Biosecurity and Biodiversity Working Party

Wednesday 6 August 2025 at 1:00 pm

AGENDA

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Biosecurity and Biodiversity Working Party Agenda

Meeting to be held in the Council Chamber
36 Water Street, Whangārei
on Wednesday 6 August 2025, commencing at 1:00 pm

Please note: working parties and working groups carry NO formal decision-making delegations from council. The purpose of the working party/group is to carry out preparatory work and discussions prior to taking matters to the full council for formal consideration and decision-making. Working party/group meetings are open to the public to attend (unless there are specific grounds under LGOIMA for the public to be excluded).

MEMBERSHIP OF THE BIOSECURITY AND BIODIVERSITY WORKING PARTY

Chairperson, Councillor Jack Craw
Councillor John Blackwell
TTMAC Representative, Niki Conrad
NRC Chair Geoff Crawford
TTMAC Representative, Michelle Elboz
TTMAC Representative, Nyze Manuel
Te Ruarangi Representative, Mira Norris
Councillor Marty Robinson

KARAKIA

RĪMITI (ITEM) **Page**

Karakia

Ka tū i te waonui a Tāne	Stand strong in the realm of Tāne
Ka tupu ake rā	Where the tree develops, endures,
Te rākau roa	grows and where prominence reveals
Te rākau nui	itself
Te rākau rangatira	Tis the Kauri
Ko te Kauri	Tis the Tōtara
Ko te Tōtara	Tis the Manuka
Ko te Manuka	Tis the Kahikātea
Ko te Kahikātea	Tis the Pūriri
Ko te Pūriri	Reach out far, bind together
Ka toro atu rā ngā peka kia hono ki tētahi	Bring forth unity
Haramai te toki	Tis done!
Haumie hui e	
TAIKI E!	

TITLE:	**Record of Actions – 21 May 2025**
From:	Sandra Harris, Personal Assistant - Pou Tiakai Taiao
Authorised by Group Manager/s:	Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity, on 28 July 2025

Whakarāpopototanga / Executive summary

The purpose of this report is to present the Record of Actions of the last meeting (attached) held on 21 May 2025 for review by the meeting.

Attachments/Ngā tapirihanga

Attachment 1: Biosecurity and Biodiversity Working Party Record of Actions - 21 May 2025 ⇩

Biosecurity and Biodiversity Working Party
21 May 2025

Biosecurity and Biodiversity Working Party Record of Actions

Meeting held in the Council Chamber
36 Water Street, Whangārei
on Wednesday 21 May 2025, commencing at 1:00 pm

Tuhinga/Present:

Chairperson, Councillor Jack Craw
NRC Chair Geoff Crawford
Councillor John Blackwell
Councillor Marty Robinson
TTMAC Representative, Michelle Elboz
Te Ruarangi Representative, Mira Norris (online)
TTMAC Representative, Niki Conrad (online)

I Tae Mai/In Attendance:

Pou Tiaki Pūtaiao - GM – Biosecurity
Pou Tiaki Taiao | GM Environmental Services (online)
Biosecurity Marine Manager | Kaeden
Biosecurity Partnerships Manager (online)
Tāhūhū Rangapū - Chief Executive Officer
Biosecurity Pest Plants
Biosecurity Predator Free Manager
Secretariat Personal Assistant Pou Tiaki Taiao
Personal Assistant Pou Tiaki Pūtaiao
Cr Macdonald (2.07pm)
Biosecurity Specialist
Kaitātari Kaupapa Wai Māori
Policy Specialist - Freshwater
Policy Planning Manager (online)

The meeting commenced at 1pm with karakia by TTMAC Representative, Michelle Elboz.

Ngā Mahi Whakapai/Housekeeping (Item 1.0)

Ngā Whakapahā/Apologies (Item 2.0)

TTMAC Representative, Nyze Manuel; Biosecurity Manager - Incursions and Response

Record of Actions – 12 March 2025 (Item 4.1)

Presented by: Sandra Harris, Secretariat | Personal Assistant Pou Tiaki Taiao

Agreed action points:

- Record of actions taken as read and agreed.

Biosecurity and Biodiversity Working Party
21 May 2025

Receipt of Action Sheet (Item 4.2)

Presented by: Don McKenzie, Pou Tiaki Pūtaiao - GM – Biosecurity

Discussion and Agreed action points:

- Myrtle Rust
  - Request for Dr Beccy Ganley to present at next meeting
- Caulerpa
  - Presentation as per agenda item
- Wetland mapping
  - An update on data progress with Māori Technical Advisory Group.
- Sea spurge –
  - Jo provided a comprehensive update on the ongoing sea spurge management efforts in Northland. A total of 22 small infestation sites have been identified across six key areas, with control operations actively underway. These efforts are being carried out in close collaboration with local iwi and hapū, ensuring community involvement and cultural alignment.
  - The recent impact of ex-Cyclone Tam has heightened concerns about the potential deposition of new sea spurge seeds from Australia, increasing the urgency of surveillance and control measures. In response, an additional $175,000 has been allocated for extensive survey work, which is being conducted in partnership with community volunteers and local iwi/hapū.
  - To support the long-term sustainability of the programme, the Northland Regional Council (NRC) has secured a funding agreement with the Ministry for Primary Industries (MPI), providing up to $80,000 annually. Despite this progress, several challenges remain, particularly around health and safety compliance and the need for adequate training for local groups involved in the work.
  - The discussion also highlighted the importance of improving regional coordination and establishing clear communication protocols. Concerns were raised about the current reliance on the Department of Conservation (DOC), with calls for a more structured and strategic approach to managing the programme moving forward.
  - Niki Conrad confirmed surveillance efforts by Iwi and hapu in the Far North
- Update Madagascar ragwort
  - Noted: Staff will present a future paper to the working party outlining the progress and effectiveness of collaboration with industry stakeholders in managing Madagascar Ragwort. A recent meeting with DairyNZ and Beef + Lamb New Zealand at Pārengarenga Farms highlighted the urgency of the issue, with the weed causing significant economic impacts across affected sectors.
  - Noted: Development of an action plan is currently awaiting confirmation of industry co funding Concerns were raised about the weed's spread into forestry areas and the apparent lack of robust biosecurity controls to contain it.
  - Discussion: explored the potential for national regulation and the launch of awareness campaigns to support control efforts. There was unanimous

agreement that Madagascar Ragwort poses a threat of national significance and requires immediate, coordinated attention.

- Discussion: Additionally, the need for a national media campaign was emphasized to elevate public understanding and engagement. The group also highlighted the importance of drawing on international knowledge and experiences to inform local strategies, particularly in terms of public education and awareness around invasive plant species.

Secretariat note: request for Item order change 4.4 Asparagopsis taxiformis status to precede 4.3 Caulerpa Update. Working Party in favour.

Caulerpa Update (Item 4.3)

Presented by: Derek Richards, Biosecurity Specialist

Discussion and Agreed action points:

- Derek Richards provided an update on ongoing marine biosecurity efforts, with a focus on surveillance and control activities in the Bay of Islands and surrounding regions. These efforts are being carried out in collaboration with the Department of Conservation (DOC), NIWA, and local community groups, highlighting a strong multi-agency approach.
- Noted: Innovative technologies are being trialled to enhance eradication efforts, including the use of submersible dredges and treatments involving ultraviolet light and chlorine. These tools aim to improve the effectiveness and efficiency of marine pest control.
- Noted: A significant funding boost of $6.3 million has been secured from the Ministry for Primary Industries (MPI) to support the development and deployment of these eradication tools. Public awareness remains a key component of the programme, with a strong emphasis on vessel hygiene to prevent the spread of marine pests.
- Discussion: The group agreed to support staff recommendations for the development and implementation of a local eradication plan, marking a proactive step toward long-term marine biosecurity in the region.

Direction to continue as per report and agreed actions

1. That the working party note the information contained in this report and its attachments.
2. That the working party support staff in their requests to Biosecurity New Zealand to stand up a project to have an eradication plan and surveillance in place for Northland

Invasive Asparagopsis taxiformis status (Item 4.4)

Presented by: Kaeden Leonard, Biosecurity Manager – Marine

Discussion and Agreed action points:

- *Discussion: Asparagopsis taxiformis*, a non-native marine species, has been identified in Whangaroa Harbour, prompting concern due to its potential ecological impact. In response, staff have recommended advocating to the Ministry for Primary Industries

(MPI) for the species to be formally listed as an Unwanted Organism under the Biosecurity Act.

- Noted: A local kaitiaki group, led by Mira Norris, is actively undertaking a survey and developing a management plan to assess and address the presence of the species. There was agreement to proceed with drafting and sending a formal letter to MPI requesting Unwanted Organism status for *A. taxiformis*.
- Discussed: To strengthen the case and ensure a coordinated regional response, it was also suggested that Northland engage with Auckland and Waikato councils to seek their support for the initiative.

Direction to continue as per report and agreed actions

1. That the report 'Invasive Asparagopsis taxiformis status' by Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity be received.
2. That the CE write to MPI seeking a decision to list *A taxiformis* as an Unwanted Organism under the Biosecurity Act.

Regional Pest Management Plan Update (Item 4.5)

Presented by: April Nordstrom, Kaitātari Kaupapa Wai Māori; Leon Keefer, Policy Specialist - Freshwater

Discussion and Agreed action points:

A summary of public consultation feedback was presented, highlighting several key themes and community perspectives:

- Strong support was expressed for a site-led management approach, reflecting a preference for locally tailored solutions.
- Concerns were raised about unmanaged weed nurseries and the proliferation of invasive species along roadside vegetation, with calls for more proactive control.
- The need for enhanced advisory services for wasps was identified.
- The pig control needs to be included as a part of integrated site-led management programs.
- Mixed views emerged regarding the banning of certain plants, including guava and loquat, indicating the need for further discussion and clarity.
- Discussion on parrots included the potential for exemptions for export breeders, suggesting a need for targeted engagement with affected stakeholders.
- Concerns about wild dogs and cattle were noted, with a clear preference for reliance on existing regulatory measures with staff able to give advice to District Councils and communities on management of these animals.

Next Steps

- Staff will refine the species list and associated rules based on the feedback received.
- Further engagement will be undertaken with parrot breeders and relevant industry stakeholders to address specific concerns.

- Staff will create a draft rule to the Road and Rail section, to provide for NRC to enforce provisions of the Biosecurity Act on road and rail controlling authorities where management plan has not been complied with, and where the required work has not been done, to do the work and recover costs as is provided in the Act.

Direction to continue as per report and agreed actions

1. That the Biosecurity and Biodiversity Working Party receive this report.

2. That the working party provide feedback and guidance to staff on candidate pest species as highlighted from the consultation phase.

Whakamutunga (Conclusion)

The meeting concluded at 4.29pm karakia closed by TTMAC Representative, Michelle Elboz.

TITLE:	**Receipt of Action Sheet**
From:	Sandra Harris, Personal Assistant - Pou Tiakai Taiao
Authorised by Group Manager/s:	Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity, on 28 July 2025

Whakarāpopototanga / Executive summary

The purpose of this report is to enable the meeting to receive the current action sheet.

Nga mahi tutohutia / Recommendation

That the action sheet be received.

Attachments/Ngā tapirihanga

Attachment 1: Receipt of Action Sheet ⇩

Biosecurity and Biodiversity Working Party – Schedule of Actions

Meeting date	Item	BABWP action	Responsible staff	Status	Notes
1 December 2023	Myrtle Rust	Dr Beccy Ganley's presentation deferred till 2025	GM	Pending	Unfortunately, Dr Ganley has a clash of events and is unable to make the 6 August meeting. A date for this presentation will be confirmed for a future working party meeting.
Caulerpa	Marine Biosecurity Update item 4.6	An update on progress with Ngāti Pāoa engagement for business case for research, control and elimination of Caulerpa	Kaeden Leonard	Pending	Business case has been completed, and this is expected to be made public later in March. This action can be closed
Wetland mapping	From the previous action table	An update on data progress with MTAG	Justin Murfitt	Pending	MTAG has been asked for feedback on indicative wetland / mapping tool from a tangata whenua perspective and have not identified any major concerns. The validation / quality control of the indicative maps is progressing – as part of this process a GIS viewer is being developed to provide access for NRC staff (internal only). A date for public release of the updated wetland maps on the NRC website's GIS platform has yet to be confirmed.
14 August 2024	Sea spurge	A further update to a future working party be provided	Jo Barr	Pending	Staff will update on planned events and recent media can be viewed at https://www.nrc.govt.nz/news/2025/july/sea-spurge-found-at-kapowairua-spirits-bay/

12 March 2025	Madagascar Ragwort Update	Staff to report back to the working party with a future paper detailing the progress and effectiveness of collaborations with industry stakeholders	Jo Barr		A draft agreement between industry and council staff to fund the business case is being progressed. Dairy NZ, Pāmu farms, Beef and Lamb NZ and council have agreed to contribute to development of the business case.
12 March 2025	Dune Lakes Update	Staff to report back to the working party with a future paper detailing the progress and effectiveness of communication initiatives.	Lisa Forester/Jacki Byrd	Pending	A summary of activities is given below. 1. **Lakes Ecological Surveys** Fifteen lakes ecological surveys were done in 2025 . The lake report cards will be up on the Northland Regional Council website by the end of July. Highlights included: an improvement in submerged vegetation at Taharoa, which had a vegetation collapse after Cyclone Gabrielle; torewai (freshwater mussels) recorded for the first time in Morehurehu; a *Trithuria inconspicua* survey was conducted at Lakes Ngatu and Rotokawau and healthy populations of this Threatened – Nationally Critical plant was found at both lakes. The low light was a loss of vegetation in Lake Waiparera, most likely due to the impact of invasive weeds. 2. **Pine tree felling at Rototuna and Rotokawau** Pines were felled at Rototuna in June by Nga Manga Atawhai (Te Rorora) with support from Te Uri O Hau Environs, Waikaretu Marae, the Department of Conservation and Kaipara Moana Remediation. Te Uri O Hau Environs are running planting days on 23 and 24 July to plant natives supplied by Kaipara Moana Remediation. Plans are in place to get pines around Rotokawau felled and harvested this financial year. 3. **Hornwort control** Hornwort was controlled using a drone at Roto Waikanae, Tutaki, Mt Camel and Karaka in March. Staff are applying to the EPA for whole lake treatments, to eradicate the last 1% of hornwort that keeps persisting in Lakes Tutaki and Mt Camel North. 4. **Lagarosiphon control** This weed was controlled in Lake Ngatu in September 2020 and we have surveyed for lagarosiphon every year since and found none. The final

					survey will be undertaken in September this year. If no lagarosiphon is seen, we can declare the weed eradicated from the lake.
21 May 2025	Regional Pest Management Plan Update (4.5)	Staff will refine the species list and associated rules based on the feedback received Staff will create a draft rule to the Road and Rail section, to provide for NRC to enforce provisions of the Biosecurity Act on road and rail controlling authorities where management plan has not been complied with, and where the required work has not been done, to do the work and recover costs as is provided in the Act.	April Nordstrom/Leon Keefer April Nordstrom/Leon Keefer	In development	Drafting of the Regional Pest Management Plan has progressed, focusing on Cost-Benefit Analysis of species that will likely be challenged by impacted persons/businesses. Rule development has progressed for exclusion animal species, including parrots and gold clam. Weed Management Plan rules are being developed alongside an interactive GIS map that will enable more transparency for the public where agencies and councils are responsible for weed management on roads and rails. Refer Agenda Paper for more information.
21 May 2025	Invasive Asparagopsis taxiformis status	Advocate to the Ministry for Primary Industries (MPI) for the formal listing of *Asparagopsis taxiformis* as an Unwanted Organism under the Biosecurity Act, in response to its identification in Whangaroa Harbour and the associated ecological concerns. Engage with Auckland and Waikato councils to seek their support for the initiative to list as an Unwanted Organism under the Biosecurity Act, aiming to strengthen the case and ensure a	Kaeden Leonard Kaeden Leonard		A request to the Chief technical Officer has been made.

		coordinated response.			

Please note: All items completed will be removed current Schedule of Actions.

TITLE: Update on RPMS

From:	Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity; Leon Keefer, Policy Specialist - Freshwater and April Nordstrom, Kaitātari Kaupapa Wai Māori
Authorised by Group Manager/s:	Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity, on 28 July 2025

Whakarāpopototanga / Executive summary

The species list for pest animals, marine, plant pathogens, and freshwater is now confirmed and the list for pest plants is still being workshopped with the intention of retaining a similar number of species to the current plan.

Staff have been focusing time on developing cost-benefit analyses for species that are expected to result in appeals and or challenges. Examples include gold clam, *Corbicula spp*. and exotic parrots. Work has also involved developing rules for exclusion species including those above, developing rules and a companion GIS tool to better implement weed management in road and rail corridors. Staff have also been identifying information gaps and developing plans to address these through further research and, or consultation.

Lastly a revised timeline has been developed showing that formal public consultation is expected to begin in April 2026 with adoption of a revised RPMP later in August of next year.

A presentation will accompany this report.

Ngā mahi tūtohutia / Recommended actions

1. That staff bring a further progress update to a future Biodiversity and Biosecurity Working Party meeting.

Background/Tuhinga

Work has been ongoing to confirm a candidate list of pest species for the draft RPMP and the species list for pest animals, marine, plant pathogens, and freshwater is now confirmed.

The list for pest plants still being workshopped and the intention is to retain a similar number of weeds to be managed and the candidate list of banned from sale plants will be shortened to give effect to community feedback on certain ornamental and low-risk species.

Pest plant Management Plan rules are being developed alongside new GIS maps to clearly identify the pest plants subject to the rules, the priority roads, and the parties responsible. The Intention to have these maps public facing to improve collaboration/communication between RCAs and weed action groups and an example will be shown at the Working Party Meeting.

Exclusion rules are being developed for all relevant species and staff are investigating Bay of Plenty regional council rules as examples where these apply across programmes (e.g. these would also apply to machinery / fill that risks transporting gold clam or pest weeds, enabling NRC to manage incursions).

Regarding exotic parrots, staff intend to keep the candidate species identified thus far as exclusion, thereby banning the sale and breeding, but with the ability to consider

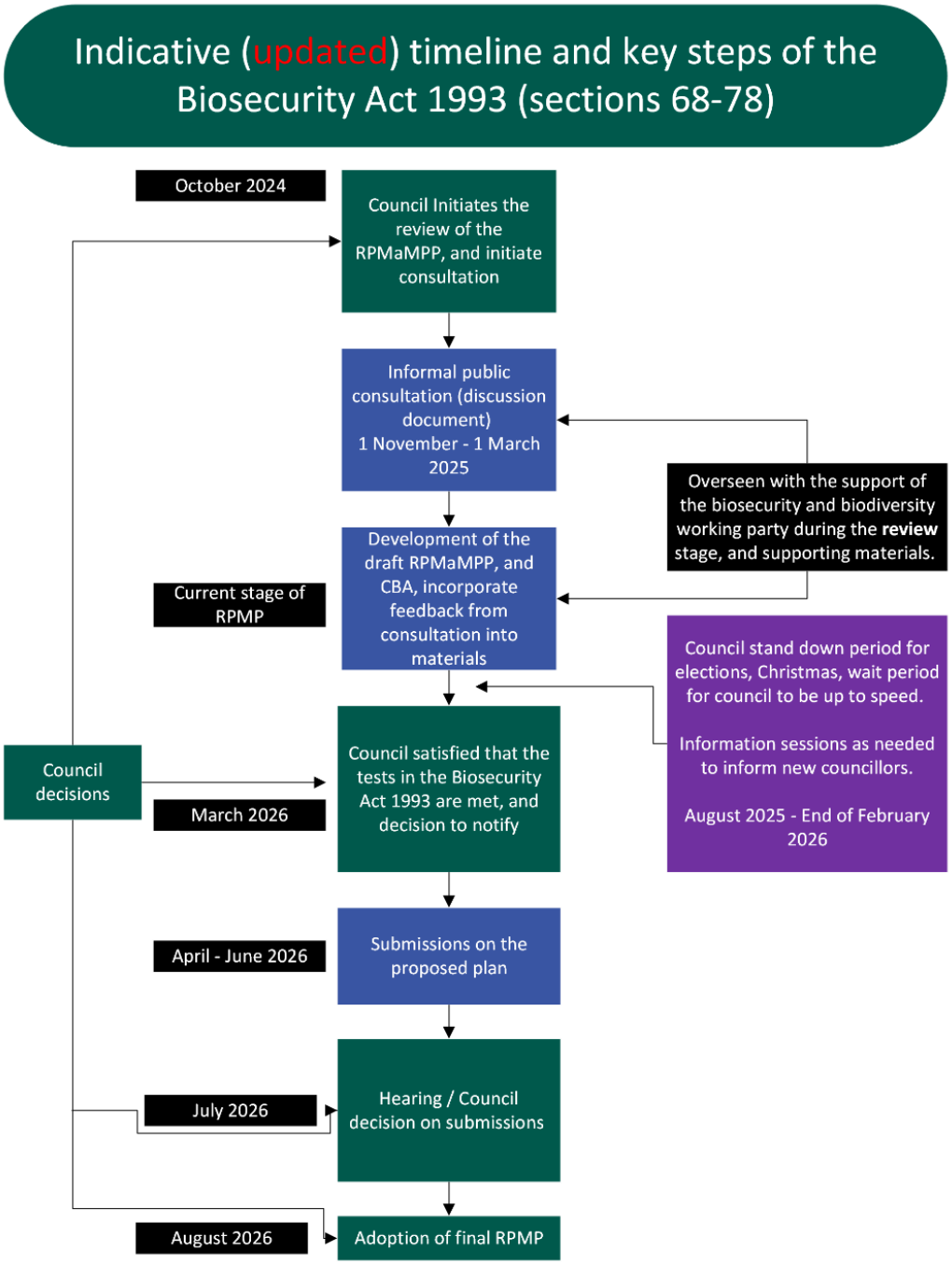
exemptions for those in the export business and this needs to be discussed with affected parties.

The gold clam cost-benefit analysis has also been a focus to support an anticipated CAN application for Kai Iwi lakes once the RPMP is operative. Targeted consultation with Kai Iwi Lakes parties and others has been identified as a priority.

The extended timeframe (figure below) reflects the ongoing work undertaken to address feedback received during the consultation process, the emerging risks associated with new and existing pest incursions (*e.g. Corbicula spp*., *Senecio madagascarensis, Caulerpa spp.*), the dynamic relationships with key stakeholders, and the upcoming stand-down and subsequent ramp-up periods associated with local government elections.

The original timeline described a call for submissions in May- June 2025, with hearings in July 2025 and an operative plan in August 2025 , however as a result of the feedback received during early consultation this has been shifted out 12 months and staff will be aiming for a proposed plan (i.e. call for submissions) in early 2026.

The revised timeline gives staff the time to prepare for a new Council, and a briefing at end of February 2026. Staff will seek a decision to publish the proposed plan at end of March 2026, and call for submissions between April and June 2026. Staff also anticipate that there will be a need to meet with key stakeholders including Kai Iwi Lakes businesses, Parrot Society, etc during this time to try and avoid future litigation and appeals. Staff can then finalise responses to submissions and any mediation in June with the aim of hearings in July. Amendments to the plan would then be made and the final plan submitted to Council for adoption in August 2026.



Ngā tapirihanga / Attachments

Nil

TITLE:	**Kerikeri Urban Pest Control**
From:	Dai Morgan, Biosecurity Manager - Partnerships and Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity
Authorised by Group Manager/s:	Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity, on 28 July 2025

Whakarāpopototanga / Executive summary

In 2019, the NRC launched Tiakina Whangārei, a community-led urban biosecurity programme aimed at connecting people with their environment and enhancing Whangārei's native biodiversity. Building on Tiakina Whangārei's success, a similar programme is proposed for Kerikeri, Northland's second largest urban centre. The proposal can be entirely funded from within the existing Biosecurity budget and this report seeks support from the Biodiversity and Biosecurity Working Party for the proposed Kerikeri project.

The risks of operational failure in Kerikeri are low due to high number of Landcare groups which are expected to grow and what staff have learnt from Whangārei. Should a future reduction in budget arise staff propose that rather than halt support for the Kerikeri urban project which is filling a strategic gap that savings across the suite of CPCA and High Value area programmes be considered.

Ngā mahi tūtohutia / Recommended actions

- That the Biodiversity and Biosecurity Working Party note the contents of the Kerikeri Urban Pest Control report.
- The Biodiversity and Biosecurity Working Party supports the establishment of an urban biosecurity project for Kerikeri to be funded using existing Biosecurity budget and staff resources.

Background/Tuhinga

Urban areas are often considered of low conservation value however they can offer unique opportunities for biodiversity restoration. Most New Zealanders live within an urban centre, meaning that these areas are important because they are where many people have most of their ecological experiences. In addition, urban areas consist of a mosaic of different habitat types, many of which can support viable populations of native species. The main limiting factors which threaten native species in these habitats are predation from introduced predators and/or competition from pest plants. It is well documented that controlling these threats will protect populations of native species. Additionally, the high population density in urban centres presents a valuable resource for community-led conservation initiatives, which, with proper support, can drive positive biodiversity outcomes.

In 2019, the Northland Regional Council began a community-led urban biosecurity programme in Whangārei that aimed to connect people with their environment through conservation, while supporting existing mahi to protect and enhance Whangārei's native biodiversity.

This programme, called Tiakina Whangārei, has three core workstreams:

1. Boost community cohesion, ecological knowledge, and social wellbeing
2. Foster kaitiakitanga (environmental guardianship)

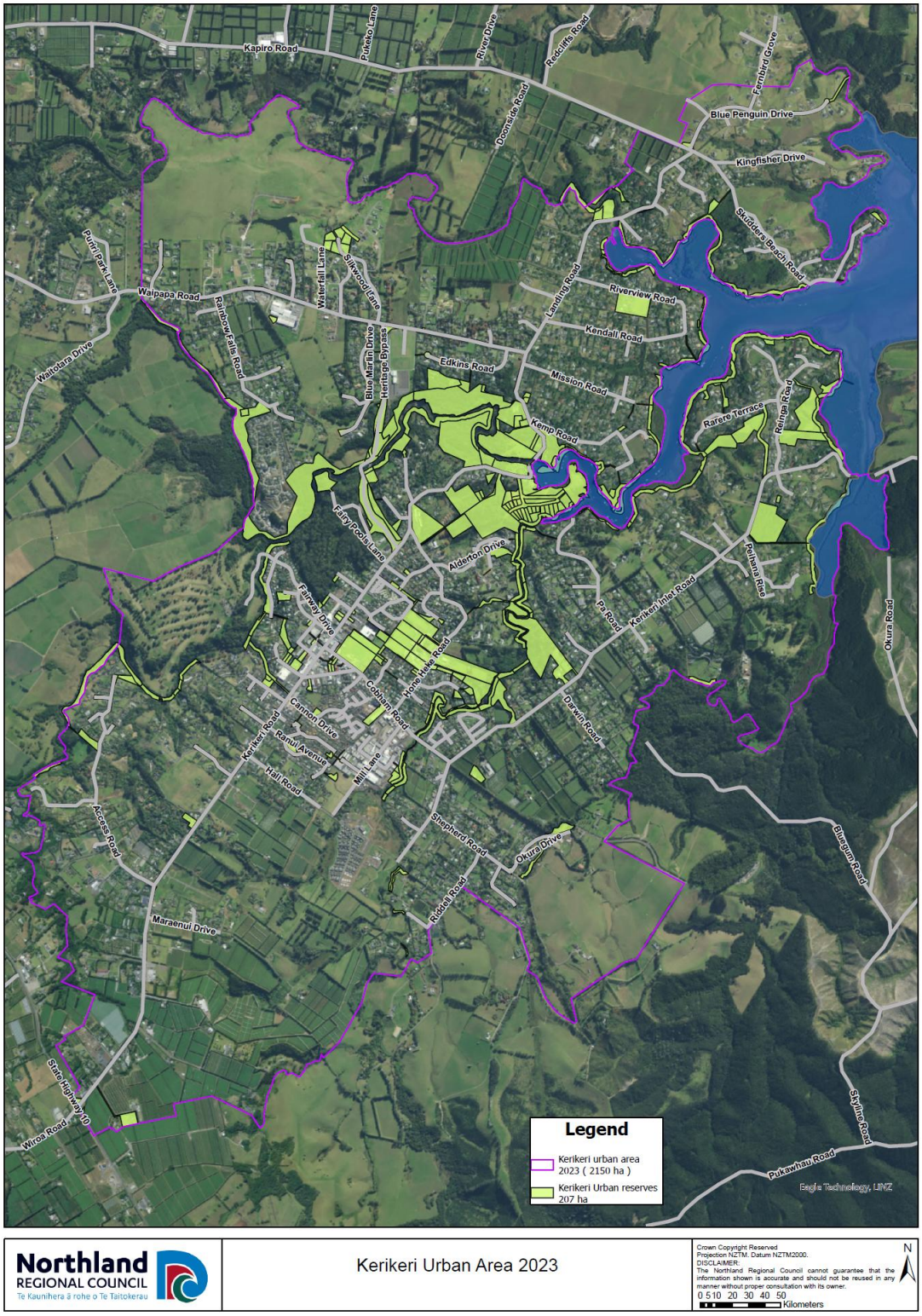
3. Protect and enhance Whangārei's native biodiversity

Tiakina Whangārei is a very successful urban restoration project and staff wish to build on the learnings by establishing a similar programme in Kerikeri.

Kerikeri is an excellent candidate for our next urban biosecurity programme because:

- The urban zone is currently within a wider High Value Area of the mid north but doesn't have any systematic pest management underway.
- Kerikeri is Northland's second largest urban centre by population after Whangārei, and there are a high proportion of people that can be engaged on a volunteer basis in the kaupapa.
- There are several established Landcare groups working in the Kerikeri area, demonstrating that there is existing enthusiasm for conservation action and with additional support, these groups will continue to grow and thrive.

- A high proportion (*c.* 10% or 207ha) of the Kerikeri urban area (2,150ha) has land classification of reserve (see map). These reserves, in addition to the other existing green space areas, offer suitable habitats for native species to reside in if threats are managed (see Figure 1).



An aerial map showing the official Kerikeri urban boundary (source: Stats NZ) and locations of reserves (note that there are many other significant areas of green space within the area).

- A considerable amount of community-led biosecurity work, supported through the Mid North High Value Area project) is currently being done in areas adjacent to Kerikeri. The proposed project would complement this existing mahi.
- Ngāti Rēhia and the Far North District Council have been consulted on the proposed project, and both are supportive of it.

Figure 1: Native forest fragment inside urban Kerikeri. Note the large amount of the invasive weed, wild ginger.

Kerikeri sits within the Mid North High Value Area project area; however, very little of that project's resources have been allocated to promoting or supporting urban community-led biosecurity in Kerikeri, primarily due to the large amount of time coordinators of that project need to support groups operating across the *c.* 70,000ha Mid North management area.

In terms of pre-planning a considerable amount of engagement with hapū and iwi has been completed so far, and the project is largely ready to launch. The Mid North High Value Area project will also be used to resource operational expenses, meaning that there will not be any additional budget required to fund ongoing work.

A suitable coordinator for the proposed project has been identified from within the Biosecurity Partnerships team who, through creating several new systems that have increased efficiency, is able to incorporate this new role and still meet the existing requirements of their position. Furthermore, instead of creating a new position to coordinate this project, we propose that a secondment for the 2025-26 financial year be established. Accordingly, this provides flexibility to start the project as soon as possible. If the project is successful, a more permanent role using existing budget could be investigated going forward as part of Annual or Long- term planning.

It is anticipated that the operational risks associated with this proposed project are low, given that we will apply learnings from Tiakina Whangārei, staff know what to do and there is a strong volunteer supporters' group. However, managing public expectations has been identified as a potential risk, particularly if future funding becomes limited. If funding reductions are required in the future the staff proposal would be to reduce funding across the suite of community-led CPCA or HVA programs and evenly distribute any reduction in funding rather than leave a strategic gap by halting urban led pest control.

Ngā tapirihanga / Attachments

Nil

TITLE:	**Kauri Protection Report**
From:	Steven Harwood, Kauri Protection Manager and Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity
Authorised by Group Manager/s:	Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity, on 28 July 2025

Whakarāpopototanga / Executive summary

A review of kauri protection activities over the last three years was undertaken by the consulting firm Boffa Miskell and their report describes what has been achieved to date and will be used by staff to guide future planning.

The review found that there has been significant delivery of action on the ground to protect kauri but there is also much to do into the future. Across the reporting period of 2022-2025, Northland Regional Council (NRC) has made infrastructure improvements including over 2,300 metres of upgraded walking tracks and installed 39 hygiene stations, reducing soil movement and improving public facilities aimed at reducing the risk of soil transfer. By working with a local consultant staff have also advanced surveillance and detection capabilities through aerial imaging and AI-assisted analysis, enabling early identification of infected trees and mapping of kauri populations. In addition, over 337 soil samples have been collected resulting in 33 management plans for PA-positive or high-risk sites.

Reducing the risk of soil transfer by introduced pests was also a focus of effort and needs to continue. Pest control efforts targeted feral pigs, goats, and deer, mitigating soil disturbance and disease transmission vectors. Community engagement was also cornerstone of the programme, with dozens of events delivered, including immersive virtual reality experiences and school workshops. Working in partnership with iwi and hapū has been ongoing and this has helped to build local capability.

Key performance indicators (KPIs) include soil sampling and follow-ups, hygiene station installation, PA distribution records, incident response times, and public engagement. These have consistently achieved in the 2023/24 and 2024/25 financial years, with only the incident response times being ‘met in part’ across all 3 years. In the 2022/23 financial year, the soil sampling KPIs were not achieved, and the soil sampling follow-ups were achieved in part, showing that improvements have been seen in achieving these goals in recent years.

Looking ahead to 2025–2030, it has been recommended that a regional plan is drafted, one which sets out shared priorities, agreed budgets, and clearly defined roles and responsibilities across iwi/hapū, agencies, and community partners. This plan will be critical to aligning efforts, securing future funding, and ensuring that kauri protection activities are coordinated and effective across Te Tai Tokerau.

Alongside this, the programme future aims includes expanding surveillance using AI and hydrology-based risk mapping, support research into phosphite treatments and rapid diagnostics, and enhance education through a dedicated communications and engagement plan. Improved data management systems and inclusive infrastructure upgrades are also planned. Integrating climate resilience and mātauranga Māori into kauri dieback strategies will also be essential to ensuring long-term forest health.

The review found that NRC's multi-faceted approach - combining science, community action, and iwi/hapū led initiatives - provides a strong foundation for protecting Northland's iconic kauri forests into the future. This work needs support from central government, and it will be important to understand what plans MPI intend progressing that are aimed at supporting regional initiatives beyond June 2026.

Government funding for the programme is not guaranteed beyond 2026, which is of serious concern, and it will be important to collaborate with iwi/hapū, and other kauri protection entities to assess other funding options.

It is recommended that a letter be sent to the Minister outlining the concerns held about the lack of certainty around future funding and requesting that the protection of kauri be a priority for upcoming government funding rounds. Furthermore, that staff seek the co-signatures of Auckland council , Bay of Plenty and Waikato regional councils for this letter.

Ngā mahi tūtohutia / Recommended actions

1. That the Biodiversity and Biosecurity Working Party support a letter being sent to the Minister for Primary Industries seeking a meeting and outlining concern over the lack of future funding for the Kauri National Plan.
2. That the Biodiversity and Biosecurity Working Party receive a further update on kauri protection activities at a future working party meeting.

Background/Tuhinga

Not applicable

Ngā tapirihanga / Attachments

Attachment 1: Kauri Protection Review

Boffa Miskell

Kauri Protection Review

For period July 2022 – June 2025
Prepared for Northland Regional Council

14 July 2025

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Executive Summary

This review outlines the details of Northland Regional Council's (NRC) activities within the Kauri Protection Programme for the reporting period of July 2022 to June 2025. This programme was established to protect kauri forests from the effects of kauri dieback disease, caused by the pathogen *Phytophthora agathidicida* (PA). The report evaluates surveillance, management, mitigation, community engagement, and other initiatives, and provides recommendations for future action.

Across the reporting period, NRC has advanced surveillance and detection capabilities through aerial imaging and AI-assisted analysis, enabling early identification of infected trees and mapping of kauri populations. Over 337 soil samples were collected, resulting in 33 management plans for PA-positive or high-risk sites. Infrastructure improvements included over 2,300 metres of upgraded walking tracks and 39 hygiene stations, reducing soil movement and improving public compliance.

Pest control efforts targeted feral pigs, goats, and deer, mitigating soil disturbance and disease transmission vectors. Community engagement was a cornerstone of the programme, with over dozens of events delivered, including immersive virtual reality experiences and school workshops. Partnerships with iwi and hapū strengthened culturally grounded conservation and built local capability.

Key performance indicators (KPIs) include soil sampling and follow-ups, hygiene station installation, PA distribution records, incident response times, and public engagement. These have consistently achieved in the 2023/24 and 2024/25 financial years, with only the incident response times being 'met in part' across all 3 years. In the 2022/23 financial year, the soil sampling KPIs were not achieved, and the soil sampling follow-ups were achieved in part, showing that improvements have been seen in achieving these goals in recent years.

Looking ahead to 2025–2030, will be the development of a comprehensive regional plan, a collaboratively designed framework that sets out shared priorities, agreed budgets, and clearly defined roles and responsibilities across iwi/hapū, agencies, and community partners. This plan will be critical to aligning efforts, securing future funding, and ensuring that kauri protection activities are coordinated and effective across Te Tai Tokerau.

Alongside this, NRC aims to expand surveillance using AI and hydrology-based risk mapping, support research into phosphite treatments and rapid diagnostics, and enhance education through a dedicated communications and engagement plan. Improved data management systems and inclusive infrastructure upgrades are also planned. Integrating climate resilience and mātauranga Māori into kauri dieback strategies will be essential to ensuring long-term forest health.

NRC's multi-faceted approach - combining science, community action, and iwi/hapū led initiatives - provides a strong foundation for protecting Northland's iconic kauri forests into the future. Central government funding

for the programme is not guaranteed beyond 2026. It will be important to collaborate with iwi/hapū, and other kauri protection entities to assess other funding options and to understand the scale and type of activities that are achievable across Te Tai Tokerau into the future.

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1.0 Introduction

1.1 Kauri – Significance and History

Kauri (*Agathis australis*) are a coniferous tree species endemic to Te Tai Tokerau (Northland) and parts of the northern North Island of Aotearoa New Zealand. They are among the largest and longest-living tree species globally, with individuals reaching heights over 50 metres, girths up to 15 metres, and ages exceeding 2,500 years. Tāne Mahuta, located in Waipoua Forest, is the largest known living kauri tree.

Kauri function as keystone species within their ecosystems, significantly influencing soil chemistry and forest structure. Their presence supports a range of endemic and specialist species, including kauri grass (*Astelia trinervia*) and the long-tailed bat (*Chalinolobus tuberculatus*). Approximately 17 plant species are restricted to kauri-dominated ecosystems.

Culturally, kauri are recognised as taonga (treasures) by Māori. In Te Tai Tokerau, iwi/hapū maintain strong ancestral and spiritual connections to kauri forests. Māori historically used kauri for waka (canoes), whare (dwellings), and gum for lighting and medicinal purposes. Today, they are actively involved in and leading conservation initiatives, including kauri dieback mitigation, forest surveillance, and restoration projects in key forest areas such as Waipoua, Warawara, and Te Paki.

Before European settlement, kauri forests covered over one million hectares in the upper North Island, much of it in Northland. Logging and land clearance during the 19th and early 20th centuries reduced this to less than 1% of the original old-growth forest. Approximately 60,000 hectares of secondary kauri forest remain, much of which is now protected. Current conservation efforts focus on preventing the spread of kauri dieback disease, and include collaboration between government agencies, scientists, and iwi/hapū.

1.2 Kauri Dieback Disease

In recent years, the protection of kauri has become a critical focus because of the emerging effects of kauri dieback disease, primarily caused by the pathogen *Phytophthora agathidicida* (PA). This disease impairs the trees' ability to transport water and nutrients, leading to severe decline and eventual death. *Phytophthora* infects trees through their roots, and spreads primarily through the movement of contaminated soil and water, as well as by root-to-root contact between trees.

PA has two types of propagule (refers to any part of the organism that can spread and initiate a new infection): the oospore and the zoospore. The oospore is formed within infected tissue and released into the soil where it can remain latent for an indefinite period. Soil movement is a key mode of dispersal of this type of propagule. The oospore is resistant to disinfectants, such as Sterigene. Ultimately, the oospore germinates and produces zoospores which can ‘swim’

through micropores in saturated soil, and in this way actively disperse themselves. In this form, the pathogen finds and infects tree roots. The zoospores can be destroyed with disinfectant. Sources and locations of kauri dieback pathogens are:

- Infected tree roots of kauri;
- Parts of the forest floor and waterbodies where oospores have been dispersed;
- Moist, porous soil layers where motile zoospores have emerged and dispersed. Mineral sub-soil layers below the root zones of vegetation are at lower risk of contamination relative to organic soil layers, as inorganic parts of the substrate are not porous and do not contain living plant material.

Currently, there is no cure or treatment for kauri trees infected with PA. The above ground symptoms of kauri dieback infection include yellowing of the leaves, thinning of the canopy and lesions on the lower stem which often encircle the base and produce copious amounts of resin (kauri gum).

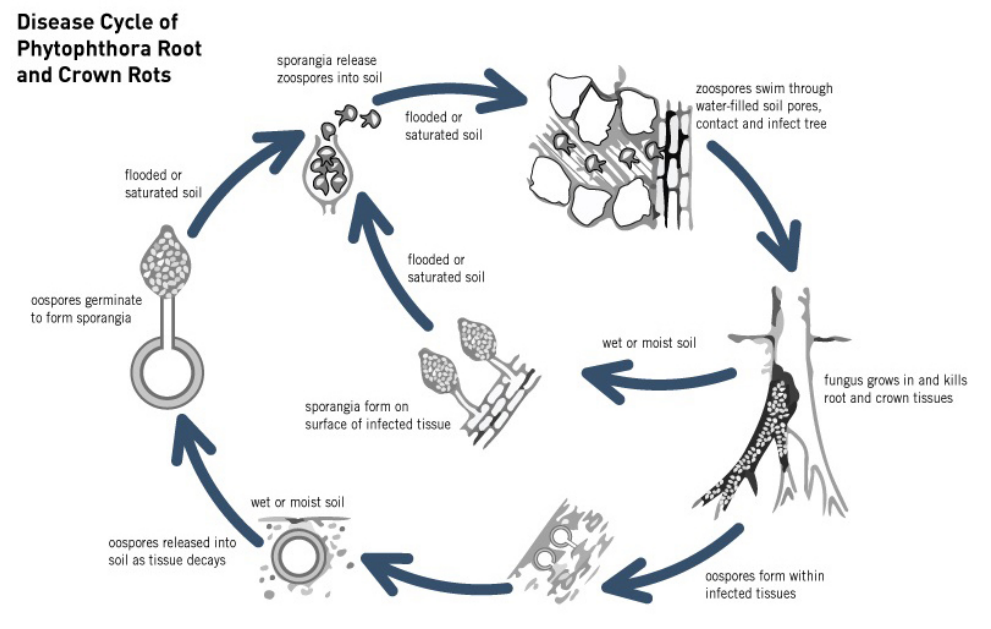


Figure 1: The life cycle of *Phytophthora* in root and crown rots.
Credit to https://www.kauriprotection.co.nz/about-kauri/about-the-pa-pathogen

1.3 History of Spread

Kauri dieback was first discovered in the 1970s on Aotea/Great Barrier Island, although it was originally misidentified as the pathogen *Phytophthora heveae.* A comprehensive study between 2006 and 2008 correctly identified the pathogen as a new species and recognised it as a serious threat to kauri forests. During this time, it was temporarily classified as the water mould *Phytophthora taxon Agathis* (PTA), and in 2015 it was officially described as *Phytophthora agathidicida*, literally meaning ‘kauri-killer’.

The disease has spread and been detected across the Auckland, Waikato and Northland regions of the upper North Island, particularly in areas like the Waitākere Ranges and

Northland, largely due to human activity (possibly including historic forestry and present-day tramping and hunting) transporting contaminated soil. Despite extensive research, the origin of the pathogen remains unknown, and its introduction to New Zealand is still under investigation. Three main hypotheses exist; recent (post 1945) introduction, pre-European arrival (the current most supported theory due to genetic analyses), and an endemic origin (less likely due to the close relation of PA to non-native species). The most supported theory is that PA arrived in New Zealand centuries ago, possibly through natural or early human-mediated dispersal, and only recently became a major threat due to environmental changes or increased human activity (Winkworth et al., 2021).

1.4 Recent Research

The Kauri Dieback Science Stocktake (August 2024) provides a comprehensive overview of ongoing and completed research efforts aimed at understanding and combating the disease. This collaborative document, developed by the BioHeritage National Science Challenge in partnership with the Ministry for Primary Industries (MPI) and the Department of Conservation (DOC), serves as a central resource for researchers, landowners, and policymakers involved in kauri conservation across New Zealand. Key areas of research covered include:

Biology of host(s) and pathogen(s)

- Biology of the pathogen PA, such as its lifecycle, infection mechanisms, and environmental preferences. Studies such as Horner & Hough (2015) have found that PA could potentially survive in soil for many years, even in the absence of a suitable host.
- Host species of PA, including other plant species that may have suitable features to be PA hosts, and looking in-depth at kauri for potential population variation and resistance to PA.

Ecosystem impacts and interactions

- Projected impacts of kauri dieback on the species makeup and communities of northern NZ forests. Studies on ecosystem impacts have shown that kauri dieback not only threatens the survival of kauri trees but also disrupts associated plant and animal communities. The loss of kauri trees leads to changes in soil composition and microhabitats, affecting biodiversity.

Surveillance, detection, diagnostics and pathways

- Improved early detection and monitoring of infected areas are crucial for tracking disease spread and informing management strategies. This research investigates new methods for detecting, diagnosing and surveying of kauri forests. Advancements in soil DNA testing and remote sensing technologies, such as AI surveying of groundcover imagery, are included in some of the results so far.

Building public/community engagement and social licence

- Increasing the effectiveness of management campaigns from a social lens, i.e. through education, such as signage at shoe-washing (hygiene) stations.
- Results emphasize the need for a coordinated governance framework that includes iwi, local communities, scientists, and policymakers. Such collaboration ensures that management strategies are culturally appropriate, scientifically sound, and widely supported. Community engagement through citizen science initiatives has also been

instrumental in monitoring tree health and collecting data, although challenges related to data accuracy and participant retention have been noted.

Control and management

- Research into dieback control and management evaluates various strategies, including the use of phosphite injections to treat infected trees, cleaning stations to reduce the spread of dieback along walking tracks, and the potential of native New Zealand plants, such as kānuka (*Kunzea robusta*), to produce compounds with anti-*Phytophthora* activity.

Te Ao Māori

- Culturally-informed management practices - integrating mātauranga Māori (traditional knowledge) with scientific methods, providing a holistic approach to forest management and disease monitoring. Collaborations with iwi have led to the discovery of natural compounds from native plants, like kānuka, that inhibit the movement of the pathogen's spores, offering potential avenues for biocontrol. These partnerships enhance the cultural relevance and effectiveness of conservation efforts.

2.0 Kauri Protection

Phytophthora agathidicida (PA) is the pathogen responsible for kauri dieback and classified as an unwanted organism under New Zealand's Biosecurity Act 1993, reflecting its significant threat to kauri trees and the need for strict management to prevent its spread. The Biosecurity (National PA Pest Management Plan, NPAPMP) Order 2022 is a key piece of recent legislation that was introduced to protect kauri from the fatal effects of PA. The plan has the objectives of:

- Reducing the spread of PA;
- Maintaining areas free of PA;
- Reducing the impact of PA and locally eliminating PA;
- Protecting kauri with special value from PA; and
- Facilitating controlled access to kauri forests where it does not compromise kauri.

Due to the nature of PA propagules, kauri protection primarily focusses on reducing the spread of infected plant tissues, water and soil via controllable vectors, i.e. humans, vehicles, and domestic animals.

In order to achieve these objectives, the plan specifies ten rules that individuals and entities must follow to prevent the spread of PA, including:

1. Obligations to report kauri with dieback symptoms;
2. Obligations to provide any requested information about kauri or related PA-carrying materials;
3. Restrictions on the movement of kauri;
4. Operating in accordance with an approved PA risk management plan if the land occupied is notified to be at risk of PA;
5. Operating earthworks in accordance with an approved PA management plan;

6. Excluding stock from kauri forest;
7. Restrictions on the release of animals into kauri forest;
8. Obligations to clean items of soil and organic matter before entering or exiting kauri forest;
9. Obligations to use cleaning stations before entering or exiting kauri forest;
10. Ensuring that tracks and roads in kauri forest avoid kauri, have cleaning stations installed, or are surfaced to minimise soil spread and kauri root contact.

2.1 Roles and Responsibilities

Several national, regional and local groups share responsibility for protecting kauri from dieback disease in Aotearoa New Zealand, reflecting the complexity of forest governance and the significance of kauri to both ecological and cultural heritage. Table 1 gives a summary of the various groups and their role in kauri protection across national, regional and local bodies.

Table 1: Summary of roles and responsibilities of organisations involved in Kauri Protection

Level	Group	Roles and Responsibilities
National	Tiakina Kauri / Biosecurity New Zealand, a business unit of MPI	Leads and coordinates kauri protection nationally; implements NPMP; collaborates with mana whenua, DOC, regional councils, and territorial authorities; ensures equal Māori-Crown governance; supports mana whenua in operational planning and protection within their rohe; builds relationships and capacity in key regions (Te Tai Tokerau, Tāmaki Makaurau, Waikato-Tainui, Pare Hauraki, Tauranga Moana).
	Department of Conservation (DOC)	Manages kauri on public conservation land; implements NPMP; educates staff and public; contributes to governance; identifies priority areas; jurisdiction is national.
	Crown research institutes (Manaaki Whenua, Plant and Food, Scion)	Conduct foundational research on kauri dieback and related knowledge gaps; collaborate with Tiakina Kauri's Knowledge Advisory Group; support regional councils and iwi with protocols, diagnostics, and training.
Regional	Regional Councils (e.g., Northland, Auckland, Waikato, Bay of Plenty)	Identify priority areas for kauri protection; implement disease spread mitigation measures; apply mātauranga Māori approaches; educate and support on NPMP requirements; perform compliance activities; use regulatory tools; contribute to governance and advisory groups.
	Mana Whenua, Iwi and Hapū	Kaitiaki of kauri lands; lead co-management and decision-making through treaty-based partnerships; apply mātauranga Māori and rongoā Māori approaches; strengthen leadership in kauri protection.
Local	Land and Business Owners/Managers	Take leadership in education and risk mitigation practices related to activities and areas they manage.
	Community Groups and charities, such as Kauri Rescue.	Advocate for kauri protection, educate the public, and carry out approved on-the-ground mitigation activities.

	Territorial Authorities: (including Whangarei, Kaipara and Far North District Councils)	Manage risks from land disturbance; fulfil biodiversity protection responsibilities under legislation; jurisdiction confined to their districts.

3.0 Kauri Protection in Northland

Northland is a significant focus area for the protection of kauri from dieback disease due to the region's high concentration of kauri forest. Under the Regional Pest Management Plan (RPMP), PA is further classified as a sustained control organism. It is collectively managed through collaborative partnerships and initiatives involving Northland Regional Council, Tāngata Whenua, landowners, Biosecurity New Zealand, and the Department of Conservation.

3.1.1 Northland Regional Council

The Northland Regional Council's Biosecurity Operational Plan 2024–2025 outlines the Council's planned actions to manage biosecurity risks across the region to reduce the spread of PA in Northland. The Operational Plan is prepared in accordance with Section 100B of the Biosecurity Act 1993, which requires regional councils to develop annual operational plans to implement their Regional Pest Management Plans. NRC has integrated the management of kauri dieback disease into its broader biosecurity efforts through the Regional Pest and Marine Pathway Management Plan 2017 - 2027 (RPMPMP). This plan, operative since 1 July 2018, serves as a strategic framework for pest management in Northland, and includes regulatory and non-regulatory measures to help prevent the spread of PA in Northland.

Through these plans, NRC contributes to kauri dieback prevention through community engagement, surveillance, infrastructure upgrades of tracks and cleaning stations, enforcement of rules relating to sustained control disease, and general implementation of the NPMP. Community engagement involves working with landowners and communities to identify and manage kauri dieback, as well as provision of education and resources to raise awareness about kauri protection. NRC also implements the NPMP through enforcement of rules such as mandatory reporting of unhealthy kauri and hygiene requirements for people and equipment. NRC also supports Tiakina Kauri, the national agency managing kauri dieback under the Biosecurity Act.

3.1.2 Department of Conservation

DOC supports kauri protection in Northland primarily through infrastructure upgrades, partnerships with mana whenua, and public education and advocacy. They have undertaken infrastructure upgrades across their managed land and reserves, including the replacement of dirt walking tracks with gravel and boardwalks to prevent soil movement near kauri. They have also installed many cleaning stations at track entrances and exits to encourage visitors to disinfect footwear and equipment.

Rākau Rangatira is a partnership project between DOC and Te Iwi O Te Roroa to upgrade both the visitor infrastructure and the visitor experience in Northland's Waipoua Forest, home of the sacred kauri tree Tāne Mahuta. Subsequent phases of the delivery of Rākau Rangatira will include replacement of boardwalks at Kauri Walks (Te Matua Ngahere and the Four Sisters) and supporting visitor infrastructure. Future phases of the Rākau Rangatira project aim to find ways to deepen visitors' connection to culture and nature, increase public safety, minimise environmental impact, and allow visitors to play an active role in contributing to ongoing conservation.

3.1.3 Kauri Ora Iwi Collaboration

The Kauri Ora Iwi CoLab is a collaborative initiative involving four iwi; Ngāti Kuri, Te Rarawa, Te Roroa, and Ngāti Wai, focused on protecting kauri forests in Te Tai Tokerau. Initially established and supported through the Jobs for Nature programme, Kauri Ora combines Mātauranga Māori with scientific tools to deliver a holistic approach to kauri dieback mitigation and forest health.

Each iwi has a dedicated team of Kauri Rangers who carry out a wide range of activities including soil sampling, tree health assessments, phosphite and rongoā treatments, pest and weed control, and track maintenance. The programme also involves community education, cultural monitoring, and the propagation of kauri seedlings for restoration. A key focus is building iwi capability and leadership in kauri protection, while enhancing mana and creating employment and learning opportunities within iwi communities.

3.1.4 Eastern Iwi Collaboration

The Eastern Iwi Co-Lab was established in 2023 to bring together iwi and hapū-led efforts to protect kauri across both private and public conservation lands on the eastern side of Northland. The collaboration includes groups from Te Rawhiti, Taemaro, Paekauri, Puketi, and Takou Bay, representing iwi/hapū such as Ngāpuhi, Ngāti Rēhia, and Ngāti Kahu. With primary funding from Tiakina Kauri and additional support from the Northland Regional Council and the Department of Conservation, the CoLab representatives meet monthly to share updates and coordinate activities. Their work focuses on education, soil sampling, pig monitoring, community events, and training, strengthening local capability and collective action in kauri protection across the region.

3.1.5 Kauri Rescue – Community-led action

Kauri Rescue, also known as Community Control of Kauri Dieback: Tiaki Kauri, is a community initiative dedicated to protecting kauri trees from the effects of PA. Through education, outreach, and hands-on support, Kauri Rescue empowers landowners and communities to take direct action by offering free tree health assessments, soil testing, and phosphite treatment kits. The phosphite treatments help infected trees resist the disease, Kauri Rescue provides training and support to ensure proper application.

The initiative emphasises community involvement through citizen science, encouraging public participation in monitoring and managing the disease. It also collaborates with iwi and local groups to foster a collective approach to conservation. Originally funded by the Biological

Heritage National Science Challenge, Kauri Rescue now receives support from the Ministry for Primary Industries, Auckland Council, and Foundation North, though it still relies on donations and sponsorships to continue its work.

4.0 NRC Commitments and Achievements

Northland Regional Council is committed to preventing the spread of PA and reducing its impact on Northland's biodiversity, cultural heritage, and economic values. The Council works in coordination with other government agencies and community organisations to achieve this goal. Key objectives include documenting the distribution and severity of PA on private land, raising public awareness, building community capability, and encouraging proactive behaviour to reduce the risk of transmission. To support the goals of the Regional Pest Management Plan (RPMP), the Council undertakes a range of direct actions such as track upgrades, soil sampling, and community outreach. These are complemented by indirect efforts through broader council programmes, including pest animal control. Most activities are focused on public education, minimising the spread of PA, and ongoing surveillance, and are further explained in the following sections.

4.1 Surveillance and Detection

4.1.1 Aerial Surveillance

Aerial surveillance has become a powerful tool for monitoring the health of kauri forests nationally and in Northland. By capturing high-resolution images from above using fixed wing aircraft, drones and satellite imagery, this method allows for the identification of potential PA infections in areas that are often remote or difficult to access on foot.

Repeated aerial surveys over time help build a clearer understanding of where the disease is and how its spreads across the landscape. This landscape-scale perspective is essential for identifying new infection sites early and for tracking changes in known affected areas. It also supports more targeted ground-based interventions and long-term planning.

To support this work, the NRC has engaged Biospatial Ltd, a Northland-based company that specialises in scientific aerial surveys capturing spatially-referenced oblique high-resolution photographs, that provide detailed views of forest canopies, which are stored and accessed through the Photoblique application.

Using Artificial Intelligence for Early Detection

To enhance the value of aerial imagery, Biospatial Ltd integrates Artificial Intelligence (AI) into its monitoring process. Machine learning models are trained to analyse photoblique images to detect kauri and signs of kauri dieback that may be difficult to see with the naked eye.

These AI systems are designed to recognise kauri and key symptoms of PA infection, such as canopy thinning, yellowing leaves, and tree mortality. By processing large volumes of imagery

quickly and accurately, AI enables early detection of potentially infected trees and helps prioritise areas for further investigation, such as ground-based surveys or treatment.

This combination of AI and aerial imagery significantly improves the efficiency and accuracy of kauri dieback monitoring. It allows the Kauri Protection Programme to respond more effectively to new detections and supports long-term efforts to protect and restore kauri forests across Northland.

Over the reporting period, Biospatial has mapped kauri (Figure 2) in an area from Northland's southern border up the east coast to Russell Forest.

Figure 2: Whole area of kauri (orange) aerially surveyed by Biospatial across the current reporting period. (Biospatial, 2025)

Figure 3. Kauri (orange) mapped in the Whangārei area by Biospatial using high-resolution aerial imagery and AI. (Biospatial, 2025)

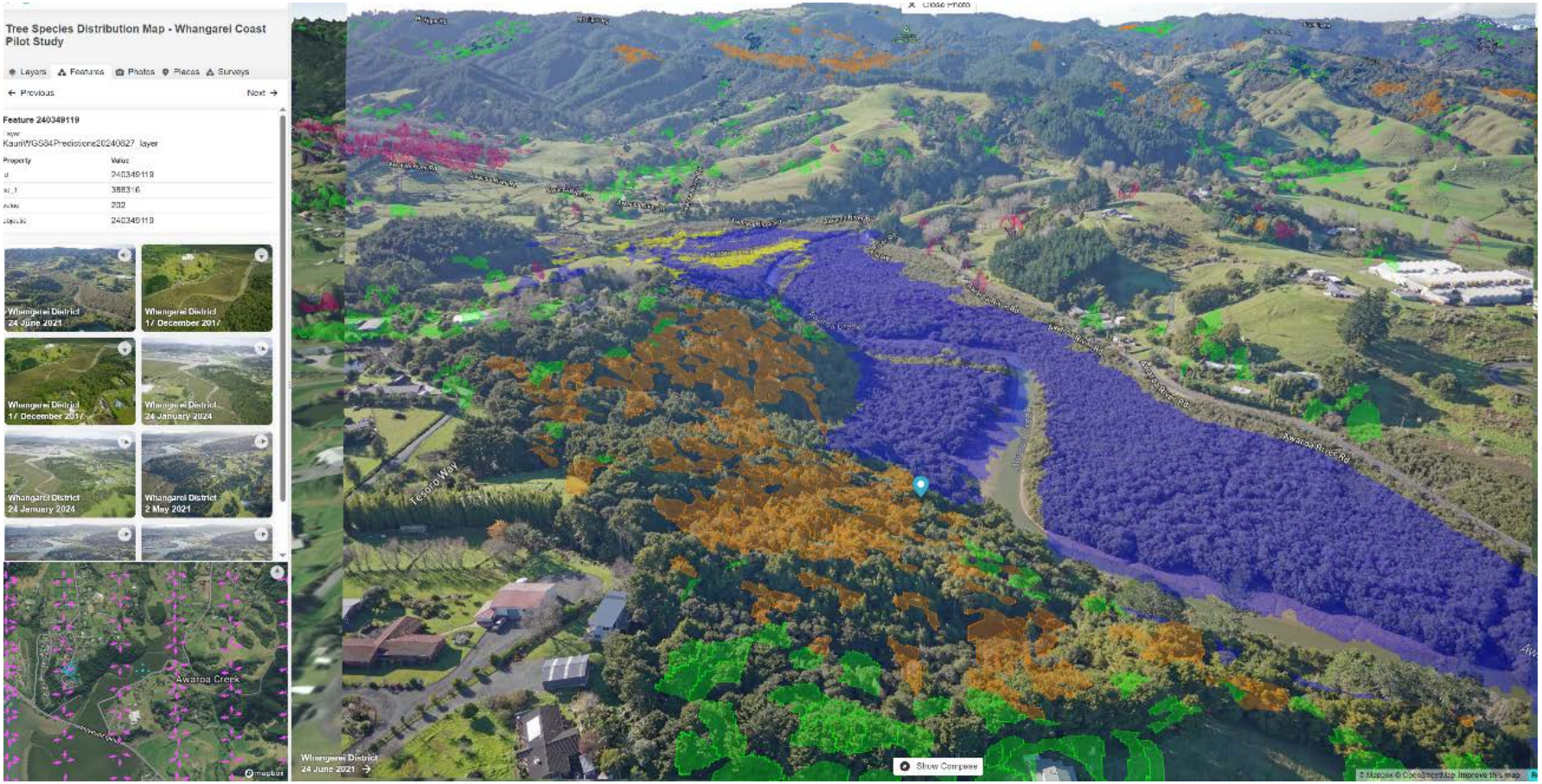


Figure 4: Biospatial AI mapping of a range of tree species in the Northland region. Kauri shown in orange, mangrove in purple, totara green, poplar pink and saltmarsh yellow (Biospatial, 2025).

Figure 5: View through PhotoOblique, showing the resolution and clarity of Biospatial's aerial imagery over kauri forest.

4.1.2 Kauri surveys

To assess the health of individual kauri trees or stands, visual ground-based surveys or inspections are conducted by Council staff or contractors, establishing what is referred to as a "kauri site." These sites are typically identified through aerial surveillance, public reports, or observations by stakeholders.

A key objective of a kauri survey is to determine the presence of PA. Visual symptoms of potential infection include:

- **Yellowing foliage** - Leaves may turn yellow or brown, indicating impaired photosynthesis.
- **Thinning canopy** - As the disease progresses, the tree's crown may become sparse with reduced foliage.
- **Dead branches** - Dieback of branches can result in a "stag-headed" appearance.
- **Bleeding lesions** - Resinous lesions may appear at the base of the trunk, often encircling it as the infection spreads, these are key signs of PA.
- **Root and collar rot -** The pathogen attacks the roots and collar, disrupting water and nutrient uptake.
- **Sudden death** - In some cases, infected trees may die abruptly with little to no warning.

It is important to note that some infected trees may not show visible symptoms, and conversely, visual signs of kauri dieback may appear in trees that are not infected.

During the 2023/24 and 2024/25 reporting years, 1,453 kauri surveys were conducted in Northland. To confirm the presence of PA at a kauri site, health assessments may include collecting soil samples for laboratory testing.

4.1.3 Soil Sampling

Soil sampling is the primary method for detecting the presence of PA at kauri sites. It supports informed management decisions and helps map the spatial extent of kauri dieback within individual sites and across the broader landscape.

Over the three years leading up to July 2025, a total of 337 soil samples were collected to determine whether PA is present within kauri sites. These samples undergo laboratory testing, with some subjected to secondary testing for quality assurance and auditing. Follow-up sampling is also conducted at selected sites to reconfirm results.

During this period, PA was detected in 46 soil samples across a number of kauri sites (exact number pending, with several samples still awaiting analysis at the time of writing).

Under the NPMP and RPMP, kauri sites where PA is detected are required to have an approved Management Plan in place. These plans outline measures to minimise the risk of further transmission.

A dedicated mobile application is used to collect field data, including tree location, size, health, age, and photographs for future comparison. The app also logs management actions, and all collected data can be transferred to national platforms for broader analysis and planning.

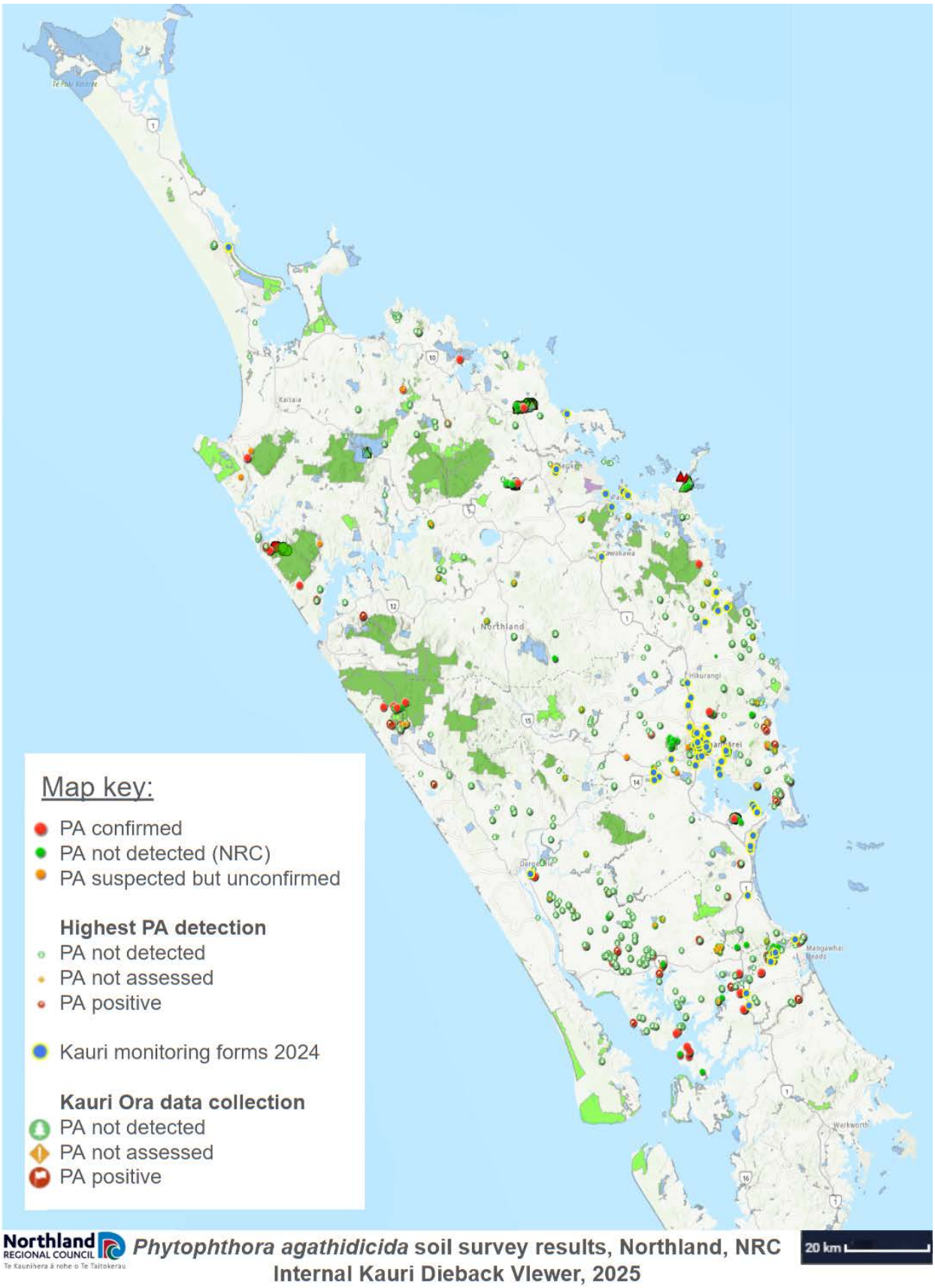


Figure 6: Map of NRC soil testing results for PA across Northland (2025).

4.2 Mitigation and Management

4.2.1 Mitigation Advice and Management Plans

Landowners whose properties have had soil samples taken and results show PA was undetected, meaning no presence of the pathogen was found, or are classified as 'Low Risk', receive tailored mitigation advice from Council. This advice may include recommendations such as limiting access to kauri areas or installing fencing to reduce the risk of disease transmission by stock or pest animals.

For all sites that have tested positive for PA or are classified as 'High Risk', the Council aims to develop a Kauri Dieback Management Plan. The objectives of these plans are to:

- Prevent the spread of kauri dieback during the lifespan of the Management Plan, thereby reducing the impact of PA on Northland's biodiversity, cultural heritage, and economy.
- Support compliance with the National Pest Management Plan (NPMP) and facilitate coordination with other agencies and stakeholders to achieve shared biosecurity and conservation goals.

The broader aims of Management Plans include:

- Maintaining a comprehensive record of kauri dieback distribution in Northland.
- Increasing public awareness, knowledge, and skills to encourage proactive behaviour in preventing the spread of the disease.
- Aligning local actions with inter-regional and national strategies for kauri dieback management.
- Leveraging scientific and technological advancements to support disease control efforts.

Each Management Plan provides site-specific mitigation recommendations, such as:

- Restricting the movement of vehicles, livestock, and people within kauri areas.
- Installing fencing to protect kauri stands.
- Controlling pest animal populations.
- Limiting access to infected areas and installing hygiene stations at entry and exit points.

Plans may also include guidance for PA-free areas to reduce the risk of future infection. During the reporting period, a total of 33 Kauri Dieback Management Plans were prepared.

4.2.2 Phosphite treatment

Phosphite treatment of kauri trees is an experimental process that has shown promise in suppressing PA, slowing the health decline in kauri infected with PA, and ultimately improving kauri tree health (Horner et al., 2024). Treatment involves drilling into the trunk of infected kauri (with trunks greater than 7cm diameter) and directly injecting phosphorous acid into the tree.[1]

Contractors employed by NRC treated over 700 kauri during the reporting period, with phosphite in three separate areas of Northland; Kaipara West Coast, Kaiwaka Central and Kauri Mountain. Biennial inspections of these trees will be conducted using drone surveillance and Photoblique aerial imagery (Section 3.1) to monitor the overall health of the trees and identify changes.

4.2.3 Fencing Kauri Forest

Fencing areas of native vegetation helps to protect the kauri trees within them from wandering stock and wild animals, such as pigs, goats and deer, which are a known contributor to the transmission of PA through the disturbance of roots and movement of soil particles (Niebuhr et al., 2024). NRC has completed 24 fencing projects over the reporting period, including remedial work and the construction of 6,856m of fencing. Cyclone Gabrielle in 2023 caused widespread damage to stock fences throughout the Northland region. The Council facilitated fencing repairs for areas containing kauri, such as Kauri Mountain.

4.2.4 Hygiene Stations

Kauri dieback hygiene stations have become a common sight (Figure 7) at many public walking tracks in Northland and are an essential tool in the fight against kauri dieback. Cleaning stations are intended to help prevent the spread of the disease by enabling track users to clean and disinfect footwear and equipment before and after entering kauri forests. These stations provide scrubbing brushes to remove soil and debris from shoes and equipment, which can harbour the disease-causing pathogen, PA. A sterilising spray to disinfect shoes and equipment is also provided to further minimise the spread of PA. A total of 26 hygiene stations have been installed and 13 hygiene stations upgraded by NRC in Northland between July 2022 and June 2025. In 2024, a vehicle washdown station that allows vehicles to be cleaned was installed at Te Au Warawara (Figure 8)

[1] https://www.kauriprotection.co.nz/resources/best-practice-guides/phosphite

Figure 7. Kauri hygiene station at A.H. Reed Memorial Park, Whangarei.

Figure 8. Opening ceremony of the Te Au Warawara kauri hygiene station, which can be used to clean shoes, equipment, and vehicles. Te Kaura ā – Iwi o Pawarenga Facebook post 24 June 2024.

4.2.5 Track Upgrades

To help minimise the risk of PA spreading via public walking tracks in Northland, the Council has facilitated the construction of over 2,307 metres of upgraded tracks between July 2022 and July 2025.

Funding for these upgrades has been provided by the Provincial Growth Fund, the Ministry for Primary Industries (MPI), Biosecurity New Zealand, NRC, and Tiakina Kauri.

Track upgrades typically include:

- Raised timber boardwalks
- Gravelled and elevated track surfaces (Figure 9)
- Guard rails

These features are designed to reduce human contact with soil around kauri roots, thereby lowering the risk of spreading PA. An added benefit of these upgrades is the improved experience and safety for track users.

Figure 9. Elevated gravel track in Puketi Forest, minimising the potential spread of PA through human movement in the forest.

4.2.6 Vector Control - Pest Animals

Controlling animal pests is a critical part of Northland's strategy to protect kauri forests from the spread of PA. Feral deer, pigs, goats, possums and other mammalian pests all contribute to forest degradation and disease transmission through soil disturbance, browsing, and root damage. The Council, in collaboration with mana whenua, DOC, and local landowners, have implemented several targeted control programmes to mitigate these threats, with a particular focus on ungulate pest species, as they pose the greatest risk of increasing the spread of PA. These control programmes are essential for reducing the spread of PA, protecting forest floor integrity, and supporting the regeneration of native vegetation. By limiting pest populations in and around kauri ecosystems, NRC is helping to safeguard the long-term health and resilience of Northland's kauri forests.

Feral Pig Control

Feral pigs are a major threat to kauri forests in Northland due to their destructive foraging behaviour, which disturbs soil and can expose kauri roots, creating ideal conditions for the spread of PA. Their widespread movement through forests also contributes to the spread of contaminated soil, accelerating the disease's transmission within a forest and to nearby forest systems.

To address this, the NRC, in collaboration with the DOC and private landowners, has implemented targeted feral pig control operations across the region. In the 2023/24 season alone, 278 feral pigs were culled as part of these efforts.

Feral Goat Control

Feral goats pose a significant threat to the integrity of native forests by browsing on regenerating vegetation and disturbing soil between kauri sites. During the 2023/24 season, 374 wild goats were culled as part of these efforts, and over 400 goats have been removed from Russell Forest during the reporting period.

Wild Deer Control

The NRC is actively leading a deer eradication programme with a strong focus on high-value kauri ecosystems. Wild deer pose a significant threat to kauri health by disturbing soil and damaging tree roots, leading to the potential spread of PA.

Russell Forest, which contains some of eastern Northland's most ecologically significant kauri stands, has been a priority site for deer eradication, and is the only known site of sika deer in Northland. Over 61 sika deer have been removed since the eradication programme began in 2024

NRC's wider efforts include rapid response to all reported deer sightings, systematic mapping of known populations, and collaboration with mana whenua, DOC, deer farmers, and private landowners to prevent escapes and eradicate all wild herds in Northland.

4.3 Engagement and Advocacy

4.3.1 Kauri Pou Kaitiaki Virtual Reality Experience

Kauri Pou Kaitiaki is a virtual reality (VR) experience that immerses users in a 360° simulation, showcasing the cultural, spiritual, and ecological importance of kauri trees. Developed by Waikato Regional Council with input from a Mātauranga Māori advisory group, ecologists, and a design agency. The experience explores the Māori belief that kauri and whales are brothers, and transitions into a vibrant, ecologically accurate kauri forest featuring native species like epiphytes, giant wētā, kiwi and kauri grass. Features of Kauri Pou Kaitiaki include an interactive shoe-cleaning game to learn how to prevent the spread of PA.

NRC have been sharing the VR Kauri Pou Kaitiaki experience since 2023 to educate and inspire mana whenua, students and adults at schools and engagement events. The innovative tool aims to foster understanding and encourage collective action to protect kauri for future generations. Candace Rameka, Kauri Protection Officer, says participants can see firsthand how special ancient kauri are and learn how simple actions, like correctly cleaning their shoes, can help protect them. She adds that the VR experience is also captivating for young-at-heart adults, who are thrilled after spotting a kiwi or giant wētā in the VR forest!

Figure 10. NRC Kauri Protection Officer Candace Rameka guides students through the virtual reality experience.

4.3.2 Mana Whenua Engagement and Collaboration

Collaboration and engagement with mana whenua remains a cornerstone of kauri protection efforts at NRC and across Northland. The strength of these partnerships lies in the deep cultural connection iwi and hapū have with the ngahere, and their leadership is essential in shaping effective, place-based responses to the threat of kauri dieback. Throughout the years, Council staff have worked alongside a number of iwi, hapū, and Māori trusts, supporting both long-standing collaborations and new initiatives. These relationships are not only vital for the success of kauri protection but also reflect the importance of kauri as taonga to Māori.

Ngāti Kurī and Te Aupōuri have been active participants in the Kauri Pou Kaitiaki VR programme, contributing to the collaboration and maintaining ongoing relationships that support technical and cultural aspects of kauri protection. Similarly, Te Rarawa has played a key role, particularly in the Warawara Forest, where a strong partnership continues to guide protection and restoration efforts.

Council have supported Ngā Takoto and Te Whiu hapū with fencing, signage, and soil sampling projects. Te Whiu hapū also supports education through the Kauri Pou Kaitiaki VR experiences and wānanga with NRC. Whangaroa Papa Hapū has been supported by NRC with drone assistance and educational outreach year-round, while Ngāti Hine has focused on school-based, NRC-run, education around kauri protection and pest animal control. The Pawarenga

Trust has also contributed through quarterly education events held at local clinics, helping to raise awareness and promote hygiene practices in more remote communities of Northland.

These partnerships represent a powerful network of guardianship and action, ensuring that kauri protection is grounded in both science and tikanga. As the programme moves forward, strengthening these relationships and supporting mana whenua leadership will remain a top priority for NRC. This includes resourcing local initiatives, co-developing monitoring and treatment strategies, and ensuring that iwi and hapū voices are central in decision-making processes.

4.3.3 Community Engagement and Education

Community engagement continues to be a vital pillar of kauri protection efforts across Northland, with a strong emphasis on education, awareness, and hands-on experiences. Over the past year, the programme has reached a wide range of audiences, from school students to kaumātua, through a variety of events, workshops, and collaborative initiatives.

In the education space, several schools have taken part in immersive learning experiences. Students have participated in field days at Gumdiggers Park and Puketi Forest, where they explored kauri ecosystems and learned about the threats posed by PA. Bay of Islands College also engaged in a focused workshop on kauri protection and pest animal management, helping to build ecological awareness among rangatahi.

Beyond the classroom, community events have played a major role in spreading the kauri protection message. The Matariki celebrations at Puketi Forest, held in partnership with DOC, NRC, MPI, Ngāpuhi, and Whangaroa Papa Hapū, attracted over 250 attendees each time. These events offered a powerful platform for sharing mātauranga Māori, showcasing the Kauri Pou Kaitiaki VR learning tool, and fostering collective responsibility for forest health.

Other community-focused initiatives included the Wild Kai event, led by DOC with NRC support, which brought together around 50 participants to explore sustainable food practices and environmental stewardship. The Pawarenga Clinic hosted a smaller but equally impactful session, where kaumātua and kuia engaged with VR technology to learn about kauri dieback in a culturally safe and accessible setting.

The Council programme also maintained a strong presence at regional field days and expos. At the Kaitaia AMP Show and the Northland Field Days, staff engaged with attendees through interactive displays and conversations, reaching both rural communities and forestry stakeholders. A field trip with the Northland Forestry Environmental Working Group further strengthened ties with the forestry sector, highlighting shared responsibilities in protecting kauri.

A major upcoming asset to support these efforts is the kauri protection engagement trailer (Figure 11), a purpose-built mobile trailer unit designed to enhance outreach across the region. The trailer will be capable of hosting awareness training, displaying multiple environmental campaigns, and housing a range of educational tools, including the popular VR headsets. It will serve as a mobile classroom and information hub, adaptable for school visits, community events, and field days. A partnership agreement has been signed between DOC, MPI, Kauri Ora, and NRC for the construction and housing of the trailer, which will be based in Kerikeri. Once operational, it will significantly expand the programme's capacity to deliver high-quality, interactive engagement across Northland.

Figure 11: Photo of Engagement Trailer prior to branded signwriting being installed.

These diverse engagement efforts reflect a commitment to reaching people where they are - whether in schools, on the land, or at community gatherings. By combining education, technology, and cultural connection, the programme continues to build a broad base of support for kauri protection across Northland.

5.0 Performance Metrics and Data Analysis

As part of NRC's annual Biosecurity Operational Plans, a set of Key Performance Indicators (KPIs) has been established to measure Council's performance in delivering kauri protection activities. These indicators provide a clear framework for assessing progress in key operational areas such as surveillance, soil sampling, hygiene infrastructure, incident response, and community engagement. A summary of these, along with NRC's yearly achievement statuses across the reporting period, can be found in table 1.

Each KPI is linked to specific, measurable outcomes and is supported by evidence recorded in Council databases and national reporting systems. The following section outlines Council's key performance measures and how they are monitored to ensure accountability and continuous improvement in the management of PA in Northland.

Table 2: Summary of annual KPIs and yearly achievement status for the Kauri Dieback goals of NRC across the reporting period.

KPI	Description	How will this be measured?	2022/2023	2023/2024	2024/2025
1: Soil Sampling	100% of remaining aerial survey sites on private land sampled; 50% of high-risk sites with plans	Evidence of the number of sites sampled and *PA* management plans completed will be recorded on Council databases.	🔴 Not Achieved[2]	🟢 Achieved	🟢 Achieved
	Management Plans	*50% PA* management plans completed	🔴 Not Achieved[2]	🟢 Achieved	🟢 Achieved
2: Follow-up Soil Sampling	Sample five previously sampled sites to reconfirm PA status	Evidence of the number of sites sampled recorded on Council databases.	🟡 Achieved in Part[2]	🟢 Achieved	🟢 Achieved
3: Hygiene Stations	Minimum of five hygiene stations installed at priority sites	Evidence of stations recorded on Council database	🟢 Achieved	🟢 Achieved	🟢 Achieved
4: PA Distribution Records	Maintain a record of PA distribution across Northland	Recorded on national and Council data systems.	🟢 Achieved	🟢 Achieved	🟢 Achieved
5: Incident Response Times	All incidents recorded and responded to within 20 working days	Evidence held on Council database.	🟡 Achieved in Part	🟡 Achieved in Part	🟡 Achieved in Part
6: Community Engagement	Deliver a minimum of 10 public engagement events annually	Evidence held on Council database	🟢 Achieved	🟢 Achieved	🟢 Achieved

5.1 KPI -1: Soil Sampling

100% of remaining aerial survey sites on private land will be sampled and a minimum of 50% of high risk sites will have management plans.

Table 3: Soil sampling and sites' data across the 2022-2025 reporting period at NRC.

Soil sampling	**2022/23**	**2023/2024**	**2024/2025**
No. of sites identified for sampling	309	28	93
No. of sites sampled	7	17	11
No. of soil samples taken	26	212	125
No. of soil samples processed	26	140	72
No. of soil samples currently being processed	0	0	28
PA positive samples	2	39	5
PA not detected samples	24	101	64

[2] During the initial year following the setup of these KPIs, the programme was being established and processes around sampling were still being developed and tested.

High risk sites identified	2	6	9
PA management plans issued	1	6	3 complete, 6 in production.

The processes for sampling have changed a lot over the last few years. With new technology and best practices, NRC have adapted their approach from gathering large volumes of random samples to selecting targeted areas and conducting full kauri protection services. This process involves identifying an area, starting with landowner/occupier discussions and permissions, iwi/hapu consultation, then aerial surveillance, risk management, tree surveys, sampling, processing and auditing. From these results, they move to management planning, review and discussions/ recommendations.

5.2 KPI - 2: Follow up soil sampling

Sample five previously sampled sites in the 2022/23 and 2023/24 reporting years and ten in the 2024/25 reporting year to reconfirm the status of the site with regard to the presence of PA.

Table 4: Soil sampling follow-up data across the 2022-2025 reporting period at NRC.

	2022/2023	2023/2024	2024/2025
Target number of follow up sites	5	5	10
Achieved number of follow up sites	13	5	11

5.3 KPI - 3: Hygiene stations

A minimum of five hygiene stations installed at priority sites.

Table 5: Hygiene stations data across the 2022-2025 reporting period at NRC.

	2022/2023	2023/2024	2024/2025
New Hygiene Stations	14	12	13
Upgraded Hygiene Stations	11	2	-

5.4 KPI - 4: Maintain a record of distribution of PA across Northland.

Soil sampling data collected by NRC is recorded on national and Council data systems (Fig. 6). NRC kauri viewer, TK setup LINZ platform last year. The Land Information NZ (LINZ) Kete Aronui platform is another primary system for the storage of all soil sampling data.

5.5 KPI - 5: Incident response times

All incidents are recorded, and a response plan is developed within 20 working days.

Evidence held on Council database.

During the 2024/25 reporting period, 43 enquiries were received regarding kauri protection. All but one were responded to within the target timeframe of 20 working days. The single exception involved a case in the Waipū/Mangawhai area, where multiple attempts were made to contact the customer.

5.6 KPI - 6: Community engagement

Deliver a minimum of 10 public engagement events annually (increased across the reporting period). This includes workshops and school visits.

During the 2024/25 reporting period, Northland Regional Council and its partners successfully delivered 10 public engagement events focused on kauri dieback awareness, biosecurity, and environmental education. These included:

1. Field Days – Engaging with landowners and the public on kauri protection and land management.
2. Dargaville School Education Day – Interactive sessions with students on kauri dieback and forest health.
3. Paparore School Day – Educational activities focused on kauri ecosystems and biosecurity.
4. Bay of Islands College Education Day – Awareness-building around kauri dieback and environmental stewardship.
5. Matariki Puketi Evening – A community event combining cultural celebration with kauri protection messaging.
6. Wild Kai Night with DOC – Collaborative event with the Department of Conservation, promoting sustainable practices and kauri protection.
7. Pig Hunting Competition and Education Event – Raising awareness about the role of feral pigs in spreading PA
8. Kaitaia A&P Show – Public outreach through an information stall and interactive displays.
9. Northland Forestry Event – Engagement with forestry professionals on kauri dieback management.
10. Ngāti Kahu Education Event – Partnership with iwi to share knowledge and strengthen community-led kauri protection.

6.0 Operating Expenditure 2022 – 2025

The Council's kauri protection programme relies on consistent funding to support its core activities, including surveillance, pest control, infrastructure upgrades, and public engagement.

Grant funding from Tiakina Kauri enable council to undertake extra activities that align with the NPAMP and other initiatives.

This section outlines how the Northland Regional Council (NRC) allocated its resources between July 2022 and June 2025.

6.1 Income vs Expenditure

Between 1 July 2022 and 30 June 2025, approximately $2.9 million has been allocated to Council's Kauri Protection Programme. Of this, around $1.5 million was received from BNZ, and Council has contributed approximately $1.4 million, including staff salaries, over the same period.

Activities funded over this period have been described in the report above which included:

- Track Upgrades
- Aerial survey and mapping
- Soil Sampling
- Publicity/Education and Promotions
- Fencing
- Surveillance Monitoring
- Wild Animal Control
- Training and National Meetings
- Staff salaries

While an additional $200,000 has been committed by the TK governance group for the 2025 – 2026 financial year, there is a high degree of funding uncertainty beyond 2026. There has been no announcement of further kauri protection funding by government and the future of kauri protection entities such as Kauri Ora and other Tai Tokerau kauri protection entities remains uncertain. At this stage council funding will be reviewed as part of annual and long-term planning processes and there is no guarantee that current funding levels will remain the same.

Given the funding uncertainties it will be important to grow collaborations and combine efforts to raise funding for future protection activities, and a regional collaborative plan is needed to describe actions across the region and the roles and responsibilities of key stakeholders.

7.0 Future Planning and Opportunities

7.1 Regional Collaboration and Planning

There is a significant opportunity and growing need to strengthen regional collaboration and planning to enhance kauri protection efforts across Te Tai Tokerau. This includes deepening engagement with iwi and hapū, as well as other agencies, organisations, and community groups, to work collaboratively toward shared objectives.

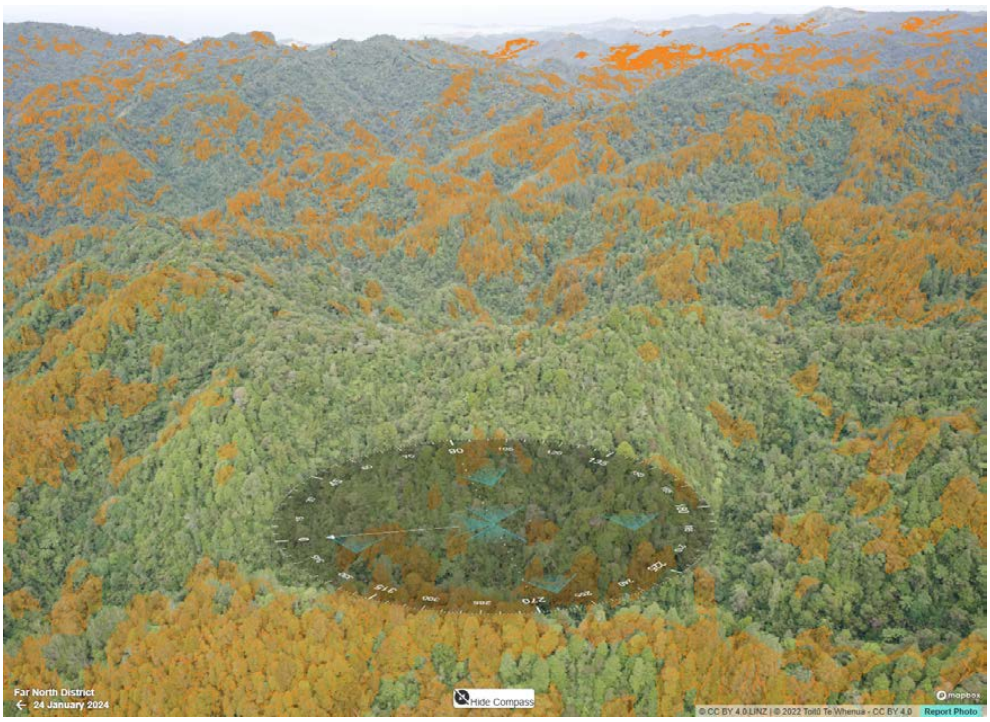
A key priority is the development of a comprehensive regional plan that outlines agreed priorities, actions, budgets, roles, and responsibilities. Such a plan would provide a unified framework for action, ensuring that efforts are coordinated, resources are efficiently allocated, and outcomes are collectively owned.

Central to this collaboration is the continued investment in building the capability and capacity of iwi and hapū. Supporting their leadership in kauri protection not only honours Te Tiriti o Waitangi obligations but also ensures that mātauranga Māori and tikanga are embedded in all aspects of the programme. By fostering strong partnerships and shared planning, Northland can build a more resilient and effective response to kauri dieback.

7.2 Surveillance and AI

Surveillance monitoring undertaken by Biospatial Ltd is a cost-effective way to map Northland's kauri trees and identify PA-infected and dead kauri. Updated aerial imagery will help identify new kauri sites with PA infections and monitor existing PA sites to determine if the disease is spreading to further trees in the area.

To date, Biospatial have mapped kauri in eastern Northland up to Russell Forest (Fig. 12) to a high level of accuracy and has started teaching AI to identify sick and dead kauri within the area. The next steps are to expand the mapping to cover all of Northland's kauri populations and continue developing AI's capability to identify kauri infected with PA.



(**Figure 12**) Kauri (orange) identified using AI from aerial imagery. Russell Forest looking east to Oakura Bay. Biospatial 2025.

To effectively monitor new outbreaks of PA in kauri populations and monitor changes in the spatial extent of known infections, Biospatial will need to conduct flyovers every two years to

capture up-to-date aerial imagery. AI will then analyse the new imagery to identify new PA infections. This surveillance work will help monitor the health of kauri throughout Northland, including monitoring PA sites where mātauranga Māori and phosphite treatments have been applied to infected kauri to determine the effectiveness of the novel treatments over time.

In addition to mapping Northland kauri populations, Biospatial have mapped a variety of common plant species in Northland (Figure 13), such as tōtara, pūriri, kahikatea and taraire. Future research into kauri dieback may look at correlations between the tree species commonly present in and around sites where kauri are infected with PA to understand any possible relationships and effects of other tree species on kauri and PA.

7.2.1 Risk Zone Mapping

There is a recognised need for a more robust system to assess area risk zones. While this topic is frequently discussed, there is currently no effective platform in place. By overlaying hydrology data onto Biospatial imagery, a clear, colour-coded risk map, green for low risk, yellow for moderate, and red for high, can be developed based on water flow, and other environmental factors.

7.3 Engagement & Education

The kauri protection programme in Northland has achieved significant success in community engagement and education. There has been an increase in interest from schools and volunteer groups, with events becoming a highlight for many young learners. Looking ahead, the goal is to build on this by delivering between seven and ten school-based events annually, focusing on students aged 10 to 17. Smaller schools and kindergartens will also be included to ensure that younger community members are introduced to the importance of kauri protection in a fun and meaningful way.

One of the most impactful elements of the educational outreach has been the use of virtual reality (section 4.3.1). Currently, the programme operates with eight VR units and a single visual learning platform. Plans are in place to expand this to 14–16 units and introduce a second platform. This expansion would also extend the programme's reach to the Waipapa and Kaipara NRC offices, which currently lack dedicated kauri protection champions. Equipping these offices with VR units would enhance in-house training and provide valuable resources for contractors, volunteers, and community groups.

7.3.1 Education and Awareness

Kauri dieback is a complex issue involving both scientific uncertainty and diverse stakeholder perspectives that can lead to public misinformation regarding the threat of PA to kauri and the effectiveness of management actions. Effective management requires community engagement, understanding human behaviour, and robust social science research. While past studies have focused on public compliance with biosecurity measures, there is a need for more consistent and accessible research to support meaningful community involvement in managing the disease.

Engaging communities in kauri dieback management is a challenging task. Social science research can guide decision-making by offering evidence-based strategies for engagement, communication, and understanding human behaviour. It helps identify key audiences, integrate

diverse knowledge systems (scientific, mātauranga, local), and support collaboration across disciplines. A communication and engagement plan should be developed for Council's kauri protection programme to support education and engagement activities and prevent misinformation being disseminated.

7.3.2 Treatment Advice

As the effectiveness of kauri dieback treatments, such as phosphate injections or mātauranga practices, becomes better understood, treatment protocols could be provided to private landowners and landcare groups. The advice would require easy-to-follow treatment methods that could form part of mitigation advice, management plans or be available through the NRC website.

7.3.3 Awareness Training for Contractors

Awareness Training for Contractors is a targeted education initiative designed to ensure that individuals working in or around kauri forests understand the risks of kauri dieback and follow best-practice biosecurity protocols. While the training programme has progressed more slowly this year, partly due to new legislation from Tiakina Kauri (TK) and increased media scrutiny, this presents an opportunity to diversify the training approach. A two-tiered system is proposed: a one-hour, classroom-based introductory session, complemented by an online training module accessible to contractors and volunteers. A concise six-page document will accompany this module, summarising the latest TK rules and regulations in a user-friendly format.

7.4 Research and Innovation

NRC continues to support innovation in kauri dieback management. Surveillance data and soil samples collected through fieldwork are being shared (in anonymised form) with researchers to support the development of improved diagnostic tools. In 2025, this collaboration contributed to the development of a new surveillance tool. Current research is focused on comparing existing and emerging diagnostic techniques to better tailor surveillance strategies for biosecurity and land management.

7.4.1 Soil Sampling and Quality Assurance

In terms of soil sampling, new techniques for detecting PA and *Phytopthera cinnamomi* (PC; a closely related *Phytopthera* species that causes root rot in over 2000 other plant species) are being explored by NRC. A subset of samples will be tested using three different methods to determine the most reliable approach. To ensure the integrity of results, a sampling audit system will be implemented by NRC. The majority of samples will be tested using the preferred loop-mediated isothermal amplification (LAMP) method, while one in every fifteen will be split and analysed by two independent laboratories. If discrepancies arise, the audit frequency will be increased and mitigation strategies investigated to maintain trust in the NRC data.

7.4.2 New Diagnostic Tools for PA Detection

Confirming the presence of PA through current soil sampling methods is a significant burden on resources, both in terms of staff hours and financial costs. There is potentially space for the

development of a diagnostic method that can quickly process high volumes of PA samples, allowing for the expansion of PA surveillance. Portable DNA diagnostics, such as loop-mediated amplification assays, could enable rapid, reliable, and cost-effective detection of PA in kauri forests. These tools can distinguish PA from related species without needing lab conditions (Bradshaw et al., 2020).

7.4.3 Soil Science Research

Studies indicate that soil profiles may play a significant role in the prevalence of PA in kauri sites (Bradshaw et al., 2020; Mohini, 2024). Soils that hold more moisture and have higher levels of carbon, nitrogen and hydrogen are all thought to provide favourable conditions for PA (Mohini, 2024). NRC's Kauri Protection program currently undertakes soil sampling to test for the presence of PA at kauri tree sites. There is the potential for collected soil samples to be analysed for their composition. The soil composition data could aid research into correlations between soil types and PA prevalence in Northland, guiding effective kauri protection efforts.

7.5 Data Management

The management of data relating to councils kauri protection work has been identified as an area that requires improvement. A data management system that allows for the detailed year-on-year recording of incidents reported, management actions undertaken, KPIs, and funding received and spent will enable quicker analysis. This system will indicate if KPIs are being met, if funding has been underspent or exceeded, and help determine if management actions are effective in stopping or minimising the spread of PA. Improved data management will enable a more efficient method for retrieving information for funding applications, reporting, and Official Information Act requests. External contractors providing kauri protection services to NRC should have limited access to the data management system, enabling them to enter their contributing data directly. Alternatively, external contractors could be directed to provide data in a specific format that Council can import directly into the data management system.

7.5.1 Tree Surveying and Data Integration

In the area of tree surveying, the introduction of the TK national database, Kete Aronui, marks a significant advancement. Although the system is still in its early stages and experiencing some issues, its potential is promising. To support this initiative, it is proposed that Council staff be equipped with tablets loaded with the Survey123 app. These devices, integrated with existing work phones and field tools, will enable real-time data collection and seamless uploads to the national database.

The vision for tree data collection is threefold. First, accurate field surveys will be conducted with geotagging of individual trees. Second, photoblique imagery from the Biospatial platform will be used to create comprehensive visual records of each tree, including historical and current images. Finally, sampling data from Biosense or Plant & Food Research will be integrated to build detailed profiles for each tree, encompassing both visual and biological information.

7.6 Effectiveness of Current Management

It is important to understand whether current management actions, such as new hygiene stations and track upgrades, are helping to minimise the transmission of PA. Sites where PA was detected earlier in the kauri dieback protection programme and management actions were undertaken provide an opportunity to assess the effectiveness of the management actions. Follow-up site surveillance and soil sampling of the early PA-positive sites could provide comparative data on the spatial distribution of PA within the site and determine if management strategies in place at the site have been effective in minimising PA spread.

7.6.1 Team Development and Strategic Representation

The strength of the programme lies in the expertise of Council's kauri protection team. It is essential that team members remain well-informed in key areas, including TK updates, forestry and grower relations, iwi and hapū engagement, track and hygiene station construction, and community education. By fostering expertise across these domains, the Council kauri protection team can continue to lead the way in safeguarding these iconic trees for future generations.

7.6.2 Te Ao Māori

While engagement with iwi and hapū regarding kauri dieback in Northland has been at the core of NRC's kauri protection strategy, mātauranga Māori has had limited opportunities to be included and integrated into PA research and management. Enabling mātauranga use in PA research and management ensures Māori are recognised as full Treaty partners in protecting Northland's taonga kauri.

7.6.3 Cleaning Station & Track Improvements

Accessibility remains a critical issue. Currently, there are no provisions in place to accommodate individuals with disabilities at hygiene stations or on certain tracks. Following consultation with the local disability action group, it is believed that a few simple modifications could make a significant difference. A proposal is being developed for the 2025–26 year to upgrade facilities at Mair Park, Whangarei, making them more inclusive and accessible to all.

Attention is needed for the condition and usability of hygiene stations along walking tracks. Over the past nine months, there has been a decline in their use, largely due to the absence of traffic-funnelling features that guide visitors through the stations. Redesigning these stations to include such features is expected to significantly improve compliance. Additionally, public information stalls are proposed for popular tracks - such as the Hātea River Walk - during peak weekend hours. These stalls would provide guidance, answer questions, and reinforce the importance of kauri protection.

7.7 Climate Resilience

Climate change is predicted to increase the spread and severity of kauri dieback disease through various interconnected mechanisms, such as:

- Increased Soil Moisture and Temperature

- Tree Stress and Susceptibility
- Changes in Forest Microclimates
- Disruption of Ecosystem Balance

These mechanisms underscore the importance of incorporating climate resilience into kauri dieback management strategies, such as adaptive surveillance, community engagement, and forest restoration planning (Latham et al., 2025).

7.8 Future Financial Allocations

The following proposed estimates of annual budget allocation to the Kauri Protection Programme at NRC are based on staff projections of minimum activities required for a baseline of PA spread reduction, within the role that NRC plays in kauri protection.

Table 6: Proposed projected annual financial allocations for kauri protection activities at NRC in the future.

Category	Estimated Annual Allocation	Purpose
Regional Partnerships and planning supporting iwi and hapū	$250,000	Co-designed regional initiatives with hapū and iwi, including mātauranga Māori integration.
Track Upgrades and Fencing and vector control	$250,000	Boardwalks, barriers, and rerouting to reduce soil movement. Fencing and vector Control
Surveillance & Diagnostics	$200,000	Soil testing, aerial surveillance and AI tool development, drone surveys, GIS mapping.
Community Engagement & Education	$150,000	Workshops, signage, school programs, and hygiene station maintenance.
Research & Innovation Grants	$100,000	Support for trials of phosphite treatments, resistant kauri, or new tech.
Contingency & Emergency Response	$50,000	Response to new detections or urgent infrastructure needs.
Total	$1,000,000	

8.0 Conclusion and Recommendations

Over the reporting period from July 2022 to June 2025, Northland Regional Council (NRC) has continued to make significant progress in protecting kauri forests from the devastating effects of PA. This review highlights key achievements across surveillance, community engagement, infrastructure upgrades, pest control, and collaborative partnerships with iwi and hapū.

8.1 Key Insights and Achievements

Surveillance and Detection: Aerial and AI-assisted surveillance by Biospatial has significantly enhanced early detection capabilities, enabling targeted interventions and mapping of kauri populations and kauri dieback. Over 337 soil samples were collected, with 33 management plans developed for PA-positive or high-risk sites.

Infrastructure Improvements: More than 2,300 metres of track upgrades and 39 hygiene stations (installed or upgraded) have helped prevent the spread of PA and improved public compliance.

Vector Control: Targeted control of feral pigs, goats, and deer has been undertaken, which mitigates soil disturbance and reduced PA transmission vectors.

Community Engagement: Dozens of public engagement events, including immersive VR experiences and school workshops, have fostered widespread awareness and stewardship.

Mana Whenua Collaboration: Deepening partnerships with iwi and hapū have strengthened culturally grounded conservation efforts and enhanced local capability.

8.2 Strategic Priorities & Opportunities for 2025–2030

The next five years should see a strategic shift towards sustainable collaboration with iwi and hapu and partner agencies, enhanced surveillance, research, and treatment of PA, while still focussing on public awareness and preventing further spread of PA.

Key priorities over the next five years include:

Regional Collaboration and Planning

- Develop a regional plan to guide kauri protection across Te Tai Tokerau, co-designed with iwi, hapū, and partner agencies.
- Define shared objectives, roles, responsibilities, and funding commitments to ensure coordinated and efficient delivery of kauri protection activities.
- Align regional actions with national strategies and local priorities, supporting both ecological outcomes and Treaty obligations.
- Strengthen governance and decision-making structures to support long-term collaboration and accountability.
- Use the regional plan as a foundation to secure long-term, multi-agency funding and investment in kauri protection.

Surveillance & AI

- Conduct biennial aerial flyovers and apply AI analysis to monitor kauri health and detect early signs of PA spread.
- Integrate aerial data with ground-based surveys to improve detection accuracy and response planning.
- Create hydrology-based risk zone maps using Biospatial imagery and environmental data. Use these maps to prioritise interventions and allocate resources effectively.

Research and Innovation

- Continue supporting phosphite treatment trials and soil composition studies.
- Collaborate with research institutions to develop and use rapid, cost-effective diagnostic tools for PA detection.

Engagement and Education

- A communication and engagement plan should be developed for Council's kauri protection programme to support education and engagement activities.
- Maintain and grow outreach efforts through school programmes, VR experiences, and community events. Deploy the mobile engagement trailer to reach remote communities and seasonal gatherings.
- Strengthen partnerships with iwi, hapū, and local groups to co-design culturally-grounded education and stewardship initiatives. Expand opportunities for mātauranga Māori to inform research, monitoring, and treatment approaches. Forge sustainable relationships to ensure future collaboration for the betterment of all kauri protection efforts.
- Develop a two-tiered contractor training system: introductory classroom sessions and online modules. Provide updated materials aligned with Tiakina Kauri regulations to ensure consistent biosecurity practices.

Data Management

- Improve the internal NRC data collection and storage system to allow for more rapid, intuitive analysis of operational activities, and enable real-time data collection and analysis to support decision-making and reporting. Establish a centralised, year-on-year data system to track council KPIs, incidents, actions, and funding, with access for contractors and partners.
- Continue to improve and implement the Kete Aronui national database.

Improving Infrastructure

- Continue to upgrade hygiene stations and walking tracks to improve accessibility and effectiveness in preventing PA transmission.
- Include features that support compliance, such as traffic-funnelling designs and disability-friendly modifications.

Effectiveness of Current Management

- Continue to review and update current management, mitigation, education and general practices to ensure that they are the most effective possible for the prevention of the spread of kauri dieback disease.
- Conduct follow-up assessments at early PA-positive sites to evaluate the effectiveness of mitigation measures.
- Develop and disseminate clear, accessible kauri treatment advice for landowners and community groups, based on updated, best-practice approaches.

Climate Resilience

- Incorporate climate resilience into kauri dieback management strategies, such as adaptive surveillance, community engagement, and forest restoration planning.
- Develop strategies to anticipate and mitigate future risks.

Overall, to ensure the long-term survival of kauri forests in Northland, council should continue to lead and support a multi-faceted, collaborative approach that balances scientific innovation, cultural stewardship, and community engagement. By maintaining the current approaches and increasing key activities such as surveillance, research, and kauri treatment, and by addressing identified gaps, council can build a resilient and adaptive framework for kauri protection that honours both ecological and cultural values.

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Glossary

Agathis australis	The scientific name for the kauri tree, a large taonga conifer endemic to northern New Zealand.
Biosecurity Act 1993	New Zealand legislation that provides the legal framework for managing pests and diseases that pose risks to the environment, economy, and human health.
Crown Research Institutes (CRIs)	Government-owned research organizations in New Zealand that conduct scientific research, including in biosecurity and forest health.
Dieback	A condition in which a tree or plant begins to die from the tips of its leaves or roots backward, often due to disease.
Hapū	Sub-tribes or extended family groups within Māori iwi (tribes), often with specific ancestral and territorial affiliations.
'High risk' sites	Using the PA Risk Matrix, the likelihood and consequence of PA spread has been assessed as High at the site. A site is a tree or stand of trees, and there can be multiple sites on one property.
Hygiene Station	A cleaning station installed at forest entrances/exits to disinfect footwear and equipment, preventing the spread of soil-borne pathogens like PA
Iwi	Māori tribes or large kinship groups, often involved in environmental stewardship and cultural governance.
Kauri Dieback	A disease caused by the pathogen *Phytophthora agathidicida*, which infects kauri tree roots and leads to tree death.
Kauri Ora	A collaborative iwi-led initiative focused on protecting kauri forests in Te Tai Tokerau (Northland).
Mana whenua	Māori groups with ancestral and territorial rights over a particular area of land.
Mātauranga Māori	Traditional Māori knowledge, including environmental and ecological understanding passed down through generations.
National Pest Management Plan	A regulatory framework under the Biosecurity Act for managing the spread of PA and protecting kauri.
Oospore	A thick-walled sexual spore that develops from a fertilized oosphere in some algae, fungi, and oomycetes. Life cycle stage of PA that can be dormant and survive in soil for prolonged periods.
PA Risk Matrix	The PA Risk Matrix identifies the level of risk posed by an activity or a vector (pathway for movement of PA). Vectors or activities have been placed in the matrix according to the risk they pose based on relevant factors.

Phytophthora agathidicida	The pathogen responsible for kauri dieback disease.
Phosphite Treatment	A chemical treatment involving phosphorous acid injections into kauri trees to slow the progression of dieback disease.
Reporting period	The period of NRC activity that this report covers; 2023-2025, inclusive
Rongoā Māori	Traditional Māori medicine, including the use of native plants for healing and disease prevention.
Soil Sampling	The process of collecting soil from around kauri roots to test for the presence of PA.
Sterigene	A disinfectant that kills bacteria, viruses and fungi, used at hygiene stations to kill *Phytophthora* zoospores.
Tāne Mahuta	The largest known living kauri tree, located in Waipoua Forest.
Te Ao Māori	The Māori worldview, encompassing cultural values, spiritual beliefs, and environmental stewardship.
Tiakina Kauri	The national programme led by Biosecurity New Zealand to coordinate kauri protection efforts.
Zoospore	A motile, asexual, swimming spore capable of propagating in moist/aqueous environments. Life cycle stage of PA that actively seeks out and infects kauri roots in wet soil.

List of Abbreviations

NRC	Northland Regional Council
KPI	Key Performance Indicator
AI	Artificial Intelligence
PA	*Phytophthora agathidicida*
PTA	*Phytophthora* taxon *Agathis*
MPI	Ministry for Primary Industries
DOC	Department of Conservation
NZ	New Zealand
DNA	Deoxyribonucleic Acid
NPAPMP	National *Phytophthora agathidicida* Pest Management Plan
NPMP	National Pest Management Plan
RPMP	Regional Pest Management Plan

RPMPMP	Regional Pest and Marine Pathway Management Plan
VR	Virtual Reality
TK	Tiakina Kauri

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TITLE:	**2025-2026 Biosecurity Operational Plan**
From:	Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity and Joanna Barr, Biosecurity Manager Pest Plants
Authorised by Group Manager/s:	Jonathan Gibbard, Tāhūhū Rangapū - Chief Executive Officer, on 28 July 2025

Whakarāpopototanga / Executive summary

The attached draft Biosecurity Operational Plan 2025-2026 (hereafter referred to as the Plan) has been prepared as a requirement of the Biosecurity Act 1993 section 100B. The Plan describes the performance measures (KPI's) and how biosecurity programmes will be implemented during the 2025/2026 financial year.

This report presents the Plan with refinements proposed for one animal pest and seven plant pest KPI's and seeks the support of the Working Party for it to be adopted by council at their next meeting.

Ngā mahi tūtohutia / Recommended actions

1. That the report '2025-2026 Biosecurity Operational Plan' by Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity and dated xxxxxx, be received.
2. That the Working Party support the adoption of the Plan by council including the refinements which are proposed in the report.

Background/Tuhinga

Section 100B of the Biosecurity Act states that the Plan must be completed within three months of the end of the financial year. It is intended that the Plan is presented for council approval within that timeframe having been considered and supported by the Biosecurity and Biodiversity Working Party.

At a previous meeting of the working party in March 2025 members were advised that the 2025-2026 Operational Plan is predicted to overlap with the council's adoption of a revised Regional Pest Management Plan (RPMP) in 2026. Once a revised RPMP is adopted there will be a requirement to also revise the Plan so that it reflects any new rules and expected outcomes of the RPMP.

Therefore, staff recommended no major changes be made to the current Plan at this stage and this approach supported by the Working Party. However, since that time staff have considered all of the KPI's and although no major changes are proposed for the plan several refinements are recommended aimed at improving the clarity of the rule or meaningfulness- these are expected to roll over into the new Operational Plan once the review of the RPMS is complete. The proposed refinements are described below.

In addition, and for convenience they are also marked up in the attached draft Plan
2025-2026 Biosecurity Operational Plan - edited showing mark ups version for WP August 2025.docx

Eradication animals - Wild deer

Existing KPI			
Key performance measure Page 16 of the Plan	**How will this be measured?**	**Proposed refined key performance measure**	**Rationale for change**
"No wild Deer in Te Taitokerau" NRC and DOC design a joint advocacy campaign, involving other stakeholders as necessary (e.g.: iwi, hapu, Game Animal Council), to promote the Strategy Vision of "No wild populations of deer in Northland"	Evidence of a communications and engagement Plan	"Wild Deer Free Te Taitokerau" NRC and DOC to design a joint communications and engagement plan, involving other stakeholders as necessary (e.g.: hapū/iwi, other government agencies and community), to promote the Strategy Vision of "Wild Deer Free Te Taitokerau"	This proposed wording is more inclusive, and highlights stakeholder engagement.

Eradication Plants and Freshwater Pests			
Existing KPI			
Key performance measures **Pg 10 of the Plan**	**How will this be measured**	**Proposed refined key performance measure**	**Rationale for change**
Eradication incident investigation and response Initial investigations for all reported sightings and/or discoveries of eradication species undertaken within 10 working days and control actions completed within 20 working days.	Reported via council database.	Eradication incident investigation and response Initial investigations for all reported sightings and/or discoveries of eradication species undertaken within 10 working days and control plan in place within 20 working days of confirmation.	Depending on size, accessibility and regulatory requirements around control over water control cannot always be implemented and completed within 20 working days.

Exclusion, Eradication, Progressive Containment and Sustained Control Plants

Existing KPI			
Key performance measures Page 10 of the Plan	**How will this be measured**	**Proposed refined key performance measure**	**Rationale for change**
Plant retail outlet compliance All known plant outlets in Northland are inspected annually for exclusion, eradication, progressive containment and sustained control species, and species banned under the National Pest Plant Accord.	Record of plant outlets visited by staff and any non-compliances found.	Plant retail outlet compliance 95% known plant outlets in Northland are inspected annually for exclusion, eradication, progressive containment and sustained control species, and species banned under the National Pest Plant Accord.	The current performance indicator of inspection of 100% of all known plant outlets can be undermined by the frequency with which new, small outlets open and close. The target will remain 100% inspection of all nurseries, however a KPI of 95% allows for the occurrences of new outlets being identified after the inspection rounds are completed for the year, and these being inspected in the next round, rather requiring separate trips by staff, which impacts on delivery of other work.

Exclusion/Eradication Plants

Existing KPI			
Key performance measures Page 12 of the Plan	**How will this be measured**	**Proposed refined key performance measure**	**Rationale for change**
Best practice management All management sites visited on scheduled best practice rotation (based on biological characteristics of each species and defined in the species programme record in the council's IRIS database).	Reported from council database.	Best practice management 95% of management sites visited on scheduled best practice rotation (based on biological characteristics of each species and defined in the species programme record in the council's IRIS database).	Performance indicator of 100% of best practice for all sites in all programmes doesn't allow for the normal, unavoidable issues that occur in practice, such as safety issues preventing access. This means the KPI is failed if a single site in a programme is unable to be inspected on one inspection rotation. The best practice target, rather than a minimum requirement target, is already a high-level target, thus a 95% achievement rate will still see programmes progressing toward eradication.
Progress towards eradication Annual decrease in number of adult plants observed or the infestation area at existing management sites.	Reported from council database.	Progress towards eradication Annual decrease in infestation area at existing management sites.	Simplifying the measure in line with the original intent as the new spatial field tool will be operational and will ensure consistent data standards and will be able to convert point/count data into infestation area.

Progressive Containment Plants - *these changes mirror the changes proposed for Exclusion and Eradication plant categories above.*

Existing KPI			
Key performance measures Page 12 of the Plan	**How will this be measured**	**Proposed refined key performance measure**	**Rationale for change**
Best practice management 100% of council managed sites visited on scheduled best practice rotation (based on biological characteristics of each species and defined in the species programme record in the council's IRIS database).	Evidence of schedule and visits made is reported back.	Best practice management 95% of council managed sites visited on a scheduled best practice rotation (based on biological characteristics of each species and defined in the species programme record in the council's database).	The performance indicator of 100% of best practice for all sites in all programmes doesn't allow for the normal, unavoidable issues that occur in practice, such as safety issues preventing access. This means the KPI is failed if a single site in a programme is unable to be inspected on one inspection rotation. The best practice target, rather than a minimum requirement target, is already a high-level target, thus a 95% achievement rate will still see Council managed sites progressing toward eradication, and the programme progressing toward progressive containment.
Progress towards eradication Annual decrease in number of adult plants or the infestation area at existing council managed sites.	Reported from council database.	Progress towards eradication Annual decrease in infestation area at existing council managed sites.	Simplifying the measure in line with the original intent as the new spatial field tool will be operational and will ensure consistent data standards and will be able to convert point/count data into infestation area.

Sustained Control Plants			
Existing KPI			
Key performance measures Page 13 and 14 of the Plan	**How will this be measured**	**Proposed refined key performance measure**	**Reason for change**
Road and rail five year weed management plans. All road and rail authorities have five year weed management plans or prioritised annual plans approved and implemented.	Evidence of management plans in place and monitored and showing reduction in impacts of pest plants.	No change but just a note for Working Party members to be aware: This KPI is unlikely to be met given the roading authorities continued lack of engagement with NRC. The current structure of the rules relating to Road and Rail Authorities doesn't allow an escalation to a Notice of Direction or to act on default to achieve compliance. The current review of the Regional Pest and Marine Pathways Management Plan aims to review and revise these rules.	
Best practice guide developed for all road and rail authorities	Evidence of a guide developed.	To be removed	A guide for the development of 5 year weed management plans was developed and provided to road and rail authorities in 2023, meaning this KPI has already been completed and should be removed.

Ngā tapirihanga / Attachments

Attachment 1: 2025-2026 Biosecurity Operational Plan - edited showing mark ups version for WP August 2025 ⇩

Biosecurity Operational Plan 2025-2026

Mahere tautahi whakahaumaru taiao

Tē tōia, tē haumatia

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Contents | Ihirangi

1. Introduction | Tīmatanga kōrero

Tē tōia, tē haumatia

Nothing can be achieved without a plan, workforce, and way of doing things.

Background

The Northland Regional Council (council) is the management agency responsible for developing and implementing the Northland Regional Pest and Marine Pathway Management Plan 2017-2027 in accordance with the Biosecurity Act 1993 (Pest Plan). The Pest Plan is a combination of the eradication or effective management of specified pests (or groups of pests), and a marine pathway plan designed to prevent and manage the spread of harmful marine organisms via boat hull fouling within Northland coastal waters.

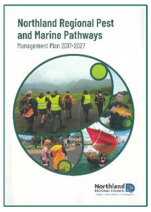
The Pest Plan describes the biosecurity activities that will be undertaken throughout Northland and outlines the management or eradication of specific organisms and/or marine pest pathways. Doing so will:

- minimise the actual or potential adverse or unintended effects associated with these organisms and/or pathways, and,
- maximise the effectiveness of individual actions in managing pests or pathways through a regionally coordinated approach.

Associated Documentation

Regional Pest and Marine Pathway Management Plan 2017-2027 *(the Pest Plan)*

This operational plan has been prepared as a requirement of the Biosecurity Act 1993 section 100B and should be read in conjunction with the Pest Plan. It includes all species listed in the Pest Plan. The plan describes the nature and scope of activities the Council intends to undertake in the implementation of the Pest Plan for the period 1 July 2021 – 30 June 2022. For full details of pest management objectives, aims, principal measures to manage pests, and pest management rules, please refer to the Pest Plan.



https://www.nrc.govt.nz/media/uhudlio4/northlandregionalpestandmarinepathwaymanagementplan20172027.pdf

Northland Regional Council Long Term Plan 2021-2031

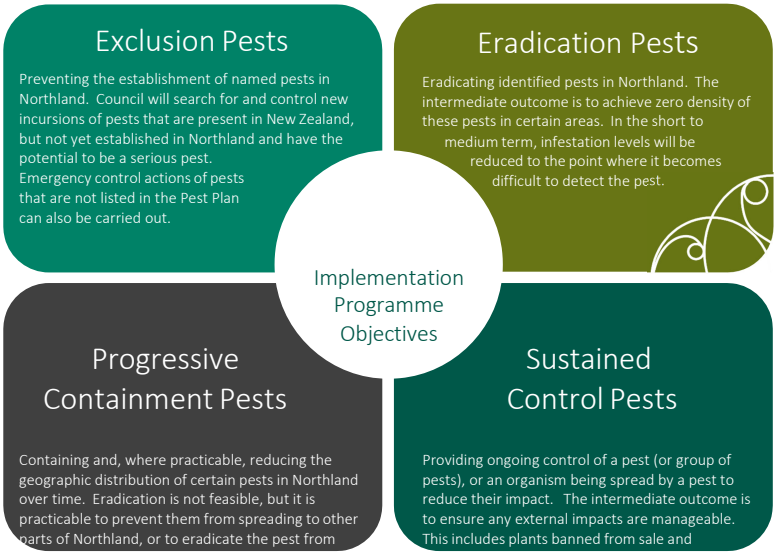
This operational plan is integrated with council's Annual and Long Term plans which prescribe the funding and resources allocated to programmes within the plan. Council's Long Term Plan 2021-2031 maintains a focus on pest management activities in Northland. The plan states that the council will provide the services of:

- Reducing the impact of introduced pests on the environment, economic and social values; and,
- Protect the health of forests and lakes through effective regional pest control; and,
- Promoting community involvement in pest management, including tangata whenua, communities, district councils and other stakeholders.

https://www.nrc.govt.nz/media/wsidxsbe/final-long-term-plan-2021-to-2031.pdf

2. Implementation Programmes Whakatinana te hōtaka

The Pest Plan is implemented by programmes as detailed below:



3. Pest species in the plan
Ngā riwha katoa i te rautaki

Northland's Pest Plan contains 143 species. A breakdown on the number and types of pests along with a detailed listing of the pests included is detailed in the tables below and overleaf.

Type of Pest	Number of Species (or groups of species) in the Pest Plan					
	Exclusion	Eradication	Progressive Containment	Sustained Control	Banned from sale or distribution	Total
Plants	13	22	5	18	35	93
Animals	11	3		12		26
Diseases				1		1
Fresh water	3	8	3	2		16
Marine				7		7
Total	27	33	8	40	35	143

Pest species included in the plan

Pest Type	Exclusion Species	Eradication Species	Progressive Containment
Plants	Asiatic knotweed Chinese knotweed Climbing spindle berry Giant hogweed Giant knotweed Holly-leaved senecio Houttuynia Noogoora bur Old man's beard Phragmites Purple loosestrife Sea Spurge Velvetleaf	Akebia Balloon vine Bat-wing passionflower Cape tulip Cathedral bells Chilean rhubarb Evergreen buckthorn Field horsetail Firethorn Gypsywort Lesser knotweed Mexican feather grass Mickey mouse plant Monkey musk Nassella tussock Nutgrass Royal fern Spartina species including: *Spartina alterniflora* *Spartina anglica* *Spartina townsendii* Wilding kiwifruit Yellow flag iris	African feather Grass Lantana (all varieties) Manchurian wild rice Mile-a-minute Pultenaea
Animals	Bearded dragon Big headed ant Blotched blue tongued skink Common blue tongued skink Indian ring-necked parakeet Rainbow lorikeet Rook Sulphur crested cockatoo Wallaby (all *Macropus*, *Petrogale* and *Wallabia* species)	Feral deer including all species and hybrids of: *Cervus* *Dama* *Odocoileus*	
Disease			
Fresh water	Entire marshwort Orfe Water poppy	Eastern water dragon Eel grass Nardoo Red-eared slider turtle Salvinia Senegal Tea Snake-necked turtle Water hyacinth	Koi carp Perch Tench
Marine			

Pest Type	Sustained Control	Banned from Sale and Distribution
Plants	Bathurst bur Brazillian Pepper tree Gorse Gravel Groundsel Phoenix palm Privet (Ligustrum) including: *L. lucidum* (tree privet) *L. sinense* (Chinese privet) *L. ovalifolium* (privet) *L. vulgare* (common privet) Queen of the night Rhus tree Wild ginger including: Yellow ginger Kahili ginger Wilding conifers including: *Pinus contorta* Douglas fir Maritime pine Radiata pine Woolly nightshade	Agapanthus Black-eyed Susan Broom Brush wattle Buddleia Camphor laurel Cape honey flower Cape ivy Century plant Coastal banksia Cotoneaster incl: *C. glaucophyllus* *C. franchetii* Eleagnus Elephant's ear English ivy Furcraea German ivy Greater bindweed Hakea Hakea Himalayan fairy grass Himalayan honeysuckle Jasmine Kangaroo acacia Lily of the valley vine Oxylobium Paperbark poplar Periwinkle Prickly moses incl: *Acacia verticillata subsp. cephalantha* *A. v. subsp. ruscifolia* Sexton's bride Sharp rush Sycamore Sydney golden wattle Taiwan cherry Velvet groundsel
Animals	Argentine ant Darwin's ant Feral and stray cats Feral goat Feral pig Mustelids incl: Ferret Stoat Weasel Possum Rabbit Rodents incl: Norway rat Ship rat	
Disease	Kauri dieback	
Fresh water	Brown bullhead catfish Rudd	
Marine	Asian paddle crab Australian droplet tunicate Japanese mantis shrimp Mediterranean fanworm Pyura sea squirt Styela sea squirt Undaria seaweed	

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4. Financial summary
Whakarāpopoto ā pūtea

Council's Long-Term Plan 2021 - 2031 provides the necessary funding (via rates and user charges) for the operational and planning activities associated with biosecurity and pest management carried out by Northland Regional Council. Additional external funding grants have also been allocated to supplement council investment in pest management.

Biosecurity Budget 2024- 2025	Long Term Plan
Biosecurity Pest Management rate	$9.49M
External funding	$4M
Total Biosecurity Expenditure	$13.49M

NOTE: Budget is an estimate at this stage. This will be subject to changes as any annual plan or Long- Term Plan forecasts are finalised and decisions made..

5. Team key performance indicators
Ngā tohu paetawhiti o te roopū

Biosecurity has several key performance measures applicable over all or some of the department as detailed in the table below.

Additional focused key performance measures applicable within specific areas of the Biosecurity are detailed as required in Sections 6 – 10 of this operational plan.

Department area	Key performance measures	How will this be measured?
Whole department	Community engagement Total number of engagement events and other social media interactions is maintained or is greater than the previous year.	Events attended and social media interactions recorded and reported annually.
Whole department	Bicultural collaboration: Number of relationships and collaborative projects that are underway with hapū / whanau / iwi increases by a minimum of 5% annually.	Recorded via council databases.
Whole department	Bicultural capability All permanent staff will have achieved competency level 1 in council's Te Whāriki workshops.	Human resources records.
Pest Plants Pest Animals Freshwater Pests	Identify new sites Identify new sites of exclusion, eradication, and progressive containment pest through passive and active surveillance by council staff, the public, or through regional surveillance.	Evidence of the records of new sites reported and recorded.
Pest Plants Pest Animals Freshwater Pests	Exclusion incident investigation Initial investigations for all reported sightings and/or discoveries of exclusion species undertaken within 5 working days.	Reported via council database.
Pest Plants Pest Animals Freshwater Pests	Exclusion incident response An initial response plan developed and implemented for any new incursion of an exclusion species within 20 working days of confirmation of species.	Evidence of plans developed.

Department area	Key performance measures	How will this be measured?
Pest Plants Freshwater Pests	Eradication incident investigation and response Initial investigations for all reported sightings and/or discoveries of eradication species undertaken within 10 working days and control actions completed within 20 working days.	Reported via council database.
Pest Plants Freshwater Pests	Progressive containment incident investigation and response Initial investigations for all reported sightings and/or discoveries of Progressive Containment species (outside of containment zones) undertaken within 10 working days and decisions documented within 20 working days.	Council database.
Pest Plants Pest Animals Freshwater Pests	Request response time Response to requests from the public on sustained controlled pests will be responded to within 20 working days.	Reported via council database.
Pest Plants	Plant retail outlet compliance All known plant outlets in Northland are inspected annually for exclusion, eradication, progressive containment and sustained control species, and species banned under the National Pest Plant Accord.	Record of plant outlets visited by staff and any non-compliances found.

Commented [JB1]: Proposed refined key performance measure:
Eradication incident investigation and response

Initial investigations for all reported sightings and/or discoveries of eradication species undertaken within 10 working days and control plan in place within 20 working days of confirmation.

Rationale: Depending on size, accessibility and regulatory requirements around control over water control cannot always be implemented and completed within 20 working days.

Commented [JB2]: Proposed refined key performance measure:
Plant retail outlet compliance

95% known plant outlets in Northland are inspected annually for exclusion, eradication, progressive containment and sustained control species, and species banned under the National Pest Plant Accord.

Rationale: The current performance indicator of inspection of 100% of all known plant outlets can be undermined by the frequency with which new, small outlets open and close. The target will remain 100% inspection of all nurseries, however a KPI of 95% allows for the occurrences of new outlets being reported after the inspection rounds are completed for the year, and these being inspected in the next round, rather requiring separate trips by staff, which impacts on delivery of other work.

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6. Pest plants | Ota-ota rāwaho riha

6.1 Exclusion plants

Eradication of infestations of exclusion plants will be attempted by the council in conjunction with relevant Crown agencies, tangata whenua, and other stakeholders where practicable.

Council will provide training to relevant council staff and stakeholders about the identification of the exclusion pests to assist in early detection. Council will provide advice, attend events, and undertake publicity campaigns to increase public awareness of exclusion pests.

Regulatory programmes include:

- Enforcement of rules relating to exclusion plants.
- Eradication of exclusion plants found in Northland.
- Inspection / enforcement of rules relating to Plant nurseries and retail outlets (National Pest Plant Accord).

Non-regulatory services include:

- Supporting eradications undertaken by other Crown agencies, tangata whenua, and other stakeholders.
- Provide advice about how to manage exclusion plants.
- Support, attend and provide public weed control workshops to raise awareness and provide training to relevant stakeholders.
- Manage contractors relating to control of exclusion plants.

6.2 Eradication Plants

Control work will be undertaken annually by council staff / contractors / partners and/or stakeholders and detailed work plans will be developed for specific pests.

Regulatory programmes include:

- Enforcement of rules relating to eradication plants.
- Eradication of species listed within the eradication programme.
- Inspection / enforcement of rules relating to Plant nurseries and retail outlets (National Pest Plant Accord).

Non-regulatory services include:

- Support eradications undertaken by other Crown agencies, tangata whenua, and other stakeholders.
- Provide advice about how to manage eradication plants.
- Support, attend and provide public pest control workshops to raise awareness.
- Manage contractors relating to control of eradication plants.

Eradication plant bat-wing passionflower overgrowing a stone wall.

Key performance measures

Key performance measures	How will this be measured?
Best practice management All management sites visited on scheduled best practice rotation (based on biological characteristics of each species and defined in the species programme record in the council's IRIS database).	Reported from council database.
Progress towards eradication Annual decrease in number of adult plants observed or the infestation area at existing management sites.	Reported from council database.

6.3 Progressive containment plants

Council staff will aim to eradicate populations outside the containment zone and reduce the size of the containment
zone through a variety of control methods, including but not limited to spraying.

Council staff will also support communities to reduce the impact of progressive containment pests through several regulatory and non-regulatory biosecurity programmes.

Commented [JB3]: Proposed refined key performance measure:
Best practice management

95% of management sites visited on scheduled best practice rotation (based on biological characteristics of each species and defined in the species programme record in the council's IRIS database).

Rationale: Performance indicator of 100% of best practice for all sites in all programmes doesn't allow for the normal, unavoidable issues that occur in practice, such as safety issues preventing access. This means the KPI is failed if a single site in a programme is unable to be inspected on one inspection rotation. The best practice target, rather than a minimum requirement target, is already a high-level target, thus a 95% achievement rate will still see programmes progressing toward eradication.

Commented [JB4]: Proposed refined key performance measure:
Progress towards eradication

Annual decrease in infestation area at existing management sites.

Rationale: Simplifying the measure in line with the original intent as the new spatial field tool will be operational and will ensure consistent data standards and will be able to convert point/count data into infestation area.

Regulatory programmes include:

- Enforcement of rules relating to progressive containment plant species.

Eradication and reduction of infestations of progressive containment plants may be attempted by the council in conjunction with relevant Crown agencies, tangata whenua and stakeholders.

Non-regulatory services include:

- Develop and support community pest control programmes.
- Develop and support biosecurity environment fund projects.
- Support community, mana whenua, and landcare groups.
- Provide advice about how to manage progressive containment species.
- Support, attend and provide public weed control workshops.
- Provide public weed workshops.
- Support biocontrol for progressive containment species.

Key performance measures

Key performance measures	How will this be measured?
Best practice management 100% of council managed sites visited on scheduled best practice rotation (based on biological characteristics of each species and defined in the	Evidence of schedule and visits made reported back.

Commented [JB5]: Proposed refined key performance measure:
Best practice management

95% of council managed sites visited on a scheduled best practice rotation (based on biological characteristics of each species and defined in the species programme record in the council's database).

Rationale: The performance indicator of 100% of best practice for all sites in all programmes doesn't allow for the normal, unavoidable issues that occur in practice, such as safety issues preventing access. This means the KPI is failed if a single site in a programme is unable to be inspected on one inspection rotation. The best practice target, rather than a minimum requirement target, is already a high-level target, thus a 95% achievement rate will still see Council managed sites progressing toward eradication, and the programme progressing toward progressive containment.

Key performance measures	How will this be measured?
species programme record in the council's IRIS database).	
Progress towards eradication Annual decrease in number of adult plants or the infestation area at existing council managed sites.	Reported from council database.

Commented [JB6]: Proposed refined key performance measure:
Progress towards eradication

Annual decrease in infestation area at existing council managed sites.

Rationale: Simplifying the measure in line with the original intent as the new spatial field tool will be operational and will ensure consistent data standards and will be able to convert point/count data into infestation area.

6.4 Sustained Control Plants

Council will provide advice to relevant road and rail authority staff regarding development and implementation of management plans for sustained control plants. Sustained control plants are managed through both regulatory and non-regulatory biosecurity programmes.

Regulatory programmes include:

- Enforcement of rules relating to sustained control plant species.
- Enforcement of Good neighbour rules.
- Inspection / enforcement of rules relating to Plant nurseries and retail outlets (National Pest Plant Accord).
- Inspection / enforcement of rules relating to Quarries.
- Enforcement of rules relating to Road and rail, and development and implementation of management plans).

Non-regulatory services include:

- Develop and support community pest control programmes and high value areas.
- Develop and support biosecurity environment fund projects.
- Support community, mana whenua, and land care groups.
- Provide advice about how to manage sustained control species.
- Support, attend and provide public weed control workshops.
- Provide public weed workshops.
- Continuing investing in deployment and development of biocontrol agents for sustained control plants.

Key performance measure

Key performance measures	How will this be measured?

Road and rail five year weed management plans All road and rail authorities have five year weed management plans or prioritised annual plans approved and implemented.	Evidence of management plans in place and monitored showing reduction in impacts of pest plants.
15% of all operating commercial quarries are inspected annually to determine compliance with Rule 6.4.5, Rule 6.4.7, and Rule 6.4.15"	Evidence held on council database

Commented [JB7]: No change but just a note for Working Party members to be aware: This KPI is unlikely to be met given the roading authorities continued lack of engagement with NRC. The current structure of the rules relating to Road and Rail Authorities doesn't allow an escalation to a Notice of Direction or to act on default to achieve compliance. The current review of the Regional Pest and Marine Pathways Management Plan aims to review and revise these rules.

Key performance measures	How will this be measured?
Best practice guide Best practice guide developed for all road and rail authorities	Evidence of a guide developed.

Commented [JB8]: KPI proposed for removal:
A guide for the development of 5 year weed management plans was developed and provided to road and rail authorities in 2023, meaning this KPI has already been completed and should be removed.

Blue morning glory overgrowing road signage in Tikipunga.

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7. Pest animals | Karerehe rāwaho riha

7.1 Exclusion animals

Eradication of infestations of exclusion animals will be attempted by the council in conjunction with relevant Crown agencies, tangata whenua, and other stakeholders where practicable.

Council will provide training to relevant council staff and stakeholders about the identification of the exclusion pests to assist in early detection. Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of exclusion pests.

Regulatory programmes include:

- Enforcement of rules relating to exclusion animals.
- Eradication of exclusion animals found in Northland.

Regulatory programmes include:

- Support eradications undertaken by other Crown agencies, tangata whenua, and other stakeholders.
- Provide advice about how to manage exclusion animals.
- Support, attend and provide public pest control workshops to provide training and raise awareness to assist in early detection.
- Manage contractors relating to control of exclusion animals.
- Council will provide advice, attend events, and undertake publicity campaigns to increase public awareness of exclusion animals.

*Exclusion pest Indian ring-necked parakeet seen at **Whangārei** Heads.*

7.2 Eradication animals

These pests all have the potential to establish widely in the region and can cause adverse effects to the environmental, economic, social, or cultural values of the region. Council is either the lead agency or a partner for eradicating these pests from the region.

Eradication of the eradication pests will be undertaken by the council in conjunction with relevant Crown agencies, tangata whenua, and other stakeholders where practicable.

Trail camera footage of a sika deer near Elliot's Bay in July 2021.

Regulatory programmes include:

- Enforcement of rules relating to eradication animals.
- Eradication of species listed within the eradication programme.

Non-regulatory services include:

- Support eradications undertaken by other Crown agencies, tangata whenua, and other stakeholders.
- Provide advice about how to manage eradication animals.
- Support, attend and provide public pest control workshops to raise awareness.
- Manage contractors relating to control of eradication animals.

Key performance measures

Key performance measures	How will this be measured?
Deer incident response and investigation 100% of deer incidents are responded to within 48 hours.	Incidents and time to respond are recorded in council databases.
Deer location records Known deer populations are surveyed and mapped across Northland.	Data recorded on council mapping software.
"No wild Deer in Te Taitokerau" NRC and DOC design a joint advocacy campaign, involving other stakeholders as necessary (e.g.: iwi,hapu, Game Animal Council), to promote the Strategy Vision of "No wild populations of deer in Northland"To be replaced with	Develop a joint NRC/DOC advocacy campaign.
Best practice management NRC maintains at least annual contact with Northland deer farmers to support the industry in best practice. Reducing the farm deer escapes annually.	Meetings noted in monthly reporting and council database

Commented [DM9]: Proposed to be replaced with "Wild Deer Free Te Taitokerau"
NRC and DOC to design a joint communications and engagement plan, involving other stakeholders as necessary (e.g.: hapū/iwi, other government agencies and community), to promote the Strategy Vision of "Wild Deer Free Te Taitokerau"- reason is that the refined wording is more inclusive and highlights stakeholder engagement.

7.3 Sustained control animals

Sustained control animals are generally managed through non-regulatory biosecurity partnerships, regulatory measures are used when required.

Regulatory programmes include:

- Enforcement of rules relating to sustained control animal species.

Non-regulatory services include:

- Develop and support community pest control programmes and high value areas.
- Develop and support biosecurity environment fund projects.
- Develop and support significant biosecurity partnerships (eg. Northland Regional Council-Kiwi Coast Partnership).
- Support community, mana whenua, and landcare groups.
- Provide advice about how to manage sustained control animals.
- Support, attend and provide public pest control workshops.
- Provide selected pest control materials.
- Manage contractors relating to sustained control animal control.
- Staff will assist landowners and agencies to develop management plans to manage sustained control animals in Northland.

Key performance measures

Key performance measures	How will this be measured?
Land area in CPCAs Increase in hectares of land under CPCAs per annum (increase by 5000 ha).	Evidence of management plans which show hectares of CPCAs.
Council supported programmes Measure annual outputs of council supported programmes – may include: • Number of traps issued. • Number of kills recorded or post control pest densities, where known. • Number of Biofund projects approved. • Number of Community Pest Control Areas approved. • Trends in indicator species (eg. kiwi call counts and pateke flock surveys).	Council database records.
Contractors specifically engaged by council for possum control will meet a target of 5% residual trap catch index or 15% wax tag index in council led operations.	Possum index monitoring.

Key performance measures	How will this be measured?
Council supported programmes undertaking possum control are achieving agreed targets set in community pest control area agreements.	Evidence of targets met in relevant CPCA agreements.

7.4 Predator Free Whangārei and Pēwhairangi Whānui (Bay of Islands.)

Predator Free Whangārei and Pēwhairangi Whānui aims to protect, restore, and enhance thousands of hectares of Northland's native forests, coastal habitats, and wetlands, allowing for greater protection and enhancement of threatened species of native fauna and flora.

It will link and connect several community led, landscape scale predator control programmes delivering environmental awareness and enhancement. . The project will completely remove possums from 8,600 ha of the Whangārei Heads area, and 11,600 ha in Pēwhairangi Whānui, and utilise the narrow neck of the numerous peninsula inlets and streams to protect from reinvasion. Elimination will be achieved by 2025 and 2026 respectively.

Key performance measures

Key performance measures	How will this be measured?
Possum eradication Percentage of project area in knockdown / removal phase.	Area under active management
Possum eradication surveillance Percentage of project area in surveillance phase (detection and response).	Area under surveillance

Possums caught on trail camera at Taurikura.

8. Diseases and pathogens
Ngā mate uru tāme me ngā tukumate

The *Phytophthora agathidicida* programme is a multi-agency programme involving the Ministry for Primary Industries, Department of Conservation, Northland Regional Council, Auckland Council, Waikato Regional Council, Bay of Plenty Regional Council, and tangata whenua.

The programme will utilise scientific and technological advancements to help reduce the spread of *P. agathidicida* including mātauranga Māori.

Regulatory programmes include:

- Enforcement of rules relating to sustained control disease.
- Development of high risk *P. agathidicida* management plans.
- Council staff and/or their contractors will visit all places on private land suspected of containing *P. agathidicida* to undertake further assessment or testing.

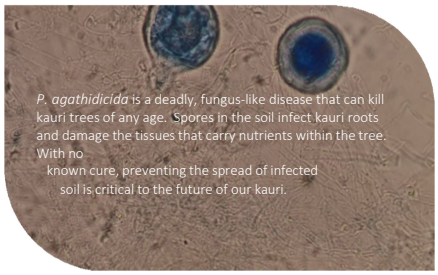
Non-Regulatory Services include:

- Support community, mana whenua, and landcare groups.
- Provide advice about how to manage sustained control disease.
- Support, attend and provide public *P. agathidicida* workshops.
- Provide materials to manage *P. agathidicida*.
- Manage contractors relating to sustained control species.

Boardwalk wending its way through young trees on the Kauri Mountain section of the Te Araroa trail.

Key performance measures

Key performance measures	How will this be measured?
Soil Sampling 100% of remaining aerial survey sites on private land will be sampled and a minimum of 50% of high risk sites will have management plans	Evidence of the number of sites sampled and *P. agathadicida* management plans completed will be recorded on council databases.
Follow up soil sampling Sample five previously sampled sites in order to reconfirm the status of the site with regard to the presence of *P. agathadicida.*	Evidence of the number of sites sampled recorded on council databases.
Hygiene stations A minimum of 5 hygiene stations installed at priority sites.	Evidence of stations recorded on council database
P. agathidicida distribution Maintain a record of distribution of *P. agathidicida* disease across Northland.	Recorded on national and council data systems.
Incident response times All incidents are recorded, and a response plan is developed within 20 working days.	Evidence held on council database.
Community engagement Deliver a minimum of ten public engagement events annually	Evidence held on council database



P. agathidicida is a deadly, fungus-like disease that can kill kauri trees of any age. Spores in the soil infect kauri roots and damage the tissues that carry nutrients within the tree. With no known cure, preventing the spread of infected soil is critical to the future of our kauri.

9. Freshwater pests | Riha wai māori

9.1 Exclusion freshwater pests

Regulatory programmes include:

- Enforcement of rules relating to exclusion freshwater pests.
- Eradication of exclusion freshwater pests found in Northland.
- Inspection / enforcement of rules relating to Plant nurseries and retail outlets (National pest plant accord).

Non-Regulatory programmes include:

- Support eradications undertaken by other Crown agencies, tangata whenua, and other stakeholders.
- Provide advice about how to manage exclusion freshwater species.
- Support, attend and provide public pest control workshops to raise awareness.
- Manage contractors relating to control of exclusion species.
- Provide training to relevant council staff and stakeholders about the identification of the exclusion pests to assist in early detection.
- Provide advice, attend events, and undertake publicity campaigns to increase public awareness of exclusion pests.

Key performance measures

Key performance measures	How will this be measured?
Incursion response plans Develop surveillance and incursion response plan for at least one vulnerable high value biodiversity and/or culturally significant site annually.	Reported on through council database

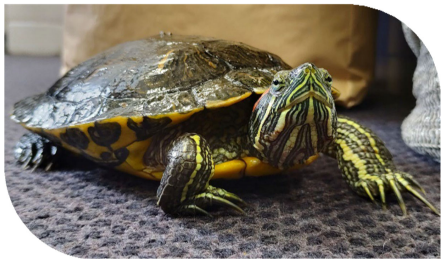
9.2 Eradication freshwater pests

Regulatory programmes include:

- Enforcement of rules relating to eradication freshwater species.
- Eradication of species listed within the eradication programme.
- Inspection / enforcement of rules relating to plant nurseries and retail outlets (national pest plant accord).

Non-Regulatory programmes include:

- Support eradications undertaken by other Crown agencies, tangata whenua, and other stakeholders.
- Provide advice about how to manage eradication freshwater species.
- Support, attend and provide public pest control workshops to raise awareness.
- Manage contractors relating to control of eradication freshwater species.



Eradication freshwater pest – red eared slider turtle.

Key performance measures

Key performance measures	How will this be measured?
Management site visit 100% of council freshwater pest fish management sites visited on scheduled best practice rotation (based on biological characteristics of each species and defined in the species programme record in the council's IRIS database).	Evidence of schedule and visits made reported back.

9.1 Progressive Containment Freshwater Pests

Regulatory programmes include:

- Enforcement of rules relating to progressive containment control freshwater species.
- Eradication and/or reduction of infestations of the progressive containment freshwater pests may be attempted by the council in conjunction with relevant Crown agencies, tangata whenua, and other stakeholders where practicable.

Non-regulatory services include:

- Council staff will assist landowners to develop management plans.
- Council will provide training to relevant council staff and stakeholders in the identification of pests to assist in early detection.
- Council staff will provide advice, attend events, and undertake publicity campaigns to increase public awareness of pests.
- New technologies and methods will be investigated and introduced where possible.

Biosecurity staff setting nets after a reported koi carp sighting at Lake Taharoa.

Key performance measures

Key performance measures	How will this be measured?
Distribution record Maintain a distribution record of progressive containment pest fish species.	Reported from council database.
Annual status reports Training, surveillance, control, and eradication actions attempted for progressive containment pest fish species will be reported annually.	Summary included in the annual Biosecurity Operations Plan report.

Key performance measures	How will this be measured?
Community Engagement Attend at least 2 community events (annually) to advocate and promote public awareness and biosecurity best practice around pestfish	Engagement events reported on in annual Biosecurity Operations Plan report
Management tools and technology Investigate the use of new management tools and technology around pestfish detection or control	Implemented and reported on through annual Biosecurity Operations Plan report

9.2 Sustained Control Freshwater Pests

Regulatory programmes include:

- Enforcement of rules relating to sustained control freshwater species.

Rudd - sustained control freshwater pest.

Non-regulatory services include:

- Council staff will provide education and advice to owners, occupiers, and the public about the freshwater sustained control pests and how to control them.
- Council will provide training to relevant council staff and stakeholders in the identification and control of the sustained control freshwater pests.
- Council will provide advice, attend events, and undertake publicity campaigns to increase public awareness of these freshwater pests.

10. Marine pathways management plan Rautaki wai moana

Background of the Marine Pathway Management Plan

Over the life of the Pest Plan (including the Marine Pathway Management Plan), council has the following aims:

- To increase the number of vessel owners and/or persons in charge of vessels complying with the pathways plan rules.
- To see a reduction in new marine pest introductions to Northland.
- To see a reduction in the rate of spread of established sustained control marine pests between designated areas within Northland.
- To help marine stakeholders, coastal marine area occupiers, vessel owners and the public to gain knowledge and skills to help reduce the impacts and spread of sustained control pests and to understand the risk hull biofouling poses to marine pest spread.

Since 2010 council has had a species led approach to managing marine pests. However, identifying marine pests and potential risk organisms for Northland is difficult so rather than relying solely on the species led approach, council is addressing a universal vector of spread. Mediterranean fanworm is just one of many species that has entered the region via hull biofouling, with over 100 vessels found infected with fanworm in uninfected Northland harbours since 2012. Taking a proactive approach and encouraging cleaner hulls through a MPMP will result in fewer vessels carrying marine pests and other biofouling to the region and reduce the risk of new marine pest incursions.

The programme includes the following species and pathways:

Marine pests and pathway		
Marine pathway plan	Hull fouling: Level of Fouling 2 or 'light fouling'*	
Sustained control marine pests	Asian paddle crab Australian droplet tunicate Japanese Mantis Shrimp Mediterranean fan worm	Pyura sea squirt Styela sea squirt Undaria seaweed

**light fouling is defined as: small patches (up to 100 millimetres in diameter) of visible fouling, totalling less than 5% of the hull and niche areas. A slime layer and/or any species of barnacles is allowable fouling.*

Implementation

- Continue with existing communication and advice programmes to assist vessel owners & stakeholders with ensuring compliance with rules.
- The Hull Surveillance Programme will assess a minimum of 2000 vessels annually. Any vessel carrying a named marine pest in an area where that pest is not widely established, will be formally directed to make a plan to have the vessel cleaned. In addition, owners of vessels that exceed the MPMP fouling threshold will be advised and issued a warning letter encouraging them to have the vessel cleaned and explaining that enforcement action will follow if they fail their next inspection and move between designated places.
- Enforcement action on vessels will be tracked in IRIS (councils online incident logging database).
- Owners of structures that constitute high risk in terms of marine pest spread will also be subject to consideration and assessment for the need of a marine pest management plan in accordance with species rules.

Performance Targets and Measures

Key performance measures	How will this be measured?
Vessel compliance reporting Compliance with the marine pest and pathway plan is recorded and trends over the duration of the plan are analysed.	Compliance with the pathway plan and all incidents will be recorded and reported monthly.
Hull survey The vessel hull surveillance programme will inspect a minimum of 2000 vessel hulls annually.	Evidence of hulls surveyed recorded on council databases, or national databases as they become available.
Community engagement A minimum of two engagement activities annually are conducted to facilitate an increase in awareness of the risk hull fouling poses to the spread of marine pests.	Engagement events will be recorded on council databases
New marine pests Introductions of new marine pests to Northland and spread of established pests to new designated areas within Northland are recorded and trends over the duration of the plan are analysed.	Number of incidents and reports of marine pests will be recorded and reported monthly. Surveillance activities will be recorded to contribute to an assessment of surveillance effort over the duration of the plan.
Incident response All significant incidents are recorded, and a response plan is developed and implemented within 5 working days.	Incidents recorded on council databases.

Young visitors to the marine Biosecurity display at an Experiencing Marine Reserves snorkelling event.

11. Operational plan reporting
Ripoata mahere tautahi whakahaumaru whakamahi

Council will produce a report on the operational plan and its implementation not later than 5 months after the end of each financial year.

A copy of this report will be provided to council.

12. Operational plan review
Arotake mahere tautahi whakahaumaru whakamahi

This operational plan will be reviewed periodically as required.

Acknowledgements

Table of contents: Fantail image supplied by Stefan Billings

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TITLE:	**Verbal Update on Gold Clam and Wild Deer**
From:	Nicky Fitzgibbon, Biosecurity Manager - Incursions and Response and Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity
Authorised by Group Manager/s:	Don McKenzie, Pou Tiaki Pūtaiao - GM Biosecurity, on 28 July 2025

Whakarāpopototanga / Executive summary

A verbal update will be given by staff on gold clam and wild deer at the time of the meeting.

Ngā mahi tūtohutia / Recommended actions

1. The Working Party note the information shared as part of the update.

Background/Tuhinga

Not applicable

Ngā tapirihanga / Attachments

Nil