1 Executive Summary

This document outlines the characteristics, specific objectives, priorities, and key biosecurity risks of the sea container pathway. It also outlines some high-level options for managing risk within the segment and engaging with domestic and international stakeholders involved with sea containers.

Managing the biosecurity risks associated with the sea container pathway is very challenging, particularly when trying to balance trade facilitation with the increasing demands of protecting New Zealand from biosecurity risks. For an isolated country like New Zealand, sea containers present a significant pathway for the recent entry of unwanted organisms.

Sea containers are not themselves a biosecurity risk, but while most of them come in “clean” their potential to harbour hitchhiker risk organisms is great. As such, we consider this a medium-to-high risk segment. Hitchhiker risk organisms are the most frequent internal contaminant of both loaded and empty containers and could negatively affect New Zealand’s economy, natural environment, human health status and socio-cultural wellbeing. The sea container segment does not pose as high a risk as the imported vehicles and machinery segment. This is partly due to the mobile nature of cars and machines, and their ability to disperse risk organisms (leading to increased exposure and establishment), which is higher than that of sea containers.

New Zealand imports approximately 550,000 containers each year with a total goods value worth $49 billion. The segment utilises approximately 15% of MAFBNZ’s frontline cargo staff. The future trends in numbers of sea container imports to New Zealand are uncertain, and although a general trend shows they are likely to increase at a slow to moderate rate, there is a large amount of uncertainty about how the recent downturn in the global economy will affect trade.

The process by which sea containers are imported into New Zealand is complex and involves many stakeholder groups, many of whom are committed to and actively involved in managing and mitigating the biosecurity risks from the segment. Traditionally MAFBNZ has allowed sea containers to arrive in New Zealand regardless of their state, provided decontamination occurs at the New Zealand port of discharge. MAFBNZ and industry agree that this is no longer acceptable.

MAFBNZ has identified the highest priorities for the sea container segment to be:

- Developing, consulting and implementing a new Import Health Standard that aligns with the principles and supports the objectives outlined in this document.
- Moving risk offshore where possible by providing incentives for parties to set up appropriate container management systems.
- Improving identification and recording for intercceptions associated with sea containers.
- Improving target profiling and risk management.
• Setting, monitoring and enforcing appropriate performance measures for the segment.
• Taking action against responsible parties where there is non-compliance.
• Investigating and developing new mitigation options (including technologies) that have the potential for reducing the risk.
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3 Document Purpose

This segment strategy outlines the characteristics, specific objectives, priorities, and key biosecurity and environmental risks of the sea container pathway. It also outlines some high-level options for managing risks in the future and for engaging with domestic and international stakeholders involved with the importation of sea containers.

This strategy will inform the review of the Import Health Standard for sea containers and will form the basis of business and other work plans associated with the segment, as well as assisting with MAFBNZ’s allocation of resources. It covers a five year span but should be reviewed periodically, particularly if risk patterns in the sea container pathway change significantly.

4 Comparison of Biosecurity Risks across Segments

Some of the biosecurity risks associated with the sea container segment are similar to other inanimate biosecurity segments (e.g. imported vehicles and machinery) in the following ways:

**Similarities between sea containers and other inanimate segments include:**
- High volume pathways, involving complex logistics;
- Common stakeholders (e.g. shipping companies, ports, stevedores, forest industry, environmental interests etc);
- Dominated by hitchhiker risk organisms\(^1\), some of which are high-consequence;
- Soil and plant debris are significant contaminants in these segments. The risk from these is difficult to define;
- Impacts of associated organisms establishing in New Zealand cross the core values MAFBNZ is mandated to protect: New Zealand’s health, environment, and cultural and economic wellbeing;
- Many risk organisms in common, making it difficult to trace back incursions with specific pathways. It also increases the likelihood of risk organisms establishing through repeated arrivals;
- Inanimate pathways are generally not recognised as a biosecurity priority by many other border authorities, making it harder to obtain international cooperation on these segments;
- It is difficult to predict the risk posed by any individual unit because the risk relates to use and storage conditions for which information is rarely available.

**Differences between sea containers and other inanimate segments include:**
- Risks are not the same. For example, the risk from painted apple moth is higher on containers than used vehicles (due to trade volumes from Australia), while the risk from Asian gypsy moth is higher on used vehicles.
- There are recognised differences in risk between different countries of origin that are unrelated to volume.
- Frequency of contamination varies. Overall, a significant proportion of sea containers are free of contamination. Therefore, MAFBNZ risk management for sea containers is targeted toward identified high risk containers (low risk containers are managed by accredited persons through the Approved Transitional Facility system). In contrast, a very high proportion of used vehicles have contaminants present, so *all* imported used vehicles are inspected by MAFBNZ.

\(^1\) An organism that has an opportunistic rather than a biological host relationship with the commodity
5 Profile of the Sea Container segment

5.1 Description of the segment
Sea containers are large metal boxes used to transport goods around the world. Their introduction in 1956 stimulated global trade and now sea containers transport approximately 90% of cargo worldwide. They are the major pathway for cargo entry into New Zealand because they provide an efficient, safe, practical and cost-effective means of moving large and heavy volumes of cargo.

Commerce is the primary driver of sea container movement, as countries and businesses seek higher profits and stronger economies. People transporting personal effects from one country to another also use sea containers.

In general, there are two types of sea containers; loaded (which carry about 95% of freight\(^2\)) and empty. [Updated visual maps of these two pathways will be added at a later date]

5.2 Nature of the trade

5.1.1 Current volume of imports in the segment
New Zealand imports approximately 550,000 containers each year. The majority of loaded containers imported into New Zealand come from Australia (30%), China (16%), Singapore (8%), USA (6%) and Malaysia (4%). However, the declared port of loading does not always indicate the origin of the container or countries it has travelled through. Containers shipped from Hong Kong and Singapore frequently originate from other parts of the world and are transhipped through ports in these countries before being loaded onto a vessel bound for New Zealand\(^3\).

The average length of stay of a sea container in New Zealand is about 40 days, but stays range from a few days to a few months (2001/02 figures).

New Zealand exports more containers than it imports and so must import empty containers to meet the export demand. The majority of New Zealand’s empty sea containers are sourced from the Pacific Islands. 2008 figures show approximately 43% (80,000) of the total empty container volume (187,000 per year over the last 5 years) comes from the Pacific Islands, 20% from Australia, 9% from USA and 6% from Singapore.

5.1.2 Value of imports across segment
The total value of goods entering New Zealand via the sea container pathway was reported to be worth $49 billion in 2008 (Source NZ statistics).

Aside from direct dollar values, there are a number of other, indirect values associated with the sea container segment, and include (but are not limited to): employment offered by port companies, transporters, transitional facilities and other supply chain components; and the availability of non-local consumables in New Zealand.

\(^2\) Other than over sized cargo that is too large to fit inside a container and bulk freight such as petroleum or iron ore
\(^3\) General industry knowledge, talks with shipping lines and ports and customs
5.2 Likely future trends for the segment

Economic

Over the past decade there has been a gradual increase in loaded containers entering New Zealand in response to economic growth. This trend was expected to continue as more manufactured goods were sourced from countries such as China, India, South America, Indonesia and Vietnam. Global trade of fully loaded containers was expected to reach 134 million twenty-foot equivalent units (TEU) in 2011, 2.3 times the 58 million TEU recorded in 2001.

Figure 1: Monthly Imports of Sea Containers to New Zealand 2000-2007

Over the past year however, impacts of the global recession and a worldwide decline in demand for goods has seen international trade and the movement of containers rapidly decline. One source predicts increases in trade and associated container movements will begin again in late 2010 (IHS Global Insight and Lloyds Register Fairplay Research).

Volume and size of containers

The seeming preference of shipping companies to use bigger vessels and larger containers – 40 and 45 foot containers – may slow the rate at which actual container numbers increase. Volumes of trade however, are expected to continue to increase, and larger vessels will result in peaks in demand for service.

Hubbing

A trend towards ‘hubbing’\(^4\) means that the number of ports that vessels visit may reduce, and international vessels may not continue to visit some ports at all. This would result in more overland and coastal movements of containers. This may pose challenges in determining the country of origin of containers, and therefore which containers to target from a biosecurity perspective. Currently, it is still more cost-effective for lines to retain international vessels visiting more New Zealand ports than it is to visit only one port and operate a separate coastal vessel.

\(^4\) A physical distribution system based on a "hub" - moving cargo to and between several "spokes". It is designed to increase transportation efficiencies and in-transit visibility and reduce order ship time.
5.3 Relevant stakeholder groups associated with the segment

The process by which sea containers are imported into New Zealand is complex and involves many stakeholder groups. Appendix 1 outlines who these stakeholders are, the current role they have in the supply chain and how they interact with MAFBNZ.

5.3.1 Industry stakeholders

Many stakeholders involved in importing sea containers are committed to and actively involved in managing and mitigating the biosecurity risks from the segment. Stakeholders include importers, shipping lines, port companies, customs brokers and freight forwarders and transport companies.

5.3.2 Government agencies

MAFBNZ sets the regulatory framework and standards imported sea containers must meet. MAFBNZ is directly involved in the segment at an operational level (e.g. inspections), and ensures compliance with standards.

Government agencies from other countries are required to certify some commodities exported to New Zealand but do not currently have a direct role in managing biosecurity risks associated with sea containers on behalf of New Zealand. Pacific Island governments where the offshore sea container hygiene programme is operating know of it although they do not have direct involvement in the programme. This is a priority area for the future.

MAFBNZ and the Australian Quarantine Inspection Service (AQIS) are investigating mutual recognition of each others systems and assurances. AQIS are looking at recognising MAFBNZ’s offshore sea container hygiene programme and MAFBNZ is looking at recognising the Australian Fumigation Accreditation Scheme (AFAS). MAFBNZ is also currently investigating mutual recognition schemes with other countries.

5.3.3 Stakeholders likely to benefit directly from risk management in this segment

There is a diverse group of stakeholders (forestry, agriculture, environment, people affected by incursion response, etc) who are not directly involved in importation, but could be adversely affected by any incursions or establishment in New Zealand of risk organisms associated with the segment. While industry stakeholders may be financially impacted by the costs of biosecurity risk mitigation, they usually do not bear the costs associated with incursions of risk organisms or diseases.
6 Biosecurity Risks Associated with Sea Containers

Sea containers are not themselves a biosecurity risk, and while most of them come in “clean”; their potential to harbour hitchhiker risk organisms is great. As such, we consider this a medium-to-high risk segment.

While there is no formal risk analysis for sea containers, inspection data, surveys, other risk analyses and experience shows that sea containers are a significant pathway for the entry of unwanted biosecurity risk organisms into New Zealand.

6.1 Key biological risks

About 10% of sea containers had live hitchhikers inside, primarily due to the shelter their surfaces and interior provide and the increasing high volumes and diverse origins from which they come. The location of containers prior to shipping often links to the amount and type of contamination found (i.e. those stored on unsealed ground surfaces or close to host plants for particular risk organisms have a high likelihood of infestation).

Hitchhiker risk organisms are the most frequent internal contaminant of both loaded and empty containers. Those of greatest concern include:

- Exotic ant species, e.g. red imported fire ant, tropical fire ant, crazy ants, ghost ants etc.
- Moths e.g. Asian gypsy moth, tussock moth, painted apple moth
- Amphibians and Reptiles
- Spiders
- Snails, including the Giant African Snail
- Other insects
- Seeds

These risk organisms present a high biosecurity risk to New Zealand due to their threat to our commercial interests, natural biodiversity, and the health and well-being of our people.

Other contaminants primarily include soil, plant products, and contaminated wood packaging. Soil is the most common external contaminant of sea containers in New Zealand (14% of loaded containers and 24% of empty containers). The majority of soil is found on the lower ledge and the undersides of containers. Soil is considered to be of high-risk as it may contain seeds, insects, nematodes, fungi etc.

Cargo residues commonly found include stored products such as wheat, rice, coffee beans and nuts. They may be contaminated with weed seeds, pests, or be a vector for diseases. Wood packaging contaminants include bark, insects and fungi. Such contaminants could have major impacts on New Zealand’s forestry industry through lost production or phytosanitary restrictions imposed by export markets, should they establish.

6.2 Risk multipliers

Decreasing worldwide demand for goods has lead to decreases in import volumes and changed the risk profile of the pathway. While the frequency of contaminants remains unchanged, the number is reduced and therefore this reduces the likelihood of arrival and establishment.

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5 MAFBNZ 2008 Pest risk analysis for six species: lessons for the biosecurity system on managing hitchhiker organisms; MAF 2002 The introduction of red imported fire ants into New Zealand via the importation of goods and arrival of craft from Australia, the Caribbean, South America, and the USA; MAFBNZ 2007 Import Risk Analysis: Vehicle and Machinery

6 Occurring in 10% of a survey of 337 containers in 2006 (BMG, 2006).
6.3 **Likelihood and impact analysis**

Many high impact hitchhikers occur at very low frequency. Whilst the likelihood of any container being contaminated with any one organism is low, the volume of the segment and many high impact risk organisms multiply the risk (low frequency + high volume + multiple high impact = high risk). Additionally, although unlikely to happen often, there are some species whereby the entry of a single organism could result in establishment. A giant African snail can wait up to a year after mating before laying eggs, for example.  

Post border interception records show that risk organisms regularly enter New Zealand via this segment, despite the current risk management measures. These include high impact risk organisms (MAFBNZ 2009).  

Risk factors are organism-specific but all relate to the prior use of the sea container, storage conditions of it prior to export, and its distribution and use on arrival in New Zealand. Whether the container was loaded under floodlights during the Asian gypsy moth flight season, stored near a host tree, or stored directly on soil (instead of concrete) etc in the country of origin will determine the likelihood of it entering with a particular risk organism.

Sea containers stay in New Zealand for an average of 41 days; even though risk organisms may be present on the container, they may not leave the container to search for a suitable host or habitat during this time. This means that risks may leave the country when the container is next used (i.e. shipped offshore carrying New Zealand exports). The likelihood of exposure and establishment via this segment is therefore generally lower than it is for imported containers that remain in NZ.

Containers within New Zealand can be used and distributed anywhere around the country. However, they tend to be concentrated in locations where there are greater volumes of imports and exports. MAFBNZ’s high-risk site surveillance programme for biosecurity risk organisms takes account of this.

Biosecurity risk organisms associated with sea containers have the potential to cause impacts across New Zealand’s values. Examples include:

- The cost of Asian gypsy moth establishing in New Zealand was estimated to have a Present Value to 2045/46 between $62 million and $393 million. Once full annual impacts were reached the annual cost was estimated to range from $9 million per annum to $88 million. These figures do not include human health and indigenous flora impacts.
- Red imported fire ant is predicted to affect agricultural and horticultural systems, natural ecosystems and people’s quality of life; incur medical and risk organism control costs and cause damage to electrical equipment. Evaluation of selected impacts estimated the full annual cost of living with red imported fire ant would be at least $318 million.

Other observations of the sea container segment indicate that:

- Both loaded and empty containers pose a significant biosecurity risk.
- Storage conditions for containers can determine if they are likely to be infested by residual contaminants and hitchhiker risks, but some geographic regions feature more highly than others e.g. Pacific Islands.

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7 MAFBNZ 2007 Import Risk Analysis: Vehicles and Machinery  
8 MAFBNZ (2009) *Interception Database*  
10 MAF Biosecurity Authority (2002) Risk organism identification and import release assessment: the introduction of red imported fire ants into New Zealand via the importation of goods and arrival of craft from Australia, the Caribbean, South America and the USA.
• Given the mobile nature of many of the risk organisms, offshore risk management is preferable for this segment, although logistical and other risk factors present opportunities for sea containers to be re-contaminated prior to shipment.
• The transhipment of containers through hub ports is frequent, so the country of origin can not always be readily determined. This makes it harder to identify containers that may pose a higher risk of carrying biosecurity risk organisms.
• Repeated entry of organisms across single or multiple segments increases likelihood of establishment.
7 Current Risk Mitigation

7.1 Regulatory requirements
The Biosecurity Act (1993) and import health standards provide the rules to effectively manage biosecurity risks associated with importing risk goods. In September 2003, MAFBNZ released the ‘Import Health Standard for Sea Containers from All Countries’ (BMG-STD-SEACO). The standard requires that all containers and associated cargo packaging must be free from contamination before they are given biosecurity clearance by an inspector. The Import Health Standard for Sea Containers is being revised to ensure effective and efficient biosecurity risk management procedures are implemented. When finalised, it will replace the current Import Health Standard for Sea Containers from All Countries.

The following MAFBNZ Import Health Standards are also in place for managing sea containers:
- The MAFBNZ ‘Audit of Sea Containers’ Standard (BMG-STD-SCADT) is used to establish and monitor biosecurity contamination rates, wood packaging compliance and cargo tariff code compliance with the sea container standard.
- The MAFBNZ standard: ‘General transitional facilities for un-cleared goods’ (BNZ-STD-TFGEN), outlines the rules, responsibilities and actions that must be met and undertaken for a facility to be permitted to de-van sea containers.

There is currently no international standard relating to sea containers. Inanimate risk goods fall between the international frameworks for managing risks to animal and plant health. This means that these frameworks do not directly cover some risk organisms that can be carried by plant commodities or inanimate pathways. In New Zealand, sea containers are managed under the World Trade Organisation Agreement of Sanitary and Phytosanitary measures and the Biosecurity Act.

In saying that, New Zealand has successfully initiated recent discussions regarding a common approach to the management of sea containers through the Asia Pacific Plant Protection Convention (APPPC) and its parent body the International Plant Protection Convention (IPPC).

7.2 Current biosecurity interventions in this segment

Physical inspections
Containers classified as high risk undergo an external 4 or 6-sided inspection at the port of discharge. MAFBNZ also internally inspects high risk empty containers at the port of discharge. Port stevedores and accredited persons check all other containers during routine duties and de-vanning at transitional facilities or at cleaning depots.

Treatments
Contaminated containers (when detected) are directed for treatment to remove the contamination. Usual treatments include washing, fumigation and heat treatment; the treatment applied depends on the contaminant. There is ongoing research to develop safer and more effective treatments.

Offshore programmes
The offshore sea container hygiene programme is a co-operative system between MAFBNZ and shipping lines. It is currently operating in Papua New Guinea, the Solomon Islands and Samoa with plans to expand it to Tonga, American Samoa and Vanuatu. The aim is to reduce contamination and biosecurity risk organisms (particularly ants and Giant African Snail) entering New Zealand. The system effectively cleans, treats, and stores containers to prevent recontamination prior to shipping to New Zealand and has resulted in significant reductions of all contaminants.
7.3 **Cost of biosecurity interventions**

The cost of biosecurity interventions is based on actual financial costs incurred through MAFBNZ inspections, fumigations and treatment of containers, identification of risk organisms and extra logistical movements as well as the cost of delays due to additional interventions required to manage biosecurity risks. The latter costs (while often difficult to quantify), are believed to comprise the greater costs, but as importers do not monitor many of the associated indirect costs; they cannot be accurately defined in dollar terms. Additional information about these less tangible costs for importers and MAFBNZ is included in Appendix 2.

The cost to ‘NZ Inc’ of missing a significant biosecurity pest and any resulting establishment or eradication programme can be significant. High Risk Area Surveillance costs in 2007/8 were $735,000 per annum with diagnostics adding another $220,000. The National Invasive Ant Surveillance added $597,855 in 2007/8.

7.3.1 **MAFBNZ resources for segment**

**MAFBNZ Staff**

Initial analysis indicates that approximately 23 out of 155 fulltime staff (15%) are involved with ‘container-type activities’. These figures do not include administration, container facility auditing, container log sheet processing, communications etc; or inspection work for cargo which has container related aspects.

**Data collection and information flow**

Information received from importers or their agents provide cargo, importer, country of origin and final destination details (among others). Overseas exporters provide quarantine declarations stating whether containers have been inspected, found free of contamination, and if they contain wood or restricted packaging material. Shipping lines provide manifests and discharge lists that list container and cargo information.

**Risk profiling**

MAFBNZ electronically screens import entries to identify those sea containers more likely to carry biosecurity risk organisms (high risk containers). Manual screening of manifests and discharge lists is also undertaken to identify goods and containers without import entries. Different information is needed to identify containers that are high risk for different risk organisms.

7.4 **Effectiveness of current risk mitigation measures**

Managing the biosecurity risks associated with the sea container pathway is very challenging, with the increasing volume of global trade, transport facilitation and the growing recognition of the need to protect our natural advantage. Additionally, the effect of the international economy e.g. exchange rates, economic growth levels, domestic demand, interest rates, foreign investment, employment, fuel costs and available shipping space all influence trade volumes. For an isolated country like New Zealand, sea containers present a significant pathway for the potential entry of unwanted organisms.

Findings from survey work on this segment indicate:

- It is very difficult to measure the effectiveness of risk mitigation measures partly because of the time taken to inspect the underside of containers and the impact this has on the supply chain. Current measures are reasonably effective in managing the risks once high risk containers have been identified, and in managing low risk containers;
- The current import requirements make little distinction between the biosecurity risks posed by different types of contaminants;
- The effectiveness of any biosecurity measure will depend on the biology of the organism it is directed against. No single measure will be effective in this segment. Rather a package of measures is needed to mitigate the hazards.
8 Objectives for the Segment

The objectives for managing the sea container segment take into account:

- the characteristics of the segment;
- MAFBNZ’s strategic outcomes and the border sector principles;\(^{11}\)
- the high value of the segment;
- the large number of high-impact risk organisms associated with the segment; and
- the higher likelihood of many of these organisms entering and establishing via this segment than other segments.

Traditionally MAFBNZ has allowed sea containers to arrive in New Zealand regardless of their state, provided decontamination occurs at the New Zealand port of discharge. MAFBNZ and industry agree that this is no longer acceptable.

8.1 Desired outcome

To manage the sea container segment so that:

Harmful organisms are prevented from crossing New Zealand’s borders and establishing, with the assurance that trade is maintained.\(^{12}\)

Performance of biosecurity management across the segment in achieving this outcome will be measured against performance criteria. Recognising that zero risk is not achievable, not all contaminants pose an equal biosecurity risk and taking account of the limitations of monitoring and audit systems in detecting many risk organisms, these will be determined.

8.2 Supporting objectives

The supporting objectives (not in priority order) are to:

1. Identify and mitigate the biosecurity risks on sea containers at the earliest opportunity.
2. Ensure that clean sea containers pass through the border as quickly, and with as little impact on the supply chain, as possible.
3. Implement measures that more effectively manage biosecurity risk while reducing reliance on physical inspection at the border (i.e. by pushing it offshore where we can).
4. Improve integration of MAFBNZ, other government agencies and stakeholder’s processes and systems (i.e. linking with Customs activities at the border).
5. Create incentives for importing clean containers with appropriate documentation (i.e. rewarding compliance, and targeting non-compliance).
6. Drive desired changes in behaviour (i.e. increase voluntary compliance) based on targeted communications.

\(^{11}\) Border Directions Statement (2008)
\(^{12}\) MAFBNZBNZ Strategic Plan 2007-2011
9 Future Risk Mitigation

This section outlines the preferred approaches for mitigating risks in the sea container segment. These approaches consider border sector principles\(^{13}\), MAFBNZ’s strategic outcomes, specific segment outcomes outlined in this document, and characteristics of the segment.

9.1 High level approaches

Options for better managing the sea container pathway include:
1. Accreditation schemes and offshore programmes (encouraging offshore risk management)
2. Data systems (containers and accompanying info need to move freely)
3. Collecting the right information and make it accessible in order to more effectively understand and manage the risk e.g. identify and record interception and exporter data
4. Risk profiling to more effectively identify high risk containers
5. New technologies and automated systems
6. Behaviour change, compliance, including cost incentives and responsibility of different players and education
7. Implementing new regulations and better enforcing existing ones
8. Work towards developing international standards or guidelines that aim to minimise pest movement by sea containers and conveyances
9. Continuing to foster international co-operation and develop joint management programmes;
10. Identifying and develop more effective treatments

9.2 Co-management

MAFBNZ is developing a co-management framework that will enable consistent decision making within the segment and allow MAFBNZ to share some aspects of the management of biosecurity risk with other stakeholders. Co-management aims to increase industry awareness of biosecurity and allow all parties involved in a segment to look for alternative risk management approaches.

Co-management should not be confused with a requirement set out in an import health standard that all must comply with. It will not be a compulsory programme or even an option for everybody to become involved in. It will target areas of greatest benefit to the biosecurity system.

\(^{13}\) Border Directions Statement (2008)
10 Summary of Priorities for the Segment

10.1 High, medium and low priorities
Though the following areas are all important, they are prioritised in recognition of strategic fit, resource availability, area of greatest risk, and overall benefit to New Zealand Inc. They are grouped in areas of high, medium and low priority and include:

High priorities
- Develop, consult and implement a new Import Health Standard that aligns with the principles and supports the objectives outlined in this document.
- Move risk offshore where possible by providing incentives for parties to set up appropriate container management systems.
- Improve identification and recording for interceptions associated with sea containers.
- Better target profiling and risk management.
- Set, monitor and enforce appropriate performance measures for the sea container segment.
- Take action against responsible parties where non-compliance is identified.
- Investigate and develop new mitigation options (including technologies) that have the potential for reducing the risk.

Medium priorities
- Continue to develop international stakeholder relationships and processes to reduce the risk from sea containers.
- Align MAFBNZ processes and inspection regimes nationally where possible.

Lower priorities
- Analyse the comparisons between this and other inanimate segment strategies to allow implementation of efficient systems across the pathways.

10.2 Assumptions, constraints, dependencies and impacts
This segment strategy assumes that:
- Stakeholders will continue to accept some level of responsibility for managing the biosecurity risks posed by imported sea containers;
- Opportunities for offshore risk management activities increase;
- MAFBNZ staff move, in most situations, away from an inspection-focused to an audit and compliance/enforcement role across a number of segments;
- The total volume of this segment will continue to fluctuate as a result of economic factors and the regulatory environment;
- Alternative effective technologies will be developed that will assist in managing and mitigating biosecurity risks.

This segment strategy is constrained by:
- Technology to support information-based decisions (or time lag to introduce);
- Funding and resources, especially around change management;
- Lack of information on efficacy of possible alternative risk mitigation regimes against high impact risk organisms.

This segment strategy, if adopted, will likely have impacts on:
- Current industry practices
- Skills (recruitment and training)
- Reliance on verification and audit
- Transition periods
- New requirements may require regulatory change

This segment strategy is dependent on:
- Better information management systems;
- Implementation of the MAFBNZ co-management framework.

10.3 Working with others

10.3.1 Engaging with stakeholders
We will continue to use existing ways of engaging with stakeholders (meetings, phone and email communication) and will explore methods to fill any gaps. Given the complexity of the container supply chain and the costs of delays in it, it is important to maintain a culture of no surprises. Many stakeholders are keen to contribute to better biosecurity in this segment and we want to foster these ideas and enthusiasm.

Co-management will be another important way of engaging with stakeholders in the future.

10.3.2 Compliance and enforcement issues
This section to be completed once MAFBNZ’s compliance strategy is available

10.4 High level cost / benefit analysis
Still to come….analysis of the costs and benefits associated with the importation of sea containers to determine how much investment is required in this pathway versus other pathways.
## APPENDIX 1: STAKEHOLDERS AND CURRENT ROLES

### SUPPLY CHAIN (INDUSTRY) PARTICIPANTS

<table>
<thead>
<tr>
<th>Role</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Importers</strong></td>
<td>Order goods from overseas exporters and receive them on arrival in New Zealand.</td>
</tr>
<tr>
<td><strong>Treatment suppliers</strong></td>
<td>Treatments include washing, steam cleaning, vacuuming, fumigation and heat treatment.</td>
</tr>
</tbody>
</table>
| **Customs brokers and freight forwarders** | Work on behalf of importers, providing the link between importers and the rest of the supply chain including government agencies.  
- Handle the regulatory and administrative aspects of importing containers and cargo, including biosecurity clearance on arrival in New Zealand.  
- Provide information in a standardised format electronically to NZ Customs. |
| **Overseas port companies** | Control the storage of sea containers prior to loading the vessel.  
- May have biosecurity facilities available (inspection, decontamination etc).  
- Are efficiency focussed, often constrained environmentally and by space, and economically concerned about how long sea containers sit on a port. |
| **Shipping lines and companies** | Own containers and carry them on behalf of importers and exporters.  
- Provide consolidated information to ports and government agencies about what is being carried on a particular vessel.  
- Responsible for facilitating the movement of the container from the exporting port to the final destination.  
- May also offer importers customs brokerage, warehousing, & distribution services. |
| **New Zealand port companies** | Manage the entry of vessels and their cargo into New Zealand.  
- Facilitate the movement of sea containers at a MAFBNZ approved ‘place of first arrival’, and make available biosecurity inspection and treatment facilities, although the latter are not necessarily at the port.  
- Have a high level of biosecurity awareness. |
| **Stevedores** | Load and unload sea containers from vessels; move them around the ports.  
- Some are ‘accredited persons’ under the Biosecurity Act. |
| **Transport companies (road and rail)** | Deliver sea containers from the port of arrival to approved transitional facilities, to de-hire facilities (where the containers are checked, cleaned, fixed and re-hired out to new customers), and to exporters for loading.  
- Operate in a very competitive market with tight margins, timelines and increasing legislative requirements. |
| **Transitional facilities** | Hold, store, inspect, treat or process un-cleared risk goods.  
- Variable in size, location, ownership and throughput, and may be linked to others in the supply chain (importers, transport, port companies etc).  
- Are approved under the Biosecurity Act, operate to a MAFBNZ Standard, and are required to have accredited persons present when unloading occurs. |
| **Accredited persons** | Are appointed under the Biosecurity Act, and are trained to recognise and deal with biosecurity risks associated with sea containers on behalf of MAFBNZ.  
- They may be the owner or yardman at a facility.  
- May have varying levels of responsibility, motivation and authority to act. |

### GOVERNMENT AGENCIES

<table>
<thead>
<tr>
<th>Role</th>
<th>Functions</th>
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<tr>
<td><strong>Government agencies and other groups</strong></td>
<td>Many government departments have an interest in the management of biosecurity risk organisms associated with sea containers. These include NZ Customs Service, the Ministry of Foreign Affairs and Trade, Department of Health, Department of Transport, the Environmental Risk Management Authority, the Department of Conservation, and the New Zealand Food Safety Authority. Other groups, such as the Biosecurity Ministerial Advisory Committee, Forest and Bird, and Greenpeace, also have an interest. The concerns of these stakeholders must be considered when developing options for biosecurity management.</td>
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| **MAFBNZ** | General:  
- Assesses biosecurity risks and puts in place import health standards and risk profiles to manage those risks.  
- Develops operational standards and procedures for frontline staff |
APPENDIX 2: LESS TANGIBLE COSTS OF INTERVENTIONS

Less tangible costs for importers include:

- Lost time and productivity due to the time goods spend in inspection and treatment.
- Timetable uncertainty due to interceptions creating unexpected costs and delays.
- Overheads associated with maintenance of wash and treatment facilities.
- Lost productivity for shipping companies associated with slower turn around times for the shipping containers. This may be as high as $1million per annum.
- Port congestion, where physical space at many NZ ports is at a premium, yet uncleared containers can not be removed, incurring storage costs and increasing operating expense.
- Ongoing risk that incursions costs could be back tracked to a specific shipment. Where an incursion can be linked to a specific source the importer can be held responsible for expensive post border control or eradication measures. This may result in direct costs being applied to the importer or higher interventions levels and costs imposed upon them.
- The incorrect perception that the importing country is primarily responsible for biosecurity discourages preventative measures at time of export.

Less tangible costs for MAFBNZ include:

- The organisational requirement to maintain a number of MAFBNZ inspectors, who are focused on treatment of preventable issues. This resource could productively be refocused on non-preventable concern areas.
- Organisational cost associated with increased incursion responses, investigations, movement controls, and treatments.
- There is a potential for the loss of international export trade, or an increase in overseas biosecurity costs, if New Zealand is perceived to be lowering its biosecurity standards. This risk does not preclude NZ from utilising alternative methods and techniques, however alternatives should not be perceived to lower our standards.

Source: MAFBNZ Cost Benefit Analysis - Sea Container Hygiene System (2009)