McCahon House property.



We were reminded that the kauri on this property may soon only survive in these pictures.

Further talks were held down the road at the French Bay Yacht Club with speakers covering the impact of kauri dieback and an arts perspective.

Chris McBride (former manager of the McCahon House Trust) lead the meeting ensuring we got through the range of topics listed below:

- » Cultural impact and Te Roroa perspective by Will Ngakuru
- » Cultural perspectives from Hori Parata
- » Kauri Ecology by ecologist Shona Myers
- » The Hilary Trail experience by Phil Twyford
- » The role of arts in raising awareness by McCahon House Trust Chairperson, Naomi McCleary
- » Art and Environment by Regan Gentry, recent McCahon Artist in Residence.

The Kauri Dieback Programme hopes to continue to work with the arts community to raise the profile of this issue. 🌲



Taking to the air

Waikato Regional Council and the Kauri 2000 Trust combined forces over summer to expand the profile of kauri dieback disease in the southern kauri catchments. One aspect of the activity was to run a radio advertisement – taking the message to the airwaves.

“Obviously we’re hoping for the best and that we remain kauri dieback free. But if we’re not, we’ll implement appropriate disease management strategies,” said Waikato Regional Council biosecurity officer Jeanie McInnes.

In the meantime, she urged people visiting native forest in the Waikato region where there are kauri stands, to follow a range of precautionary measures to help prevent the disease’s spread.

“In particular, anyone coming into Waikato bush areas from regions with kauri dieback should obviously wash their boots, tramping and sports equipment thoroughly with detergent beforehand. Generally, the more people can avoid moving even small amounts of soil between areas the better. Use of broad spectrum disinfectants like Trigene or diluted bleach on boots and

equipment can also help prevent the disease’s spread.” Ms McInnes said another strong recommendation was for people to stay on already formed tracks and avoid walking on kauri roots.

“Kauri are precious and the regional council is working hard with tāngata whenua, the Department of Conservation, the Ministry for Primary Industries and other regional councils to prevent its spread.”

Thanks Jeanie for creating momentum in spreading the word. Thanks also to Stephen Ward, Senior Media Advisor and member of the Engagement and Behaviour Change team as well as all others who are protecting kauri in the Waikato and Coromandel. And special thanks to the Kauri 2000 Trust for securing the airtime.

A link to the radio ad can found on our website:

<http://www.kauridieback.co.nz/home/news-events/2012/12/19/care-urged-in-waikato-region.aspx>

Soil Surveillance two

The Waikato activity coincided with the recent soil testing programme around kauri tree sites in Northland, Auckland, Waikato and Bay of Plenty. Sites in the Waikato being tested include kauri stands and iconic trees on the Coromandel Peninsula and the Mamaku and Kaimai ranges. Testing involves taking soil from beneath the tree’s canopy where feeding roots are found. “These tests should confirm whether or not we have kauri dieback in our region,” said Waikato Regional Council biosecurity officer Jeanie McInnes.

Results from the testing will be available soon. In the first instance programme members will be liaising closely with mana whenua and land owners or managers – particularly if results indicate the presence of kauri dieback. Site specific management plans are then developed to manage the disease. 🌱

Mangawhai walking weekend

The 14th Mangawhai Walking Weekend ran in the first week of April. It offered over 30 guided walks around the beautiful Mangawhai area. This well organised event explores natural areas on private and public land, hosting hundreds of people with the support of over 80 volunteer guides. Walks range from the beach to caves to lush forests. Organisers do a great job providing information about kauri dieback and ensuring all participants clean footwear (‘clean in, clean out’) to prevent the spread of the disease in the area. It’s a brilliant way to spread the word while protecting healthy areas up there! With a food and wine festival and an art trail to explore – this event really does have it all!

Go to www.mangawhaiwalkingweekend.co.nz to find out more. 🌱



Comings and goings

Welcome back John.

One of the more colourful characters we have the pleasure of working with is John Beachman, who has been mentioned a few times in previous *KauriKonnnects*. Every endeavour benefits from institutional knowledge and we are privileged to still have access to John's experience in his new role as Operations workstream lead. He supports the field-workers to ensure our forests are kept safe.

John kindly provided his bio – you'll see what we mean about a rare set of skills and experiences to draw on. He also supplied the slightly scary photo!

"When I was a kid and living at that time in Invercargill, one Christmas my uncle gave me a copy of AH Reed's *The Story of The Kauri*. I've still got it and it is a wonderful picture of the industrial-scale destruction of the kauri forests carried out in NZ's recent history. Tudor Collin's great B&W photographs occupy a large part of the book and bring to life the people who worked the kauri forests and provide reference points to the various chapters. Shortly after I got the book the family took a northern holiday and we visited Waipoua and that book was a reference point for our travels there.

On leaving school I followed a career as a forest ranger and after graduating, worked in native forests in Northland in the 1960's, particularly Puketi, Russell, Herekino, Waipoua and Warawara, all of which are kauri forests. I did my OE in British Columbia in the late 60's and early 70's working in old growth forests up and down the BC coast. I came back to Northland in the mid 70's as a Ranger with

the NZ Forest Service. One of my duties was managing the logging of kauri in Puketi which was one of the last places in NZ where old growth kauri was harvested. Some of my other duties as an Environmental Ranger were to develop picnic areas and walking tracks to encourage people to enjoy the forests. These contradictory policies (Multiple Use!) gradually changed as NZ's perception of its native forest heritage underwent a necessary shift towards conservation.

I was lucky enough to be recruited into the new Department of Conservation in 1987 and followed a career there until I finished up in 2012. For the last few years of my time with DOC I had been associated with the kauri dieback programme and continue that association today as Operations lead. More recently I've been asked by the kauri dieback programme to help prepare the business case for 2014 and beyond. I'm pleased to do this. Kauri has given me a lot in my life and this is my chance to give something back.

I've been very lucky in my career in that I've been able to get paid for going out in the bush. I've tried to figure out ways of being paid for my other major outdoor interest, fishing, but have not been successful in that." 🌿



Simco support – another programme partner

Simcro have joined our team of supporters by providing us with new and improved spray guns for our 'barrel stations'.

Our barrel stations are in place at popular tracks in the Waitakere Ranges for cleaning and disinfecting footwear. After removing soil with scrub brushes, the spray guns are used to spray trigene disinfectant onto footwear and gear to stop the spread of kauri dieback spores.

Keep an eye out for these new guns next time you're out in kauri forest.

Thanks Simcro for helping us shoot those spores down!



What's going on – an overview of current programme activity

Leadership team

The Leadership Team, which is a body of representatives from the programme partners, met in the last week of March to review work-stream progress and to continue providing direction and support to the development of the post-2014 programme.

The leadership team are the key decision-makers of the programme and are meeting regularly to ensure the process and directions for the future programme are on track.

Planning & Intelligence

Results from surveillance 2 are in and being analysed by P&I. The Technical Advisory Group is scheduled to meet 2 May. A specialist oospore report from Scion has been received and now loaded onto the website.

Tāngata Whenua Roopū

There is an increased intensity in the programme as, crown agency roles shift and expectations about the programmes longevity are in question. Most of the Tāngata Whenua Roopū have participated in the Programme for the last three years and agree that the Joint Agency approach is a remarkable model of collaboration. There are few demonstrable examples of Maori, crown and local government working 'respectfully' and respective together, as in this instance, to prevent the spread of PTA and the decimation of kauri and kauri forests.

As the current programme funding allocation ends, political pressure and funding priorities, determine if our future generations will experience a kauri forest. This programmes actions and decisions today will determine the fate of kauri and ultimately the fate of future generation. Cognisant of this, Tāngata Whenua Roopū are invested in progressing the Joint Agency Response business case and supporting the programme partners continued engagement across the kauri regions.

Tāngata Whenua continue to strengthen their engagement with kaitiaki and their local communities. The programme research continues to indicate that the PTA has not spread to every forest. Recognising the uniqueness of each kauri forest, Tāngata Whenua Roopū has prioritised the development of cultural health indicators of kauri, with a strong emphasis on building forest resilience, supporting whole forest eco-system health, to the spread of PTA. The work on the cultural health indicators will be aligned to the current work on kauri ecosystems with P&I. This project will also inform the development of parameters for future kaitiaki monitoring programmes.

Operations

Northland Regional Council is working closely with John Beachman to resolve the GIS/Data storage options for the programme. A draft report has been submitted to the Programme Manager on data and GIS management. Having spent a while getting new hygiene product suppliers established, we are now working to get a product catalogue and new order form developed. This should be available shortly.

Members of the Operations Team visited Waipoua forest early March to look at the way the New Zealand Transport Agency, the roading manager, deals with issues of potential disease transfer in their road management measures. This broad topic of kauri dieback transfer via construction machinery is very topical at present with Top Energy embarking on a transmission line upgrade to Kaitiaia, parts of which passes through native forest.

John Beachman recently spent some time at Waipoua with Will Ngakuru and they were able to locate the Waipoua Arboretum established by the NZ Forest Service in the 1940s. The Arboretum was developed as a demonstration area for




the world's species of agathis and their allies. Interest in the old Arboretum is based on the possibility that the import of these foreign species was a pathway for kauri dieback into the Waipoua Forest nursery and thence to kauri plantations on other sites. It was reassuring to find plantations of 1940s NZ kauri within the Arboretum showing no indications of kauri dieback symptoms. Hopefully, further field work within the Arboretum will uphold this reassuring situation. The development of the kauri dieback and resource consents document is underway. An advanced draft will be available soon.

Logistics

Work continues on the Work Plan 2012-14, responding to information requests, workstream logistics, managing contracts, updating the KauriKonnnect database and co-ordinating collateral supplies and hygiene supplies.

Engagement and behaviour change

The E&BC committee are confirming sites for two 6x3 metre roadside billboards which look similar to the interpretive sign.

A large amount of collateral orders were processed over the summer – a positive reflection on the quality items produced and the amount of people now involved in sharing the word of the programme. Branded T-shirts are also now available for order via the website. 

To order a T-shirt: <http://www.kauridieback.co.nz/orphan-pages/buy-a-t-shirt-or-singlet-here.aspx>

New in science

The Kauri Dieback Management Programme has scientists from Plant & Food Research, Scion, Auckland University and Landcare Research hard at work. Here's a brief update on the work they are undertaking.

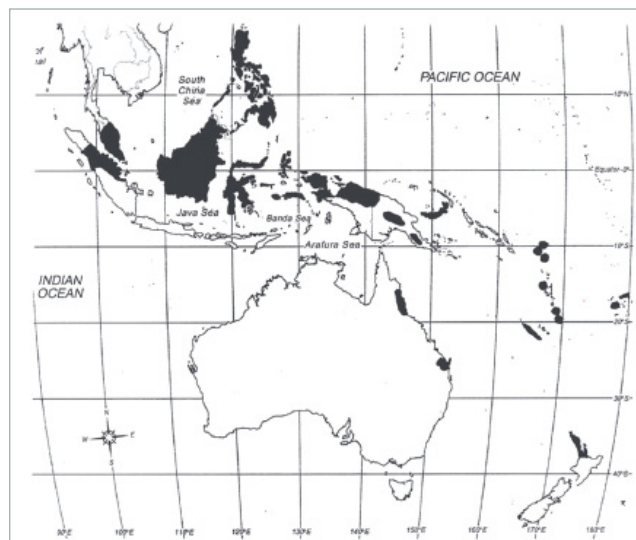
1. Kauri dieback – the biology, genetics and species description: Landcare Research

Although we do know what causes kauri dieback (infection by PTA).....Landcare Research have been undertaking work to fully understand and describe this new microbial species. Dr Stan Bellgard is working on this project and plans to provide a full biological description within the next few months. As PTA is only an interim tag name for the species, a proper name will also be announced from this work to replace "PTA" (it'll still be known as kauri dieback). Dr Bellgard is also working to determine where this species came from through **DNA analysis**.

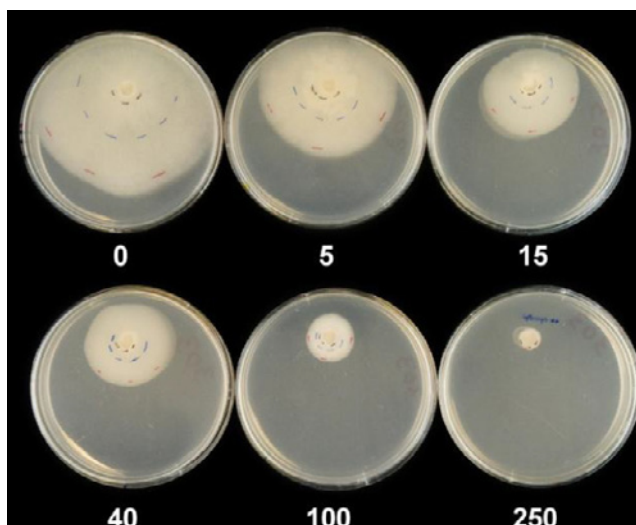
2. Treatment and control tools: Plant & Food Research

Phosphite (*aka* phosphorous acid or phosphonic acid) has been used successfully to manage a number of other phytophthora species in the horticultural industry and in the Australian dieback programme. Dr Ian Horner completed lab work on phosphite and kauri dieback in early 2011 and clearly found that phosphite can "act against and inhibit PTA".

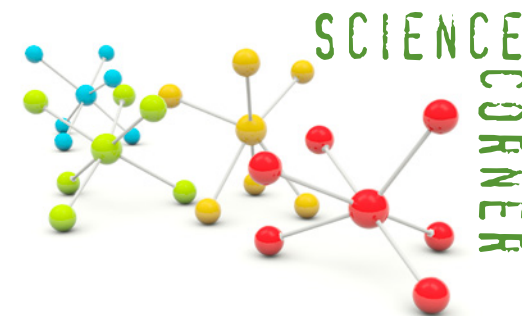
Field trials are now underway in Northland and Auckland forests to monitor the effect on infected kauri and work out dosage rates. This work is midway through a four-year assessment (part of the difficulty of trialling control tools is that kauri are slow growing so results take time to gather).



Black areas show the distribution of the *Agathis* genus of tree species – the current theory is that kauri dieback evolved alongside one of these kauri species and still exists (in harmony with the host kauri) in one of these areas.



Cultures of *Phytophthora taxon Agathis* (PTA) grown for eight days on V8-agar media amended with various concentrations of phosphorous acid. Numbers are phosphorous acid concentrations in mg/L. Black, blue and red marks in plates indicate colony margins after one, four and seven days, respectively.



Phosphite works to boost the plants 'immune system' to help it tolerate the disease. The spores themselves are not eradicated and annual doses are probably required to keep the effects of the disease at bay. Work so far suggests that phosphite may be a promising short-term control tool...a possible method to protect some high risk or iconic trees until a cure is found or a long-term treatment tool is developed.

3. Deactivation of oospores of PTA: Scion

Part of the problem of trying to stop the spread of kauri dieback is that it produces very resistant oospores which contaminate soil and cause new infection of healthy trees. These spores can survive in soil for many years (at least four) and can move between kauri areas



Trunk injection of a kauri tree with phosphite at the Huia trial site, Auckland.

New in science continued

via soil on dirty tyres, footwear and equipment. Dr Margaret Dick from Scion led research to determine if heat, pH, disinfectant, fumigation and/or saltwater could be used to sterilize contaminated soil.

The best results were achieved through heat treatment: temperatures above 55°C were found to kill kauri dieback spores. Heat treatment to sterilize machinery and tools will be investigated further to stop the spread of kauri dieback disease in the field.

The results of this work are still being considered by the management programme.



Pottles of soil (with temperature probes) ready for heat treatment in kiln.

4. The spread of kauri dieback

The Kauri Dieback Management Programme has undertaken a number of research projects to determine what factors have contributed to the historic and current spread of kauri dieback in New Zealand.

» In 2011, Simon Randall, Auckland University completed his Master's thesis on **stream-based water detection of Phytophthora species**. Simon assessed if current stream based detection methods could be used to detect kauri dieback within a catchment. Interestingly, PTA was not detected in any water catchments in the Waitakere Ranges (where areas of high infection were known). This does not mean that kauri dieback doesn't spread via water catchments (we know this species produces water borne spores in the lab) just that we don't have the right tools to detect it yet. Simon did detect a number of other phytophthora species in the streams – which proves the 'spread pathway' (i.e. high likelihood that kauri dieback also spreads via streams) it seems that kauri dieback is just a little trickier to pin down.



Phytophthora zoospore under the microscope.

» Dr Cheryl Krull (University of Auckland) successfully completed her PhD **Feral Pigs in a Temperate Rainforest Ecosystem; Ecological Impacts and Management in 2012**. Part of Cheryl's work looked to determine if **feral pigs were spreading PTA spores** in kauri forests. This study detected 19 species of plant pathogens in the soil on pig trotters and snouts, including a different Phytophthora species (*Phytophthora cinnamomi*). However, no PTA was isolated from the samples. This is thought to be due to the detection methods used at the time (methods have since been improved). Cheryl concluded that it is highly likely that kauri dieback is also spread by feral pigs.



Work is now underway by the Programme to assess what risks livestock/cattle present to spreading the disease across rural kauri stands. We expect results from this study to be finished later in 2013.

» A study is underway by the Kauri Dieback Management Team Planning & Intelligence team (Dr Tony Beauchamp, Will Ngakuru and John

Beachman) investigating the historic pathways and spread of kauri dieback in New Zealand. This study aims to determine if kauri nursery, planting and silviculture that was undertaken from the 1930s until the 1980s contributed to the spread of the disease. To date, several kauri plantations including those on Great Barrier and Northland have been confirmed as being PTA positive. This work involves interviewing scientists, foresters, nurserymen and kaumatua who were involved in this work to gain their knowledge of activities and projects which may have unwittingly also introduced kauri dieback to these planted stands. So far, this work indicates kauri dieback has potentially been in New Zealand since the 1950s.

- » Research associate Monique Wheat is currently researching **where PTA exists in an infected tree** (i.e. how far up the trunk and into the wood). This work will help answer if we can safely harvest and recycle the wood of dead trees and how we can safely dispose of dead and dying tree. Monique is taking wood/bark/tree samples from infected trees at various affected kauri stands and is being helped by a number of dedicated volunteer arborists and tree climbers. Results from this work should be completed by the end of April.

Summary

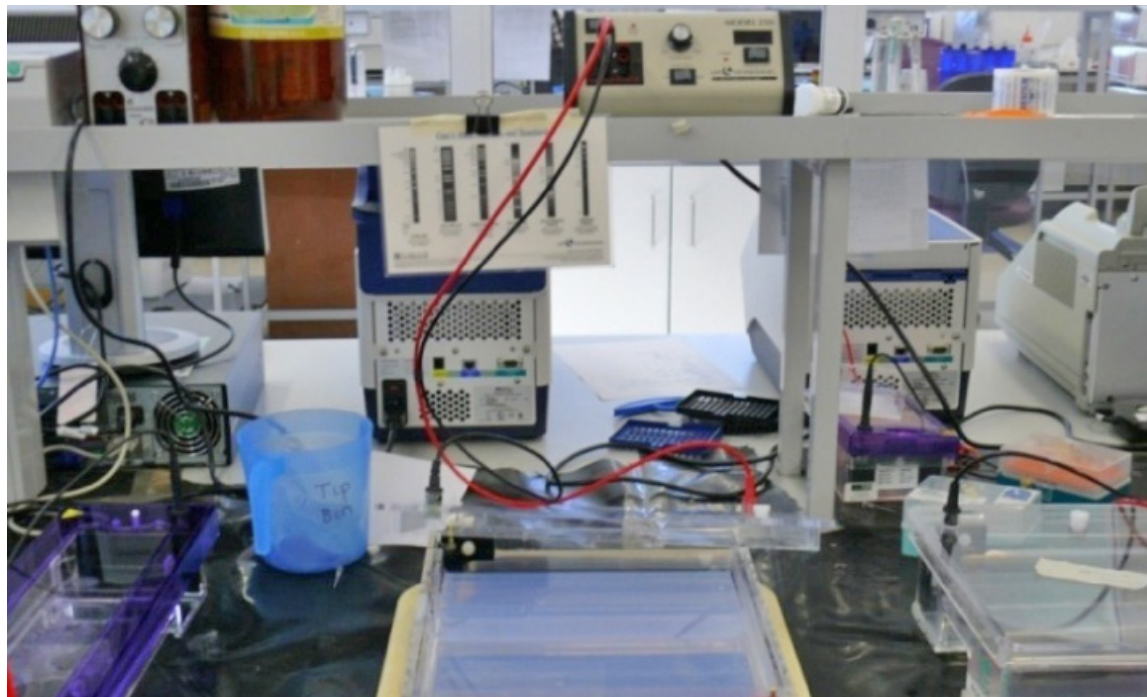
- » Kauri dieback is known to produce water borne spores. The spread of phytophthora species in New Zealand waterways was confirmed. It is very likely kauri dieback spreads via waterways and waterfilms within soil.
- » The spread of phytophthora species by feral pigs in New Zealand bush was confirmed. It is very likely

kauri dieback is spread via feral pigs.

- » Detection methods have been improved for soil analysis.
- » Historical research suggests kauri dieback has been in the country for over 50 years

5. Where is kauri dieback?

A national surveillance programme is underway to determine the distribution of kauri dieback in New Zealand. Knowing which forests are still healthy and which are contaminated is critical to ground management. As kauri dieback spores are microscopic and invisible to the naked eye, our surveillance programme often depends on reliable detection and diagnostic methods to confirm if soil or plant samples are PTA positive. A collaborative partnership between our programme and Landcare Research, Scion Research and Plant & Food Research have successfully developed a standard method to bait PTA out of soil into pure culture and then genetically sequence each isolate to confirm the identity of each cultures as being PTA. Using the genetic sequences of PTA, a direct DNA probe is also under development which may allow for the faster detection of PTA in the field. 🪵



The story so far...

Our treasured kauri are under threat from kauri dieback disease. It has already killed thousands of kauri trees and will spread further unless all forest users take action.

New Zealanders see kauri as playing a huge part of who we are. Its status derives from its mythical origins and present day importance to our biodiversity, eco-tourism economics and our innate sense of what New Zealand is all about.

Kauri contributes to our national identity, spiritual wellbeing, economic prosperity from tourism and our overall biodiversity and interconnected forest ecosystems.

Kauri dieback disease has emerged as a major threat, some would say the most catastrophic biosecurity threat of recent time.

Spores of kauri dieback were first discovered along with sick kauri on Great Barrier Island in the 1970s. Identification methods at the time led to these samples being misclassified. Kauri dieback was formally identified in April 2008 as *Phytophthora* taxon *Agathis* (or PTA).

Phytophthoras are commonly known as “water moulds” and comprise some of the most destructive plant diseases known to man. The Greek word literally means ‘plant destroyer.’

Unfortunately these destructive *Phytophthora*

diseases have been unwittingly introduced to many native forests throughout the world where they are not only killing millions of canopy trees but also whole ecosystems that rely on the trees.

Unfortunately kauri has joined this list and kauri dieback disease has killed trees in the Waitakere Ranges, on private land throughout the Auckland region, in the forest plantations of Omahuta, Glenbervie and Russell in Northland, Department of Conservation reserves at Okura, Albany, Pakiri, Great Barrier Island, Trounson Kauri Park and the Waipoua Forest in Northland, home of our most iconic kauri – Tāne Mahuta.

There are pockets of health and resistance too, however. At this stage, the disease has not been detected in many areas of Northland forest, the Hunua Ranges, Hauraki Gulf Islands (excluding Great Barrier) and bush in the Coromandel Peninsula. It's imperative that we protect these unaffected areas.

Since 2009, the Ministry for Primary Industries, the Department of Conservation, Auckland Council, Northland Regional Council, Waikato Regional Council and the Bay of Plenty Regional Council have joined forces to cover research into the detection and spread of kauri dieback, methods to control it and public awareness campaigns to help stop its spread.

The other programme partner is *tāngata whenua*. Since first learning of kauri dieback, *tāngata whenua* throughout the kauri catchment have been keen to be involved in an issue critical to the health and wellbeing of their taonga, the mighty kauri. One of the ways this has happened is through the establishment of a *Tāngata Whenua Roopū* (TWR) where interested marae, hapū, iwi and Māori-owned land blocks can nominate a representative to sit on the TWR. TWR provides advice from a *tāngata whenua* perspective into all aspects of the long-term management programme and nominates *tāngata whenua* representatives to all lead and workstream groups.

A surveillance programme is helping to assess and monitor locations of kauri dieback disease. Research is underway to improve detection methods, increase our knowledge of how the disease spreads and develop effective control methods. Trials involving the use of phosphite to treat the disease have shown promising lab results and field tests have begun.

Work is also going into improving track construction, drainage and other man-made influences that will help reduce the spread of the disease. There have also been trial closures of tracks in some parks, or re-routing tracks away from kauri.

The programme has focused on limiting the spread

The story so far continued

of the disease and protecting uninfected locations. Information is being shared with landowners, visitors, community groups, journalists, clubs and event managers to help build awareness, understanding and action around kauri dieback.

The key message being driven home is to stop the spread of the disease:

- » Make sure shoes, tyres and equipment are cleaned to remove all visible soil and plant material – before AND after visiting kauri forest.
- » Stay on the track and off kauri roots.

These messages have come from the understanding that spores of kauri dieback are found in the soil around affected kauri. Any movement of infected soil can spread the disease.

Human activity involving soil movement (on footwear, machinery or equipment) is thought to be the greatest cause of spread.

We all can help – tourists, hunters, trappers, trampers, runners, bikers, walkers. We all need to make it happen, rather than hope 'someone else' will do it.

So, to spread the word rather than the disease, you can access more information at the programme's website – www.kauridieback.co.nz.

If you think your trees have symptoms of kauri dieback call **0800 NZ KAURI (695 2874)**. 🌲

The Kauri Dieback Programme thanks the following partners for their support

If you'd like to help spread the word about kauri dieback to your customers, staff and networks then please contact Ian Mitchell on **029 894 0773** or email imitchell@doc.govt.nz.

Coopers Creek

Coopers Creek 'Lone Kauri' brand is an iconic Kiwi wine that has lent its support to the Kauri Dieback Programme. In an innovative messaging alliance, every Lone Kauri bottle helps raise awareness of kauri dieback and what we can all do to stop its spread. They are distributed throughout the Upper North Island and into Asian markets. We feature on their website and Facebook pages and promotional material at tastings, events and point of sale is also helping to spread the word. Cheers Coopers Creek!



Soar Print

As an environmentally sustainable printer, Soar Print is generously putting their money where their mouth is by providing discounted printing services to the Kauri Dieback Programme. We're proud to join their portfolio of community programmes which help good things happen.



Bivouac

Thanks Bivouac for getting the kauri dieback message to all your intrepid outdoorsy customers on your Facebook page. We really appreciate you letting us use your communication channels to raise awareness and encourage kauri-safe behaviours in the forest.



SHARE THE NEWS. Got a story to share on kauri dieback? Spread the word in *KauriKonnnect*.

Contact nick.farland@paradise.net.nz to pass on any news, updates or articles and photos.

If we all contribute we'll make this newsletter even more relevant and interesting!