Biosecurity Portfolio Briefing 2020

New Zealand Government

Ministry for Primary Industries
Manatū Ahu Matua

Purpose

This briefing provides an overview of:

- the biosecurity system;
- the role of the Minister for Biosecurity, the role of the Ministry for Primary Industries and Biosecurity New Zealand; and
- key strategic priorities and work programmes for the biosecurity system.

The Biosecurity System

Biosecurity is a national asset that enables growth and protects our way of life

Biosecurity is the exclusion, eradication or management of pests and diseases that pose a risk to the New Zealand economy, environment, and way of life. Beyond threats to plant and animal health, the biosecurity system also includes threats to human health from animals and plants and associated pests or diseases (such as mosquitos). Diseases carried and transmitted by humans are excluded, including COVID-19.

New Zealand's biosecurity system is a national asset that underpins trade, primary production, and biodiversity. The biosecurity system allows New Zealand to safely move animals, plants and food within New Zealand and to and from other countries.

A major biosecurity incursion could seriously impact New Zealand's economic prosperity. Disruption and damage to our flora, fauna and water could impact how and what we farm and grow. For example, an outbreak of Foot and Mouth Disease could decimate our agricultural productivity and exports of dairy, red meat and pork products for months or even years. The total impact of such an incursion has been estimated in various reports as being between $15-22 billion, with almost certain trade barriers for our exports.

Incursions also threaten taonga species and our cultural identity. For example, kauri dieback disease threatens our taonga kauri forests. Losing our kauri disrupts the biodiversity and ecosystems these trees sustain. Tāngata whenua see kauri as te whakaruruhau – the protectors of our forests. Without our protectors, the overall mauri (life force) of our forests is significantly impacted.

Having strong biosecurity settings makes New Zealand's exports more attractive to trading partners. Limiting pests and diseases here also improves on-farm productivity, with farmers and growers able to produce more, supporting stronger export growth.

New Zealand is recognised globally as an exemplar for biosecurity. Our actions have been very successful in protecting New Zealand from incursions of almost all pests and diseases that could cause significant harm. We have prevented the establishment of several damaging insect pests like Red Imported Fire Ants and Brown Marmorated Stink Bug. The eradication of pea weevil, Queensland Fruit Fly and promising progress on *Mycoplasma bovis* are examples of how our system is working well to protect New Zealand.

A strong biosecurity system also plays a key role in our:

+ biodiversity system by protecting native biodiversity and taonga from pests and diseases;
+ animal welfare system by protecting animals from the effects of imported pests and diseases; and
+ food safety regime by stopping pests and diseases that could impact on the safety of New Zealand food products.

The biosecurity system has several layers

The biosecurity system is a layered risk management and defence system combining intelligence, policy, science, operations and logistics to manage risks. It includes activities offshore, at the border, and within New Zealand acting as a series of 'nets' to stop pests and diseases (see appendix 3):

Offshore
To reduce the risk of new pests and diseases arriving and establishing here, we require all incoming goods, ships and aircraft to meet import requirements (known as Import Health Standards and Craft Risk Management Standards) before arriving. We educate producers, exporters, importers and passengers on the necessary actions required by these standards, and verify compliance by screening goods for pests and diseases at offshore quarantine and inspection facilities. We use our international relationships, intelligence and science functions to proactively look for emerging biosecurity risks overseas.

For example, we impose very strict management actions on risk material that could carry fruit flies or Foot and Mouth Disease because the consequences of an incursion are so serious. Brown Marmorated Stink Bugs would also cause significant harm but need a different approach because they can hitchhike on so many types of containers, luggage and equipment. Most used cars are imported from Japan so MPI inspects used cars in Japan before they can be exported here to manage the risk from harmful insects.

At the Border
MPI manages biosecurity risks at the border by verifying compliance with our import requirements from four main pathways: passenger, mail, cargo and craft. Cargo is either inspected on arrival, or moves to MPI-approved and audited transitional facilities for inspection and clearance. We also operate post-entry quarantine facilities to test new plant material for pests and diseases in a controlled environment.

We work closely with other border agencies to efficiently manage the flow of good and people across the border. We operate a joint Intelligence Targeting and Operations Centre out of Auckland, as well as a Joint Border Analytics team. This enables border agencies to share intelligence about suspected illegal activity and conduct joint inspections and investigations when appropriate. Cargo importers can enter their data once in the Trade Single Window to supply information to multiple agencies.

Within New Zealand
Our post-border layers of protection include:

+ surveillance to detect pests quickly;
+ an animal tracing system for farmed cattle and deer;
+ pest management, control and eradication programmes to reduce the damage from pests that are already here (which includes working with local government, industry and public organisations); and
+ a strong readiness capability that plans ahead for threats like Foot and Mouth Disease.

Eradicating or managing pests and diseases is usually much more difficult and expensive once they have established breeding populations.

Parallels between the biosecurity system and COVID-19

COVID-19 has shown how difficult it is to keep a disease out of New Zealand and eliminate it once here. New Zealand's biosecurity system faces many of the same challenges.

To protect human health from COVID-19, New Zealand has placed restrictions on the border and economic activity. These restrictions allowed New Zealand to safely accept people into the country and continue international trade. In permitting these activities to occur, we still accept some risk of COVID-19 entering New Zealand, so we have built a surveillance and testing system to act as layers of protection to make elimination of the disease feasible. International cooperation is also important.

Biosecurity similarly places restrictions on the movement of goods and people across our borders to keep risks offshore. These restrictions also create costs and place constraints on the economy. Even after placing such restrictions, biosecurity risk will always exist from the spread of pests and diseases

on environmental pathways (e.g. Myrtle Rust spread to New Zealand by wind). It is neither possible nor desirable to achieve zero biosecurity risk. This is why we have multiple layers of risk management.

What risks do we manage?

The main types of biosecurity risks facing New Zealand are pests and diseases that:

- **Would immediately restrict or stop exports:** There is an internationally agreed list of animal pests and diseases, including Foot and Mouth Disease, that would immediately trigger other countries to restrict our meat, dairy, and animal exports if the pests or diseases were found here. There are also several insects like fruit flies and bark beetles that would similarly trigger restrictions on our exports of fruit and timber. We decide how to respond case-by-case, depending on the pest and the situation.
- **Are already in New Zealand causing harm**: The damage caused to native biodiversity by predators like possums, stoats and weasels is well-known but there are also many weeds and aquatic pests that are either causing damage or will cause damage if they spread.
- **Threaten taonga species or natural ecosystems**: There are several bird diseases that could threaten our unique species such as kiwi and kākāpō. There is also a vast number of insects, fungi, bacteria, and plant viruses that threaten our native biodiversity. There is often very little scientific information about these risks because most organisms are not pests in their home places.
- **Harm our primary sector productivity**: New Zealand is free of many of the diseases and insects that reduce pasture growth, animal health, fruit yield, and forest value.
- **Affect human health and wellbeing**: The biosecurity system manages the transmission risk of pests and diseases from animals to humans (but not human to human). New Zealand is free of diseases like rabies that affect both animals and humans, and some species of mosquitoes and ticks that can transmit diseases between humans. We conduct surveillance for avian influenza in bird populations to quickly identify any variants that could affect humans.

The main ways that these risks could arrive or result in harm are:

- spreading from where they are already present in New Zealand;
- imports of biological material used for breeding;
- hitchhiker pests attached to luggage, equipment, sea containers, or ships; and
- deliberate smuggling.

Role of the Minister for Biosecurity

The Minister for Biosecurity is responsible for setting the overall policy and direction of the biosecurity system using a range of legislative and non-legislative levers.

Legislative levers include functions and powers under the Biosecurity Act 1993, National Animal Identification and Tracing Act 2012 and Airports (Cost Recovery for Processing of International Travellers) Act 2014. Legislative levers under these Acts include:

- determining how biosecurity charges are set and for whom, such as importers, producers and travellers;
- stewarding legislation to prevent and deter breaches of biosecurity laws and to determine the way laws are enforced;
- setting the direction and responsibilities for pest and pathway management plans;
- recommending to the Governor-General when to declare a biosecurity emergency; and
- designating the entity that administers the National Animal Identification and Tracing (NAIT) Scheme (currently NAIT Ltd, a subsidiary of OSPRI New Zealand Ltd).

Non-legislative levers to influence system settings include:

- **Funding:** Allocating funding for investment in specific initiatives or priority areas.
- **Communication:** Communication is key to conveying the importance of biosecurity to all New Zealanders. This includes communicating expectations and roles for key players across the biosecurity system.
- **Building international relationships**: Strong international relationships improve New Zealand's ability to coordinate biosecurity risk management activity offshore, which is New Zealand's best line of defence for any biosecurity threat.

Role of MPI and Biosecurity New Zealand

MPI is the government agency responsible for leading the biosecurity system and administering biosecurity legislation.

Role of the Director-General

The Biosecurity Act 1993 confers a range of powers and functions on the Director-General of MPI. The Director-General has a statutory responsibility to provide overall leadership in activities that prevent, reduce, or eliminate adverse effects from harmful organisms in New Zealand.

The Director-General also has the power to appoint Chief Technical Officers who have regulatory powers under the Biosecurity Act to recommend Import Health Standards and Craft Risk Management Standards, appoint inspectors, decide which organisms are unwanted, restrict movement of animals and goods in particular areas, destroy or treat property and give directions to manage unwanted organisms.

Role of Biosecurity New Zealand

Biosecurity New Zealand is the delivery arm for biosecurity within MPI. Biosecurity New Zealand works with policy and trade officials across all layers of the biosecurity system to deliver the following activities:

- negotiations with international counterparts about the biosecurity requirements (sanitary and phytosanitary arrangements) within trade agreements;
- setting biosecurity standards for eligibility and treatments of goods and craft entering New Zealand;
- intelligence, science and risk assessments;
- employing quarantine inspectors offshore and at the border to identify, clear items and stop biosecurity risks from entering New Zealand through mail, cargo, craft and passenger pathways;
- post-entry quarantine facilities for imported plant material;
- testing, diagnostics and surveillance programmes;
- readiness activities to prepare for incursions and response activities to manage incursions and undertake long-term pest management; and
- compliance and assurance functions for the biosecurity system, such as increased and sustained enforcement for the NAIT system.

Current context for the biosecurity portfolio

Impacts of COVID-19 on the biosecurity system

In-bound passenger numbers have dropped by 95 percent as a result of border restrictions and the ban on cruise ships. As a consequence, we have seen a large reduction in biosecurity risks coming through the passenger pathway, a significant drop in border levy revenue and a reduction in the need for biosecurity staff at the border.

MPI is working with other border agencies to respond to changing demand and operational needs as travel and border restrictions evolve.

In the interim, MPI has redeployed over 100 airport staff to other parts of MPI, including surveillance, readiness and response functions.

In the medium-term, border agencies are working together to re-engineer how we manage the passenger pathway and implement any future safe travel zones. Agencies will bring proposals to government before the end of the year.

Biosecurity will play a key role in COVID-19 response and recovery

Maintaining strong biosecurity settings is vital given the key role that New Zealand's primary industries will play in supporting economic recovery from the impacts of COVID-19.

A key priority for our COVID-19 recovery strategy is to implement initiatives that will grow primary industry export earnings by $10 billion annually by 2030. Key investments in the biosecurity system will help primary industry producers to reach this target.

Budget 2020 allocated $6.8 million to provide interim post-entry quarantine facilities for new plant varieties and $38.5 million to develop new standards for safely importing plant genetic material and new cultivars. This investment will help the horticulture sector remain innovative and competitive while MPI works to implement permanent plant health and environment laboratory facilities and build our scientific capability to support the long-term future of the sector.

Specific biosecurity activities are also helping to support employment and regional economies. Budget 2020 allocated $127 million for control of wilding pines and wallabies; more than 550 people will be employed through this scheme (226 had been employed by 30 September 2020). Without control, wilding pines could take over 20 percent of New Zealand's land area by 2035. They also pose a significant fire hazard. Reducing the wallaby population will minimise their impact on agriculture and biodiversity.

Progress on *Mycoplasma bovis*

One of our biggest response programmes is the *Mycoplasma bovis* programme. *Mycoplasma bovis* is a cattle disease that causes serious illness, lameness and animal welfare problems. In 2018, the government committed $880 million over 10 years to eradicate this disease.

In parallel there has also been work to improve the user experience of and compliance with the National Animal Identification and Tracing system. Poor compliance with traceability requirements has considerably increased the difficulty of eradicating *Mycoplasma bovis*.

Three years on from *Mycoplasma bovis* being first discovered in New Zealand we're well on track to eradication – but there's still a way to go. Over the last 12-18 months significant gains and efficiencies have been made to the *Mycoplasma bovis* Programme.

As of 7 October, the disease has been confirmed on 254 properties and there are only four active properties. The number of properties under movement controls has reduced by 78 percent compared to the same time last year. It is expected we will finish delimitation (following animal traces) and move to background surveillance in 2021.

Nearly two thousand farm properties have been subject to movement controls and disruptions, and over $180 million has been paid in compensation. While we are looking harder, we are finding less infection and we are identifying properties closer to the date they were infected, indicating there are fewer infected properties in our national herd and we are closer to the next phase of eradication.

While it is expected there will be some sporadic cases identified over the next few months, it is expected the Programme will transition to a long-term surveillance phase during mid-2021.

Figure 1: *M.bovis* herd-level reproductive number
The graph below shows the effective reproductive number reflecting the rate of growth of the epidemic.

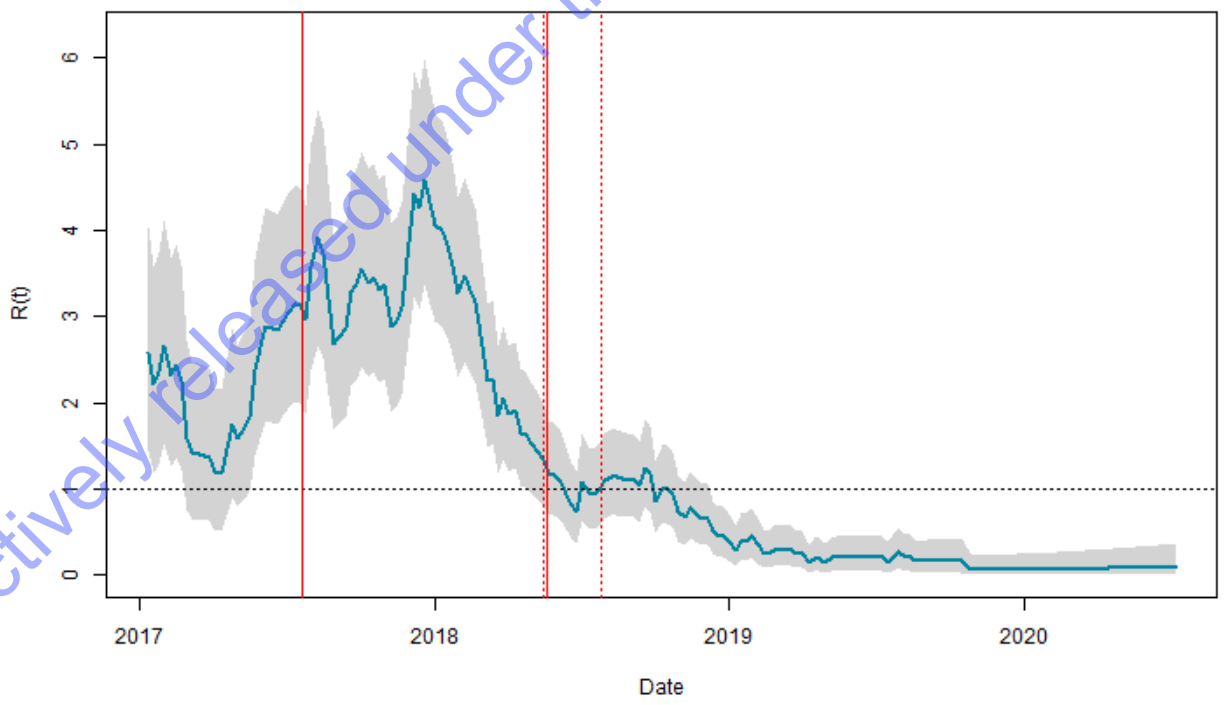


Figure 1 - *Mycoplasma bovis* herd-level reproductive number over a 90 day window: Values under 1 (horizontal black line) indicate a reduction in the outbreak as infected properties infect fewer other properties than would be required to sustain the ncursion. Solid red lines represent milestones in disease control (the commencement of control on 21 July 2017 and of the eradication programme on 20 May 2018). Dashed red l nes indicate changes n test interpretation applied to optimise disease control activities as the programme progressed. The shaded grey area indicates the uncertainty around the modelled measurements.

Strategic priorities

MPI's priorities for biosecurity focus on continuing to strengthen and evolve our biosecurity system so it remains effective in the years to come and proactively responds to changing circumstances, challenges and opportunities. The priorities below link to, and build on, key outcomes prioritised by Biosecurity New Zealand (see Appendix 4).

MPI's three main priorities for biosecurity are:

+ **Positioning our biosecurity system to support recovery from COVID-19**: It is important that New Zealand's biosecurity settings strike the right balance between protecting New Zealand from biosecurity risks while not unnecessarily exacerbating the impacts COVID-19 has had on trade. Enabling imports and exports to prioritised markets contributes directly to New Zealand's growth and prosperity.
+ **Overhauling our legislation to ensure it is fit for the future**: The Biosecurity Act 1993 was enacted at a time when travel, trade, technology and the climate were very different. Since then we have seen the nature of biosecurity risks evolve. The increasing volume and diversification of goods (such as growing use of e-commerce) has expanded the biosecurity risks we face. Items are imported today that were not envisaged in 1993. Climate change is also transforming the kinds of pests and disease organisms that can establish in New Zealand, and our technology to manage these risks has changed.
+ We are reviewing the Act to ensure it is fit for purpose now and in the future. Improved biosecurity legislation will:
  - ensure we are protecting all aspects of New Zealanders' wellbeing;
  - reflect our Treaty of Waitangi commitment;
  - incentivise the adoption of good on-farm biosecurity practice; and
  - enable the effective sharing of decisions and costs.
+ **Strengthening key points in the system, responding to lessons from *Mycoplasma bovis* and COVID-19**: Over the coming years we need to maintain and strengthen our biosecurity system in key areas by drawing on lessons learned from recent events like the *Mycoplasma bovis* response and COVID-19. These have shown the importance of scientific expertise, accurate and fast laboratory testing, surveillance, readiness, contact tracing, stakeholder buy-in and the need for smarter and more effective technology at our borders.

Other work programmes and opportunities

There are several work programmes underway to support our strategic objectives and ensure we have a strong biosecurity system. We will work with the Minister for Biosecurity to prioritise this work.

Improving our Import Health Standards system

MPI is streamlining processes to assess risks and develop new Import Health Standards for plant material to help horticulture industries safely access new genetic material and plant varieties.

Brown Marmorated Stink Bug

We are working closely with Australia to reduce the likelihood that Brown Marmorated Stink Bug will arrive here, particularly as we approach the peak summer season. During 2019/20, there were 57 interceptions of live stink bugs, a reduction of 73 percent of interceptions from the previous season.

Re-engineering the border

MPI is working with other border agencies to re-engineer how we create a 'safer and smarter border', focusing on passenger pathways. MPI has also reviewed the way we manage sea cargo and transitional facilities and we have several projects underway to improve our effectiveness and efficiency. We need to upgrade our database and software for managing cargo (called Quantum).

MPI and Customs are working with New Zealand Post to develop a new mail centre that will change the way we screen and manage the mail pathway and better manage increases in e-commerce.

Readiness, Response and Long-Term Pest Management

MPI regularly undertakes minor biosecurity responses. Recent examples include the Red Tomato Spider Mite and *Theileria equi* (a disease found in a single horse). MPI was given funding in Budget 2020 to strengthen our readiness capability to undertake responses, and we are working to renegotiate the Foot and Mouth Disease operational agreement.

We were also given additional funding to expand the Jobs for Nature programme to reduce the harm caused by wilding pines and wallabies. This programme offers employment for people who have lost their jobs due to COVID-19, while also providing environmental and economic benefits.

Improving our scientific infrastructure

Our scientific infrastructure and capability underpin the biosecurity system. We have invested $90 million to build a new Animal Health Laboratory in Wallaceville, due to begin operations in early 2021. We are building interim post-entry quarantine facilities for plant material to better meet industry demand, while also planning for better longer-term capacity.

We have also started work to upgrade our Plant Health and Environment Laboratory and associated post-entry quarantine facilities. We will bring you a business case in November seeking a significant investment in this scientific capability.

Appendix 1: Summary of upcoming milestones and actions in the Biosecurity portfolio

(October 2020 to March 2021)

Border Decisions

+ We will seek your agreement to take proposals to Cabinet for a smarter and safer border, which include new collaborative arrangements among the border agencies.

Business Cases

+ We are nearing completion of the Quantum business case (the upgrade of Quansuite software used at the border). We will seek your approval along with the Minister of Finance to draw down the tagged contingency approved in Budget 2019 to complete the upgrade.
+ We are working on a business case for a new Plant Health and Environment Laboratory as an key element of *Fit for a Better World*. We intend to engage with you on this early in your term.

Major milestones

+ The new Animal Health Laboratory in Wallaceville is set to become operational in 2021. This is a major milestone for biosecurity and you will be key in opening this new facility.

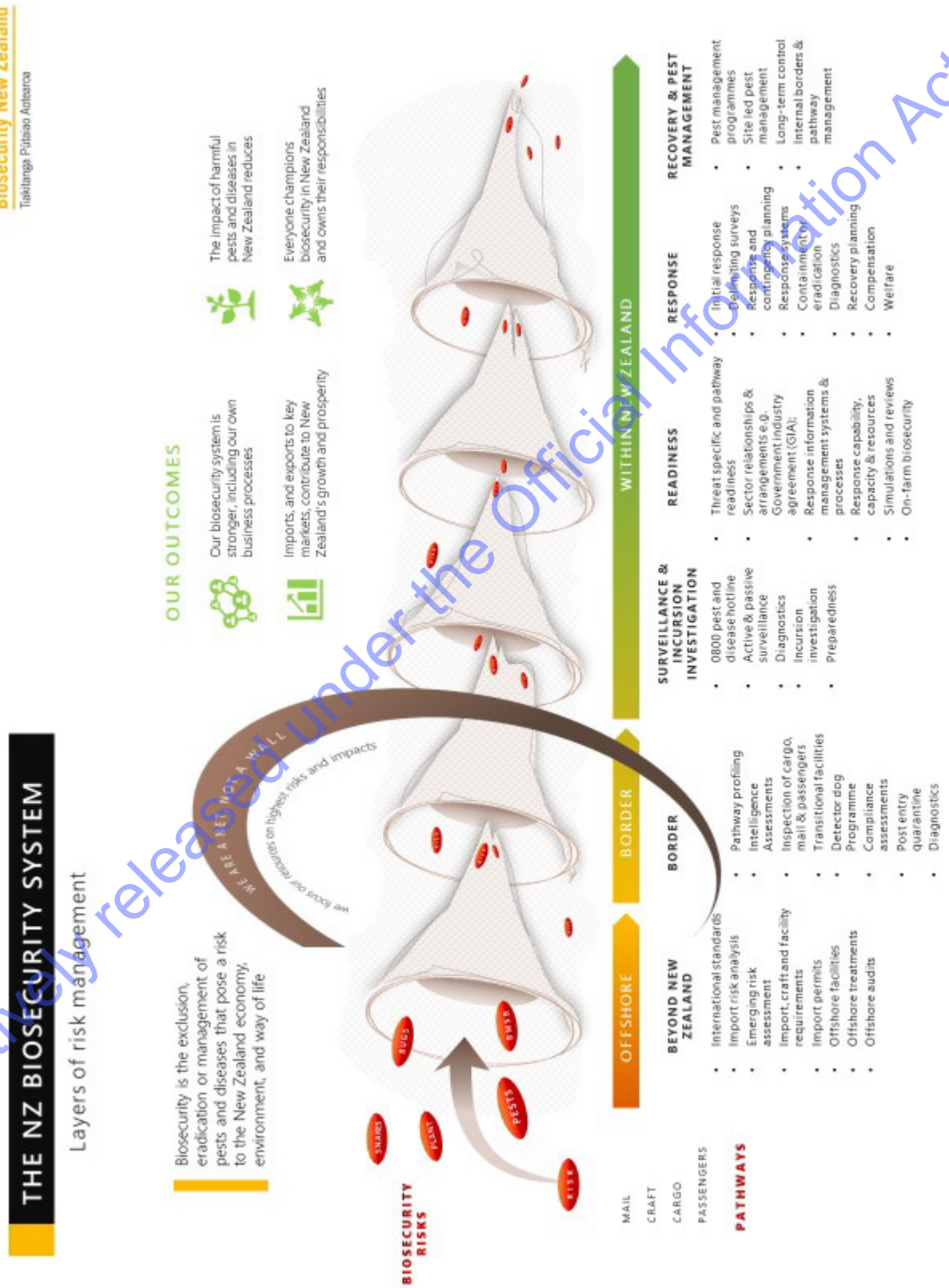
Key policy decisions

+ You will have the opportunity to shape the general policy direction of the Biosecurity Act review and decide the nature and timing for consultation.
+ We will seek your preferred approach to the review of the Government Industry Agreement deed. The deed sets the biosecurity decision making and cost-sharing responsibilities between Government and Industry for biosecurity readiness and response activities.
+ MPI is working with NAIT Ltd to achieve performance metrics for the National Animal Identification and Tracing system. If performance is unsatisfactory, you will have the opportunity to decide how to intervene in the NAIT system should you wish to exercise your powers under the Act.
+ You will have the opportunity to work with the Department of Conservation and Regional Councils to design and implement the proposed pest management plan for kauri dieback.

Appendix 2: The biosecurity system involves parties working together

- **The New Zealand public** – protecting New Zealand's biosecurity depends on all of us as travellers, landowners, educators, consumers and citizens to apply good biosecurity practice, stay alert and identify and manage pests and diseases;
- **Māori** – our Tiriti o Waitangi partners, kaitiaki of New Zealand's taonga, hold key interests and statutory roles in the management of natural resources. Hapū and iwi are central to delivering several biosecurity priorities;
- **Scientists and research organisations** – these groups develop and share the scientific knowledge needed to understand and manage biosecurity risks;
- **Industry and businesses** – many industries have a direct interest in biosecurity – including primary producers, importers, exporters – and the industry bodies that represent them such as DairyNZ, Beef and Lamb, Kiwifruit Vine Health (KVH);
- **Government Industry Agreement (GIA) partners** – there are 23 signatories to the GIA. The GIA is intended to promote industry and government to work together in decision making and share the costs of readiness and response activities. The GIA is governed by a deed, the next review of which must be completed by December 2021;
- **Other government agencies** – other agencies have roles that interact with the biosecurity system, including:
  - Border sector agencies – New Zealand Customs Service, Immigration New Zealand (MBIE) and the Ministry of Transport (for aviation security) work with MPI to provide an integrated and responsive border management system;
  - Agencies with a role in pest management and organisms, such as the Ministry for the Environment (responsible for the Hazardous Substances and New Organisms act), Department of Conservation and Land Information New Zealand (who control pests on the land they manage);
- **Regional councils** – regional councils and territorial authorities lead pest management activities in their respective regions and work closely with their communities on these activities;
- **OSPRI New Zealand** – OSPRI is a partnership between primary industries and the government that manages two national programmes – NAIT (New Zealand's national animal identification and tracing system) and TBfree, which aims to eradicate Bovine Tuberculosis from New Zealand.

Appendix 3: Layers of the Biosecurity System



Appendix 4: Biosecurity New Zealand strategy on a page