



Guidance Document

Meeting the requirements of the National Policy Direction for Pest Management 2015

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Title

Meeting the requirements of the National Policy Direction for Pest Management 2015.

About this document

This document contains information about acceptable ways of complying with the requirements of the National Policy Direction for Pest Management 2015. Any guidance on how to comply with the applicable requirements may not be the only way to achieve compliance. Stakeholders are encouraged to discuss departures from the approaches outlined in this document with the Ministry for Primary Industries to avoid expending resources on the development of alternative approaches which may be unsuitable.

Related requirements

National Policy Direction for Pest Management 2015.
Part 5 (Pest Management) of the Biosecurity Act 1993.

Document history

Refer to Appendix 1.

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Disclaimer

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INTRODUCTION

Purpose

1. This guidance document has been issued to accompany the National Policy Direction for Pest Management 2015 (the NPD). It should be read in conjunction with the NPD.
2. The purpose of this document is to provide guidance for proposers of pest and pathway management plans and for regional councils intending to declare small-scale management programmes on how to meet the requirements of the NPD.

Structure

3. The guidance currently only covers some of the clauses in the NPD. Each Chapter relates to one of the clauses in the NPD:
 - Chapter 1:** determining objectives related to site-led pest programmes (clause 4).
 - Chapter 2:** undertaking an analysis of costs and benefits (clause 6).
 - Chapter 3:** undertaking a cost allocation analysis (clause 7).
 - Chapter 4:** determining good neighbour rules in regional pest management plans (clause 8).

Statutory framework

4. This document provides non-statutory guidance on the requirements of the NPD. However, if there is any conflict between the requirements of the Biosecurity Act 1993 (the Biosecurity Act) or the NPD and this document, the Biosecurity Act and the NPD prevail.
5. Despite this document's non-statutory status, its provisions could be used to support a case to determine if a pest or pathway management plan or small-scale management programmes is inconsistent with the NPD or if the process requirements of the NPD were followed.

Biosecurity Act

6. Part 5 of the Biosecurity Act provides a legal basis for excluding, eradicating and effectively managing harmful organisms. Its provisions affect the Ministry for Primary Industries (MPI), regional councils and national pest management agencies.
7. A pest or pathway management plan may limit rights and impose legal obligations on people for the purpose of controlling pests or pathways that might assist the spread of pests. These plans can make people responsible for taking particular control measures and impose control costs on people. It can also make certain actions illegal and therefore subject to prosecution. For these reasons it is important that affected parties have the opportunity to consider a proposal for a plan and have confidence that any concerns will be addressed before a decision is made.

National Policy Direction for Pest Management 2015

8. The NPD is a statutory instrument under Part 5 of the Biosecurity Act. The purpose of the NPD is to ensure that activities under Part 5 of the Act provide for the best use of available

resources for New Zealand's best interests and align with one another, when necessary, to contribute to the achievement of the purposes of Part 5 (which is the eradication or effective management of harmful organisms that are present in New Zealand).¹

9. Section 56 of the Biosecurity Act allows the NPD to include directions on the content and process requirements for developing pest and pathway management plans and small-scale management programmes. Section 56 requires that the NPD includes directions on setting good neighbour rules in regional pest management plans and timing for when the Minister for Primary Industries or regional councils must determine whether a plan is inconsistent with the NPD.
10. The Biosecurity Act requires that the decision-maker for any proposal for a plan is satisfied that the plan is not inconsistent with the NPD and the process requirements in the NPD were complied with. For regional pest and pathway management plans, an application may be made to the Environment Court on whether the plan is inconsistent with the NPD or whether the process requirements for a plan in the NPD were complied with.
11. Section 100E of the Biosecurity Act requires that, after the NPD is approved, amended, or revoked and replaced, the decision-maker for a plan must determine whether an existing plan is inconsistent with the NPD. Clause 9 of the NPD requires that this determination be made within 18 months of the date of the Governor-General's approval of the NPD. If the decision-maker determines that a plan is inconsistent, they must resolve the inconsistency, either by minor amendment or initiating a review of the plan.
12. The NPD is approved by the Governor-General by Order in Council, on the recommendation of the Minister for Primary Industries. The NPD is a disallowable instrument for the purposes of the Legislation Act 2012. This means that it must be presented to the House of Representatives and can be disallowed if a resolution is passed to disallow it.

Review

13. This document is a 'living document' and will be added to and/or amended over time. The guidance does not form part of the NPD, nor does it have statutory status, or is a substitute for legal advice. It will be periodically updated as policy, case law, and good practice methodologies are developed further and should be reviewed in full whenever the NPD is amended (other than minor or technical changes). Future guidance material will be made available on MPI's website.

¹ Section 56(2) of the Biosecurity Act.

CHAPTER 1: SETTING OBJECTIVES FOR SITE-LED PEST PROGRAMMES

14. This chapter provides guidelines in relation to clause 4 of the NPD (Directions on setting objectives) where the objectives in a pest or pathway management plan include the intermediate outcome “protecting values in places.” In this chapter the term “site-led pest programmes” refer to programmes related to this intermediate outcome.
15. This chapter is split into three parts:
 - Part 1: Introduction** explains the principles and features of site-led pest management and situations where it could be used.
 - Part 2: Applying the NPD to site-led pest programmes** is the main part of this chapter and its structure follows clause 4 of the NPD. It provides details and examples of stating the geographic area, a description of a place, or criteria for defining a place where the intermediate outcome “protecting values in places” applies.
 - Part 3: Setting objectives and rules for site-led pest programmes** provides guidance on setting objectives and rules for these types of programmes to align with the NPD and other legislation.

Key points

16. Site-led pest management is one of three broad approaches to pest management (site-led, species-led, and pathway management).
17. Site-led programmes vary from these other pest management approaches in two main ways:
 - It addresses a specific place (and so could be a quite small geographical area), rather than the pest or pests themselves; and
 - Its focus is protecting the place in terms of the values of that place (rather than, for example, the scale of actual or potential pest infestation per se).
18. A site-led programme may seek to protect any type of value, such as biodiversity-related, environmental, aesthetic, economic, or cultural.
19. The values being focussed on for the site-led programme, and the key risks to those values, should be identified.
20. Good Neighbour Rules (GNRs) can be used for site-led programmes in regional pest management plans only.
21. Under clauses 4(1)(d) and 4(2)(f) of the NPD, places to which the site-led programme applies must be adequately identified. Identification can be done in several ways – by specifying the geographic area, a description of a place, or criteria for defining a place to which the intermediate outcome “protecting values in places” applies.
22. Rules and objectives for a site-led pest programme need to be worded so that owners and occupiers can be clear about whether a rule or objective within a site-led programme applies to them.

23. Activities other than pest management may also be needed to protect the values within the place (e.g. managing water tables in wetlands).
24. Other legislative interventions aside from the Biosecurity Act can be used in a site-led programme.

Part 1: Introduction

How site-led pest management differs from other pest management approaches

25. Pests have the potential to cause adverse effects on the environment, threatened or indigenous species, animal welfare, social and cultural values recreational use, economic wellbeing, and/or public health and safety. There are three broad approaches to pest management: species-led, site-led, and pathway pest management.
26. The objective of species-led pest management is to control the distribution of an individual species. The objective of pathway pest management is to prevent or manage the spread of harmful organisms.
27. Site-led pest management differs from species-led pest management in that its objective is to protect and preserve the values of a place, rather than targeting a specific species, and it targets the one or more critical pests that affect these values.
28. In terms of its difference from pathway pest management, a site-led approach may require a complementary pathway management plan if the movement of goods or craft poses a particular risk of spread of a pest(s) to the site. The actions associated with the pathway plan are likely to be external to the site whereas the site-led actions are likely to be within or adjoining the site. For example, the Department of Conservation manages pathways to predator-free islands (e.g. visitors, boats) that could re-introduce rodents.

Features of site-led pest management

29. Site-led pest management seeks to protect the values of a place or places. The values could be aesthetic, biological, cultural, ecological, economic, environmental, historic, recreational, or social values that are of significance to the general public or specific communities. The place is specific, such as a farm, a historic structure, or a reserve. In most instances, the place is of a smaller scale to that of a species-led pest programme.
30. The success of site-led pest management is not based on the level of pest control, rather protecting the values of these places from the impacts of pests. The aim of site-led pest control is not necessarily eradication of the pest, rather it is about managing the pest(s) to avoid negative effects on the values of a place.
31. A site-led pest programme usually involves widespread pest species because these are the most likely to occur. However, it can include any pest species within the place, or that are about to invade it, which have the potential to significantly affect the values that are being protected.

32. Planning a site-led pest programme involves identifying places with values that are threatened by invasive pests and then identifying and carrying out control or other pest management activities necessary to protect these values.
33. To be successful a site-led pest programme may require activities other than controlling pests. For example, it may require:
 - Public awareness resources and programmes;
 - Hygiene controls for managing human activities that introduce or spread pests;
 - Surveillance for detecting potential pests; and
 - Managing threats in the place other than pest impacts.

Part 2: Applying the Directions on setting objectives to site-led pest programmes

34. This section aims to provide clarity on the use of site-led programmes within the NPD (in terms of intent in objectives), so that parties understand what the programme is seeking to achieve and what their role is in these programmes.

4(1)(a) and 4(2)(a) – Stating the adverse effects that the plan addresses

35. Clauses 4(1)(a) and 4(2)(a) of the NPD requires a plan to state the adverse effects of the harmful organism on the matters listed in section 54(a) of the Biosecurity Act. These include adverse effects on economic wellbeing, the environment, human health, enjoyment of the natural environment, and the relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu, and taonga. Any of these could relate to the values that are being protected under a site-led pest programme.

4(1)(b) and 4(2)(b) - Choosing an intermediate outcome for a plan

36. Clauses 4(1)(b) and 4(2)(c) of the NPD requires that for each subject in a proposed pest management plan, the plan must have one or more of the following intermediate outcomes: exclusion, eradication, progressive containment, sustained control, protecting values in places. A pathway management plan could use these outcomes or, if none of these are suitable, a pathway programme could be stated as an intermediate outcome.

4(1)(d) and 4(2)(d) – Stating the geographic area, description for a place, or criteria for defining a place where the intermediate outcome “protecting values in places” applies

37. Under clauses 4(1)(d), 4(1)(e), 4(2)(f), and 4(2)(g) of the NPD, where the intermediate outcome of a pest or pathway management plan is “protecting values in places,” the plan must specify:
 - Either the geographic areas to which the outcome applies (if practicable); or
 - A description for a place to which an outcome applies; or
 - Criteria for defining the place to which the outcome applies;
 - If the plan specifies a description or criteria, it must give land owners and occupiers sufficient certainty, in the view of the Minister responsible for administering the Biosecurity Act (in the case of national plans) or relevant regional council (in the case of regional plans), as to whether the outcome applies to them.
38. Site-led pest programmes may or may not include rules that impose obligations on land occupiers. Regardless of whether a site-led pest programme includes rules, places to which the programme applies must be adequately identified.

39. Land occupiers need to have sufficient certainty on whether or not they are or subject to site-led pest programmes under pest or pathway management plans. Stating or mapping the geographic area or areas where “protecting values in places” applies is the simplest way of providing land occupiers with sufficient certainty.
40. However, recording the geographic area in this way is not always practicable. In these circumstances, a description of a place to which the outcome applies or setting out the criteria defining the place to which the outcome applies can be used.
41. An example is a place with indigenous forest that is subject to a site-led pest programme under a pest or pathway management plan, but where it is not practicable for the geographic areas to be stated. In this instance, a description of what is considered to be an indigenous forest or criteria of the characteristics of an indigenous forest would be included in the plan. This would ensure land owners and occupiers are aware that site-led programme rules apply if their land falls under the description or criteria.

Examples of geographic areas, descriptions, and criteria for site-led pest programmes²

- *Table 1* considers an objective and rule for a site-led pest programme where the geographic area is stated.
- *Table 2* considers an objective and rule for places where the geographic areas are stated (but in a different way to that in Example 1).
- *Table 3* considers an objective and rule where a description, rather than a list or geographic grid reference, is used to describe the types of places for which the rules of the site-led programme would apply.
- *Table 4* considers an objective and rule for, where a set of criteria are used instead of exact geographic locations.
- *Table 5* considers an objective and rule showing one way (referencing back to a management agreement with the regional council) that land owners can gain certainty around whether their property is subject to a site-led pest programme.

Table 1: Geographic areas for places that could be subject to rules for a site-led pest programme³

Place	Description	Further Description
Kowhai-broadleaved forest or treeland	Forest or treeland dominated by kowhai on river terraces, river risers, or cliffs and bluffs associated with rivers. These places are found in the central area of the region within the following water management sub-zones: Akit_1a, Akit_1b, Akit_1c, Mana_1a, Mana_1b, Mana_1c, Mana_7a, Mana_7b,	Kowhai-broadleaved forest is typically low-growing forest or treeland, often with a mixture of small tree species and shrubs including lacebark, ribbonwood, kanuka, and indigenous divaricating shrubs. The absence of a dense canopy of tawa or kamahi is notable.

² Examples from the draft Horizon’s Regional Plan.

³ The references to named geographic areas (e.g. “Akit 1a”) are described more fully in another document. To aid the reader it is suggested that any documents to explain the specific geographic locations of places are attached as an appendix to the plan for reference.

	Mana_7c, Mana_7d, Mana_12d, Rang_2b, Rang_2e, Rang_2f, Rang_2g, Rang_3a, Rang_3b, Rang_4c, Whai_6, Whai_7a, Whai_7c, Whai_7d, Whau_2, Whau_3a, Whau_3e, Tura_1a, Tura_1b.	
Indigenous tussockland below the treeland	Red tussock dominated tussockland below the treeline in areas with natural or human induced disturbance regimes, high water tables or temperature inversions. These places are found in the following water management sub-zones: Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, and Rang_2f.	Red tussock is dominant in humid climates on moist soils. Other tussock species that can be present include silver tussock and blue tussock. Silver tussock will be more important on higher fertility disturbed areas. Blue tussock may be uncommonly present as an inter-tussock species amongst red tussock. Indigenous and exotic woody species (e.g. heather, monoao, hebe, manuka, and kanuka) are likely to be increasingly present as natural successional processes advance.

Table 2: Example of an objective for places where the geographic areas are stated

This example uses a pre-existing list to define the places included in the site-led pest programme. It is similar to Example 1, except that the list referred to uses street addresses rather than geographic grid references.

Subject	Australian subterranean termite (<i>Coptotermes acinaciformis</i>).
Programme description	Site-led pest programme.
Intermediate outcome	Protecting values in places.
Definition	The areas to which the intermediate outcome applies are the New Zealand Heritage List/Rārangī Kōrero, which identifies significant and valued historic and cultural heritage places in New Zealand and is established under the Heritage New Zealand Pouhere Taonga Act 2014.
Objective	To protect the historic heritage values of historic places in the region that are listed in the New Zealand Heritage List/Rārangī Kōrero during the life span of this regional pest management plan.

Table 3: Descriptions for places that could be subject to rules for a site-led pest programme

In this example a description, rather than a list or geographic grid reference, is used to describe the types of places which the rules of the site-led programme would apply.

Place	Description	Further Description
Mountain beech forest or treeland	Mountain beech dominated forest or treeland.	These places often occur without many other tree species, although upland conifers (e.g. Hall's totara, pahautea, and mountain toatoa) and other species (e.g. silver beech and broadleaf) may be present (but not common), especially at lower elevations or where rainfall is higher. The understorey of mountain beech forest is typically sparse. Mountain beech can

		tolerate cold temperatures, dry winds, and low fertility soils. Mountain beech can be the predominant habitat type a higher altitudes (650 – 1,450 m asl), especially on eastern sites and in areas with harsh environmental factors.
Kanuka forest or treeland	Kanuka forest or treeland dominated by pure stands of well-developed kanuka. Is differentiated from kanuka scrub by size (greater than 4.5 m tall or 20 cm diameter, measured 1.4 metres above ground).	Manuka and typical indigenous broadleaved species can also be present scattered through the canopy or understorey but will not be dominant.

Table 4: Criteria for places that could be subject to rules for a site-led pest programme

This example uses a set of criteria, not exact geographic locations, for the places that would be subject a site-led pest programme. The places would need to meet the criteria for the rules for the site-led pest programme to apply.

Place	Criteria
Threatened wetlands	<p>Must meet at least one of the following criteria to be classed as places that are subject to rules under a site-led pest programme:</p> <ul style="list-style-type: none"> • Areas of naturally occurring indigenous wetland habitat covering at least 0.1 hectares; or • Areas of indigenous vegetation that have been established in the course of wetland habitat restoration; or • Areas of artificially created indigenous wetland habitat covering at least 0.5 hectares.
At-risk tussockland	<p>Must be an area of indigenous tussockland covering at least 0.5 hectares.</p>
Threatened or at risk forest, treeland, scrub, or shrubland	<p>Must meet at least one of the following criteria to be classed as places that are subject to rules under a site-led pest programme:</p> <ul style="list-style-type: none"> • Areas of continuous vegetation where: <ul style="list-style-type: none"> ○ If it is classified as threatened then it must over at least 0.25 hectares; or ○ If is classified as at risk then the habitat must cover at least 0.5 hectares where if supports indigenous understorey vegetation or it is present within a gully system; or ○ If it is classified as at risk it must cover at least 1 hectare unless the above point applies; • areas of discontinuous indigenous vegetation where: <ul style="list-style-type: none"> ○ If it is classified as threatened where it occurs as treeland it covers at least 1 hectare; or ○ If is classified as at risk where it occurs as treeland it covers at least 1 hectare; or ○ If it is classified as either threatened or at risk other than treeland it covers at least 1 hectare except if it is present within 50 metres of an area of continuous indigenous vegetation it covers at least 0.5 hectares;

	<ul style="list-style-type: none"> • areas containing <i>Olearia gardnerii</i>, <i>Pittosporum obcordatum</i>, <i>Coprosma obconica</i>, <i>Coprosma wallii</i>, <i>Melicytus flexuosus</i>, <i>Pseudopanax ferox</i>, or <i>Discaria toumatou</i> covering at least 0.1 hectares; or • an area of indigenous vegetation of any size containing <i>Powellophanta</i> land snails; or • an area of woody vegetation of any size or species composition (including exotic vegetation) within 20 metres landwards from the top of the river bank adjacent to an area identified in Schedule AB as being an aquatic site of significance; or • areas of indigenous vegetation that have been established for the purpose of habitat manipulations including habitat creation, restoration and buffering, where such an area covers at least 1 hectare as a discrete site or at least 0.5 hectares where it is adjacent to an existing area of indigenous habitat.
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Table 5: Example of an objective for places where criteria is stated

This example is similar to Example 3 in that the site-led pest programme applies to places that are referenced elsewhere. In Examples 3 and 5, the description and criteria describes characteristics but does not give geographic references or exact locations. The example below is another method to clarify to land owners and occupiers where the site-led pest programme applies, areas that meet the criteria and are part of a management agreement with the regional council. The latter condition adds clarity as it removes the need for landowners to determine whether or not their property meets the criteria. Site-led pest programmes do not apply if their property is not part of a management agreement with the council.

Criteria	<p>The areas to which the intermediate outcome applies are:</p> <ul style="list-style-type: none"> • Areas identified by the regional council as significant natural areas as defined in Appendix 1 of this regional pest management plan; and • Where a management programme has been agreed to with the regional council.
Criteria for determining significant indigenous biodiversity	
1.	It is indigenous vegetation or habitat for indigenous fauna that is currently, or is recommended to be, set aside by statute or covenant or by the Nature Heritage Fund, or Nga Whenua Rahui committees, or the Queen Elizabeth the Second National Trust Board of Directors, specifically for the protection of biodiversity, and meets at least one of criteria 3-11.
2.	In the coastal environment, it is indigenous vegetation or habitat that has reduced in extent or degraded due to historic or present anthropogenic activity to a level where the ecological sustainability of the ecosystem is threatened.
3.	It is vegetation or habitat for indigenous species or associations of indigenous species that are: <ul style="list-style-type: none"> • Classed as threatened or at risk, or • Endemic to the Waikato region.
4.	It is indigenous vegetation or habitat type that is under-represented (20% or less of its known or likely original extent remaining) in an Ecological District, or Ecological Region, or nationally.
5.	It is indigenous vegetation or habitat that is, and prior to human settlement was, nationally uncommon such as geothermal, chenier plain, or karst ecosystems, hydrothermal vents or cold seeps.
6.	It is wetland habitat for indigenous plant communities and/or indigenous fauna communities

	(excluding exotic rush/pasture communities) that has not been created and subsequently maintained for or in connection with: <ul style="list-style-type: none"> • waste treatment; • wastewater renovation; • hydro electric power lakes (excluding Lake Taupō); • water storage for irrigation; or • water supply storage.
7.	It is an area of indigenous vegetation or naturally occurring habitat that is large relative to other examples in the Waikato region of similar habitat types, and which contains all or almost all indigenous species typical of that habitat type. Note this criterion is not intended to select the largest example only in the Waikato region of any habitat type.
8.	It is aquatic habitat (excluding artificial water bodies, except for those created for the maintenance and enhancement of biodiversity or as mitigation as part of a consented activity) that is within a stream, river, lake, groundwater system, wetland, intertidal mudflat or estuary, or any other part of the coastal marine area and their margins, that is critical to the self sustainability of an indigenous species within a catchment of the Waikato region, or within the coastal marine area. In this context “critical” means essential for a specific component of the life cycle and includes breeding and spawning grounds, juvenile nursery areas, important feeding areas and migratory and dispersal pathways of an indigenous species. This includes areas that maintain connectivity between habitats.
9.	It is an area of indigenous vegetation or habitat that is a healthy and representative example of its type because: <ul style="list-style-type: none"> • Its structure, composition, and ecological processes are largely intact; and • If protected from the adverse effects of plant and animal pests and of adjacent land and water use (e.g. stock, discharges, erosion, sediment disturbance), can maintain its ecological sustainability over time.
10.	It is an area of indigenous vegetation or habitat that forms part of an ecological sequence, that is either not common in the Waikato region or an ecological district, or is an exceptional, representative example of its type.
11.	It is an area of indigenous vegetation or habitat for indigenous species (which habitat is either naturally occurring or has been established as a mitigation measure) that forms, either on its own or in combination with other similar areas, an ecological buffer, linkage or corridor and which is necessary to protect any site identified as significant under criteria 1-10 from external adverse effects.

Part 3: Setting objectives and rules for site-led pest programmes

42. In general, objectives for a programme should state:
- Why the programme is being done;
 - The area or scale which it applies to;
 - When the outcome is expected to be achieved; and
 - Other detail that would allow the intermediate outcome to be more measurable.

Site-led pest programme rules and the use of other rules

43. Other rules in a pest or pathway management plan could be used to protect the values of places, including GNRs in regional pest management plans to manage pests that border a place.

44. Site-led pest programmes could benefit from GNRs if pest spread from land adjacent or near to the place is causing damage to, or potentially threatens, the place's values and requires pest management.
45. Pathway-related rules within a pest or pathway management plan could be used in support of a site-led programme to manage or prevent pest incursions into the place. Such a plan may only be relevant if regulatory requirements are needed to impose obligations on land owners and occupiers, for example compliance or enforcement powers to be able to enter a place to undertake pest management activities.

Other legislative considerations

62(1)(i) of the Resource Management Act 1991

46. Other legislative interventions may be used as part of a site-led programme, or a site-led programme could be used to support other legislative interventions. For example, section 62(1)(i) of the Resource Management Act 1991 enables a regional policy statement to set out what must be contained in a regional plan including specifying the objectives, policies, and methods for the control of the use of land to maintain indigenous biodiversity. A site-led pest programme could be used in order to protect biodiversity values in particular places.
47. Other examples are national parks, reserves, covenants and kawenata on private and Māori land, which are all forms of ecological site-led programmes.

CHAPTER 2: UNDERTAKING AN ANALYSIS OF COSTS AND BENEFITS

48. This chapter provides guidance around analysing the costs and benefits of pest and pathway management plans (but not small-scale management programmes prepared under s100V of the Biosecurity Act).⁴
49. The NPD on cost benefit analysis aims to:
- Increase consistency between councils when doing cost benefit analyses;
 - Add more clarity to council decisions (by, for example, making the underlying rationale more clear, and including more complete and better quality information);
 - Improve the quality of the analytical processes used – especially in terms of uncertainty and risk; and
 - Make programme reviews more effective.
50. This chapter is split into four parts:
- Part 1: Introduction** explains the NPD requirements for undertaking an analysis of the costs and benefits of a proposed pest or pathway management plan.
- Part 2: Assessment criteria to determine appropriate level of analysis** explains how to determine the level of analysis based on criteria and the interactions and weighting between them.
- Part 3: What steps/process to use for different levels of analysis** explains what steps and processes could be used to undertake analyses.
- Part 4: Determining risks to success** explains how to work out the risks that a programme will not realise its benefits, or will incur additional costs.

Key points

51. Determining the most suitable level of analysis (low, medium, high/comprehensive) depends on criteria listed in the NPD, and the interactions and weighting between them.
52. A higher level of analysis should be done if the pest / proposed measures are: highly significant to stakeholders, programme costs are high, if the benefits are likely to be similar to the costs, and if the impacts of the pest and / or effectiveness of the measures are highly uncertain.
53. Not all situations require numerical analysis. Even when there has been a numerical analysis of costs and benefits, a non-numerical conclusion may be entirely apt.
54. Some of the benefits and costs may be intangible; nevertheless, they need to be factored in.
55. A critical part of analysing the costs and benefits is working out the risks that a programme will not realise its benefits, or will incur additional costs.
56. The NPD recognises a number of different types of risks that need to be taken into account.

⁴ Such small-scale management programmes are not subject to NPD requirements regarding cost benefit analysis, as the Biosecurity Act requires a different process for small-scale management programmes.

57. The guidelines set out a three-step process to follow when undertaking an analysis: Set the scene (defining the problem, describing the effects, and specifying the baseline); determining the appropriate level of analysis; and undertaking the analysis (the level of analysis will determine the type of analytical technique used).

Part 1: Introduction

58. It is not necessary or even possible to quantify every benefit and cost for each of the options analysed in an analysis of benefits and costs. The level of analysis undertaken, and the effort taken to assess the benefits and costs should be based on how the situation relates to the criteria in the NPD.
59. Clause 6 (5) of the NPD requires the proposer of a pest management plan or pathway management plan to fully document the assessments and make them publicly available with the proposal.
60. This chapter comprises three main parts:
- A discussion of: the four assessment criteria used to determine the appropriate level of analysis, and how these criteria are balanced in order to make a decision;
 - An outline of the process used to undertake particular levels of analysis (Note: discussion of the different analytical techniques available is beyond the scope of these guidelines, but we have included a list of publications that will link to more details); and
 - A discussion of how to go about identifying and taking into account possible risks to success.

Part 2: Assessment criteria to determine appropriate level of analysis

61. Clause 6 (1) of the NPD outlines the factors that must be assessed when determining how much effort should be put into analysing the benefits and costs. These clause 6 (1) considerations are essentially a pre-screening process for subsequent, more detailed analysis. So, the assessment process does not require extensive analysis.
62. Determining the most suitable level of analysis depends on several criteria, and the interactions and weighting between them. In the following discussion, Assessment criteria 1-3 relate to the level of analysis that *should be done* in response to a particular situation. In contrast, Assessment criteria 4 focuses on the level of analysis that is *possible*.

Assessment Criteria 1: The likely significance of the pest or the proposed measures

- **High** – Potential for significant interest, **or** strong opposing viewpoints in community **or** high total costs.
 - **Medium** – Potential for moderate interest, opposing viewpoints in some groups within community, or moderate total costs.
 - **Low** – Not generally likely to be an issue for community public or organisations, or low total costs.
63. If the decision about a pest and / or the proposed measures is likely to be of high significance to stakeholders, a higher level of analysis should be undertaken to support this decision. Note that when those parties who will be bearing the full costs of the Plan are generally supportive of the Plan, the significance should be classified as Low.

64. Another factor when considering significance is the programme's total cost. High-cost programmes would, in general, justify a more robust analysis than programmes with a low total cost. For example, a programme costing \$2 million during the ten-year period of a plan should receive more robust analysis than a programme costing \$200,000 for the same period.

Assessment Criteria 2: Likely costs relative to likely benefits

- **High** – Costs for the programme are likely to be similar to the benefits of the programme.
 - **Medium** – Costs for the programme are likely to be lower than the benefits of the programme in most scenarios.
 - **Low** – Costs for the programme are likely to be substantially lower than the benefits of the programme, even if the objectives are not fully achieved.
65. Programmes where the benefits are likely to be similar to the costs demand a higher level of analysis, as there is a greater risk that the programme will not be worthwhile. Conversely, if it is clear that the benefits will outweigh the costs under almost all scenarios, a comprehensive analysis may be unnecessary.

Assessment Criteria 3: Uncertainty of the impacts of the pest and effectiveness of measures

- **High uncertainty** – Not much known about the pest's impacts. Measures are untested.
 - **Medium uncertainty** – Known to have impacts elsewhere in similar situations. Similar measures have been effective in other areas, or measures have only been somewhat effective.
 - **Low uncertainty** – Known to have significant impacts, spread risk known and the effectiveness of measures is well-known.
66. If the impacts of the pest and / or effectiveness of the measures are highly uncertain, a higher level of analysis should be undertaken. This is because of the greater risk of a poor pest management investment decision as a result of that uncertainty.
67. If the impacts of the pest and the effectiveness of the measures are well-documented and certain, a lower level of analysis can be completed because good quality information is more likely to lead to a quality investment decision.

Assessment Criteria 4: Level and quality of data available

- **High** – Very high-quality current distribution data; costs and impacts well established
- **Medium** – Some historical information or data from other sources (outside of the region or NZ). No specific targeted monitoring data. Costs and impacts capable of being estimated from case studies.
- **Low** – Little information available.

Balancing the criteria to make a decision

68. The first three criteria indicate what level of analysis *should* be done, with Assessment Criteria 4 determining what level of analysis is *possible* – given the constraints of the available data.
69. If the first three criteria indicate that a low level of analysis should be undertaken, then scoring high for Assessment Criteria 4 should not alter this assessment.

70. However, if the first three criteria indicate a high level of analysis should be undertaken, but Assessment Criteria 4 scores low, it may well be worth investing in improving the amount of data (either ahead of making a plan or during the life of a plan). Good quality data means a higher level of analysis is possible, which should in turn lead to better decisions.

Part 3: What steps/process to use for different levels of analysis

Step 1: Set the scene

71. Setting the scene is common to all levels of analysis. This task is mostly a qualitative exercise that involves:
- Defining the problem;
 - Describing the effects;
 - Specifying the baseline, which in most instances will be the do nothing/without plan scenario; and
 - Describing the control option or options.

Step 2: Determine the appropriate level of analysis

72. Step 2 involves applying the assessment criteria to the pest or group of pests and assigning a high, medium or low ranking to each criterion. The appropriate level of analysis is determined by using the flow chart below (Figure 1).

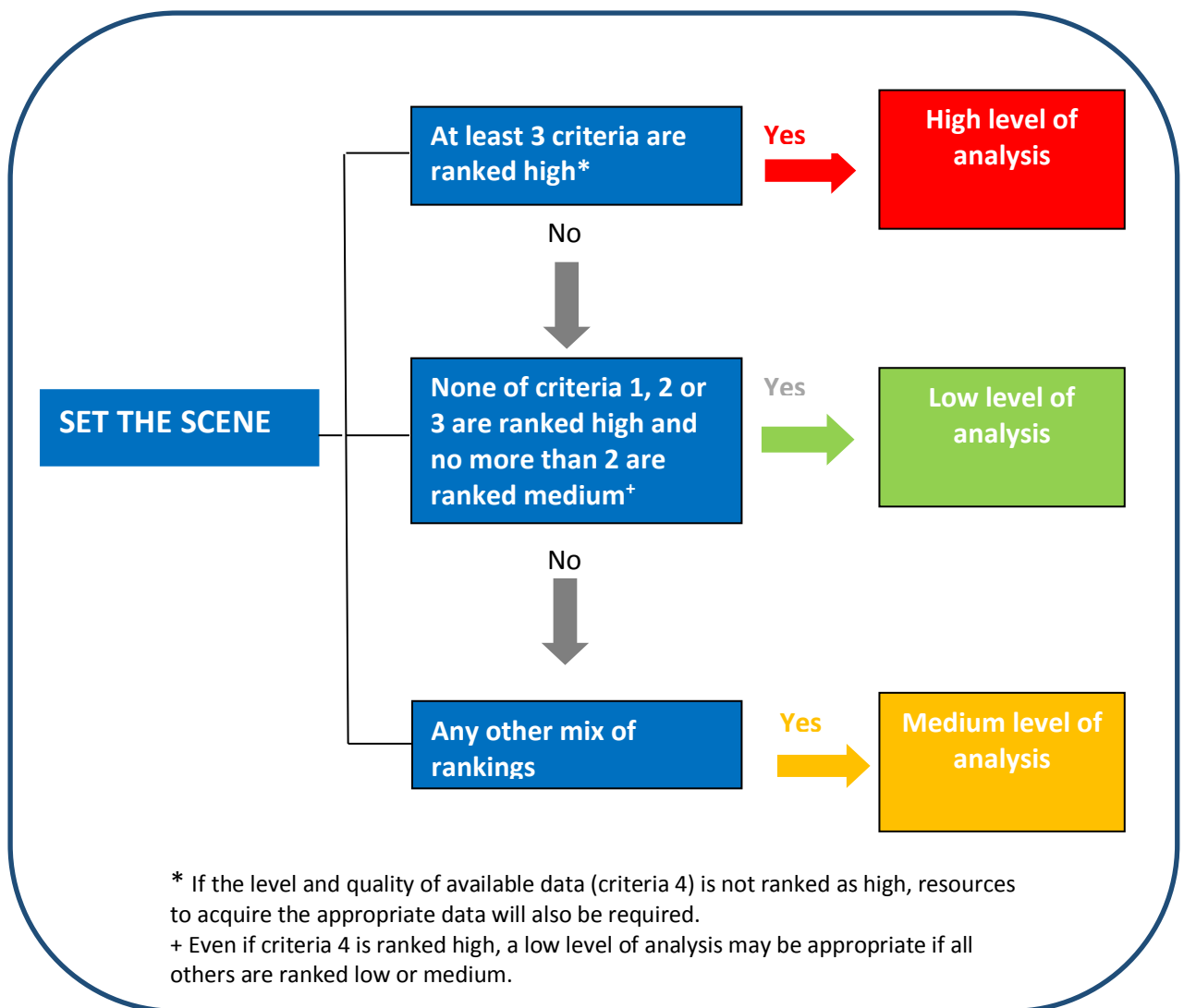


Figure 1: Determining the level of analysis to undertake

Step 3: Undertake the analysis

73. The third step is to undertake the appropriate analysis. The detailed methodologies appropriate for each of the analysis levels lie outside the scope of these guidance notes. It is therefore sufficient to broadly illustrate the procedure for each of the three levels (there is a list of potentially useful publications about cost-benefit analyses in paragraph 77). Note: a non-numerical conclusion to an analysis of costs and benefits is more useful than trying to establish a numerical conclusion based on uncertain data.
74. The costs (including effects on values) of each option must include all monetary and non-monetary costs, including the effects of unintended consequences. For example, if an option involves significant use of pesticides that had the potential for adverse effects on water quality in a region, this should be included in the costs of that option. Similarly, the animal welfare implications of different control methods should be incorporated in the costs of the different options.

75. Quantifying the benefits and costs is not the same as valuing them. It is often much simpler to quantify the benefits of a programme than to attach a value to that quantity of benefits. For example, a benefit showing how bellbird populations are increasing can be demonstrated by five minute bird count trends. Valuing what this means to a particular community or stakeholder(s) is more challenging and will depend on individual or group social, cultural and environmental values.

Procedure for low level of analysis:

- Describe the costs (including effects on values) of each option and quantify / value as many as practicable;
- Describe the benefits of each option and quantify / value as many as practicable;
- Take into account the risks to being successful - as required by clause 6(2)(g) of the NPD; and
- Conclude by choosing the most appropriate option.

Procedure for medium level of analysis:

- Describe the costs (including effects on values) of each option and quantify / value as many as practicable;
- Describe the benefits of each option and quantify / value as many as practicable;
- Apply cost/benefit analysis techniques⁵ for each option;
- Take into account the risks to being successful - as required by clause 6(2)(g) of the NPD; and
- Conclude by choosing the most appropriate option.

Procedure for high level of analysis:

- Describe the costs (including effects on values) of each option and quantify / value as many as practicable;
- Describe the benefits of each option and quantify / value as many as practicable;
- Apply comprehensive cost/benefit analysis techniques for each option;
- Apply sensitivity analysis⁶ for highly uncertain values to test assumptions;
- Take into account the risks to being successful - as required by clause 6(2)(g) of the NPD; and
- Conclude by choosing the most appropriate option.

76. For a high level of analysis, further detailed investigations may be necessary at any stage of the analysis in order to achieve a robust result. The analysis is likely to involve greater efforts to assign values to intangible benefits (this might require, for example, using 'willingness to pay' data).

Intangible costs and benefits

Intangible costs and benefits are not easily quantifiable in monetary terms. Intangible benefits and costs can be significant, and a major influence on the final decision. If the intangibles are significant

⁵ Suitable techniques include cost benefit analysis, net present value analysis, cost-effectiveness analysis, break-even analysis and multi-criteria analysis.

⁶ Sensitivity analysis examines how values, total cost, or other outcomes vary as individual assumptions or variables are changed. This approach can be used to test the robustness of the analysis as well as allowing for certain kinds of bias and uncertainty.

they should be clearly highlighted and explained in the analysis so that decision-makers are aware of the value judgements they are making in pursuing a particular option. This explanation can be some combination of the quantitative, qualitative, or descriptive.

Timelines and discount rates

As a general rule, the period of analysis should encompass the full life cycle of the proposal. However, for some proposals it is not possible to identify a finite asset life e.g. many health policies. In such cases, the recommended approach is to use an analysis period of 30 years, because impacts beyond 30 years tend to be insignificant after the time value of money (discounting) is taken into account.

There is no single rate of return that is appropriate for every project. The Treasury uses an eight percent real discount rate whenever there is no other agreed sector discount rate for costing policy proposals. Where there is an agreed sector rate, it may be used instead.

For very long-lived proposals, and particularly where a substantial proportion of the benefits occur well into the future, the use of discounting with a standard discount rate is likely to create a bias against project acceptance. For example, with a discount rate of eight percent per annum, any benefits occurring in the thirtieth year would be discounted to less than ten percent of their nominal value. Some sources recommend using a lower discount rate for very long-lived proposals, but only if “appraisal of a proposal depends materially upon the discounting of effects in the very long term”.

77. More information on cost/benefit techniques and valuing intangible benefits is available in the following publications.
- Ministry of Agriculture and Forestry’s *Cost-Benefit Analysis of Unwanted Organism or Pest Response Options*: (<http://brkb.biosecurity.govt.nz/Portals/1/BRKB/Guidelines/cost-benefit-analysis-of-unwanted-pest-response-options.doc?disposition=attachemnt>);
 - Treasury’s *Guide to Social Cost Benefit Analysis*: (<http://www.treasury.govt.nz/publications/guidance/planning/costbenefitanalysis/draftguide>);
 - Massey University’s *Economic non-market valuation techniques – theory and applications*: (<http://mro.massey.ac.nz/handle/10179/1287>).
78. It is important that the strengths and weaknesses of each technique and whether the technique is suitable for the particular case are taken into account.
79. Over time it is intended that a library of cost benefit information relevant to pest management and wider biosecurity decisions will be established. This body of information will help provide a consistent framework and approach for assessing costs and benefits.

Part 4: Determining risks to success

Background

80. A critical part of analysing the costs and benefits is working out the risks that a programme will not realise its benefits, or will incur additional costs. Identifying the probability that a proposal fails is not an “add-on” to the cost benefit analysis, but rather an integral component.

81. A risk analysis records the formal assessment of factors (for example, adverse impacts on the environment and production values etc.) that may prevent a programme or programme outcome from being successful. The risk analysis can be quantitative or qualitative, depending on the appropriate level of analysis and the extent to which the benefits have been quantified.
82. Not all interventions have the same probability of success, so the analysis needs to be adjusted to reflect the risks of failure. For example, in determining expected net benefit, if a programme has a 50 percent probability of succeeding then the costs of the programme need to be compared with half the benefits of achieving its objective.
83. If the risks to the programme are not included in the analysis, the wrong option could be chosen. This could result in, for instance, an analysis being biased towards an option that has a high net benefit but only a small probability of success.
84. Compared to other types of programmes, eradication programmes may need a more formal assessment of their likelihood of success. This is because an eradication programme should include critical decision points about when to abandon the attempt and fall back to long-term management.
85. In terms of choosing a control option, the final choice is not always a simple matter of extrapolating from the data. For example, the attitude of decision-makers to risk and uncertainty (i.e., the extent they are risk averse) may influence their choice of control option. So, it is important to clearly state the risks and uncertainties taken into account in the analysis. Only then can decision-makers make properly informed decisions.
86. Decision-makers will not necessarily prefer the option with the highest expected net benefit. For example, decision-makers may prefer an option that ensures a higher net benefit under the worst of scenarios, even if this scenario has a relatively low probability of occurring. Alternatively, they may prefer an option with a higher probability of success, even if the net benefits of that option are lower.
87. Note: some control options may deliver significant benefits even if not successful in meeting their stated objectives (e.g., a failed attempt at eradication may slow future expansion of an unwanted organism or pest). In this example, the expected benefits are the benefits if the control option is successful multiplied by the probability of its success, plus the benefits if it fails multiplied by the probability of failure (or the sum of a range of different favourable outcomes multiplied by their relative probabilities).
88. A risk analysis is a two-step process. Step 1 involves identifying the risks to success of the programme. The NPD recognises four/five main risk types (see below).
89. Step 2 involves taking into account the risks to success in the analysis. The way that the risks to success should be taken into account in the analysis depends on whether the benefits are fully quantified.

Step 1: Identify the risks to success

90. The risks that the NPD requires are taken into account under clause 6(3)(a) of the NPD are:

(a) *The technical and operational risks of the option (i.e., “outcome risk”)*

This is consideration of how effective the measures will be in achieving the objective. The focus is on technical feasibility, not compliance. Outcome risk includes operational considerations and the chances of poor execution, for example, if bad weather could affect the effectiveness of the measures.

(b) *The extent to which the option will be implemented and complied with (i.e., “regulatory risk”)*

Under clause 6(3)(b) of the NPD this is consideration of the likely level of compliance with the measures, taking into account:

- Who is responsible for doing the work;
- Views of the community on the pest and its management [link to **socio-political risk** below];
- Costs of compliance; and
- The degree to which compliance with the measures is related to achieving the objective (e.g., to be successful, an eradication programme requires 100 percent compliance).

(c) *The risk that compliance with other legislation will adversely affect implementation of the plan (i.e., “legal risk”)*

Under clause 6(3)(c) of the NPD this is consideration of whether other legislation could prevent or hinder the management from occurring. Relevant legislation includes, but is not limited to, requirements of the Resource Management, Hazardous Substances and New Organisms, Agricultural Compounds and Veterinary Medicines Acts. It is noted that section 7 of the Biosecurity Act prevents action under it that is “construed to affect or derogate from” any of the other Acts specified in s7.

(d) *The risk that public or political concerns will adversely affect implementation of the option (i.e., “socio-politico risk”)*

Under clause 6(3)(d) of the NPD this is consideration of the level of public and political concern with the management, and the effect this could have on the success of the programme. Note there is a link to **regulatory risk**, because if some members of the public are concerned about the management, they will be less likely to voluntarily comply.

(e) *Any other material risk*

Step 2: Take into account the risks to success in the analysis

91. Firstly, consider the extent to which any of the risks can be mitigated. For example, the regulatory risk to a programme could be reduced by increasing the frequency and detail of inspections - although that would result in higher programme costs. Where mitigation is possible and cost-effective, the costs should be added into the costs of the programme. Any remaining risk should then be taken into account in the next steps.

92. The way that the risks to success should be taken into account in the analysis depends on whether the benefits are fully quantified⁷. However, as it is often difficult or costly to quantify all of the expected benefits, methods that involve non-quantified benefits can be used.

93. For analyses where benefits are fully quantified:

Option 1: Calculate the expected benefits of the option

- (a) Estimate the overall risks as a probability of success.
- (b) Calculate the expected benefits of the option by multiplying the benefits by the probability of success.
- (c) The expected benefits modified by the risks to success are fed into the analysis of costs and benefits.

Option 2: Calculate the break-even probability of success

- (a) State the risks to the programme.
- (b) Calculate what the probability of success would need to be so that the expected benefits would equal the costs.
- (c) Factor the probability of success required to break-even into the analysis of costs and benefits, so the decision-maker can make a judgement about whether the probability of success is higher or lower than that required to break-even.

94. For all other analyses (that is, where the benefits are not quantified or only partly quantified), the risks to success can still be taken into account. However, unlike for quantified benefits, these risks do not need to be calculated.

95. The steps required for non- or partly-quantified risks are:

- (a) State the risks to the programme and attempt to give an indication of likelihood and impact;
- (b) Specify which of the benefits are most likely to be affected if the risk eventuated; and
- (c) Factor the risks to success into the analysis of costs and benefits, so the decision-maker can make an informed judgement about whether the risks to success mean that the expected benefits of the programme are greater than the costs.

⁷ Note that quantifying the benefits is not the same as valuing the benefits, as it is often much simpler to quantify the benefits of a programme than to attach a value to that quantity of benefits.

CHAPTER 3: UNDERTAKING A COST ALLOCATION ANALYSIS

96. This chapter provides a framework for allocating the costs of a pest or pathway management plan. Cost allocation can be a powerful tool to promote effectiveness and efficiency, and to ensure a pest or pathway management plan is fair.
97. The chapter is split into two parts:
Part 1: Introduction explains the need to consider where costs fall, who should bear the costs and the types of costs associated with a pest or pathway management plan.
Part 2: Framework for allocating costs is the main part of this chapter. Its structure follows clause 7 of the NPD and provides more detail on what to consider in determining how to allocate the costs of a pest or pathway management plan.

Key points

98. The Biosecurity Act requires that those who are required to meet directly any or all of the costs of implementing a national or regional pest or pathway management plan are beneficiaries and/or exacerbators of the plan. A beneficiary is a party who benefits from the plan. An exacerbator is a party that contributes to the creation, continuance or exacerbation of the problems that plan proposes to resolve, such as those who pose a risk to spreading the pest through their activities, the characteristics of their land, or how they use their land.
99. The cost allocation analysis for different subjects can be grouped if the subjects have similar characteristics. This means analysis does not need to be duplicated if it is likely to be largely the same.
100. The NPD requires a number of factors to be used to determine the appropriate cost allocation. Decision makers must consider all of the factors together to come to a judgement about how costs should be allocated. Each of the factors are discussed.
101. The Biosecurity Act provides a number of mechanisms to apply the cost allocation to beneficiaries and exacerbators. The mechanisms and their advantages and disadvantages are discussed.

Part 1: Introduction

102. Cost allocation determines how the costs of a pest or pathway management plan are shared amongst beneficiaries and exacerbators of that plan.
103. A pest or pathway management plan imposes costs on different parties. There are several ways that parties can bear such costs. It is important that all costs, direct and indirect, are identified and, where possible, quantified as part of the analysis of costs and benefits.

Why do we consider where the costs of a plan fall?

104. Where the costs of a pest or pathway management plan fall is important for the efficiency, effectiveness, fairness and security of the plan. The split of costs can promote efficiency by influencing behaviour and by eliciting information about the costs and benefits of the plan. The fairness of the plan is inextricably linked to who bears the costs and how much each party

bears. In addition, the stability of the plan will be impacted by parties' willingness and ability to bear the costs.

Who should bear the costs of the plan?

105. The Biosecurity Act⁸ requires that for each subject of the proposed plan, persons who are required, as a group, to meet directly any or all of the costs of implementing the plan:
- i) Will accrue (as a group), benefits that outweigh the costs (beneficiaries), and/or
 - ii) Contribute (as a group) to the creation, continuance or exacerbation of the problems proposed to be resolved by the plan (exacerbators).
106. A beneficiary of a plan is someone who benefits from a pest or pathway programme within a plan, rather than someone who benefits from the plan as a whole. A beneficiary is a party that would voluntarily pay to receive a good or service (Layton, 2014d).
107. Exacerbators are parties who pose a risk of spreading a pest through their activities⁹, the characteristics of their land, or how they use their land. Unlike beneficiaries, exacerbators can be required to bear costs even if those costs outweigh the benefits to them.
108. An **active exacerbator** is a party whose actions or decisions may contribute to a pest spreading. Examples of active exacerbators are those who grow or breed a pest agent; machinery operators who operate in different sites and may spread pests between the sites; a land occupier who may spread a pest from their property through moving stock or distributing hay or seed products; and land occupiers who change their existing land use from one that suppresses the spread of a pest to a land use that does not suppress spread.
109. Parties who knowingly spread, grow or breed an organism defined as a pest in a Biosecurity Act Plan or an unwanted organism are also active exacerbators. Once a plan is in place, these parties are committing an offence under the Biosecurity Act. However, it may be difficult to identify those knowingly spreading a pest or unwanted organism as they may conceal their behaviour.
110. A **passive exacerbator** is a land occupier who has a pest on their land, though not through their activities, and is not preventing it spreading onto nearby or other land. Examples include land occupiers who are contributing to spread due to historic events (such as owning land with an already established pest on it) and the natural characteristics of their land (e.g. waterways provide a habitat for water plant pests).
111. Not all pest problems will have both types of exacerbators, and a party can be both a passive and active exacerbator. A party can also be both a beneficiary and an exacerbator.

Which costs need to be allocated?

112. All of the costs of a plan should to be considered, including costs that lie where they fall (i.e. where no financial transaction takes place). The analysis may result in costs being allocated to parties where they fall, and therefore no particular funding would be required. However it is important that the analysis is undertaken transparently so that parties bearing costs can see how and why.

⁸ s 65(c), s 74(c), s 85(c), s 94(c)

⁹ For pathway plans, only activities are relevant.

113. The term ‘costs and benefits’ is defined very broadly in the Biosecurity Act as including costs and benefits of any kind, whether monetary or non-monetary. The Biosecurity Act only requires the decision-maker to consider direct costs – but it is good practice to also take into account indirect costs.

Direct costs

114. Direct costs cover financial expenses and in-kind costs to achieve the plan’s outcomes (such as time taken by land occupiers to implement a rule). The direct costs of implementing the plan include direct control; monitoring and surveillance; costs incurred to meet rules under the plan (both financial and non-financial); inspections; provision of education and advice; enforcement of rules; administration; policy development and review; research; and monitoring of plan performance.
115. Examples of how individuals can bear the direct costs of implementing the plan are:
- Plan rules requiring persons to undertake activities that cost either financially (such as cost of pesticide) or in-kind (such as time taken by land occupiers to implement a rule);
 - Losses from damage or destruction of property, or from restrictions on the movement or disposal of goods;
 - Levies being imposed on persons through levy orders made under the Biosecurity Act;
 - Rates on properties (either general or targeted);
 - Charges imposed under section 135 of the Biosecurity Act; and
 - Other ways of contributing funding, such as voluntary funding.

Indirect costs

116. Indirect costs are monetary and non-monetary costs of the plan, including negative externalities that the plan imposes. Negative externalities are harmful effects that extend beyond those directly involved in an activity.
117. Examples of indirect costs on individuals are:
- Making an organism a pest reduces revenue for a business if the business was making use of the pest or its host;
 - Restricting public access to a waterway or park (lost recreational value) as a result of controlling the pest; and
 - Lost aesthetic and other non-monetary benefits from an organism once it is declared a pest.

Part 2: Applying the Directions on proposed allocation of costs for pest and pathway management plans

Grouping subjects for cost allocation analysis

118. Clause 7(1) of the NPD provides criteria for when the subjects for a proposed plan can be grouped, so that analysis does not need to be duplicated where it is likely to be largely the same.
119. The cost allocation analysis for different pests or pathways can be grouped together if they have:

- i) The same or similar groups of beneficiaries and exacerbators;
- ii) Similar existing legislative responsibilities on exacerbators;
- iii) The same or similar stage of infestation (for pests); and
- iv) The same or similar management objective and proposed method of control.

120. If subjects are grouped for cost allocation analysis, the costs imposed for beneficiaries and exacerbators would be for the group of subjects as a whole (i.e. some individual beneficiaries or exacerbators might be a beneficiary or exacerbators for only a subset of the subjects considered, but would be required to bear the costs for all subjects in the grouping).

Identifying the costs, beneficiaries and exacerbators

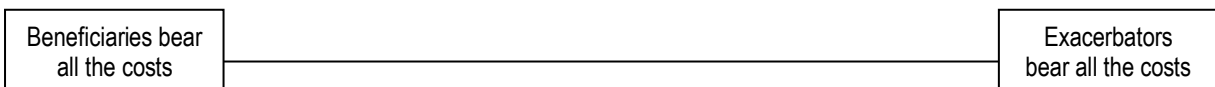
121. The analysis of costs and benefits required under clause 6 of the NPD is required to identify all of the costs and benefits (including non-financial costs and benefits and impacts on values) of the preferred option. This analysis should be used to identify the full range of costs that must be allocated and who the beneficiaries of the plan are. The analysis of costs and benefits might also be able to be used to identify who the exacerbators are, however this will not necessarily be the case.

122. A beneficiary of a good or service is a party that would voluntarily pay to receive it (Layton, 2014d). To identify groups of beneficiaries, consider who wants the plan. Be careful not to assume that certain groups will benefit from the plan without testing this assumption.

123. To identify groups of exacerbators, consider who could change their behaviour to reduce the problems that the proposed plan is seeking to address. It is important to identify those who are in a position to change their behaviour in a way that would reduce the costs of or need for the plan in a material and cost effective way.

Determining who should bear the costs

124. The cost allocation analysis required by the NPD is an exercise to help decision-makers determine where on the following continuum the management of a particular pest or pests should sit.



125. It is recommended that, where possible, both beneficiaries and exacerbators bear the costs of a plan, to capture the following benefits:

- Fairness, in the form of reciprocity: there would be no pest problem if beneficiaries did not care about the pest's impacts and there would be no problem (or at least a smaller problem) if exacerbators did not contribute to the spread of the pest;
- The advantages of both approaches can be captured and applied; and
- Spreading the financial load across more parties can help ensure sufficient funding is available to meet the plan's objectives.

Adjusting the cost allocation for when it is not possible to impose costs on some parties

126. There are several options for adjusting the cost allocation if pest management agencies cannot, or decide not to, impose costs on certain parties, or only allocate some of the costs.
127. If it is not possible to allocate costs to some beneficiaries, costs could be reallocated among the beneficiaries who can be allocated costs – as long as their benefits continue to outweigh their costs.
128. General rates (regional plans) or Crown funding (national plans) can be used for costs that cannot be collected or are inefficient to collect from groups of beneficiaries or exacerbators. For example, it may not be technically possible to identify exacerbators if pest spread is occurring through many channels (Marshall, 1998; Aretino et al., 2001).
129. Alternatively, the management agency could decide on an alternative approach for the plan to reduce the overall costs.

Factors to determine the appropriate cost allocation

130. The NPD clause 7(2) (d) lists the factors to be used to determine the appropriate cost allocation. It is important to note that all factors need to be considered together to come to a decision and it is up to the decision-maker to determine whether any factors are more important than others.

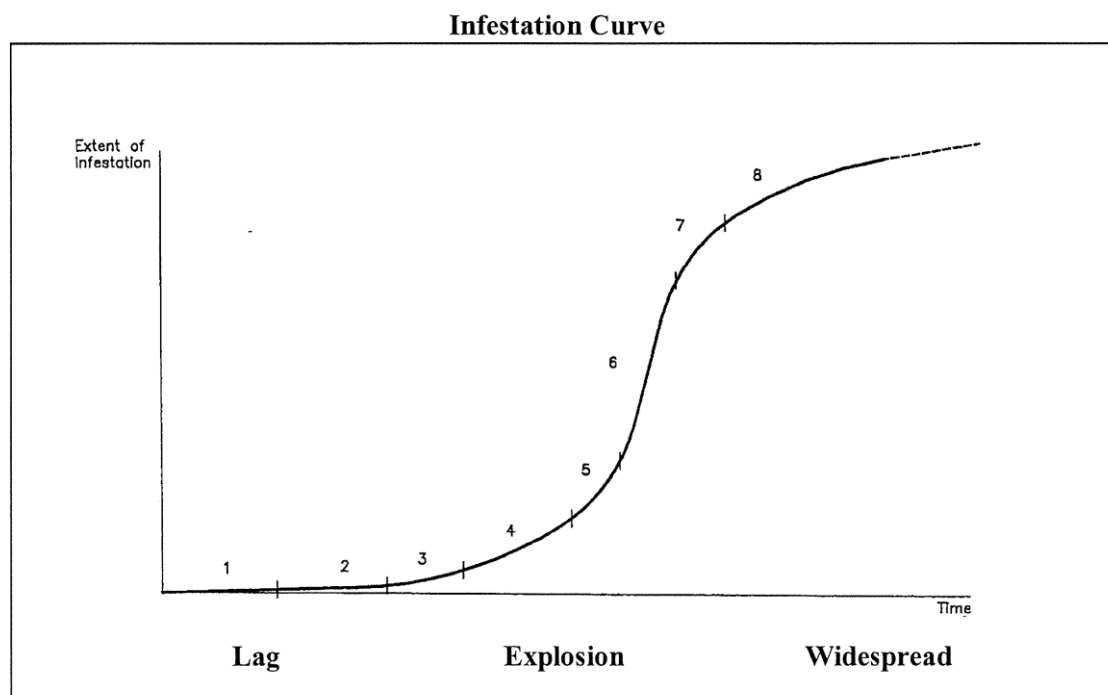
a) *The legislative responsibilities and rights of exacerbators and beneficiaries*

131. Clarifying responsibilities and rights of beneficiaries and exacerbators may help determine whether beneficiaries or exacerbators should bear more of the costs.
132. If individuals who are exacerbating the problem have a legislative responsibility (through statutes or regulations) to control the pest or the spread of a pest other than under the Biosecurity Act, but this responsibility is not being enforced, exacerbators should bear the costs of the Plan (Aretino et al., 2001). In this situation, beneficiaries have a right to be protected from the pest and therefore should not bear the costs of receiving this right.
133. If individuals who are exacerbating the problem have a legislative right to do an activity that spreads the pest or do not have a legislative responsibility to control the pest, then beneficiaries should, in general, bear the costs of the Plan.
134. For example, a landowner may have a resource consent under the Resource Management Act 1991 to grow pine trees, without particular conditions about how to manage the spread to other properties. In this situation, beneficiaries of preventing the spread should bear the costs.
135. If legislative responsibilities or rights are unclear, beneficiaries and/or exacerbators could bear the costs of the Plan. For example, legislation, regulations and common law are unclear about what the obligations and rights are for machinery operators and livestock movers who may spread pests while going about their activities.

b) The management objectives of the plan and the stage of infestation

136. The objectives of the plan for a particular pest will tend to be linked to where the pest falls on the infestation curve (see Figure 2 below). The relative costs and benefits to exacerbators and beneficiaries varies based on the management objectives and the stage of infestation.

Figure 2: Infestation curve of pests in an area



137. For example, when a pest is at the early or lag phase of infestation - when the costs of control are relatively low - significant future benefits can be obtained by preventing the spread of the pest. In this instance, eradication is the most likely option (if feasible), as the benefits are very likely to outweigh the costs.
138. With a management objective of exclusion, eradication or progressive containment and/or if the pest is on 1-4 of the infestation curve, there may be an argument for current and future beneficiaries to bear a greater proportion of the cost. Exclusion, eradication and progressive containment are more stringent objectives in favour of beneficiaries' interests (to prevent large future losses) than sustained control. If the pest is on 1-4 of the infestation curve, there may be a large number of beneficiaries relative to exacerbators (and consequently, a small cost per beneficiary relative to exacerbators).

c) The most effective agents to undertake the control to meet the objectives of the plan

139. Control of a pest or pest agent by a management agency will in some cases be more effective and efficient than relying on individuals to manage their own risks or undertake the control. This is because of economies of scale, the need for consistency and the need to ensure rapid responses and certainty of control. In these situations, some cost allocation mechanisms will not be appropriate (for example, mechanisms which result in parties bearing in-kind costs will not provide funding for a management agency to undertake control work).

d) If proposing that beneficiaries bear any of the costs of the plan, how much each group of beneficiaries will benefit from the plan and whether each group of beneficiaries will benefit more than the amount of costs that it is proposed that it bear

140. As discussed in paragraph 121, the findings from the cost-benefit analysis should be used to identify the specific groups who benefit from the proposed programme (for example, sheep farmers, land occupiers, and the general public). The level of specificity for determining groups of beneficiaries is a judgement call. There is a trade-off between increased specificity and increased complexity.
141. It may be appropriate for central and local government to pay for benefits to the general community if there are public benefits. Refer to paragraph 169 for more information on using general taxation or rates to fund a plan.
142. It can sometimes be difficult to identify all specific beneficiaries, however. For example, a key benefit of managing wilding conifers is maintaining water yields in water sensitive catchments, but it can be difficult to identify the specific beneficiaries downstream of wilding conifer management.

Key beneficiaries pays principles:

- Beneficiary groups should contribute in proportion to their relative benefits from the plan.
- Benefits to each group from the plan must outweigh the costs imposed (and required under the Biosecurity Act).
- Beneficiary groups should not pay more than it would cost to provide the benefits themselves, on a stand-alone basis.

How to allocate costs to beneficiaries

143. How much each beneficiary group bears in relation to other beneficiaries should be based on their share of total benefits from the plan (see Table 6 below).

Table 6: Splits between beneficiary groups

Beneficiary Group	Share of benefits	Share of Total Costs to Beneficiaries	Share of Beneficiary Costs
A	50%	Z%	50% x Z%
B	30%		30 x Z%
C	20%		20 x Z%
Total	100%		100% x Z%

Calculating benefits to each beneficiary group

144. Each beneficiary group's share of total benefits will need to be estimated. Ideally, each beneficiary group's share would be based on the value of their benefits from the plan in terms of net present value (net future benefits are discounted to current dollar terms), but calculating benefits in monetary terms may not be practical for intangible benefits. Valuation is particularly recommended for relatively costly plans as the additional work is likely to be warranted for added accuracy.

145. See paragraphs 151-153 for a discussion on incorporating both beneficiaries and exacerbators into a cost allocation analysis.

e) If proposing that exacerbators bear any of the costs of the plan, how much each group of exacerbators is contributing to the problem addressed by the plan

146. It is important to estimate how much each group of exacerbators are actually contributing to the problem, and the costs they impose¹⁰. The analysis must consider only current and future activities that have contributed to the problem, not past activities. Firstly, past behaviour cannot be changed. Secondly, it would be unfair to charge for historical exacerbation if the behaviour conformed with the law or laws of the time (Marshall, 1998).

147. If a pest is currently not spreading or having negative impacts, but its presence creates an imminent risk of spread and impacts, then a land occupier or other person with the pest could be considered an exacerbator. The estimate of how much these exacerbators are contributing to the problem could be based on the expected future impact of that pest spreading from their land to their neighbour and adjacent land, but would need to be reasonable in attributing the scale of spread to the initial exacerbators.

148. For economic efficiency, exacerbators should be required to bear costs so that they ‘internalise the negative externality’ they create i.e. to take into account the costs they have on the pest problem when making decisions. To be effective, exacerbators must be able to undertake action to avoid or reduce the costs they bear.

149. Active exacerbators have the most options to change their activities to mitigate their impacts. Passive exacerbators may be able to mitigate the costs they impose. For example, they could create a buffer area at the boundary of their land through control of the pest or the pest agent or through other measures, which will mitigate costs imposed on their neighbour. Table 7 has examples of potential mitigation measures for active and passive exacerbators.

150. However, there may not be any way for passive exacerbators to change their practices to avoid bearing the costs of the plan. If this is the case, requiring them to bear the costs would not improve the efficiency of pest control.

Table 7: Potential mitigation measures for exacerbators

Active exacerbation	Potential mitigation measures
Grow or breed a pest agent for aesthetic or commercial gain.	Stop growing or breeding the pest agent. Adequate fencing, enclosures, buffers etc. to prevent spread of the pest agent to neighbouring properties.
Machinery operators who operate in different sites in a region and could spread pests between the sites.	Requirement to wash down machinery when moving from an established pest area to a pest-free area.
A land occupier who may spread a pest from their property through moving stock.	Requirement to wash stock when moving from an established pest area to a pest-free area .

¹⁰ Refer to paragraph 185 for an explanation of different types of exacerbators.

Passive exacerbation	Examples of potential reasonable mitigation measures
Pests are present on their land and migrate naturally to other land.	Buffers at property boundaries through control of the pest or pest agent or planting buffer species etc.

Key exacerbator pays principles:

- Exacerbators should bear costs in proportion to the amount they exacerbate the risks of the pest.
- Requiring exacerbators to bear costs should incentivise exacerbators to take actions to reduce the costs they impose.
- If there is no way for a group of exacerbators to change their practices to avoid bearing the costs, there is no economic rationale for them to bear the costs.

Incorporating both beneficiaries and exacerbators into a cost allocation analysis

151. It is recommended that, where possible, both beneficiaries and exacerbators are incorporated into a cost allocation for a plan. Costs to exacerbators would be allocated based on their contribution to the problem, and possible mitigation options, and then the remaining costs of the plan would be allocated to beneficiaries (Layton, 2014a).
152. Another option to incorporate both exacerbators and beneficiaries in the analysis is to treat exacerbators as beneficiaries. This option may work for plans where the control activity is carried out by a pest management agency rather than exacerbators. Treating parties as beneficiaries may be more legally defensible than treating them as exacerbators, although there can be issues of perception.
153. Potential specific benefits to exacerbators from the plan and how these may be estimated:
 - Because the pest problem is being managed through the plan, exacerbators avoid the costs of disputes and litigation with other parties under the common law of private nuisance or negligence. There may be evidence of these disputes or litigation prior to the plan or there may be examples from other pests that could be used to estimate the costs avoided.
 - Because the pest problem is being managed by an agency or council, the exacerbator avoids the risk of rules being applied to them for control of the pest under the Biosecurity Act. The value for this benefit could be estimated by considering the risk and cost of imposing rules on exacerbators (Layton, 2014b).

f) The degree of urgency to make the plan

154. The urgency of beginning control work may help determine which parties should bear costs and what proportion of costs parties should bear. It takes time to implement cost allocations. If a pest plan is urgent, the Crown, regional council or some other party may choose to bear a greater share or all of the costs to ensure the plan is operational by a certain date. There would still be the opportunity to change the cost allocation at a later date and this should be documented.

g) Efficiency and effectiveness of the cost allocation method and proposed cost allocation

155. The cost allocation method chosen must support the overall effectiveness and efficiency of the plan, i.e. avoid perverse incentives. The cost allocation method should create incentives that support the outcomes of the plan. For instance, it would *not* help the control of the pest to

charge a person for reporting it or to push underground behaviour that contributes to the spread of the pest.

h) Practicality of the cost allocation method and proposed cost allocation

156. The cost allocation should be capable of being implemented and there should be no or as few as possible technical or operational barriers to implementation and enforcement. For instance, if it is not possible to identify all parties who should bear costs, then local or central government may choose to act as funders with the wider community bearing the costs as a whole. The ability to enforce the requirements should also be considered, for example, it should be possible to ensure that exacerbators are mitigating their impacts.

i) Administrative efficiency of the cost allocation method and proposed cost allocation

157. Administrative efficiency can be a key factor in how costs are allocated. The costs of collecting funding and enforcing rules should be low. If it is very costly (including time and expenses) to collect from certain individuals and groups or to enforce rules on them, then local or central government may choose to act as funders with the wider community bearing the costs as a whole. However, parties should not be singled out for cost allocation simply because it is easiest to collect funding from them or impose rules on them.

j) Security of funding of the cost allocation method and proposed cost allocation

158. The Biosecurity Act requires that, for each subject, the decision maker is satisfied that there is likely to be adequate funding for the implementation of the plan for five years (or its duration if less than five years)¹¹. The cost allocation method and allocation mechanism should promote certainty about funding, so that the plan can achieve its objectives. For instance, charging exacerbators may result in them changing their risky behaviour to avoid paying the charge. If this happened, there may not be sufficient revenue collected to fund the plan.

k) Fairness of the cost allocation method and cost allocation

159. Fairness for cost allocation includes:

- Beneficiaries contribute in proportion to their benefit from the plan and/or exacerbators contribute in proportion to the risks they create;
- Benefits should be real – i.e. a good or service is only a benefit if a party would voluntarily pay to receive it;
- Treating like parties consistently, unless there are strong reasons for different treatment; and
- Parties' ability to absorb the costs imposed on them is taken into consideration – for instance, the number of parties paying should not decrease to the extent that a small number is bearing unreasonable costs.

l) Whether the proposed cost allocation is reasonable

160. A plan should impose costs when it is reasonable for parties to bear the costs and the share of costs allocated to them is reasonable. Reasonable in this instance means not an arbitrary or unusual use of the empowering provisions. The stronger the evidence that parties are

¹¹ s62(g), s71(g), s82(g) and s91(g)

beneficiaries and/or exacerbators, the easier it would be to defend cost allocation decisions against a legal challenge on grounds of unreasonableness.

161. Key factors for reasonableness could include:
- The benefits received by groups of beneficiaries relative to other groups of beneficiaries;
 - The amount of resources available to exacerbators and beneficiaries;
 - For exacerbators, evidence of their exacerbation of the problem and their capacity to reduce their exacerbation;
 - For rules, the rules do not unduly trespass on the rights of individuals i.e. are not excessive and unwarranted; and
 - For pathway rules, the person bearing the costs must be the owner or person in charge of the goods, or the person who has management and control of the activity (i.e. the management practices, or the uses and movement of the goods).
162. The Biosecurity Act allows for a plan to provide for payment of compensation for losses incurred as a direct result of the implementation of the plan. This could be a way to reduce the level of direct and indirect costs that individual parties bear. To date (September 2015), compensation has been used as a mechanism to adjust cost shares in situations where large costs would otherwise lie where they fall, for example, the Bovine TB Plan provides for compensation to be paid to cattle owners whose animals are destroyed in the course of implementing the Plan.

m) *The parties who will bear the indirect costs of the plan*

163. If there are certain parties who will bear significant indirect costs through the plan relative to other parties in the cost allocation, it may be appropriate to reduce their share of direct costs. Refer to paragraphs 116 and 117 for a discussion of indirect costs.

n) *The need for any transitional cost allocation arrangements*

164. There may be a need for a graduated move or transitional period to the cost allocation. For instance, this may be required with a revised plan if the cost allocation is changed significantly or with a new plan if large costs are to be imposed.

o) *The mechanisms available to impose the cost allocation*

165. The Biosecurity Act provides for a number of mechanisms to impose costs on beneficiaries and exacerbators, with some mechanisms being more suitable for different groups of beneficiaries and exacerbators than other mechanisms. For example, rates and targeted rates can only be applied to private property owners and therefore are not suitable for allocating costs to the exacerbators for pathway management plans, who may be undertaking activities completely separate from their properties. However, rates may be used to fund a pathway management plan where the regional community is identified as a beneficiary of the plan.
166. Table 8 provides a snapshot of the different mechanisms and when they might be suitable for allocating costs. Further information on each mechanism is provided in the following section.

Table 8: Mechanisms to impose costs

	Beneficiaries	Exacerbators for pest management plans	Exacerbators for pathway management plans
General taxation or rates	Yes	Yes	
Targeted rates	Yes	Yes	
Charges	Yes	Yes	Yes
Rules imposing requirements or prohibitions		Yes	Yes
Levies	Yes	Yes	Yes
Voluntary payments	Yes	Yes	Yes
A mix of methods	Yes	Yes	Yes

Determining the best mechanism(s) to impose the cost allocation

167. Clause 7(2)(e) of the NPD requires the decision-maker to consider which of the available mechanisms above are most suitable for the particular plan. Key considerations in choosing mechanisms include the cost allocation method chosen (costs allocated to beneficiaries, exacerbators or a mixture of both), the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding, and any statutory requirements for the mechanism. Each mechanism and its advantages and disadvantages is discussed below.
168. It is important to recognise that cost allocation decisions may also be affected by the requirements of other legislation. For example, regional councils' cost allocation decisions are also subject to the funding analysis required by the provisions of the Local Government Act and the Local Government (Rating) Act 2002. It is anticipated that the analyses required for the Local Government Act and the Biosecurity Act will inform each other.

General taxation or rates

169. General taxation or rates are suitable when:
- i) The pest or pathway management plan generates public good benefits (it is difficult or costly to exclude people from the benefits and there are no additional costs of provision to more users (Treasury, 2002);
 - ii) Most or all individuals in regions or nationally benefit from the plan or are exacerbators, so there are lower administration costs than charging beneficiaries or exacerbators directly;
 - iii) The Crown or regional council is an exacerbator due to pest problems spreading from Crown or regional council land; or
 - iv) The Crown or regional council is acting as funder of last resort i.e. the Crown or regional council cannot, or decide not to, collect full or partial amounts from certain parties.
170. An example, as of April 2015, is Otago Regional Council's funding of rook control from general funds. Rooks are a widespread problem with exacerbators from both rural and urban areas and there are high administration costs of collecting from beneficiaries.

Targeted rates

171. Targeted rates can be applied to beneficiaries and/or exacerbators of a pest management plan. They are a useful mechanism to target specific groups in a region that benefit and/or

exacerbate a pest problem. For example, as of April 2015, Canterbury Regional Council uses targeted rates on rural land occupiers for many pests, including for rabbits as the work protects the economic interests of the rural land occupiers.

Charges

172. Charges can be applied to beneficiaries and/or exacerbators of a pest or pathway management plan, using powers under section 135 of the Biosecurity Act. An example of a charge is Northland Regional Council using cost recovery as a disincentive to exacerbators.
173. Charges can promote economic efficiency as exacerbators internalise the negative externality they create. It is important to structure a charge so that exacerbators can change their behaviour to avoid the charges or decide to pay the charges, depending on what is efficient for them (Layton, 2014a). If exacerbators decide to pay the charge rather than undertake control, management agencies can use this funding to help pay for the plan.
174. Another way charges promote economic efficiency is that if beneficiaries choose to pay for the good or service it indicates how much of the pest control is valued.
175. Downsides of charges include the time and costs of administering charges, the difficulty in setting the rate of charge, and the potential insecurity of funding. Another disadvantage is that they may not be able to be the sole cost allocation mechanism for plans with certain management objectives such as eradication, because eradication requires certainty and quality of control. Charges may not result in control if the charge is cheaper than the cost of undertaking the remedial action. Charges could still be used to discourage behaviour that makes the problem worse.
176. Charges might be well-suited to impose costs on exacerbators for pathway management plans. Exacerbators could be charged for an inspection to be undertaken prior to the goods or craft being moved. The charges could be structured so there is a lower charge if the goods or craft meet certain requirements and a higher charge if not (which could cover the cost of the management agency undertaking risk management activities so that the goods or craft meet the requirements).

Rules

177. Setting rules under the Biosecurity Act for mitigation measures is a key mechanism for assigning costs to exacerbators to make them take onboard the costs they are imposing. The requirements set for mitigation measures should be consistent with how much exacerbators are contributing to the problem, i.e. the level of costs they are imposing, and the amount they are able to change their behaviour to reduce their costs. If rules on exacerbators have benefits for exacerbators (such as increased profitability), the costs to the exacerbator of complying with the rule would in practice be the net cost.
178. Rules based on desired outcomes (as opposed to directing action) can promote cost-efficiency as exacerbators decide on the best methods for them to meet those rules, whereas rules that are too prescriptive can create unnecessarily high costs.
179. Beneficiaries can still contribute to the costs of plans that are implemented through rules such as pathway management plans and some pest management plans. There are direct costs of

implementing these plans other than mitigation measures, such as administration, policy development and review, monitoring and surveillance, and research.

180. For good neighbour rules, exacerbators and beneficiaries share costs in a specific way. The NPD requires the exacerbator to manage costs imposed on adjacent or nearby occupiers by pest spread, but does not require the exacerbator to fully internalise or prevent all costs. The NPD requires the adjacent or nearby occupiers to contribute by taking reasonable measures to manage the pest or its impacts.
181. A large disadvantage of rules is that individual control of the pest through rules may lack of economies of scale, consistency, certainty the control has been undertaken, and adequate quality control. Certainty and quality of control is particularly important for plans with an exclusion or eradication objective. In this case, the control may be better managed by a management agency to ensure the effectiveness of the plan.

Levies

182. Levies are a form of tax imposed on a specific group or class of persons. The Governor-General may impose a levy for the purposes of wholly or partly funding the implementation of a plan or part of a plan. For example, as of April 2015, New Zealand kiwifruit growers pay a levy on all exported kiwifruit to Kiwifruit Vine Health Incorporated for the National Psa-V Pest Management Plan.
183. Using levies means there is security of funding, although the actual amount of funding available can vary from year to year depending on how the levy is calculated. For example, if based on units of production, the levy income will be higher in years with greater production.

Voluntary payments

184. It is also possible that beneficiaries of a plan may be willing to make voluntary payments to a pest or pathway management plan in order to see a certain level of control undertaken. For instance, Zespri provides funding voluntarily to the National Psa-V Pest Management Plan. Exacerbators may also be willing to make voluntary payments to avoid restrictions on their behaviour.
185. The upsides of voluntary payments can be more information about how much the plan is valued by particular groups and a plan that operates more co-operatively. The downsides are insecurity of funding and potentially complex funding agreements.

Mix of mechanisms

186. A mix of mechanisms can be useful in imposing the desired allocation of costs on different parties. For instance, rules could be imposed on exacerbators and there could be payments through rates from beneficiaries. However, in some pest situations, one method may be sufficient.
187. An example, as of April 2015, of a mix of mechanisms being used is the control of the pest plant Bomarea in Otago. Costs are met by individual land occupiers, reflecting their role as exacerbators and beneficiaries in private bush areas. In addition, Otago Regional Council also

contributes to costs, due to the public benefit of protecting the biodiversity of Otago's native forests.

188. Another example, as of April 2015, is Bay of Plenty roadside weed control. Some costs for the plan are borne by the Bay of Plenty Regional Council via rates, user fees etc. (due to the benefits to the community); some costs are borne by land occupiers through the use of rules; some costs and in-kind support (outside the plan) come from the Crown through co-ordinated pest management programmes; and charges are applied to land occupiers and occupiers who do not comply with rules.

Documenting the analysis

189. Good documentation is important. Clause 7(2)(f) requires the proposer of a plan to document the steps and assessment carried out under clause 7(2) and the rationale for the proposed allocation of costs, and make this documentation publicly available with the proposal.
190. The Biosecurity Act also requires a proposal to set out¹²:
- i) The beneficiaries and exacerbators for each pest or pathway and the extent to which they benefit from the proposed plan or exacerbate the pest problem; and
 - ii) The rationale for the proposed allocation of costs.

¹² Refer sections 61(2)(c)(viii)(ix) and (x); 70(2)(c)(viii)(ix) and (x); 81(2)(c)(viii)(ix) and (x) and 90(2)(c)(vii)(viii) and (ix).

CHAPTER 4: DETERMINING GOOD NEIGHBOUR RULES IN REGIONAL PEST MANAGEMENT PLANS

191. This chapter provides guidance for implementing clause 8 of the NPD (Directions on good neighbour rules), which sets out specific directions on how regional councils must determine good neighbour rules (GNRs). GNRs can only occur in regional pest management plans.

192. This chapter is split into three parts:

Part 1: Introduction explains what a GNR is and how they apply to the Crown.

Part 2: Applying the NPD to GNRs provides guidance on how to use the NPD to determine GNRs.

Part 3: Developing GNRs provides guidance on how GNRs should be formulated.

Key points

193. GNRs are rules in regional pest management plans which require land occupiers to manage the spread of a pest if it causes unreasonable costs to occupiers of adjacent or nearby land.

194. GNRs can only be used in regional pest management plans. Under the Biosecurity Act, all land occupiers, regardless of tenure, will be required to comply with GNRs in regional pest management plans once these plans are aligned and consistent with the NPD.

195. GNRs are most suitable for use in programmes where the intermediate outcome is “progressive containment,” “sustained control,” or “protecting values in places.”

Part 1: Introduction

What is a Good Neighbour Rule?

196. The Biosecurity Act defines a GNR as a rule that:

- a) *Applies to an occupier of land and to a pest or pest agent that is present on the land; and*
- b) *Seeks to manage the spread of a pest that would cause costs to occupiers of land that is adjacent or nearby; and*
- c) *Is identified in a regional pest management plan as a good neighbour rule; and*
- d) *Complies with the directions in the NPD relating to the setting of GNRs.*

197. The purpose of GNRs is to manage the size of externalities (i.e. the costs imposed) that may be caused by pests spreading between “adjacent or nearby” neighbours. Overall, the intent of having a mechanism to address externalities across land of all tenures is to promote a more effective pest management system.

Binding the Crown

198. In general, the Crown must meet the provisions in the Biosecurity Act. However, the Crown is not liable to meet costs and obligations resulting from rules in regional pest management plans other than those resulting from:
- a) A rule that is specified as a good neighbour rule in the regional pest management plan; or
 - b) Action taken under a regional pest management plan to enforce a good neighbour rule in the plan.
199. Binding the Crown is not the primary purpose of GNRs. In addition to GNRs, Crown agencies can contribute to regional pest management plans in other ways if they choose to do so. When plans are developed or reviewed, regional councils and Crown agencies should discuss: shared outcomes, priorities, issues and risks; where Crown activities might align with the regional pest management plan; where coordinating agency and pest management plan programmes could improve their effectiveness or efficiency; the possibilities of voluntary compliance; and opportunities for sharing information, expertise or resources.

Part 2: Applying the National Policy Direction to the development of good neighbour rules

Clause 8(1)(a) – identifying whether a good neighbour rule is required

200. Clause 8 of the NPD sets out the specific directions and requirements that regional councils must comply and be satisfied with, before identifying a rule as a good neighbour rule.

In the absence of the rule, the pest would spread to land that is adjacent or nearby within the life of the plan and would cause unreasonable costs to an occupier of that land.

201. A regional council may only impose a GNR rule if it is satisfied that costs are caused to a neighbour *and* those costs are likely to be unreasonable. The proposer of the plan must be confident that the spread of the pest would cause impacts on adjacent or nearby land.
202. The Biosecurity Act defines “costs and benefits” as including “*costs and benefits of any kind, whether monetary or non-monetary*”. The costs imposed could potentially include: impacts on the values of the neighbour’s land; increases to the neighbour’s financial cost of managing their land; or increases to the neighbour’s cost of complying with other (non-GNR) occupier rules in the regional pest management plan.

Clause 8(1)(b) – consideration of nearby or adjacent land and characteristics of the pest

203. The GNR obligation is limited to managing the spread sufficiently to keep the costs imposed on occupiers of adjacent or nearby land below the “unreasonable” threshold.

In determining whether the pest would spread as described in sub clause (a) the regional council must consider the proximity and characteristics of the adjacent or nearby land and the biological characteristics and behaviour of the particular pest.

204. The best fit for a GNR is for programmes involving terrestrial pests (land dwelling pests). A GNR is not appropriate for marine pests, and is likely to have limited applicability for freshwater pests.

Clause 8(1)(c) – occupier of adjacent or nearby land is taking reasonable measures

(a) The occupier of the land that is adjacent or nearby, as described in sub clause (a) is taking reasonable measures to manage the pest or its impacts.

205. The occupier of the adjacent or nearby land should be taking reasonable measures to protect themselves from the pest or its impacts. If they are not, then the pest is unlikely to be affecting their use of their land and the cross-boundary spread is unlikely to be causing ‘unreasonable costs’.
- i) If the pest is not present on the neighbour’s land, the measures might include regular monitoring adequate for detecting the pest, and the intent and ability to control the pest if detected.
 - ii) If the pest is present, the occupier should be managing it or its impacts. What is reasonable will depend on the uses and values of the land.

206. In some cases, the ‘reasonable measures’ may be the measures sufficient to comply with obligations in another rule in the regional pest management plan.

The rule must not set a requirement on an occupier that is greater than that required to manage the spread of the pest.

Clause 8(1)(d) – setting a requirement to manage the spread of a pest

207. “Spread of the pest” refers to the spread of a pest to land that is adjacent or nearby, as described in subclause (a). A GNR does not aim to manage spread of a pest into the broader region; nor does it aim to prevent all the spread off an occupier’s land. A proposed GNR that required the occupier to eradicate the pest on their land is likely to be inconsistent with the NPD.

Wasps: An example where a GNR may not be reasonable

The Biosecurity Act and NPD require that when formulating a rule, the management agency must be satisfied that the costs of complying with the rule are not unreasonable compared to the benefits gained (in this case by the adjacent or nearby neighbour). On assessing the selected pests, the GNR Expert Panel considered that wasps would not be a suitable candidate for a GNR, due to the area over which control would need to be carried out.

The predominant impacts of wasps derive from foraging behaviour and this can be mitigated by controlling nests within 200m of the boundary. However to prevent spread, nests would need to be controlled for a distance of 1 kilometre from the boundary. In the view of the GNR Expert Panel, this requirement would be unreasonable.

What type of programme could have a good neighbour rule?

208. Table 1 relates the NPD's intermediate outcome to whether it is appropriate for use as a GNR. Overall, the development of a GNR would take into account a programme's purpose, scope, and constraints.
209. The guidelines in Table 1 apply to programmes for pests and pest agents on land within a regional pest management plan. The NPD lists five types of intermediate outcomes for pest programmes. The best fit for GNRs are the programmes for "sustained control" or "protecting values in places."

Table 9: Appropriateness of GNRs to the intermediate outcomes in clause 5 and 6 NPD

Intermediate outcome	Is a GNR appropriate for this type of programme?
'Exclusion' : <i>To prevent the establishment of the subject that is present in NZ but not yet established in an area.</i>	No. If the pest is not yet present in the region, a GNR will not be appropriate as the pest or pest agent must already be present on an occupier's land for a GNR to apply to that occupier.
'Eradication' : <i>To reduce the infestation level of the subject to zero levels in an area in the short to medium term.</i>	Unlikely. Successful eradication requires certainty that all infestations of the pest have been removed, irrespective of the site's tenure, use, and quality, and irrespective of whether the pest is currently imposing significant impacts. Using occupier obligations to eradicate a pest is unlikely to be successful. GNRs have the specific purpose of managing externalities on neighbours. The obligations that can be imposed are limited and triggers must be met before a GNR applies to an occupier. These constraints mean a GNR is likely to have very limited applicability to an eradication objective.
'Progressive Containment' : <i>To contain or reduce the geographic distribution of the subject to an area over time.</i>	Yes, to support other rules and measures. Outside the boundary of the containment zone the pest must be eradicated. The above comments for eradication programs therefore also apply here. Within the containment zone boundary, a GNR could potentially be established to support sustained control of the pest within the zone, or to help protect values in specific places within the zone.
'Sustained Control' : <i>To provide for ongoing control of the subject to reduce its impacts and its spread to other properties.</i>	Yes. This type of programme is the most likely one to use GNRs based on the NPD and the provisions of the Biosecurity Act.
'Protecting Values in Places' : <i>The (pest) that is capable of causing damage to a place is excluded or eradicated from that place, or is contained, reduced, or controlled within the place to an extent that protects the values of that place.</i>	Yes, to support other rules and measures. This type of programme is also likely to have GNRs if pest spread from land adjacent or near to the place is causing damage to the place's values and requires managing. "Places" could potentially be on any land including private, Māori or Crown land.

Clause 8(1)(e)(i) and (ii) – considerations when determining pests

In determining the rules to be set to manage the costs to an occupier of land that is adjacent or nearby, of the pest spreading, the regional council must consider:

- (i) The biological characteristics and behaviour of the particular pest; and*
- (ii) Whether the costs of compliance with the rule are reasonable relative to the costs that such an occupier would incur, from the pest spreading, in the absence of a rule.*

210. The “costs of compliance” are the costs to the occupier of complying with the rule, such as the costs of pest control and of getting any necessary resource consents.
211. A GNR may not be justified if the costs of compliance would be likely to exceed the additional costs, to the adjacent or nearby occupiers, caused by the pest spread. This is an important consideration if the compliance costs were potentially significant, such as if a GNR proposed to require occupiers to control the pest on most or all of their land.

Part 3: How should good neighbour rules be formulated?

212. Section 73(5)(a)-(s) of the Biosecurity Act lists the possible purposes for rules. All of the purposes, apart from the purpose in s 73(5)(g), could potentially be used in a GNR. The purposes, in various combinations, create the GNRs. Table 2 sets out which of these purposes could be a purpose of a good neighbour rule and how to apply that purpose.

Table 10: The purposes for which good neighbour rules can be made

Purposes as listed in s 73(5)	Notes on how the purpose may be used for a GNR
Primary purposes	
h) Requiring the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.	For use in a GNR, purposes (h) and (i) may generally only be applied to manage the pest, pest agent or habitat, not to eradicate it.
i) Requiring the occupier of a place to take specified actions to eradicate or manage the habitat of the pest or the habitat of a specified pest agent on the place.	The purposes of ‘managing’ the pest, pest agent, or (to a lesser degree) habitat are likely to be commonly used purposes for a GNR. The obligations must be limited to what is necessary and reasonable to meet the NPD requirements. The pest or pest agent must already be present on the occupier’s land before a GNR will apply. An obligation on the occupier to ‘eradicate’ the pest, pest agent, or habitat on their land would likely be inconsistent with the NPD, which limits the requirement to that required to manage (not prevent) the spread of the pest to adjacent or nearby land.
j) Prohibiting or regulating specified activities by the occupier of a place if the activities are of the kind that would promote the habitat of the pest on the place.	The obligations must be limited to what is necessary and reasonable to meet the NPD requirements. The pest or pest agent must already be present on the occupier’s land before a GNR will apply.
k) Requiring the occupier of a place to carry out specified activities to promote the presence of organisms that assist in the	The use of the biocontrol agents must be in relation to achieving a GNR. The obligations must be limited to what is necessary and reasonable to meet the NPD requirements.

Purposes as listed in s 73(5)	Notes on how the purpose may be used for a GNR
control of the pest on the place. l) Prohibiting or regulating specified activities by the occupier of a place, which deter the presence on that place of organisms that assist in the control of the pest.	
m) Requiring the occupier of a place to carry out specified treatments or procedures to assist in preventing the spread of the pest.	For use in a GNR, purpose (m) may only be applied to manage the spread of the pest, not to prevent its spread. The purpose of 'managing' the spread of the pest is likely to be a commonly used purpose for a GNR. The obligations must be limited to what is necessary and reasonable to meet the NPD requirements. A requirement to 'prevent spread' would be inconsistent with the NPD 8(1)(d) (the same comments apply as for eradication obligations under purposes (h) and (i)).
Primary purposes, but more effective as generic pathway rules	
n) Requiring the owner or person in charge of goods to carry out specified treatments or procedures to assist in preventing the spread of the pest.	These types of purposes are more commonly used in pathway rules. For these purposes to be used in a GNR, the occupier of the land must be the "owner or person in charge" of the goods, or the person who has management and control of the activity (i.e. the management practices, or the uses or movement of the goods). If this is not the case, imposing a GNR obligation on the occupier is not reasonable or justified. If these purposes are included in a GNR, the obligations in the rules: <ul style="list-style-type: none"> • Must be limited to what is necessary and reasonable to manage (not prevent) the spread of the pest to adjacent or nearby land. • Wouldn't apply if the occupier of that adjacent or nearby land was not taking reasonable measures to manage the pest or its impacts, or if the spread was not causing that occupier unreasonable costs. As a GNR, the above constraints and variable application may significantly limit the rule's effectiveness in managing broader pathway risks. These types of purposes could therefore be more effective in generic pathway rules.
o) Requiring the destruction of goods if the goods may contain or harbour the pest or otherwise pose a risk of spreading the pest.	
p) Prohibiting or regulating specified uses of goods that may promote the spread or survival of the pest.	
q) Prohibiting or regulating the use or disposal of organic material.	The obligations must be limited to what is necessary and reasonable to meet the NPD requirements. Comments as for purposes (n)–(p) above.
r) Prohibiting or regulating the use of specified practices in the management of organisms that may promote the spread or survival of the pest.	Comments as for purposes (n)–(p) above.
s) Prohibiting or regulating the movement of goods that may contain or harbour the pest or otherwise pose a risk of	Comments as for purposes (n)–(p) above.

Purposes as listed in s 73(5)	Notes on how the purpose may be used for a GNR
spreading the pest.	
Purpose may not be used for a GNR	
g) Specifying, for the purposes of section 52(a) the circumstances in which the pest may be communicated, released, or otherwise spread.	This purpose may not be used in a GNR. This is because it provides <i>exemptions</i> to controls on sale and distribution established under BSA s 52, rather than pest management action through a rule. All persons, including the Crown, are bound to s 52, and this rule will affect these s 52 obligations.

Triggers to clarify when good neighbour rules will apply

213. A GNR should include “triggers” that will indicate to an occupier when the rule applies to them. Legal best practice is that the triggers should be within the rule itself rather than in accompanying policy within the plan. The plan may contain supporting or clarifying information elsewhere, but the rule must be clear enough so that potentially affected occupiers have sufficient certainty as to whether or not the rule applies to them without further decisions being made by the management agency.
214. GNRs need to include the following triggers for determining when it will apply to an occupier:
- Either that the GNR applies to all occupiers, or the class of occupier if this is necessary to meet the programme’s objective;
 - Specify the pest to be managed;
 - The pest or pest agent must already be present on the occupier’s land;
 - The occupier of the adjacent or nearby land must, in the view of the management agency, be taking reasonable measures to manage the pest on their land.
 - Where relevant, the particular values or uses of the neighbouring land that are affected by the pest’s spread, and that the GNR is intended to address (e.g. only neighbours with cattle should trigger a GNR for ragwort).

Triggers example: Ragwort

GNR rule

All land occupiers within [state the area] shall destroy all ragwort within 20m of land being managed for the grazing of cattle, where the affected land occupier is taking reasonable steps to manage ragwort on their land to protect to protect pastoral production and animal health.

Triggers

- Adjacent land is managed for the grazing of cattle.
- Occupier of adjacent or nearby land is taking reasonable steps to manage ragwort on their property.
- Land occupier has ragwort within 20m of the boundary of the adjacent land that is being utilised for cattle grazing.

When should a matter be dealt with through an exemption instead of by using a trigger?

215. The key matters that determine the scope of a GNR and when its obligation applies to an occupier need to be addressed through triggers within the rule. However such triggers will be unable to address every possible matter, or every option for responding pragmatically to a rule. Instead, specific cases may be addressed by an exemption under s 78(2)(b). For example, alternative compliance options such as financial compensation or “reverse boundary”¹³ control could be addressed as exemptions, as a GNR obligation may only relate to managing the pest or pest agent on the occupier’s land.

¹³ A “reverse boundary” solution is where the occupier instead controls the pest on the neighbour’s property to reduce its impacts. For example, it may be impractical, inefficient, or unreasonably expensive for the occupier to control the pest on their land.

GLOSSARY

The Biosecurity Act – The Biosecurity Act 1993.

GNRs - Means a rule to which the following apply:

- a. It applies to an occupier of land and to a pest or pest agent that is present on the land;
- b. It seeks to manage the spread of a pest that would cause cost to occupiers of land is adjacent or nearby; and
- c. It is identified in a regional pest management plan as a good neighbour rule; and
- d. It complies with the directions in the national policy direction relating to the setting of good neighbour rules.

MPI – Ministry for Primary Industries.

Pathway – Means a plan to which the following apply:

- a. Is of goods or craft out of, into, or through –
 - i. a particular place in New Zealand; or
 - ii. a particular kind of place in New Zealand; and
- b. Has the potential to spread harmful organisms.

Pathway management plan – Means a plan to which the following apply:

- a. It is for the prevention or management of the spread of harmful organisms;
- b. It is made under Part 5 of the Biosecurity Act 1993; and
- c. It is a national pathway management plan or regional pathway management plan.

Pest – An organism that has characteristics that are regarded by people as injurious and unwanted. The definition of a pest under the Biosecurity Act is an organism that is specified in a pest management plan made under Part 5 of the Biosecurity Act.

Pest management plan – Means a plan to which the following apply:

- a. It is for the eradication or effective management of a particular pest or pests;
- b. It is made under Part 5 of the Biosecurity Act 1993; and
- c. It is a national pest management plan or a regional pest management plan.

Taonga – Resources, possessions, treasures.

Wāhi tapu – Sacred places.

APPENDIX 1: DOCUMENT HISTORY

Previous version date	Current version date	Section/s changed	Change(s) description
September 2015	September 2015	Nil	Nil
September 2015	October 2015	Chapter 4	Minor amendments for clarity as requested by DOC.