

Issues Paper

September 2001



Developing a Biosecurity Strategy for New Zealand

Te Waihanga Rautaki Marukoiora mō Aotearoa

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Disclaimer

This paper is a compilation and summary of issues identified, described and commented upon by biosecurity stakeholders during the first phase of the development of a Biosecurity Strategy for New Zealand. None of the statements made in the paper represent the views of, or positions taken by, the Biosecurity Strategy Development Team, the Biosecurity Council, or the Government.

BIOSECURITY STRATEGY FOR NEW ZEALAND

ISSUES PAPER

A public consultation paper

Biosecurity Strategy Development Team

September 2001

Foreword

From a biological point of view Aotearoa New Zealand has a lot to protect. Much of our way of life, both in work and in leisure, is heavily influenced by our natural land and marine environments. Most of our native plants, animals and birds are unique in the world and have a special place in the way we define ourselves as a nation. However, our primary industries, including tourism, and our way of life, which are so dependent on the health of our oceans, coastlines, pastoral lands, forests and wilderness areas, are extremely vulnerable to harmful pests and diseases.

We cannot afford to be complacent. In spite of stringent existing controls, new potentially damaging organisms are frequently found here. Our natural environment has developed in relative isolation from the rest of the world, and is vulnerable to invasive species. Our people and communities are susceptible to poisonous and disease-carrying animals and insects. We have all observed the devastating effects of foot-and-mouth disease on Britain's agriculture and tourism industries. If we are to avoid similar tragedies in New Zealand, we must protect ourselves against new biosecurity risks, and manage those risks that are already present. This means planning carefully, increasing awareness, and achieving a strong commitment from everyone in the community.

Successive governments have recognised the importance of biosecurity to New Zealand, and New Zealand's biosecurity programme has been progressively strengthened in response to new risks. The programme is now complex and resource intensive, involving a range of central government agencies, regional councils, industry organisations, and sector groups. We need to ensure that processes for managing this complexity, and for transparently dealing with the trade-off between risk and benefit, meet the needs of our society. It is timely that we review the biosecurity programme, and agree some clear objectives and targets for the future.

The Minister for Biosecurity, the Hon Jim Sutton, has asked the Biosecurity Council to co-ordinate the development of a Biosecurity Strategy for New Zealand by December 2002. The Biosecurity Council is the Minister's advisory body, and brings together representatives from both government and non-government sectors with biosecurity interests. A small strategy development team has been appointed to manage the project.

This *Issues Paper* sets out issues that we all need to consider as our national biosecurity strategy is developed. Its release marks the first major step in the strategy development process, and I strongly encourage you to participate in the public consultation process that is about to commence. There will be public meetings in your area during October, November and December 2001, and written submissions are invited by 31 December.

I thank warmly those government, industry and sector organisations that contributed to the development of this paper. Your early enthusiasm for the project gives me confidence that we can produce a Biosecurity Strategy that will guide and direct New Zealand's biosecurity programmes well into the 21st century.



John Hellström

Chair, Biosecurity Council

Summary

Introduction

The Minister for Biosecurity, the Hon Jim Sutton, has asked the Biosecurity Council to co-ordinate the development of a Biosecurity Strategy for New Zealand by December 2002.

A small strategy development team has been appointed to manage the project. This *Issues Paper* has been prepared by the strategy development team from issues identified by a wide range of stakeholders. The paper will serve as the basis for early consultation with stakeholders and the community on biosecurity strategy matters.

What is biosecurity?

Biosecurity is the protection of New Zealand's economy, environment and people's health from the risks posed by pests and diseases. It includes trying to prevent new pests and diseases from arriving, and eradicating and controlling those pests and diseases that are already present. A definition of biosecurity will be agreed as part of the strategy development process.

Why we need a biosecurity strategy

New Zealand has managed biosecurity risks for many decades. However, liberalisation in the international trading environment, the increasing number of people travelling between countries, and changing environmental and climatic conditions are placing greater pressure on our biosecurity systems. Biosecurity in New Zealand has traditionally focussed on the protection of our land-based primary production systems, and the facilitation of our international trade in primary products. These functions remain vitally important to New Zealand's economic wellbeing. Over recent years, however, there has been a greater recognition of the specific importance of biosecurity to the environment and to human health. Attempts are being made to expand biosecurity programmes to include also the protection of human health, and indigenous land, freshwater and marine ecosystems.

Recent incursions such as southern saltmarsh mosquito, varroa bee mite, painted apple moth, and red imported fire ant indicate that our border systems are under pressure. Behind the border, biosecurity surveillance systems are struggling to keep pace with the volume of new incursions, and resource managers are being called upon to eradicate or manage an ever-increasing number of harmful organisms.

What a biosecurity strategy will do

The Biosecurity Strategy will set an overall strategic direction for biosecurity in New Zealand, and identify general areas of priority. It will be developed with a clear focus on the future, and will take account of environmental, primary production, public health, science, and trade and travel sector interests, as well as Treaty of Waitangi obligations. It will identify the values that we want to protect as a society, and address both the complexity of decision making for biosecurity and how to

deal with the inevitable trade-offs between risk and benefit. It will apply to terrestrial, marine, and freshwater environments. It will link where appropriate with the recently released biodiversity strategy and the concurrent reviews of New Zealand's oceans policies and border management arrangements, all of which have biosecurity components. Once completed, the strategy will provide guidance to all involved in biosecurity as well as raising general biosecurity awareness.

The purpose and nature of this Issues Paper

This *Issues Paper* provides the basis for nation-wide consultation with stakeholders and the community on the issues that must be considered as New Zealand's Biosecurity Strategy is developed. It summarises and integrates approximately 400 issues identified to the strategy development team by a range of biosecurity stakeholders in sector organisations, interest groups, regional councils and government agencies. As such, none of the statements made in the *Issues Paper* should be interpreted as representing the views of the strategy development team, or of the Biosecurity Council. Although the team has tried to include sufficient information about each issue to make it understandable, it cannot claim that the information provided is comprehensive.

The *Issues Paper* does not include proposals for the future. That will be the purpose of a draft Biosecurity Strategy, which will be prepared at the next stage of the process.

Presentation of issues

Issues identified by stakeholders cover the full breadth of the biosecurity programme. Some issues are strategic, and focus on the objectives, principles and policies that underpin New Zealand's biosecurity effort. Others concentrate on biosecurity systems, and the operational practices of biosecurity agencies. Many issues overarch all aspects of biosecurity, whilst others are directed at specific activities. More issues will no doubt be identified during the next phases of strategy development.

All issues identified are considered by the biosecurity strategy development team to be important, and have been included in this paper. The team has attempted to assemble issues in a way that will assist readers to form views and participate meaningfully in public consultation. It has also tried to present issues in an impartial and balanced way, retaining the diversity of viewpoints put forward.

Issues are presented under the following broad headings:

- Section 1 – Strategic directions and objectives.
- Section 2 – Biosecurity principles and policies.
- Section 3 – Biosecurity systems and procedures.
- Section 4 – Biosecurity operations.

In each section a series of questions is posed. These questions are not comprehensive, nor are they intended to be limiting. Rather, they are provided to stimulate thought and discussion, assist interested parties with the preparation of written submissions, and provide a means for converting a set of biosecurity issues into a long-term biosecurity strategy.

Consultation on the Issues Paper

Consultation on the *Issues Paper* will feature a nation-wide series of workshops and public meetings during October, November and December 2001. The strategy development team is also inviting your written submissions by 31 December 2001. The consultation process has been designed to provide a wide range of New Zealanders with an opportunity to discuss biosecurity questions and problems and, more importantly, to begin developing answers and possible solutions for the future.

Next steps

The outcomes of consultation on the *Issues Paper*, including the information provided in written submissions, will assist the biosecurity strategy development team to prepare a draft Biosecurity Strategy for a second round of nation-wide public consultation during May to July 2002. A final Biosecurity Strategy will be presented to the Cabinet for approval about October 2002, and the approved strategy will be implemented from 2003 forward.

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Part I

Introduction

THE PURPOSE OF THE ISSUES PAPER

All New Zealanders have a part to play in maintaining New Zealand's biosecurity. It is therefore important that everyone has an opportunity to participate in, and contribute to, the development of goals and objectives for our biosecurity programmes. This *Issues Paper* provides the basis for early consultation with stakeholders and the community on the development of a Biosecurity Strategy for New Zealand. The *Issues Paper* will be distributed widely in a published form, and posted on the biosecurity strategy website – www.biostrategy.govt.nz.

Your views are important. Consultation on the *Issues Paper* will feature a nation-wide series of workshops and public meetings during October, November and December 2001. The strategy development team is also inviting your written submissions by 31 December 2001. The consultation process has been designed to provide a wide range of New Zealanders with an opportunity to discuss biosecurity questions and problems and, more importantly, to begin developing answers and possible solutions for the future.

The outcomes of consultation on the *Issues Paper*, including the information provided in written submissions, will assist the biosecurity strategy development team to prepare a draft Biosecurity Strategy for a second round of nation-wide public consultation during May to July 2002. A final Biosecurity Strategy will be presented to the Cabinet for approval about October 2002, and the approved strategy will be implemented from 2003 forward.

THE NATURE OF THE ISSUES PAPER

The issues contained in this *Issues Paper* are a compilation and summary of approximately 400 issues identified to the strategy development team by a range of biosecurity stakeholders in sector organisations, interest groups, regional councils and government agencies. As such, none of the statements made in the *Issues Paper* should be interpreted as representing the views of the team, or of the Biosecurity Council. Although the team has tried to include sufficient information about each issue to make it understandable, it cannot claim that the information provided is comprehensive.

The *Issues Paper* does not include proposals for the future. That will be the purpose of the draft Biosecurity Strategy, which will be prepared at the next stage of the process.

Part II

A Biosecurity Strategy for New Zealand

WHAT IS BIOSECURITY?

'Biosecurity' was first applied as a national concept here in New Zealand in 1990. It is not defined in legislation, and you will probably not find it in the dictionary. Over the years many individuals and groups all over the world have developed definitions of biosecurity, and inevitably these definitions differ in their scope and meaning. It is clear though that biosecurity is not just about stopping harmful organisms at the border. It is also about preventing harmful organisms arriving here in the first place, eradicating those harmful organisms that evade border controls, and controlling the impacts of harmful organisms that have become an established part of the New Zealand environment. A definition of biosecurity will be agreed as part of the strategy development process.

WHY WE NEED A BIOSECURITY STRATEGY

Biosecurity is not new to New Zealand - in fact New Zealand has managed biosecurity risks for many decades. However, liberalisation in the international trading environment, the increasing number of people travelling between countries, and changing environmental and climatic conditions have placed greater pressure on our biosecurity systems. The scope of the biosecurity programme is also expanding rapidly from its traditional focus on primary production, to include human health, and indigenous land, freshwater and marine ecosystems.

Over recent times there has been increasing public and industry concern that New Zealand's level of biosecurity protection is lagging behind the growth in trade and travel risks. Concerns have also been expressed that our biosecurity systems are not as efficient and targeted as they could be. New Zealand is widely acknowledged as the world leader in biosecurity. It achieves a very high level of interceptions at the border, and has a unique record in successfully dealing with incursions and established pests ranging from fruit flies and mosquitoes to rats and snakes. However, the number of recent high-profile incursions indicates that our border systems are under pressure. Recent incursions include the southern saltmarsh mosquito, varroa bee mite, painted apple moth and red imported fire ant. Behind the border, biosecurity surveillance systems are struggling to keep pace with the volume of new incursions, and resource managers are being called upon to manage an ever-increasing number of established pests.

WHAT THE BIOSECURITY STRATEGY WILL DO

The Biosecurity Strategy will set an overall strategic direction for biosecurity in New Zealand, and identify general areas of priority. It will be developed with a clear focus on the future, and will take account of environmental, primary production, public health, science, and trade and travel sector interests, as well as Treaty of Waitangi obligations. It will identify the values that we want to protect as a society, and address both the complexity of decision making for biosecurity and how to deal with the inevitable trade-offs between risk and benefit. It will apply to terrestrial, marine, and freshwater environments. It will link where appropriate with the recently released biodiversity strategy and the concurrent reviews of New Zealand's oceans policies and border management arrangements, all of which have biosecurity components. Once completed, the strategy will provide guidance to all involved in biosecurity as well as raising general biosecurity awareness.

Part III

The current biosecurity programme

New Zealand's biosecurity programme involves a combination of pre-border, border, and post-border components. We have not attempted to describe the programme in detail here – to do so would take volumes – but sources of additional information are provided in Part VIII.

INTERNATIONAL RELATIONS

New Zealand's 'neighbourhood' increasingly extends to the far corners of the globe. Climate change affects all the world's citizens, and economic change in one country will quickly be felt by many others in what is rapidly becoming a seamless world economy. The number of countries that New Zealand trades with is steadily increasing, as is the diversity of travellers choosing New Zealand as a travel destination. New Zealand therefore maintains close relationships and shares biosecurity information with many other countries. New Zealand also negotiates bilateral arrangements that cover market access for our exports and the management of import risks, and participates actively in the development and implementation of multilateral agreements covering international trade and environmental protection.

PRE-BORDER AND BORDER PROGRAMMES

Harmful organisms can hitch a ride to New Zealand in any number of ways. New Zealand's pre-border and border biosecurity programmes aim to manage the biosecurity risks associated with trade and travel. Risks associated with accidental or illegal importation of new organisms into New Zealand are managed under the Biosecurity Act 1993. Risks associated with the intentional importation of new organisms, including genetically modified organisms, are managed under the Hazardous Substances and New Organisms Act 1996 (HSNO). Officials with statutory appointments (not politicians) are responsible for risk management decision making under these two Acts.

Pre-border activities include the carrying out of risk analyses, and the development of detailed import standards. Border activities involve the clearance of all passengers, baggage, cargo, mail and craft entering New Zealand in accordance with those standards. Where an import standard requires some action from the exporting country, that country's systems may be audited to ensure compliance.

In response to increasing passenger and cargo volumes, new border risk management techniques have been introduced over recent years. Biosecurity border management now involves a combination of education, intelligence-based risk profiling, x-ray machines that detect organic material, quarantine detector dogs, physical inspections, and remedial treatments. Some risk goods and organisms are held in transitional facilities until certain conditions are met, and some organisms are held in containment facilities permanently.

POST-BORDER PROGRAMMES

It is not possible to intercept all harmful organisms at the border. An important part of New Zealand's biosecurity programme therefore involves planning for and responding to new incursions. New Zealand also has a number of endemic pests that are managed on an ongoing basis.

Surveillance is the cornerstone of the post-border biosecurity programme. Surveillance is carried out at a national level to facilitate the early detection of organisms that evade border controls. National surveillance is also used to demonstrate New Zealand's freedom from certain organisms to trading partners, to provide background information on New Zealand's pest status, and to track the movement of harmful organisms within New Zealand. At a regional level, endemic pests and diseases are monitored to assess the effectiveness of pest management programmes.

If a new organism is detected, the Government must consider what action to take. Decisions are based on technical assessments (on such things as the extent of the infestation and feasibility of eradication) and analyses of the costs and benefits of various response options. Where benefits outweigh costs, eradication is the preferred response. If eradication is not a feasible option, containment and long-term control options are considered.

The Government does not generally take the lead in the long-term management of an endemic pest, although it might provide assistance in the transition period while long-term arrangements are developed. The Biosecurity Act 1993 provides a number of pest management options, ranging from direct use of the Act's powers by government departments, through to the development of legally binding pest management strategies by any group. The Biosecurity Act does not require any party to manage a particular organism. In practice, government departments have generally focussed on responding to new incursions, leaving regional councils and/or industry groups to develop long-term pest management arrangements.

EDUCATION AND ENFORCEMENT

Education and enforcement programmes are carried out to maximise compliance with New Zealand's biosecurity laws. Education can increase public support for biosecurity initiatives and promote active participation in biosecurity programmes. A major new biosecurity awareness programme is currently being launched. Enforcement measures provide added incentives to comply with biosecurity requirements. Persons committing an offence under the Biosecurity Act can face severe penalties. For some offences, individuals are liable to imprisonment for up to five years and/or a fine not exceeding \$100,000. Corporations face fines not exceeding \$200,000. Instant fines of \$200 are imposed where travellers make incorrect declarations at the border.

Part IV

Participants in the biosecurity programme

This section provides an overview of the roles and responsibilities of the various groups currently involved in managing biosecurity in New Zealand. It also outlines some of the co-ordination mechanisms that have evolved in response to the programme's increasing complexity.

PARTICIPANTS IN THE PROGRAMME

Central government

Central government biosecurity structures have evolved over time in line with changing biosecurity pressures and priorities. There are currently four government biosecurity agencies: Ministry of Agriculture and Forestry, Ministry of Fisheries, Ministry of Health, and the Department of Conservation. These agencies are directly accountable for managing biosecurity risks to their sectors, and all have appointed Chief Technical Officers under the Biosecurity Act with specific sector responsibilities. MAF co-ordinates the government's biosecurity programme, and in agreement with other agencies takes the lead for overall terrestrial and freshwater biosecurity. Other departments such as the Ministry for the Environment, the Ministry of Research, Science and Technology and Te Puni Kokiri contribute directly to the development of biosecurity policy. In an aligned area, the Environmental Risk Management Authority controls the intentional importation of new organisms into New Zealand under the HSNO Act.

Local government

Regional councils generally take control over the management of a pest once it is considered to be of 'regional' rather than 'national' significance. Regional councils can access regulatory powers in the Biosecurity Act by developing regional pest management strategies, and most regional councils have regional pest management strategies in place for pests of significance within their region. Regional councils can also manage unwanted organisms via the Biosecurity Act's small scale management provisions, if eradication or control of an organism can be achieved within 3 years and at a cost of less than \$100,000. Small scale programmes can be put in place more rapidly and with less consultation than pest management strategies.

Industries

Many industries take direct responsibility for managing organisms harmful to their interests. Industries can access Biosecurity Act regulatory powers by developing pest management strategies, and two industry national pest management strategies are currently in place – the Animal Health Board’s strategy for bovine tuberculosis, and the National Beekeepers’ Association strategy for American foulbrood. ENZA New Zealand International has a regional pest management strategy for the management of fire blight in the Nelson region. In addition, several industries have put in place voluntary pest management arrangements.

Private individuals

Numerous individuals in New Zealand expend considerable effort in controlling pests and weeds on private land. Most private pest control is carried out to protect assets that are yielding a financial return, but some is carried out by individuals or groups with an interest in maintaining biodiversity. Examples of pests and weeds commonly controlled by private individuals include possums, rabbits and gorse.

BIOSECURITY CO-ORDINATION

The increasing complexity of New Zealand’s biosecurity programme, and a desire to harmonise effort and ensure consistency of approach, has led to the establishment of several co-ordination mechanisms. The following outlines the main groups and their sphere of interest.

National advisory bodies

The Biosecurity Council was established in 1997, and advises the Minister for Biosecurity on technical and policy matters. The Council is independently chaired, and comprises representatives from government departments with a biosecurity interest, regional councils, the environmental sector and the primary production sector. Two forums have been established to advise the Biosecurity Council. A Biosecurity Technical Forum provides technical and policy advice from the agencies represented on the Council, and a Biosecurity Consultative Forum provides advice from external stakeholders.

The Pest Management Strategy Advisory Committee also advises the Minister for Biosecurity. It was established at the same time as the Biosecurity Council, to ensure consistency in the development and resourcing of pest management strategies. Membership includes representatives from regional councils (one of whom chairs the committee), national pest management strategy proponent groups, and a representative from DOC. The committee meets about six monthly.

Individual biosecurity departments have convened a number of other advisory bodies. These are generally sector-based, and advise the Chief Technical Officer with responsibility for that sector.

Regional co-ordination

Regional councils have developed their own co-ordinating mechanisms to share expertise and ensure consistency in approach. Regional biosecurity managers meet regularly through the Biosecurity Managers Forum, which develops overarching policy and guidelines for regional pest management. Regional pest management operators co-ordinate their activities through the Biosecurity Institute.

Part V

Biosecurity issues

Introduction

This section of the paper presents in an integrated and summarised form all of the issues identified to the biosecurity strategy development team by sector organisations, interest groups, regional councils and government agencies. Issues identified cover the full breadth of the biosecurity programme. Some issues are strategic, and focus on the objectives, principles and policies that underpin New Zealand's biosecurity effort. Others concentrate on biosecurity systems, and the operational practices of biosecurity agencies. Many issues overarch all aspects of biosecurity, whilst others are directed at specific activities.

All issues identified are considered by the biosecurity strategy development team to be important. There is therefore no hierarchy of importance associated with their categorisation. The team has attempted to assemble issues in a way that will assist readers to form views and participate meaningfully in public consultation. It has also tried to present issues in an impartial and balanced way, retaining the diversity of viewpoints put forward. Stakeholders who identified issues can be assured that the detailed information provided to the strategy development team has not been lost - all source information has been retained and will be continually referred to as the project moves forward.

Issues are presented under the following broad headings:

- Section 1 – Strategic directions and objectives.
- Section 2 – Biosecurity principles and policies.
- Section 3 – Biosecurity systems and procedures.
- Section 4 – Biosecurity operations.

In each section a series of questions is posed. These questions are not comprehensive, nor are they intended to be limiting. Rather, they are provided to stimulate thought and discussion, assist interested parties with the preparation of written submissions, and provide a means for converting a set of biosecurity issues into a long-term biosecurity strategy.

Section 1

Strategic Directions and Objectives

An expanding biosecurity focus

Biosecurity in New Zealand has traditionally focussed on the protection of our land-based primary production systems, and the facilitation of our international trade in primary products. These functions remain vitally important to New Zealand's economic wellbeing. Although many biosecurity threats are common to both production and environmental values, over recent years there has been a greater recognition of the specific importance of biosecurity to the environment and to human health. Attempts have been made to expand biosecurity programmes to include the protection of human health, and indigenous land, freshwater and marine ecosystems.

There is a perception that New Zealand's biosecurity infrastructure and systems have not kept pace with this expansion. The focus of biosecurity funding is still predominantly on managing risks to primary production, and it has been suggested that a strong emphasis on trade facilitation can conflict with taking a more precautionary approach to environmental risks.

In particular, many public health, marine and environment stakeholders perceive that their biosecurity interests are not adequately catered for by current arrangements. These stakeholders argue for a greater balance in the emphasis on, and resources available to, all biosecurity sectors.

'Biosecurity' is not defined in New Zealand legislation. Many individuals and groups have proposed definitions, but in an effort to achieve some consistency the Biosecurity Council approved the following working definition in 2000:

Protection from risks posed by organisms to the economy, environment and people's health through exclusion, eradication and control

There is an opportunity during the course of this strategy development process to revisit and confirm or change the Biosecurity Council's working definition. The way biosecurity is defined will impact on the scope and objectives of the biosecurity strategy. It could also provide guidance on the relationship between biosecurity and other issues such as domestic and international obligations, consumer concerns, ethical/religious beliefs and Maori/cultural views. A definition of biosecurity could be established through a Government policy statement, or included in the Biosecurity Act 1993.

Questions

1. What is the range of values and interests protected by New Zealand's biosecurity programme?
2. How do these values and interests interconnect?
3. What factors should be incorporated into a New Zealand definition of biosecurity?

Strategic objectives and priority setting

New Zealand has not formally stated overarching objectives for its biosecurity programmes. Expectations and perceptions of what can be achieved by our biosecurity system differ, both within central government and across the wider biosecurity sectors. Overall priorities for action have not been clearly established, and as a result there is no benchmark against which individual risk management proposals and programmes can be assessed.

The lack of overarching objectives could cause problems as the biosecurity programme aims to protect a widening range of values. Decision-makers must increasingly balance environmental and social concerns alongside the predominantly trade and economic considerations that have traditionally driven biosecurity decisions. A set of high-level objectives is required that recognises the full set of values protected by biosecurity activities. These objectives should be specific, attainable and measurable. They should also take into account relevant government and industry objectives for other sectors such as environment, trade and tourism, so that resulting measures are compatible and appropriately integrated.

A key consideration in developing overarching objectives will be the establishment of priorities for action. There are three broad levels at which biosecurity priorities could be set:

- at a national/regional level;
- at a sector level;
- at a programme level.

At the *national/regional* level, funders of biosecurity programmes are required to make choices between competing fiscal priorities. Funding for biosecurity programmes is not limitless, and Ministers, regional councils, industries and the general public must be made aware of the purpose of and need for strong biosecurity. Biosecurity managers must be able to articulate clearly the costs and benefits of their biosecurity programmes to those deciding on funding priorities.

At a *sector* level, there is general agreement that biosecurity resources should be applied to where they deliver the greatest economic, social, and environmental benefits. There is not, however, presently an overarching framework that enables resources to be prioritised across the wide range of sectors and areas being protected. Currently, and largely for historical reasons, the allocation of biosecurity resources is strongly focussed towards land-based primary production. While this may be valid given the values being protected, the rationale behind biosecurity resource allocation could be made more transparent. It has been suggested that a risk assessment framework that defines and ranks the values of all sectors being protected by biosecurity would provide a more rational basis on which to allocate resources. Such a framework could incorporate rules or bottom line principles, but would ultimately only guide decisions on resource allocation. Final decisions would also be determined on the basis of budgetary constraints and political priorities.

At a *programme* level, there is a need to determine which specific biosecurity interventions to implement. At present, individual agencies largely make intervention decisions based on available resources and their own priorities. Risk assessment and decision-making frameworks are required to ensure consistent biosecurity decisions at each level of the biosecurity programme (exclusion, eradication and pest management). This framework could incorporate:

- identification and analysis of risks to all sectors and interest areas;
- science and research expertise;
- societal issues or impacts, including cultural impacts;
- consultation with stakeholders and the general public.

Questions

4. Who should be responsible for determining overarching objectives for New Zealand's biosecurity programme?
5. What factors should be considered when overarching objectives are determined?
6. How can an appropriate link be established between biosecurity objectives and the range of values and interests being protected?
7. What factors should be considered when determining priorities for action across the wider biosecurity programme?

Biosecurity leadership

There are a number of central and regional government agencies with policy and operational biosecurity responsibilities. These agencies together protect a wide range of sectors from biosecurity risks. Because many interests are affected, and because there are often tensions between these interests, strong leadership and strategic focus are essential.

From a structural perspective broad biosecurity leadership was first addressed in 1997 when a Minister for Biosecurity was established, along with Votes: Biosecurity and the Biosecurity Council. Votes Biosecurity enables the Minister for Biosecurity to set priorities across the four government biosecurity agencies, and the Biosecurity Council co-ordinates high level policy and advises the Minister on strategic matters. In 1999 MAF's Biosecurity Authority was created with a wider role to co-ordinate the Government's biosecurity programme. MAF Biosecurity Authority provides a secretariat service to the Biosecurity Council, and has become increasingly involved in managing biosecurity risks to non-agriculture and forestry sectors, particularly the environment sector. It has recently created a new position to manage responses to organisms that threaten biodiversity, and will shortly be establishing a biosecurity group to address risks to indigenous flora and fauna.

Questions remain about whether current biosecurity leadership and co-ordination arrangements provide the correct priority and focus across all biosecurity sectors. The Biosecurity Council has improved co-ordination of government

biosecurity policies and programmes, but it has a low profile and its role and functions do not appear to be well understood either within or outside of government. MAF Biosecurity's leadership role is largely informal, and its core responsibility remains the management of risks to plant and animal health and welfare. Other agencies have experienced problems dealing with the different groups within MAF Biosecurity Authority, because the three groups (animals, plants and forestry) are perceived to operate different systems at all levels. The respective roles of MAF Policy and the MAF Biosecurity Authority are at times unclear, and communication between the two could be improved. The development of policy by the Biosecurity Council tends to be led by MAF, and MAF's strong emphasis on trade facilitation can lead to conflicts with those who wish to take a more precautionary approach to the management of environmental risks. The current arrangements do maintain strong links to sector management, enabling biosecurity decision-makers ready access to specialist knowledge and expertise.

Question

8. What factors should be considered in determining appropriate leadership arrangements for New Zealand's biosecurity programme?

Marine biosecurity

There are unique and particular challenges involved in managing biosecurity risks to the marine environment. It is generally recognised that marine biosecurity has received less attention over the years than its terrestrial counterpart, and that more needs to be done to protect marine values.

Exotic marine organisms can be introduced into New Zealand waters via ships' ballast water and fouled ships' hulls. Other risk pathways include movement of marine and fishing equipment, deliberate introductions (e.g. aquarium fish), and the natural spread of new species. As with the terrestrial environment, climatic changes may result in the establishment and spread of new organisms that would not have previously survived in New Zealand waters.

The lack of physical borders in the marine environment, and the vast areas to be covered, make the design and enforcement of marine biosecurity measures challenging. To date, marine biosecurity efforts have been mainly directed at managing risks from ballast water and hull fouling at the border. Other potential border vectors need to be identified and managed. Consideration should also be given to expanding limited capacity in pre-border and post-border areas. Active surveillance systems are difficult to implement, and there is a lack of baseline data on New Zealand's current marine biodiversity. This, and a shortage of taxonomists specialising in marine organisms, makes it hard to determine whether organisms are new or already established, and whether biosecurity measures are achieving positive results. The detection of 'new' marine organisms often occurs after they become well established,

which limits control and management options. A lack of capability for marine biosecurity incursion response is a significant gap in New Zealand's biosecurity system.

Questions

9. What would be an appropriate emphasis to place on pre-border, border and post-border biosecurity protection in the marine environment?
10. What are the critical gaps in marine biosecurity and how could these be addressed?

Incorporating Maori values

Important biosecurity issues identified by Maori feature in two recent publications:

- The *New Zealand Biodiversity Strategy* (Department of Conservation and the Ministry for the Environment, February 2000); and
- *New Zealand under Siege: A review of the management of biosecurity risks to the environment* (Parliamentary Commissioner for the Environment, December 2000).

The *Biodiversity Strategy* notes that Maori have a holistic view of the environment and biodiversity that derives from a belief system that links people and all living and non-living things. Humans are considered to share a common whakapapa (ancestry) with other animals and with plants, and are therefore part of nature and biodiversity. All components of ecosystems are believed to possess the spiritual qualities of tapu, mauri, mana and wairua, and Maori, as kaitiaki (guardians), have a responsibility to protect and enhance them. Biosecurity forms part of this responsibility. The *Biodiversity Strategy* also notes that as well as being traditional users of biological resources, Maori have interests in agriculture, forestry, fisheries, aquaculture and tourism, all of which are components of biodiversity.

Important biodiversity issues for Maori identified in the *Biodiversity Strategy* are the need to:

- improve working relationships and partnerships in biodiversity management between Maori (iwi and hapu) and management agencies
- recognise the importance of appropriate use of traditional Maori knowledge (matauranga Maori) in biodiversity management in such a way as to sustain and safeguard it
- acknowledge customary use of biological resources by Maori as an important part of sustaining relationships with indigenous biodiversity and maintaining cultural integrity, values and traditional knowledge.

These issues, and many others, feature also in *New Zealand Under Siege*. Most focus on a perceived lack of commitment to consultation with Maori, and the absence of any process for including Maori in biosecurity decision making, particularly at central government level. An overall concern is that the approach taken to biosecurity legislation, structures and processes is narrow, mono-cultural and based entirely on western science.

Questions

11. How does the Treaty of Waitangi relate to biosecurity and the development of a biosecurity strategy?
12. How could Maori participation in biosecurity decision - making be improved?

Regional (Oceania) biosecurity

New Zealand is actively involved in a number of regional biosecurity activities and forums aimed at harmonising principles and systems. Developing and strengthening these regional biosecurity programmes could further enhance New Zealand's biosecurity systems.

Once new organisms arrive in the Pacific region it becomes more likely that they will reach New Zealand. Trade with, and visitors from, Australia and Pacific Island nations pose significant biosecurity risks to New Zealand. The exclusion of pests and diseases from the Oceania region, and sound management of established pests, would benefit all nations of the region, including New Zealand. Working more closely with Australia and other Pacific nations to develop a regional risk management approach to biosecurity could enhance the overall effectiveness of New Zealand's systems into the future.

Regional biosecurity programmes could include education and awareness programmes, training, data sharing and mutual recognition of technical competence. Such activities could lead to biosecurity agencies working on each other's behalf in certain areas. Other partnership programmes could be carried out at points of departure, thus moving potential risks offshore. Consideration could also be given to establishing joint pest and disease response programmes with appropriate Pacific Island countries to provide mutually beneficial regional responses to pest outbreaks.

Question

13. To what extent should New Zealand seek to enhance biosecurity partnership arrangements with other countries?

Section 2 Biosecurity Principles and Policies

Appropriate level of biosecurity protection

This issue is closely linked with the establishment of strategic objectives for biosecurity, and priorities for action.

Agreement on an appropriate level of biosecurity protection is a key desired outcome of the biosecurity strategy. The concept of 'appropriate level of protection' comes from the World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS agreement). Each WTO member has the sovereign right to determine its own level of biosecurity protection, but in doing so must take into account SPS agreement rights and obligations. Although the SPS agreement does not explicitly oblige members to define their appropriate level of protection, the appellate body of the WTO has considered such an obligation to be implicit within several provisions of the SPS agreement. The SPS agreement does not require a country to express its appropriate level of biosecurity protection in quantitative terms, but there are disciplines relating to such things as consistency, technical justification and transparency.

New Zealand does not currently have an overall statement of its appropriate level of biosecurity protection. In practice this is reflected through the Government's individual biosecurity risk-management decisions, decisions on the allocation of resources, and policies in related portfolios such as trade, tourism and transport. Establishing an appropriate level of biosecurity protection could lead to more consistent and transparent biosecurity decisions, and give domestic and international stakeholders a context for assessing New Zealand's biosecurity measures.

New Zealand has choices about the level of biosecurity protection it desires. Increasing the level of biosecurity protection comes at a cost, which will ultimately be borne by the community through higher taxes and/or higher prices for imported goods. New Zealand must also decide how it wishes to express its appropriate level of protection. The more explicit the statement, the less flexibility will be available for decision-makers to exercise case by case judgements.

A statement on New Zealand's appropriate level of biosecurity protection should reflect the consensus of community thinking about biosecurity. The challenge will be to develop a statement that:

- can cater for the different levels of risk associated with different situations (e.g. different risk pathways);
- meets the needs of all sectors with a biosecurity interest, and society as a whole;
- is affordable to implement;
- is detailed enough to be useful, yet broad enough to guide rather than constrain decision making.

Questions

14. Since zero biosecurity risk is unattainable, what level of biosecurity protection should New Zealand set? (Think about both the values and interests being protected by biosecurity, and the impacts of biosecurity interventions on beneficial trade and travel)
15. How could New Zealand's appropriate level of biosecurity protection statement cater for different levels of risk?
16. How should New Zealand express its appropriate level of biosecurity protection?

A risk-based approach

New Zealand's entire biosecurity programme is based on the management of risks. Pre-border and border measures are designed to manage the biosecurity risks associated with trade and travel. Post-border measures aim to detect and manage the risks associated with harmful new organisms or established pests. Because many interests are affected, and because there are often tensions between these interests, a risk management framework is essential.

In relation to border risks, New Zealand meets its international obligations, and ensures conformance with domestic legislation, by basing its biosecurity measures on sound science.

Risk analysts predict risks based on current knowledge and practice, and develop risk management standards and operational measures to manage those risks to an appropriate level. In doing so, they must consider the potential effects on people, the economy and the environment of organisms that may be introduced. Most import risk analyses are carried out by the MAF Biosecurity Authority. The MAF Biosecurity policy on conducting risk analyses can be found at www.maf.govt.nz/biosecurity/pests-diseases/risk-policy.htm

In relation to risks from new organism incursions and established pests, risk management decisions are based on factors such as legislative requirements, technical assessments, cost benefit analyses and available resources. Policies have been developed in some areas to guide decision-makers. For example, MAF has recently developed a generic incursion response policy to ensure consistency and quality in decision making.

Concerns have been expressed that risks to native flora and fauna, including marine species, are not sufficiently integrated into the biosecurity risk management framework. Whereas risk assessment methodologies used to assess risks to crops and livestock are able to draw on knowledge and experience of agricultural pests from around the world, similar information on risks to native species is often not available. It has been suggested that the lack of information on risks to native flora and fauna means that these risks are often not adequately taken into account. It has also been suggested that technical risk assessments should be better integrated with the overall values New Zealand is looking to protect.

Where there are information gaps and uncertainty about risks, precaution can be built into risk-management decisions. The concept of a 'precautionary approach' or 'precautionary principle' is an emerging principle of international environmental law. The preamble to the Convention on Biological Diversity notes that:

"...where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimise such a threat"

The judicious application of precaution is therefore one option for addressing the comparable lack of available information on risks to native flora and fauna. Where there is insufficient information to make a decision, applying precaution may mean that additional risk management measures are included in import conditions, or that conditions are not issued until adequate information is sought and obtained. The Biosecurity Council position statement on applying precaution notes that decisions on when and how to incorporate precaution requires judgements to be made. This position statement can be found at www.maf.govt.nz/biocouncil

Questions

17. What principles should be established to guide biosecurity risk management decisions?
18. How could precaution be applied in biosecurity risk analysis and decision-making, particularly where there is a lack of information available on risks to native flora and fauna?

Biosecurity, trade and travel

Trade and travel are vital to the New Zealand economy. Relatively limited natural resources, isolation and a small population mean that our primary producers, manufacturers and service providers all need access to export markets. At the same time, New Zealand businesses rely on imports for raw materials, and New Zealand consumers enjoy a wide range of reasonably priced imported goods. Tourism is a key economic sector, contributing about 10% of GDP annually, and sustaining about 118,000 jobs.

The inter-relationships between trade, travel and biosecurity are complex. On the one hand imported goods and inbound travellers present significant biosecurity risks to our unique biodiversity and primary production sectors. Biosecurity restrictions on these activities can result in increased costs or reduced consumer choice. On the other hand strong biosecurity supports New Zealand's trade and tourism objectives, by improving market access opportunities for 'safe' primary products, and sustaining the clean green environment that tourists desire.

New Zealand's overall interests will be best served if biosecurity protection and the facilitation of trade and travel are appropriately balanced. Achieving this balance will require open discussion between all stakeholders.

Question

19. How could New Zealand ensure that there is an appropriate balance between biosecurity protection and the facilitation of trade and travel?

International agreements

New Zealand is a signatory to several international agreements relevant to biosecurity, including the SPS agreement, and the Convention on Biological Diversity (CBD). It therefore has rights, obligations and responsibilities which, in its own interests as a small exporting nation and a safe trading nation, it must meet. The evolution of new international laws and rules, for example the clarification of relationships between environmental and trade agreements, guides and constrains the actions and practices of all signatory nations. New Zealand's biosecurity programmes must therefore be consistent with the SPS Agreement, the CBD, and other international law as appropriate.

To comply with the SPS Agreement, biosecurity measures must be science-based, least trade restrictive, consistent with an appropriate level of protection, transparent and non-discriminatory. To honour the CBD, measures must be taken to *“prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species”*.

Internationally, free trade agreements have sometimes led to border control measures being challenged as non-tariff barriers. It has been suggested that New Zealand should strive to ensure that free trade agreements do not compromise our biosecurity. It has also been proposed that New Zealand's position on trade should incorporate advice from all biosecurity sectors, to achieve an appropriate balance between trade facilitation and biosecurity protection.

Questions

20. How should New Zealand ensure that its biosecurity interests are appropriately incorporated into international trade and environmental agreements?
21. How should New Zealand ensure that its international obligations are appropriately integrated into domestic biosecurity decisions?

Domestic legislation

The Biosecurity Act (1993) and the HSNO Act (1996) are the two main Acts associated with biosecurity. The former deals with accidental or illegal introductions of unwanted organisms, whilst the latter covers proposed intentional introductions of new organisms. Together, the two Acts aim to provide for the comprehensive management of risks associated with the importation of goods and the introduction of new organisms into New Zealand.

The Biosecurity Act is considered to have many deficiencies. Some of the issues raised include:

- the Act does not define biosecurity and it has no purpose statement or set of principles;
- roles and responsibilities of central and local government agencies are unclear;
- an emphasis is placed on cost benefit analysis and cost allocation rather than pest exclusion and management;
- there are problems with taking prosecutions under the Act, as the burden of proof is high.

The Biosecurity Act has a strong focus on specific, unwanted organisms coming through the border, rather than on pathways. Some consider that this makes it difficult to apply in the marine environment, where borders are diffuse and potential pests are unpredictable and often unidentified. The 'unwanted organisms' provision of the Act can also cause problems, both because of perceived inconsistencies in the assessment process (between organisms and biosecurity agencies) and the view that Chief Technical Officers (CTOs) are reluctant to declare a species unwanted because of possible liability problems. CTOs are thought by some to have too much autonomy under the Act, and there is no process in the Act for appealing their decisions. Although the Act is considered to be too vague in some respects, the criteria and requirements for national and regional pest management strategies are commonly regarded as too detailed and prescriptive to be practicable.

The HSNO Act is concerned with the intentional importation of new organisms, and is also considered by users to have some deficiencies. It operates largely on a cost recovery basis, and potential importers of new organisms must cover the costs of the associated research and hearings. Applicants consider the compliance costs of HSNO to be high, and the procedural hurdles daunting. This could lead to illegal imports of new organisms, particularly of seeds and other plant materials. Some consider HSNO to be too risk averse, in that it legislates against the import of new bio-control agents, pest management technologies and agrichemicals. There is also concern that future economic development may be jeopardised if HSNO prevents the import and release of valuable new genetic material. ERMA is currently developing a plant risk assessment model to assist applicants, and is giving consideration to the possibility of distinguishing between 'high risk' and 'lower risk' species with a view to varying the assessment requirements.

As well as concerns relating to each Act, concerns have also been raised that the two Acts are incompatible in some respects. These concerns centre around the fact that HSNO embodies a zero tolerance to risk (in that no new organism can be imported without HSNO approval) whereas the Biosecurity Act operates on a risk management framework (risk goods can be imported as long as import health standards are met). New Zealand's biosecurity programme requires a seamless legislative interface. It has been suggested that this could be achieved by reviewing the two Acts to remedy their deficiencies and make them compatible.

Other legislation relevant to biosecurity includes the Forests Act 1949, the Wild Animal Control Act 1977, the Health Act 1956, the Fisheries Act 1996, the Conservation Act 1987 and the Resource Management Act 1991. It has been suggested that there are also incompatibilities between some of these Acts and the core biosecurity legislation. In particular, it can be difficult to determine whether health biosecurity issues should be dealt with under the Biosecurity Act or the Health Act.

Questions

22. What changes, if any, should be made to the Biosecurity Act 1993 and/or the Hazardous Substances and New Organisms Act 1996, to create a seamless biosecurity legislative interface, and ensure compatibility with other legislation?
23. What changes, if any, are required to the Biosecurity Act to improve its implementation?
24. What changes, if any, are required to the HSNO Act to improve its implementation?

Section 3 Biosecurity Systems and Procedures

Whole of government approach

Biosecurity affects a wide range of interests, and there could be efficiencies in integrating rather than duplicating biosecurity systems across sectors. Many aspects of biosecurity are common to the needs of all sectors being protected – border control and incursion response capability being just two examples.

A whole of government approach to biosecurity is considered to be essential. Many stakeholders argue that greater co-ordination between biosecurity agencies is required, including co-ordination of overarching objectives, policies and operating procedures. It has also been suggested that government's overall resources, whether they reside in a biosecurity agency or elsewhere, should be available to provide biosecurity protection. Over recent times there has been greater emphasis on co-operation and co-ordination through the development of inter-agency agreements. It is clear, however, that the current multi-agency approach to biosecurity still requires at least fine-tuning.

Some of the proposals received in relation to this issue include:

- establishing clearer lines of agency accountability;
- allocating responsibilities to ensure there are no overlaps or gaps in biosecurity management;
- adopting a joint agency approach to the development of overarching policies;
- capturing all sector views through early involvement of relevant agencies and stakeholders in decision processes;
- harmonising third-party contracting arrangements;
- collaborative and more regular reporting to Ministers on biosecurity trends and issues.

Question

25. How could the current multi-agency approach to biosecurity be improved?

Stakeholder involvement

There are many views on how and when regulatory agencies should involve stakeholders in biosecurity decision-making. All parties agree, however, that stakeholder participation is essential.

Stakeholder groups and organisations generally perceive that there is a lack of stakeholder involvement in biosecurity policy and standard-setting processes. Much of the concern centres on the development of border risk-management standards, and border users point out that the independent review of government's border control arrangement in 1999 identified a strong need to involve stakeholders in the decision-making process. Additional concerns have been raised about the lack of stakeholder involvement in pest response decisions, and the often short lead-in time provided to industries and service providers when biosecurity requirements change.

Stakeholders are seeking a commitment from the government that they will be involved at all levels of the biosecurity programme. In the case of border management, border users propose the establishment of a council or similar body with industry membership.

Biosecurity agencies note that consultation with stakeholders can be time-consuming and expensive. Biosecurity information is not always easily disseminated through organisations for which biosecurity is a peripheral interest. Unrealistic expectations and perceptions can arise if people are not aware of what consultation is, why it is being carried out, who benefits from it, how it is to be undertaken, and that decisions following consultation will not necessarily meet all stakeholder needs.

Guidelines are clearly required for biosecurity consultation and communication across the wider biosecurity programme. These guidelines should be available to, and understood by, all programme participants.

Question

26. What benefits could accrue from greater stakeholder involvement in biosecurity and how can these benefits be best obtained?

Science & Research

Science and research has a vital role to play in all aspects of biosecurity. It underpins biosecurity actions at all levels of the biosecurity programme, and provides the basis on which New Zealand can justify its biosecurity measures to international trading partners. Many scientists and biosecurity managers have expressed concern about whether the current system is the best way to provide a strategic overview of biosecurity science and research needs, set priorities for biosecurity research and funding, and promote better co-ordination between research, policy and delivery agencies.

New Zealand's science and research capability is dispersed across several Crown Research Institutes, government agencies and universities. This can weaken links between research, policy, funding, and operational agencies. Some scientists consider that public good research funding should be aligned with biosecurity research requirements and complement other biosecurity research (e.g., operational research funded directly by government agencies and research undertaken in universities). They consider also that funding processes should be able to respond to immediate research demands arising from incursions while at the same time ensuring that important underpinning research is able to continue. Biosecurity research should be a key input to policy and management decisions involving biosecurity issues.

A common view is that there is a need to retain and in some cases build 'skill' bases. Young New Zealanders are not choosing science as a preferred career path, and there is a resultant lack of recruitment into science disciplines. Some essential skills have been lost or reduced, notably in taxonomy and systematics. There is a shortage of taxonomists specialising

in marine and freshwater organisms, and in fungi, bacteria, invertebrates and lower plants. Lack of these specialists affects biosecurity standards development and capability at the border, as well as incursion response, surveillance, and pest management operations.

Much current research activity is directed towards risk prediction and assessment. Many scientists consider that more should be done to meet the needs for information about potential pests and diseases. Important aspects of this work include:

- making the maximum use of international expertise, databases and technologies;
- identifying potential pests and diseases;
- gathering information about risk species and pathways;
- examining biological control options;
- developing new biosecurity technologies, including risk assessment models for aquatic plants, fungi and bacteria.

Some suggested additional areas of research are on:

- indigenous fauna, flora, biodiversity and ecosystems (especially in the marine environment);
- vulnerability of indigenous ecosystems;
- processes that affect the entry, establishment, spread and impact of exotic species (especially marine species);
- new processes, tools and techniques for use across the entire range of biosecurity operations.

Many scientists consider that there is a lot of valuable scientific information and knowledge relevant to biosecurity available in New Zealand and overseas, and that maximum use must be made of this information to enhance biosecurity operations. Much of the information is in databases held by a range of government agencies and universities. It is essential that information about the existence of these databases is disseminated widely and that arrangements for rapid and uncomplicated access to them are made. Institutional arrangements should be made to share data both within New Zealand and internationally. Significant resources and effort should also be put into enhancing existing databases (or establishing new ones where none exist) on: indigenous species; established exotic species; potential risk species; aquatic plants (including exotics); and exotic plant species in private collections. These databases will, amongst other things, make it easier to recognise exotic species.

Questions

27. What actions are required to improve the overall prioritisation and co-ordination of biosecurity-related science and research?
28. What actions are required to improve integration of science and research into biosecurity policy and operational decisions?

Operational policies and technical standards

The present approach to biosecurity is considered by some to be largely *ad hoc*, with duplication of activities in some areas and no, or low levels of, activities in others. It has been suggested that a lack of generic biosecurity policies is resulting in inconsistent decision-making. There is also concern that the methods used for risk analysis, and the degree to which experts, stakeholders and the public are involved in risk management decisions, varies considerably between and within agencies. There is a perception that standards in some areas are weak or non-existent. For example, while there are standards for transitional and treatment facilities, there appear to be fewer controls on the processes of transporting risk goods to and from these facilities.

A number of new operational policies have recently, or are being, developed in an effort to improve consistency and quality of decisions. The Biosecurity Council has recently approved a position statement on the application of precaution in relation to the management of import risks. MAF Biosecurity Authority has developed policies on consultation, risk analysis, and incursion response. In time, the Biosecurity Council may approve these MAF policies for adoption also in other biosecurity agencies.

It is clear that biosecurity agencies must plan and work collaboratively, communicate frequently and effectively, and take a co-ordinated approach to biosecurity operations. Biosecurity standards and measures must be appropriate to the level and nature of the risks identified, technically justified, manage risks to all values and interests being protected, and be available in a timely way to interested parties. They should also be realistic and practical to implement. To achieve best results, maximum use should be made of science and research, new technologies, and the involvement of experts, industries and the public.

A particular concern has been raised in relation to standards and procedures at the border. It has been suggested that border standards are geared primarily toward managing risks to productive sectors, and that risks to indigenous flora and fauna may be being missed. A review of border standards and procedures has been proposed to identify gaps, opportunities and potential efficiencies with respect to managing threats to indigenous flora and fauna. Such a review could be undertaken as a special project, or progressively as standards and procedures come up for review.

Questions

29. What areas of the biosecurity programme would benefit from the development of a generic or specific guiding policy, and why?
30. What areas of the biosecurity programme would benefit from the development of a specific risk management standard, and why?
31. Do you consider there is merit in the proposal to review all biosecurity standards and procedures at the border to ensure comprehensive management of risks to indigenous flora and fauna, and if so, how should this be carried out?

Transition from national to regional pest management

The transition from the management of an organism on a national basis to its management on a regional basis is considered by many to be difficult. When a harmful new organism is detected in New Zealand, one of the central government biosecurity agencies generally takes responsibility for managing a response. Central government agencies tend to consider their role as national biosecurity managers is completed once a decision is taken not to attempt eradication, or if an eradication attempt is made but fails. Management of the organism from that point largely falls to regional councils, industry groups and, in the case of public conservation lands, the Department of Conservation.

There are questions about how the transition to regional management is managed and funded. Organisms that are localised in distribution but potentially threaten the whole country may warrant continued national management. Regional pest management strategies must be reviewed only every five years and are relatively inflexible, leading to potential delays while regulatory matters are attended to. It is difficult for industry groups to develop quickly the management and funding arrangements required to implement new programmes.

There is a recognised need for a seamless transition from national to regional pest management. National and regional biosecurity agencies should develop a shared view of pest management, and regional perspectives need to be included in national decision-making processes.

Question

32. What principles and objectives should guide decisions about the boundaries between national and regional pest management?

Beneficial new organisms

There are some exotic organisms that can benefit the New Zealand environment. These broadly fall into two categories: biological controls and productive plants and animals. Biological controls can be a cost effective and environmentally friendly way of controlling harmful organisms. New Zealand's agrarian industries are largely based on introduced species.

Any new organism deliberately introduced into New Zealand must first have approval under the HSNO Act. There is a perception that the current HSNO system:

- concentrates on potential risks rather than benefits;
- is expensive and time consuming, leading to possible avoidance;
- conflicts with the risk management approach embodied in the Biosecurity Act.

Rigorous analysis of risks and benefits is required. Commonly though, stakeholders are of the view that the system needs to be made more affordable and user friendly so that New Zealand can continue to utilise biological controls as a pest management tool, and further develop its production systems.

Question

32. What actions are required to ensure that New Zealand can continue to acquire and utilise beneficial new organisms?

Funding of biosecurity activities

A policy of recovering the costs of government services has been progressively implemented since the early 1980s. This has resulted in the current biosecurity programme being funded from a combination of government and private sector sources. Activities considered to be core government responsibilities are generally Crown funded or funded through regional rates. Other costs are recovered from exacerbators (those that give rise to the need for the service) or beneficiaries (those that benefit from the service).

Because there are a number of agencies involved in delivering biosecurity services, and there has been a largely *ad hoc* approach to cost recovery policy over the past decade, current biosecurity funding arrangements are inconsistent. There are many examples of this, but three include:

- applicants are required to meet the costs of the HSNO new organisms process, whereas the government funds the development of most Biosecurity Act import health standards;
- the government funds the cost of fruit fly surveillance, but the cost of gypsy moth surveillance is recovered from importers;
- the government funds the cost of biosecurity passenger clearance services at metropolitan international airports, whereas the costs of biosecurity clearance at regional international airports are recovered from airport companies and airlines.

It has been suggested that future funding of biosecurity should be based on a 'partnership' and 'shared ownership' approach by government and industry. To gain stakeholder acceptance, such an arrangement would have to be demonstrably equitable, efficient, flexible, consistent and transparent across all biosecurity activities, have an adequate long-term Crown contribution, and include only cost recovery elements that are appropriate and fair.

Cost/benefit analyses (CBA) are often used to provide information on the appropriateness and feasibility of biosecurity management options. Several CBA models have been used by different agencies for this purpose. It has been suggested that to obtain a more accurate and consistent analysis, a standardised CBA methodology should be developed. This could be approved by the Biosecurity Council, and used by all biosecurity agencies.

A critical issue is that biosecurity departments do not currently receive annual funding for initiating responses to, or research on, incursions of exotic organisms. Agencies must either request additional funding outside of the budget process, or reduce expenditure on existing programmes. One of the crucial aspects in the success of an eradication response is timing. The current funding arrangements can lead to time delays, or decisions by biosecurity departments not to respond

because of risks to other programmes. Many stakeholders have recommended that a dedicated incursion response fund be established. Provision of such a fund would enable agencies to take appropriate management actions immediately, and to initiate any urgently required research.

Questions

34. What principles should guide decisions on who should meet the cost of biosecurity programmes?
35. How could initial responses to the incursions of harmful exotic organisms be funded?

Contestable biosecurity services

Over recent years, many activities associated with New Zealand's biosecurity programmes have been contracted to, and delivered by, third party (non-government) service providers. The size of the commercial biosecurity market in New Zealand is relatively small with limited numbers of service providers available. New Zealand cannot afford unnecessary duplication of biosecurity systems, infrastructures and capabilities. Many service providers consider that the 'competitive model' may work well in some circumstances, but has limited application in others. Under some circumstances, competition may dissuade collaboration and synergies between delivery agencies. Competition can also result in too much focus on least-cost service delivery rather than quality and effectiveness. On the other hand, monopoly situations can lead to complacency, inefficiency and unresponsiveness. A balance needs to be maintained between the contestable and non-contestable aspects of New Zealand's biosecurity programmes to ensure that all systems are as effective and efficient as possible.

The approach to contracting commercial services, setting appropriate specifications and establishing contractual relationships differs significantly between government departments. This leads to uncertainty and inconsistency in both approach and delivery. Government processes and planning cycles (e.g. annual appropriations) often result in rushed specifications with the associated hurried delivery proposals. Longer lead-in times and clearer delivery contracts (preferably for a longer period than 1 year) between agencies and service providers would improve the confidence of service providers, encourage investment in their businesses, result in more effective contractual relationships and improve long-term biosecurity effectiveness.

Some government agencies continue to undertake biosecurity activities in competition with third party 'external' service providers (e.g. diagnostic services, surveillance activities). The grey area between what is contestable and what is not creates complexities, the potential for conflict of interest and either gaps or overlaps for some activities.

Current legislation is considered by service providers to restrict options for the delivery of activities by third parties, especially where regulatory powers are involved. Service providers argue for provisions to be included within biosecurity legislation enabling wider use of third party delivery agents.

Question

36. What principles should guide decisions on whether individual biosecurity services should be made contestable activities?

Institutional structures

A number of organisations have policy and delivery roles in relation to New Zealand's overall biosecurity outcomes and programmes. These include government departments, regional councils, third party service providers and industry bodies. All stakeholders agree that biosecurity institutional arrangements should support the overall biosecurity strategy, allow priority and focus in the correct areas, and promote an appropriate level of co-ordination and consistency of approach.

Several stakeholders suggest that current policy and regulatory arrangements create blurred lines of accountability, resource duplication, and system fragmentation. Concerns have also been expressed about the potential for recent improvements in co-ordination and co-operation between border service agencies to swing back over time. Some stakeholders consider that long-term cultural change is not possible without structural integration.

There are a number of ways of addressing these concerns – both structural and organisational. Some specific options identified to the strategy development team are:

- the creation of a Ministry of Biosecurity;
- the creation of a single border agency;
- restructuring the Biosecurity Council and its supporting advisory bodies;
- the maintenance of existing portfolio responsibilities together with the creation of a shared centre or centres of excellence in such matters as risk analysis, surveillance, incursion response, border control;
- enhancement of the current status quo by the development of a formal whole of government mechanism alongside the Biosecurity Council.

Pursuing any of these options would have its own risks and benefits, and all would need to be assessed in the context of the overall biosecurity strategy. It should be noted, however, that radical restructuring always has significant costs both in terms of costs of change and in terms of additional transitional risks. Organisational change does not have the same high costs or risks, although benefits may be slower to accrue.

Question

37. What factors should be considered in determining appropriate institutional arrangements for New Zealand's biosecurity programme?

Maori partnerships

Specific biosecurity-related concerns were raised by Maori during the development of the *New Zealand Biodiversity Strategy* and *New Zealand Under Siege: A review of the management of biosecurity risks to the environment*. These concerns relate to matters of principle, consultation, international obligations, and risk management.

An overarching concern for Maori is that the approach to biosecurity legislation, structures and processes is narrow, monocultural and based entirely on western science. Maori consider that the Biosecurity Act has several weaknesses in relation to Maori interests. In particular, it does not refer to the Treaty of Waitangi, and there is no requirement under the Act for Maori to be involved in biosecurity decision-making.

Maori view the protection of indigenous and valued introduced flora and fauna as crucially important to iwi, and are interested in being consulted on the development of policy frameworks as well as on individual cases. Maori consider that biosecurity agencies will only develop knowledge and capacity in relation to Maori interests through active consultation with iwi, and that this will eventually result in more effective Maori participation in biosecurity decision-making.

Maori are concerned that international agreements related to biosecurity (e.g. the SPS agreement) base biosecurity decisions on a scientific or technical assessment of risk. This process does not include consideration of risks to Maori spiritual or perceptual values. The lack of a clear physical manifestation to Maori cultural or spiritual concepts (e.g. mauri), makes it difficult for rules-based international agreements to take these concepts into account.

Maori consider that the skills and resources among biosecurity agencies to assess and protect against harm to indigenous flora and fauna and other taonga need to be closely examined to ensure they are adequate for the task. Individual agencies have a responsibility to ensure that they have the staff, skills and funding to undertake their roles, including that of consulting with tangata whenua.

Question

38. How could biosecurity structures, legislation and processes be made more inclusive of Maori values?

Section 4

Biosecurity Operations

Offshore protection

Some biosecurity risks can be effectively managed offshore by requiring exporting countries to take prescribed actions such as decontaminating containers, treating goods and providing official certificates to verify that the agreed activities have been undertaken. New Zealand has actively implemented a number of formal offshore biosecurity programmes in recent years (e.g. bilateral quarantine arrangements for exporting fruit fly host produce, pre-shipment inspection of used vehicles from Japan).

When carried out effectively, offshore activities reduce the level of risk arriving at New Zealand's border. Offshore risk management is therefore often proposed as a solution to dealing with 'on-arrival' biosecurity problems, and to enhance facilitation of the movement of people and cargo. To pursue increased offshore risk management, there must be a high level of confidence that exporting countries will implement effective systems. There are also costs associated with transferring risk mitigating activities offshore. The large number of overseas ports, their distance from New Zealand, and the wide range of risk goods imported present a range of challenges. Maintaining quality standards in the exporting country, ensuring ongoing compliance with prescribed measures, implementing appropriate audit programmes, considering non-compliance contingencies, and effectively communicating changes in risk management requirements are important factors to consider.

The following offshore risk management issues have been identified by stakeholders:

- increased implementation of prescribed offshore risk management activities;
- systems to enhance mutual recognition of technical competence with other agencies to facilitate offshore clearance;
- the need for appropriate standards to transfer risks offshore;
- the need for improved audit of offshore measures and treatments;
- the need to be more pro-active in assessing emerging human health biosecurity risks offshore and developing appropriate responses.

Questions

39. What constraining factors do you see with offshore risk management?
40. What new offshore risk management measures do you favour?

Border management in general

A number of government agencies operate border controls to manage risks to the sectors they are responsible for, or to manage risks or collect information for government generally. Whilst a level of collaboration and co-operation has always existed between border agencies the need for much higher levels of harmonisation and integration has long been recognised. An independent border review completed in 1999 made a number of recommendations on process harmonisation and integration, stakeholder engagement, and risk management. As a result a number of new initiatives are underway. The Government is developing a border management vision and strategy to maintain momentum and promote further change, and a number of projects are underway to integrate government and private sector border activities.

Stakeholder proposals to improve harmonisation and integration of border processes range from developing a single passenger arrival card through to establishing a single border agency.

Other suggested initiatives include:

- reviewing border measures to ensure they are the least restrictive available and have the minimum impact on trade and travel;
- ensuring risks are explicitly identified and measures are consistent with the level of risk;
- harmonising border processes with other jurisdictions, particularly Australia;
- developing a single IT interface between border users and government agencies;
- preparing consolidated (all government) information and documentation on border requirements for arriving craft, passengers, goods, mail etc.

Question

41. How could the biosecurity strategy be integrated better with New Zealand's overall border management strategies?

Stakeholder engagement in implementing border measures

Those engaged in trade and travel are uniquely placed to make a major contribution to biosecurity risk management. Passengers can, for example, ensure that they clean footwear and camping equipment thoroughly after visiting overseas farms and forests. They can avoid bringing food and other risk goods into the country. They can visit a GP if they contract an illness while travelling abroad, or if an illness manifests itself shortly after they return to New Zealand.

Importers can impress upon their suppliers the need to clean containers and used machinery, and ensure other goods are free from contamination. They can also provide accurate descriptions of goods and any packaging to enable effective risk profiling. Importers could be given responsibility for undertaking some biosecurity inspections, provided effective training and auditing programmes could be developed.

Issues raised by stakeholders include:

- increasing the use of ‘co-regulation’, whereby stakeholders are provided with incentives to ensure their activities comply with biosecurity requirements;
- more clearly defining the roles and responsibilities of port authorities and associated industries in relation to biosecurity;
- the benefits of industry and government agencies using common technology;
- the benefits of sharing information;
- the need to get a high level of buy-in for self-management of risk so that programmes are not undermined by non-compliant groups;
- increasing consideration of biosecurity in the planning of new or expanded port facilities (e.g. adequate areas for inspections);
- better enforcement of non-compliance;
- introducing new penalties for non-compliance.

Questions

42. How could New Zealand achieve greater stakeholder engagement in biosecurity risk management at the border?
43. What are the constraints and limitations of stakeholder engagement?

Improving passenger processing

Few countries have robust biosecurity as part of their border controls. This makes facilitation of passengers into New Zealand more challenging than in many other jurisdictions. Professional and efficient border services, and an emphasis on effective communication of border requirements to the travel industry, are required to promote a positive image of biosecurity to travellers.

Specific measures that have been suggested to improve passenger processing include:

- establishing a single border agency to improve efficiency and drive a culture change;
- better co-ordination between existing border agencies;
- establishing clearance time targets and monitoring performance against these (a review of standards and resources would follow if targets could not be achieved);
- developing a communications programme to emphasise the value of biosecurity and the role travellers can play in preserving New Zealand’s unique flora and fauna;
- establishing a service culture in border agencies by promoting values such as professionalism, customer service, courtesy, friendliness, and cultural sensitivity;
- making the best possible use of intelligence and risk profiling;
- devising processes which utilise natural lulls in travel processes (e.g. pre-clearance while passenger wait for flights, or x-raying baggage prior to its delivery to the arrival hall);
- being innovative and using the latest technology;
- matching resources with requirements through effective work force planning.

Questions

44. What measures or factors need to be considered in order to improve passenger processing?

Improving management of marine biosecurity

There are many highly invasive marine organisms that are not currently present in New Zealand. They have the potential to cause considerable harm to our marine ecosystems and aquaculture industries. Ballast water and hulls fouling are the major pathways for the introduction of such organisms to New Zealand. Ballast water exchange requirements have been implemented to provide biosecurity protection, but a number of concerns about this pathway remain. Concerns include:

- a general lack of operational capacity for inspecting vessels and auditing compliance;
- a lack of clear instructions to the cruise ship industry about biosecurity requirements;
- a lack of techniques for determining when a vessel poses an unacceptable risk;
- the need for increased focus on yachts and other small craft;
- ballast discharge in high value natural areas such as Fiordland and whether this activity should be prohibited.

Question

45. What actions are required to improve the management of risks to New Zealand’s marine environment from ballast water and hull defouling?

Improving management of human health risks

At present management of human health risks at the border focuses mainly on excluding disease-transmitting insects and organisms such as venomous snakes and spiders that pose a direct threat to human health. Increased traveller numbers and new travel destinations are increasing the risk of new human health diseases being introduced into New Zealand.

A need for new border measures to protect human health has been identified. Some of these issues could be dealt with under the biosecurity programme or through core public health programmes. Specific measures suggested include:

- establishing a system to advise health authorities of passenger sickness events;
- deploying a Health Protection Officer at Auckland International Airport;
- enhancing inspections of imported goods and animals at ports and other transitional facilities to detect potential human health risks;
- establishing a set of health requirements for importation of food by mail and clarifying health requirements for other food imports;
- improving risk management procedures for importing medication, medical samples, blood products and tissues by passengers and through the mail;
- assessing emerging health risks offshore and developing appropriate border responses.

Questions

46. What factors should determine whether an issue is appropriately addressed by the biosecurity programme or as part of core public health programmes?
47. How could New Zealand improve the management of human health risks at the border?

Additional training for border staff

Quarantine inspectors generally have tertiary level qualifications in the biological sciences when they are recruited. They then undergo formal New Zealand Qualification Authority training to equip them with skills in biosecurity and border management. The need for additional training of inspectors to improve consistency and efficiency of decision making has been raised. Specific suggestions include:

- cross-training of Health Protection, Biosecurity and Customs Officers;
- additional training of inspectors in identification of a broader range of risks (e.g. risks to marine, natural terrestrial and freshwater ecosystems);
- additional training of inspectors on national standards and allowable discretion;
- training of inspectors in customer service (e.g., Kiwi Host);
- cross-training of regional council biosecurity officers to increase the pool of quarantine inspection capability.

Question

48. What additional training should be provided to biosecurity inspectors at the border?

Other potential enhancements to biosecurity-related border management

Other potential biosecurity-related border management enhancements identified by stakeholders include:

- achieving an equivalent level of risk management across all key pathways;
- providing a 24 hour, seven days a week border service at a greater number of locations;
- placing an increased emphasis on innovation and adoption of new technology;
- introducing a requirement to identify all organisms (dead and alive) intercepted at the border;
- introducing compulsory identification requirements (to be met by importers) for seed, plant and animal imports along with auditing and penalties for false identification;
- improving requirements around transporting non-compliant goods to treatment facilities;
- requiring disposal of risk material at ports rather than “off-site” treatment facilities;
- developing new treatments for risk goods and aircraft disinsection, given difficulties with existing treatments (e.g., potential phase out of methyl bromide);
- developing new measures to address bio-terrorism.

Question

49. What other enhancements would improve biosecurity border management?

Surveillance

Surveillance is carried out at a national level to facilitate the early detection of organisms that evade border controls. National surveillance is also used to demonstrate New Zealand’s freedom from certain organisms to trading partners, to provide background information on New Zealand’s pest status, and to track the movement of harmful organisms within New Zealand. At a regional level, endemic pests and diseases are monitored to assess the effectiveness of pest management programmes.

There is a lack of effective biosecurity surveillance in some sectors. This is particularly apparent in the freshwater and marine environments. Surveillance for emerging exotic diseases is largely non-existent, and it is felt that survey methods to detect the arrival of new pests are lacking in all areas except primary production. The forestry sector is the only area where it is felt there is adequate surveillance. There are only a limited number of people in New Zealand with the specialist skills to identify risk species such as new mosquitoes, and often we have to rely on support from experts overseas.

Surveillance effort should be targeted to where it will get maximum effect. A greater understanding of tourist profiles and the locations that tourists travel to within New Zealand could enhance programme design. The same theory applies to monitoring of cargo and vessel movements around the New Zealand Exclusive Economic Zone. The New Zealand public has a vital role to play in detecting new incursions, but there is no well-advertised diagnostic service available to people who find potential new pests. Health professionals could be trained to recognise exotic human health diseases and to be aware of systems for reporting suspected outbreaks.

There is some debate about whether surveillance should be targeted at areas of greatest risk but with low environmental values (e.g. ports, harbours and urban areas) or at high value conservation areas and marine reserves. Targeting at high value areas could increase the chance of early eradication of new pests, and therefore minimise impact. However, targeting at high-risk areas could aid rapid detection. There are also questions about whether surveillance should be targeted to specific organisms, such as gypsy moth and fruit flies, or whether a broader multi-species approach should be used.

It is important that responsibilities and accountabilities for undertaking surveillance are clearly assigned, and that the management of marine and freshwater risks is not overlooked. It has been suggested that there needs to be both national and regional funding for surveillance with collaboration between government agencies and regional councils in programme design.

A review of New Zealand’s biosecurity surveillance requirements is planned during 2001/02 to inform the Biosecurity Strategy development process. This will assist in determining what level of surveillance is optimal.

Questions

50. How should the relative balance between investment in biosecurity surveillance as compared to border protection be decided?
51. What actions are required to ensure that biosecurity surveillance programmes deliver timely and quality information on new organism incursions, and the internal movement of established organisms?

Incursion response

The Government maintains standards, procedures and service arrangements to ensure a capability to investigate and respond to all suspected incursions of exotic organisms. There appears, however, to be some gaps in this capability.

Response capability varies across the biosecurity programme. In particular, there is a paucity of operational capability for responding to incursions in the marine and freshwater environments. 'Nuisance' organisms – those that may not cause significant harm but are nonetheless undesirable – may fall between the cracks of current agency accountability. New Zealand lacks guidelines for medical management of health risks posed by exotic organisms. Primary health providers require more training in first aid and medical management of individuals poisoned by venomous organisms, and New Zealand should consider maintaining stocks of antivenoms as a contingency. There is concern that science advice is not sufficiently integrated into response decisions.

A critical issue is the lack of funding for initiating responses to, or research on, new incursions. Agencies must either request additional funding outside of the budget process, or reduce expenditure on existing programmes. This can lead to time delays, or decisions by biosecurity departments not to respond because of risks to other programmes. An incursion fund available to all sectors would overcome current funding difficulties.

It has been suggested that biosecurity organisations should develop plans for responding to incursions of high-risk organisms before those incursions occur. These plans would include pre-registration of any treatment chemicals that might be required as part of a response. Links with overseas experts could be established as part of this planning process. Organisms that are not covered by specific plans could be responded to under a generic response policy used by all biosecurity departments. MAF Biosecurity has recently developed a generic incursion response policy that will guide all future MAF-led responses.

Major responses can require access to large numbers of trained personnel, and responding to an incursion usually involves many agencies and groups working together. The idea of setting up some sort of 'national response teams' has been suggested. These teams could be shared across sectors and quickly convened as required.

Communication protocols should be established to ensure that all interested parties are kept informed of developments. For example, hospitals and the National Poisons Centre should be notified when there is an incursion of a poisonous or venomous organism that could present a human health risk. Biosecurity agencies should actively consult stakeholders and communities on options for responding to incursions of new organisms. Consultation should occur as part of the decision-making process, rather than after decisions have been made. Media plans are required for major responses.

Several stakeholders have raised concerns about compensation. A lack of clarity about compensation policy where producers sustain losses as a result of a new organism could lead to non-reporting. This could seriously jeopardise any eradication attempt.

Questions

52. What principles and criteria should be used to determine whether to respond to a new organism incursion?
53. What generic procedures should be followed when responding to a new organism incursion?

Education and awareness

Biosecurity awareness is at an all time high. Recent high profile incursions such as that of the varroa bee mite, international events such as the foot-and-mouth crisis in the United Kingdom, and new government measures to promote biosecurity awareness are keeping biosecurity issues at the front of people's minds. A high profile for biosecurity is important as every citizen can potentially play a role in increasing our level of biosecurity protection.

Because the actions of travellers and importers are key to successful biosecurity management, education and awareness programmes may have significant potential to provide low cost gains in biosecurity protection. Education is possibly the major risk management tool available for biosecurity. If the level of risk consistently presented at the border is lowered, facilitation could be improved and compliance costs and general inconvenience reduced.

Education programmes need to be accurately targeted and sustained to change attitudes over time. Analogies have been drawn with public education programmes to reduce smoking and drink driving. Programmes should encourage the general public to take personal accountability for protecting New Zealand's biosecurity. Attitude change may be the best way to reduce long-term risks in the face of increased trade and travel.

The need to improve information for travellers and importers on border requirements has been identified, including a need for multi-lingual information. Improvements in style, tone and message are required. Biosecurity agencies should work co-operatively with industries to develop messages and tools specific to the range of target audiences. The tourism industry is well placed to help to improve visitor awareness of the

importance of biosecurity to New Zealand, and biosecurity messages could be integrated with tourism promotion campaigns.

Health and marine biosecurity have been identified as having a low profile, and education and awareness material specifically targeted at these sectors has been proposed. Education and awareness programmes targeted at adults, children (e.g. through the school curriculum), rural and urban populations, and specific cultures have also been proposed. Research into public attitudes to biosecurity and the social acceptance of biosecurity are suggested. Monitoring the effectiveness of awareness programmes will be critical to ongoing programme development.

Questions

54. What are the key factors for successful biosecurity education and awareness programmes?

55. Which aspects of biosecurity would benefit most from a raised profile?

Enforcement and compliance

The biosecurity regime places certain requirements on people, and often requires changes in behaviour. Improving education and raising levels of awareness is an important tool in promoting a high level of acceptance of biosecurity requirements, but a strong enforcement regime is required to deter those people who carelessly or deliberately breach biosecurity requirements.

Whilst the Biosecurity Act contains tough penalties, there is often a high burden of proof where the prosecution is required to show that an offence was “knowingly” committed. Compliance levels can be undermined if regular infringements are not penalised. For erroneous passenger declarations the burden of proof has been lowered (erroneous declaration is now an “absolute” offence). For other offences there may also be a need to reduce the burden of proof to increase the chances of successful prosecution.

Some organisations consider new penalties are required for non-compliance with biosecurity cargo import requirements, similar to the infringement notices that now apply to erroneous passenger declarations. Other organisations consider that there should not be too much emphasis on enforcement, and that it should be used only as a backup to effective education and awareness programmes.

Question

56. How could New Zealand improve enforcement of its biosecurity requirements?

Export of New Zealand organisms

Biosecurity is an international concern. There are many native and exotic organisms in New Zealand that, if introduced into other countries, could be significant pests. Although New Zealand is required to meet the import requirements of its trading partners, it has been suggested that New Zealand should do more to ensure its exports are free of contamination.

Not all countries have an interest in biosecurity, and some lack the expertise to develop import standards to protect their biodiversity values. In these circumstances New Zealand has international obligations to notify and consult countries if there is likely to be a significant impact on biodiversity to that country. New Zealand could also act as a good international citizen by assisting trading partners to establish effective phytosanitary and zoosanitary measures.

Question

57. What role should New Zealand play in maintaining the biosecurity of its trading partners?

Management of established pests

New Zealand spends a significant amount of money on controlling the impacts of established pests. This expenditure is largely managed on a regional basis, and some stakeholders have raised concerns that national co-ordination is lacking. It has been suggested that there is an over-emphasis on agricultural pests, and that more focus is required on environmental pests. Effective methods for freshwater and marine pest control are lacking, as are skilled personnel able to carry out such control.

Concerns have been raised about the commonplace use of poisons in current pest management programmes. A range of poisons (pesticides) is currently used. The sustainability of the use of these pesticides varies. Relevant factors include dose, how the pesticide is spread, how fast it breaks down, whether it goes along the food chain, and impacts on non-target species. The perceived high cost of importing biological control agents through the HSNO process may reduce take-up of bio-control alternatives to pesticide use.

There is currently no ‘trigger’ in New Zealand law requiring that organisms already in New Zealand be assessed for their pest potential. Stakeholders have suggested that there should be a system whereby the first report of an organism in the wild triggers an automatic response process involving a risk assessment, and management if appropriate.

Problems have arisen when managing organisms that are desirable in some circumstances and pests in others. These include rabbits, deer, gorse, and broom. Current management systems may not cope with these organisms effectively.

Regional pest management strategies are currently reviewed after a five-year period, and are relatively inflexible. Some stakeholders consider that these strategies should be able to be changed quickly to allow rapid response to changed pest management needs.

Regional councils have raised concerns about not being able to make pests ‘unwanted’ under the Biosecurity Act. ‘Unwanted’ status can only be conferred by a Chief Technical Officer appointed in a government department.

Internal borders are currently used to slow the spread of organisms around New Zealand and prevent the spread of pest species. This is achieved through the use of containment areas and restrictions on movement, for example the current restriction

on moving bees from the North Island to the South Island. Public participation is important in ensuring that the integrity of internal borders is maintained. Internal borders could be used not only on land, but also to control movements of freshwater and marine species. Voluntary movement controls may also be effective in reducing the movement of regional pests into pest-free areas.

The geographical structure of New Zealand as a nation of islands provides some opportunities for internal biosecurity management. It has been suggested that conservation values on offshore islands, including those not controlled by the Department of Conservation, need to be managed and that these islands need specific protection from biosecurity risks.

There may be a need for a consistent decision-making framework to guide internal biosecurity decisions and funding. There may also be a need for wider consultation on decisions about land management that could create habitat for pest organisms. One example raised by stakeholders was the role of Regional Councils in inadvertently creating and maintaining potential mosquito habitat through initiatives to preserve and enhance wetlands.

There are currently no policy guidelines for marine farming and spat collection. These could be necessary to protect the marine environment and commercial interests from the potential impacts of marine pests. It has been suggested that the invasion of polychaete worms in the Hauraki Gulf scallop fishery could be used as a case study of marine invasion process to assist with future management decisions.

Questions

58. What principles and criteria should apply to the management of established pests within New Zealand?
59. Who should take responsibility for developing and enforcing 'internal' biosecurity controls?
60. Should regional councils be provided with more flexibility in the powers available to them for managing harmful pests and, if so, what specific changes are required?

Part VI

The issues identification process

Significant effort has been made to ensure that the issues contained in this document reflect the views of the wider biosecurity sector. A range of biosecurity stakeholders in sector organisations, interest groups, regional councils and government agencies was invited to participate in issues identification. An independently facilitated workshop package was made available to assist groups with issues development. The strategy development team thanks all people involved in identifying issues for their contribution to this critical first phase of strategy development.

STAKEHOLDER WORKING GROUPS

A series of stakeholder working groups was established during April and May 2001, from persons nominated by stakeholder organisations. Stakeholder working groups were asked to network with colleagues in their sectors and interest areas, participate in workshops and meetings, and provide issues to the strategy development team by 30 June 2001. The stakeholder working groups were based on related sectors or areas of common interest, and included:

- local government,
- primary production,
- seafood industries,
- environment,
- transport/import,
- tourism,
- public health,
- science & research,
- commercial biosecurity service providers.

Overall, about 100 expert and experienced people were involved in the stakeholder working group process.

CONTRIBUTING GOVERNMENT AGENCIES

All government agencies with biosecurity interests were invited in early May 2001 to identify issues by 30 June. The strategy development team met with most interested agencies to outline the strategy development process, and to discuss issues identification. Issues were received from:

- Ministry of Health,
- Ministry of Fisheries,
- Ministry of Agriculture and Forestry,
- Department of Conservation,
- Environmental Risk Management Authority,
- Ministry of Research, Science and Technology,
- Ministry for the Environment,
- New Zealand Immigration Service,
- New Zealand Customs Service,
- Ministry of Economic Development,
- Ministry of Foreign Affairs and Trade.

OTHER SUBMISSIONS

A general invitation was extended to any interested person or group to provide an issue submission. Several additional submissions were received from individuals, regional councils and industry organisations.

MAORI ISSUES

Maori advisors consider that issues identified by Maori during the development of the recent *New Zealand Biodiversity Strategy*, and the Parliamentary Commissioner for the Environment's report *New Zealand under Siege: A review of the management of biosecurity risks to the environment*, are also highly relevant to the development of a Biosecurity Strategy for New Zealand. A summarised version of those issues therefore features in this *Issues Paper*. These issues will form the basis of consultation with Maori at a planned national biosecurity strategy hui.

METHODOLOGY USED FOR SUMMARISING ISSUES

The strategy development team entered all issues received into a database specifically developed for the purpose. Each submission was given a unique number, and each issue was tagged with specific categories of information and key words. This assisted the development team to sort issues into themes and categories for analysis and compilation.

Part VII

Next Steps – where to from here?

CONSULTATION ON ISSUES

The issues outlined in this paper will form the basis of public consultation during October to December 2001. This consultation will aim to ensure that all biosecurity issues are identified, and that discussion is commenced on a range of possible solutions for the future.

The consultation process will involve nation-wide public meetings, stakeholder workshops, and a national hui. These will be augmented by national biosecurity forums, and specially convened 'issues groups'. The process will therefore target five broad groups:

- the general public (through regional public meetings);
- regional biosecurity stakeholders (through focussed regional workshops);
- Maori (through a national hui);
- national biosecurity stakeholders (through focussed national forums);
- specialists in aspects of biosecurity (through special 'issues groups').

Appendix 1 provides details of all public meetings and regional workshops.

Regional public meetings

Evening public meetings will be held in approximately 20 locations throughout the country. The time and venue for these meetings will be advertised in local media, and advised to interested groups and organisations. Meetings will be chaired by local people, and will involve a short presentation from the strategy development team followed by an open discussion.

Regional stakeholder workshops

Regional workshops will be organised for invited participants with a direct interest in biosecurity issues. Workshops will be held during the day in the same locations as the public meetings, and each workshop will comprise 15-25 participants. The regional workshops will be the first opportunity for individuals and organisations from a wide range of sectors and interest areas to discuss biosecurity issues and possible solutions collectively. They will be focussed sessions, using a specifically designed workshop package and an independent facilitator. Each session will run for approximately three hours.

National hui

A national consultation hui is being planned to ensure that biosecurity issues of interest and concern to Maori are identified, discussed and appropriately incorporated into the draft Biosecurity Strategy. The location, timing and other details of this hui will be discussed with Maori leaders and widely publicised in advance.

National biosecurity forums

Separate forums will be arranged for existing biosecurity consultative groups, and the national bodies of organisations and interest groups. These will be convened on an 'as required' basis. A modified version of the regional workshop package might be appropriate for use at these forums.

Specialist 'Issues Groups'

A series of specialist 'issues groups' will be established to consider the highest profile and most important issues. These groups will be asked to discuss and identify a range of approaches for dealing with high profile issues, and the possible consequences of using those approaches. Issues groups will comprise about 10-12 invited members, drawn from government agencies and key stakeholder organisations.

Written submissions

Written submissions on biosecurity issues are invited from all interested parties. A guide to making a written submission is provided in Appendix 2.

DRAFT BIOSECURITY STRATEGY

The results of consultation on biosecurity issues will assist the strategy development team to develop a draft Biosecurity Strategy for a second round of public consultation during May to July 2002. Consultation on the draft Biosecurity Strategy will follow a similar format to that outlined above.

FINAL BIOSECURITY STRATEGY

The strategy development team will deliver its proposed Biosecurity Strategy to the Biosecurity Council and the Cabinet for approval by 31 October 2002. Subject to the Cabinet's approval, the strategy will be launched in December 2002 and implemented from 2003 forward.

Part VIII

Further information

Further information on biosecurity and the biosecurity strategy project is available from the following sources.

Biosecurity strategy website

The biosecurity strategy website can be found at www.biostrategy.govt.nz. It contains information about the strategy development project, who is involved, what is happening, and how to contribute. It also contains a library of project information.

Strategy Vision Framework

The *Strategy Vision Framework* was prepared as a background paper for stakeholder working groups involved in the issues identification process. It provides:

- an outline of New Zealand's current biosecurity structures,
- an overview of current biosecurity programmes,
- a description of the inter-relationships between biosecurity and the wider environment,
- the key outcomes sought by the Government from the biosecurity strategy.

The *Strategy Vision Framework* is available from the strategy development team or the biosecurity strategy website.

Parliamentary Commissioner for the Environment report on biosecurity

The Parliamentary Commissioner for the Environment (PCE) reviewed the management of biosecurity risks to the environment during 2000. The PCE's report to Parliament – *New Zealand Under Siege* – is available from the PCE website www.pce.govt.nz.

Biosecurity agency websites

Information on the respective biosecurity programmes managed by the four government biosecurity agencies is available on each agency's website. These are:

- Ministry of Agriculture and Forestry
www.maf.govt.nz/biosecurity/
- Ministry of Fisheries www.fish.govt.nz
- Ministry of Health www.health.govt.nz
- Department of Conservation www.doc.govt.nz

Part IX

Glossary of Terms

Unless the context indicates otherwise, terms in this paper have the same meaning as those in the Biosecurity Act 1993. Additionally:

- ‘Biosecurity’ is protection from the risks posed by organisms to the economy, environment and people’s health, through exclusion, eradication and control (Biosecurity Council working definition, 2000).
- ‘CBD’ means the Convention on Biological Diversity.
- ‘Endemic’ means established throughout or in any part of New Zealand (other than in containment) and includes native and introduced organisms.
- ‘ERMA’ means the Environmental Risk Management Authority
- ‘Established’ means perpetuation, for the foreseeable future, of an organism within an area after entry.
- ‘HSNO’ means the Hazardous Substances and New Organisms Act 1996.
- ‘Incursion’ means an occurrence of an organism not previously known to be established in New Zealand.
- ‘SPS’ means the World Trade Organisation Agreement on Sanitary and Phytosanitary Measures.

Appendix 1

Consultation meeting timetable

The following sets out the planned programme of public meetings and stakeholder workshops. Venue and time details have yet to be finalised. These will be advertised in local media, and advised to interested groups and organisations. The location and timing of a national hui on biosecurity issues will be discussed with Maori leaders and widely publicised in advance.

LOCATION	DATE	EVENT	TIME
Hamilton	Wednesday 10 October 2001	Workshop Public Meeting	afternoon evening
Tauranga	Thursday 11 October 2001	Workshop Public Meeting	afternoon evening
Whangarei	Tuesday 16 October 2001	Workshop Public Meeting	afternoon evening
Auckland	Wednesday 17 October 2001	Workshop Workshop Public Meeting	morning afternoon evening
Auckland	Thursday 18 October 2001	Workshop Workshop Public Meeting	morning afternoon evening
Blenheim	Tuesday 23 October 2001	Public Meeting	evening
Nelson	Wednesday 24 October 2001	Workshop Public Meeting	afternoon evening
Greymouth	Thursday 25 October 2001	Workshop Public Meeting	afternoon evening
Wellington (Porirua)	Tuesday 30 October 2001	Workshop Public Meeting	afternoon evening
Wellington (Hutt Valley)	Wednesday 31 October 2001	Workshop	afternoon
Masterton	Wednesday 31 October 2001	Public Meeting	evening
Palmerston North	Thursday 1 November 2001	Workshop Public Meeting	afternoon evening
Gisborne	Monday 5 November 2001	Public Meeting	evening
Napier	Tuesday 6 November 2001	Workshop Public Meeting	afternoon evening
Rotorua	Wednesday 7 November 2001	Workshop Public Meeting	afternoon evening
New Plymouth	Thursday 8 November 2001	Workshop Public Meeting	afternoon evening
Dunedin	Tuesday 13 November 2001	Workshop Public Meeting	afternoon evening
Queenstown	Wednesday 14 November 2001	Workshop Public Meeting	afternoon evening
Invercargill	Thursday 15 November 2001	Workshop Public Meeting	afternoon evening
Christchurch	Tuesday 20 November 2001	Workshop Workshop Public Meeting	morning afternoon evening
Timaru	Wednesday 21 November 2001	Workshop Public Meeting	afternoon evening

Appendix 2

Guide to making a Written Submission

The submissions process

The biosecurity strategy will be forward-looking. In order to develop a draft Biosecurity Strategy, the strategy development team must understand:

- what New Zealanders wish their biosecurity programme to achieve;
- the strengths and weaknesses of current biosecurity arrangements;
- likely future trends.

The strategy development team is seeking maximum input from all interested persons and organisations. Submitters should not feel constrained by the issues outlined in this document. Nor should they feel as though they must address all issues raised. Submissions should cover both problems and solutions, and identify costs and benefits where appropriate.

Timetable for submissions

Written submissions are requested by 31 December 2001.

Making a submission

The strategy development team would prefer to receive submissions electronically in Microsoft Word format. Submissions can be emailed to bsdteam@biostrategy.govt.nz

Hard copies of submissions can also be sent to:

Biosecurity Strategy Development Team
PO Box 2526
WELLINGTON

or delivered to:

Biosecurity Strategy Development Team
ASB Bank House
101-103 The Terrace
WELLINGTON

The biosecurity strategy website www.biostrategy.govt.nz contains an electronic version of this *Issues Paper* and a suggested submissions template.

Confidential information

Submitters should note that written information provided to the strategy development team will be subject to the Official Information Act 1982. The Act requires information be made available on request unless:

- there is good reason, pursuant to the Act, to withhold the information; and
- that good reason outweighs the public interest in making the information available.

The grounds for withholding information are set out in the Official Information Act. If you object to the release of any material provided to the strategy development team, please specify the material you wish to be withheld, and the grounds for withholding it. The decision on whether to release the material under the terms of the Act rests with the strategy development team. Any decision to withhold information is subject to appeal to the Ombudsman.

Some guiding questions

The following questions are not comprehensive, nor are they intended to be limiting. Rather, they are provided to stimulate thought and discussion, and assist with the preparation of written submissions. It is recognised that some stakeholders will have more interest in some aspects of biosecurity than others. Submitters are not expected to answer any or all questions in their submissions.

Strategic Directions and Objectives

1. What is the range of values and interests protected by New Zealand's biosecurity programme?
2. How do these values and interests interconnect?
3. What factors should be incorporated into a New Zealand definition of biosecurity?
4. Who should be responsible for determining overarching objectives for New Zealand's biosecurity programme?
5. What factors should be considered when overarching objectives are determined?
6. How can an appropriate link be established between biosecurity objectives and the range of values and interests being protected?
7. What factors should be considered when determining priorities for action across the wider biosecurity programme?
8. What factors should be considered in determining appropriate leadership arrangements for New Zealand's biosecurity programme?
9. What would be an appropriate emphasis to place on pre-border, border and post-border biosecurity protection in the marine environment?
10. What are the critical gaps in marine biosecurity and how could these be addressed?
11. How does the Treaty of Waitangi relate to biosecurity and the development of a biosecurity strategy?
12. How could Maori participation in biosecurity decision-making be improved?
13. To what extent should New Zealand seek to enhance biosecurity partnership arrangements with other countries?

Biosecurity Principles and Policies

14. Since zero biosecurity risk is unattainable, what level of biosecurity protection should New Zealand set? (Think about both the values and interests being protected by biosecurity, and the impacts of biosecurity interventions on beneficial trade and travel)
15. How could New Zealand's appropriate level of biosecurity protection statement cater for different levels of risk?
16. How should New Zealand express its appropriate level of biosecurity protection?
17. What principles should be established to guide biosecurity risk management decisions?
18. How could precaution be applied in biosecurity risk analysis and decision-making, particularly where there is a lack of information available on risks to native flora and fauna?
19. How could New Zealand ensure that there is an appropriate balance between biosecurity protection and the facilitation of trade and travel?
20. How should New Zealand ensure that its biosecurity interests are appropriately incorporated into international trade and environmental agreements?
21. How should New Zealand ensure that its international obligations are appropriately integrated into domestic biosecurity decisions?
22. What changes, if any, should be made to the Biosecurity Act 1993 and/or the Hazardous Substances and New Organisms Act 1996, to create a seamless biosecurity legislative interface, and ensure compatibility with other legislation?
23. What changes, if any, are required to the Biosecurity Act to improve its implementation?
24. What changes, if any, are required to the HSNO Act to improve its implementation?

Biosecurity Systems and Procedures

25. How could the current multi-agency approach to biosecurity be improved?
26. What benefits could accrue from greater stakeholder involvement in biosecurity and how can these benefits be best obtained?
27. What actions are required to improve the overall prioritisation and co-ordination of biosecurity-related science and research?
28. What actions are required to improve integration of science and research into biosecurity policy and operational decisions?
29. What areas of the biosecurity programme would benefit from the development of a generic or specific guiding policy, and why?

30. What areas of the biosecurity programme would benefit from the development of a specific risk management standard, and why?
31. Do you consider there is merit in the proposal to review all biosecurity standards and procedures at the border to ensure comprehensive management of risks to indigenous flora and fauna, and if so, how should this be carried out?
32. What principles and objectives should guide decisions about the boundaries between national and regional pest management?
33. What actions are required to ensure that New Zealand can continue to acquire and utilise beneficial new organisms?
34. What principles should guide decisions on who should meet the cost of biosecurity programmes?
35. How could initial responses to the incursions of harmful exotic organisms be funded?
36. What principles should guide decisions on whether individual biosecurity services should be made contestable activities?
37. What factors should be considered in determining appropriate institutional arrangements for New Zealand's biosecurity programme?
38. How could biosecurity structures, legislation and processes be made more inclusive of Maori values?

Biosecurity Operations

39. What constraining factors do you see with offshore risk management?
40. What new offshore risk management measures do you favour?
41. How could the biosecurity strategy be better integrated with New Zealand's overall border management strategies?
42. How could New Zealand achieve greater stakeholder engagement in biosecurity risk management at the border?
43. What are the constraints and limitations of stakeholder engagement?
44. What measures or factors need to be considered in order to improve passenger processing?
45. What actions are required to improve the management of risks to New Zealand's marine environment from ballast water and hull defouling?
46. What factors should determine whether an issue is appropriately addressed by the biosecurity programme or as part of core public health programmes?
47. How could New Zealand improve the management of human health risks at the border?
48. What additional training should be provided to biosecurity inspectors at the border?

49. What other enhancements would improve biosecurity border management?
50. How should the relative balance between investment in biosecurity surveillance as compared to border protection be decided?
51. What actions are required to ensure that biosecurity surveillance programmes deliver timely and quality information on new organism incursions, and the internal movement of established organisms?
52. What principles and criteria should be used to determine whether to respond to a new organism incursion?
53. What generic procedures should be followed when responding to a new organism incursion?
54. What are the key factors for successful biosecurity education and awareness programmes?
55. Which aspects of biosecurity would benefit most from a raised profile?
56. How could New Zealand improve enforcement of its biosecurity requirements?
57. What role should New Zealand play in maintaining the biosecurity of its trading partners?
58. What principles and criteria should apply to the management of established pests within New Zealand?
59. Who should take responsibility for developing and enforcing 'internal' biosecurity controls?
60. Should regional councils be provided with more flexibility in the powers available to them for managing harmful pests and, if so, what specific changes are required?

Appendix 3

Terms of reference for the development of a Biosecurity Strategy for New Zealand

Introduction

The government has agreed to the development of a biosecurity strategy for New Zealand, and to provide \$0.96 million over the next three years for its development and publication.

Definition of biosecurity

'Biosecurity' means protection from the risks posed by organisms to the economy, environment and people's health, through exclusion, eradication and control.

This definition may be reviewed in the course of developing the strategy.

Accountability

The development of the strategy is an initiative sponsored by the Minister for Biosecurity. The Biosecurity Council will act as the Minister's agent, and will co-ordinate the strategy's development.

The strategy is to be developed in an open and participatory manner with input from the range of stakeholders with an interest in biosecurity and the general public.

The final document will be presented to the Cabinet for endorsement.

Purpose

The purpose of the strategy is to obtain agreement on the goals, objectives and measurable targets for New Zealand's biosecurity programmes. The strategy will be developed with a focus on the future and broad issues affecting biosecurity rather than debating specific and currently topical issues. The strategy should provide direction and guidance to all involved in biosecurity, and raise biosecurity awareness with stakeholders and the general public.

Scope

The strategy will:

- a. reflect a New Zealand-wide perspective on biosecurity
- b. take account of both central and local government's interests
- c. take account of Maori interests and values
- d. take account of environmental, primary production, public health and trade and travel sector interests
- e. apply to all New Zealand, including its offshore islands and territorial waters
- f. apply to New Zealand's terrestrial, freshwater and marine environments
- g. apply to the protection of both indigenous and valued introduced flora and fauna
- h. have regard to international obligations.

Specific matters

In developing the strategy, consideration will be given to:

- i. how offshore risk management could be enhanced
- ii. how border risk management could be enhanced
- iii. how post-border surveillance could be enhanced, drawing on the outcomes of a strategic review of biosecurity surveillance planned by the Biosecurity Council
- iv. how exotic pest and disease response capability could be enhanced
- v. how compliance with biosecurity regulatory requirements could be enhanced, including through awareness and enforcement programmes
- vi. how new technology could increase the effectiveness of biosecurity measures
- vii. identification and management of information needed to support biosecurity decision making
- viii. the respective biosecurity roles of central government, regional government, primary production industries, and landowners
- ix. how effective stakeholder involvement in biosecurity policy and regulatory decision-making can be assured
- x. how an appropriate level of biosecurity protection can be maintained in the face of increasing volumes of trade and travel
- xi. the strengths and weaknesses of the Biosecurity Act 1993 and where improvement is needed
- xii. whether New Zealand is placing appropriate emphasis on biosecurity when developing its international policy positions on trade and transport
- xiii. how New Zealand can best promote the co-ordination of biosecurity in the Oceania region
- xiv. how New Zealand can minimise the risks that its exports pose to importing countries
- xv. any other specific matters agreed with the Minister for Biosecurity.

Outcomes

The outcomes of the strategy will be:

- an agreed policy framework for biosecurity decision-making
- agreement on New Zealand's appropriate level of protection against biosecurity risks
- agreement on biosecurity programmes and areas of priority
- agreement on responsibilities for action
- identification of appropriate structural arrangements
- identification of resource needs
- agreement on an appropriate legislative framework
- identification of biosecurity research requirements
- increased awareness of biosecurity among stakeholders and the general public.

Resourcing

A person will be engaged to facilitate the development of the strategy. This person will be located in the Biosecurity Secretariat within the Ministry of Agriculture and Forestry's Biosecurity Authority. Administrative support will be provided from within the Biosecurity Secretariat.

Timeframe

The strategy is to be developed during 2001 and 2002. It is to be completed ready for publication by the end of December 2002. Implementation will commence during 2003/04.



Te Waihanga Rautaki Marukoiora mō Aotearoa

The Maori title, *Te Waihanga Rautaki Marukoiora mō Aotearoa*, (*Issues Paper: Developing a Biosecurity Strategy for New Zealand*) was developed with the help of Te Taura Whiri i te Reo Māori (Maori Language Commission). The Maori design was created by designer Dan Hill (Otaraua, Te Ati Awa) and represents “the discovery of the pure and natural paradise that New Zealand is, and the need to keep it this way”. The two ‘hammerhead’ koru (on the trunk of the design) indicate “the flow and travel of people into New Zealand, highlighting the need for protective measures to ‘screen’ what comes into Aotearoa, in terms of plant or animal pests or any other biosecurity risks”.

CONTACT INFORMATION

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