



He Tangata, He Taiao, He Ōhanga

.....
a values-based biosecurity risk
assessment framework for Aotearoa

NEW ZEALAND'S
BIOLOGICAL
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National
SCIENCE
Challenges

Summary of risk-based decisions in biosecurity

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Risk-based decision-making is a key component of an effective biosecurity system. This report summarises the main decision types made within New Zealand's biosecurity system, with details on what triggers the decision, what legal framework applies, decision criteria, the risk assessment approach, information used, timeframe, and who is assessing the risk versus making the decision. This information is useful for better understanding how the biosecurity system operates, particularly for researchers aiming to develop tools for more effective decision-making.

Table 1 lists 36 decision types, spanning pre-border, at border, post-border and pest management activities. Details on each decision type appear on subsequent pages.

This resource was developed by project SO3 (He Tangata, He Taiao, He Ōhanga) in New Zealand's Biological Heritage National Science Challenge.

Table 1. Summary of biosecurity decisions. More detail for each decision type is given on the indicated page.

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Should a species be regarded as a new organism?

Trigger	Application to the EPA
Legal framework	HSNO Act section 26
Risk management question or decision criteria	Not applicable, this is a question of evidence for either presence in New Zealand prior to 29 July 1998 or ubiquity, for micro-organisms which weren't reported prior to 1998 but are found everywhere in soil or human body etc.
Risk assessment approach	
Kinds of information used	
Timeframe	
Risk assessor	
Decision maker	
Example	
Comments	

Should a new species be assessed under the rapid assessment process?

Trigger	Application to the EPA
Legal framework	HSNO Act, specifically sections 35-36 although other parts of act apply e.g. timelines in section 59.
Risk management question or decision criteria	Section 35 gives specific criteria for rapid assessment, e.g. highly improbable that the organism can form self-sustaining populations.
Risk assessment approach	Applicant uses rapid application form to apply, then verification by EPA which may include further assessment.
Kinds of information used	Application and supporting literature, search for additional literature, contact experts if necessary.
Timeframe	10 working days to decide both whether it is appropriate for rapid assessment and whether to release (see HSNO Act section 59)
Risk assessor	EPA advisers
Decision maker	Manager
Example	
Comments	Application form outlines the information required

Should a new species be released? (rapid assessment process)

Trigger	Application to the EPA
Legal framework	HSNO Act specifically sections 35-36 although other parts of act apply e.g. timelines in section 59
Risk management question or decision criteria	Section 35 gives specific criteria for rapid assessment, e.g. highly improbable that the organism can form self-sustaining populations.
Risk assessment approach	Applicant uses rapid application form to apply, then verification by EPA which may include further assessment.
Kinds of information used	Application and supporting literature, search for additional literature, contact experts if necessary.
Timeframe	10 working days to decide both whether it is appropriate for rapid assessment and whether to release (see HSNO Act section 59)
Risk assessor	EPA advisers
Decision maker	General manager (delegated from CEO). Cannot be same manager who decided to use the rapid assessment process.
Example	
Comments	The decision of whether to assess a species through the rapid assessment process and whether to approve it is effectively a single process with two decision points, but is listed here as two processes.

Should a new species be permitted for importation into containment?

Trigger	Application to the EPA
Legal framework	HSNO Act sections 39-45 specifically cover containment, but other sections are relevant e.g. criteria and timelines
Risk management question or decision criteria	Consider ability of the organism to escape from containment, ability of the organism to form self-sustaining populations, ease with which the organism could be eradicated, adverse effects of the organism.
Risk assessment approach	Applicant uses rapid application form to apply, then verification by EPA which may include further assessment.
Kinds of information used	Application and supporting literature, search for additional literature, contact experts if necessary.
Timeframe	Most cases don't require public consultation which shortens the length of time (unless a reason for public interest). Otherwise, the same as release, pre-application
Risk assessor	EPA advisers
Decision maker	Decision making committee. Committee members are elected by the EPA board. They are people with expertise in the areas where EPA has to make decisions. They are outside EPA.
Example	
Comments	Decisions now take an outcome-based approach to containment but may add specifics.

Should a new species be released? Should it be released with or without controls?

Trigger	Application to the EPA
Legal framework	HSNO Act section 34-38, although other parts of act apply e.g. timelines in section 59
Risk management question or decision criteria	Do the benefits outweigh the risks associated with releasing the organism?
Risk assessment approach	Act covers 5 key areas, impact on environment, economy public health, community, Māori and relationship to environment. (section 6) Applicant does their assessment then EPA staff verify the assessment, which is essentially re-doing assessment, search for new information etc. Compare benefits and risks then do a recommendation
Kinds of information used	Application and supporting literature, search for additional literature, contact experts if necessary.
Timeframe	Statutory timeframe for full process, from formal receipt have 10 days to start public consultation, 30 days consultation. Once consultation closes must hold hearing within 30 working days if anyone wants to speak to their submission. Then decision making committee can take as long as they need, usually quick, usually on the day, then 30 days to finalise decision. Note that pre-application can be months to years.
Risk assessor	EPA advisers
Decision maker	Decision making committee, HSNO committee, elected by the EPA board, committee members are people with expertise in the areas where EPA has to make decisions, outside EPA
Example	Houseplants , bug-galling wasp
Comments	

Should a GMO be permitted for deliberate introduction?

The same questions as above apply, but there are also specific parts of the HSNO Act related to GMOs.

Which Import Health Standards to develop?

Trigger	Work programme development, ministerial request, request for import (potential importer) or export (exporting country/ market access request)
Legal framework	Prioritisation decision, not governed by legislation
Risk management question or decision criteria	Not applicable. In general, the biosecurity risk isn't a significant factor in this decision
Risk assessment approach	
Kinds of information used	
Timeframe	
Risk assessor	
Decision maker	
Example	
Comments	

Which Import Health Standards to review?

Trigger	Pathway monitoring, ministerial request, stakeholder request, potentially emergency situation (emerging risk, unexpected interception on pathway), regular review (standard has been in place for a while), unexpected detection on a pathway (review)
Legal framework	Prioritisation decision, not governed by legislation
Risk management question or decision criteria	Which pathways have risks which may not be managed? What has changed? What is the priority? Do we have enough information to make a decision?
Risk assessment approach	Varies, emerging risk assessment is a quick, qualitative assessment against criteria, risk assessment only part of the question, also prioritisation on other factors. Environmental scanning
Kinds of information used	Accessible literature online including grey literature, information from stakeholders and industry, interception records, overseas country information.
Timeframe	Months to years (days for things like emergency measures)
Risk assessor	MPI risk assessors may have input but most of the assessment is not a risk assessment and may come from market access or risk management area
Decision maker	Group managers
Example	Ginger, Prunus, Actinidia
Comments	

What should import requirements be for a commodity (in IHS)?

Trigger	Specific commodity prioritised in work programme but could be urgent need to develop or review an IHS based on triggers above.
Legal framework	Biosecurity Act sections 22-24, SPS agreement, bilateral trade agreements.
Risk management question or decision criteria	What are the minimum requirements for a commodity (for new trade use existing trade as a guide)? What is not managed by minimum requirements? Does a particular treatment provide equivalent protection?
Risk assessment approach	Based on ISPM 2 and ISPM 11. Countries have specific guides based on these.
Kinds of information used	Published literature, information supplied by exporting countries, interception records, ISPMs (e.g. treatments), some grey literature, information supplied by stakeholders/ industry
Timeframe	Months to years (days for things like emergency measures)
Risk assessor	Mostly MPI risk assessors
Decision maker	Most decision-making sits with Chief Technical Officer, some this delegated to deputies). Chief Technical Officer recommends to Director General at final stage in process
Example	Ginger, Prunus, Actinidia
Comments	

What conditions to require for vessels, aircraft, places of first arrival or transitional facilities? (general)

Trigger	Review of standards
Legal framework	Biosecurity Act Sections 24E-24K, 37-41. Health and Safety at Work Act.
Risk management question or decision criteria	What systems can be put in place to manage the broad range of associated risks? What are the broad categories of risks which need to be managed?
Risk assessment approach	Variable, generally will call on a body of existing risk assessments rather than do a new one, but there was a big risk assessment for biofouling some years ago.
Kinds of information used	Existing risk assessment, both pest risk assessments (e.g. brown marmorated stink bug) and import/ commodity risk assessments (e.g. vehicles and machinery). Also knowledge of supply chains, logistics and systems and how they work.
Timeframe	The overall standards may take years to go through the process for development. May not be a long time for risk assessment though because it's usually drawing on existing assessments.
Risk assessor	If new risk assessment needed the MPI risk assessor but another adviser may collate existing assessments.
Decision maker	Most decision-making sits with Chief Technical Officer, some this delegated to deputies). Chief Technical Officer recommends to Director General at final stage in process. (POFA and TF are DG).
Example	Published risk assessments in this area are mostly old but widely applicable such as vehicle and machinery risk analysis, biofouling risk analysis, pest risk analysis for six moth species. RIFA
Comments	

Should a transitional facility be approved?

Trigger	Facility applies for approval
Legal framework	Biosecurity Act sections 39 and 40.
Risk management question or decision criteria	Does the facility comply with requirements for the kind of goods it will handle?
Risk assessment approach	Performance-based verification, depends on compliance history and broad risk categorisation.
Kinds of information used	Documentation in the facility manual, information about compliance.
Timeframe	4-6 weeks from application to approval.
Risk assessor	Verifiers
Decision maker	Final decision with Director General, delegated to level 5 manager on recommendation of verifier.
Example	
Comments	Note that facilities are regularly re-checked depending on the level of risk and compliance history

Which people, baggage, cargo, conveyances or craft require additional inspections and which can be given clearance without additional inspection?

Trigger	Documentation is received, usually prior to arrival.
Legal framework	Biosecurity Act especially 25-27
Risk management question or decision criteria	Does consignment meet requirements? Is there likely to be something not permitted or not listed in the documentation and declaration?
Risk assessment approach	Considers likelihood of compliance or not, risk associated with type of goods, origin, mode of transport, treatment.
Kinds of information used	Documentation such as manifest and sanitary/ phytosanitary certification. Past record of particular importers, exporters etc.
Timeframe	Minutes (e.g. passenger baggage) to days
Risk assessor	Various, target evaluators, inspectors
Decision maker	Biosecurity officers, often same person doing inspection
Example	
Comments	Documentation is received, usually prior to arrival.

Whether to give clearance to imported goods, cargo, conveyance or craft on inspection?

Trigger	Inspection of imported goods, cargo, etc
Legal framework	Biosecurity Act especially 25-27
Risk management question or decision criteria	Do goods etc comply with import health standards, do they match what is declared? May also be questions about treatment options etc.
Risk assessment approach	Mainly verification of what is declared. May relate back to what is documented in risk assessment behind import health standard, not redoing this assessment.
Kinds of information used	Whether documentation matches with what is seen on inspection, presence of undeclared risk goods, pests etc
Timeframe	Minutes to hours
Risk assessor	Various, target evaluators, inspectors
Decision maker	Sometimes same person doing assessment, may need to be escalated or go back to IHS teams for clarification
Example	
Comments	Inspection of imported goods/ cargo/ etc

What to do about a pest detected on an imported item?

Trigger	Pest is detected on imported item.
Legal framework	Biosecurity Act section 27
Risk management question or decision criteria	Is the detected pest a risk to New Zealand that requires managing?
Risk assessment approach	Note that in most detections there is no risk assessment, but the inspector can go to a database (ONZPR) for record of past decisions. In some circumstances the database will direct to Chief Technical Officer for direction/ advice in which case there is a brief qualitative assessment.
Kinds of information used	Either advice in ONZPR which is based on previous risk assessment, or may need some additional assessment, which will look at published and easily accessible literature mainly.
Timeframe	Hours (especially fresh produce/ perishable commodities) to weeks (germplasm in PEQ)
Risk assessor	Information in ONZPR is based on past risk assessment by MPI risk assessors mainly, new risk assessment will be MPI risk assessor.
Decision maker	Inspector (may have advice/ direction from CTO but clearance decisions sit with inspector)
Example	fruit fly, fungal symptoms, a type of thrips we haven't seen before
Comments	Feasibility/ practicality/ cost/ perishable commodities

**Should we respond to a particular threat, that is attempt some kind of control activity?
(in advance of response)**

Trigger	Information that a species is a threat and is being considered for readiness action, regular work prioritisation.
Legal framework	Biosecurity Act particularly GIA sections 100X-100ZH
Risk management question or decision criteria	Can we do anything? Should we do anything? For example would the cure be worse than the disease?
Risk assessment approach	Consider likelihood and impact as well as options for control and impacts of control, feasibility, likelihood of achieving objectives.
Kinds of information used	Literature, experts, advice from overseas.
Timeframe	Potentially long timeframes if before something has arrived, months or even years.
Risk assessor	Varies, some done within readiness, some done in policy
Decision maker	Higher level decision probably, potentially DG. If it's a GIA issue, then partners would be involved, potentially other agencies.
Example	Highly pathogenic influenza, myrtle rust.
Comments	Before we go down line of investing in readiness, need to know if we should be responding at all. (By responding, attempt some sort of control, eradicate or contain)

Which pests require specific preparedness?

Trigger	Information from overseas, regular work prioritisation
Legal framework	Biosecurity Act particularly GIA sections 100X-100ZH
Risk management question or decision criteria	Is the risk high enough to warrant specific preparedness? Is there some reason that specific preparedness is needed, not just use generic approaches and tool.
Risk assessment approach	Consider likelihood and impact, varies which carries more weight, wider scope of impacts, not just economic, consider environment, social, mana whenua?
Kinds of information used	Have prioritisation tools which look at risks but also how prepared we are already, maturity/ ability of system to respond. Published literature, existing response plans from overseas, experts
Timeframe	Can do quick one in a day but more likely a couple of days to a week.
Risk assessor	Advisers in preparedness/ threat readiness team
Decision maker	Depends on level of readiness you are looking at. Can make decision at group manager level if not a lot of resources but for more intensive then higher level.
Example	Highly pathogenic avian influenza, BMSB
Comments	

Should an industry party be involved in a response? (decision in advance of pest arrival)

Trigger	Information from overseas about new pests, industry group does own prioritising.
Legal framework	Biosecurity Act part 5A, Government Industry Agreement deeds (signed by government and one or more industry groups), operational agreements (sit under deed).
Risk management question or decision criteria	Is the impact of this pest on our industry likely to be large enough to justify the cost/ effort of involvement in a response? Prioritisation - is it a priority to be involved in this response
Risk assessment approach	Not formalised. Different industry groups may have different approaches.
Kinds of information used	information on biology, available literature, may use existing information. Rapid assessment report, industries would go back and do a bit of their own digging, impacts overseas on that industry
Timeframe	Can be many months for readiness.
Risk assessor	Industry biosecurity person will advise the board, input from researchers/ scientists
Decision maker	Board of industry group
Example	brown marmorated stink bug (BMSB) operational agreement
Comments	

Which species to target for species-specific surveillance programme?

Trigger	Most likely scenario for this would be that there is an eradication programme and there needs to be a specific programme to support the eradication. In general, there aren't species-specific surveillance programmes unless there's a particularly good reason. Might happen if there is a new specific surveillance tool like a lure for a major pest species.
Legal framework	Biosecurity Act part 4, mainly an obligation to report suspected new organisms.
Risk management question or decision criteria	Is there a need, in terms of opportunity to respond, to detect this species earlier than would be possible with existing surveillance programmes?
Risk assessment approach	There isn't a set approach for this question as it's addressed infrequently, would make use of existing risk assessments
Kinds of information used	Existing risk assessments, available literature, expert advice especially from overseas
Timeframe	Likely to be months or longer before a decision is made
Risk assessor	Will depend on specific circumstances, MPI risk assessment potentially.
Decision maker	Likely to be at a high level as major resource implications. May be response governance if it links to a response.
Example	
Comments	

Which locations to target for high risk site surveillance?

Trigger	
Legal framework	
Risk management question or decision criteria	Not really a risk assessment question, based on likelihood of detection for multiple species. Not really considering impacts and values but looking in the most likely place to find something new.
Risk assessment approach	
Kinds of information used	
Timeframe	
Risk assessor	
Decision maker	
Example	
Comments	

What to do about a new notification?

Trigger	Notification via 0800 number, or ONIT online reporting tool, or Find-a-pest app
Legal framework	Generally working with people who are acting voluntarily, eg contacting MPI, taking control actions). Relevant parts of the Biosecurity Act include sections 42-46 around duty to report.
Risk management question or decision criteria	Is this something new?
Risk assessment approach	Triage approach. Should it be investigated? Should it be redirected? Can it be stood down immediately?
Kinds of information used	Supplied information, experience of investigator, may seek advice from another investigator if less experienced
Timeframe	Minutes, expected to contact notifier within 30 minutes of receiving notification.
Risk assessor	Incursion investigator
Decision maker	Incursion investigator
Example	
Comments	

Should control be undertaken against a particular pest? (at investigation stage)

Trigger	Notification where there is potentially some biosecurity risk.
Legal framework	Generally working with people who are acting voluntarily, e.g. contacting MPI, taking control actions). Relevant parts of the Biosecurity Act include sections 121 and 122 about examining organisms, applying treatments, giving directions.
Risk management question or decision criteria	What can be done to preserve options (that is, in case control might be needed later)? Can we do anything? Should we do anything? For example, would the control have greater impacts than the pest? What is feasible?
Risk assessment approach	Varies, limited timeframe limits formal risk assessment approach. Consider likelihood and impact as well as options for control and impacts of control, feasibility, likelihood of achieving objectives.
Kinds of information used	Supplied information, experience of investigator, may seek advice from another investigator if less experienced, literature but likely to be limited by timeframe.
Timeframe	Hours generally.
Risk assessor	Incursion investigator
Decision maker	Incursion investigator potentially with additional input.
Example	
Comments	

Whether to transfer an investigation to response?

Trigger	An investigation which seems likely to require involvement of response group
Legal framework	Various sections including 121, 122. 162A in relation to compensation.
Risk management question or decision criteria	Criteria for getting response involved are based on the risk of organism, the time and cost to manage it or the need to pay compensation
Risk assessment approach	D&S briefing (briefing for Plant Diagnostics and Plant Surveillance and Incursion Investigation). This will feed into rapid assessment report
Kinds of information used	Literature, level of literature used will depend on urgency
Timeframe	Hours to days
Risk assessor	Incursion investigator
Decision maker	Decision made collectively within Diagnostics & Surveillance and Incursion Investigations
Example	
Comments	

Which broad approach to take - should there be a response or some other action? (A formal BNZ-led response is one of several interventions that may be considered to manage the risk involved)

Trigger	Investigator has produced a rapid assessment report (RAR) and has indicated that input from response group is needed, interventions cannot be managed within incursion investigation. May be because of resourcing needs, may be GIA commitment, other expectations.
Legal framework	Biosecurity Act section 100 including part 5A, signed Government Industry Agreement deeds and operational agreements. Declaration as UO or NO (might be one already but can be declared UO right then)
Risk management question or decision criteria	Likelihood and impact, broad consideration of impacts and values. Broad consideration of risk - trade, environmental, cultural etc. Level of interest from other parties.
Risk assessment approach	Rapid assessment report. Brief qualitative assessment. But also wide input and iterative discussion, depending on the nature of the threat.
Kinds of information used	Published and grey literature, information on biology, may use existing assessments. information from experts, but also information from GIA partners, DOC, iwi, not just biosecurity risk but values information.
Timeframe	Usually a timeframe of days, depending on diagnostics can take weeks.
Risk assessor	Incursion investigator but under these circumstances may seek some additional assessment from MPI risk assessment teams, may be some assessment supplied from other organisations such as industry.
Decision maker	Has varied. Used to be senior staff with delegated responsibility e.g. senior investigator and equivalent on response side. Now Director Readiness and Response but may be DDG.
Example	
Comments	In recent years, there is a recognition that BNZ needs a range of interventions, not only proportional to the extent of risk presented, but also consistent with the complex range of competing priorities

Should control be undertaken against a particular pest? (during early stage of a response)

Trigger	Early stages of formal response.
Legal framework	Biosecurity Act section 100 including part 5A, signed Government Industry Agreement deeds and operational agreements. Declaration as UO or NO (might be one already but can be declared UO right then)
Risk management question or decision criteria	What can be done to preserve options (that is, in case control might be needed later)? Can we do anything? Should we do anything? For example would the control have greater impacts than the pest? What is feasible?
Risk assessment approach	Main risk assessment document is the rapid assessment report. Limited timeframe limits formal risk assessment approach. Consider likelihood and impact as well as options for control and impacts of control, feasibility, likelihood of achieving objectives.
Kinds of information used	Existing risk assessments, published and potentially unpublished literature, expert advice, advice from overseas, wide range of sources.
Timeframe	Decision required in days.
Risk assessor	Varies, risk assessment might come from incursion investigator but considerations of feasibility etc may come from other sources
Decision maker	Response governance (see comments for definition of governance)
Example	
Comments	CIMS wording - Every response has executive oversight, known as Governance. Governance arrangements can be complex and dynamic. Formal structures may be less important than relationships between individuals and organisations. Influencers outside of Governance may play key roles, which may or may not be explicit. (Note distinction between governance of response and governance of organisations represented - often a complex and dynamic relationship).

Should an industry group be involved in a response? (once a pest has been detected)

Trigger	Notification from MPI that there an investigation which might concern an industry group and for which there is likely to be a response. May happen at investigation stage even before RAR completed
Legal framework	Biosecurity Act part 5A, Government Industry Agreement deeds (signed by government and one or more industry groups), operational agreements (sit under deed).
Risk management question or decision criteria	Is the impact of this pest on our industry likely to be large enough to justify the cost/ effort of involvement in a response? Prioritisation - is it a priority to be involved in this response
Risk assessment approach	Not formalised. Different industry groups may have different approaches.
Kinds of information used	information on biology, available literature, may use existing information. Rapid assessment report, industries would go back and do a bit of their own digging, impacts overseas on that industry
Timeframe	Generally, a few days, might have a meeting called and then 2 days to decide after meetings for example
Risk assessor	Industry biosecurity person will advise the board, input from researchers/ scientists
Decision maker	Board of industry group
Example	fall army worm (FAW) operational agreement
Comments	

Should eradication be attempted?

Trigger	Response initiated and options are being considered for what to do.
Legal framework	Biosecurity Act section 100 including part 5A, Government Industry Agreement deeds (signed by government and one or more industry groups), operational agreements (sit under deed).
Risk management question or decision criteria	Is eradication technically and socially feasible? Do the impacts of the pest establishing outweigh the costs of eradication. Is this eradication a priority? Is eradication affordable?
Risk assessment approach	Feasibility study? Impact assessment? May or may not be formal cost-benefit analysis.
Kinds of information used	Published and grey literature from overseas. Field observations of pest in New Zealand. Expert opinion from New Zealand and overseas (technical advisory group). Animal welfare considerations and social licence
Timeframe	Days-weeks-months
Risk assessor	Varies. Sometimes within MPI, occasionally external contract may cover some parts.
Decision maker	Response governance
Example	Myrtle rust, fall army worm
Comments	

When to stop control efforts (if pest is thought to be eradicated)?

Trigger	There have been no detections of the organism for a while (note that this might be considered in advance too).
Legal framework	Nothing specific but broadly still sits under Biosecurity Act section 100 and Government Industry Agreements
Risk management question or decision criteria	What is the level of confidence that eradication has been achieved? What is the probability that eradication has been achieved?
Risk assessment approach	There have been models developed for this for some types of species. Relatively straightforward for something with defined life cycle like mosquito, or where there are codified rules in trade. less clear for a plant or bacterial disease etc
Kinds of information used	Varies, but would include things like data from trapping or monitoring, data on sensitivity of surveillance. Expert opinion, often independent advice, technical advisory group, importance of science.
Timeframe	Weeks-months
Risk assessor	Likely to have external involvement e.g. members of technical advisory group
Decision maker	Response governance
Example	
Comments	

Who should pay for control (either response or long-term management)?

Trigger	Trigger is about resources and funding, internal resourcing within MPI, which parts should be involved but also external, triggered by pre-existing arrangements such as GIA. Can be an early discussion, before the start of a response or later when there is a decision to move out of response
Legal framework	Partly covered by Biosecurity Act part 5A (Government Industry Agreements) but isn't just about GIA. Relates to resourcing of different parts of MPI, potentially allocations from cabinet.
Risk management question or decision criteria	Who is facing the risk/ bearing the risk? "Who owns the risk"?
Risk assessment approach	Negotiated based on a range of inputs. Depends a lot on perspective, dynamic. Often no good options. Political calculus vs scientific approach
Kinds of information used	
Timeframe	Different timeframes. Immediate actions for preservation of options timeline, must be done quickly, not defined by consultation. Longer term options, different timeframe, defined by amount and depth of consultation with those affected.
Risk assessor	
Decision maker	Response governance
Example	
Comments	

When to transition to long-term management?

Trigger	In a response there is a conclusion that a pest cannot or should not be eradicated
Legal framework	Part 5, pest management, especially 59-78
Risk management question or decision criteria	Are industry in a position to take over control? Is there sufficient time to establish national pest management plan?
Risk assessment approach	Nothing specific to this decision. Often no good options.
Kinds of information used	Existing response documentation
Timeframe	Consultation is one of the main determinants of timeframe, time to consult and agree. Can depend on impacts
Risk assessor	
Decision maker	Response governance
Example	Myrtle rust
Comments	Some gaps in how this happens, seems to go straight from response to individual councils

What to do about a newly detected pest in a particular region (between RPMP reviews)?

Trigger	A pest which is not in the RPMP and not previously known to be in a region is found. There's some indication that action might be a good idea to do something before the next whole RPMP review.
Legal framework	Could be managed as an unwanted organism (Biosecurity Act, section 100V-W), but can be a challenging situation to work out who is responsible and what to do. Amendment to RPMP can be done at any time.
Risk management question or decision criteria	Is control worthwhile in terms of the level of risk vs costs, is control affordable, feasible etc. Should we do anything at all? Urgency/ timeliness
Risk assessment approach	Varies in terms of level of formality, likely to combine qualitative and quantitative elements.
Kinds of information used	Literature review to understand impact, local experience, experience of other councils (e.g. to understand feasibility and cost, advice from other experts such as researchers. Delimiting surveys/ knowing distribution
Timeframe	Varies, days to months
Risk assessor	Biosecurity staff in council, maybe MPI
Decision maker	Could be MPI, council biosecurity managers together or either independently depending on circumstances
Example	
Comments	Many of these decisions span varying levels of formality

Which pests and pathways to manage under national plans?

Trigger	Can be proposed by anyone. Species is recognised as serious enough and requiring national coordination. Pests are beyond regional control, inter-regional issue requiring national leadership
Legal framework	
Risk management question or decision criteria	Is the risk high enough and does issue require national leadership because it's beyond control of any one region and consistency required.
Risk assessment approach	By the time national plans are being considered there is usually already a lot of evidence, will require substantial evidence, risk assessment, cost-benefit analysis and stakeholder engagement
Kinds of information used	Literature, expert advice, surveillance results, experience of the different regions managing the problem
Timeframe	Years
Risk assessor	No set risk assessor, advice from a wide range of groups
Decision maker	Minister
Example	Potentially marine pathway plan, kauri dieback, American foulbrood, PSA, bovine TB, kiwifruit industry pathway plan.
Comments	

Which pests to manage through a programme in a Regional Pest Management Plan?

Trigger	Review of RPMP (10 years is the norm, could be more or less)
Legal framework	Biosecurity Act sections 69-78
Risk management question or decision criteria	Do the benefits (in terms of impact avoided) outweigh the costs of control? Also is RPMP the most appropriate tool, is control affordable, technically feasible and effective?
Risk assessment approach	Analysis of benefits and costs, analysis of other factors, combines qualitative and quantitative assessment. Note efforts to do some of the risk assessment before starting the statutory process, in particular more qualitative assessment. Being open about areas where quantitative assessment is not appropriate or feasible, and uncertainty
Kinds of information used	Literature review to understand impact, local experience, experience of other councils (e.g. to understand feasibility and cost), advice from other experts such as researchers, information from consultation process. Consider both qualitative and quantitative information.
Timeframe	Varies, plans can take years to develop, but depends on how the plan is scoped so can also be less.
Risk assessor	Biosecurity staff in council.
Decision maker	Elected councillors are the final decision maker but council biosecurity staff filter the decision, decide what to put in the plan etc. Depending on region, biosecurity staff and elected councillors have variable levels of input in decision.
Example	
Comments	

Which pathways to manage under national or regional pathway management plans?

Trigger	Not all councils have existing plans, so in some cases the trigger would be review but otherwise it would be identification of a pathway where management would be appropriate.
Legal framework	Biosecurity Act sections 89-98
Risk management question or decision criteria	Broadly the same as for pest management plans.
Risk assessment approach	Analysis of benefits and costs, analysis of other factors, combines qualitative and quantitative assessment.
Kinds of information used	Literature review to understand impact, local experience, experience of other councils (e.g. to understand feasibility and cost), advice from other experts such as researchers, information from consultation process. Consider both qualitative and quantitative information.
Timeframe	Varies, plans can take years to develop, but depends on how the plan is scoped so can also be less.
Risk assessor	Biosecurity staff in council.
Decision maker	Elected councillors are the final decision maker but council biosecurity staff filter the decision, decide what to put in the plan etc. Depending on region, biosecurity staff and elected councillors have variable levels of input in decision.
Example	
Comments	

Which pests to control at specific sites?

Trigger	Varies, broadly triggers by recognition that a valued site is being affected or threatened by pests. could link to RPMP review, work programme review, issues raised about particular sites.
Legal framework	Very broad, could be covered by Conservation Act, Resource Management Act, sometimes linked to RPMPs, may not use legislative powers and use voluntary agreements instead. May have legal agreements such as covenants, on titles etc.
Risk management question or decision criteria	What is the importance of the site, how do the pests threaten values of the site. Is control worthwhile in terms of the level of risk vs costs, is control affordable, feasible etc
Risk assessment approach	Variable as it will depend on the land managers and the site and what the threats are. Focus is the values of the site and how they are threatened by pests. Not generally a formal risk assessment, but risks may be well documented (see example)
Kinds of information used	Literature review, local experience, experience of other councils and agencies (eg to understand feasibility and cost)
Timeframe	Varies, if not in RPMP, days to months
Risk assessor	Biosecurity staff in council, land managers, e.g. parks staff, DOC, ie. those with the expertise in valuing and managing sites.
Decision maker	Council biosecurity managers although at a higher level may require approval of elected councillors.
Example	https://www.gw.govt.nz/assets/Documents/2020/04/Key-Native-Ecosystem-Operational-Plan-for-Western-Wellington-Forests-2019-2024.pdf
Comments	Many of these decisions span varying levels of formality. Also have the question of at which sites should we control pests. Might have a plan for a particular reserve.

Which pests to include on National Pest Plant Accord and National Pest Pet Biosecurity Accord?

Trigger	Review of NPPA (every five years in theory but last was 2012). Proposal to list a species under NPPBA.
Legal framework	Text of the Accord itself, Unwanted Organism parts of act (section 2, section 52)
Risk management question or decision criteria	Does the pest meet criteria for NPPA, in terms of level of risk and effectiveness of the NPPA tool. Not sure about NPPBA. Note that final decision has input from Steering Group in terms of commercial value of plants
Risk assessment approach	Has varied with different NPPA reviews, relies on information from submitters and the input of experts in the Technical Advisory Group
Kinds of information used	Literature, expert opinion. Information from those who nominate species for inclusion.
Timeframe	Months for NPPA
Risk assessor	Technical Advisory Group
Decision maker	NPPA steering group
Example	
Comments	

Which pests to develop biocontrol for?

Trigger	Annual meeting of National Biocontrol Collective
Legal framework	Not covered by legislation
Risk management question or decision criteria	Considers level of impact, feasibility, cost
Risk assessment approach	Tool has been developed which ranks potential species
Kinds of information used	Literature and local experience about impacts, overseas biocontrol information
Timeframe	Months
Risk assessor	Manaaki Whenua provides a lot of the info, Manaaki Whenua and members of collective will assess, make recommendation
Decision maker	National Biocontrol Collective Governance Group
Example	
Comments	Fairly well formalised process, envirolink reports on tool when it was in development