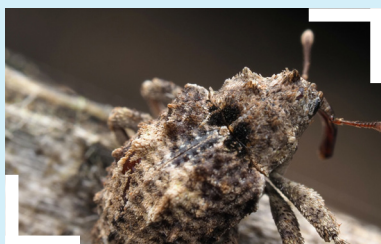


Forest Biosecurity News

Welcome

Forest Biosecurity News aims to provide biosecurity information and updates for people working in plantation forestry, as well for those with an interest in forest health. We also help those operating in forestry to proactively manage and reduce their biosecurity risk. Insights will be provided on forest biosecurity readiness, surveillance, responses, investigations, science and government industry agreements.



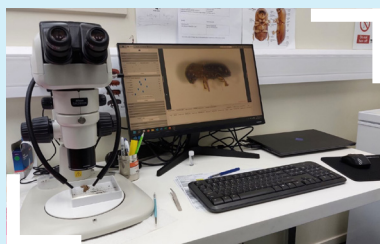
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Bill Dyck - Biosecurity Consultant

Bill Dyck – Biosecurity Consultant to the New Zealand Forest Owners Association (FOA), Forest Growers Levy Trust (FGLT) and the FOA/FFA Forest Biosecurity Committee

Although Bill Dyck has been a science and technology broker for 24 years, he has always had a passion for biosecurity and has provided ongoing biosecurity consultancy for the New Zealand Forest Owners Association and Forest Growers Levy Trust (FGLT).

Bill has worked in forestry since 1977, starting in a pruning gang in Kaingaroa Forest, then joining the Forest Research Institute (FRI), now Scion, and later Carter Holt Harvey (CHH). Bill witnessed the extinction of western white pine by a blister rust when working in the great north woods of British Columbia, learning early on how destructive introduced pests and pathogens could be. It was in Kaingaroa Forest that Bill observed the devastating affect that *Dothistroma* needle blight was having on several pine species that had been planted decades earlier.

In the mid-90s, pine pitch canker was wreaking havoc in pine forests around the world – particularly damaging radiata pine in its natural environment in California. In his role as CHH General Manager Forestry, American investors used to phone Bill and ask if there were Monterey pine (radiata) in their plantations and if so, if pine pitch canker (PPC) was present in New Zealand. Clearly biosecurity threats were of concern to forest investors as well as to the resource and the log trade.

On leaving the corporate world in 1999, Bill decided that boosting the industry's biosecurity capability was a worthwhile cause, which culminated in Bill convincing the FOA chief executive at the time, Rob McLagan, that FOA needed a biosecurity manager. The rest, as they say, is history.

As of today, we have successfully managed to keep the pathogen that causes PPC out of New Zealand along with thousands of other pests and pathogens, but some serious threats are getting closer and it's no time for complacency.



Image: Bill with a bluenose

Brown spot needle blight, caused by *Lecanosticta acicola*, is of particular concern. The pathogen affects more than 50 pine species, is spreading, and appears to have become more virulent in some regions, making it virtually impractical to grow radiata pine and other impacted species.

Nigel Heron - Nursery manager

Nigel Heron – Nursery manager, Timberlands (represents the Forest Nursery Growers Association on the FOA/FFA Forest Biosecurity Committee)

Nigel entered the forest industry in 1984 after finishing sixth form as a Ranger trainee with the New Zealand Forest Service. He held subsequent roles with the Blenheim Borough Council and Carter Holt Harvey before working with Fletcher Challenge Forest which had a strong focus on Forest Health.

Whilst working for Fletcher Challenge, Nigel completed his National Certificate in Forest Health Surveillance and in 2001 became a representative on the Forest Health Committee (FHC), now the Forest Biosecurity Committee (FBC) in 2001. Nigel was a regular attendee of the Forest Health Research Collective (FHRC) meetings for more than a decade during these years.

Nigel continued being involved in forest health and biosecurity activities after being taken on by the Timber Management Company (which became Timberlands Ltd) in 2006. In 2013 he became increasingly involved in nursery management and

from 2014 onwards, he has represented the New Zealand Forest Nursery Growers Association on the FBC.

He was also a member of the *Dothistroma* Control Committee during this time and chairman for many years (2005–2013).

The FHC executed some impressive research on a shoestring budget and was a great forum for like-minded people from plantation and farm forestry, local government, regional authorities, DOC and Government agencies to discuss forest health and biosecurity.

The Forest Biosecurity Research Council (FBRC) was formed in 2004, and ran until 2010, during which time Nigel was a valued member of the committee. The FBRC administered a research fund collected as a per hectare rate from the Forest Health Survey annually. This money was used to leverage larger Biosecurity programmes carried out mainly by Scion and Lincoln University.

Notable committee achievements included the inception of the annual Biosecurity Conference, the restructuring of the Forest Health Surveillance scheme in 2005, the upgrading of the Forest Health Database to an online database in



Image: Nigel with one of his horses at the 2017 Horse of the Year equestrian event, having just received reserve champion

2011, the development of the risk-based biosecurity surveillance we currently have, and working with the Ministry for Primary Industries (MPI) to get our Government Industry Agreement (GIA) off the ground.

In his current role, Nigel is developing a new nursery at Rerewhakaaitu for Timberlands and trying to maintain Biosecurity and keep unwanted existing NZ pests out of the nursery (for as long as we can) is an important aspect.

Nigel says it's been an interesting journey and that he anticipates involvement for a few more years yet.

Outside of work, Nigel's horses and administering a pony club keep him busy. The horse pictured above was bred and raced by Nigel.

Brown spot needle blight - *Lecanosticta acicola*

BY BRENDAN GOULD, DIRECTOR BIOSECURITY AND RISK (FOREST GROWERS LEVY TRUST AND FOREST OWNERS ASSOCIATION)

Brown spot needle blight or *Lecanosticta acicola* is a significant pathogen of pines that is spreading and causing significant disease and mortality in forests globally. It is a major threat to plantation forest species, especially pines, and is a pathogen of significant concern to the *Pinus radiata* plantation forest industry in New Zealand where it is not currently present.

The Forest Biosecurity Committee (FBC) recognised the need to better understand the threat posed by this pathogen and, with funding support from the Forest Growers Levy Trust, it engaged Scion to undertake a detailed literature review to collate the current state of knowledge of this significant biosecurity threat.

This literature review will assist the FBC with the planning and development of risk management, surveillance and response readiness activities undertaken in partnership with Biosecurity New Zealand under the Government Industry Agreement (GIA) for Readiness and Response.

Highlighting both the importance of international scientific engagement and the rapidly changing nature of biosecurity threats, and our state of knowledge of these, Dr Rebecca McDougal, the lead author of the literature review, recently attended the World IUFRO Congress in Stockholm (<https://iufro2024.com/>). She was able to engage with scientists from the United States who are undertaking extensive research into needle diseases impacting pine, including *Lecanosticta acicola* on *Pinus taeda*. In addition to identifying

The report can be found here:

Webpage

<https://www.nzfoa.org.nz/resources/file-libraries-resources/forest-biosecurity>

Direct link to review document

<https://www.nzfoa.org.nz/resources/file-libraries-resources/forest-biosecurity/892-lecanosticta-biosecurity-readiness-literature-review-may-2024/file>



new insights and potential research collaboration opportunities, it became apparent to her that the recent impact this pathogen is having on *Pinus taeda* in the US is significant, much more so than is reflected in the current, published literature.

Beetle trapping for early detection of invasive forestry pests

BY DOMINIC HARTNETT AND TANE GERALD-LORENZ – SPS BIOTA

For the last three years, SPS Biota has run a trapping programme focused on early detection of invasive wood and bark boring beetles.

Trapping has been funded by the FGLT with traps and lures provided by Scion. This programme aims to provide frequent monitoring of high-risk urban areas and has been run in addition to the Forest Health and Forest Biosecurity Surveillance programmes.

Thirty-eight traps were established across Auckland, Tauranga and Christchurch this season. Trap sites were evaluated for their suitability based on risk area, accessibility and proximity to stands of pine trees. The traps consist of a flight trap mounted on a post with two lures attached. The lures contain ethanol and alpha-pinene, which are emitted by stressed trees and attract insect species that can colonise dying wood. Insects in the traps were identified by SPS and any unknown species were sent to Scion for identification. The numbers of wood and boring species found in each trap were recorded.

A total of 5,034 wood and bark boring beetles were identified from the traps, representing 24 species. The majority

of specimens caught were common species associated with *Pinus radiata*, including *Hylurgus ligniperda*, *Hylastes ater* and *Arhopalus ferus*. The number of granulate ambrosia beetle (*Xylosandrus crassiusculus*) found in traps also increased from 16 (2023) to 83 this year. This species was first detected in Auckland in 2019 in the western suburb of Blockhouse Bay and has a wide range of host plants. We have found granulate ambrosia beetle at sites in Mangere, Papatoetoe and Beachlands this season. This is consistent with observations in the United States of increased granulate ambrosia beetle activity targeting stressed trees after flooding events.

SPS Biota has also been working with EcoGene on the development of Deoxyribonucleic Acid (DNA) sequencing techniques to enable a bulk trap sample to be processed and to target species contained within these to be identified by their DNA. This could allow faster processing, reducing the reliance on traditional visual-based identification.

SPS Biota aims to expand the trapping programme to cover more sites in future. Integration of trapping into existing surveillance programmes could complement physical inspection.

SURVEILLANCE AND REPORTING



Image: Beetle trap deployed as part of the Non-Model Allocated Surveillance (NMA) beetle trapping programme (SPS Biota).



Image: Beetle trapping diagnostics workstation (SPS Biota).

Mystery solved!

BY CARL WARDHAUGH AND STEPHANIE SOPOW (SCION) AND BRENT ROGAN (SPS BIOTA)



Figure 1: *Pissodes* sp. 'chip cocoons' in *Pinus* sp. (Forestry and Agricultural Biotechnology Institute, South Africa).

Back in December 2022, we wrote an article to reveal we were getting close to establishing the identity of weevils collected in 2019 from *Pinus radiata* in a Coromandel forest.

The weevils were found as larvae nestled in 'chip cocoons' in the cambial layer, strongly resembling the behaviour of exotic weevils in the genus *Pissodes* – some species of which are known to cause serious damage to pines elsewhere in the world (Figure 1). Adult *Pissodes* are capable of ringbarking and killing saplings, while larvae develop inside shoots causing deformation and stunted growth.

We attempted to rear larvae to adulthood in 2019 to identify the weevils morphologically. This, however, was not successful. Since rearing larvae is a time-consuming task with a relatively high risk of failure, we undertook simultaneous molecular testing to identify the mystery larvae.



Most records of this beetle are from the northern half of the North Island, though there are occasional records as far south as Wellington.



Figure 2: *Crisius binotatus* adult photographed at Mount Taranaki, February 2024. (Commoncopper, iNaturalist).

Although a good quality DNA sequence was obtained, it did not match any known sequences. Therefore, it was concluded that the weevils were most likely an un-sequenced native species.

Identical 'chip cocoons' were found during a biosecurity survey of Kinleith Forest in 2022. Luckily both larvae and adults were present. The adults were identified morphologically as the endemic weevil, *Crisius binotatus* (Figure 2). We assumed the larvae were also the same species but could not confirm this without successful rearing or more molecular testing. At the time of the last article, adult *C. binotatus* were being sequenced. We can now confirm that the adult weevils were a perfect match to the larvae sequenced in 2019.

Although there are almost 50 species in the *Crisius* genus in New Zealand, most species are terrestrial, while *C. binotatus* is somewhat exceptional in that it is predominantly arboreal. The only other *Crisius* species we have collected from pine plantations is *C. ventralis* and these were all in ground-based pitfall traps. We therefore do not expect many, if any, other *Crisius* species to make chip cocoons on dead pines.

Crisius binotatus has been found in association with several native tree species, such as kauri (*Agathis australis*) and mahoe (*Melicactus ramiflorus*) but



***Crisius binotatus* has been found in association with several native tree species, such as kauri (*Agathis australis*) and mahoe (*Melicactus ramiflorus*) but has taken readily to *Pinus radiata* as well and is now common in plantations within its range.**

has taken readily to *Pinus radiata* as well and is now common in plantations within its range.

Most records of this beetle are from the northern half of the North Island, though there are occasional records as far south as Wellington. Perhaps it is expanding its range or being moved by people transporting firewood. A similar range expansion has occurred for the long-nosed kauri weevil (*Mitrasethus baridioides*). This species was originally only reported in kauri forests in the far north but is now found throughout the North Island and has even reached the South Island due to its taste for exotic pines.

Protecting Aotearoa from Aerial invaders – Introducing Scion’s latest research programme

BY TONI WITHERS AND JESS KERR – SCION

Scion’s latest research project, *Protecting Aotearoa from Aerial Invaders in a changing climate*, is just getting started.

Entomologists and atmospheric scientists are collaborating with industry partners, iwi, a regional council and local community initiatives on the five-year Ministry for Business, Innovation and Employment (MBIE) Endeavour-funded research programme. The research aims to strengthen our “biosecurity pūkenga (net)” to develop a warning system to help predict when a weather system might occur that is likely to deliver insects and pathogens to our shores, spread by the wind.

Ultimately, a new warning tool – the Aerobiological Surveillance and Prediction System (ASaP) – will be developed. This could eventually protect our whenua from unwelcome new pest organisms by showing agencies when and where they should look to detect new organisms.

Currently, there is a critical gap in biosecurity defences which allows insects and pathogens to reach New Zealand via the wind and spread until they are detected by our surveillance systems. Spread of these insects and pathogens could worsen with the changing climate as we know a warming planet is greatly increasing jet stream instability, seen in storm frequency and severe turbulence.

The research programme will modernise wind trajectory modelling, study airbridges between land masses such as Australia and New Zealand, and fill knowledge gaps on how organisms survive long-distance migration in extreme atmospheric conditions. The team estimates preventing establishment of just one serious pest could contribute NZ\$0.125 – 1.25 billion through avoided losses in forestry and/or horticulture, maintenance of carbon sequestration and biodiversity conservation.

The learnings from the project will be shared with tamariki in the Taranaki region through a community outreach and science educational project being co-designed with iwi partners.

Background

The New Zealand forestry industry has battled multiple unwelcome insects and pathogens since the 1970s. Wind-borne organisms such as poplar rust fungi (*Melampsora medusae*, *M. larici-populina*) successfully undertake long-range dispersal and are now established here. Both rusts

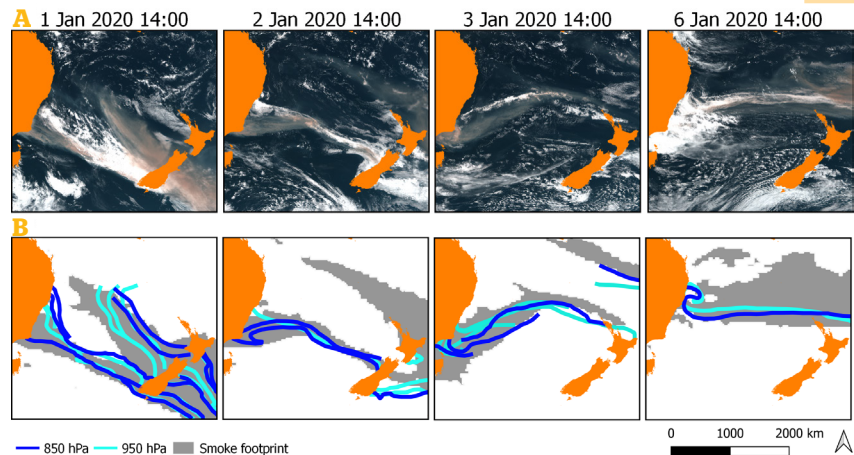


Image: Known airbridges, Lagrangian coherent structures (b) showing the pathways that (a) were formed by bush fire smoke from Australia to New Zealand in January 2020 (<https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/eap.2806>)

were first detected in Australia, then shortly after found in Northland and New Plymouth in March 1973. This resulted in the poplar industry needing to focus resources on breeding more resistant cultivars.

Noticeable and colourful Australian insects, such as butterflies and moths, have regularly been recorded in New Zealand, often clustered on our western coast following north-westerly winds. While no serious forestry defoliating pests have been confirmed as arriving via this pathway, it is quite likely that the polyphagous pest *Helicoverpa armigera* as well as the acacia tree-feeding Northern Wattle Moth *Dasypodia cymatodes* were migrants from Australia.

Five research areas within the programme have been established to address critical knowledge gaps in aerial invader biology and atmospheric science:

- 1) Long-distance transport:** Science has become far more sophisticated since the 1970s. Two modern approaches will be combined to develop a powerful new ‘hybrid’ tool for atmospheric transport modelling. The last 30 years of meteorological data will be examined to estimate how many airbridges connecting New Zealand and other land masses could have brought organisms here by wind. This will inform our ability to locate the wind patterns in the future.
- 2) Vertical coupling:** Atmospheric scientists will quantify how pathogens and insects move between the upper atmosphere and Earth’s surface (uplift, and deposition) to help determine the likelihood of unwanted organisms being moved by connecting airbridges between landmasses.

- 3) Atmospheric survival data:** During transit, pests and pathogens are exposed to atmospheric extremes. Novel flight experiments will attempt to assess the survival of flying migrant moths when hit by rain. We will learn how the high Ultraviolet (UV) levels experienced at high altitudes affect the survival of rust pathogens.
- 4) Preconditioning, establishment, and surveillance:** A case study will be conducted on the west coast of New Zealand in the Taranaki region. Surveillance of insects and pathogens will allow us to establish a baseline dataset for what is currently present in the region and what is reaching our shores via the wind. Live interceptions of organisms will be invaluable to inform the airbridge modelling.
- 5) ASaP integration, validation, and prediction.** In the final research area (RA), the team will integrate knowledge gained during the other RAs into the model to provide surveillance of aerial pathways. In the future we hope to be able to send automated alerts to warn stakeholders/communities/kaitiaki at times of high arrival risk.

The research wouldn’t be possible without our various partners: University of Canterbury, NIWA, Virginia Tech, Taranaki Mouna Project, Taranaki Regional Council, Maanaki Whenua, AgResearch and Plant and Food Research. Alongside MBIE, funding is also contributed by Te Uru Kahika – Regional and Unitary Councils Aotearoa and The Foundation for Arable Research.

A short History of the Forest Biosecurity Committee

BY BILL DYCK, BIOSECURITY CONSULTANT

New Zealand plantation forestry has a long history of forest health and biosecurity vigilance, particularly since the damage inflicted on the sector's plantations by the Sirex wood wasp and later Dothistroma (dothi) needle blight in the mid 20th century.

These incursions changed the way New Zealand managed its plantation forests and triggered considerable research effort in biological control (for Sirex) and chemical control (for dothi). Since then, the industry, led by the FOA and FRI (now Scion) in partnership with the then Ministry of Agriculture and Forestry (MAF), now MPI, the Farm Forestry Association, and more recently with support from the FGLT, has continuously improved the biosecurity system.

The plantation forest industry has seven committees focused on specific topics, biosecurity being one of these. Historically it was the Forest Health Committee (FHC) that provided leadership in matters related to forest health and biosecurity issues, but the name of this committee changed to the Forest Biosecurity Committee (FBC). This was in response to a greater focus on biosecurity rather than just forest health, the Government Industry Agreement (GIA) initiative, and a need to rationalise the number of committees that had evolved over time.

The establishment of FBC was proposed in a Forest Biosecurity Strategy in late 2010 and FBC was formally established in early 2011. FBC replaced FHC but also absorbed the functions of the Forest Biosecurity Research Collaborative (FBRC) and the Forest Health Research Collective (FHRC).

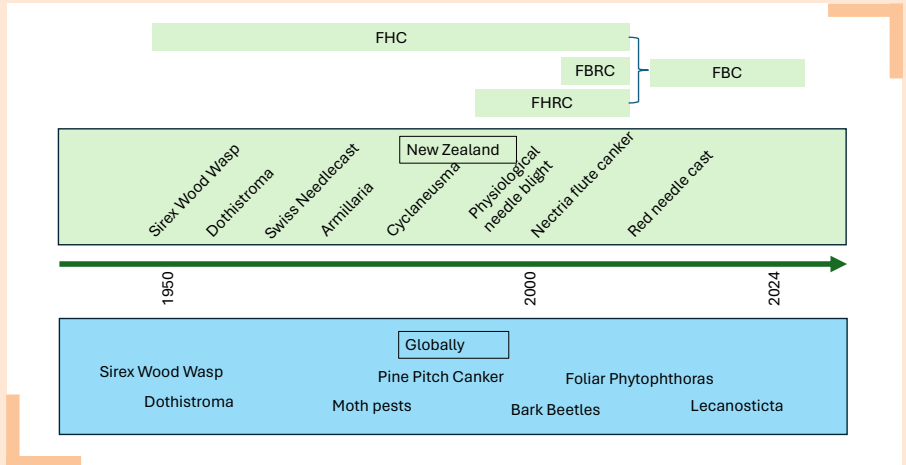


Image: Forest Biosecurity Committee timeline (FHC – Forest Health Committee; FBRC = Forest Biosecurity Research Collaborative; FHRC = Forest Health Research Collective; FBC = Forest Biosecurity Committee).

FBRC had formed in 2004 to leverage government science funding from an industry area-based levy that brought in \$300K annually. FHRC had previously been established in approximately 1995 to direct a small amount of funding sourced from various budgets including research organisations. There was considerable duplication across committees.

The formation of FBC consolidated biosecurity efforts. The ensuing Terms of Reference set out the role, direction and strategic priorities for the Committee:

"To provide industry leadership in all matters of forest biosecurity (forest health and forest products trade) including forest health surveillance, input to government policy, research, knowledge transfer and the Government Industry Agreement (GIA) process with regard to biosecurity readiness and incursion response."

The initial membership included representatives from industry, MAF (MPI), Scion, NZ Bioprotection, the Radiata Pine Breeding Company, Future Forests Research (now FGR), Farm Forestry Association, Forest Nursery Growers Association, the Dothistroma Control Committee (DCC) and Stakeholders in Methyl Bromide Reduction (STIMBR).

Today FBC leads biosecurity efforts on behalf of the plantation forest industry and works closely with other committees including Forest Research, Environment, the DCC, and Phytos (formerly STIMBR). It also represents industry on the GIA and works closely with MPI, and more recently DOC, to continually enhance protection to the plantation resource as well as the international trade in NZ forest products.

Plant Pass

BY BRENDAN GOULD, DIRECTOR BIOSECURITY AND RISK (FOREST GROWERS LEVY TRUST AND FOREST OWNERS ASSOCIATION)

Protect your forests, protect your industry's potential, become a Plant Pass Partner.

Plant Pass is an established voluntary biosecurity certification scheme for nurseries. It is a simple way for you as a forest owner to get greater certainty that the potential biosecurity risks to your forests through the nursery pathway are being well managed.

The forest growing sector has long recognised the significant risk posed by physical (i.e. fire), environmental (i.e.

adverse weather events) and biological (i.e. biosecurity) threats to its forests and is one of the few, and in many cases only, primary industry sectors that invests significantly in actively mitigating these risks.

The movement of plants is well known to be one of the highest risk pathways for the spread and introduction of biosecurity risks both internationally and domestically. Fortunately, New Zealand has a very effective biosecurity system with many layers that work synergistically to minimise

the likelihood that pests and pathogens will arrive and establish here. Unfortunately, this system doesn't, and can't, eliminate all biosecurity risks.

While the industry, through the Forest Growers Levy Trust, invests significantly in improving biosecurity protection for the sector, there are many operational vulnerabilities that are best managed by forest owners. A key one of these is ensuring that the seedlings you introduce



CONTINUES OVERLEAF

into your forests are grown under biosecurity best practice to minimise the risk that they introduce plant and soil pathogens that could impact on your forest's productivity, value and market access.

Plant Pass is a voluntary nursery biosecurity certification scheme aimed at helping plant nurseries identify and manage biosecurity risks, such as pine pitch canker (*Fusarium circinatum*) or brown spot needle blight (*Lecanosticta acicola*) that could pose a threat to nurseries, plant buyers and forest owners. Plant Pass establishes nurseries as trusted suppliers that can grow and move plants

around the country safely. This can provide you as a forest owner with greater assurance that the biosecurity risks to your forests are being minimised.

Plant Pass Partners include plant buyers and those who influence and specify plant purchases such as local councils, central government agencies, sector advocates and forest owners and managers. By becoming a Plant Pass Partner, you can support registered and certified nurseries and use your influence as a plant buyer to demonstrate your expectations to improve biosecurity risk management in your supply chain.

Plant Pass is a partnership between several plant-based sectors, including forestry, and Biosecurity New Zealand, under the Government Industry Agreement (GIA) for Biosecurity Readiness and Response.

Find out more about Plant Pass and Plant Pass Partners here:

<https://www.plantpass.org.nz/>

<https://www.plantpass.org.nz/plantpasspartners>



FOREST BIOSECURITY UPDATES



Image: 2024 Forest Biosecurity Conference participants

The importance of Biosecurity surveillance

BY BRENDAN GOULD, DIRECTOR BIOSECURITY AND RISK (FOREST GROWERS LEVY TRUST AND FOREST OWNERS ASSOCIATION)

Early detection of new pests or pathogens is critical to enabling timely and cost-effective responses and increasing the likelihood of success (i.e. eradicating or containment).

In the recent June edition of Surveillance Quarterly, a Biosecurity New Zealand publication, I was invited to write an editorial which covered the importance of biosecurity surveillance and to share a forestry perspective on this important component of our biosecurity system. I used this as an opportunity to highlight the comprehensive surveillance approach that the sector undertakes with support from the Forest Growers Levy Trust, Biosecurity New Zealand, SPS Biota, Scion and forest industry participants. Read the editorial here (<https://www.sciquest.org.nz/search/results-2/downloadfulltext/173535>). A link to the full June Surveillance Quarterly edition is also included in the 'Other News/ Resources' section below.

Forest biosecurity surveillance update

The Forest Biosecurity Surveillance Programme is continuing to progress well. Last year saw the implementation of an updated model that now takes account of some new risk pathways and factors in post-establishment spread. This now extends where we look to better account for some of the previous shortfalls of the original model. This change resulted in a shift in survey effort last year to account for the change in risk focus and the costs of establishing new survey transects.

We also made a concerted effort to better balance surveillance effort toward priority one (*Pinus radiata*) and priority two (*Pseudotsuga menziesii*, *Tsuga spp* and other *Pinus* species), to ensure that our limited resources were being better targeted to these important commercial species rather than other plantation species more commonly encountered in urban and high-risk areas.

The Harvested Wood Material Levy Vote 2024

The current market downturn that the forestry sector is facing combined with high inflation has had a significant impact on the funds available through the harvested wood material levy which funds a range of industry-good activities, including biosecurity surveillance.

Fortunately, biosecurity remains high on the industry's radar from a risk perspective.

The levy is up for renewal this year. Eligible forest growers will have the opportunity to cast their vote on whether they would like to see the levy renewed, and at what rate, during this year's Forest Growers Levy vote, 1 – 31 October 2024.

It is important that you have your say about the future of the levy and the investment priorities. You can find out more about the referendum process here – <https://fglt.org.nz/the-levy/levy-vote-2024>.

CONTINUES OVERLEAF

Forest biosecurity surveillance update - continued

There have been no new pests or pathogens detected so far this year.

You will have seen the earlier surveillance article on **'Beetle trapping for early detection of invasive forestry pests'**. This programme was implemented as part of the Non-Model Allocated (NMA) surveillance programme and was aimed at enhancing our surveillance approach by applying different techniques for different target species and situations. This was an excellent initiative that filled a significant gap in New Zealand's and the forestry sector's surveillance net, albeit at a small level, and is an approach that we would like to expand upon. Unfortunately, this year the programme fell victim to the reduced levy budget available for 2024. This programme is an ideal candidate to restart and build upon if the levy increases as part of the upcoming levy referendum (October 2024).



Image: Paco Tovar (National Forest Biosecurity Manager, Australian Forest Products Association), Dr Helen Nahrung (Senior Research Fellow, Forest Research Institute, University of the Sunshine Coast) and Brendan Gould (Director of Biosecurity and Risk FGLT/FOA) at the 2024 Forest Biosecurity Conference.

There have been numerous high-profile examples of the destruction bark beetles and ambrosia beetles are causing North America, Europe, and other regions, where they have impacted significantly on production and trade and on environmental and social values and assets. Early detection is paramount if we are to have any chance at mounting an effective response should a new destructive bark beetle reach our shores. Currently we have a glaring gap in our surveillance system which means we rely on opportunistic detections of such beetles rather than the targeted routine surveillance, significantly decreasing the likelihood of the early detections needed.

Historically, beetle surveillance and diagnostics techniques have been resource intensive and prohibitively expensive. However, the technologies have improved exponentially in recent years making these more affordable and efficient. A lot of science and research has and is being done to look at cost and logistically efficient ways of applying mass beetle surveillance and diagnostics at high-risk sites.



Image: Conference attendees participating in a desktop response familiarisation exercise

We now need to look at how to apply these surveillance approaches on a routine and integrated basis. But, to do this requires investment. Can we afford to wait in the hope that the Government will invest in protecting our natural assets from bark and ambrosia beetles, or should we take steps to protect ourselves?

General surveillance

Industry and public involvement in general surveillance significantly increases the chance of detecting newly arrived pests or pathogens. It is important that you, as the people most likely to encounter something new or unusual in your forests, know what's unusual, and how to report such observations and to whom.

See 'Report the unusual' and 'Forestry Pest fact sheets' on the last page for more information.

2024 Forest Biosecurity Conference "Threats, innovations and control strategies"

In late February the industry, alongside Biosecurity New Zealand and Scion, held its 19th Annual Forest Biosecurity Conference. We had more than 70 attendees over the two days, with representation from industry (large and small forest owners and managers, Māori forestry interests), researchers, other primary industry sectors, government (national and regional) as well as representatives from Australia.

Three keynote addresses from Dr Elizabeth Heeg (FOA/FGLT CEO), Stuart Anderson (Deputy Director General, Biosecurity New Zealand – BNZ), and Dr Helen Nahrung (Senior Research Fellow, Forest Research

Institute, University of the Sunshine Coast) set the scene for what was an engaging and successful conference.

The conference commenced following biosecurity system updates by BNZ staff as part of the BNZ/NZFOA Joint Biosecurity Forum. The conference included industry updates from New Zealand and Australia, science and research presentations spanning threats to our forests, innovations and control tools, panel discussions to delve into the detail of these topics, and a biosecurity response familiarisation exercise hosted by Biosecurity New Zealand response specialists.

The conference highlighted the importance of working collectively and collaboratively to achieve better biosecurity outcomes for the plantation forestry sector, and that industry participants needed to take a more proactive approach to playing their part in managing the risk to their forests. Plant Pass was highlighted as an initiative that forest owners should start to proactively implement as part of their supply chain risk management and to improve biosecurity in the plantation forestry industry generally.

Government cost savings

We are currently riding behind one of the most significant public service cuts in the last two decades both in terms of budget and people, so we are concerned about the implications this might have for the national and wider biosecurity and surveillance systems. While I am confident that best endeavours will be made by the Government and officials to minimise the impacts and implications of this new fiscal environment, the reality is that there will likely be some impacts and we will need to remain vigilant and advocate against any changes, should there be any that negatively impact on biosecurity in the forestry sector.



Image: The forestry support team (Ben Doherty, Te Uru Rākau – New Zealand Forest Service).

Forestry Support team



BY BEN DOHERTY (TE URU RĀKAU – NEW ZEALAND FOREST SERVICE REPRESENTATIVE ON FBC)

Want to plant some trees but don't know what to plant? Have some trees that you want to enter in the New Zealand Emissions Trading Scheme (NZ ETS) but not sure how to find more information? Are areas of your farm erosion-prone and you want advice on erosion control? These questions and more can be answered by Te Uru Rākau – New Zealand Forest Service.

Our forestry support team can help you make decisions about planting trees. The team will be able to help you navigate information, investigate opportunities and access advice.

We advise landowners and the forest sector on the benefits of forests and trees in supporting sustainable land use.

By doing so, Te Uru Rākau – New Zealand Forest Service helps the sector make stronger contributions to New Zealand's economic and decarbonisation objectives.

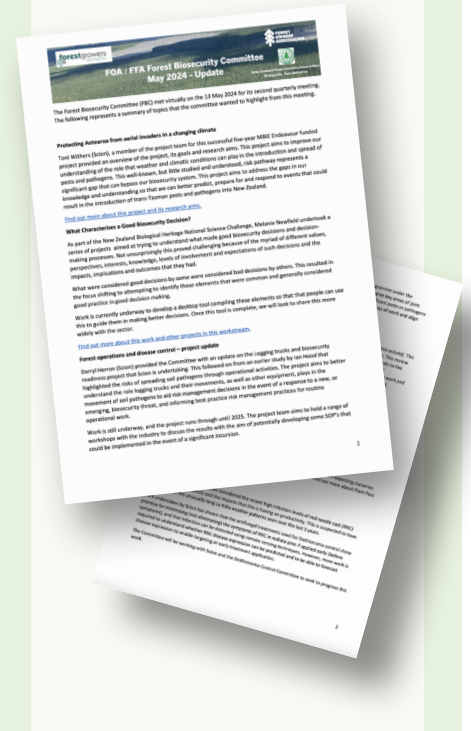
The team can provide information about opportunities for grant funding, work on the native afforestation project and offer support and information on biosecurity issues to support forest health. We also keep our stakeholders updated on innovative new projects in the forestry sector.

For further information about the free service and how to talk with a regional adviser in your area:

Visit the Forest Service Advice [webpage](https://www.forests.govt.nz) or contact us at forests-service-advice@mpi.govt.nz

Forest Biosecurity Committee Update

Summary of key meeting topics from the May 2024 FBC meeting
https://www.nzfoa.org.nz/images/2024_Q2_Forest_Biosecurity_Committee_Update.pdf



Upcoming Forest Health or Biosecurity Conferences

IUFRO: PHYTOPHTHORA IN FORESTS AND NATURAL ECOSYSTEMS – 8 – 13 SEPTEMBER, PAIHIA, NEW ZEALAND



Forests and natural ecosystems provide critical ecosystem, cultural and economic services worldwide. Foundational plants within these systems are increasingly challenged by emergent invasive biotic threats due to climatic and anthropogenic driven change and increasing movement of people and goods across biogeographic zones.

Phytophthora pathogens are one key group of invasive plant pathogens that are having a disproportionate impact on forests and native ecosystems internationally, with devastating consequences for the forest ecology, culture and economies.

With climate change, Aotearoa/ New Zealand is seeing a range of impacts from well-established and emergent

Phytophthora pathogens. Since the 2000s the recognition of *Phytophthora agathidicida* as the primary causal agent of kauri dieback has seen focus shift back to the role these introduced pathogens are having within our natural ecosystems. In parallel, the introduction and establishment of *Phytophthora pluvialis* has seen red needle cast establish as a widespread needle disease of radiata pine, the predominant commercial forestry species in New Zealand.

This conference will provide the ideal forum for updating knowledge, evidence, solutions and failures between scientific, academic and practical approaches. It is also an opportunity to enhance the dialogue of long experienced expertise

with the new generations of scientists, which will provide creative and new solutions in the near future.

This conference is sponsored by the Forest Growers Levy Trust.



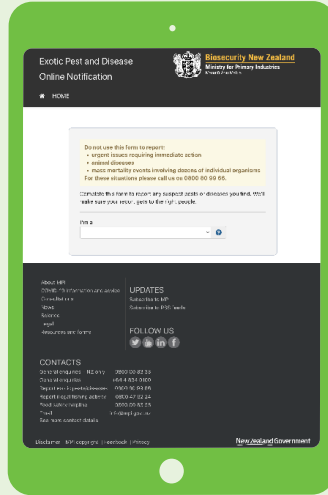
You can find out more about this conference or register on the conference website:
<https://scienceevents.eventsair.com/iufro-2024/>

Report the unusual

Everyone plays a critical role in our biosecurity system because while you are out working in, or visiting, your forest, you are more likely to encounter or notice something unusual.

Our best chance to contain or eradicate new pests, pathogens or weeds is when they first arrive in New Zealand or in a new area. If you see unusual plant, insect or disease symptoms please report them. At the very least you will find out what they are. Your notification could be the one that enables a successful response that protects New Zealand and our forests from a biosecurity threat.

There are many ways to report potential pests and pathogens:



SPS Biota

For any plantation forestry pest or health issues SPS Biota have a wealth of knowledge and experience in forest health and biosecurity issues and can be a great first point of contact to help identify or rule out any issues.

Contact them during business hours:

- By phone – 0800 246 821
- By email – bugs@spsbiota.co.nz



Scion

Scion's diagnostics team supports the early detection of new pests and pathogens on woody plants in New Zealand. They accept samples from all tree species, including those from production forestry, native forests and amenity plantings, as well as from woody shrubs. While not funded to receive public reports they can advise, guide and assist with [sampling](#) and diagnostics.

Refer to Scion's sampling instructions, and if you have any questions, please email fhdiagnostics@scionresearch.com or call **07 343 5513**



Biosecurity New Zealand

If you think you have seen something that you suspect is a new or a known pest or pathogen contact Biosecurity New Zealand 24/7:

- By phone – 0800 80 99 66
- Via their online webform – <http://report.mpi.govt.nz/pest/>



Find-A-Pest

Is a free mobile app for reporting potential pests or getting anything unusual identified. Anything serious will be directed to Biosecurity New Zealand by those screening your report, everything else will be directed to iNaturalist for a quick ID. You can report any time, and the app can still capture the relevant information even if there is no reception. It then sends this on when it connects. Find-A-Pest is a great tool if you are just wanting to find out what's crawling around in your garden or trees. We encourage you to download this and start reporting the unusual.

For more information and to download the app visit <https://www.findapest.nz>



Forestry Pest fact sheets



Giant pine scale



Nun moth, or black arches

Find out more about pests of concern to the forestry sector and what to look for

- [Black-stain root disease](#)
- [Brown spot needle blight](#)
- [Common pine shoot beetle](#)
- [Daño foliar del pino](#)
- [Eastern five-spined bark beetle](#)
- [European Pine Shoot Moth](#)
- [Giant pine scale](#)
- [Nun moth, or black arches](#)
- [Pine pitch canker](#)
- [Pine processionary moth](#)
- [Pine wood nematode](#)
- [Port-Orford-cedar root disease](#)
- [Rapid 'Ōhi'a death](#)
- [Red turpentine beetle](#)
- [Spongy Moth](#)
- [Sudden oak death](#)
- [Totara blight](#)
- [Western gall rust](#)

Links

Biosecurity New Zealand – Surveillance Quarterly – June 2024 edition
<https://www.sciquest.org.nz/search/results-2/downloadfulltext/173544>