

Fiordland Marine Biosecurity Strategic Plan 2009

2009/10 – 2013/14



MAF Biosecurity New Zealand has taken the lead role in developing a Strategic Plan for Fiordland in conjunction with other agencies and stakeholders as appropriate:

- The Fiordland Marine Guardians.
- Department of Conservation;
- Ministry for the Environment;
- Ministry of Fisheries; and
- Environment Southland.

Cover photo collage: Ken Grange

Signatories

We, the parties, hereby record our agreement to the purpose of the Strategic Plan.

SIGNED by Barry O'Neil, Deputy Director General, on behalf of MAF Biosecurity New Zealand



MAF Biosecurity New Zealand

Date: 9/3/09

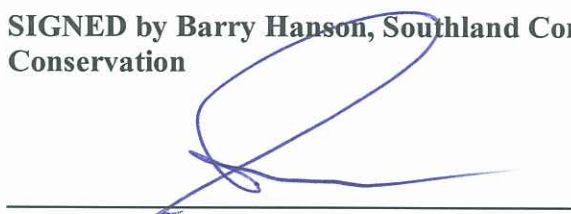
SIGNED by Paul Irving, Manager, Infrastructure on behalf of the Ministry for the Environment



Ministry for the Environment

Date: 16/3/09

SIGNED by Barry Hanson, Southland Conservator on behalf of the Department of Conservation



Department of Conservation

Date: 8 May 09

SIGNED by Wayne McNee, Chief Executive Officer on behalf of the Ministry of Fisheries



Ministry of Fisheries

Date: 5/4/09

SIGNED by Ciaran Keogh, Chief Executive Officer on behalf of Environment Southland



Environment Southland

Date: 27/04/09

SIGNED by Malcolm Lawson on behalf of the Fiordland Marine Guardians



Fiordland Marine Guardians

Date: 16/4/09

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1. INTRODUCTION

1.1 Background

In 2004, Cabinet directed the Ministry for the Environment (MfE), Department of Conservation (DOC), the Ministry of Fisheries (MFish) and the Ministry of Agriculture and Forestry (MAF) to collaboratively implement the Fiordland Marine Conservation Strategy¹ (CAB Min (04) 31/4A). The Fiordland (Te Moana o Atawhenua) Marine Management Act 2005 reinforces this directive and requires Government agencies to take into account advice and recommendations of the Fiordland Marine Guardians (the Guardians), an advisory group established under the Act.

The vision of the Fiordland Marine Conservation Strategy is to ensure “that the quality of Fiordland’s marine environment and fisheries.....be maintained or improved for future generations to use and enjoy.” The Fiordland Marine Conservation Strategy calls for monitoring, compliance and enforcement, and biosecurity programmes, each of which is led by a different government agency.

MAF Biosecurity New Zealand’s role in implementing the Fiordland Marine Conservation Strategy is to develop and implement a biosecurity plan for the Fiordland Marine Area, and to contribute to the plans developed by the other agencies. MfE has developed a Communications Plan, while MFish is responsible for the Compliance Plan, and DOC has developed and is implementing a Monitoring Plan to measure the success of the desired outcomes pursued under the Fiordland Marine Conservation Strategy, including biosecurity outcomes.

Fiordland’s Marine Environment

Fiordland’s unique marine environment is created by the combination of high mountains, heavy rainfall and rainforest and topography of the fiords. Rain washes through the leaf litter on the forest floors and into the fiords, staining the surface waters a dark tea colour. The stained freshwater floats on top of the heavier seawater creating a low salinity layer across the inner fiords. The huge reduction in light caused by this layer enables deep sea species like red and black corals, and seapens to live at much shallower depths than normal. Remarkably, Fiordland’s rock wall communities are as diverse as coral reefs. Towards the fiord entrances, waves mix the freshwater with saltwater and sea life begins to change. Here, seaweeds and a large variety of other organisms make up a diverse and productive coastal community. Preventing the spread of marine risk organisms to the Fiordland Marine Area is important particularly because of the uniqueness of this environment.

¹ Guardians of Fiordland’s Fisheries and Marine Environment Inc. 2003: Fiordland Marine Conservation Strategy (138 pages).

National Marine Biosecurity Partnership

MAF Biosecurity New Zealand is currently working with DOC, MFish, the Guardians, regional councils and the marine industry to develop and implement a partnership model for national marine pest management. This model, called 'STOMP! (Stop the spread of marine pests)' will consist of awareness, surveillance, coordination, and research activities, in order to increase marine biosecurity expertise. The extent of the activities developed as part of the model will depend on the level of commitment provided by management agencies.

The Fiordland Marine Biosecurity programme is treated as one of the substantive marine biosecurity capability building initiatives within this national partnership. The Guardians, DOC, Environment Southland, MFish and MAF Biosecurity New Zealand are members of the national partnership.

1.2 Purpose

The Fiordland Marine Biosecurity Strategic Plan (the Strategic Plan) is a planning document providing a framework to develop interagency operational activities in relation to marine biosecurity. The focus of the Strategic Plan is first on prevention measures and then on response preparedness and control measures.

The Strategic Plan outlines biosecurity measures to reduce the risk of invasive organisms adversely affecting Fiordland's marine environment and goals to achieve these measures.

The Strategic Plan has been designed to address a number of key goals outlined in the Fiordland Marine Conservation Strategy including:

- avoid where possible, remedy or mitigate the adverse impacts of human activities on fisheries and the marine environment;
- ensure the ongoing integrity of areas, habitats and communities of special significance to Fiordland's marine environment; and
- encourage voluntary compliance and reinforce the view that non-compliance is unacceptable behaviour.

1.3 Scope

The Strategic Plan is based on an inter-agency, collaborative approach to managing Fiordland's marine environment as promoted in the Fiordland Marine Conservation Strategy and mandated by the Fiordland (Te Moana o Atawhenua) Marine Management Act 2005. MAF Biosecurity New Zealand will lead the implementation of the Strategic Plan. The Guardians and the Management Agencies defined under the Act (composed of DOC, Environment Southland, MfE, MFish and MAF Biosecurity New Zealand) will:

- identify synergies with existing programmes;
- identify and resource new activities to support the goals of the Strategic Plan;
- share information about relevant existing and proposed programmes within individual agencies; and
- promote the overall Fiordland marine programme.

The Strategic Plan does not include operational activities (i.e.):

- an implementation schedule;
- a budget or funding arrangements;
- analysis of resource availability; or
- performance measures for operational work carried out.

Operational activities will be developed in the Fiordland Marine Biosecurity Operational Plan (the Operational Plan) 2009/10 – 2013/2014. The Operational Plan development will be guided by this Strategic Plan.

The Strategic Plan takes a “pathways” approach to biosecurity where management tools that aim to reduce or prevent the spread of pests can be applied to pathways or parts of pathways. The activities set out in the Strategic Plan address the full spectrum of the biosecurity system: prevention, readiness, response, and long-term management.

The Strategic Plan sets out goals and approaches tailored for Fiordland. To avoid duplication and make the best use of resources, the Strategic Plan identifies that there are existing projects and programmes, which should contribute to marine biosecurity in Fiordland. For example, social marketing activities for Fiordland will be integrated into a broader marine communications programme.

The Strategic Plan does not provide a generic framework for domestic management of marine biosecurity risks although it sets out a specific framework for Fiordland that may serve as a useful model for other regions in the future.

1.4 Components of the Strategic Plan

To achieve the goals of the Strategic Plan, a variety of activities will need to occur both outside and within Fiordland. These activities fall into the broad categories depicted in Figure 1 below.

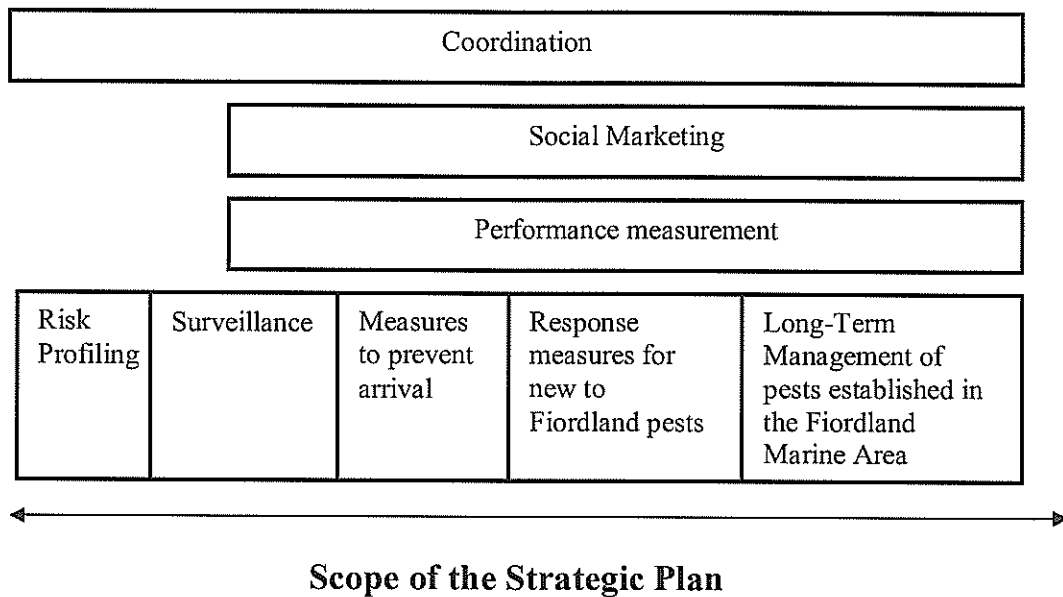


Figure 1: Components of the Fiordland Marine Biosecurity Strategic Plan

The Strategic Plan has been developed as a number of different components that can be undertaken either as a package or as separate units on their own. The timing of implementation of the different components will be determined largely by the Operational Plan, and subject to resource availability across partners signed up to this Strategy.

1.5 Legislative Context

Several statutes are relevant to the Strategic Plan. For example:

- Biosecurity Act 1993 and the Resource Management Act 1991
These Acts provide regulatory tools and direction for achieving biosecurity objectives including, national and regional pest management strategies, regulations, unwanted organism declarations (with the associated powers), regional coastal plans and the New Zealand Coastal Policy Statement.
- Fiordland (Te Moana o Atawhenua) Marine Management Act 2005
This Act establishes the Fiordland Marine Area, describes its physical boundaries and established eight new marine reserves (in addition to two previous reserves under the Marine Reserves Act 1971). The Act also establishes the Guardians as a statutory body to ‘provide advice on fisheries management, biosecurity, sustainable management, and marine preservation and protection’. The Act ‘facilitates and promotes co-operation between the Guardians and management agencies, to assist in achieving the integrated management of the Fiordland Marine Area.’
- Marine Reserves Act 1971

This Act provides for the setting up and management of areas of the sea and foreshore as marine reserves for the purpose of preserving them in their natural state as the habitat of marine life for scientific study.

- Foreshore and Seabed Act 2004

The object of this Act is to preserve the public foreshore and seabed in perpetuity as the common heritage of all New Zealanders in a way that enables the protection by the Crown of the public foreshore and seabed on behalf of all the people of New Zealand, including the protection of the association of whanau, hapu, and iwi with areas of the public foreshore and seabed.

- Local Government Act 1974 and 2002

This Act provides regional councils with their strategic direction in terms of their long-term council community plans.

1.6 Biosecurity Context and Strategic Focus

New Zealand's coastal and marine environment is vulnerable to the establishment and spread of introduced marine pests and diseases. New organisms may arrive, and be transferred around New Zealand waters, in ballast water (used to stabilise ships) and attached as biofouling to the hulls of ships, including merchant, cruising, fishing and recreational vessels.²

Once a new organism arrives, feasibility of detection, eradication or control are typically very constraining (for example, lessons from responding to the discovery of *Styela clava*). In a marine biosecurity context prevention is better than cure. In the Fiordland context this translates to a strategic focus of preventing the arrival of new to Fiordland risk organisms as the priority area of focus.

Further, in a marine biosecurity context where marine organism taxonomy and our understanding of marine risk organisms are in their infancy, biosecurity managers are more concerned about risks we do not know about rather than the ones we do. Therefore, the strategic focus for marine biosecurity in a Fiordland context is on generic measures that reduce the likelihood that risk organisms will arrive in Fiordland.

² The New Zealand Biodiversity Strategy. Our Chance to Turn the Tide. February 2000

2. DESIRED OUTCOME AND SUPPORTING GOALS

2.1 Desired Outcome

The outcome of the Strategic Plan is to achieve the vision of the Fiordland Marine Guardians:

“That the quality of Fiordland’s marine environment and fisheries, including the wider fishery experience, be maintained or improved for future generations to use and enjoy”.

2.2 Supporting Goals

The desired outcome is supported by a series of goals within the Strategic Plan. These goals are :

1. partner agencies work together to implement the strategic plan;
2. focus effort on the highest risk organisms, pathways and vectors;
3. increase capability for early detection via active and passive surveillance.;
4. implement management measures to reduce the risk of human-mediated vectors introducing risk organisms to Fiordland;
5. respond efficiently and effectively to risk organisms detected within Fiordland;
6. manage established pests effectively and efficiently in the Fiordland marine area;
7. reduce the risk of risk organisms adversely affecting Fiordland’s marine area by changing people’s attitudes and behaviours; and
8. evaluate the effectiveness of the Strategic Plan.

3. COMPONENTS OF THE STRATEGIC PLAN

3.1 Coordination

GOAL 1: PARTNER AGENCIES WORK TOGETHER TO IMPLEMENT THE STRATEGIC PLAN

MAF Biosecurity New Zealand will provide oversight and coordinate implementation of the Strategic Plan, including delivery activities identified in the Operational Plan for the partner agencies.

Supporting the cooperative approach to management in Fiordland will require participation in Fiordland Marine Guardians’ meetings when appropriate and in the inter-agency meetings (consisting of MAF Biosecurity New Zealand, MfE, MFish, DOC and Environment Southland). Consultation and advice from the Guardians, stakeholders and other agencies on particular matters that arise relevant to the Strategic Plan will also be sought.

MAF Biosecurity New Zealand will identify opportunities to incorporate the activities under the Strategic Plan with new and existing biosecurity programmes, or broader Fiordland marine management activities. MAF Biosecurity New Zealand will also encourage other agencies to promote the Strategic Plan within their organisations and identify programmes to support the Strategic Plan’s goals.

To ensure further synergies are identified, the Strategic Plan’s goals will be communicated to others within MAF Biosecurity New Zealand.

3.2 Risk Profiling

GOAL 2: FOCUS EFFORT ON THE HIGHEST RISK PATHWAYS AND VECTORS

To ensure that the information collected on biosecurity risks to Fiordland is reflected in management activities in the area, information gaps on the biosecurity risk to Fiordland need to be identified. Risk assessments for Fiordland will need to be undertaken, on an as required basis. It is vital that identified risks are addressed in management activities in the Fiordland Marine Area.

MAF Biosecurity New Zealand will work closely with the Guardians, DOC, MfE, MFish and Environment Southland to review the Strategic Plan over time based on the identified risks.

3.3 Surveillance

GOAL 3: INCREASE CAPABILITY FOR EARLY DETECTION VIA ACTIVE AND PASSIVE SURVEILLANCE

Surveillance within Fiordland is likely to be a combination of:

- active surveillance in high risk areas (for example, high usage areas);
- active surveillance of valued locations (for example, marine reserves); and
- passive surveillance for “changes in the environment—new species in the area”.

Active surveillance is where individuals or organisations carry out specific activities to detect risk organisms. Passive surveillance relies on partners and the general public who are “out and about” to notice and report risk organisms that are new to an area. Any surveillance, whether active or passive, is likely to focus on a discrete group of species to enhance the effectiveness of marine biosecurity surveillance.

Active surveillance

Opportunities to undertake surveillance (with the level contingent on funding and other resources) either as a specific project or as a ‘tag on’ to other research, for example, DOC surveillance in the Fiordland Marine Area, as part of the Fiordland Monitoring Plan will need to be identified. Contracted surveillance in Fiordland may also be undertaken, if required, as part of the national marine biosecurity surveillance programme or similar programme. Training of local agencies on surveillance methods coordinated by MAF Biosecurity New Zealand would be desirable. Local agencies could then work with community stakeholders to undertake surveillance.

While acknowledging that contracted surveillance is important, this type of surveillance in Fiordland can be costly and investment would need to be prioritised against other investments such as prevention activities.

Passive surveillance

A surveillance manual for use by “non-experts” that includes a standard methodology for surveillance may be needed to raise public awareness of the impact of risk organisms and training in the recognition of pest species. MAF Biosecurity currently has generic marine biosecurity material available which could assist with passive surveillance in the Fiordland marine area.

It is imperative that in addition to MAF Biosecurity New Zealand, the Guardians, stakeholders, research providers, and Fiordland users are aware of which organisms are of concern and how to report detections.

3.4 Measures to prevent arrival

GOAL 4: IMPLEMENT MANAGEMENT MEASURES TO REDUCE THE RISK OF HUMAN-MEDIATED VECTORS INTRODUCING RISK ORGANISMS TO FIORDLAND

Vectors

Human-mediated carriers (vectors) for aquatic organism introductions to Fiordland include:

- fouling on vessel hulls and mooring structures brought into the Fiordland marine area;
- freshwater discharged from the Manapouri tail race;
- contaminated equipment used in the Fiordland marine area (for example, aquaculture equipment, boat trailers, dive gear, fishing bait and gear, holding pots, nets, ropes, trawl nets, research equipment);
- bilge water; and
- ballast water (although minimal quantities are currently discharged in Fiordland).

Vector control can be achieved through:

- non-regulatory measures including a social marketing programme and voluntary codes of practice; and
- regulatory measures.

Non-regulatory Management Measures

Social marketing programme

Refer to section 3.5 of this document.

Codes of practice

Codes of practice are a non-regulatory tool for encouraging desired behaviours. In remote locations, where compliance with regulatory measures is difficult to enforce, it is critical to work with users to identify practical and reasonable measures to reduce biosecurity risks. Work will be needed to evaluate existing codes and identify opportunities for new codes. Research being undertaken to identify pathways and vectors by which risk organisms might reach Fiordland (i.e. based on risk) may highlight which new codes are a priority for development.

Codes of practice have been developed in the past to manage biosecurity risks in remote locations such as the Sub-Antarctic Islands and Chatham Islands. A Fiordland-specific code has been developed by commercial tourist operators in Milford Sound. The code addresses a number of issues, including biosecurity, and is entitled: *Code of Practice for Commercial Tourist Vessels Operating within Milford Sound Harbour Limits*.

Agencies operating within Fiordland and the Guardians will need to determine if codes of practice should be developed to target user groups (for example, all tourist vessels operating in Fiordland). The priority for the development of new codes is to be determined based on risk.

Regulatory Management Measures

Both the Resource Management Act 1991 and the Biosecurity Act 1993 provide tools for vector control in Fiordland.

Resource Management Act 1991

Southland Regional Coastal Plan

Section 64 of the Resource Management Act 1991 requires the development of a regional coastal plan to assist regional councils to manage the natural and physical resources of the coastal marine area sustainably.

Environment Southland has developed a Southland Regional Coastal Plan (the Coastal Plan). Rules within coastal plans have the force and effect of a regulation in force under the Resource Management Act 1991 (S 68 (1), (2)). Environment Southland can give effect to these rules by placing conditions on resource consents to reflect a particular rule.

In 2005, Environment Southland amended the Coastal Plan to better address the marine biosecurity risks posed by fouling on hulls, structures, and equipment. Relevant policies and rules are outlined in Appendix 4.

One means of giving effect to the policies and rules within the Coastal Plan is through resource consents. Commercial vessels (excluding fishing vessels and cruise ships) operating in Southland must obtain resource consent from Environment Southland. Current consents can require that vessel operators inspect their hulls for the seaweed, *Undaria pinnatifida*, remove any present and dispose of it properly before travelling to Fiordland.

In some parts of the Coastal Plan policies are not supported by relevant rules, for example, Policy 7.3.8.2.4 (refer to Appendix 3). Many regional councils do not include conditions on resource consents if there is only a policy and no corresponding rule in the coastal plan.

The ‘enforceability’ of developing conditions on resource consents based on policies, rather than rules, within the Coastal Plan will need to be determined. Alternatively, rules could be added during the next review of the plan.

Improving the effectiveness of resource consents and the Agreement for cruise ships will need to be determined, by:

- identifying hurdles Environment Southland face in auditing and enforcing compliance with consent conditions and / or the Agreement;
- identifying tools to support auditing and enforcement activities, for example, hull fouling criteria that can be used to assess the extent of hull fouling from surface observations;
- providing technical assistance to help develop resource consent conditions for Fiordland and/or amendments to the Agreement; and
- including more comprehensive biosecurity conditions on all new consents and on existing consents when consent holders reapply.

Deed of Agreement between the New Zealand Cruise Ship Industry and Environment Southland

Environment Southland has established a Deed of Agreement (the Agreement) with the New Zealand cruise ship industry. The Agreement acts as a resource consent and therefore cruise ship owners and /or operators do not need to hold a resource consent as long as they are a signatory to the Agreement. The Agreement seeks to manage “potential environmental impacts of cruise ship activity within the Southland Coastal Marine Area and seeks to add value to Resource Management Act 1991 provisions and those of the Coastal Plan”³

³ Deed of Agreement Between the New Zealand Cruise Ship Industry and Environment Southland. (2001, p. 19).

The Agreement includes direct and indirect biosecurity requirements:

Direct

- all cleaning, painting and hull scraping activities or any other hull maintenance are prohibited while in internal waters; and
- cruise ships will neither ballast nor deballast in internal waters.

Indirect

- the launching, use and movement of vessels ancillary or incidental to the principle activity, such as kayaks, zodiacs and tender vessels for sightseeing shall be kept to a minimum; and
- all anchoring and mooring activities shall only take place at recognised and or agreed anchorages.

The Strategic Plan does not call for amending or reviewing existing consents at this time as Environment Southland has advised that this would offer little benefit in comparison with the expense and time it would involve. In relation to the Coastal Plan and the Agreement, there may be benefit in determining whether:

- Environment Southland can reasonably place conditions on resource consents based on policies, that do not have corresponding rules, within the Coastal Plan; and
- there is scope within the Agreement to include measures relating to cruise ships having clean hulls prior to entering Fiordland, for example, that the hull paint maintenance on cruises ships must comply with the paint manufacturers requirements.

The Biosecurity Act 1993

The Biosecurity Act 1993 has a number of legislative tools that could be used to manage the introduction, spread and impact of risk organisms, including border requirements and unwanted organism status.

Before considering additional regulatory measures under the Biosecurity Act 1993 for Fiordland (for example, Pest Management Strategies or regulations under S 165 of the Biosecurity Act 1993) MAF Biosecurity New Zealand requires consideration of collaborative programmes in partnership with MAF Biosecurity New Zealand, other Crown Agencies and stakeholders to manage marine pests listed in the Southland Regional Pest Management Strategy. In addition, if, and how, any measures being developed as part of MAF Biosecurity New Zealand's work on national management of marine vector movements could be implemented in Fiordland will need to be decided.

Border requirements

Ballast water discharge and hull fouling are the two main vectors for accidental introductions of marine organisms into New Zealand. Under the Import Health Standard for ballast water, vessels cannot discharge ballast water in New Zealand if it has been loaded in a country other than New Zealand. New Zealand is also working to implement the ballast water convention,⁴ which will provide for more stringent and consistent ballast water measures internationally.

MAF Biosecurity New Zealand is developing hull fouling measures at the border. These include an approved standard for hull cleaning facilities under the Biosecurity Act 1993, voluntary guidelines and investigative research to determine the hull fouling risk of vessels coming through the border.

Unwanted organisms

Under the Biosecurity Act 1993 it is illegal to knowingly spread, communicate or release an unwanted organism (S 52). It is also illegal to sell, exhibit, or propagate / breed an unwanted organism (S 53). There are currently eight marine species (excluding disease-causing organisms) that are declared “unwanted”. Three of these species are already present in New Zealand (*Sabella spallanzanii*, *Styela clava* and *Undaria pinnatifida*).

Regional Pest Management Strategy

Under provisions in the Biosecurity Act 1993, Environment Southland has prepared a Regional Pest Management Strategy. The currently operative strategy⁵ lists nine marine invasive organisms as pests:

- Asian Clam *Potamocorbula amurensis*;
- the seaweed *Caulerpa taxifolia*;
- the Chinese Mitten Crab *Eriocheir sinensis*;
- the European Shore Crab *Carcinus maenas*;
- the Mediterranean Fanworm *Sabella spallanzanii*;
- the Northern Pacific Seastar *Asterias amurensis*;
- the sea squirt *Styela clava*;
- the sea squirt *Didemnum vellixum*; and
- the seaweed *Undaria pinnatifida*.

The inclusion of these pests in the Regional Pest Management Strategy allows implementation of biosecurity measures under the Coastal Plan with more certainty. In addition, Environment Southland may consider collaborative programmes to manage these pests in partnership with MAF Biosecurity New Zealand, other Crown agencies and stakeholders.

Other

⁴ International Convention for the Control and Management of Ship’s Ballast Water and Sedimentation

⁵ Regional Pest Management Strategy. Environment Southland. September 2007.

Other Biosecurity Act 1993 tools that may be able to be used to control vectors in Fiordland include regulations, a National Pest Management Strategy, and Controlled Area or Restricted Place notices.

Further analysis needs to occur on the scope of existing regulations under the Biosecurity Act 1993 to manage internal marine vector movements. In terms of a National Pest Management Strategy, it may be possible to achieve biosecurity objectives in Fiordland with this tool. As with a Regional Pest Management Strategy this would require taking an organism-based approach rather than focusing on vectors. Multiple organisms may be included in one National Pest Management Strategy and organisms that are not yet present in New Zealand or in a particular region can be included in a strategy. Rules made addressing generic activities around hull fouling and ballast water could be set as part of a National Pest Management Strategy.

Controlled area provisions of the Biosecurity Act 1993 authorise a chief technical officer or management agency to institute controls in a specified area in order to “protect any area from the incursion of pests or unwanted organisms” (S 131 (1)(c)). To achieve this protection a chief technical officer or management agency may stipulate that organisms, organic material, risk goods or other goods are subject to certain treatment and procedures (S131 (3)(a)). For example, as risk goods, treatments and procedures could be specified for ballast water and boat hulls under this section of the Biosecurity Act 1993. A similar option is to create a restricted place under S 130 of the Biosecurity Act 1993. A restricted place notice is typically for smaller-scale, temporary control of the movement of and organisms, organic material or risk goods.

Inspectors may be appointed under the Biosecurity Act 1993 (S 103), who thereby access a range of powers, such as the power to inspect and intercept risk goods for example. Authorised Persons and Accredited Persons may also be appointed under the Biosecurity Act 1993 with a more restricted set of powers.

3.5 Response measures for new to Fiordland pests

GOAL 5: RESPOND EFFECTIVELY AND EFFICIENTLY TO RISK ORGANISMS DETECTED WITHIN FIORDLAND

Management Measures

Government agencies may take on a joint response role with regional agencies and industry, covering all “new to Fiordland” pests. This would not necessarily mean that there will be a response in the event that a risk organism is discovered for the first time in Fiordland. Rather it would mean that any such discovery is investigated, and a decision on whether to respond, or not, is made on a case by case basis (e.g. considering feasibility, resources, barriers to success, and strategic importance).

A joint response preparedness plan/agreement would include:

- response measures that could be applied for a range of scenarios from a small localised incursion where action could lead to eradication, through to a large, widely

- spread incursion where eradication would not be practical and no action is likely to occur;
- decision making and cost sharing arrangements; and
 - operational roles and responsibilities.

A range of tools available to agencies could support a joint response approach, for example, MAF Biosecurity New Zealand's Biosecurity Response Management System. This system has been put in place to ensure that responses are consistently managed across marine, freshwater and terrestrial environments. Joint agency responses for both 'new to New Zealand' and established pests can be managed using this system. Environment Southland and Department of Conservation regularly undertake operational activities in Fiordland and also have operational and legislative mechanisms that can contribute to response activities.

A response could involve, for example, delimiting surveys to determine the spread of the risk organisms, as well as assessment of the likely impacts and management options to reduce the risk of spread. At any stage of a response, an informed decision may be made that a response should be closed out, with no further management actions. The criteria to make decisions within a biosecurity context (including response) are detailed in the document 'Biosecurity Decisions Framework' (attached in Appendix 1).

The Biosecurity Response Management System and the Biosecurity Decisions Framework ensure that there is transparency and consistency. An effective response to new risk organisms requires both good surveillance and a clear process for responding, the latter of which is addressed in the Biosecurity Response Management System. The surveillance initiatives being promoted for Fiordland are discussed in the surveillance component of this Strategic Plan (section 3.3).

Effective response activities may require a formal agreement between agencies and possibly industry. This agreement would consider a range of scenarios from a small to large-scale incursion, decision making and cost-sharing arrangements, and operational roles and responsibilities. It will be important to confirm operational and legislative mechanisms partner agencies have available, understand their information requirements, decision-making processes and procedures, and resource allocation mechanisms.

3.6 Long-Term Management of pests established in the Fiordland Marine Area

GOAL 6: MANAGE ESTABLISHED PESTS EFFECTIVELY AND EFFICIENTLY IN THE FIORDLAND MARINE AREA

Management

Responses may be transitioned to long-term management, such as a pest management programme, with a variety of lead or partner management agencies and funding models. The MAF Biosecurity New Zealand process of transitioning a response to long-term management is included in the Biosecurity Response Management System.

Clarification of the pest management roles and responsibilities of central government, local government and other stakeholders is required. MAF Biosecurity New Zealand is currently working with stakeholders to clarify roles and responsibilities around pest management. This will allow agencies to more effectively plan future management programmes.

In addition to a lack of clarity about roles within long-term pest management, there is also a clear lack of tools for managing established pests in the marine environment and available tools are generally not species specific. Some tools do exist but they are useful primarily on small spatial scales. A number of agencies, including MAF Biosecurity New Zealand, DOC and Regional Councils continue to research possible management tools. It is critical that this research continues and is coordinated.

Sharing of information about pest management tools agencies develop is required, as well as cooperation between agencies when transitioning an incursion response to a long-term management framework on a case-by-case basis.

3.7 Social marketing

GOAL 7: REDUCE THE RISK OF RISK ORGANISMS ADVERSELY AFFECTING FIORDLAND'S MARINE AREA BY CHANGING PEOPLE'S ATTITUDES AND BEHAVIOURS

Social marketing programme

MAF Biosecurity New Zealand will lead a marine biosecurity social marketing programme for Fiordland. The programme will leverage off and contribute to both MAF Biosecurity New Zealand's awareness activities related to the marine environment and the multi-agency Fiordland Communications and Monitoring Plans being led by Environment Southland and DOC, respectively. Implementation of this social marketing programme will require MAF Biosecurity New Zealand to work with the Guardians and other agencies.

The purpose of the social marketing programme will be to change people behaviours by increasing awareness of the risks invasive organisms pose to Fiordland and encouraging people to take specific actions to avoid introducing risk organisms. The social marketing programme needs to be supported by social science research to determine if there are detectable changes in behaviour and reviewed in light of information collected by DOC in their Fiordland Monitoring Plan.

Social marketing to promote voluntary behaviour change is desirable because Fiordland is a remote area making the enforcement of regulations both costly and difficult. It is acknowledged that using social marketing to change behaviour is an incremental process, which cannot be expected to immediately change the behaviour of all users. Biosecurity components of social science surveys could be designed to determine changes in awareness and behaviour over time (this is discussed in more detail in section 3.8 “Monitoring”);

The social marketing programme will aim to increase:

- awareness of the risks invasive marine organisms pose to Fiordland;
- the use of human behaviours which prevent introductions to Fiordland;
- awareness of the measures being undertaken to prevent the introduction and spread of invasive marine species; and
- awareness of how to identify unwanted organisms and other invasive marine species and how to report detections.

Key messages

The key messages promoted through the programme will be desired social behaviours in relation to invasive marine species, such as:

- how to identify unwanted marine organisms and other specific invasive marine species;
- who to call to report a suspect organism;
- cleaning vessel hulls and fishing / diving gear before coming to Fiordland; and
- not releasing ballast water within Fiordland.

Target audiences

The social marketing programme could target the following user groups:

- commercial tourist vessel operators (excluding cruise liners);
- cruise liner operators;
- divers;
- privately owned pleasure craft operators;
 - private syndicate vessels;
 - trailer borne vessels;
 - yachts; and
 - kayaks
- research vessel operators and researchers aboard;
- fishers (recreational and commercial);
- iwi/runanga;
- environmental groups; and
- local schools and tertiary institutions.

Delivery mechanisms

Social marketing messages could be disseminated through a number of different media including:

- brochures and posters;
- articles in stakeholder publications, advertisements;
- signage – boat ramps or wharves;
- websites;
- direct mail (with a compiled stakeholder list);
- on the ground personnel, for example, DOC, Environment Southland, or MFish compliance officers;
- advisory notes within existing regulatory and non regulatory tools such as codes of practice;
- fisheries or conservation themed TV programmes; and
- development and delivery of:
 - presentations to:
 - interest groups - dive clubs, boat clubs, environmental groups;
 - trade shows, for example, boat shows; and
 - conferences
 - surveillance training to mobilise local users of Fiordland to watch for and report invasive marine organisms

Target groups will need to be prioritised and social marketing messages delivered accordingly. Social marketing messages will be delivered starting with top priority target groups and moving on to others as funding allows.

3.8 Performance Measurement

GOAL 8: EVALUATE THE EFFECTIVENESS OF THE STRATEGIC PLAN

An indication of the effectiveness of management measures can be achieved by monitoring:

- changes in people’s awareness of biosecurity risks and the actions they should take to protect Fiordland from invasive marine species;
- changes in behaviours (for example, cleaning hulls and equipment before entering Fiordland);
- rate of species introductions into Fiordland;
- the number of surveillance reports to 0800 80 99 66, and
- distribution of any existing pests within Fiordland, or in locations that are highly connected to Fiordland.

Performance measures will need to be developed that support both local (partnership) measurement and reporting needs, and national performance reporting needs under a performance framework for the pest management sector.

Monitoring Activities

Activities will need to be undertaken to monitor changes in both Fiordland's environment and the awareness and behaviour of individuals in the area.

Biological

Monitoring requires biological surveys to determine a baseline of organisms in different locations throughout Fiordland, then follow-up surveys to identify species population and composition changes over time.

The baseline and follow-up surveys should target high use areas, as these are the areas where newly introduced species are most likely to be observed. To be comparable with other biosecurity monitoring around New Zealand it would be desirable to undertake targeted baseline surveys throughout Fiordland following the MAF Biosecurity New Zealand standardised methodology. Opportunities to undertake these surveys will need to be identified.

Additional baseline information on Fiordland may be able to be collected from research undertaken in Fiordland for other purposes, for example, biodiversity monitoring as part of the DOC-led Fiordland Monitoring Plan. Research under the DOC-led monitoring programme may also be undertaken to gauge the success of the biosecurity programme at increasing awareness and changing behaviours over time. Liaising with research providers / management agencies working in Fiordland to identify opportunities to include biosecurity baseline and follow-up monitoring within their existing projects is also desirable.

Behavioural

To determine if management activities are working it is imperative to know if people's awareness of biosecurity risks is increasing and if people are changing their behaviour to reduce the risk. To make this assessment, social research such as user surveys are required. This research can determine:

- whether peoples attitudes have changed as a result of the social marketing programme; and
- if awareness is reflected in behaviour change, for example if more vessel owners clean their hulls before entering Fiordland.

4. IMPLEMENTATION AND REVIEW OF THE STRATEGIC PLAN

4.1 Implementation

To improve delivery of and direction in protecting the Fiordland Marine Area, the Strategic Plan will need to be implemented. Engagement from Government agencies responsible for

implementing the Fiordland Marine Conservation Strategy and the Guardians will be critical in achieving the vision of the Strategy.

The first steps for implementing the Strategy will be to:

- communicate the Strategy;
- develop an operational plan in consultation with stakeholders; and
- develop an implementation schedule within the operational plan.

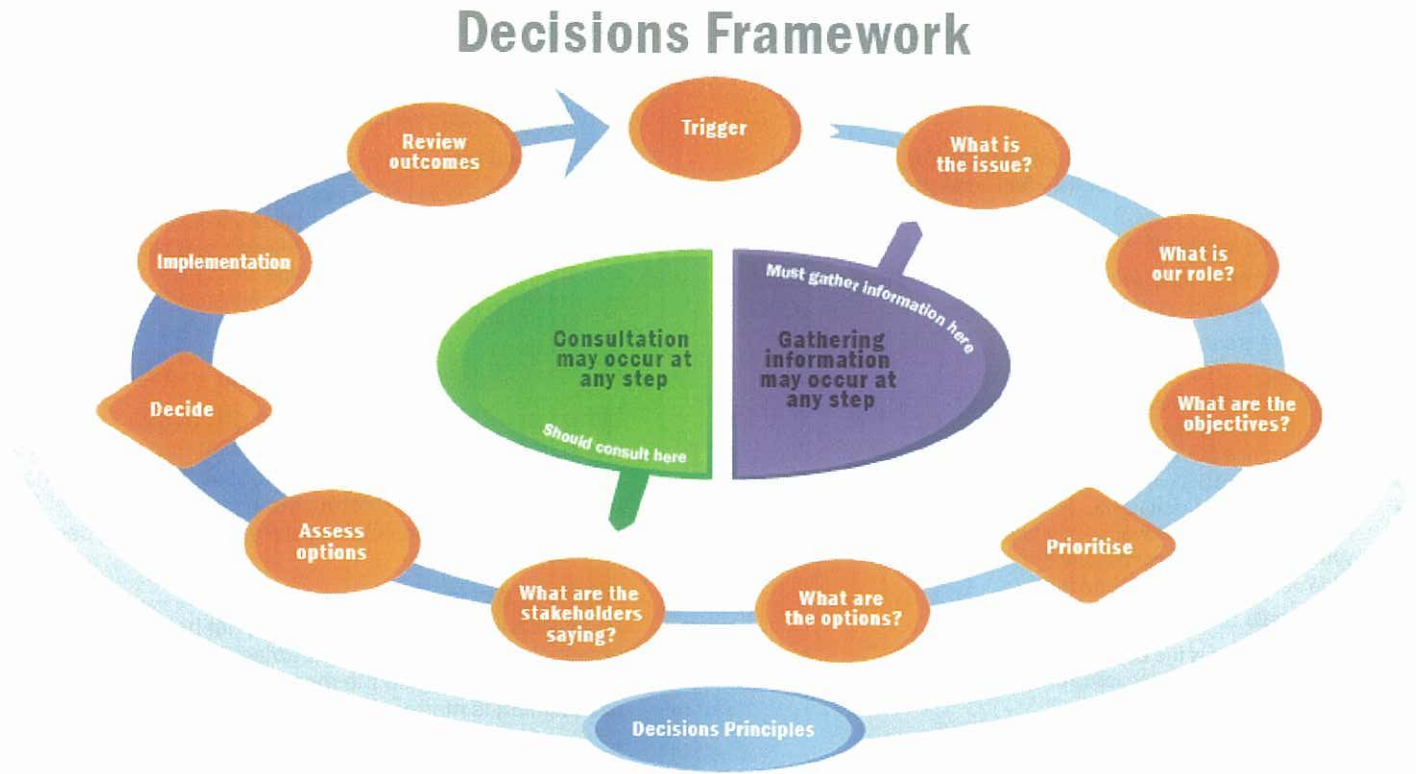
4.2 Reviewing the Strategic Plan

As new information and experience becomes available on how to manage invasive marine species and internal pathways it would be appropriate to review the outcome and goals stated in the Strategic Plan. There are unlikely to be significant shifts in strategic direction in this area in the short term. It is therefore proposed that this Strategic Plan only be reviewed on a 5-yearly basis. However, as marine biosecurity is a new area, it is possible that review will be required before this.

MAF Biosecurity New Zealand will work collaboratively with the Guardians, DOC, MfE, MFish and Environment Southland to periodically review the Strategic Plan over time, based on the identified risks.

APPENDICES

APPENDIX 1: BIOSECURITY DECISIONS FRAMEWORK



Decisions steps

Gather information

Gather information throughout the whole decisions process, particularly to help define the issue and to identify and assess options.

Consultation

Identify and consult affected parties as early as possible in the process and give sufficient time and information to affected parties. Where there is little information, consultation may need to be ongoing or occur at several points in the decisions process. Consultation may not be necessary in all cases.

- Who should be consulted and how?
- What is the objective of the consultation?
- What is the key information that needs to be provided?
- What is the scope/timeframe of the consultation?
- Do the expectations of those consulting/those being consulted align with consultation objectives?
- What are the areas of concern identified?

Trigger

A trigger such as an incursion, new information, or a new business need should prompt the decisions process.

What is the issue?

Explain the background to the issue, including the nature and extent of the issue and the need for action.

Nature of the issue

- What is it?
- What is the underlying cause of the issue?
- What are the symptoms of the issue?
- What is the likelihood & consequence of the issue?
- What are the risks/opportunities?
- Has this been an issue in the past?
- How successful have we been at addressing it?
- What behaviours need to change?
- Who needs to change behaviour?

Size and scale of the issue

- How significant is the issue?
- What is the scope of the issue?
- Who is it an issue for?
- How reversible are the impacts of the issue?
- Does consultation need to occur to help define the issue/objectives?

What is our role?

Clarify/agree who has the mandate/duty to act.

- Do we have a legislative requirement or prearranged role?
- Is it a pre-agreed role or responsibility of another agency?
- Who is best placed to solve it?
- Do we need to agree role division between MAF and another agency?
- Who is best placed within MAF to be responsible?

What are the objectives?

Clearly define the objective(s) to address the underlying cause of the issue in a way that does not pre-determine solutions, and is specific, measurable and achievable. State if objectives are subject to constraints like time or resources.

- How will you measure success?
- How will you know that you have achieved the desired outcome?
- Recognise that different people may have differing objectives that you may need to balance or reconcile when evaluating options
- Are there any relevant government objectives/outcomes?

Prioritise

Assess importance of the issue using the strategic fit and net benefit criteria and decide how much effort is needed, if any.

- How important is this issue compared to other issues?
- How much effort is needed, if any?
- What is the urgency/need for action?
- What are the likely costs associated with maintaining the status quo?
- Set timeframes and the amount of analysis required
- What is the appropriate governance mechanism?
- Who should be the decision-maker?

What are the options?

Develop and analyse realistic options for achieving the objectives and that can be implemented.

Develop options

- What is the status quo?
- Is more information needed to inform development of options?
- Can the options be implemented?

Analyse options

- What is the level of analysis required and timeframe?
- What are the costs and benefits of intervening/not intervening?
- Who benefits and who bears the cost of each option?
- How well do the options manage the risks?
- How will behaviours affect the level of compliance?
- Do the options address the underlying cause or the symptoms of the issue?
- What are the indicators for measuring success/performance?

What are the stakeholders saying?

Consult with affected parties even if you have already discussed the issue with them previously. Consultation must be genuine and feedback used to inform your decision. If you decide not to consult on the options make your reasons for this decision clear.

Assess options

Assess options against strategic fit, net benefit, feasibility, resources, and opportunities/barriers to success (see Principle 9). Discuss and agree the meaning of the criteria before assessment is made.

- What is/are the preferred option(s)?
- How well does the preferred option(s) meet the objective(s)?

Decide on an option

Choose an option, decide what we are going to do or not do and clearly communicate the decision to affected parties.

Implement the decision

Develop an implementation plan and take action.

- Is a communication strategy required?
- What risks may affect successful implementation?
- What review mechanisms and performance targets are needed?
- What compliance and audit is needed?

Monitor and review outcomes

Monitor and evaluate performance, and review against the objectives. If recommendations from the review identify new information or issues these should feed back into the decisions process.

- How well does the decision meet the success/ performance criteria and objectives?
- How well does the decision respond to the risks, costs and benefits and public reaction to your actions?
- What are the intended/unintended effects of the action?
- What is the likely level of compliance?

Decisions principles

Process Principles

1. ***Follow the criteria and processes prescribed in relevant legislation and ratified international standards***

Where legislation prescribes the process to be followed and/or criteria to be applied for a particular decision, these must be followed and applied. International standards or treaties that have been ratified by the government must also be followed.

2. ***Analyse the issue before trying to find solutions***

Spend time identifying the 'real' issue, before thinking through solutions by:

- understanding and analysing: the issue, the context, the risks and opportunities and the objectives first; *then*
- thinking through solutions to manage the issue and assessing strategic fit, net benefit, feasibility, resources, and any other barriers for the solutions.

3. ***Decisions should be made by those best placed to do so***

Unless specified elsewhere (such as in legislation), decisions should be made by the people who have the right information, skills and incentives as they are best placed to make good decisions in that area.

4. ***Timely and well-informed***

There will always be uncertainty and lack of information, but we must make the best decisions we can with the best information available at the time. The level of information sought and analysis should be proportional to the size of the risk/opportunity identified in the available timeframe and the urgency required.

5. ***Consistency***

Follow a consistent decisions process but only to the point where it is sensible to do so. Apply decisions principles, criteria and tools consistently so that decisions do not differ in assessment approach.

6. ***Consult affected parties, including Maori***

Identify and consult those affected by our decisions, including Maori, as soon as possible in the decisions process. Give sufficient time and information to affected parties so they can provide effective feedback before final decisions are made and so they can manage their own risks and interests at the same time.

7. ***Transparency***

Tell affected parties, in plain language they can understand, what the decision is and the reasoning behind the decision so they understand the decision, the implications, and the behaviours being sought.

Content Principles

8. ***Decisions should aim to improve New Zealand's overall economic, social, health and environmental values***

Decisions should be driven by the objective of securing positive consequences and limiting negative consequences for our economic, social, health and environmental values as a country except where there are specific government objectives, directions or statutory requirements.

All decisions by the government to intervene should be tested to check that the intervention is justified and delivers more benefits than costs.

9. ***Assess options based on strategic advantage, net benefit, feasibility, resources and opportunities/barriers to success.***

Assess options using the following criteria. Discuss and agree the criteria before assessment is made.

- Strategic fit – how well does it fit with the government's strategies and MAF's Statement of Intent and/or strategies that reflect wider Government strategies?
- Net benefit – what is the overall net benefit including costs, benefits and their likelihoods?
- Feasibility – is it feasible and what is the probability of success?
- Resources – what resources, skills and capabilities are required?
- Opportunities/Barriers – are there other opportunities or barriers to success, such as timing or the factors that cause public concern (coercion, equity, fear etc)?

10. ***Uncertainty is not an excuse for inaction***

There is always uncertainty but it should not be an excuse for unnecessary delay or indecision. Decisions should focus on what reasonable steps can be taken at the time based on the best information available at the time, while maintaining future options where appropriate. Be transparent about the uncertainties and assumptions.

11. ***Irreversibility provides a stronger case for intervention***

Where the impacts of not intervening are likely to be irreversible, there is a stronger case for intervention even when benefits only marginally outweigh costs.

12. ***Risks/opportunities should be managed by those best placed to do so***

Those with the most appropriate incentives, capability, access to resources and the best information related to any specific opportunity or risk should manage those risks/opportunities.

13. ***Favour outcome-based over prescription-based interventions***

Favour performance/outcome based interventions over prescriptive interventions wherever practicable and appropriate. This may be easier where sector groups have large well-resourced players that interact with each other. Standards should be enforceable, and should draw on existing (industry) standards as much as is practicable to minimise compliance costs and allow innovation. Try to describe criteria for equivalent ways of achieving the standard.

APPENDIX 2: GLOSSARY OF TERMS

Fiordland Marine Biosecurity Strategic Plan definition

Biosecurity is defined as the exclusion, eradication or effective management of risks posed by pests and diseases to the economy, environment and human health.⁶ Biosecurity seeks to protect terrestrial, freshwater and marine environments.

Biosecurity Act 1993 is an Act to restate and reform the law relating to the exclusion, eradication, and effective management of pests and unwanted organisms.

Chief Technical Officer is a person appointed as a chief technical officer under section 101 of the Biosecurity Act 1993.

Department of Conservation is the government agency charged with protecting and preserving native species, managing wild animals, caring for public conservation.

Environment Southland is the statutory body responsible for managing Southland's natural and physical resources of air, land, water and coast.

Fiordland when used on its own refers to the Fiordland Marine Area.

Fiordland Marine Area covers the coastal marine area of the Southland Region from a line due south of the eastern bank of the mouth of the Waiau River to a line due west of Awarua Point. This boundary will need to be recognised in the implementation of the management measures.

Fiordland Marine Conservation Strategy is an initiative the local community-based group, the Guardians of Fiordland's Fisheries and Marine Environment community, which promotes a new approach to the protection of the Fiordland marine environment through co-operative and integrated management.

Fiordland Marine Guardians are a group of stakeholders in the Fiordland marine environment that were established as a result of the Fiordland (Te Moana o Atawhenua) Marine Management Act 2005 to provide advice on fisheries management, biosecurity, sustainable management, and marine preservation and protection.

Fiordland (Te Moana o Atawhenua) Marine Management Act 2005 was passed in 2005, in recognition of the Fiordland Marine Area's "local, national and international importance, unique marine environment, distinctive biological diversity, and outstanding landscape and cultural heritage.

Import Health Standard issued under Section 22 of the Biosecurity Act 1993. The Director-General MAF, may, issue an import health standard specifying the requirements to be met for the effective management of risks associated with the importation of risk goods before those goods may be imported, moved from a biosecurity control area or a transitional facility, or given a biosecurity clearance.

⁶ *Protect New Zealand: the biosecurity strategy for New Zealand*. 2003 (p5).

Ministry of Agriculture and Forestry is the government agency responsible for leading the protection and sustainable development of our biological resources for all New Zealanders.

MAF Biosecurity New Zealand is a business group of the Ministry of Agriculture and Forestry responsible for leading a fully integrated, transparent and efficient biosecurity system for the country.

Ministry of Fisheries is the government agency responsible for all aspects of fisheries management.

Ministry for the Environment is the government agency responsible for advising on environmental sustainability and international matters that affect the environment.

National Pest Management Strategy is a legally binding plan established at a national level for managing a pest and identifies (among other things) the powers to be used and how the strategy will be funded.

Resource Management Act 1991 is legislation that sets out how we should manage our environment.

Regional Pest Management Strategy is a legally binding plan established at a regional level by a regional council for managing pests.

Risk organism is defined as organisms affecting plants or animals, in marine, freshwater or terrestrial environments, and includes:

- a) new or existing/established pests and diseases that could pose a threat to the values we wish to protect, their related vectors/ pest agents, and particles such as prions, (including organisms that have been purposefully established but later prove to be a threat to the values);
- b) zoonotic diseases that may impact on animals and humans;
- c) syndromes (including where the causative agent(s) is not known) or where there could be more than one risk organism present contributing to the threat;
- d) new organisms (defined under the Hazardous Substances and New Organisms Act 1996) that do not have approval under that Act, or that have breached containment or other controls, including both GMOs and non-GMOs;
- e) organisms associated with imported risk goods that have received biosecurity clearance but are subsequently found to require further biosecurity risk management.

***APPENDIX 3: BIOSECURITY RELATED POLICIES AND RULES
WITHIN THE SOUTHLAND REGIONAL COASTAL PLAN***

Policy 7.3.8.2.2

Avoid wherever practicable, remedy or mitigate the adverse effects of discharges of contaminants from areas used for cleaning, maintenance and painting of structures and ships (the explanation accompanying this policy identifies “removal of marine growth” as a means of introducing undesirable marine organisms). The explanation notes that ships moored in areas infested with unwanted or pest organisms pose a risk to Southland waters and advises that if boat hulls are “scraped prior to entering Southland waters” the risk can be reduced).

Rule 7.3.8.2.5

Hull cleaning of ships, where viable unwanted or pest marine organisms enter the coastal marine area, is a prohibited activity.

Policy 7.3.8.2.3 (inserted by amendment)

Provides for hull cleaning of ships in circumstances where ...viable unwanted or pest organisms, do not enter or are not released into the coastal marine area.

Rule 7.3.8.2.3 (b)

Hull cleaning of ships within the coastal marine area, provided that no viable unwanted or pest organisms are released into the coastal marine area is a permitted activity.

Policy 7.3.8.2.4 (inserted by amendment)

Requires that any ships to be used for commercial surface water activities in Fiordland, and any structures or equipment that are to be erected or placed within the internal waters of Fiordland that have been in coastal waters in other parts of New Zealand or in foreign waters, be thoroughly cleaned and disinfected before entering, or being placed in, Fiordland's internal waters.