

Joint Decision-Making and Resourcing for Readiness and Incursion Responses

Surveillance and Incursion Response Working Group
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New Zealand Forest Owners Association
New Zealand Pork Industry Board
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All members of the Working Group consider that the issues in this document warrant wider discussion and that it is appropriate that it be widely distributed to any interested person. The discussion paper does not necessarily represent the views of individual members of the Working Group, their organisations, or the Government.

Foreword from the Minister for Biosecurity

One of the greatest risks to New Zealand's primary production sector is the threat of incursions of new pests or diseases causing loss and damage to aquatic or terrestrial animals and plants. The combined initiatives and resources of producers, industry organisations and Government are needed to deal with threats from pests and diseases.

In the past, Government has consulted industries when developing readiness and response plans and when taking action. Government is keen to work with industries in a new way that reflects a partnership approach to more effectively address biosecurity threats.

Representatives from the agriculture, forestry and horticulture sectors have been working with the Ministry of Agriculture and Forestry (as the Surveillance and Incursion Response Working Group) to consider options for joint decision-making and resourcing for readiness and incursion responses.

To move towards a better framework for addressing the risks of pests and diseases the Working Group has prepared this discussion paper for consultation. The discussion paper proposes a new framework for primary production industries and Government to work together to make agreements on the roles and resources needed for readiness and incursion responses.

All members of the Working Group consider that the issues in this document warrant wider discussion and it is appropriate that it be widely distributed to any interested person. The discussion paper does not necessarily represent the views of individual members of the Working Group, their organisations, or the Government.

Although the discussion paper contains mostly agriculture examples, reflecting the early membership of the Working Group, the principles guiding the proposed framework could apply to the horticulture, agriculture, aquaculture, forestry and other industries. The Working Group envisages that any industry could become part of an agreement with Government to prepare for and respond to any incursion.

The Working Group would like to hear the views of any individual or group of individuals concerning this discussion paper. To assist you in making a submission on the proposed framework a series of suggestions are presented for consideration. Following receipt of your views, we will consider the next steps to be taken.



Hon Jim Anderton
Minister for Biosecurity

Executive Summary

A successful biosecurity system must be able to respond effectively when incursions of pests and diseases occur. Pests and diseases pose risks to all New Zealanders through impacts on their culture, environment, economy, health and lifestyle. Incursions also pose direct risks to specific industries.

This discussion paper proposes a new framework for Government and industries to share decision-making and resourcing when preparing for and responding to pests and diseases that directly impact on the primary production sector. The purpose of this discussion paper is to seek feedback from the agriculture, horticulture, forestry, and aquaculture sectors in particular, and any other interested parties, about the proposed framework. This paper explains why a new framework is desirable, describes the proposed framework and its guiding principles, and presents questions to trigger comment from industries.

Under the current approach to incursion management, Government makes the key decisions and provides most of the funding and other resources. This arrangement is appropriate for readiness or response activities that primarily protect cultural values, the economy as a whole, the environment, human health and lifestyle. However, the Ministry of Agriculture and Forestry (MAF) considers that for activities that directly benefit industries, the current arrangement undermines certainty, equity, efficiency and effectiveness.

Industries have expressed concern that the current approach creates uncertainty about whether MAF will respond to incursions of interest to them. There is also uncertainty about roles and responsibilities and concern that the current approach does not adequately recognise industry contributions, such as communicating through industry networks, managing animal welfare, and providing support for those directly affected.

The proposed framework seeks to address the shortcomings of the current approach by bringing Government and industries together to make decisions and provide resources for activities resulting from these decisions. Under the proposed framework:

- MAF would retain its leadership role in response and fund the investigation phase;
- affected industries and MAF would make joint strategic decisions about incursion management and resourcing (including whether to respond) through a Decision-Making Committee;
- the Decision-Making Committee would be informed by MAF and industry representatives on joint Readiness and Response Committees;
- during incursion responses, affected industries would work with MAF to manage the response and would also collaborate on operational matters.

Under the proposed framework both industry and Government would commit, through formal agreements, to sharing resources for the direct and additional costs incurred during readiness and response activities. The proportion of public versus private benefits of the activity would determine the resource split between Government and industries. In the event of an incursion and for readiness activities, MAF considers that only industries contributing resources should participate in decision-making while those not contributing resources should be consulted.

The proposed framework would benefit industries and Government by improving the certainty, effectiveness, efficiency, and equity of incursion management. Industries would be more certain that readiness and response activities would be undertaken for pests and diseases of concern to them and that the available resources would be allocated more effectively.

Contents	Page
Contributors	i
Foreword from the Minister for Biosecurity	ii
Executive Summary	iii
1 Introduction	1
1.1 Our approach	1
1.2 Why we wish to develop a new framework	1
1.3 Desired outcomes	2
1.4 Scope of the proposals	3
2 Incursion Management and the Biosecurity System	4
2.1 MAF's approach	4
3 Principles	7
3.1 Biosecurity Funding Review	7
3.2 Biosecurity system functions	9
3.3 Organism versus systems approach	10
4 The Proposed Framework	11
4.1 Responsibilities	11
4.2 Joint decision-making	12
4.3 Link between decision-making and resourcing	14
4.4 Joint resourcing	15
4.5 Developing an agreement	17
5 Summary of the Proposed Framework	20
6 Notes for Submitters	22
6.1 Requirements for submissions	22
6.2 Closing date for submissions	23
6.3 Process following receipt of submissions	23
Appendix 1: Definitions	24
Appendix 2: Why a new framework is desirable – MAF	26
Appendix 3: Why a new framework is desirable – Industry	28
Appendix 4: Biosecurity system functions	32
Appendix 5: Potential responsibilities for Government and industries	33
Appendix 6: Suggested areas for collaboration	34
Appendix 7: Cost share tools	35
Appendix 8: Hypothetical scenario	47
Appendix 9: International approaches	49
Appendix 10: Examples of compensation	50
Appendix 11: Examples of costs involved in incursion responses	52

1 Introduction

The purpose of this discussion paper is to seek feedback about a proposed framework for incursion management. This framework would jointly engage Government and primary production industries in decision-making and resourcing for readiness and incursion responses for pests and diseases likely to directly impact on those industries.

This discussion paper explains why a new framework is desirable, describes the Ministry of Agriculture and Forestry's (MAF's) current approach to incursion management, and outlines the proposed framework and its guiding principles. As required by government guidelines, the substantive elements of regulatory impact analysis have been included in this paper.

MAF invites submissions from industry and other interested parties on any part of the analysis, as well as the suggestions put forward and the likely impacts of these on your business. The closing date for submissions is **Friday 14 December 2007**.

1.1 OUR APPROACH

In 2005, the Government agreed that a set of principles from the "Future Funding of Biosecurity Services"¹ (the *Biosecurity Funding Review*) be adopted for the assessment of any future changes to the funding of biosecurity services. The *Biosecurity Funding Review* found that the current funding arrangements for readiness and response activities are inconsistent and ad hoc, and recommended changes to the ways in which they are managed and funded.

At the request of the Minister for Biosecurity, MAF set up a joint Government and industry working group to develop a framework for future decision-making and resourcing for readiness and incursion responses that directly impact on primary production industries. As it was not feasible to involve representatives from all industries in every sector, MAF invited members from the animal industry sector (beef and sheep meat, wool, dairy, deer, pork, poultry and equine) as well as representatives from the forestry and horticulture sectors to form the Surveillance and Incursion Response Working Group ("the Working Group").

The Minister requested that the Working Group produce a discussion paper outlining a possible framework that could guide the development of closer working relationships between the Government and animal, forestry, plant and other sectors such as aquaculture. This document is the product of the Working Group's efforts.

1.2 WHY WE WISH TO DEVELOP A NEW FRAMEWORK

The proposed framework would entail Government and industry making the important decisions together and both contributing resources to get readiness and response work done. The Working Group considers that there would be a number of major benefits from this approach. These are outlined below:²

- **Effectiveness and efficiency**

Under the proposed framework industries would work alongside MAF to decide how readiness and incursion responses would be managed for pests and diseases of concern to them. Government and industries' roles and responsibilities would be made clear from the

¹ Refer to *Future Funding of Biosecurity Services, Discussion Paper No:04/01*, December 2004

² Appendices 2 and 3 provide further detail as to why a new framework is desirable from MAF and industry points of view.

outset. Sections 4.1 and 4.2 explain how this collaborative approach could work and how the varying responsibilities could be shared.

This joint approach would bring about more effective and efficient use of resources. Industries and Government would determine pests and diseases that are a priority for surveillance and response planning and invest resources in these priorities. This readiness work, along with advance agreement on how an incursion response would be resourced, would enable an effective response to be launched rapidly, should an incursion occur. When deciding on readiness and response priorities, industries and Government would consider whether the proposed activity would provide sufficient value to those providing resources.

Agreeing in advance to strategic roles and responsibilities will facilitate swift and effective responses to any incursion. The increased speed in which incursion responses would be carried out is a significant advantage of the proposed agreements. Also, MAF does not always have access to the same expertise that industries do, but with MAF and industries making key decisions jointly, a wider range of skills and experience will inform incursion management.

With Government and industries working together to determine efficient ways to share resources (including in-kind contributions), the overall investment in biosecurity of benefit to industries would be increased. Note that the proposed framework does not have an underlying objective to reduce the Crown's contribution to biosecurity. Any change in funding arrangements should instead be focused on efficiently minimising the risks of, and the damage caused by, unwanted pests and diseases, and to ensure services required are delivered most efficiently.

- **Equity**

Under the proposed framework industries would be dealt with in a more consistent manner and existing industry roles and contributions to incursion responses would be better recognised and valued. Resource contributions from Government and industries would be based on relative public and private benefits, which is consistent with existing Treasury and Audit Office guidelines for cost recovery.³

Resource contributions from each industry affected by a particular pest or disease would be determined by the relative benefits each industry would derive from the readiness or response activity. Section 4.4 introduces possible cost sharing tools to help determine an equitable split.

- **Certainty**

At the moment, Government makes the key decisions during incursion responses, which can leave industries feeling uncertain as to if and how MAF will respond. Under the proposed framework industries would be more certain that readiness and response activities would be undertaken for pests and diseases of concern to them. This is explained further in Section 3.3.

1.3 DESIRED OUTCOMES

Any new framework should facilitate the efficient and effective management of risks across all biosecurity functions, from reduction through to recovery. This should typically entail ensuring that those best placed and able to manage the risks do so.

The Working Group agrees that applying the proposed framework should support the following outcomes:

³ Refer the Treasury document *Guidelines for Setting Charges in the Public Sector* and the Audit Office document *Guidelines on Costing and Charging for Public Sector Goods and Services*.

- **The right incentives** – to maximise appropriate readiness and the early reporting of new organisms.
- **The right incentives** – to minimise the entrance of unwanted new pests and diseases, without unjustifiably restricting trade.
- **Efficient resource allocation** – resources are targeted to readiness and incursion responses where acceptable net benefits for New Zealand are achievable (i.e. not just for the Government).
- **Co-operation** between industry and MAF to enable the management of incursions in the most cost effective and efficient manner.
- **Return to previous state** (as close as practicable, all other things being equal) – returning biosecurity status, including domestic production and trade to the previous state, or to a new condition that is less vulnerable, as fully and as quickly as practicable.

1.4 SCOPE OF THE PROPOSALS

This discussion paper proposes an approach to joint decision-making and resourcing for managing incursion responses in New Zealand. The resources to be shared for incursion responses include the direct and additional costs only.⁴ In order for there to be enough incentive for the Government to participate, these responses are more likely to be at a national level, although regional responses could also be significant enough to warrant consideration. It is also intended that this approach would be applied to readiness⁵ activities (including surveillance), but that will require further development through discussions between Government and industries.

Section 2 of this paper describes the four main components of the incursion management system. The Working Group considers that initially any agreements between the Government and industries should focus on readiness and response activities. The Working Group recognises the potential to broaden the scope of these agreements and apply the same principles to other areas. For example, the joint decision-making and resourcing framework could be extended to address recovery activities.

For any incursion response there are likely to be other, non-industry groups that have an interest in the response and a potential role to play, for example, regional councils, Maori, and tourism and environmental groups. Decision-makers subject to the proposed agreements may also want to include others if they contribute in-kind. The proposals in this paper are based on the premise that if you pay, you have a direct say in how the response is managed. If you do not pay, then you will be consulted. The Working Group considers that the framework is flexible enough to allow other parties to become involved if they choose to do so and are willing and able to contribute resources.

⁴ Direct and additional costs include monetary and non-monetary resources such as personnel, training, expertise, knowledge, money, in-kind services etc.

⁵ Refer to Appendix 1 for definitions.

2 Incursion Management and the Biosecurity System

This section describes the aspects of incursion management within the biosecurity system that apply to the proposed framework. Biosecurity is defined as the exclusion, eradication or effective management of risks posed by pests and diseases to New Zealand's people, environment and economy.⁶ Biosecurity seeks to protect terrestrial, freshwater, and marine environments.

2.1 MAF'S APPROACH

MAF has recently issued a new draft policy entitled "Policy for responding to pests and diseases (risk organisms)".⁷ This policy applies to all incursion responses in the absence of a formal agreement between Government and industry.

The new policy applies to MAF's readiness for and responses to:

- suspected incursions of new risk organisms;
- risk organisms already established in New Zealand and of national interest;
- 'new organisms' that do not have approval under the Hazardous Substances and New Organisms Act 1996, or that have breached containment or other controls; and
- imported risk goods that have received biosecurity clearance but are subsequently found to require further biosecurity risk management.

The new draft policy emphasises that MAF will respond where risk organisms pose nationally significant threats to New Zealand's people, environment and economy. Responses will aim to achieve the best overall outcome for New Zealand by minimising the impacts of both the risk organism and the response itself. They will be delivered in accordance with available resources and overall biosecurity priorities.

MAF may contribute to responses where risk organisms are not nationally significant, on a case by case basis, where those benefiting from the response also contribute resources. MAF will seek to consult but where it leads and funds the response, it will make the final decisions or recommendations to Ministers.

Where a risk organism is considered of national importance, but its current distribution or impacts mean a local or long-term response is appropriate, MAF will work with other parties to identify who is the most appropriate agency to co-ordinate and lead a response. This could be a regional council or specific industry sector. However, MAF cannot compel other entities to undertake a response.

Where MAF elects not to respond, other parties may decide to do so without Government's involvement. If nobody is willing to assume responsibility for co-ordinating a response, individuals or landowners will need to make their own business decisions around how to manage the risk organism.

The new response policy is consistent with other guidelines within MAF that are used to support biosecurity decision-making, such as decisions around whether to respond to an incursion. In particular, decisions are based on criteria such as strategic fit, net benefit, feasibility, and resources, with engagement from affected parties.

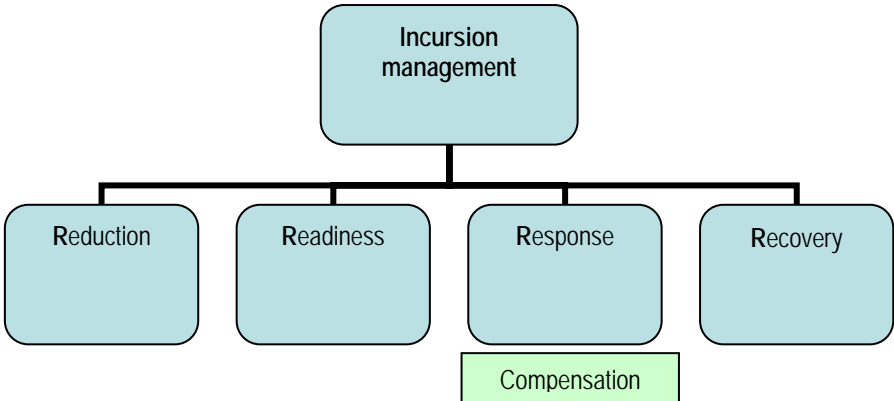
⁶ 'People' refers to human health and social/ cultural values including Māori. Refer also to the definition of 'values' in Appendix 1.

⁷ "Policy for responding to pests and diseases (risk organisms)" (Draft for consultation, September 2007)

For the purposes of this paper, the Working Group has adopted the new policy’s “4Rs” approach to incursion management and the biosecurity system:

- **Reduction** – Pre-border and border activities associated with reducing arrival or chance of establishment of risk organisms which impact on the values we wish to protect. These activities include developing Import Health Standards, border inspections and quarantine measures.
- **Readiness** – Preparedness to manage a biosecurity response including surveillance to detect organisms, contingency planning and capability building.
- **Response** – The actions taken immediately before, during or directly after a risk organism has been confirmed where management of the risks posed by that organism is considered appropriate. (This includes investigation of suspect risk organisms, identification of the organism, containment, and initial assessments of its impacts and response options.) A response may also be initiated where the impacts of the risk organism have increased, or new response options become available that makes a response feasible.
- **Recovery** – The co-ordinated efforts and processes to effect the immediate, medium and long-term regeneration of a community following an emergency or biosecurity event. Recovery efforts may begin immediately after the impact of the event and work in parallel with the response phase.

Figure 1: Incursion management



This discussion paper presents an approach for joint decision-making and resourcing that relates to readiness and response. This includes compensation (refer Section 4.5). To provide a starting point for discussion, this paper places greater emphasis on response. Readiness, including surveillance, is within scope but will require further development by Government and industries to determine specifically how readiness would be dealt with under the framework.

MAF has recently begun developing a biosecurity surveillance strategy that is intended to provide consistent principles and approaches that can be applied to surveillance activities. This includes identifying ways to work more collaboratively, effectively and efficiently with other government agencies, industry, local government and other participants who use surveillance to detect unwanted pests and diseases. This strategy is expected to be completed by early 2009.

There are several areas of common interest between the biosecurity surveillance strategy and the proposed framework in this discussion paper, including the governance and funding of surveillance activities, and roles and responsibilities of participants in the surveillance system. MAF will undertake to harmonise these approaches.

The Working Group considered including recovery as one of the main components in the proposed framework. However, at this stage recovery is out of scope for two reasons. Firstly, recovery is a broad issue that potentially covers everything from helping farmers and communities to help themselves, through to mitigating the impact of a disaster on the national economy. Including recovery would make the scope of the framework so wide that it would become unwieldy to agree on all aspects of the framework and put it in place.

Secondly, MAF is developing a recovery policy that covers all types of adverse events, including natural disaster and biosecurity incursions. This includes on-farm recovery⁸ and the review of MAF recovery processes and capability. Industry has been, and will continue to be, involved in this process.

⁸ Refer: *Building Resilience: A Review of the On-farm Adverse Events Recovery Framework*: A Public Discussion Paper, MAF (Sept 2006)

3 Principles

This section describes the high-level principles that have guided the development of the proposed framework for joint decision-making and resourcing.

3.1 BIOSECURITY FUNDING REVIEW

Determining who should pay for the costs of readiness and incursion responses can be problematic. The *Biosecurity Funding Review* suggests that at a generic level, there are three potential groups that could contribute:

- those who create the biosecurity risks to which the services are targeted (exacerbator);
- those who benefit from the incursion response (beneficiary); and
- the Crown.⁹

In the past, a hierarchy has been applied to determine who should pay, with funding by exacerbators preferred, followed by beneficiary funding, with Crown funding as a last resort. The *Biosecurity Funding Review* critiques this approach noting that:

- charging exacerbators is often inefficient since exacerbators can often do little to reduce the risk of their activity and often have no control over the services actually delivered;
- beneficiaries are often better placed to pay because they can determine if the service provides net benefits and they are better placed to monitor if delivery of the service is satisfactory; and
- distinguishing between groups can be difficult – one party may play more than one role, for example, the Crown is often an exacerbator, a beneficiary, and a potential funder of last resort.

The *Biosecurity Funding Review* discards the generic hierarchy and its assumptions of which group should be charged over another. Instead, the *Biosecurity Funding Review* prescribes that those required to pay should be able to do at least one of the following:

- change their behaviour to reduce the costs of the service or the risks that give rise to the need for it over time;
- assess whether the true benefits of the service at its current levels outweigh its costs on an ongoing basis, and thereby influence its ongoing provision; and/or
- influence whether the service at its current levels is being provided in the most cost effective manner.

If they are not able to do any of the above, then it follows that Crown funding may be desirable if the interventions merit funding (over other activities that the Crown would otherwise fund with those resources).

It is often impossible to accurately determine the source of a pest or disease. Incoming travellers, containers and mail are regarded as high risk but imposing a blanket tax on these is likely to be widely opposed. If an individual or organisation could be identified as the exacerbator, difficulties in extracting sufficient resources from them may be such that the ability to respond quickly and efficiently to an incursion is compromised.¹⁰ The *Biosecurity Funding Review* suggests that given the lack of certainty about how any particular unwanted organism entered the country, funding from importers seems unfair and inefficient.

⁹ Note that the Crown can be an exacerbator, beneficiary, or both.

¹⁰ Refer *Funding and compensation for emergency eradication of exotic plant pests and diseases: A discussion paper*, by Plant Health Australia, 2001.

Nevertheless, the Crown has clear responsibilities under the Biosecurity Act 1993 to penalise the exacerbator when it is appropriate to do so, for example by imposing fines. Border control is an important factor in reducing the risk of unwanted pests and diseases and MAF will continue to follow up compliance breaches. By entering into a joint agreement, industries would have a greater say in ensuring that MAF carries out its border obligations in an efficient and effective manner.

Direct beneficiaries are often best placed to assess whether a service would provide net benefits and to monitor its delivery. Therefore it follows that they are often better placed to contribute to readiness and response. When the majority of benefits from an activity are going to specific industries, there is an argument that they should contribute towards it. Direct beneficiaries are more likely than exacerbators (e.g. importers) to want to be “at the table” making the important decisions about readiness and response activities.

The *Biosecurity Funding Review* recommends that the funding and management of surveillance, contingency planning and response activities of relevance to industry should be re-examined. The review noted that where services provide direct benefits to industries, there is a role for industry in funding and managing the services. The extent of this role should be determined by assessing who will benefit from the service and who could be involved in decisions around its benefits and costs.

Industry groups consider that due to the public good that accrues from these activities, and the Government’s need for these activities to occur so that it can provide credible official assurances, there remains an argument that these activities should be at least partially Crown funded.

The *Biosecurity Funding Review* recommends that responses to incursions of pests and diseases where the impacts fall primarily on general environmental or health outcomes should continue to be funded by the Crown.

Suggestions – Direct beneficiary pays

- The proposed framework is based on the principle that the direct beneficiaries contribute to the direct costs of a service, as they are well placed to assess the benefits of the service, determine if it should be provided, and influence cost effective provision of the service.
- Direct beneficiaries can include industries and the Crown.
- Where the benefits of surveillance, contingency planning, or response relate to the wider public good, such as human health or the environment, or when it is not possible to identify direct beneficiaries, the Crown should manage and fund any such work according to its priorities and available resources.
- In recognising that border measures are intended to target risk creators, the Crown will continue to enforce controls at the border and target specific exacerbators where they can be identified.

3.2 BIOSECURITY SYSTEM FUNCTIONS

Within the biosecurity system described in Section 2.1 functions can be strategic, tactical or operational:

- a) **Strategic functions** – those surrounding high level decision-making, resourcing and other aspects of governance. For example, considering advice from experts and deciding whether to attempt to eradicate a disease or undertake long-term management.
- b) **Tactical functions** – those surrounding processes and plans that will be applied to meet the strategic goals, but with the potential to modify them if circumstances require it. Following the disease example, a tactical function would be to recommend a response plan.
- c) **Operational functions** – those surrounding decisions that have to be taken in light of the actual circumstances at hand and based on the latest information. Determining how to best locate at-risk stock during a disease outbreak would be an example of an operational function.

The Working Group suggests that the new framework should seek to achieve greater certainty around strategy and tactics for managing incursions, while recognising the need for flexibility in managing operations during a response. The desired relationship between flexibility and certainty and the three tiers of biosecurity functions is depicted in Figure 2.

Appendix 4 provides a more extensive list of functions, differentiated by the need for certainty versus the need for flexibility.

Figure 2: Biosecurity system functions in terms of certainty versus flexibility



The new framework would need to identify functions within the phases of the biosecurity system that require certainty and then agree on who would be responsible for carrying them out and how. These would include:

- roles and responsibilities;
- decision-making;
- resource sharing, and cost recovery mechanisms and limits;
- eligibility for compensation/recovery; and
- performance measures.

Suggestions – Biosecurity system functions

- The proposed framework should increase certainty around strategy and tactics and retain flexibility around operational decisions.
- The framework should identify functions requiring certainty and specify who is responsible for carrying out these functions and how they would be carried out.

3.3 ORGANISM VERSUS SYSTEMS APPROACH

The Working Group considered whether the proposed framework should focus on:

- a) **specific pests and diseases** – resulting in a series of agreements addressing readiness and incursion responses for individual or groups of pests and diseases (this would reflect the approach taken to date with national pest management strategies); or
- b) **system functions** – resulting in agreement/s based on the generic readiness and incursion response functions that Government and industries consider they need to have in place to manage known and unknown pests and diseases; or
- c) a combination of (a) and (b).

The Working Group considers that option “c” is likely to have the most benefits. This would involve a sector-wide approach that could be tailored to meet the needs of a particular response, while offering certainty about how Government and industries would react to incursions of specific pests and diseases.

Suggestion – A systems *and* organism specific approach

- The new framework should be generic and flexible enough to respond to new or unanticipated pests and diseases while including contingency plans for specific pests and diseases.

4 The Proposed Framework

This section outlines the proposed framework to address the future decision-making and resourcing for readiness and incursion responses that directly benefit industries in the primary production sector, for those willing to participate. The main components of the framework are explored further in this section. They include:

- responsibilities;
- joint decision-making;
- link between decision-making and resourcing;
- joint resourcing;
- developing an agreement.

4.1 RESPONSIBILITIES

The Working Group considers that allocating clear responsibilities to Government and industries for the biosecurity functions introduced in Section 3.2 is critical to managing readiness and incursion responses successfully. In the future, it is intended that the proposed framework will improve efficiency and effectiveness beyond the confines of readiness and response, by requiring Government and industry to make some form of high level commitment to each other about reduction and recovery. This would increase certainty that Government and industries are working to prevent pests and diseases from entering New Zealand and are prepared to deliver adequate recovery in the aftermath of an incursion. The Working Group identified readiness as an area for industry and Government collaboration where further discussion is needed.

The Working Group suggests that MAF would continue to lead incursion management because MAF is legislatively accountable for the biosecurity system, has access to the necessary legal powers to act in a response, and has incursion management systems in place.

Industry organisations will be able to take on varying responsibilities although few, if any, will be able to take on all of the tasks needed for an incursion response. The organisation responsible for any given task must be clear about its role, to ensure that all the necessary responsibilities are accounted for across an industry.

A detailed illustration of how Government's and industries' potential responsibility for functions could be allocated is provided in Appendix 5. The Working Group suggests that these could be allocated as follows:

- reduction is primarily an importer and Government responsibility;
- readiness is an area where stronger Government and industry collaboration is desirable to determine priorities for surveillance and contingency planning, and to agree on how to resource these activities and any future responses;
- during the response, the Government is responsible for funding activities such as investigating, containing and identifying the pest or disease and identifying possible response options up until the point that there is adequate certainty that the pest or diseases is likely to directly impact on industry to an extent that is significant enough to warrant cost sharing;
- response is an area where Government and industry should collaborate on response plans and resources; and
- Government and industry should collaborate to determine if and how long-term management should be undertaken and resourced.

Where Government or industry is unwilling or unable to accept a certain responsibility then the formal agreement would specify the consequences that this would have for their decision-making role and input into the incursion response. The agreement would also stipulate dispute procedures.

In the event that the Government decides not to respond to an incursion (or where the cost share tools determine that the responsibility for responding rests solely on industry), industries still have the ability to seek assistance from MAF to undertake the incursion response. In these instances MAF may agree to commit resources to a response and utilise its powers under the Biosecurity Act 1993 only if the response meets cost-benefit criteria.

Suggestions – Responsibilities

- The framework would primarily focus on Government and industry responsibilities for functions that are part of readiness and response.
- Under the framework MAF would retain its leadership role in incursion response.
- MAF would fund activities early on in the response until the point in time where there is adequate certainty that the pest or disease is likely to be of interest to industry.
- Readiness is an area where Government and industry collaboration is desirable and further work is needed to determine specifically how this would work.
- The framework would help improve effectiveness of the entire biosecurity system by requiring Government and industries to make a commitment about responsibilities for reduction and recovery.

4.2 JOINT DECISION-MAKING

The Working Group suggests that Government and industries would need to collaborate on functions both before and during an incursion response. Given the responsibilities suggested above, the main areas for collaboration between Government and industry would be within readiness and response, including the transition to long-term management.

Appendix 6 outlines the areas of collaboration that may need to be pre-agreed (for functions requiring more certainty) and those which would be agreed during a response (for functions suited to flexibility). Criteria for triggering Government/industry collaboration under the proposed framework would need to be agreed. These criteria might include whether the:

- pest or disease is likely to be of interest to industry; and
- costs of a response are likely to be substantial.

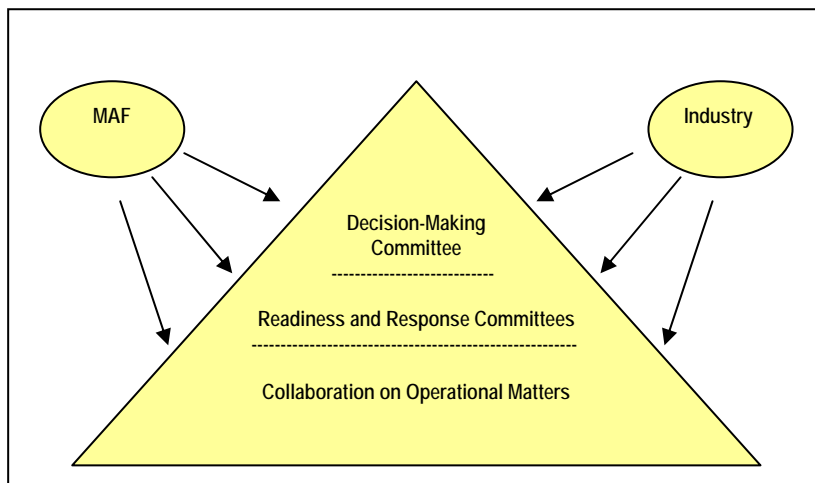
In the absence of an agreement being triggered, the decision to respond would default to MAF alone. Any joint decision-making between Government and industries would need to be designed and implemented so that incursion response decisions could be made quickly and not hinder the response. Thus it is important to consider how the proposed mechanisms for joint decision-making could integrate with MAF's response structure.

In considering the most effective ways for Government and industries to collaborate on these functions, the Working Group concluded that:

- committees for joint decision-making would be necessary; and
- a National Co-ordinating Body as a means for supporting these committees could be appropriate.

The proposed mechanisms for collaboration on strategic, tactical, and operational matters are summarised in Figure 3.

Figure 3: Joint decision-making within the proposed framework



Committees for joint decision-making

The Working Group proposes that a Decision-Making Committee be formed to make high level decisions about readiness and response (refer to the upper tier of Figure 3). In “peace-time” this committee would be comprised of MAF representatives and the Chief Executives or Directors of each industry organisation that had agreed to be part of the new framework.

During a response, the “active” Decision-Making Committee would consist of representatives from all industries affected by the particular incursion, MAF representatives, and one neutral industry representative. The Decision-Making Committee would make decisions by consensus and be led by an independent chair. Each member of the committee would have equal standing. Strong leadership from the independent chair would be vital to ensure that the committee members reached decisions within a time constraint of one or two hours.

The roles of the Decision-Making Committee would be to:

- agree and endorse resourcing and scope of contingency plans, training programmes and surveillance programmes for pests and diseases that directly impact industries;
- in the event of an incursion, decide if the incursion meets the criteria for activating a joint Government-industry response; and
- agree and endorse response plans and budgets as the response unfolds.

To collaborate on more tactical matters, the Working Group proposes that Readiness and Response Committees be formed (refer to the middle tier in Figure 3). These committees would be comprised of representatives from industries and MAF, and would inform the Decision-Making Committee by providing expert advice to enable effective decision-making.

The Readiness Committee, for example, would prioritise pests and diseases for which surveillance and contingency planning should be carried out and work to develop surveillance programmes, contingency response plans, and response training.

During an incursion response, affected industries would work with MAF on the Response Committee to manage the response. In effect, MAF staff members who currently sit on incursion response steering groups would join with industry representatives to recommend response plans and budgets to the Decision-Making Committee for their consideration. There could also be industry liaisons positioned within the operational arm of the response (as shown by the bottom tier of Figure 3).

National Co-ordinating Body

There are two possible roles for a National Co-ordinating Body:

- to negotiate and set up the joint agreements; and/or
- to facilitate and administer the agreements, thereby creating more effective links with Government and industries in delivering the overall framework. Facilitation may involve, for example, changing the tools for agreeing resource splits if it is agreed that changes are needed.

The Working Group considers that if such a group were to be formed it would need to be steered by an independent chair. Given the Working Group's recommendation that MAF continue to lead incursion management, the body would not take on this role. Rather, the functions of such a body could be similar to those of Animal Health Australia and Plant Health Australia and include:

- decisions around readiness planning;
- development of industry biosecurity plans and surveillance arrangements;
- secretariat for members of the body; and
- decision-making on funding shares and overseeing these arrangements.

A National Co-ordinating Body could be beneficial as it would be operating in the interests of all parties, and could be an effective and efficient way to manage the implementation of the joint agreements. However, there would be substantial costs to both the Government and industry in establishing and maintaining a National Co-ordinating Body. It may be possible to implement the proposed framework effectively without such a body in place.

With or without a National Co-ordinating Body, the Working Group considers that the committees for joint decision-making before and during a response would be needed. The Decision-Making Committee, Response and Readiness Committees, and inclusion of industry representatives within the operational response structure would enable joint decision-making for more effectively preparing for and responding to pests and diseases that directly impact on both Government and industries.

Suggestions – Joint decision-making

Under the framework:

- Industries and Government would make strategic decisions about readiness and response jointly through a Decision-Making Committee.
- The Decision-Making Committee would be informed by MAF and industry representatives on joint Readiness and Response Committees.
- During incursion responses, affected industries would work with MAF to manage the response. Government and industry would also collaborate on operational matters.
- A National Co-ordinating Body could be formed to create more effective links with MAF and industry in delivering the proposed framework.

4.3 LINK BETWEEN DECISION-MAKING AND RESOURCING

If the above collaboration mechanisms are pursued, the Working Group suggests that principles be developed to define the relationship between making decisions and providing resources (particularly for readiness, responses and long-term management).

MAF suggests that:

- a) those contributing resources should have the ability to participate in the decision-making;
- b) organisations involved in decision-making must be sufficiently representative of those who will be asked to provide resources; and

- c) those not contributing resources to a particular decision may be consulted on that decision but would not have the right to be involved in the actual decision. Note that MAF has a responsibility to consult where possible.

This enables those providing the resources to have a say in how they are used. This will likely be a prerequisite for commitment of resources from industry. Consultation with affected parties would occur whether they committed to contributing resources or not.

While industries generally support the principle that those contributing resources should be able to participate in decisions on when and how to use those resources, there is no clear consensus about the extent to which this should occur. Some industries agree that contributing resources should entitle them to participate in decision-making. Others consider it important that those who have a stake in a decision, or those who will be involved in implementing it, are able to participate in decision-making regardless of resource contribution.

Whatever the link between decision-making and resourcing, industries agree that there must be certainty and clarity around the role that Government and industries have in the decision-making process so that decisions can be made quickly and efficiently.

Suggestion – Link between decision-making and resourcing

- It is MAF's view that those contributing resources should participate in decision-making, while those not contributing resources should be consulted.
- Industries should undertake further thinking about their stance on the relationship between decision-making rights and resourcing.

4.4 JOINT RESOURCING

The proposed framework is based on the principle that the direct beneficiary contributes, as discussed in Section 3.1. The costs of readiness and incursion responses would therefore be shared amongst Government and industry according to the relative public versus private benefits to be gained from the activity. This hinges on the ability to identify the direct beneficiaries and implement a practical mechanism for collecting funds from them.

The *Biosecurity Funding Review* found that funding arrangements must:

- collect the level of funds required;
- assist in efficiently minimising biosecurity risks;
- minimise the costs of compliance and administration;
- help to keep the costs of supply low;
- be fair; and
- be consistent with our international obligations.

In order to meet the above criteria, the Working Group suggests that any cost sharing agreement between Government and industries should apply to only the direct and additional costs borne by the agencies and individuals involved, up to a fiscal cap. Any cost sharing agreements should be affordable and equitable to all parties involved.

The Working Group considers that the proposed Decision-Making Committee or a National Co-ordinating Body would be appropriate forums for Government and industries to agree to how the various biosecurity functions would be resourced. This would include a decision as to whether the resource contributions would be cash or in-kind.

The material in this section focuses on cost sharing for responses. While cost sharing for readiness is envisioned, further discussion on the detail of this is needed. Examples of costs that could be shared during responses include:

- salaries or fees for additional persons and contractors engaged to assist directly with the response (this would include staff members who would have been laid off as a result of an incursion but are kept on to carry out incursion response duties);
- compensation payments;
- costs of laboratory services required for the response, above the contracted level of service already in place;
- fees paid to vets or other experts employed to assist in the response;
- meal and accommodation allowances for staff/consultants engaged directly in the response; and
- overtime incurred as a direct result of the response.

Costs that would not be shared include:

- costs that would be incurred irrespective of the incursion response;
- salaries or consultancy fees that would be incurred irrespective of the incursion response;
- capital expenditure on vehicles, office space etc; and
- investigation costs, which will be met by the Crown¹¹.

Determining the extent to which Government and industry beneficiaries should contribute to costs could be challenging. The cost share tools outlined in Appendix 7 offer ways to agree on cost splits for particular pests and diseases by determining the proportion of public to private benefits from responding to that pest or disease. Further work is needed to adapt these tools for determining readiness cost shares or to develop additional tools if needed.

Industries and Government would use the cost share tools to categorise pests and diseases of concern in advance of an incursion occurring. Procedures for categorising a pest or disease during a response would also need to be agreed given that incursions may occur of unanticipated pests and diseases not covered in readiness planning.

In order for Government and industry to commit to cost sharing, these parties would need certainty around the ability to provide the committed funding. Under the current approach, MAF requests funds from Cabinet when an incursion occurs and these requests are considered alongside other Government priorities. To provide the certainty required by an agreement, Government would need to commit to providing funding for specific readiness and response activities as stipulated by the agreement.

For industries to commit to providing their cost share, they would need a means of collecting contributions from industry members. There are a number of options for doing this including a Biosecurity Act levy imposed on all members of the affected industry. If a levy was to be used it should be applied equitably to intended beneficiaries. Clear guidelines should be in place to govern expenditure of funds collected under a levy. In a levy scenario, the Government would front the costs of incursion response and affected industries would pay Government back after collecting the needed funds with the levy. Levies may also be appropriate for funding readiness work, but further thinking on this is needed.

Fiscal cap

¹¹ During the response, the Government is responsible for funding activities such as investigating, containing and identifying the pest or disease and identifying possible response options up until the point that there is adequate certainty that the pest or diseases is likely to directly impact on industry to an extent that is significant enough to warrant cost sharing.

MAF recognises that it would benefit industries to have certainty about how much they may need to contribute in the event of a response. Different industries have different abilities to contribute. To address these issues, the Working Group proposes that fiscal caps be built into any agreement between Government and industries.

Appendix 11 shows the direct costs of some recent incursions that MAF has responded to. While it would be very difficult to predict what a future incursion response may cost, these examples provide a picture of the costs have been incurred in recent responses.

The total amount an industry would contribute to incursion responses could be determined by agreeing to a percentage of the industry's worth (such as the gross value of production) or by setting a specific figure. The Working Group suggests that under the proposed framework, Government and industries agree to a fiscal cap prior to an incursion whereby contributions are based on their respective willingness and ability to pay in the event of an incursion. Government and industries would be expected to spend up to the agreed fiscal cap when necessary. Any extension to the fiscal cap would have to be agreed to by all parties under an agreement.

If more than one major incursion affecting the primary production industries were to occur at the same time, MAF would need to decide how to distribute Government resources. This decision would be guided by the relative proportion of public to private benefit that would result from responding to an incursion.

It is likely that in some cases more than one industry would be affected by an incursion. For example, an organism affecting fodder plants could cause losses to both the plant and animal industries. To prepare for this scenario, formulae would need to be agreed to determine how the industry share of costs would be divided among affected industries (refer Appendix 7).

Suggestions – Joint resourcing

- Under the proposed framework cost sharing would apply only to the direct and additional costs incurred during activities undertaken under an agreement.
- The proportion of public benefit relative to private benefit of an activity would determine the cost split between Government and industries.
- To determine relative public and private benefits, the impacts of the pest or disease and the extent to which these impacts would be experienced by the public and industries could be evaluated.
- Under the proposed framework, Government and industries would agree to a fiscal cap prior to an incursion whereby contributions are based on their respective willingness and ability to pay in the event of an incursion.
- Further thinking is needed on the specifics of how resource sharing for readiness should work.

4.5 DEVELOPING AN AGREEMENT

This section considers possible ways to implement the proposed framework for joint decision-making and resourcing. The Working Group suggests that industries could negotiate an agreement/s with the Government that would reflect the approach, outcomes, functions, responsibilities and resourcing commitments outlined in previous sections.

4.5.1 Possible ways to develop an agreement

The Working Group considered the benefits and drawbacks of three options by which an agreement could be developed:

- a) a legally binding contract;
- b) a “good faith” agreement; or
- c) a combination of the two.

Contracts offer several benefits and drawbacks. They provide certainty that Government and industries will meet their agreed commitments by giving each party access to legal institutions to enforce commitments. A contract demonstrates that parties are serious about the agreement.

However, many industry organisations may lack a mandate to bind their members to a contract. A contract could also be problematic for the Government. Biosecurity powers are given to particular office-holders and as a matter of law the officer-holder cannot act under dictation. However, legislative change may be possible that could address this issue. The provisions of a National Pest Management Strategy under the Biosecurity Act can be used to develop agreements between Government and industries. This could be one way to guarantee industry decision-making powers.

A “good faith” approach such as a memorandum of understanding (MOU) also offers benefits and drawbacks. The tone of a MOU is one of partnership, thus avoiding the negative impressions of compulsion associated with a contract. A variety of organisations could commit to a MOU. However, this approach offers less certainty. There is the risk that parties hesitate to act in accordance with the MOU until they see other parties do the same.

A mixed approach to forming an agreement is also an option. Parties could decide to cement certain elements of the agreement with a contract and others with a MOU. For example, minimum funding levels and governance arrangements could be under a contract and involvement in developing response plans could be based on a MOU.

4.5.2 Issues to consider before signing an agreement

There are several issues which Government and industries would need to consider before signing an agreement. These include:

- which organisations can and should be parties to the agreement;
- performance standards;
- free rider issues;
- scope of the agreement; and
- compensation provisions.

Organisations must have a clear internal mandate enabling them to commit resources on behalf of their members, and be sufficiently representative of their producers to enter an agreement on their behalf. Organisations wishing to sign an agreement would need to agree on what types of resources they could commit. This is particularly important to avoid overlapping where a group of primary producers is represented by more than one organisation.

Government and industries would need to agree to performance standards. The agreement would need to specify who would monitor compliance with the terms of the agreement and determine how well performance standards were met by the parties to the agreement.

Free riding could occur if an industry that does not choose to be party to the agreement benefits from the readiness and incursion efforts of other industries. This could happen in cases where a pest or disease affects multiple industries, some of whom are not party to the agreement. Industries involved in designing and negotiating an agreement would need to

consider ways to encourage other industries to also join and identify ways to minimise opportunities for industries to “free-ride” on the agreement.

Agreements could either cover individual industry needs, multiple industries, or an entire sector. It may be more efficient and easier to respond to organisms that affect multiple industries under a single or sector wide agreement, and less costly to negotiate one agreement than a series of agreements. The Working Group is not signalling a preference but is interested to hear your views on what would suit your industry.

Compensation

The Working Group anticipates that the agreement could set out alternative compensation arrangements from those stipulated by the Biosecurity Act 1993 (this would require amending the Act). Any alternative compensation arrangements should be agreed between Government and industries. This should involve consideration of circumstances where those directly affected by an incursion response should be:

- a) entitled to receive compensation; versus
- b) able to invoice the agency managing the response for certain costs; versus
- c) able to receive monies for other particular circumstances.

The Working Group considers that if compensation arrangements different from those set out in the Act is to be in place, they should:

- encourage early reporting;
- ensure those directly affected are no better or worse off than those not directly affected;
- avoid providing perverse incentives to attract or spread the pest/disease; and
- reflect Government’s and/or industries’ ability and willingness to pay.

A key issue that will need to be agreed is whether or not compensation should be paid for diseased stock or plants. Incentives for early reporting and perverse incentives to allow the disease to spread would have to be considered carefully. In the absence of an agreement and in cases where incursion responses are carried out outside of an agreement, compensation as stipulated by the Biosecurity Act would apply.

Appendix 10 provides two examples that illustrate the features of recent compensation claims under section 162A of the Biosecurity Act. Unless alternatives are specified in an agreement, these examples demonstrate how compensation could work under existing legal provisions.

Suggestions – Developing an agreement

A means should be identified for implementing the framework:

- Either a legally binding contract or a “good faith” agreement, or some combination of the two, could be created between Government and interested industries.
- Agreements could either cover individual industry needs, multiple industries, or an entire sector. The Working Group is not signalling a preference towards a single agreement or a series of agreements, but is interested to hear your views on what would suit your industry.
- Any compensation arrangements different to those provided by the Biosecurity Act should be designed to encourage early reporting and to avoid providing perverse incentives to spread the pest or disease.

5 Summary of the Proposed Framework

The following eight suggestions made throughout this paper summarise the key features of the proposed framework:

Suggestions – Direct beneficiary pays

- The proposed framework is based on the principle that the direct beneficiaries contribute to the direct costs of a service, as they are well placed to assess the benefits of the service, determine if it should be provided, and influence cost effective provision of the service.
- Direct beneficiaries can include industries and the Crown.
- Where the benefits of surveillance, contingency planning, or response relate to the wider public good, such as human health or the environment, or when it is not possible to identify direct beneficiaries, the Crown should manage and fund any such work according to its priorities and available resources.
- In recognising that border measures are intended to target risk creators, the Crown will continue to enforce controls at the border and target specific exacerbators where they can be identified.

Suggestions – Biosecurity system functions

- The proposed framework should increase certainty around strategy and tactics and retain flexibility around operational decisions.
- The framework should identify functions requiring certainty and specify who is responsible for carrying out these functions and how they would be carried out.

Suggestion – A systems *and* organism specific approach

- The new framework should be generic and flexible enough to respond to new or unanticipated pests and diseases while including contingency plans for specific pests and diseases.

Suggestions – Responsibilities

- The framework would primarily focus on Government and industry responsibilities for functions that are part of readiness and response.
- Under the framework MAF would retain its leadership role in incursion response.
- MAF would fund activities early on in the response until the point in time where there is adequate certainty that the pest or disease is likely to be of interest to industry.
- Readiness is an area where Government and industry collaboration is desirable and further work is needed to determine specifically how this would work.
- The framework would help improve effectiveness of the entire biosecurity system by requiring Government and industries to make a commitment about responsibilities for reduction and recovery.

Suggestions – Joint decision-making

Under the framework:

- Industries and Government would make strategic decisions about readiness and response jointly through a Decision-Making Committee.
- The Decision-Making Committee would be informed by MAF and industry representatives on joint Readiness and Response Committees.
- During incursion responses, affected industries would work with MAF to manage the response. Government and industry would also collaborate on operational matters.

- A National Co-ordinating Body could be formed to create more effective links with MAF and industry in delivering the proposed framework.

Suggestions – Link between decision-making and resourcing

- It is MAF’s view that those contributing resources should participate in key decision-making, while those not contributing resources should be consulted.
- Industries should undertake further thinking about their stance on the relationship between decision-making and resourcing rights.

Suggestions – Joint resourcing

- Under the proposed framework cost sharing would apply only to the direct and additional costs incurred during activities undertaken under an agreement.
- The proportion of public benefit relative to private benefit of an activity would determine the cost split between Government and industries.
- To determine relative public and private benefits, the impacts of the pest or disease and the extent to which these impacts would be experienced by the public and industries could be evaluated.
- Under the proposed framework, Government and industries would agree to a fiscal cap prior to an incursion whereby contributions are based on their respective willingness and ability to pay in the event of an incursion.
- Further thinking is needed on the specifics of how resource sharing for readiness should work.

Suggestions – Developing an agreement

A means should be identified for implementing the framework:

- Either a legally binding contract or a “good faith” agreement, or some combination of the two, could be created between Government and interested industries.
- Agreements could either cover individual industry needs, multiple industries, or an entire sector. The Working Group is not signalling a preference towards a single agreement or a series of agreements, but is interested to hear your views on what would suit your industry.
- Any compensation arrangements different to those provided by the Act should be designed to encourage early reporting and to avoid providing perverse incentives to spread the pest or disease.

6 Notes for Submitters

We welcome submissions from all interested parties on any aspect of the proposed framework for joint decision-making and resourcing presented in this document.

Submissions are public information and may be the subject of requests under the Official Information Act 1982. If you consider that any or all of the information in your submission should be treated as confidential or commercially sensitive, please state this clearly in your submission. Any decision to withhold information under the Official Information Act may be reviewed by the Ombudsman.

6.1 REQUIREMENTS FOR SUBMISSIONS

The key suggestions that the Working Group seeks comment on are outlined in Section 5. The Working Group welcomes your feedback on these suggestions and any other issues you may like to comment on.

In particular, the Working Group would welcome comments on the following:

- What are your thoughts on the rationale behind each suggestion?
- Do you think there are other feasible options that should be considered? (Please comment on the impacts of any further options you suggest.)
- What would be the likely positive and negative impacts on your organisation for each suggestion?

In addition, please provide comment on the following questions:

- What do you consider are the advantages and disadvantages of the status quo, compared with the proposed framework in this paper (keeping in mind any readiness activities or incursion responses you may have been involved with)?
- What other direct and indirect benefits and costs do you see following the proposed joint approach (including any dollar estimates where you can provide them)?
- Can you see any risks and/or implementation issues with the proposed framework that will need to be managed?
- What are your thoughts on the suggested cost share tools in Appendix 7?
 - What further strengths and weaknesses do you see for each option?
 - Which option do you prefer and why?
 - Please comment on the impacts of any further feasible options you suggest.
- What suggestions do you have for how the principles for joint decision-making and resourcing could be applied to other areas within the biosecurity system (refer page 5 and Appendix 4 in this paper) for example, regarding recovery?
- The proposed framework applies to both readiness and response, although the main focus in this paper is on “response”. What issues would need to be considered when applying the proposals for joint decision-making and resourcing to “readiness” activities? How could readiness activities be improved in your industry?
- Overall, how ready and willing would you be to begin pursuing an agreement for joint decision-making and resourcing?
- Are there any other issues you would like to comment on?

Submitters are asked to include the following information in their submissions:

- the title of this discussion paper;
- your name and title;
- your organisation's name (if applicable);
- your address and contact details (e.g. phone, fax and email); and
- the number(s) of the section or suggestion you are commenting on.

6.2 CLOSING DATE FOR SUBMISSIONS

All submissions must be received by MAF Biosecurity New Zealand no later than **5pm** on **Friday 14 December 2007**. Please address submissions to:

Sarah Clinehens or Janet Greenwood
Policy and Risk
MAF Biosecurity New Zealand
Ministry of Agriculture and Forestry
PO Box 2526
WELLINGTON

Email: sarah.clinehens@maf.govt.nz or janet.greenwood@maf.govt.nz
Facsimile: 04 894 0730

6.3 PROCESS FOLLOWING RECEIPT OF SUBMISSIONS

In the next stage in this review, all submissions will be analysed. A document summarising the submissions will be made public and distributed to each submitter.

Government and willing industries may then wish to proceed with the necessary requirements to develop a decision-making and resource-share agreement between primary production industries and Government.

Appendix 1: Definitions

Biosecurity – Biosecurity is defined as the exclusion, eradication or effective management of risks posed by pests and diseases to New Zealand’s people, environment and economy. ‘People’ refers to human health and social/ cultural values (adapted from *The Biosecurity Strategy* 2003).

Contingency plan – A strategic or operational plan for responding to any specific unwanted organism, or class of incursion. Developed through consultation with key organisations and individuals and formally agreed to by the lead biosecurity department, industries directly affected by the organism, and any other parties likely to contribute substantial resources to the response.

Controlled Area – The regulatory status applied to an area specifically for the purposes of imposing movement controls and other restrictions or conditions under subsection (2) of section 131 of the Biosecurity Act 1993, namely to:

- a) enable the limitation of the spread of any pest or unwanted organism; or
- b) minimise the damage caused by any pest or unwanted organism; or
- c) protect any area from the incursion of pests or unwanted organisms; or
- d) facilitate the access of New Zealand products to overseas markets; or
- e) monitor risks associated with the movement of organisms from parts of New Zealand where the pest status is unknown.

Disease – The clinical and/or pathological manifestation of infection (OIE Code 2004).

Exotic – Not established in New Zealand.

Incursion – The occurrence of an organism not previously known to be present in New Zealand, where there is a likelihood that the specimen(s) found is part of a self-sustaining/breeding population. Note that re-invasion of a species that has already been eradicated or controlled is considered a new incursion.

Incursion management – Includes all four components of the biosecurity system: reduction, readiness, response and recovery.

Investigation – The “investigation” phase, the first step in the broader ‘response’ phase, begins when MAF receives a notification of a suspect risk organism, or a change in the behaviour of a known pest, and ends with a recommendation by the investigators as to the most appropriate action to take in respect of that risk organism.

MAF Biosecurity New Zealand – The department within the Ministry of Agriculture and Forestry (MAF) that fulfils the role as lead agency in New Zealand’s biosecurity system and is responsible for administering the Biosecurity Act 1993.

Pest – Organism specified as a pest in a pest management strategy; not necessarily an unwanted organism.

Policy – Concise high level outcome statements that describe what is required of personnel and business processes, but not how these processes will be carried out. Policy sets out the expectations of role holders and stakeholders.

Primary production sector – Comprises the agriculture, horticulture, viticulture, forestry, aquaculture, and fishery industries.

Procedures – A specified way to carry out an activity or a process.

Readiness – Preparedness to manage a biosecurity response including surveillance to detect organisms, contingency planning and capability building.

Recovery – The co-ordinated efforts and processes to effect the immediate, medium and long-term regeneration of a community following an emergency or biosecurity event. Recovery efforts may begin immediately after the impact of the event and work in parallel with the response phase.

Reduction – Pre-border and border activities associated with reducing arrival or chance of establishment of risk organisms which impact on the values we wish to protect. Reduction is primarily an importer and Government responsibility. Industry risk reduction measures can include biosecurity controls at production facilities or farms, and industry protocols from importation of clean product.

Resources – Refers to monetary and non-monetary resources such as personnel, training, expertise, knowledge, money, in-kind services etc.

Response – The actions taken immediately before, during or directly after a risk organism has been confirmed where management of the risks posed by that organism is considered appropriate. (This includes investigation of suspect risk organisms, identification of the pest or disease, containment, and initial assessments of the organism's impacts and response options.) A response may also be initiated where the impacts of the risk organism have increased, or new response options become available, that make a response feasible.

Restricted place – Any place that an inspector or an authorised person has declared to be a restricted place under section 130 of the Biosecurity Act 1993.

Risk organism – An organism either already present in, or new to New Zealand, that poses a potential biosecurity risk.

Stakeholder – Any organisation or individual who may be affected by the impacts of a risk organism or a response undertaken against it. Responsible decision-making requires consideration of the effects on all stakeholders.

Standards – The agreed technical requirements derived from policies. Standards define what is required by a policy (i.e. outcomes), in relation to specific areas. Standards contain greater detail than policies (technical specifications). Response procedures are written to meet the requirements of the standards.

Values – The economic, environmental, health and social/cultural values of New Zealand that are threatened by risk organisms. Under MAF's Statement of Intent, MAF considers the impact of the risk organism or the proposed response options on:

- the sustainable economic growth and prosperity for New Zealanders;
- healthy New Zealanders and a vibrant rural community; and
- maintained and enhanced economic, social and cultural benefits for New Zealanders from the natural environment.

These values overlap to some extent and are seen as contributing to the public good.

Appendix 2: Why a new framework is desirable – MAF

At the moment Government makes the key decisions during incursion responses and funds most readiness and incursion response activities. In MAF's view, this approach is appropriate for responding to pests and diseases that primarily impact on culture, the economy as a whole, the environment, human health, and/or the New Zealand lifestyle.

For incursion responses to pests and diseases that directly impact on industries, MAF views the current approach as undesirable for the following reasons:

- industries are uncertain if and how MAF will respond to incursions that impact on them;
- industries are uncertain about their roles and responsibilities in existing incursion management processes;
- some industries contribute substantially to incursion responses and others very little. This seems to compromise both equity and efficiency; and
- MAF does not always have good access to the expertise and communication channels within industry thus detracting from the effectiveness and efficiency of incursion responses.

These issues are explored below as they relate to MAF's existing and proposed approach to incursion management.

READINESS

Readiness involves preparedness activities to manage a biosecurity response including surveillance to detect organisms, contingency planning and capability building.

Surveillance

Surveillance is vital to detect a pest or disease incursion early enough to enable a cost effective response where eradication is feasible. MAF currently provides targeted surveillance for a variety of pests and diseases. However, MAF lacks the resources to undertake surveillance for every pest and disease of concern to industry and so must decide which surveillance to undertake and to what extent.

The resource contributions from industry vary from industry to industry. For example, MAF fully funds surveillance for fruit fly while industries contribute surveillance funding for chronic wasting disease (CWD) in deer. The current approach therefore delivers varying levels of costs and benefits to different industries. It seems inequitable because the bulk of funding comes from public monies while the surveillance delivers both public and private benefits.

Contingency planning and capability building

MAF also develops contingency plans where industries have had some involvement. Industry contribution helps streamline and inform plan development. For many diseases a range of response options may be available, varying from doing nothing to attempting eradication. Where the disease is of national importance the selection of a response option may be clear-cut (usually based on a cost benefit analysis or where there are health implications); where the disease has mainly industry specific benefits an option that will favour the industry may not necessarily be the option that MAF would select, unless there was pre-agreement on industry contribution.

With industry contribution a specific disease option could be agreed on in advance, and this would allow MAF to make more specific and effective plans for responding to specific pests or diseases.

Furthermore, MAF conducts simulations to test and improve readiness to disease incursions, and industry has been involved in some of these exercises. For example, in 2002 the Poultry Industry Association of New Zealand collaborated with MAF to design and deliver a Newcastle disease response simulation.

It is MAF's view that involving industry to a greater degree in contingency planning, training and simulations could result in better planning and preparedness because of the expertise and communication channels available within industries. This would also increase industries' certainty around how readiness and incursion responses would be undertaken.

RESPONSE

MAF currently funds and conducts the activities involved in the beginning of a response (such as the investigation phase and any necessary containment). On receiving reports of a suspect organism MAF investigates, sends samples to laboratories for identification and diagnosis, seeks expert opinion on likely impacts of the pest or disease and response options, and where necessary takes actions needed to contain the incursion. MAF views the current approach to handling the activities involved in the beginning of a response as appropriate because of MAF's access to powers under the Biosecurity Act and the public good nature of these activities.

Industries have an expectation that Government will conduct and fund actual incursion responses. MAF considers that this expectation acts as a disincentive for industry to contribute resources to a response that they may benefit from. As the decision-maker, MAF sometimes chooses not to respond or responds in ways that industry disagrees with. While industry may be consulted, MAF remains the decision-maker. This creates uncertainty for industry regarding how MAF will react to an incursion.

RECOVERY

There is currently some uncertainty about how recovery should operate. This provides an opportunity for industry and Government to consider how they can best work together to restore the economy and physical and social environment, as fully as practicable, to their original state or to a less vulnerable state.

THE WAY FORWARD

It is MAF's view that the direct beneficiaries of biosecurity services should contribute to the provision of these services. MAF considers that engaging industry in decision-making and resourcing for readiness and incursion responses that directly impact on primary production industries would improve certainty, equity, effectiveness and efficiency.

Improving certainty within industries as to when and how incursion responses would be undertaken would result in a more collaborative and productive relationship between MAF and industry. With better access to the expertise and communication channels within industries, incursion responses could be made more effective and efficient. Furthermore, if industries were committed to bearing some of the costs of an incursion response there would be more incentive to increase their investment in readiness activities, thereby assisting in efficiently minimising biosecurity risks to New Zealand.

Appendix 3: Why a new framework is desirable – Industry

This section of the discussion paper was written by a representative from the Working Group, on behalf of participants from various animal industries.

Primary production is the basis of the New Zealand economy. Agriculture, forestry and horticulture collectively accounts for around 65 percent of New Zealand's total merchandise exports – about 20 percent of New Zealand's gross domestic product.¹²

New Zealand's ability to continue trading internationally in high-quality goods from our primary production sectors depends on many things. None is more important than the competitive advantage achieved through our relative freedom from pests and disease. A single incursion of foot and mouth disease, for example, could see the markets for around 40 percent of our total merchandise exports close overnight. The Reserve Bank and Treasury have estimated such an incursion would cost in the order of \$10 billion – or around 8 percent of gross domestic product over two years.¹³

The impacts of this would be felt by all New Zealanders. Consequently, maintaining a robust biosecurity programme is an important role of Government. Such a programme does not exist simply to protect primary production industries but also the continued health of the New Zealand economy and the social and economic security of all New Zealanders.

KEY PRINCIPLES

Industries view the following principles as critical to the integrity of New Zealand's biosecurity programme:

- a) **Biosecurity is a tool and not an outcome. There needs to be a clear link between the activities being undertaken and the biosecurity risk.** Biosecurity measures need to be directly linked to an identified outcome sought by a specific public or industry group.
- b) **Biosecurity risks are many but resources are finite. The basis on which prioritisation decisions are made must be clear and consistent.** Biosecurity resources must be utilised in accordance with clear and transparent priorities. The principles for prioritisation, allocation of resourcing responsibilities and any subsequent decision-making must be open and based on clearly understood and agreed principles.
- c) **Biosecurity activities should be structured in a way that promotes synergies rather than silos.** Poorly co-ordinated development of organism-specific biosecurity programmes can result in the duplication of activities and/or the loss of opportunities to share resources. Biosecurity activities should be centred on systems that are flexible enough to be applied across a range of organisms and situations, and that have been "tested" for effectiveness against high probability or high impact risks (e.g. BSE).¹⁴ Specific programmes should be developed only where aspects of the flexible systems do not adequately address the particular circumstances of certain high risks.
- d) **Biosecurity activities operate across a continuum and emphasis must be given to early intervention along that continuum.** The potential points at which biosecurity activities can address a biosecurity risk are varied, stretching from pre-border interventions through to pest management activities. Focusing resources on targeting biosecurity risks at an early stage in the continuum will reduce the level of resources ultimately required for surveillance and incursion responses.

¹² Ministry of Agriculture and Forestry (2005) *New Zealand Agriculture, Horticulture and Forestry in Brief*

¹³ *The macroeconomic impacts of a foot-and-mouth disease outbreak: an information paper for Department of the Prime Minister and Cabinet*, prepared by the Reserve Bank of New Zealand and the Treasury (2003)

¹⁴ Bovine spongiform encephalopathy

- e) **Parties affected by biosecurity decision-making must have clearly defined roles and responsibilities commensurate with their stake holding in the decision.** Parties affected by biosecurity decisions (general public, industries, special interest groups) need clarity around their role in the decision-making process. Where an industry can provide either resources or sector-specific expertise to strengthen decision-making, industry should have a formally defined role in decision-making. However, this does not necessarily mean that industry would contribute financially.
- f) **The use of private sector resources must be supported by agreed policies governing the terms upon which those resources are made available before such a course of action could be considered.** Industries need to fully understand the implications of committing resources to response activities – including compensation policies.

APPLYING THE PRINCIPLES TO READINESS AND INCURSION RESPONSE

Industry has expectations around how the principles outlined above should be applied to the readiness and incursion response aspects of a biosecurity programme. These expectations are set out below in relation to the three major phases of surveillance and incursion response – readiness, response and recovery.

READINESS

This phase involves ensuring that New Zealand is in a position to detect and effectively respond to a biosecurity incursion. Key activities include:

- promoting biosecurity awareness;
- developing and implementing surveillance programmes;
- developing and maintaining incursion investigation systems;
- developing and maintaining operational disease response capability (including clarifying decision-making roles);
- agreeing and communicating resourcing and legislative procedures;
- developing trade risk and food safety mitigation capability; and
- preparing for impacts on social welfare, animal welfare and environmental issues.

Many of these activities also relate to the development of a framework for the response and recovery phases, which are detailed below. With regards to readiness, a surveillance system must meet the following objectives:

- early detection of exotic organisms to facilitate effective responses;
- providing a basis for claiming freedom from specific exotic organisms for which trading partners require official assurances;
- detection of changes in population, distribution or impact of naturalised organisms to allow decisions to be made with regard to pest management; and
- effective programme coordination that avoids duplication and inefficiencies.

There are a number of key elements necessary to develop and implement a robust surveillance system that adequately meets these objectives. On a fundamental level, there needs to be clear understanding around why surveillance is being carried out and what will occur if unwanted, damaging or harmful organisms are detected. Surveillance activities must be carried out in a manner appropriate to the organisms of concern and the level of risk they pose.

There must also be clear co-ordination between “finders”, “identifiers” and decision-makers. This would ensure, for example, that any lag between detection of an organism and identification of the organism should not unduly jeopardise response options.

Where surveillance resources are used within other areas of the biosecurity system there needs to be a clearly understood prioritisation process in place to ensure resources are managed effectively. For example, where organism identification skills are shared amongst surveillance (risk not contained) and quarantine (risk contained) activities, priority should be given to the area where the biosecurity risk is greatest.

Finally, the principles that drive decision-making and the roles of decision-makers and industry must be clearly defined.

RESPONSE

Industries expect that Government and industry will enter the response phase with a high degree of certainty over roles, responsibilities and decision-making processes.

- a) **Certainty of process.** Industries require certainty around the basis upon which decisions will be made as to whether a response will take place and, if so, at what level. Industries need to know the decision-making process that will be followed (e.g. consultation), which governing principles will be applied and who will ultimately make decisions. While each incursion has specific factors that must be taken into account, the process of, basis for, and respective roles in, decision-making should remain consistent.
- b) **Certainty around terms of engagement.** Utilising all available resources during a response phase makes good sense in terms of efficiency and effectiveness. While some progress has been made in identifying potentially valuable industry resources, there remain some important issues to be worked through before industry can state with confidence what resources it has, or may be willing to contribute. An example is the uncertainty around what, if any, compensation or other assistance an industry may be able to access. Issues over access to compensation or assistance will greatly impact the future behaviour of people during a response. It is currently unclear what people will be compensated for, what process will be used and who will pay.
- c) **Certainty of responsibility.** All parties potentially involved in an incursion response (e.g. Government, industry, contractors) as decision-makers, funders, or in carrying out operational activities need to know what their role is and what is expected of them.
- d) **Pre-planning.** For some organisms, the risks faced by industry in the event of an incursion are so high and the rapidity of response so critical that certainty of action is needed prior to an incursion taking place (e.g. foot and mouth disease). For these organisms, industries need to know that a response will be mounted, what the response will consist of, and who will undertake each role. This does not mean that a specific response needs to be developed for all organisms identified as requiring this level of certainty. It does require forethought to ensure the overall incursion system can respond as required for these organisms and to ensure that all parties involved are clear what their roles are. All responses need contingency planning at the systems level (at least) by all stakeholders to ensure a timely response.
- e) **Timeliness.** Timeliness of decision-making with regard to whether to respond and how to respond is imperative. The shorter the interval between organism detection and decisions on which actions will be taken, the less chance of the organism becoming more widely distributed. Minimising distribution often maximises the probability of successful eradication and minimises the costs involved. In those instances where Government decides not to undertake a response there is the need to ensure that, should industry wish to undertake a control programme, they are aware of the situation as early as possible to allow them to respond effectively. To promote timely decision-making and notification, industries consider that the costs involved in the beginning of a response (such as the investigation phase and any necessary containment) should be met by the Crown, up until the point that there is adequate certainty the pest or disease is likely to directly impact on industry to an enough to warrant sharing the costs.

RECOVERY

The recovery phase commences from the point of a response occurrence. Recovery activities should include:

- re-establishing domestic and export trade;
- recovering production and the environment;
- minimising social welfare, animal welfare and environmental impacts;
- implementing compensation, cost recovery and resourcing agreements; and
- reviewing the overall response.

This recovery phase is a major gap in the existing biosecurity system and is an area where industry could take a significant role. The livestock production industry's expectation of the recovery phase is that all systems (economic, social and environmental) are returned as fully as practicable to the previous state, or to a new condition that is less vulnerable, as rapidly and effectively as possible.

Appendix 4: Biosecurity system functions

The following table reflects the need for certainty around strategy and tactics for managing incursions, while recognising the need for flexibility in managing operations “on the day”. This is explained further in Section 3.2. The list of functions below is not exhaustive.

Only central Government and industry roles are included; regional and local government roles are not described. It would be MAF’s responsibility to engage with regional and local government on matters relating to incursion management.

Table 1: Examples of biosecurity system functions

Phase	Pre-agreed strategic and tactical functions (greater certainty)	Operational functions decided during a response (greater flexibility)
Reduction	<ul style="list-style-type: none"> • International standards and Government import requirements. • Standards for provision of border services. 	<ul style="list-style-type: none"> • Treatment of individual risk goods.
Readiness	<ul style="list-style-type: none"> • Design and resourcing of targeted and passive surveillance. • Development of generic response framework and clear roles and responsibilities. • Development of contingency plans for a “worst of” list of pests and diseases. • Training programmes. 	<ul style="list-style-type: none"> • De-limiting surveillance as part of an incursion response. • Provision of training programmes and incursion simulations.
Response	<ul style="list-style-type: none"> • Standards and processes for investigations. • Provision of diagnostic and investigative capability. • Respective roles and responsibilities for responses. • Rules around key decision-making. • Provision of response capability. • Mechanisms for providing resourcing and any expenditure caps. • Channels used for communication. • Performance measures. • Eligibility for compensation. • Decision-making around transition to long-term management. 	<ul style="list-style-type: none"> • Actual investigations and budget. • Actual response incursion operations. • Actual response incursion budgets up to a possible fiscal cap. • Actual long-term control options and budgets.
Recovery	<ul style="list-style-type: none"> • Principles of recovery policy. • Channels used for trade risk mitigation. 	<ul style="list-style-type: none"> • Recovery (economic, social and environmental) – provision of support. • Negotiations to restore trade.

Appendix 5: Potential responsibilities for Government and industries

The following table illustrates how Government's and industries' potential responsibilities for biosecurity system functions could be allocated, as discussed in Section 4.1. The list of functions below is not exhaustive.

Table 2: Examples of potential responsibilities for Government and industries

Phase	Potential Government responsibilities	Potential industry responsibilities
Reduction	<ul style="list-style-type: none"> Develop standards and provide controls at the border. Negotiate international agreements. 	<ul style="list-style-type: none"> Review and comment on border standards. Comply with standards.
Readiness	<ul style="list-style-type: none"> Resource and organise provision of surveillance programmes of a public good nature to the extent that Government considers it a priority. Lead and resource communications programme on generic procedures for specific pests and diseases. Maintain and develop incursion management systems and capability (e.g. lead development of generic response policy, contingency plans for specific pests, resource and provide training and simulations). 	<ul style="list-style-type: none"> Resource and organise provision of surveillance programmes of private good nature to the extent that industry considers it a priority. Work with Government to develop generic response policies and processes Work with Government to develop and prioritise contingency plans for specific pests and diseases. Resource and provide training (e.g. to improve biosecurity management on farms, develop support networks, increase biosecurity awareness). Resource and participate in industry simulations. Implement revenue collection mechanisms to be used in actual incursion responses e.g. levies, contingency funds etc. Communicate stakeholder concerns to Government.
Response	<ul style="list-style-type: none"> Resource and provide investigative and diagnostic capability. Investigate possible incursions, contain and identify organism. Decide on next steps. Lead communications. Manage responses resourced by Government and/or industry. Fund responses of a public good nature. Compensate within the provisions of the Biosecurity Act. Mitigate impacts of response on the environment. 	<ul style="list-style-type: none"> Notify MAF if an incursion is detected. Provide technical adviser to liaise with MAF and industry. Provide specialist expertise. Communicate information to farmers and industry stakeholders. Provide industry liaison persons for roles within the response structure. Provide staff and physical resources (e.g. animal handlers, slaughtering and rendering facilities) for the response. Manage aspects of the response. Assist in trace-backs.
Recovery	<ul style="list-style-type: none"> Work to maintain legal access to foreign markets and assist industry to restore consumer confidence. Develop and implement recovery plans to achieve economy wide recovery – e.g. policies to address retention of labour. Provide social welfare support. 	<ul style="list-style-type: none"> Work with foreign customers to restore consumer confidence. Fund specific offshore trade activities. Organise and support rural networks. Provide social support and advocacy for those affected. Develop and implement recovery plans to manage commercial risks.

Appendix 6: Suggested areas for collaboration

The following table outlines areas for collaboration and distinguishes whether these areas need to be pre-agreed (for functions requiring more certainty) or agreed during an incursion response (for functions suited to flexibility). This is explained further in Section 4.1. The areas of collaboration listed below are not exhaustive.

Table 3: Examples of suggested areas for collaboration

Phase	Collaboration on pre-agreed functions	Collaboration on functions agreed during an incursion response
Reduction	<ul style="list-style-type: none"> • Generic commitment from the Government to provide pre-border and border biosecurity services. • Generic commitment from industry to comply with biosecurity standards (industry importation of risk goods contributes to risk at the border) and comment on standards. 	N/A
Readiness	<ul style="list-style-type: none"> • Roles and responsibilities. • Contingency plans and resourcing. • Training programmes and resourcing. • Surveillance programmes and resourcing. 	N/A
Response	<ul style="list-style-type: none"> • Any industry assistance with notification and diagnosis. • Roles and responsibilities. • Decision-making process and rules. • Mechanisms for resourcing. • Any expert advisory arrangements. • Any fiscal caps. • Eligibility for compensation. • Funding of operational costs and compensation. • Responsibility for communications. 	<ul style="list-style-type: none"> • Response plan(s) developed in accordance with any pre-agreed contingency plans. • Resourcing of response plans. • Long-term management plan(s) and resourcing.
Recovery	<ul style="list-style-type: none"> • Whole of Government adverse events policy (limited to signalling principals for recovery). • Eligibility for and funding of recovery. • Industries consider self-insurance. 	<ul style="list-style-type: none"> • Government and industries to consider and provide assistance for recovery.

Appendix 7: Cost share tools

The tools on the following pages offer potential methods for Government and industry to agree to levels of joint resourcing. Three options are presented for determining the industry-Government cost share:

- decision tree;
- summary of exposure approach;
- driver approach.

The three tools are all intended to assess the **magnitude** of impacts of a pest or disease and compare the proportion of impacts on industries and the Government. The Working Group tested the tools by running seven examples of pests and diseases through the tools. A comparison of the results is shown on page 45, along with a consideration of the variation in results.

The Working Group does not have an agreed preferred option, but is interested in what stakeholders consider is the **relatively** best option. The Working Group has presented some strengths and weaknesses of the three tools and encourages further consideration of these. The Working Group would like to know:

- Which option do you prefer and why?
- Would you support rounding percentage cost shares to reduce the potential for disagreement?

Note: under any agreement a default 50/50 cost split would be in place for all pests or diseases until an agreed cost share is determined.

ASSUMPTIONS

In considering tools for apportioning cost share, the Working Group took the following assumptions into account:

- The Government should provide for public goods. Public goods are those that are non-rival and non-excludable, whereby one person's consumption of a good or service does not diminish the benefits of another's consumption, and whereby nobody can be prevented from benefiting from a good or service once it has been provided.
- Incursion responses that avert impacts on public goods (such as a healthy environment, or sustainable societies) are primarily public benefits. Therefore, the Government should bear the proportion of costs that relate to those benefits.
- If benefits from averting economic impacts accrue to one or more industries, these industries should bear the proportion of the cost of any response that relates to averting these impacts.
- If an industry is impacted and this results in a large impact on Gross Domestic Product (GDP) due to the industry's size, some of the benefits of averting such impacts still accrue to the industry and therefore they should contribute (just as would be the case for a small industry, where the impact does not have an effect on GDP).

- The aversion of impacts on the Crown’s fiscal position (for example, reduced tax income) is a public benefit. The Crown should therefore bear the proportion of costs that relate to such impacts.
- If loss of growth in GDP is likely to have any spill over effects due to market reaction (for example, exchange depreciation or loss of investor confidence in New Zealand) then the aversion of these impacts are public benefits. Hereafter, we refer to these as “macro-economic impacts”.
- Where benefits are so diffuse that it is not possible to identify the beneficiaries, the Crown should fund the incursion response (if parties to an agreement decide that a response is warranted). However, if a number of private entities that clearly are benefiting can be identified these entities should contribute to the response.

DESCRIBING THE IMPACTS OF A PEST OR DISEASE

Before cost shares can be determined, it will be necessary to have a comprehensive picture of how the pest or disease might impact on New Zealand. The Working Group considered a “mapping” tool to qualitatively describe the likely impacts of the pest or disease on human health, the environment, society and culture, the macro-economy, and industry.

For the purposes of this discussion paper it was decided not to include this mapping tool, although it did assist in describing the magnitude of the impacts of the six pests and diseases that were trialled. There is scope for such a descriptive tool to be developed further and this must be taken into account when examining the impacts of any pest or disease before the relative cost shares can be determined.

OPTION 1: DECISION TREE

The decision tree is used to categorise the likely adverse impacts that would be prevented if the pest or disease in question was eradicated. The decision tree has discreet categories for Crown and industry contributions. A series of questions guides users of the tool to the appropriate category.

The Working Group developed this tool by modifying one that was designed by Plant Health Australia (2003), to categorise plant pests for the purposes of a decision-making and cost sharing agreement. The tool is intended to enable the parties to determine cost share by deciding on the relative public versus private benefits of pest or disease eradication.

To use the tool

- Work through the decision tree on page 38 and answer each question.
- Follow the yes/no prompts to reach one of the five following cost share categories:

Table 4: Cost share categories

Category	Cost share percentage	
	Public	Private
1: The vast majority of the benefits are public benefits	100	0
2: Much greater public benefits relative to private benefits, but private benefits do exist	75	25
3: Proportion of public to private benefits is roughly equal	50	50
4: Much greater private benefits relative to public benefits, but public benefits do exist	25	75
5: The vast majority of the benefits are private benefits	0	100

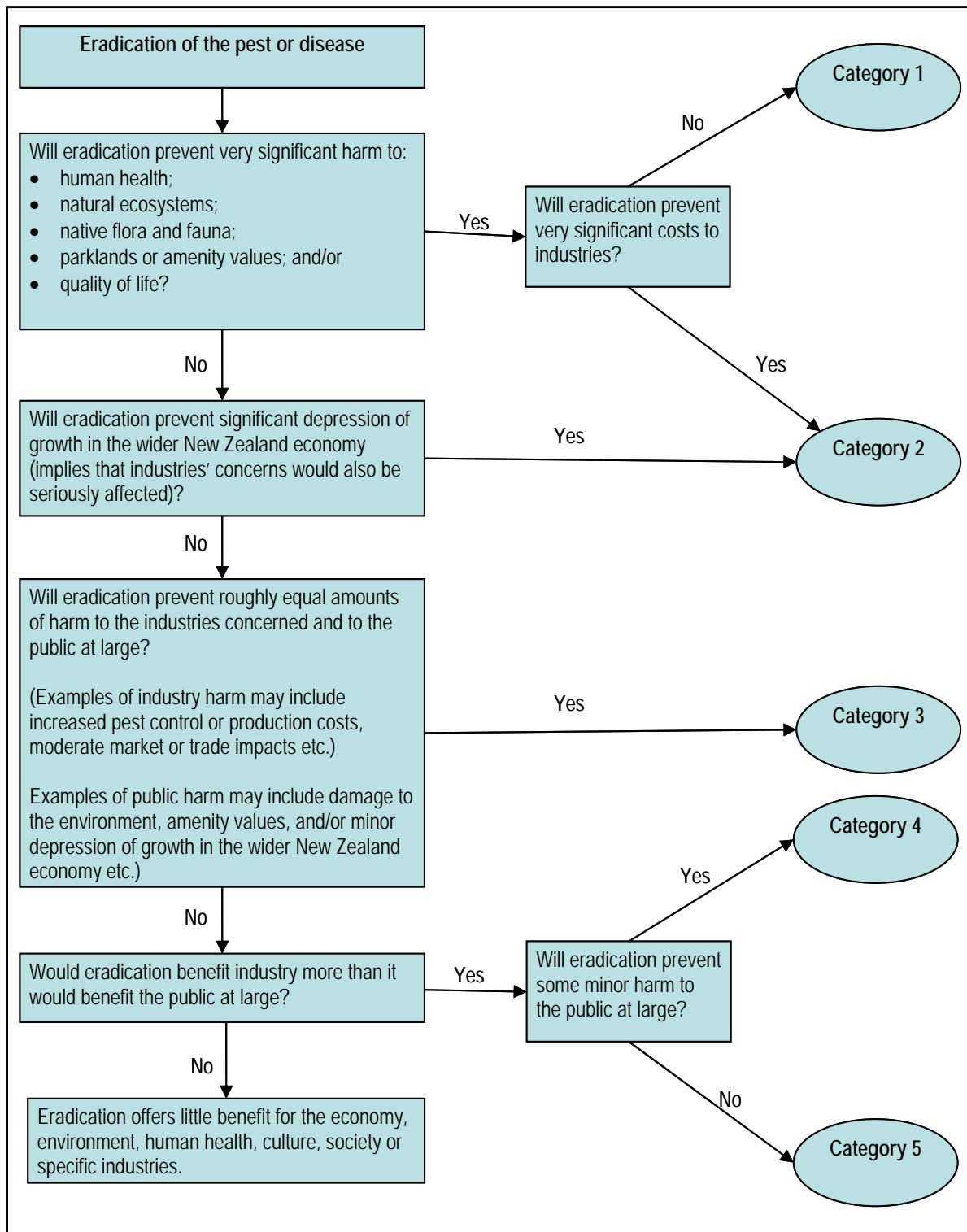
Strengths

- The decision tree is simple to use and understand.
- The decision tree is transparent.
- By using discrete categories, responses with roughly the same proportion of public to private benefits can be treated in a similar manner and with consistency.
- The use of discrete categories may simplify agreement between industry and Government as parties only need to decide what category a response falls in.
- The questions provided by the tree could help guide useful discussions between Government and industry.
- It is notably different from the other tools and in a response could be used in tandem with one of the other two cost share tools.

Weaknesses

- The tool is very prescriptive and in the event of a disagreement, provides little additional information to guide decisions (no individual scores for categories created).
- The decision tree is possibly too linear and simplistic. It does not specifically allow for the inclusion of additional information (such as the testimony of technical experts) that could inform the decision about cost shares. The decision tree may need slightly more detail.
- The categories are quite coarse; moving from one category to another can result in a significant shift in the cost share for any party. The funding consequences may impede agreement on the categories (not enough room for compromise).

Figure 4: The Decision Tree



INTRODUCTION TO OPTIONS 2 AND 3

The next two tools enable parties to describe the impacts that would be averted if eradication of a particular pest or disease was to occur. The averted impacts are placed across the following categories – industry, macro-economic, human health, environmental and socio-cultural and industry. Rather than simply describe the impacts, the tools allow for a measure of how much those impacts would be averted if eradication was to occur and who would benefit from averting these impacts. This allows an appropriate Crown-industry cost share to then be calculated.

The tool itself is shown on pages 43-44. The various levels of magnitude are defined below.

Very significant	Major or extremely severe impacts to industry, macro-economy, environment, human health or society and culture, causing potentially irreversible changes. Impacts usually nation-wide. For example: <ul style="list-style-type: none"> • long-term loss or contraction of financial markets; • widespread collapse or alteration of particular ecosystem types; • irreversible damage to human health; or • communities unable to sustain themselves.
Significant	Important or severe impacts on industry, macro-economy, environment, human health or society and culture. Impacts usually affect more than one region or district. For example: <ul style="list-style-type: none"> • long-term increase in production costs; • loss of some ecosystem services; • widespread human illness resulting in hospitalisation; or • communities less able to carry out valued activities.
Moderate	Medium or intermediate impacts on industry, macro-economy, environment, human health or society and culture. Impacts may affect only one region or district. For example: <ul style="list-style-type: none"> • viability of some producers may be threatened; • damage to ecosystems that could be managed with significant resources; or • some communities require recovery assistance.
Minor	Impacts on industry, macro-economy, environment, human health or society and culture are of little ongoing significance or consequence. For example: <ul style="list-style-type: none"> • localised and potentially reversible environmental damage; or • some people experience moderate health impacts (mental or physical).
Very minor	Impacts on industry, macro-economy, environment, human health or society and culture are localised and reversible in most cases. For example: <ul style="list-style-type: none"> • damage to ecosystems reversible with limited resources; or • minor health implications (mental or physical) for a small number of people.
Negligible	Impacts, if any, on industry, macro-economy, environment, human health or society and culture are so small or very minor as not to be worth considering.

OPTION 2: SUMMARY OF EXPOSURE APPROACH

The total magnitude across the four public categories is added together with the industry impact. The industry cost share percentage is determined by dividing the industry score by the total score.

To use the tool (pages 43-44)

- Select the best description of the impacts averted for each outcome. This description corresponds to an ‘impact score’ on the y axis valued from zero to five.
- Note down the score that corresponds with the description you have selected. For example, under the ‘socio-cultural’ outcome category, the impact “major damage to community structure or function” would receive a score of “5” while “marginal damage to aspects of society” would receive a score of “1”.
- Total *all* the scores (public good scores plus industry score) and note the individual score for the industry.
- Calculate the percentage of industry cost share by inserting your scores into the equation below:

$$\text{Industry_share} = \frac{\text{Industry_impact_score}}{\text{Total_score}}$$

*Variation to consider: The industry category could be sub-divided into the total number of industries impacted on by the pest or disease. If, for example, the organism impacts on the sheep, cattle, and goat industries then three sub-categories would be formed. Or, for example, if the organism impacts on the forestry industry **only** then one industry category would be adequate. If more than one industry would be impacted on by the pest or disease, then the magnitude of impact on each industry could be added together to determine the industry impact. The total public score would be added to the total industry score. The industry cost share percentage would be determined by dividing the total industry score by the sum of all the scores.*

Strengths

- The summary of exposure approach is simple to understand.
- This approach recognises that costs and benefits can accrue in a number of areas and allows for an overall assessment of impacts. It recognises that the various benefits are not mutually exclusive, and nor are the costs.
- The Crown portion is divided into four categories to ensure that decision-makers consider the four main areas of public concern.

Weaknesses

- It may not be justifiable to add the scores for the Crown’s four areas of concern together. This implies that the Crown places equal weight on impacts to the four categories, when in reality this may not be the case. A severe human health impact, for example, may be a stronger driver for action than a severe impact on the environment. One means of addressing this weakness might be to establish weightings for each of the categories.
- It may not be logical to add different magnitudes together. For example, if a pest causes very significant impacts on the economy but marginal for the environment, health and society/culture, does it make sense to add the marginal impacts to the significant impacts?
- This approach is not as transparent as the decision tree. It may be more difficult to reach consensus as the final score will depend on how Government and industry agree to score each category. Industry and the Crown have incentive to debate the scoring of each

category. This could lead to potential inefficiency and ineffectiveness of the tool (although the risk of disagreement could be true for any cost share tool).

- The descriptive terms such as “major” and “minor” are open to interpretation, so there could be questions around what constitutes an ‘expert’ and how they interpret and communicate the impacts.
- Cost shares could be complicated when there are multiple industries potentially benefiting from eradication.

OPTION 3: DRIVER APPROACH

The highest ranking score for the public good categories is used to determine cost share, along with the industry score.

To use the tool (pages 43-44)

- Select the best description of the impacts averted for each outcome. This description corresponds to an ‘impact score’ on the y axis valued from zero to five.
- Note down the score that corresponds with the description you have selected. For example, under the “socio-cultural” outcome category, the impact “major damage to community structure or function” would receive a score of “5” while “marginal damage to aspects of society” would receive a score of “1”.
- Total the industry score and the *highest* public score; note the individual score for the industry outcome.
- Calculate the percentage of industry cost share by inserting your scores into the equation below:

$$\text{Industry_share} = \frac{\text{Industry_score}}{\text{Industry_score} + \text{Highest_public_score}}$$

Variation to consider: As explained in the variation for the “summary of exposure approach”, the industry category could be sub-divided into the total number of industries impacted on by the pest or disease. Then the driver approach would be applied to the multiple industry scores. The highest ranking score from the industry sub-categories would be selected and used in the cost share equation.

Strengths

- Debate around impacts is centred on one key area.
- By using the highest ranking score (rather than a total), the Crown is able to more accurately represent its driving concern (an economic, environmental, human health or social cultural impact) that prompts it to take action.
- This approach would work regardless of the number of categories for industry and Crown.
- There is less potential for disagreement over how each category has been scored, instead the category that would be most impacted will most likely be the focus of discussion and debate.
- The model is simple to use and understand.

Weaknesses

- Agreement would need to be reached on the rationale behind the scores given within each category, although this would be the case for any cost share tool.
- Industry may consider that the cost share result does not capture the full scope of Crown responsibilities.

Table 5: Assessment of impacts that would be averted if eradication was achieved

Impact score	Industry impacts prevented	Macro-economic impacts prevented	Environment impacts prevented	Human health impacts prevented	Socio-cultural impacts prevented
5 Very significant	Major financial impacts. e.g. long-term loss or contraction of markets, increased production costs, costs for industry to recover and/or maintain production are at a high enough level to seriously jeopardise the ability of the industry to continue.	Major depression of growth in the wider New Zealand economy. e.g. great enough to prompt a macro-economic policy response such as the Reserve Bank lowering interest rates.	Major environmental damage. e.g. widespread collapse or alteration of particular ecosystem type/s, which results in endangering plant and animal communities, and/or major loss of ecosystem services (e.g. waste decomposition, seed dispersal, pollination, nutrient cycling including carbon sequestration, erosion protection water purification, flood mitigation etc.)	Major impacts on human health. e.g. pathogens, parasites or biting, stinging, or poisonous organisms that can cause death or irreversible damage to physical or mental health.	Major damage to valued aspects of society and culture in wider New Zealand. e.g. communities cannot sustain themselves; people cannot carry out activities that define who they are; iconic species endangered; wide range of non-indigenous species with amenity value are endangered; major harm to animal welfare on a wide scale etc.
4 Significant	Significant financial impacts. e.g. long-term increase in production costs that would threaten viability of many producers; dealing with pest disease requires major change in how production is managed; most producers would need help to recover.	Significant depression of growth in the wider New Zealand economy.	Significant environmental damage. e.g. alteration of ecosystem level processes that could threaten individual native plant and animal species and/or introduced species with goods and services values; loss of some ecosystem services	Significant impacts on human physical or mental health. e.g. Pathogen, parasite or biting, stinging, or poisonous organism causes illness or impairment that is likely to require admission to hospital and likely to affect many people.	Significant damage to valued aspects of society and culture. e.g. impairment of communities' ability to sustain themselves, carry out activities that define who they are; iconic species threatened; non-indigenous amenity species threatened; significant harm to animal welfare on a wide scale.

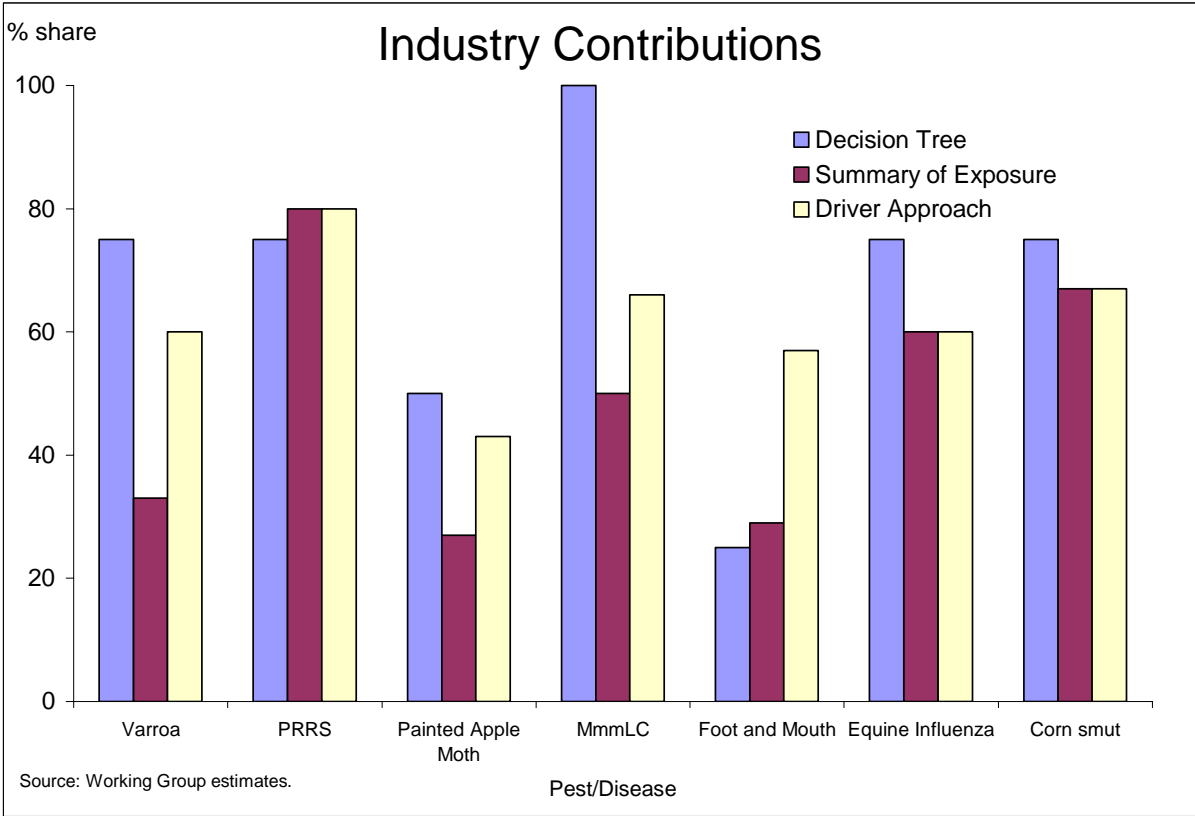
3	<p>Noticeable financial impacts.</p> <p>e.g. increased production costs that could threaten viability of a few producers; production management changes could be undertaken fairly easily; some producers would need help to recover.</p>	<p>Noticeable depression of growth in the wider New Zealand economy.</p>	<p>Noticeable environmental damage.</p> <p>e.g. changes in ecosystem structure and species interactions that could be managed with significant effort/resources.</p>	<p>Noticeable impacts on human physical or mental health.</p> <p>e.g. some degree of discomfort or pain experienced by many people; symptoms of post-traumatic stress experienced at levels requiring professional help. Could be mitigated with significant effort/ investment.</p>	<p>Noticeable damage to valued aspects of society and culture.</p> <p>e.g. portions of communities require recovery assistance, some activities that define identity must be modified; single non-indigenous amenity species threatened but damage can be managed with significant effort/resources; localised harm to animal welfare etc.</p>
2	<p>Minor financial impacts.</p> <p>e.g. increased production costs, changes required to management would threaten very few producers; mitigation could be undertaken by individuals but wouldn't need to be co-ordinated.</p>	<p>Minor depression of growth in the wider New Zealand economy.</p>	<p>Minor environmental damage.</p> <p>e.g. localised damage or damage that could be managed with moderate effort/resources.</p>	<p>Minor impacts on human physical or mental health.</p> <p>e.g. discomfort/pain/irritation experienced by few to moderate numbers of people; some people may choose to mitigate or avoid; some people experience levels of stress that threaten their mental well-being.</p>	<p>Minor damage to valued aspects of society and culture.</p>
1	<p>Very minor financial impacts.</p>	<p>Very minor depression of growth in the wider New Zealand economy.</p>	<p>Very minor environmental damage.</p> <p>e.g. localised impacts that are not great enough to threaten existing ecosystems, and management is unlikely to be needed.</p>	<p>Very minor impacts on human physical or mental health.</p> <p>e.g. irritation/discomfort likely for small numbers of people.</p>	<p>Very minor damage to valued aspects of society and culture.</p>
0	<p>Negligible or no economic impacts.</p>	<p>Negligible or no macro-economic impact.</p>	<p>Negligible environmental impact.</p> <p>e.g. ecosystems apparently unaltered except for the addition of the non-indigenous species.</p>	<p>Negligible impact on human physical or mental health.</p> <p>No known human health significance.</p>	<p>Negligible impacts on society and culture.</p>
Score					

COMPARISON OF TOOLS

The following graph gives an overview of the industry contribution likely from the different cost sharing tools for seven hypothetical examples. The balance of the percentage share would be met by the Crown if an agreement was in place.

Note that these are not definitive results. **The results were calculated by some members of the Working Group for the purpose of testing the cost share tools only.**

Figure 5: Hypothetical comparison of industry contributions for each cost sharing tool



For most of these examples the decision tree tended to give a higher industry cost share than the other tools. This is likely due to the more prescriptive nature of the decision tree and its discrete cost share categories. In most cases, however, the decision tree results were comparable to those under the “driver” approach.

The “driver” and “summary of exposure” approaches gave similar scores for most responses except for foot and mouth and varroa. These differences recognise the Crown and industry’s driving concerns, but may also be partially corrected if a larger economic impact on the economy is allowed for foot and mouth than was given in the hypothetical scoring.

It would be nearly impossible to come up with a tool that could provide accurate results for the wide range of known and unknown pests and diseases. There is a great deal of uncertainty that comes with describing the impacts of various pests and diseases. The way in which parties resolve differences and agree on magnitudes is as important as the tool itself. It comes down to answering the question “how concerned is each party if nothing is done”.

WHEN MORE THAN ONE INDUSTRY IS IMPACTED

The Working Group considered how costs might be shared among industries in cases where the response (or potentially readiness activity) for a pest or disease benefits more than one industry. While the Working Group agrees that industries are best placed to determine this themselves, an economic weighting approach could be considered. One way of doing this is set out below.

Australia has an Emergency Animal Disease Response Agreement (EADRA) that establishes Government/industry cost share procedures. This agreement aims for equitable contributions from all parties commensurate with their respective resource bases. Industry shares are capped, and linked to the cost share category (e.g. 25 percent Government, 75 percent industry cost split etc.) of the disease.

The EADRA states that in the case of a disease affecting only one species, that industry alone bears the industry proportion of costs to be shared. However, diseases will often affect more than one species. In this case, the contributions from the affected industry parties take into account both the industries' respective gross values of production (GVP) and the importance of the particular disease for that industry. The latter is achieved by the use of an agreed weighting. For example, in the case of foot and mouth disease the weighting is 50 percent cattle, 30 percent sheep/goats and 20 percent pigs. Where more than one industry represents an animal species (such as with cattle – beef and dairy), they have agreed to share costs taking account of the GVP of each sector.

Appendix 8: Hypothetical scenario

Responding to an outbreak of Newcastle disease under a Government-industry agreement

SCENE SETTING AND ASSUMPTIONS

This hypothetical scenario illustrates how a Government-industry agreement might work in practice for an incursion response. The scenario is not intended to forecast exactly how Government and industries would work together, but rather to give a flavour for how collaboration might unfold. Further work would be needed to determine precisely how joint decision-making and resourcing could best work.

For the purposes of this scenario the Poultry Industry Association of New Zealand (PIANZ) is assumed to be part of a joint decision-making and resourcing agreement between MAF and the animal sector for responding to incursions of any exotic organisms that directly impact on industries.

This agreement has specific response plans for Newcastle disease and avian influenza because these diseases are potentially catastrophic and likely to affect all bird life. There is a strong poultry industry and conservation interest in eradicating Newcastle disease. Consequently, the agreement provides for 50/50 cost sharing between Government and affected industries.

SITUATION

A veterinarian has reported a suspected outbreak of Newcastle disease on a free range poultry farm south of Auckland.

SUCCEEDING SEQUENCE OF EVENTS

The following hypothetical sequence of events describes the interaction between the MAF National Response Centre and industry under the joint agreement:

Day One

- When the trigger point for activating the response is reached (e.g. strong suspicion of a case of Newcastle disease) MAF immediately executes its contingency plan for an event of this nature. This involves:
 - declaring the infected farm a Restricted Place;
 - collecting samples for further testing to confirm diagnosis;
 - preparing a Controlled Area Notice; and
 - undertaking a trace-back of all poultry in contact with the infected farm.
- MAF informs the chairperson on the Decision-Making Committee (DMC) that there appears to be an exotic organism incursion affecting poultry (refer to section 4.2 for discussion of the possible roles of the DMC).
- The DMC chairperson schedules a teleconference meeting for as soon as possible with DMC members who would be active in this response: PIANZ and Federated Farmers, a representative from a neutral industry, and a MAF representative.
- PIANZ alerts experts within their organisation that they may soon be needed to work alongside MAF on a Response Committee (refer to section 4.2 for discussion of the possible roles of the response committee).

Day Two

- In accordance with the agreed response policy, MAF carries out the following steps:
 - maintains the infected farm as a Restricted Place under the Biosecurity Act;

- declares a Controlled Area and prohibits movement in that area, except to slaughter;
- depopulates infected flocks; and
- continues the trace-back of all poultry in contact with the infected farm.
- The DMC meets by teleconference and decides by consensus to activate the joint Government-industry agreement contingent on confirmation of the Newcastle disease diagnosis.
- MAF prepares an incident action plan and draft budget consistent with the contingency plan for Newcastle Disease.
- MAF schedules a meeting of the Response Committee for the next day.

Day Three

- MAF continues the trace-back and enforces the Controlled Area.
- The Response Committee reviews the incident action plan, agrees on any needed changes and decides to recommend that the DMC endorse the action plan and budget.
- MAF receives test results confirming that the disease is Newcastle disease.

Day Four

- The DMC meets for a second time by teleconference and decides to endorse the draft incident action plan and budget.
- MAF continues the response in accordance with the plan. This entails tracing and destroying all poultry in contact with the infected place.

Day Five and beyond

- All poultry on farms that have had contact with the infected flock are destroyed (including trace forward and trace back). Carcasses and all animal products are incinerated or composted.
- The infected farm and neighbouring properties are cleansed and disinfected.
- If significant changes are needed to the incident action plan and budget the Response Committee makes a recommendation to the DMC. The DMC must then approve or reject the changes.
- Twenty-one days after cleaning and disinfecting, and in the absence of further outbreaks of the disease, the affected properties are allowed to restock with poultry and are assisted by compensation and by recovery efforts.
- The direct, additional costs spent on the incursion response are defined (e.g. fees for contractors who assisted directly with the response). The poultry industry is liable for fifty percent of those costs. Consequently the levy rate (in the levy order under section 137 of the Biosecurity Act) is raised from zero to cover the costs of the incursion. Note that as part of the agreement industries' financial liability cannot exceed one percent of the gross value at farm gate of eggs or meat sold.

Appendix 9: International approaches

The Working Group considered how other countries conduct decision-making and resourcing for incursions that directly impact on industry. Information was gathered about incursion management systems in Canada, the United Kingdom, the United States and Australia. While economic, physical, and social conditions vary, there can be value gained from learning how other countries have structured the relationship between Government and industries within their incursion management systems.

In Canada, the United Kingdom and the United States, government is the decision-maker for incursion responses. Decisions about if and how to respond to incursions appear to be made on a case-by-case basis with a political process of negotiation and compromise between value judgments and opposing groups. Where an industry is included in decision-making through a formal partnership arrangement, decision-making by consensus is the norm. Where there is no formal partnership between the interested parties, decision-making by majority or dominant influence is more common.

Governments and industries in the United Kingdom and the European Union are discussing joint decision-making and cost sharing for incursion responses. The United States has considered such arrangements but it appears that initiatives have not progressed further.

Of the countries reviewed, only Australia has a formal partnership at a national level between industries and Government for the incursion management system. Federal, State, and Territorial Government and industries are parties to agreements for decision-making and resourcing for incursion responses. For the animal sector, the Emergency Animal Disease Response Agreement has been in place since 2001. Plant industries, State and Federal Government signed a similar agreement in 2005 for the plant sector.

The purpose of these agreements is to:

- reduce the risk of incursions occurring;
- improve readiness activities;
- enable joint decision-making during an incursion response; and
- share the costs of responses among Government and those industries who benefit from the response.

Under the agreements joint decision-making occurs through a consultative committee and a decision-making committee. Both make decisions by consensus. When an incursion occurs the decision-making committee decides whether or not to activate the agreement. The committee also approves response plans and budgets. Committee members are advised by experts from their respective organisations. These experts form a consultative committee and provide advice about the response plan to the biosecurity agency leading the incursion response.

Under Australia's approach, committing to provide a share of the costs is a prerequisite for signing an agreement, thus decision-making rights are linked to cost sharing. Direct and additional costs incurred during a response are shared by those industries impacted on by the pest or disease and by Government.

Appendix 10: Examples of compensation

Unless alternate compensation provisions are specified in an agreement, the following two examples illustrate how compensation could work under the current legal provisions (refer section 162A of the Biosecurity Act 1993). General information on compensation can be found on MAF Biosecurity New Zealand's website at:

<http://www.biosecurity.govt.nz/strategy-and-consultation/strategy/compensation.htm>

There are currently two controlled areas declared under the Biosecurity Act that have resulted in multiple compensation claims:

- the controlled area for varroa in the north of the South Island; and
- the controlled area for the Red Imported Fire Ant (RIFA) in the Hawkes Bay.

Table 6: Examples of compensation payments under section 162A of the Biosecurity Act

Organism managed	Financial year	Compensation (GST excl.)	Direct and additional costs to MAF (GST excl.)
Red imported fire ant *	2006/07	\$24,807	\$3,652,155
Nelson varroa **	2006/07	\$225,000	\$3,731,000

* Figures include actual costs from July 2006 to the end of April 2007.

** Figures include actual and forecasted compensation and total MAF costs to the end of the 2006/07 financial year. As at 5 May 2007, the actual compensation payments totalled \$123,492.

All compensation paid out has been as a result of powers exercised under the Biosecurity Act for the purpose of management or eradication of an organism. Those powers have either caused verifiable loss due to damage or destruction of a person's property and/or imposed restrictions on the movement or disposal of a person's goods. It is important however, to consider that each compensation claim must be judged on its merits as there will be different circumstances surrounding each claim.

South Island Varroa Controlled Area¹⁵

For beekeepers directly affected by the varroa controlled area in the South Island, MAF has provided compensation to cover:

- the costs of materials and assembly for new hives, where hives have been new or in near new condition and it has been unlikely that second hand hives of a similar condition can be found;
- the costs of mitigating future losses (for example, additional advertising to attract new buyers of queen bees and any additional feeding costs);
- the cost of additional feeding where MAF inspections resulted in hives being exposed to adverse conditions and requiring additional attention (these costs include additional labour, sugar and vehicle costs);
- costs where the beekeepers are also orchardists and the lack of pollination available due to the removal and/or damage of the beehives has led to verifiable losses. MAF has not, however, compensated orchardists who are not beekeepers and who contract pollination services from beekeepers.

It has been difficult to determine the appropriate level of compensation in some cases. MAF has given serious consideration to claims that attempt to find a reasonable solution. For

¹⁵ For general information on varroa and the controlled area that is in place, refer <http://www.biosecurity.govt.nz/pests-diseases/animals/varroa.htm#1>

example, where second hand hives of a similar nature are not available MAF has considered paying a portion of the costs of new hives. MAF will consider all costs involved in the new hives (materials, labour, transport and restocking) and use Inland Revenue depreciation rates as a guide to the appropriateness of any compensation offer. Where replacement second hand hives have not been locally available, MAF has compensated the vehicle and labour costs of transporting the hives from outside the area.

MAF has also made ex gratia payments where statutory powers have not been used. Payments have been made where:

- claimants have acted in MAF's interest, or under the supervision or advice of MAF;
- claimants have acted voluntarily;
- claimants have suffered some detriment by acting in MAF's interest; and
- the claims are in line with the principles of the Biosecurity Act, i.e. the claimant suffered a verifiable loss and did not breach the Biosecurity Act in any way.

The following features relate to the actual compensation payments:

- interest has been paid to claimants where it has taken longer than eight weeks to consider their claim. This interest was based on the best savings rate available from their bank or the interest rate on any borrowings they have had to undertake due to the time taken to process their claim;
- claimants have been able to settle one claim for part of their losses and continue with subsequent claims for different losses;
- in cases where MAF believe that claims, or parts of claims, have been under-claimed then it has offered, and paid out, higher amounts than were sought. Where claims were based on information that has subsequently become out of date (for example price lists) MAF has based offers of compensation on the up to date information;
- where claimants have experienced significant cash flow problems, MAF has made interim payments to claimants while their claim continues to be processed. These interim payments were based on a percentage of the value calculated from the initial assessment of the claim;
- MAF has accepted increased claims where the costs of mitigation actions by a claimant have increased due to the importance to the claimant of maintaining the organic status of their honey production.

Given the technical nature of a number of these claims, MAF has used an independent agribusiness consultant with extensive knowledge on the beekeeping business to assess the claims. For some, this has involved meetings with the claimants to discuss the details of their claim both before and after the claim has been lodged.

Red Imported Fire Ant (RIFA) in the Hawkes Bay

The following link provides general information on RIFA and the controlled area that is currently in place in the Hawkes Bay: <http://www.biosecurity.govt.nz/pest-and-disease-response/pests-and-diseases-watchlist/red-imported-fire-ant>

The main difference in compensation claims between varroa and RIFA lies in the degree of involvement that claimants have had from the outset of the incursion response. In the case of RIFA, MAF has worked with the affected parties to minimise any losses. Claimants have generally worked with AgriQuality staff in the Hawkes Bay to agree to plans that meet the requirements of the controlled area. With AgriQuality liaising with MAF to ensure the plans are appropriate, potential claimants can have greater certainty about compensation.

Appendix 11: Examples of costs involved in incursion responses

This section provides examples of recent incursions that MAF has responded to, and gives some idea of the possible scale of funding involved in a response. The examples are indicative of the costs that could be covered in an agreement. It would be very difficult however to predict what a future response may cost and the Working Group is not attempting to do that in this paper.

Table 7: Summary of recent biosecurity incursion responses

Year	Animal	Environment	Marine	Plant	Total
2002	0	4	3	30	37
2003	8	3	5	40	55
2004	8	8	4	28	46
2005	6	3	0	23	30
2006	1	6	6	38	51
2007	0	1	1	1	4
Total	23 (3)	25 (5)	19 (3)	160 (11)	227 (22)

Date range = 1 March 2002 – 28 February 2007

(Brackets) = number of responses costing more than \$20,000 (excluding GST)

Incursion responses within the 'Environment' column relate to organisms that live on land or in fresh water, the establishment of which would primarily impact core environmental, social or cultural values. This does not include pests or diseases whose primary impacts are on productive sectors e.g. farming, horticulture, or that live in the marine environment.

As the above table illustrates, MAF has handled 227 new organisms that have been detected and validated as being present within New Zealand between the dates of 1 March 2002 to 28 February 2007. Of these, only 22 responses involved direct and additional costs to the Crown of over \$20,000 (excluding GST). This does not include internal staff time, costs incurred by other organisations involved, or compensation costs.

The following table shows the estimated direct and additional costs of some of the more significant incursions that MAF has responded to since 1996. While the response to corn smut cost substantially less than the other responses listed, it was used as an example in Appendix 7 and so has been included here for consistency.

Table 8: Examples of significant biosecurity incursion responses in New Zealand

Incursion response	Year	Estimated direct and additional costs to Crown (GST excl.)
White-spotted tussock moth	1996	\$12.400 million
Painted apple moth	1999	\$65.000 million
Varroa bee mite	2000	\$10.000 million
Red imported fire ant	2001	\$2.600 million
Fall webworm moth	2003	\$7.850 million
Asian gypsy moth	2003/04 – 2005/06	\$5.400 million
Corn smut *	2005/06 – 2006/07	\$128,070
Operation Waiheke	2004/05 – 2005/06	\$2.000 million
<i>Didymosphenia</i> freshwater alga	2004 – ongoing	\$5.337 million (to date)
Sea squirt marine fouling pest	2005 – ongoing	\$3.033 million (to date)
Nelson varroa *	2005 – ongoing	\$4.380 million (to date)

* Includes actual and forecasted costs.