I hereby certify that this is a correct copy of the Chatham Islands Pest Management Strategy 2008-2018. This document has been prepared in accordance with the requirements of the Biosecurity Act 1993.

This Strategy was adopted at a meeting of the Chatham Islands Council on 25 September 2007, and declared "made" on 3 March 2008. The Strategy is operative from 1 July 2008.

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General Manager

Chatham Islands Council

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CHATHAM ISLANDS – KEEP OUR ISLANDS UNIQUE

The Chatham Islands is a unique part of New Zealand. This uniqueness is reflected in its largely unmodified coastal dunes, limestone outcrops, waterways and marine environment. It is reflected in the high number of endemic species that occur nowhere else in the world, such as the black robin, taiko, numerous threatened plant species, freshwater fish and insects.

The Chatham Islands is also unique because it has relatively few pests. However, established pests such as gorse, possums and goats are already impacting on our economy, on many of the natural ecosystems of the Islands, and may cause the extinction of threatened species. The establishment of new pests will result in increasing impacts and increased costs of control.

The Chatham Islands Pest Management Strategy must be reviewed every 5 years. This Strategy is the result of a 2 year process to review the 2001 Pest Management Strategy. It provides an over-arching framework for the management of plant and animal pests, for the next 5 years and more.

Key changes from the 2001 Pest Management Strategy are:

- an emphasis on maintaining an internal border between the Chatham Islands and mainland New Zealand;
- the establishment of three major pest management programmes and associated objectives;
- identification of pest management responsibilities and obligations;
- clear identification of pest management obligations;
- a stratified approach to gorse control; and
- recognition that pest control on the Chatham Islands is in the national interest and therefore, the need for an inter-agency approach to pest incursion response for pests established in New Zealand, but new to the Chatham Islands.

This Strategy is our main tool through which the Chatham Islands Council and the community can work together to minimise or prevent the impact of pests. Thank you for your continuing interest and support.

Ka mou te wehi o te warua moutere nui

Owen Pickles

General Manager

Chatham Islands Council

PART I: INTRODUCTION AND BACKGROUND

1 - INTRODUCTION

Title

This document is known as the Chatham Islands Pest Management Strategy. Throughout this document it is referred to as 'the Strategy'.

Purpose

The purpose of the Strategy is to protect the regional values of the Chatham Islands by preventing the establishment of pests new to the Territory, and by managing the adverse effects of established pests.

The following results are anticipated:

a) The Chatham Islands as a whole will remain free from surveillance pests currently known to be present on mainland New Zealand but absent from the Chatham Islands.

b) Pitt Island will remain free from ship rat, Norway rat, kiore, hedgehog and possum.

c) Total Control pests on the Chatham Islands will be eradicated.

d) The densities of Containment Control pests on the Chatham Islands will be maintained or reduced.

The Chatham Islands Council (the Council) is of the opinion that an incursion response action plan is critical to the successful implementation of the Strategy. However, the limited resources of the Council, coupled with the exceptional circumstances and characteristics of the Chatham Islands Territory mean that a multi-agency integrated approach is required in relation to incursion response. This is outlined further at Section 1 in the 'Strategic Approach' section.

Commencement and Duration

The Strategy will take effect on the date that it is made operative by the Council in accordance with section 79F of the Biosecurity Act 1993 (the Act). The Strategy will remain in force for 10 years from that date.

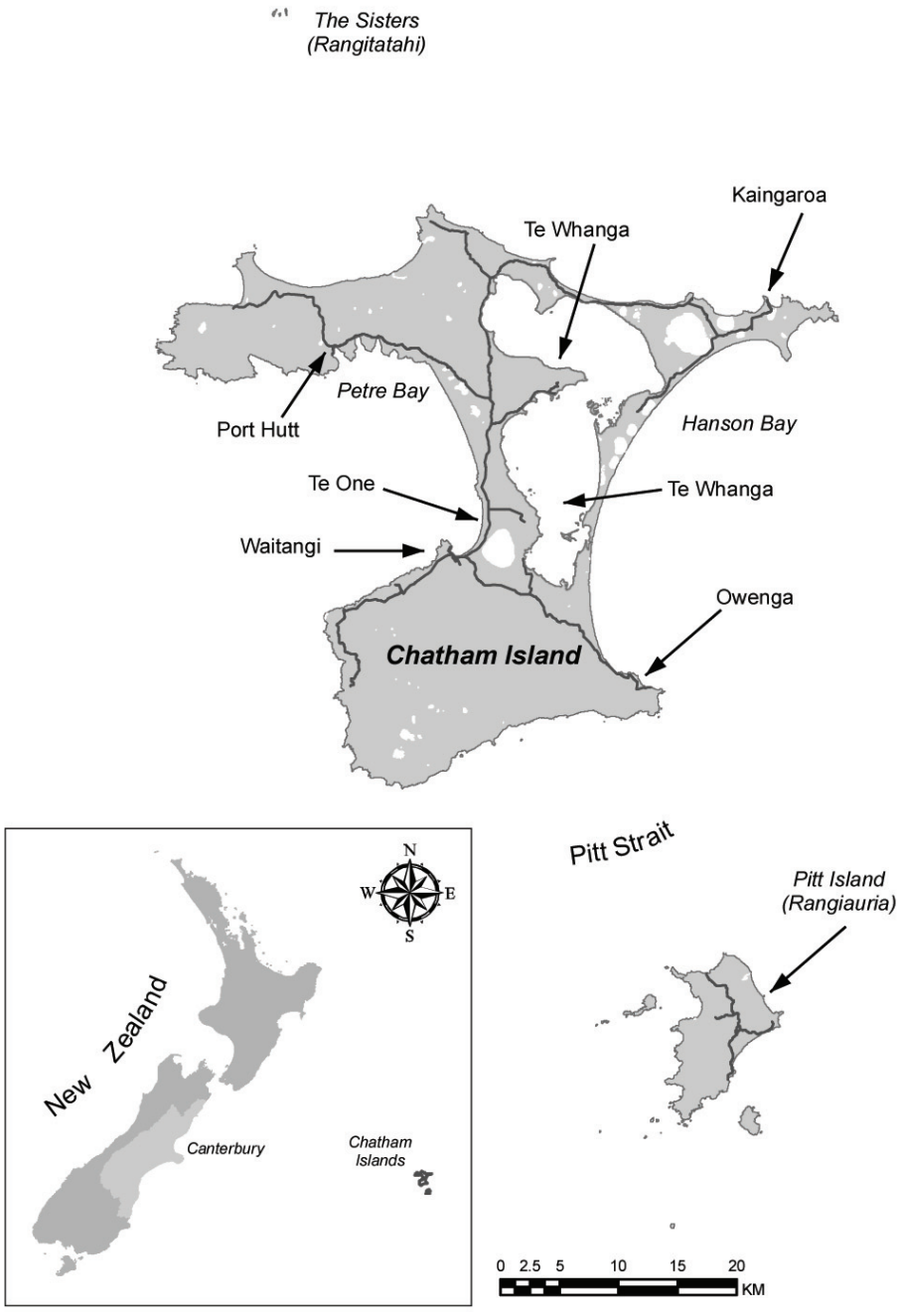
Review

The Council may review the Strategy if it believes it is failing to achieve its purpose or if there is a significant change in circumstances. However, where the Strategy has been in force for 5 years or more and it is more than 5 years since a review of the Strategy, then the Council must proceed to review the Strategy. Any review may result in the amendment or revocation of the Strategy, or no change to the Strategy, or an extension of its duration.

Area of Effect

The Strategy has effect within the administrative boundaries of the Chatham Islands Territory (Figure 1). This comprises the islands known as the Chatham Islands and the area of the territorial sea adjoining those islands as defined by the Chatham Islands Council Act 1995.

Figure 1: The Chatham Islands



STRUCTURE

The Strategy is in five Parts:

Part I: Introduction and Background

Section 1: *The Introduction comprises this section. It outlines the structure of the Strategy, sets the scene for pest management on the Chatham Islands, and outlines the strategic approach in terms of what is and what is not addressed within the Strategy, and the need for a multi-agency, integrated approach to incursion response.*

Section 2: *Outlines the legislative framework for the Strategy, the scope of the Strategy, and its relationship to other legislation.*

Section 3: *Details pest management obligations and responsibilities.*

Part II: Pest Management Programmes

Section 1: Lists organisms declared to be pests.

Section 2: Introduces three pest management programmes, including objectives and principal measures for each. The pest management programmes are - Surveillance, Total Control and Containment Control.

Section 3: *The Surveillance pest management programme is described. This programme is broken into two sub-programmes. These are Surveillance – Chatham Islands and Surveillance – Pitt Island. The former includes pests that are either known to be present on the New Zealand mainland but not known to be present on the Chatham Islands; or known to be present on the Chatham Islands and included in a Total Control programme; or known to be present on the Chatham Islands but insufficient information is available to determine the most appropriate level of control. The Surveillance-Pitt Island programme includes pests that are known to be present on Chatham Island, but absent from Pitt Island.*

The objectives of the Surveillance – Chatham Islands programme are:

a) to prevent the establishment of pests not known to be present on the Chatham Islands;

b) to prevent the further introduction and spread of pests included in a Total Control programme, and to prevent their re-establishment following eradication; and

c) to prevent the further introduction and spread of other listed pests known to be present on the Chatham Islands.

The objective of the Surveillance – Pitt Island programme is to prevent the establishment of the listed pests on Pitt Island.

Section 4: *The Total Control pest management programme is described. This programme applies to all parts of the Chatham Islands Territory and identifies pests that are present on the Chatham Islands and that are proposed to be eradicated from the Chatham Islands.*

Section 5: *The Containment Control pest management programme is described. This programme applies to all parts of the Chatham Islands Territory and identifies pests that are established on the Chatham Islands, but justify regional intervention to protect production, biodiversity and other regional values.*

Section 6: *The Principal Measures to be used by the Council in implementing this Strategy are outlined in more detail. These include regulation, inspections, surveillance and searching, property plans, pest control operations, internal border control, incursion response, public awareness and investigation.*

Section 7: *Rules are stated and powers conferred outlined.*

Section 8: *Sets out those organisms nominated by submitters to the Strategy for inclusion in the pest management programmes within the Strategy, but which were ultimately not included. Some of the nominated organisms are absent from the Chatham Islands, but are present on mainland New Zealand so have the potential to arrive, and some are present on the Chatham Islands, but the information known about them is incomplete, or they were not prioritised for control.*

Part III: Funding

Funding sources are described, including central government grants and direct recovery of costs from beneficiaries and exacerbators. No allowance has been made for input and assistance from other agencies and organisations such as will be required in relation to a multi-agency incursion response action plan, strengthening internal border controls, and freshwater and marine biosecurity.

Part IV: Monitoring

This Part describes how implementation of the Strategy will be monitored through an annual Operational Report and 5-year Operational Plan.

Part V: Supporting Information

Supporting Information contains the Appendices, Glossary of Terms and References.

PESTS AND THE CHATHAM ISLANDS

The Chatham Islands are located 860km due east of Christchurch, New Zealand (Figure 1). There are eleven islands in the Chatham Islands Group. The two largest - Chatham Island (90000ha) and Pitt Island (6200 ha) - support settlements comprising communities of about 700 and 50 people respectively. The majority of landholdings are held in iwi and joint ownership. The Crown (Department of Conservation) manages about 4% of the land (7129 ha) of the Chatham Islands, with areas ranging in size from about four to 1300ha.

The largest of the nine remaining islands - South East Island, Mangere Island (1130 ha), and little Mangere Island (170 ha) - are adjacent to Pitt Island. A star shaped group makes up the Star Keys to the east of Pitt Island. Three small islands make up The Sisters to the north of the main island group.

The Chatham Islands is a unique and special part of New Zealand. It is nationally and internationally important to biodiversity, and nationally important to the marine industry and as an island group. Its significance in terms of biodiversity is reflected in its suite of internationally recognised threatened species recovery programmes, including for the black robin, taiko, and numerous threatened plant species. Forty seven of the Chatham Islands' 418 native vascular plant species, 18 of its 73 native birds, and about 20% of the 750-800 insect species are found nowhere else in the world (endemic). Of these a high proportion (up to 20%) are threatened with extinction.

The inshore marine life of the Chatham Islands is similarly unique, with seven endemic seaweeds. Most Chatham Islands fish are widespread elsewhere in New Zealand, and have close affinities with South Island regions and Stewart Island. The freshwater habitats of the Chatham Islands have significant spiritual, cultural, recreational, and conservation values. Seven freshwater fish species are threatened with extinction.

The main economic base of the Chatham Islands is primarily production – farming and fishing, along with a developing eco-tourism industry. Paua (Haliotis iris) and crayfish (Jasus edwardsii) are the main exports, although wet fish (blue cod Parapercis colias, blue nose Hyperoglypha antartica) and kina (Evechinus chloroticus) are also harvested. Live export of sheep and cattle for meat production is the main farm export, supplemented with wool. This economic base depends heavily on unpolluted, pest-free land, freshwater and marine ecosystems.

Due to its isolation, the Chatham Islands have fewer pests than mainland New Zealand. This has meant that the Chatham Islands have retained a high degree of endemism. However, this also means that, like other isolated island groups, the Chatham Islands are extremely vulnerable to pest invasion. The introduction of some new pests could have a devastating effect on the nationally and internationally important biodiversity values of the islands, as well as on the Territory's economic base of fishing, farming and eco-tourism. Therefore, the biosecurity and pest management needs of the Chatham Islands are different from most other regions of New Zealand. Strong border controls and effective surveillance and incursion response are fundamental. However, the resources of the Council and community are limited, and if the unique and nationally important values of the Territory are to be maintained in the face of the high number of potential pest incursions, the need for assistance from other agencies must be recognised and provided for.

STRATEGIC APPROACH

There are significantly fewer introduced plants and animals on the Chatham Islands than mainland New Zealand. Similarly, there are fewer pest plants and animals on Pitt Island than on Chatham Island, and no introduced animals and few introduced plants on the Outer Islands. Introduced plants and animals are therefore more likely to establish first on Chatham Island from New Zealand, then, like a stepping stone, move from Chatham Island to Pitt Island, and from Chatham and Pitt Island to the Outer Islands.

Given this, the most cost effective long-term pest management approach for the Territory is to prevent introduced organisms absent from the Chatham Islands, whether or not they are listed as a pest in the Strategy, from establishing on the Chatham Islands. Two key factors in achieving this are strong internal border controls between mainland New Zealand and the Chatham Islands, and effective and timely incursion response.

However, the Council has limited resources and operational capacity to be able to achieve this through this Strategy alone. Therefore, pest management in the Chatham Islands needs to be addressed from two angles. Firstly, through those things that can realistically be achieved by the Council under this Strategy, and secondly, through an integrated, multi-agency approach that recognises the national importance of maintaining the relatively pristine state of the Chatham Islands, and the extraordinary vulnerability of the Territory to pest invasions, relative to other regions of New Zealand.

On this basis, the Strategy establishes several pest management programmes that can be cost-effectively undertaken by the Council and the Chatham Islands community, while also emphasising the need for a strong inter-agency approach sitting outside the Strategy, but focused on integrated pest management and incursion response, and managing risk pathways through internal border control.

Pest Management Programmes

The Strategy establishes three pest management programmes. These are:

- Surveillance (broken into two sub-programmes)
- Surveillance – Chatham Islands
- Surveillance – Pitt Island
- Total Control
- Containment Control

These programmes, their respective objectives, and the principal measures that will be undertaken to implement and enforce them are set out in Part II of the Strategy.

Pest Management Outside the Strategy

The Chatham Islands is a special and unique place that is geographically isolated from the rest of New Zealand. This poses considerably different pest management and biosecurity challenges than those that occur in most other regions of New Zealand. The terrestrial, freshwater and marine environments of the Chatham Islands support nationally and internationally important biodiversity values, and maintaining these values will require strong biosecurity measures, particularly in terms of internal border controls and incursion response. These biosecurity needs are beyond the resources of the Council and community. Therefore, the exceptional circumstances and nationally important values of the Chatham Islands need to be recognised and provided for through assistance in biosecurity management from central government agencies and other organisations.

Internal Border Control

Given that it is most cost-effective to ensure that pests remain outside the Chathams Islands, effort should be focused on managing risk pathways, the most significant of which is that between the Chatham Islands and mainland New Zealand. There is strong community recognition and support within the Chatham Islands for addressing this risk pathway through an internal border between the Chatham Islands and New Zealand.

However, establishing and maintaining an internal border with effective controls across all transportation channels is beyond the resources of the Council and will require assistance from other agencies and cooperation and partnerships between the Council and other organisations involved in the movement of people and freight to the Chatham Islands. What is proposed within the bounds of this Strategy in terms of an internal border is outlined under Principal Measures at Part II, Section 6 of the Strategy. Some of these activities are also a key measure in achieving the objectives of the Surveillance pest management programme. However, effective internal border control will require additional measures, particularly in relation to air transport, where the cooperation of airport companies and the assistance of other agencies will be required, particularly in terms of signage and raising awareness about pest risks prior to passengers departing for the Chatham Islands.

Incursion Response

While Regional Councils are responsible for the incursion response of the majority of pests new to a region, the resources and operational capacity of the Council are considerably limited, and are not sufficient to effectively respond to the high number of potential pest incursions. Furthermore, as the Chatham Islands is nationally and internationally important to biodiversity and nationally important to the marine industry and as an island group, the Council considers that an incursion response for some pests on the Chatham Islands is in both the national and regional interest, and should therefore be addressed through a multi-agency integrated pest management approach, with technical and financial support from central government agencies.

Therefore, the Council will seek the formal support and commitment from other agencies and key stakeholders for the development of a multi-agency incursion response action plan for the Chatham Islands that:

- Identifies lead agencies
- Identifies key responsibilities for planning, operations, logistics, information, liaison and safety procedures
- Identifies/confirms pests of interest
- Identifies risk pathways
- Establishes key inter agency relationships and communication channels
- Establishes a mechanism for assessing risk and cost/benefit of control or eradication
- Establishes appropriate mitigation responses e.g. pre border, post border, contingency
- Establishes a communication plan
- Identifies sources of science and operational advice
- Identifies reliable funding mechanisms for the short term
- Identifies potential key service providers
- Contains pest specific contingency responses for key pests

Given their nationally, and in some cases internationally, important biodiversity values, any incursion response action plan must address the Outer Islands as well as the main islands of Pitt and Chatham.

An incursion response action plan may include the establishment of an advisory panel, made up of operational, technical and legal representatives from the Department of Conservation, Chatham Islands Council and Biosecurity New Zealand, for example. The advisory panel may consider all the facts in relation to a new incursion with a view to eradication, and report their recommendations to the Minister of Biosecurity.

The success of this multi-agency integrated approach relies on formal support and commitment from other agencies and key stakeholder groups. The Council will therefore continue to work with other agencies, particularly Biosecurity New Zealand, the Department of Conservation (DOC) and Department of Internal Affairs to confirm partnerships,

and to secure resources for the development of an incursion response action plan.

If strong external relationships cannot be confirmed through these efforts, then the status quo will remain. Greater emphasis will be given to education and information programmes, such as –

- airport signage;
- promoting domestic gardens free of Unwanted Organisms and plant pests;
- correct disposal of garden waste; and
- promoting the benefits of planting native species in domestic gardens.

Individuals who choose not to purchase appropriate garden supplies, plants and pets that may contravene the purposes of the Strategy may need education and advocacy to encourage and maintain effort.

While the Strategy places emphasis on preventing new pests arriving in the Chatham Islands from New Zealand, and identifies the need for an incursion response action plan, without interagency partnerships, the focus will remain on preventing pests new to Pitt Island arriving from Chatham Island, and education and advocacy to promote this focus. To this end, the Council will continue to encourage other agencies to carry out baseline and de-limiting surveys of introduced plants and animals on Pitt Island in particular, and to promote best practice standards of hygiene for all vessels supplying the Chatham Islands.

Marine Biosecurity

Marine organisms are an important pest management concern, particularly for the fishing industry. Once a harmful marine organism is present, it is either impossible or extremely expensive and technically difficult to control or remove it. Consequently, vector control is a key factor in managing the entry of marine pests to the Chatham Islands. Marine organisms tend to arrive in ballast water, on boat hulls, or through marine aquaria. The Ministry of Agriculture and Forestry (MAF) administers ballast water controls as part of an Import Health Standard, however these apply only to international vessel movements, and not to internal borders within New Zealand.

There is presently no legal requirement enforcing hull cleanliness in New Zealand. However, good hull maintenance significantly reduces the marine biosecurity risk and should be promoted by all agencies and stakeholders with an interest in marine biosecurity. The Chatham Islands Resource Management Plan contains rules regarding the discharge of contaminants within the coastal marine area, and regarding the cleaning and maintenance of boats.

There is an interest in aquaculture in the Chatham Islands and an important consideration in any proposed aquaculture development relates to introduced species and any imported equipment that may harbour harmful marine organisms. Controls on aquaculture development will be considered through the coastal environment component of the Chatham Islands Resource Management Plan and can be put in place through the Resource Management Act.

To keep harmful marine organisms out of the Chatham Islands, hygiene measures must be enforced offshore, at Ports visited immediately prior to the Chatham Islands. The Council will maintain an emphasis on promoting hygiene and ongoing surveillance around the Islands' ports by providing training to freight handlers in pest identification. As marine biosecurity is a specialised area, measures beyond these have not been included in the Strategy due to a lack of resources and (like other regions of New Zealand) specialist capability within the Council.

Establishing internal biosecurity for marine pests requires inter-regional and national coordination, and the development of effective partnerships will be essential. However, the levels of marine biosecurity capability in New Zealand are low. This issue is recognised and is being addressed at a national level through the development of a comprehensive marine biosecurity programme led by MAF/Biosecurity New Zealand, which includes clarifying roles and responsibilities, and leading and coordinating the efforts of all organisations with an interest or role in marine biosecurity. In addition, central government agencies and regional authorities (including the Chatham Islands Council) have recently developed a marine biosecurity partnership aimed at improving marine pest management capability over time, including an increased level of protection for high-value marine areas.

Specific partnership-based plans and programmes that have been developed to date include an integrated marine biosecurity programme for the top of the South Island and a Fiordland marine biosecurity plan.
The Council has initiated discussions with Biosecurity New Zealand proposing that due to the –

- high economic value of the Chatham Islands fishing industry to New Zealand;
- low number and frequency of marine vessels visiting the Chatham Islands;
- high community awareness of biosecurity risks; and
- low number of stakeholder groups

the Chatham Islands is an ideal case study for Biosecurity New Zealand to develop and test a marine biosecurity response.

In terms of particular marine organisms of concern, Biosecurity New Zealand is currently focused on eight organisms, all of which are Unwanted Organisms in terms of the Biosecurity Act 1993. These organisms are listed in Appendix 3 under National Priority Marine Organisms.

Freshwater Biosecurity

Introduced freshwater plants may:

- compete with and smother native plants;
- reduce water flow and increase the risk of flooding;
- reduce water quality;
- increase the risk of toxic algal blooms;
- rot and create a strong stench on shorelines;
- compromise aesthetic values;
- impede recreational activity (e.g., swimming, boating and fishing); and
- adversely impact on agriculture and tourism.

Introduced freshwater fish and invertebrates may:

- modify or destroy natural habitat;
- destroy native plants; and
- prey upon or compete with native fish and invertebrates for food and habitat.

Freshwater pests are therefore considered a high risk and will require specific expertise to manage.

There are currently few introduced freshwater plants or animals present on the Chatham Islands, and many introduced freshwater plants and animals present on mainland New Zealand, but absent from the Chatham Islands. The majority of pest introductions into freshwater ecosystems are either through illegal, intentional or accidental human release. Many freshwater pest introductions emanate from the pet and aquaria trade. To address this issue, which is very difficult to control and monitor, Biosecurity New Zealand is initiating the development of a partnership with the pet trade to better manage the risk of pest spread. It is intended to model this partnership on the National Plant Pest Accord (see Part I, Section 2).

It is possible that every introduced freshwater species poses an unacceptable potential impact to the freshwater values of the Chatham Islands. However, there is limited information available to be able to accurately assess the actual or potential impact of specific introduced freshwater species, whether present or absent from the Chatham Islands. For many, there are also limited, if any, effective control methods, or control requires specialist technical capability that the Council does not have.

Although the Council does not have the resources, operational capacity or technical expertise to be able to undertake some types of active surveillance for potential or actual freshwater pests, such as dive surveys, a considerable number of freshwater pest species have been included in the Surveillance – Chatham Islands programme, and the Council will continue to advocate for restrictions on the sale, distribution and propagation of introduced freshwater plant and animal species that are known to / may pose a threat to the freshwater values of the Chatham Islands. The Council will also give priority to encouraging investigations into the status of introduced freshwater species by other agencies and organisations.

As there are a limited range of freshwater pest control methods available, it is difficult to assess whether or not introduced freshwater plants or animals that are of known risk and present on the Chatham Islands are best assigned to a Total Control, Containment Control, or other programme. Therefore, the Council will encourage investigations into the development of effective total control and containment control methods for freshwater pests in restricted distributions in the Territory as a whole, for which information about actual and potential impacts are known.

DOC and NIWA are developing a biogeographic framework to identify freshwater ecosystems with nationally important natural heritage values (Leathwick et. al, 2007), with an initial focus on mainland New Zealand. DOC is also in the process of identifying Waters of National Importance (WONI). The Council will seek clarification from DOC as to whether or not the freshwater ecosystems of the Chatham Islands are in the national interest to protect as a whole, or in significant natural areas on the Islands, and will advocate that national priority be given to the eradication of introduced freshwater pests present on and absent from the Islands, that threaten those areas.

Unwanted Organisms

An Unwanted Organism is defined in the Biosecurity Act 1993 as any organism a chief technical officer believes capable of causing unwanted harm to any natural and physical resources or human health. Regardless of whether an Unwanted Organism is included in a pest management strategy, sections 52 and 53 of the Biosecurity Act make it an offence to sell, propagate, spread or distribute an Unwanted Organism. In addition, section 100 of the Biosecurity Act enables Regional Councils to undertake small-scale control programmes for Unwanted Organisms without the need for a pest management strategy. MAF maintains a register of Unwanted Organisms, as required by the Biosecurity Act. This list is extensive, and to include the full list in this Strategy would be impractical, however the list can be viewed at http://www.biosecurity.govt.nz/commercial-imports/unwanted-organisms-register-.

The number of Unwanted Organisms known to be present in other regions but not known to be present in the Chatham Islands, is the highest of any other region in New Zealand, and to include all of them in pest management programmes under this Strategy would be beyond the limited resources of the Council. Given this, and given the provisions of the Biosecurity Act, Unwanted Organisms not known to be present in the Chatham Islands are not covered by this Strategy. Unwanted Organisms known to be present in the Chatham Islands, as at November 2006, are included in the Total Control pest management programme, unless control is being undertaken by another agency, responsibility for control lies with another agency, or there was insufficient information available to determine the appropriate level of control. The Council will liaise with central government and assist with national initiatives to control Unwanted Organisms where practical and appropriate.

The National Pest Plant Accord (NPPA) is a cooperative agreement between the Nursery and Garden Industry Association, regional councils and government departments with biosecurity responsibilities. All plants on the NPPA list are Unwanted Organisms under the Biosecurity Act, and cannot be sold, propagated or distributed in New Zealand. The Council is a signatory to the NPPA, and in order to raise awareness among the Chatham Islands community of the plants covered by it, the NPPA list (as at November 2006) is included at Appendix 2.

2 - STATUTORY & PLANNING FRAMEWORK

Legislative Framework

The Biosecurity Act 1993 provides for the eradication and effective management of harmful or potentially harmful organisms. It empowers regional and unitary authorities (like the Chatham Islands Council) to have a significant statutory role in implementing the Act through the implementation of regional pest management strategies.

Purpose

Pest management strategies are prepared under Part 5 of the Biosecurity Act. The purpose of Part 5, as set out in section 54, is "to provide for the effective management or eradication of pests and unwanted organisms." Section 2 of the Act defines a pest as "an organism specified as a pest in a pest management strategy." Pest management strategies determine the principal measures or methods to be used in managing the specified pests, the management agency and the powers set out in the Biosecurity Act that will be used. The Act is enabling rather than prescriptive, and an important underlying principle is that landowners and occupiers are responsible for managing pests on their land unless a pest management strategy states otherwise.

Other Regional Pest Management Strategies

Section 76(4) of the Biosecurity Act provides that a pest management strategy must not be inconsistent with any other regional or national pest management strategy.

To ensure consistency with other pest management strategies, those pests that are frequently listed in other regional pest management strategies but not in the Chatham Islands PMS (2001) or in the National Pest Plant Accord, were considered for inclusion during the Strategy review.

National Pest Management Strategies

There are currently two national pest management strategies in place. Biosecurity New Zealand has prepared a National Pest Management Strategy for Varroa bee mite because of the significant impact that this would have on the agricultural sector of the South Island. Costs of funding the Strategy fall on the South Island Regional Councils (on behalf of the agricultural sector), and on beekeepers.

The Animal Health Board administers a National Pest Management Strategy for Bovine Tb with the objective of controlling Bovine Tb in cattle and deer. That Stategy specifies possums and other suspected carriers (e.g. ferrets) of Bovine Tb to be pest agents. Funding for Tb control is shared between the Crown (50%), farmers (40%), and Regional Councils (10%).

The Chatham Islands is currently free of Varroa bee mite and Bovine Tb. The Council will continue to liaise with Regional Councils and other government agencies through integrated pest management programmes and submissions to any strategies or plans, to ensure that implementation of this Strategy will not be inconsistent with any regional or national pest management strategy.

Other Methods

Pest management strategies are not the only pest management tool available to Councils. Small-scale control of Unwanted Organisms can be undertaken under section 100 of the Biosecurity Act without being listed as a pest in a pest management strategy. This allows for quick action to be taken before an Unwanted Organism becomes widespread. Pest control may also be undertaken under other legislation (e.g., Local Government Act 2002).

Section 72 Analysis

Before an organism may be declared a pest in a regional pest management strategy, the Council must be of the opinion that the organism meets the criteria set out in section 72 of the Biosecurity Act. In preparing this Strategy, the Council considered for inclusion within the Strategy, those organisms nominated for inclusion during the

initial consultation process, and those included in the 2001 Pest Management Strategy. A section 72 analysis was undertaken for each of these organisms to determine what (if any) regional intervention would be appropriate. The costs and benefits of three different pest management programmes were compared – Surveillance, Total Control and Containment Control.

As a result of this process the Council is of the opinion that the organisms included in the Strategy are capable of causing serious adverse and unintended effects in relation to one or more of the following values within the Chatham Islands Territory:

(a) economic wellbeing; or

(b) the viability of threatened species or organisms, the survival and distribution of indigenous plants or animals, or the sustainability of natural and developed ecosystems, ecological processes, and biological diversity; or

(c) soil resources or water quality; or

(d) human health or enjoyment of the recreational value of the natural environment; or

(e) the relationship of Maori and their culture and traditions with their ancestral lands, waters, sites, wahi tapu, and taonga.

The Council is also satisfied, in terms of section 72 (1)(a) and (b) that, given finite resources available for pest management, for each of the organisms included in this Strategy:

(i) the benefits of having a regional pest management strategy, in relation to the organisms concerned, outweigh the costs, after taking account of the likely consequences of inaction or alternative courses of action; and

(ii) the net benefits of regional intervention exceed the net benefits of an individual's intervention.

Determining and Prioritising Pest Management Effort

The pest management resources and capability of the Council are limited, and therefore a process of prioritisation, in terms of which pests to include within the Strategy, and in terms of the most appropriate level of pest management effort for those pests, was undertaken. As part of the section 72 analysis (see above), this process included a case by case evaluation of the particular characteristics of the organism within the pest infestation curve framework, and consideration of the effectiveness and availability of existing control methods. Input to this evaluation process was sought from technical experts from a number of organisations including DOC, MAF, Landcare Research, Environment Canterbury and other regional councils. In addition, the preferences and priorities of the community (expressed during initial consultation) were taken into account, along with consideration of what can most effectively and efficiently be achieved within the bounds of available resources and operational and technical capability.

In terms of prioritisation, pests falling within the Surveillance programme were prioritised by including only those not able to be controlled by other means (i.e. Unwanted Organisms) or not covered by existing programmes undertaken by other agencies. Pests falling within the Total Control programme were prioritised for inclusion on the basis of those in the most restricted distributions and for which effective eradication methods are available. For the Containment Control programme, prioritisation was based on the availability of effective methods of control and the level of concern expressed by the community.

The pest infestation model demonstrates basic pest population dynamics and provides a general framework within which the most appropriate level of pest management effort can be determined for a particular pest. When a new organism first invades a region (such as the Chatham Islands), it may not establish (breed, spawn, replicate or set fertile seed) (e.g., vagrant, non breeding birds). However, once a pest establishes, its numbers increase, generally following (more or less) the pest infestation model as shown in Figure 2, although the shape of the curve will differ between pests and the environment. The phases of the curve relate to the time period since establishment and are described in more detail in Table 1. The time each pest remains in each phase depends on the life history

characteristics of the pest. The lag phase of some trees, for example, may be 100 years or more, whereas the lag phase of an insect may be one day.

The establishment phase is numbered 1-3 on Figure 2 and Table 1. Pests in this phase may be absent from the Chatham Islands and occur elsewhere in New Zealand, or are present in low numbers and in few places on the Chatham Islands. As shown in Table 1, these pests generally fall into Surveillance or Total Control pest management programmes. The expansion phase is numbered 4-6. The same pest, uncontrolled, breeds and the population increases (often rapidly). These pests generally fall into Containment Control pest management programmes. The established phase is numbered 7-8. The same pest, uncontrolled is widespread, and is impacting on and is impacted by other plants and animals. The regional community may require support to manage and recover from the impacts of established pests.

Figure 2: Pest Infestation Model

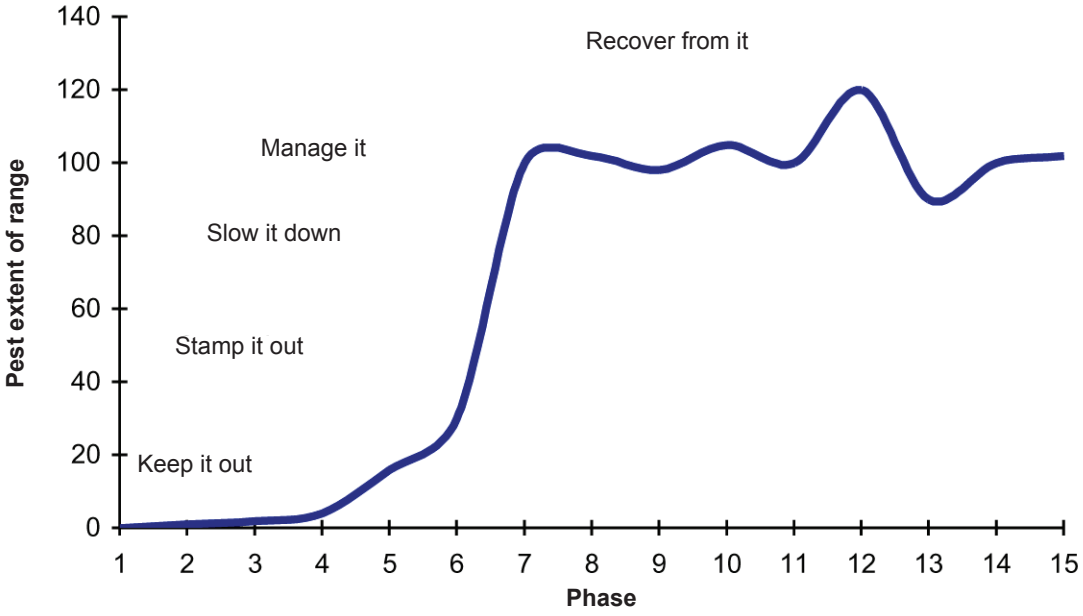


Table 1: Pest Infestation Model in the Chatham Islands Context

No.	Phase	Objective	Pest Management Programme
	Absent in New Zealand	Support Biosecurity New Zealand	Nationally coordinated biosecurity
0	Absent in the Chatham Islands	Keep it out	Surveillance
1-3	Establishment Present on Chatham Island, absent on Pitt Island and Outer Islands	Keep it out of Pitt Island and Outer Islands Stamp it out on Chatham Island	Surveillance on Pitt Island and Outer Islands Total Control on Chatham Island
4-6	Expansion Expanding on Chatham Island, establishing on Pitt Island and Outer Islands	Stamp it out of Pitt Island and Outer Islands Slow it down on Chatham Island	Total Control on Pitt Island and Outer Islands Containment Control on Chatham Island
6-8	Established Widespread on Chatham Island, expanding on Pitt Island and Outer Islands	Slow it down on Pitt Island and Outer Islands Manage it on Chatham Island	Containment Control at sites of regional value
8 -	Established Widespread on the Chatham Islands	Manage it on the Chatham Islands Recover from it	Restoration programmes

National Pest Plant Accord

The Council is a signatory to the National Pest Plant Accord (NPPA). The NPPA was established in 2001 and is a non-statutory agreement between the Nursery and Garden Industry Association, Regional Councils, MAF and DOC.

All of the plants listed in the Accord are designated as Unwanted Organisms under the Biosecurity Act, and are banned from sale, propagation and distribution throughout New Zealand in accordance with sections 52 and 53 of the Act. The target audience for effort under the Accord is primarily commercial nurseries and plant retail outlets, with a secondary focus on the general gardening public and botanical interest groups. On this basis, the focus is on awareness and education tools, and Regional Councils that are signatories to the Accord undertake inspections of nurseries to prevent the sale or distribution of these plants. While there are no commercial nurseries present on the Chatham Islands, the current NPPA list (as at November 2006) is attached at Appendix 2 as a means of raising awareness of these pest plants in the Chatham Islands community. In addition, as a signatory to the Accord, the Council now has the opportunity to nominate plant species for inclusion on the NPPA list.

The NPPA list is regularly updated, and was most recently reviewed in 2006 and renewed for another 5 years (through to 2011). Further information about the NPPA and the most up to date version of the list is available on Biosecurity New Zealand's website (http://www.biosecurity.govt.nz/nppa) or by emailing the National Coordinator for the Accord at nppa@maf.govt.nz.

In mainland New Zealand, many of the Unwanted Organisms under the NPPA are already established, and efforts are largely focussed on slowing the spread. In the Chatham Islands, nearly all of the NPPA plants are not present, and these have not been included in the pest management programmes under this Strategy. Given the Chatham Islands' isolation and small size, it may be cost effective to eradicate NPPA plants should they arrive, and as they are Unwanted Organisms, they can be subject to small-scale control under section 100 of the Act.

Section 100 – Small Scale Incursion Response

Section 100 of the Biosecurity Act enables Regional Councils to fund a small-scale management programme to eradicate or control Unwanted Organisms not included under a pest management strategy, where:

a) effective control can be achieved within 3 years;

b) the cost of taking measures to control the organism is likely to be less than $100,000; and

c) the financial impact of these measures will not be significant for any person who has not contributed to the presence or spread of the organism.

The Council recognises that, should all Surveillance pests be considered for total control, and all Unwanted Organisms for section 100 control, funding and response capability will be required to be able to respond to up to 20 new incursions a year over the next 10 years. The potential scale of new incursion response on the Chatham Islands is exceptional for any district or region in New Zealand.

Relationship to Other Legislation

Several other Acts may impact upon the Strategy, particularly in relation to funding, control methods, service delivery and monitoring. These are listed below and include, but are not restricted to those Acts specified in section 7 of the Biosecurity Act.

- Chatham Islands Council Act 1995
- Local Government Act 2002
- Resource Management Act 1991
- Rating Powers Act 1998
- Health and Safety in Employment Act 1992
- Hazardous Substances and New Organisms Act 1996
- Conservation Act 1987
- Wild Animal Control Act 1997
- Wildlife Act 1953
- Animal Welfare Act 1999

The Local Government Act and Resource Management Act have particular relevance for pest management and are described in more detail below.

Local Government Act 2002

Section 10 of the Local Government Act 2002 states that the purpose of local government, including Regional Councils and unitary authorities, is:

a) to enable democratic local decision making and action by, and on behalf of communities; and

b) to promote the social, economic, environmental and cultural well-being of communities in the present and for the future.

Pests can have a wide impact on b) in particular. If a pest is not listed as an Unwanted Organism, or included in a pest management strategy, a Council may choose to use general powers of competence under the Local Government Act (sections 10, 11, 12 and 13) to promote environmental well-being through protective and preventative measures.

Resource Management Act 1991

The Resource Management Act promotes the sustainable management of natural and physical resources, which includes sustaining their potential to meet future needs, safeguarding the life supporting capacity of air, water, soil and ecosystems, and avoiding, remedying and mitigating any adverse effects on the environment. The Act includes provisions that restrict the use of water, the discharge of contaminants, and the use and disturbance of river and lake beds, and also includes restrictions on activities within the coastal marine area (the '12 mile limit'), including discharges of contaminants and the introduction or planting of any exotic or introduced plant in, on, or under the foreshore or seabed.

The Resource Management Act and the Biosecurity Act are complementary. Activities to implement the Strategy may require approval under the Resource Management Act. For example, a resource consent may be required for the use of a particular herbicide spray to control plant pests. In addition, land use controls available under the Resource Management Act, may result in limiting the range and density of some pests.

Section 6 of the Resource Management Act is also relevant to pest management. Under section 6, the Council shall recognise and provide for matters of national importance, including the protection of significant indigenous vegetation and significant habitats of indigenous fauna, and the relationship of Maori and their cultural traditions with their ancestral lands, water, sites, waahi tapu and other taonga.

3 - PEST MANAGEMENT RESPONSIBILITIES

Management Agency

The Chatham Islands Council is the management agency responsible for implementing the Strategy. This section outlines the management obligations and responsibilities of parties affected by the Strategy.

Proposer of the Strategy

The Council has approved the Strategy under section 71 of the Act. The Council is a unitary authority, with both territorial local authority and regional council responsibilities. The district of the Chatham Islands is known as the Chatham Islands Territory, in accordance with clause 5 of the Chatham Islands Council Act 1995.

Roads and Road Reserves

Land occupiers are not legally responsible for the control of pest plants on adjacent formed roads or roadside reserves. The Council is responsible for the control of pest plants on formed roads and road reserves. If a land occupier wishes to control pests on adjacent formed roads or roadside reserves, they may do so, providing that they meet the requirements of the Strategy.

Private Land Occupiers

Private land occupiers are required to control pests on land that they occupy, as set out in any rule prescribed in Part II of this Strategy, and encouraged to report the presence of any Surveillance or Total Control pests or Unwanted Organisms to the Council.

Crown Land Occupiers

In accordance with section 87(2) of the Biosecurity Act, no pest management strategy can impose costs or obligations on the Crown, except to the extent provided by an Order in Council. In addition, most Crown land is exempt from rating. If the Crown agrees to an Order in Council to comply with the Strategy, it is not criminally liable for non-compliance.

The principal Crown agency managing land on the Chatham Islands is the Department of Conservation. The Crown is bound by the Biosecurity Act and not by this Strategy. There are currently no Orders in Council in effect, although DOC has recently contributed some funding towards pest management. MAF has proposed some principles to clarify how the Crown should contribute to pest management strategies as a responsible landowner. Submissions to this proposal closed in 2005, and the Crown has yet to formally respond.

Biosecurity New Zealand

Biosecurity New Zealand is a business unit of the Ministry of Agriculture and Forestry (MAF), which is the lead agency for national biosecurity, with accountability for end-to-end management of the biosecurity system in New Zealand. MAF's accountabilities for pest management include:

- National leadership and coordination for pest management, including:
  - Facilitating a shared sense of strategic direction and overall priorities
  - Enabling effective pest management by setting frameworks in place e.g. legislative, roles and responsibilities, decision-making
  - Knowing what is going on and how this part of the biosecurity system is performing, including:
  - Monitoring the level of investment in this part of the system, and whether it is targeted in the right places
  - Monitoring effectiveness of different pest management approaches and identifying any opportunities to improve these
  - Communicating lessons from this to drive improvement

- Facilitating cooperation and coordination and supporting innovation where this improves effectiveness
- National pest management programmes (except for animals managed under the Wild Animal Control Act and freshwater pest fish), which includes the following programmes:
  - Delivering Biosecurity New Zealand-led programmes to control (typically eradicate, and in some cases contain) national priority pests, and developing / maintaining risk profiling systems to identify emerging pest issues over time
  - Delivering Biosecurity New Zealand-led programmes to manage national priority pathways (e.g. preventing the sale, distribution and propagation of pest plants in trade, through the National Pest Plant Accord), or across specific internal borders (e.g. reducing risk of pests spreading to Fiordland, through the Fiordland Biosecurity Plan)

Biosecurity New Zealand has identified strategic priorities for pest management, which form the basis for a joint 5-year work programme for all central and regional government biosecurity agencies. The project areas are:

- Pest Management Decision-making and Priority Setting
  - National Interest in Pest Management
  - Decision making – criteria, process roles and accountabilities – established species
  - Criteria and processes for determining the type of action required – sites, internal pathways and vectors
  - Priority lists for established species, internal pathways and vectors
  - Crown contributions to regional pest management strategies
  - The future of possum control
  - Interoperability and alignment of priorities
- Tools for Pest Management and Access to a Suitable Range of Approved Tools
  - Physical control tools for pests
  - Control tools for vectors and pathways
  - Process tools – legislation
  - Information resource tools – databases, best practice guides, monitoring
  - Information resource tools – forecasting and prediction systems
- Communication and Public Awareness
  - Communication
  - Training and reporting
- Biosecurity Indicators and Monitoring across the System
- Improving Marine Pest Management Capability

With regard to marine biosecurity, which is a particularly important area for the Chatham Islands, the low level of marine biosecurity capability in New Zealand (both nationally and regionally) is recognised, and is being addressed through the development of a comprehensive marine biosecurity programme led by MAF/Biosecurity New Zealand. Further information relating to marine biosecurity is set out at Part I, Section 1, in the 'Marine Biosecurity' section.

MAF/Biosecurity New Zealand is also currently developing a comprehensive and integrated communications strategy to address key issues including improving public and community understanding and awareness of biosecurity; better defining key target audiences; establishing collaborative relationships between biosecurity agencies to coordinate public awareness activity; and working with and supporting existing groups promoting the biosecurity message.

In addition, MAF/Biosecurity New Zealand is initiating a partnership between central government agencies, regional government and the pet industry to better understand the industry and associated pest management risks. The goal is to develop a compliance strategy to manage those risks, using an approach that will build upon the National Pest Plant Accord model and experience. It is envisaged that this will be the primary vehicle for jointly managing risks associated with the pet industry.

Following recommendations from an inter-agency advisory group, Biosecurity New Zealand has recently decided on national pest management programme priorities. National interest pests are pests that have become established in New Zealand and may have a potentially significant impact on our economic, environmental, social and cultural values. Eleven species (all of which are designated Unwanted Organisms) have been identified for management under MAF-led national programmes and these species are listed in Appendix 3 under National Pest Programme Priorities.

Any sightings of pests new to New Zealand found on the Chatham Islands can be reported to the Biosecurity New Zealand Exotic Pest and Disease Hotline 0800 80 99 66, or visit the Biosecurity New Zealand website at www.biosecurity.govt.nz .

Department of Conservation

The Department of Conservation's key functions are outlined under the Conservation Act 1987.

The Department of Conservation Statement of Intent (2007-2010) recognises the role of MAF, through Biosecurity New Zealand, as the lead agency responsible for national biosecurity and for coordinating an end-to-end biosecurity approach for New Zealand. DOC's role within the national biosecurity system is identified as providing MAF with policy and technical advice regarding risks to indigenous flora and fauna, as well as information about the Department's pest management activities to inform MAF's system oversight role. Other biosecurity work by the Department focuses on specific pest and disease responses for specific Departmental response-related pest-led work, and the Department's pest/weed exacerbator contributions to regional pest management strategies. The Department also carries out site-led and regional scale pest-led work to manage harmful organisms that threaten conservation values. Interventions in this regard include control and containment outputs for organisms recognised as having significant conservation impacts, and risk analyses in relation to declarations of Unwanted Organisms. It also includes new incursion activities relating to those incursions for which the Department is the lead agency, or is providing logistical support.

DOC retains its responsibilities for national-scale work on wild animals under the Wild Animal Control Act 1977 (e.g., thar), and freshwater pest fish (subject to any changes that may arise out of the freshwater fish jurisdictional review). Deer Farming Notice No.4 under the Wild Animal Control Act 1956 makes the Chatham Islands a prohibited area for deer.

DOC administers the Wildlife Act 1953 which controls and protects wildlife not subject to the Wild Animal Control Act 1977. As there is no Fish and Game Council present on the Chatham Islands with the statutory authority to manage game, wildlife is administered by DOC through the Chatham Islands (Wildlife) Notice 1977. In administering the Wildlife Notice, DOC issues hunting permits and sets a hunting season for black swan, weka, pukeko, mallard duck and grey duck.

DOC undertakes pest control through the Conservation General Policy (2005) formed under the Conservation Act 1987. The Wellington Conservancy of the Department of Conservation administers the Chatham Islands Conservation Management Strategy (1999), which includes policies on pest management, including the management of some freshwater fish. The Conservancy oversees all pest control programmes, including quarantine and contingency plans, undertaken by the Chatham Islands Area office.

Other Regional Councils

Surveillance has been commonly applied by other Regional Councils to pests that are present in New Zealand and subject to monitoring (e.g. by inspecting properties and businesses). For this Strategy to be effective, surveillance refers to systematic searching for pests and Unwanted Organisms previously unknown on the Chatham Islands.

Surveillance is authorised under section 13 of the Biosecurity Act in relation to all pests named in regional or national pest management strategies, or that are Unwanted Organisms. In undertaking surveillance, Regional Councils and Biosecurity New Zealand may form partnerships for surveillance of organisms not present in a region, as both may detect species new to New Zealand and new to a region.

The relationship of the Chatham Islands with other Regional Councils is of particular interest in relation to internal border activities, and surveillance at ports from which vessels supply the Chatham Islands. The Council will continue to liaise with other Regional Councils in relation to internal border activities and surveillance at strategic ports to prevent the distribution and dispersal of pests to the Chatham Islands.

PART II: PEST MANAGEMENT PROGRAMMES

Part II contains the following eight sections:

Section 1: Lists organisms declared to be pests.

Section 2: The introduction outlines the pest infestation model, the relationship of the pest management programmes to the Outer Islands of the Territory, the three pest management programmes - Surveillance, Total Control and Containment Control, their general objectives and principal measures.

Section 3: The Surveillance pest management programme is described. This programme is broken into two sub programmes. These are Surveillance – Chatham Islands and Surveillance – Pitt Island. The former applies to all parts of the Chatham Islands Territory and includes pests that are either known to be present on the New Zealand mainland but not known to be present on the Chatham Islands; or known to be present on the Chatham Islands and included in a Total Control programme; or known to be present in the Chatham Islands Territory but insufficient information is available to determine the most appropriate level of control. The Surveillance-Pitt Island programme includes pests that are known to be present on Chatham Island, but absent from Pitt Island.

The objectives of the Surveillance – Chatham Islands programme are –

a) to prevent the establishment of pests not known to be present on the Chatham Islands;

b) to prevent the further introduction and spread of pests included in a Total Control programme, and to prevent their re-establishment following eradication; and

c) to prevent the further introduction and spread of other listed pests known to be present in the Chatham Islands.

The objective of the Surveillance – Pitt Island programme is to prevent the establishment of pests not known to be present on Pitt Island.

Section 4: The Total Control pest management programme is described. This programme identifies pests that are present in the Chatham Islands Territory and that can be eradicated from the Chatham Islands. This programme applies to all parts of the Chatham Islands Territory.

Section 5: The Containment Control pest management programme is described. This programme identifies pests that are established on the Chatham Islands, but justify regional intervention to protect production, biodiversity and other regional values. This programme applies to all parts of the Chatham Islands Territory.

Section 6: The principal measures of regulation, inspections, property plans, pest control operations, incursion response, internal border, public awareness, and investigation that will be used by the Council in implementing the Strategy are outlined in more detail.

Section 7: Rules are stated, and powers conferred outlined.

Section 8: Sets out those organisms nominated by submitters to the Strategy for inclusion in the pest management programmes within the Strategy, but which were not included. Some of the nominated organisms are absent from the Chatham Islands, but are present on mainland New Zealand so have the potential to arrive, and some are present on the Chatham Islands, but the information known about them is incomplete, or they were not prioritised for control.

SECTION 1: ORGANISMS DECLARED TO BE PESTS

The animals and plants listed in Table 2 are declared to be pests under this Strategy. The pests are grouped under three pest management programmes: Surveillance (Surveillance - Chatham Islands and Surveillance - Pitt Island), Total Control, and Containment Control. The inclusion of these pests in the Strategy and within the respective pest management programmes was determined by the process outlined at Part I, Section 2, in the 'Section 72 Analysis' and 'Determining and Prioritising Pest Management Effort' sections.

The pests set out in Table 2 are banned from sale, propagation, breeding, distribution and commercial display, in accordance with sections 52 and 53 of the Biosecurity Act. The presence or absence of pests in the Chatham Islands Territory as at November 2006, is indicated in the fourth column of Table 2, using the following codes –

A = Absent as at November 2006

P = Present as at November 2006 and included in a control programme

UCP = Unconfirmed Present as at November 2006 – recorded or purported to be present but distribution information is unavailable or incomplete

Pests that are designated Unwanted Organisms under the Biosecurity Act are indicated in the fifth column.

Table 2: Organisms Declared to be Pests

Pest management programme	Common name	Scientific name	Presence / Absence at November 2006	Unwanted Organism
Surveillance Chatham Islands	**Pest Plants**			
	Ground covers			
	aristea	*Aristea ecklonii*	A	
	bathurst bur	*Xanthium spinosum*	A	
	blue spur flower	*Plectranthus ecklonii*	A	
	blue spur flower	*Plectranthus grandis*	A	
	periwinkle	*Vinca major*	UCP	
	St Johns Wort	*Hypericum perforatum*	A	
	Coastal			
	spartina	*Spartina spp.*	A	
	Freshwater			
	arrowhead	*Sagittaria subulata*	A	
	Cape pondweed	*Aponogeton distachyus*	A	
	curled pondweed	*Potamogeton crispus*	A	
	ferny azolla	*Azolla pinnata*	A	
	floating sweetgrass	*Glyceria fluitans*	UCP	
	mercer grass	*Paspalum distichum*	A	
	reed sweet grass	*Glyceria maxima*	A	
	water net	*Hydrodictyon reticulatum*	A	
	water buttercup	*Ranunculus trichophyllus*	A	
	waterlily – common	*Nymphaea alba*	A	
	Ferns/fern allies			
	African clubmoss	*Selaginella kraussiana*	P	X
	nardoo	*Marsilea mutica*	A	

	Grasses and Sedges			
	Australian sedge	*Carex longebrachiata*	A	
	broomsedge	*Andropogon virginicus*	A	
	Chilean needlegrass	*Stipa neesiana*	A	
	giant needlegrass	*Stipa rudis*	A	
	kangaroo grass	*Themeda triandra*	A	
	nut grass	*Cyperus rotundus*	A	
	palm grass	*Setaria palmiflora*	A	
	paspalum – estuarine	*Paspalum vaginatum*	A	
	tall fescue	*Schedonorus phoenix*	UCP	
	Herbs			
	agapanthus	*Agapanthus praecox subsp. orientalis*	UCP	
	arum – Italian	*Arum italicum*	UCP	
	arum lily	*Zantedeschia aethiopica*	A	
	burdock	*Arctium minus*	A	
	Chilean rhubarb	*Gunnera manicata, Gunnera. tinctoria*	A P	 X
	collomia	*Collomia cavanillesii*	A	
	foxglove	*Digitalis purpurea*	A	
	goat's rue	*Galega officinalis*	A	
	gypsywort	*Lycopus europaeus*	A	
	helichrysum	*Helichrysum petiolare*	P	
	kahili ginger	*Hedychium gardnerianum*	P	X
	Mexican devil	*Ageratina adenophora*	A	
	mistflower	*Ageratina riparia*	A	
	montbretia	*Crocosmia X crocosmiiflora*	P	
	mugwort	*Artenusua verlotiorum*	A	
	noogoora bur	*Xanthium occidentale*	A	
	ox-eye daisy	*Leucanthemum vulgare*	UCP	
	oxylobium	*Oxylobium lanceolatum*	A	
	ragwort – purple	*Senecio glastifolius*	A	
	sheeps bur	*Acaena agnipila*	A	
	skeleton weed	*Chondrilla juncea*	A	
	stinking iris	*Iris foetidissima*	A	
	thistle – nodding	*Carduus nutans*	A	
	thistle – plumeless	*Carduus acanthoides*	A	
	thistle – saffron	*Carthamus lanatus*	A	
	thistle – scotch	*Cirsium vulgare*	UCP	

	thistle – star	*Centaurea calcitrapa*	A	
	thistle – taurian	*Onopordum tauricum*	A	
	velvet groundsel	*Senecio petasitis*	A	
	vipers bugloss	*Echium vulgare*	A	
	watsonia	*Watsonia bulbillifera*	A	
	yellow ginger	*Hedychium flavescens*	P	X
	Shrubs			
	apple of sodom	*Solanum linnaeanum*	A	
	barberry	*Berberis glaucocarpa*	A	
	bartlettina	*Bartlettina sordida*	A	X
	boxthorn	*Lycium ferocissimum*	UCP	
	broom- white	*Cystisus multiflorus*	P	
	broom- Montpellier	*Teline monspessulana*	P	
	broom	*Calicotome spinosa*	A	
	broom - common	*Cytisus scoparius*	P	
	buddleia	*Buddleja salvifolia* *Buddleja davidii*	A P	
	Cape honey flower	*Melianthus major*	UCP	
	Cape ivy	*Senecio angulatus*	UCP	
	Chilean guava	*Ugni molinae*	UCP	
	cotoneaster	*Cotoneaster glaucophyllus*	P	
	cotoneaster	*Cotoneaster franchettii*	A	
	cotoneaster	*Cotoneaster horizontalis*	A	
	cotoneaster	*Cotoneaster microphyllus*	A	
	cotoneaster	*Cotoneaster ovata*	P	
	cotoneaster	*Cotoneaster lacteus*	P	
	giant buttercup	*Ranunculus acris*	A	
	green daphne	*Daphne laureola*	A	
	Himalayan honeysuckle	*Leycesteria formosa*	UCP	
	male fern	*Dryopteris filix-mas*	P	
	red-flowering currant	*Ribes sanguineum*	A	
	Spanish heath	*Erica lusitanica (exluding double flowered cultivars)*	A	
	sweet brier	*Rosa rubiginosa*	UCP	
	thorn apple	*Datura stramionum*	A	
	thyme	*Thymus vulgaris*	A	
	tree lupin	*Lupinus arboreus*	UCP	

	Trees			
	ash	*Fraxinus excelsior*	A	
	elderberry	*Sambucus nigra*	UCP	
	hawthorn	*Crataegus monogyna*	A	
	holly	*Ilex aquifolium*	A	
	Japanese walnut	*Juglans ailantifolia*	A	
	larch	*Larix decidua*	A	
	Phoenix palm	*Phoenix canariensis*	A	
	purple guava	*Psidium cattleianum*	A	
	rhododendron	*Rhododendron ponticum*	A	
	sycamore	*Acer pseudoplatanus*	P	
	wattle – brush	*Paraserianthes lophantha*	UCP	
	wattle – coastal	*Acacia sophorae*	A	
	wattle – silver	*Racosperma dealbatum*	A	
	Vines			
	Chilean flamecreeper	*Tropaeolum speciosum*	P	X
	old man's beard	*Clematis vitalba*	P	X
	banana passionfruit	*Passiflora mixta*	P	X
	banana passionfruit	*Passiflora tripartite var. mollissima*	UCP	X
	bomarea	*Bomarea multiflora*	A	
	climbing dock	*Rumex sagittatus*	A	
	eleagnus	*Eleagnus X reflexa*	A	
	ferny asparagus	*Asparagus setaceus*	A	
	potato vine	*Solanum jasminoides*	A	
Surveillance Chatham Islands	**Pest Animals**			
	Fish			
	brown trout	*Salmo trutta*	A	
	mackinaw	*Salvelinus nalaycush*	A	
	brown bullhead catfish	*Ameiurus nebulosus*	A	
	catfish	*Ameiurus nebulosus*	A	
	catfish – walking	*Clarias batrachus*	A	
	goldfish	*Carassius auratus*	UCP	
	guppy	*Poecilia reticulata*	A	
	orfe	*Leuciscus idus*	A	
	sailfin molly	*Poecilia latipinna*	A	
	swordtail	*Xiphohorus helleri*	A	

	piranha	*Pygocentrus spp.* *Rooseveltiella spp.* *Serrasalmus spp*	A	
	rudd	*Scardinius erythropthalmus*	A	
	tilapia	*Tilapia spp.*	A	
	tilapia	*Saotherodon spp.*	A	
	perch	*Perca fluviatilis*	A	
	tench	*Tinca tinca*	A	
	Atlantic salmon	*Salmo salar*	A	
	brook char	*Salvelinus fontinalus*	A	
	chinook salmon	*Oncorhynchus tshawystscha*	A	
	rainbow trout	*Onchorynchus mykiss*	A	
	sockeye salmon	*Oncorhynchus tshwaystscha*	A	
	Amphibians			
	green frog	*Litoria aurea*	A	
	Lizards			
	rainbow skink	*Lamprophilis delicata*	A	
	Insects			
	Argentine ant	*Linepithema humile*	A	
	Darwin's ant	*Doleromyrma darwiniana*	A	
	Mammals			
	feral goat	*Capra hircus*	P	
	hare	*Lepus europaeus*	A	
	rabbit	*Oryctolagus cuniculus*	A	
Surveillance Pitt Island	**Pest Animals**			
	possum	*Trichosurus vulpecula*	P	
	hedgehog	*Erinaceus europaeus*	P	
	kiore	*Rattus exulans*	P	
	rat – Norway	*Rattus norvegicus*	P	
	rat – ship	*Rattus rattus*	P	

Total Control	Pest plants			
	banana passionfruit	*Passiflora mixta*	P	X
	broom- white	*Cytisus multiflorus*	P	
	broom- Montpellier	*Teline monspessulana*	P	
	broom - common	*Cytisus scoparius*	P	
	buddleia	*Buddleja davidii*	P	
	Chilean rhubarb	*Gunnera tinctoria*	P	X
	cotoneaster	*Cotoneaster glaucophyllus*	P	
	cotoneaster	*Cotoneaster lacteus*	P	
	montbretia	*Crocosmia X crocosmiiflora*	P	
	sycamore	*Acer pseudoplatanus*	P	
	kahili ginger	*Hedychium gardnerianum*	P	X
	yellow ginger	*Hedychium flavescens*	P	X
Total Control	Pest animals			
	feral goat	*Capra hircus*	P	
Containment Control	Pest plants			
	gorse	*Ulex europaeus*	P	
	ragwort	*Senecio jacobaea*	P	
	variegated thistle	*Silybum marianum*	P	
	Californian thistle	*Cirsium arvense*	P	
Containment Control	Pest animals			
	possum	*Trichosurus vulpecula*	P	
	feral cattle	*Bos taurus*	P	
	feral sheep	*Ovis aries*	P	
	feral pig	*Sus scrofa*	P	

SECTION 2: PEST MANAGEMENT PROGRAMMES, OBJECTIVES AND PRINCIPAL MEASURES

Introduction

Determining which pests to include in the Strategy, and under which pest management programme, was achieved by following the process outlined at Part I, Section 2, in the 'Section 72 Analysis' and 'Determining and Prioritising Pest Management Effort' sections.

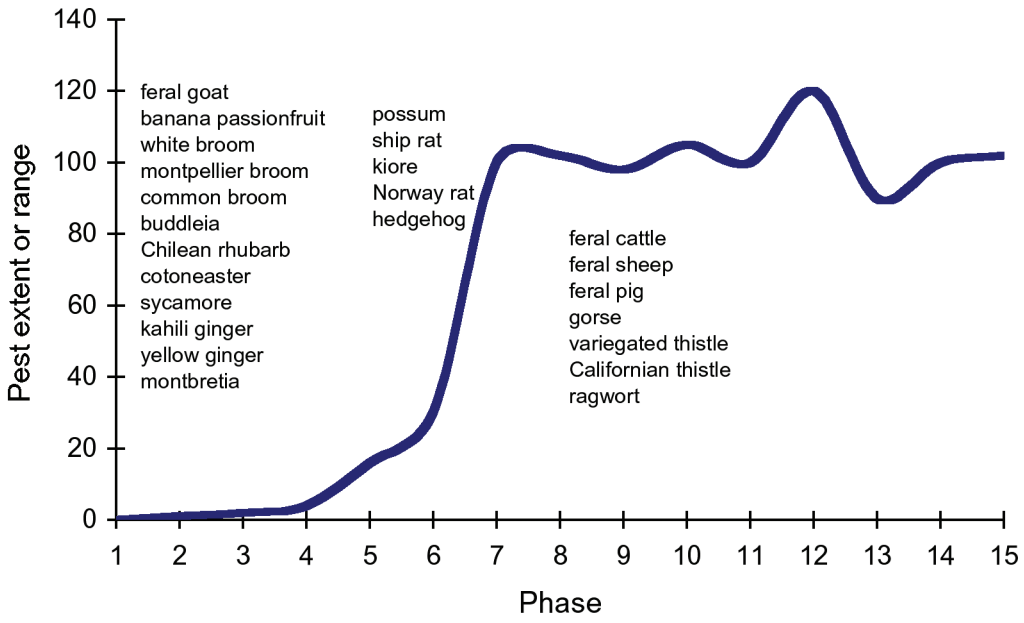
The pest infestation model demonstrates basic pest population dynamics and provides a general framework within which the most appropriate level of pest management effort can be determined for a particular pest. A pest that is absent from the Chatham Islands is more cost effective to keep out than to eradicate or control long term. Therefore, the lower a pest is placed on the curve, the more cost-effective it will be to eradicate the pest. The higher the pest is on the curve, the more difficult and costly the pest will be to manage. The pest infestation model is discussed further at Part I, Section 2, in the 'Determining and Prioritising Pest Management Effort' section.

Pests included in the Strategy have been assigned to four pest management programmes as follows:

- Surveillance - Chatham Islands
- Surveillance - Pitt Island
- Total Control
- Containment Control

Figure 3 illustrates where on the pest infestation model curve the pests included in the Surveillance – Pitt Island, Total Control and Containment Control programmes sit. It should be noted that the position on the curve for the Total Control and Containment Control pests relates to the phase of infestation across the Chatham Islands Territory as a whole, while the position of the Surveillance – Pitt Island pests relates only to the phase of infestation on Chatham Island, as these pests are not known to be present on Pitt Island.

Figure 3: Pests in Relation to the Pest Infestation Model



Under section 80A(b) of the Act, a regional pest management strategy must specify a description of the objectives and principal measures to be taken to implement the Strategy. A general description for each of the four pest management programmes is provided below.

Outer Islands

The Chatham Islands Territory is made up of eleven islands. Besides the two main islands of Chatham and Pitt, there are nine small islands, all of which are uninhabited. These are referred to in this Strategy as the Outer Islands. Some of these islands are owned and managed by the Department of Conservation, some are privately owned, and some are a combination of both. The Outer Islands are nationally, and in some cases internationally, important for their biodiversity values, and some also have important cultural values. Most of the Outer Islands remain relatively pest free. Maintaining this status, particularly in relation to animal pests, is fundamental to the maintenance of these biodiversity values, which benefit all New Zealanders, as well as Chatham Islanders.

Section 87 of the Biosecurity Act restricts the enforceability of regional pest management strategies against the Crown. Therefore, the Council will continue to rely on the Department of Conservation to undertake pest management on the Outer Islands, or parts thereof that are owned or managed by the Department. It is understood that the Department has pest management and incursion response plans in place for these islands. The remaining islands, in private ownership, fall within the ambit of this Strategy, and the pest control programmes within it apply across the whole Territory. This is clarified in the description of the particular programmes below. However, in implementing the Strategy programmes, the Council is considerably limited by available resources, and must therefore prioritise the application of those resources in terms of Council intervention in pest management. This prioritisation has been based principally on an assessment of the risks of incursions to the Outer Islands compared with those on Chatham and Pitt Islands. The principal risk of incursions is the potential for pests to arrive via visiting vessels. Given that the Outer Islands are uninhabited, the frequency of vessels visiting is very low, and consequently the risk of pest arrival is also low. On this basis, the efforts and resources of the Council in implementing the Strategy will focus on Chatham Island and Pitt Island.

However, it is fundamental that the benefits of the biodiversity values of the Outer Islands to all New Zealand are recognised. Maintaining these values presents biosecurity challenges unlike most other regions of New Zealand, with considerable financial and practical requirements that are beyond the limited resources of the Council and community. Therefore, the multi-agency incursion response action plan that the Council will seek to develop with other agencies (refer Part I, Section 1, in the 'Strategic Approach' section) must include provision for the Outer Islands as well as Chatham and Pitt Islands.

In addition, the Council will advocate to the Chatham Islands community, owners of the Outer Islands, and central government, the importance of preventing plant and animal pests from being introduced to the Outer Islands, and will continue to work with Biosecurity New Zealand, the Department of Conservation and other agencies in this regard.

Surveillance

Surveillance – Chatham Islands plant and animal pests are those that are either known to be present on the New Zealand mainland but are not known to be present on the Chatham Islands (Phase 0 in Figure 3); or known to be present on the Chatham Islands and included in a Total Control programme (Phase 1-3 in Figure 3); or known to be present in the Chatham Islands Territory but insufficient information is available to determine the most appropriate level of control (Phase unknown). Surveillance - Pitt Island plant and animal pests are those that are known to be present on Chatham Island, but absent from Pitt Island (Phase 4-6 in Figure 3). The objectives of the Surveillance – Chatham Islands programme are -

a) to prevent the establishment of pests not known to be present on the Chatham Islands;

b) to prevent the further introduction and spread of pests included in a Total Control programme, and to prevent their re-establishment following eradication; and

c) to prevent the further introduction and spread of other listed pests known to be present in the Chatham Islands.

The objective of the Surveillance – Pitt Island programme is to prevent the establishment of pests not known to be present on Pitt Island.

Total Control

Total Control refers to pests that are present in the Chatham Islands Territory, but in restricted distributions or densities (Phase 1-3). The objective is to eradicate these pests from the Chatham Islands. Priority for eradication may be given to Pitt Island or Outer Islands where these pests are present.

Containment Control

Containment Control pests are pests that are expanding in range or widespread in the Chatham Islands Territory or parts of it (Phase 6 - onwards). The long-term objective is to minimise the impacts on regional economic, cultural and environmental values by -

- preventing plant pests present on one property from invading adjoining properties;
- reducing plant pests in moderate densities to low densities; and
- maintaining low densities of pest animals and pest plants in areas where regional biodiversity values and potential impacts on them are high, and it is cost effective to do so.

Principal Measures

Pest management programmes will be implemented for each pest using some or all of the following principal measures:

- Regulation
- Pest control operations
- Internal border
- Incursion response
- Public awareness
- Investigation
- Property Plans

Principal measures to be undertaken are summarised for each pest, and outlined in more detail in Section 6.

SECTION 3: SURVEILLANCE

Introduction

Although it may be appropriate to contain or eradicate specific pests as they arrive on the Chatham Islands, a complementary approach is to identify and manage specific risk pathways. By targeting these physical connections, a wide range of pest organisms can be managed. Pre-border measures are more effective than border control, as they target pests before they arrive on the Islands. It is also important that risk pathways between the islands of the Territory are managed.

Risk pathways include shipping, which covers ballast water, hull fouling, and cargo (including fishing vessels, recreational vessels, cargo vessels, freight consolidation areas, containers and sea cargo) and air transport (including passengers, baggage, garden nursery plants, landscaping materials, outdoor equipment and other gear). In addition, seeds of pest plants or insects can be inadvertently carried in imported materials such as building materials, landscaping and gardening materials, machinery, crop seed, stock feed and plant material such as hay or straw.

The Council has developed integrated pest management programmes on board shipping vessels used for commercial freight services. Pest identification and risk assessment training is provided to all freight handlers at exit points for transportation to the Chatham Islands. Both the information provided by surveys and the effectiveness of internal biosecurity measures are continually audited. Education and awareness programmes have been developed at the Chatham Islands ports, for shipping and air transport, however internal border control and screening procedures for air transport do not exist. Honesty bins have been investigated, but their effectiveness is questionable. The Council will continue to work with local businesses and the Chatham Islands airport to advocate the provision of information relating to pest risks through pamphlets and signs, and will seek assistance from central government agencies and New Zealand airport companies to improve controls, information and signage at New Zealand airports servicing the Chatham Islands. The Chatham Islands community, suppliers and visitors have been encouraged to take individual responsibility in preventing the introduction of new pests to the Chatham Islands. A pest identification service has also been established.

The Surveillance pest management programme has been broken into two sub-programmes called Surveillance – Chatham Islands and Surveillance – Pitt Island. The objectives of the former, which applies to all parts of the Chatham Islands Territory, are –

a) to prevent pests known to be present in mainland New Zealand but not known to be present on the Chatham Islands from establishing in the Chatham Islands,;

b) to prevent the further introduction and spread of pests included in a Total Control programme, and to prevent their re-establishment following eradication; and

c) to prevent the further introduction and spread of other listed pests known to be present in the Chatham Islands.

The objective of the Surveillance – Pitt Island programme is to prevent pests known to be present on Chatham Island but not known to be present on Pitt Island from establishing on Pitt Island.

Surveillance for pest plants included in the NPPA list (refer Appendix 2) may be carried out as part of the internal border activities.

SURVEILLANCE – CHATHAM ISLANDS

Introduction

Surveillance – Chatham Islands pests are plants and animals pests that are either known to be present in mainland New Zealand but are not known to be present on the Chatham Islands; or known to be present on the Chatham Islands and included in a Total Control programme; or known to be present in the Chatham Islands Territory but insufficient information is available to determine the most appropriate level of control. Due to the number of pests included in this programme, they have been treated here as a class of organisms (in accordance with section 76(1)(c) of the Biosecurity Act), rather than individually on a pest-by-pest basis. Those that are included in the Total Control programme are addressed in the Total Control section below.

Objectives

1. Over the duration of the Strategy, to prevent pests not known to be present on the Chatham Islands from establishing on the Chatham Islands;
2. Over the duration of the Strategy, to prevent the further introduction and spread of pests included in a Total Control programme, and to prevent their re-establishment following eradication; and
3. Over the duration of the Strategy, to prevent the further introduction and spread of other listed pests known to be present in the Chatham Islands.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties and businesses with known or suspected infestations of Surveillance pests
- enforce rules preventing the sale, propagation and distribution of Surveillance pests
- establish and maintain internal border protocols in New Zealand in partnership with industry and other agencies
- support investigations into effective control methods for Surveillance pests
- carry out public advocacy to ensure that visitors, landowners and occupiers, businesses and transportation industries servicing the Chatham Islands report the presence of Surveillance pests
- undertake surveillance for potential pests on Pitt Island and on high risk sites on Chatham Island

Some Surveillance pests may pose a high potential risk to the Chatham Islands, but in many cases there is very limited information on their regional distribution. While the Council recognises the need to be able to totally control Surveillance pests if it is technically feasible, it does not have the operational capacity to respond to all potential pest incursions. Therefore, pest programmes will focus on surveillance, and public awareness together with pest control operations in high risk areas, and the Council will work with other agencies to confirm partnerships and secure resources for the development of an incursion response action plan for the Territory. However, in the event that a Surveillance-Chatham Islands pest is discovered on the Chatham Islands, the Council will assess the practicability and feasibility of utilising appropriate and available means of preventing such pest from becoming established within the Territory. Such means may include the removal of isolated plants or individual animals where they are discovered, but will depend on the availability of resources to respond.

SURVEILLANCE – PITT ISLAND

Introduction

Surveillance - Pitt Island pests are plant and animal pests known to be present on Chatham Island but absent from Pitt Island. Surveillance – Pitt Island pests only include pest animals as systematic surveys for potential Surveillance – Pitt Island pest plants have not yet been undertaken. The objectives and principal measures for these pests are outlined in more detail below.

Table 3: Surveillance – Pitt Island Pests

Common Name	Scientific Name
Pests known to be present on Chatham Island but not known to be present on Pitt Island	
possum	*Trichosurus vulpecula*
hedgehog	*Erinaceus europaeus*
kiore	*Rattus exulans*
Norway rat	*Rattus norvegicus*
ship rat	*Rattus rattus*

POSSUM (Trichosurus vulpecula)

Description

Possums are cat sized, nocturnal marsupials originating from Australia. Adult possums are generally a little under half a metre long from snout to the base of the tail, and weigh between 2-4kg (although they can weigh up to 7kg). They have grey or black/dark brown coloured fur and a thick black bushy tail. Possums breed at one to two years of age, populations can increase by 30% a year, and young disperse 6-30 km per year. Possums can reach densities of up to 25 per hectare.

Distribution

Possums were introduced to New Zealand to establish a fur trade in 1858 and were introduced to Chatham Island for the same reason in 1911 when five or six were released at Kaingaroa. Possums are now widespread on Chatham Island but absent from Pitt Island. Possums generally have a home range of 0.5-10.5 hectares, depending on habitat and the sex of the individual.

Adverse Effects

Possums are a potential vector for Bovine Tb, graze on pasture, and impact on biodiversity by feeding on a variety of leaves, flower buds, fruit, ferns, fungi, invertebrates and eggs and nestlings of birds. Long term this changes the forest composition, as the majority of their diet in any one location consists of only a few species.

Objective

Over the duration of the Strategy, to prevent possums establishing on Pitt Island.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties and businesses with known or suspected infestations of possums
- carry out public advocacy to ensure that visitors, landowners and occupiers, businesses and transportation industries servicing Pitt Island report the presence of possums

While the Council recognises the need to be able to totally control Surveillance pests if it is technically feasible, it does not have the operational capacity to respond to all potential pest incursions. Therefore, efforts will focus on surveillance and public awareness, and the Council will work with other agencies to confirm partnerships and secure resources for the development of an incursion response action plan for the Territory. However, in the event that possum are discovered on Pitt Island, the Council will assess the practicability and feasibility of utilising appropriate and available means of preventing possums from becoming established on the Island. Such means may include the removal of individual animals where they are discovered.

KIORE (Rattus exulans) **NORWAY RAT** (Rattus norvegicus) **SHIP RAT** (Rattus rattus)

Description

Kiore (also known as Polynesian rat), is the smallest of the three species of introduced rodent in New Zealand, and similar in appearance to ship rat. A distinguishing feature is that the hind foot is dark at the outer edge near the ankle, but otherwise pale. Kiore originated in South-East Asia and were widely accidentally or deliberately distributed by people throughout the Pacific. Kiore were eaten by early Maori and Moriori, and are regarded as taonga by some iwi.

Norway rat (also known as water rat), is the largest rodent species in New Zealand, and is similar in appearance to ship rat, although the two species are distinguishable on the basis of physical characteristics.

A distinguishing feature is its relatively small ears and smooth, stout tail. Norway rats swim well up to about 500m in sea conditions. Norway rat is thought to have originated in north-eastern China, and accidentally or deliberately distributed by ships throughout the world.

Ship rat (also known as roof rat or black rat), is sleek and slender, with a scaly, long grey tail, and large, thin ears. Ship rat can occur in three different colour types – black, brown with white belly, and brown with grey belly. Ship rats originated in India, and are now common throughout the world, being commonly transported by ships. On Chatham Island, harrier hawks and cat are the main rodent predators.

Distribution

Kiore were once widespread throughout New Zealand, but are now confined to parts of Fiordland, Southland, south Westland and some offshore islands, including Chatham Island, but excluding Pitt Island and the Outer Islands of the Chatham Islands. The decline of kiore is most likely due to competition from other rodents, including mice. Kiore live in a wide range of habitats including grasslands, coastal scrub, secondary and mature forests.

Norway rats were introduced in 1770 from visiting sailing ships, and spread rapidly throughout New Zealand, from the coastline to altitudes of 1200m, but survive best in wetland habitats such as estuaries, lagoons, lakes, marshes and streams. They occupy approximately 1-5ha ranges, and range up to 500m. Norway rats are present on Chatham Island but absent from Pitt Island and the Outer Islands of the Chatham Islands.

Ship rats are widespread throughout New Zealand, from the coast to the treeline, in exotic forests, farms, hedgerows and in buildings, but most abundant in mature lowland podocarp-broadleaf forest. They occur on Chatham Island and on 26 other offshore islands, but they are absent from Pitt Island and the Outer Islands of the Chatham Islands.

Adverse Effects

Kiore eat a wide range of food, including insects, lizards, birds, and all parts of plants, including flowers, leaves, shoots, bark, fruit, seeds and roots. Kiore have caused local extinctions and permanent reductions in populations of native species, including land snails, weta, frogs, wood rose, and native birds. Norway rats will eat almost anything including grains, silage, offal, flotsam, sewerage residues, seeds, fruit, leaves, insects, snails, crabs, eggs, birds, and lizards. Norway rats can carry disease such as Weil's disease, salmonellosis, typhus and plague. Norway rats have caused permanent reductions in populations of native species, including dotterel, seabirds, skinks, beetles and weta.

Ship rats eat a wide range of foods, but because they climb trees well, they are the most frequent predator of birds, eggs and chicks, and have caused the local and complete extinction of bird species, including the Stephen's Island wren, kokako, red crowned parakeet, yellow crowned parakeet, insects, and the greater short-tailed bat.

Objective

Over the duration of the Strategy, to prevent kiore, Norway rat and ship rat from establishing on Pitt Island.

Principal Measures

Over the duration of the Strategy, the Council will:

- carry out surveillance at wharves on Chatham Island and on Pitt Island
- inspect properties and businesses with known or suspected infestations of kiore, Norway rat or ship rat
- establish inter-island protocols on Chatham Island in partnership with industry and other agencies
- carry out public advocacy to ensure that visitors, landowners and occupiers, businesses and transportation industries servicing Pitt Island report the presence of kiore, Norway rat or ship rat
- advocate for the installation of bait stations on vessels landing at Pitt Island and provide information regarding appropriate bait and methods
- support and enhance existing Department of Conservation surveillance and bait station programmes at Pitt Island wharves and landing points

While the Council recognises the need to be able to totally control Surveillance pests if it is technically feasible, it does not have the operational capacity to respond to all potential pest incursions. Therefore, efforts will focus on surveillance and public awareness, and the Council will work with other agencies to confirm partnerships and secure resources for the development of an incursion response action plan for the Territory. However, in the event that kiore, Norway rat or ship rat are discovered on Pitt Island, the Council will assess the practicability and feasibility of utilising appropriate and available means of preventing them from becoming established on the Island. Such means may include the removal of individual animals where they are discovered.

HEDGEHOG (Erinaceus europaeus)

Description

The European hedgehog is a nocturnal, spiny, grey-brown insect eater that weighs up to 700g. They swim well, have home ranges from 2-50ha, and occur in densities of 1-3 per ha. Feral pigs are their main predator, and weka also prey upon them.

Distribution

Originating from Britain, hedgehogs are abundant throughout the lowland districts, especially near the coast, in sand dune country where frosts are few and mild, and snails, worms and grass grubs are common. Hedgehogs occur on Chatham Island but are not known to be present on Pitt Island or the Outer Islands of the Chatham Islands.

Adverse Effects

Hedgehogs feed on lizards, eggs and chicks of ground nesting birds, and are a potentially serious threat to indigenous invertebrates.

Objective

Over the duration of the Strategy, to prevent hedgehogs establishing on Pitt Island.

Principal Measures

Over the duration of the Strategy, the Council will:

- carry out public advocacy to ensure that visitors, landowners and occupiers, businesses and transportation industries servicing Pitt Island report the presence of hedgehogs

While the Council recognises the need to be able to totally control Surveillance pests if it is technically feasible, it does not have the operational capacity to respond to all potential pest incursions. Therefore, efforts will focus on surveillance and public awareness, and the Council will work with other agencies to confirm partnerships and secure resources for the development of an incursion response action plan for the Territory. However, in the event that hedgehog are discovered on Pitt Island, the Council will assess the practicability and feasibility of utilising appropriate and available means of preventing them from becoming established on the Island. Such means may include the removal of individual animals where they are discovered.

SECTION 4: TOTAL CONTROL

Introduction

Total Control refers to pests that are present in the Chatham Islands Territory, but in restricted distributions or densities. The long-term goal is eradication. Following successful total control, a pest may remain a Surveillance pest. The total control of broom on the Chatham Islands is an example of a pest in a restricted distribution that cycles between Total Control and Surveillance pest programmes.

Total Control refers to pests that are (in order of priority):

- on Chatham Island in low numbers or in few places and not on Pitt Island or the Outer Islands; and/or
- on Pitt Island or the Outer Islands in low numbers or in few places but established on Chatham Island.

The following criteria are used as a guide to determine whether or not a Total Control programme will be successful:

1. Control frequency must remove the population faster than it can reproduce or be re-introduced.
2. Detection methods must be effective i.e. pests are able to be detected even when densities have been reduced by 90%.
3. Surveillance is ongoing.
4. Investigations into illegal releases must occur.

Total control may be possible for some widespread pests. While the Council acknowledges this, given the limited resources and operational capacity of the Council, the focus will remain on pests in restricted distributions.

The Total Control programme includes a number of plant pests, and feral goats. Although knowledge of the extent of feral goat distribution in the Chatham Islands Territory is incomplete, they have been included in the Total Control programme based on the significance and widespread nature of the effects that they have on a number of regional values, the concern expressed by the community about their impacts, and the availability and effectiveness of control methods.

The eradication of a plant species will depend on the longevity and extent of any existing seed bank. The presence of a viable seed bank will mean that seedlings will emerge until the seed bank is exhausted. The seeds of some plants are capable of surviving in the soil for a century. Therefore, the approach taken to achieving the Total Control programme objective for plant pests is to prevent them breeding by systematically destroying all plants prior to seed set.

Some pest plants may have established on Chatham Island, but may not have established on Pitt Island or the Outer Islands. Further plant surveys are required to determine whether or not any plant pest could be subject to Total Control on Pitt Island or the Outer Islands but Containment Control on Chatham Island.

Pests arriving on Pitt Island or the Outer Islands from Chatham Island are a higher priority for Total Control as it is more cost effective to eradicate outlying populations first, before controlling the source population.

BANANA PASSIONFRUIT (Passiflora mixta)

Description

Different banana passionfruit species are virtually identical in their characteristics and appearance. They are tall, climbing vines that grow in forest and shrubland margins, stream-sides, coastline cliffs, consolidated sand dunes and in domestic gardens. The plants produce large pink tubular flowers throughout the year. These develop into oval fruit that turn yellow to orange-yellow when ripe.

Distribution

Banana passionfruit is not known to be present on the Outer Islands, and its distribution on Pitt Island, has not been confirmed. It is estimated to occur in less than 5 known sites over a total area of less than 0.5ha on Chatham Island.

Adverse Effects

Banana passionfruit produces fruit that is eaten and spread by animals, birds and humans. It is capable of smothering other plants and dominating the canopy. It grows rapidly and its stems will layer. It poses a major threat to the biodiversity values of the Territory.

Objective

Over the duration of the Strategy, to destroy all banana passionfruit plants on the Chatham Islands prior to viable seed set.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestation of banana passionfruit
- undertake total control to destroy all banana passionfruit plants prior to viable seed set
- regulate to prevent the pest being sold, propagated, bred or distributed
- carry out a searching programme in sites of known risk to banana passionfruit
- maintain a high degree of public awareness of banana passionfruit as a Total Control pest and an Unwanted Organism

COMMON BROOM (Cystisus scoparius)
WHITE BROOM (Cytisus multiflorus)
MONTPELLIER BROOM (Teline monspessulana)

Description

Common broom, *Cytisus scoparius*, is a branched perennial shrub up to 2.5 m tall with bright yellow flowers. Montpellier broom (*Teline monspessulana*) and white broom (*Cytisus multiflorus*), while somewhat smaller in stature are, except for slightly smaller yellow flowers or red-flecked white flowers respectively, very difficult to distinguish from common broom. They are therefore treated as if they were common broom. Seed dispersal is mostly within 10m of the parent plant unless assisted by other agents such as stock or water. Seed may survive in the soil for more than 50 years.

Distribution

Broom is not known to be present on the Outer Islands, and the present distribution of broom on Pitt Island and Chatham Island is not known. Broom has occurred on Chatham Island along roadsides, accidentally introduced in gravel, in the past. It has been subject to total control several times, and is included in the Total Control programme as a precautionary measure at this stage.

Adverse Effects

Broom can establish dense stands that can shade out most other native species, and can destroy pasture. Broom can also significantly affect natural character and visual amenity, which the tourism industry relies upon.

Objective

Over the duration of the Strategy, to destroy all broom plants on the Chatham Islands prior to viable seed set.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestation of broom
- undertake total control to destroy all broom plants prior to viable seed set
- regulate to prevent the pest being sold, propagated, bred or distributed
- carry out a searching programme in sites of known risk to broom
- maintain a high degree of public awareness of broom as a Total Control pest

BUDDLEIA (Buddleja davidii)

Description

Buddleia is a large woody shrub up to 2m high with long dark silvery green weeping leaves and honey scented flowers of soft lilac, tolerant of high salt winds and dry inland and coastal areas. It is popular as a garden plant and wind break.

Distribution

Buddleia is not known to be present on the Outer Islands, and its distribution on Pitt Island has not been confirmed. It is estimated to, occur in less than five known sites over a total area of less than 0.5ha on Chatham Island.

Adverse Effects

Buddleia is a garden escapee that is spreading throughout New Zealand. It is regarded as an environmental and economic threat to pine forests. It thrives in gravel areas and displaces native plants from streambeds and riparian margins.

Objective

Over the duration of the Strategy, to destroy all buddleia plants on the Chatham Islands prior to viable seed set.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestation of buddleia
- undertake total control to destroy all buddleia plants prior to viable seed set
- regulate to prevent the pest being sold, propagated, bred or distributed
- carry out a searching programme in sites of known risk to buddleia
- maintain a high degree of public awareness of buddleia as a Total Control pest

CHILEAN RHUBARB (Gunnera tinctoria)

Description

Chilean rhubarb or Gunnera is a summer green herb, with short, stout horizontal rhizomes that give rise to stout stems that are studded with short, reddish prickles. The large leaves (up to 1m by 1m) with 5-7 lobes are hairy underneath, especially on the veins. Massive pink coloured and scaled buds are formed over winter. Each plant produces hundreds of flowers that each produce a single oval seed. Chilean rhubarb grows on leached soils in areas of high rainfall, especially soils that are derived from streams or volcanic ash, on forest margins adjacent to wetland areas, unfertilised farmland, stream sides and bluffs.

Distribution

Chilean rhubarb is not known to be present on the Outer Islands, and its distribution on Pitt Island has not been confirmed. It is estimated to occur in less than five known sites over a total area of less than 0.5ha on Chatham Island. Chilean rhubarb is still establishing in New Zealand.

Adverse Effects

Chilean rhubarb displaces native plants particularly on coastal cliffs and along riparian margins.

Objective

Over the duration of the Strategy, to destroy all Chilean rhubarb plants on the Chatham Islands prior to viable seed set.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestation of Chilean rhubarb
- undertake total control to destroy all Chilean rhubarb plants prior to viable seed set
- regulate to prevent the pest being sold, propagated, bred or distributed
- carry out a searching programme in sites of known risk to Chilean rhubarb
- maintain a high degree of public awareness of Chilean rhubarb as a Total Control pest and Unwanted Organism

COTONEASTER (Cotoneaster glaucophyllus, C. lacteus, C. ovata)

Description

Cotoneaster is a spreading evergreen shrub 1-3m high that can grow in a range of habitats from roadsides, quarries, cliffs, forests to open rocky bluffs. Young leaves are buff-white underneath, and in Cotoneaster glaucophyllus can be blue/green when mature. Large bunches of small red berries are produced in summer.

Distribution

Cotoneaster is not known to be present on the Outer Islands, and its distribution on Pitt Island has not been confirmed. It is estimated to occur in less than five known sites over a total area of less than 0.5ha on Chatham Island. Cotoneaster is widespread in New Zealand.

Adverse Effects

Cotoneaster displaces native shrubs particularly on bluffs and rocklands.

Objective

Over the duration of the Strategy, to destroy all cotoneaster plants from the Chatham Islands prior to viable seed set.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestation of cotoneaster
- undertake total control to destroy all cotoneaster plants prior to viable seed set
- regulate to prevent the pest being sold, propagated, bred or distributed
- carry out a searching programme in sites of known risk to cotoneaster
- maintain a high degree of public awareness of cotoneaster as a Total Control pest

MONTBRETIA (Crocosmia X crocosmiiflora)

Description

Montbretia is an iris, with stiff 60-90cm long leaves and rhizomes (underground stems). The flower stem forms a zig zag shape and produces trumpet-like reddish-orange flowers (up to 3cm long) during the summer. It grows alongside streams, on forest and shrubland margins, in quarries and on roadsides.

Distribution

Montbretia is not known to be present on the Outer Islands, and its distribution on Pitt Island has not been confirmed. It is estimated to occur in less than five known sites over a total area of less than 0.5ha on Chatham Island. Montbretia is still establishing in New Zealand.

Adverse Effects

Montbretia can form extensive dense swards up to 1m high and displaces native streamside plants.

Objective

Over the duration of the Strategy, to destroy all montbretia plants on the Chatham Islands prior to viable seed set.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestation of montbretia
- undertake total control to destroy all montbretia plants prior to viable seed set
- regulate to prevent the pest being sold, propagated, bred or distributed
- carry out a searching programme in sites of known risk to montbretia
- maintain a high degree of public awareness of montbretia as a Total Control pest

SYCAMORE (Acer pseudoplatanus)

Description

Sycamore is a deciduous tree up to 20m high, with smooth grey bark, and winged (helicopter) fruits. It grows in a variety of places, including roadsides, rivers, and regenerating forest.

Distribution

Sycamore is not known to be present on the Outer Islands, and its distribution on Pitt Island has not been confirmed. It is estimated to occur in less than five known sites over a total area of less than 0.5ha on Chatham Island.

Adverse Effects

Sycamore grows rapidly, out-competing native plants and preventing natural regeneration.

Objective

Over the duration of the Strategy, to destroy all sycamore plants on the Chatham Islands prior to viable seed set.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestation of sycamore
- undertake total control to destroy all sycamore plants prior to viable seed set
- regulate to prevent the pest being sold, propagated, bred or distributed
- carry out a searching programme in sites of known risk to sycamore
- maintain a high degree of public awareness of sycamore as a Total Control pest

KAHILI GINGER (Hedychium gardnerianum)
YELLOW GINGER (Hedychium flavescens)

Description

Kahili ginger and yellow ginger are herbaceous perennial plants that produced vertical stems annually from large branching rhizomes. Rhizomes form dense layers up to 1m thick, and stems grow up to 2m, producing large waxy, ovate, alternate leaves. Kahili ginger flowers are lemon yellow with red stamens, and produce up to 100 red seeds per flower head during the late autumn and winter. Yellow ginger flowers are cream to light yellow in colour and do not produce seed. Ginger grows best in open, warm, moist sites, but can grow in shade beneath the forest canopy.

Distribution

Kahili and yellow ginger are not known to be present on the Outer Islands, and their distribution on Pitt Island has not been confirmed. They are estimated to occur in less than five known sites over a total area of less than 0.5ha on Chatham Island.

Adverse Effects

Kahili and yellow ginger can form dense mats in native forests, smothering seedlings and preventing natural regeneration, and can result in the total death of a forest.

Objective

Over the duration of the Strategy, to destroy all kahili and yellow ginger plants on the Chatham Islands prior to viable seed set.

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestation of kahili and/or yellow ginger
- undertake total control to destroy all kahili and yellow ginger plants prior to viable seed set
- regulate to prevent the pest being sold, propagated, bred or distributed
- carry out a searching programme in sites of known risk to kahili and yellow ginger
- maintain a high degree of public awareness of kahili and yellow ginger as Total Control pests and as Unwanted Organisms

FERAL GOAT (Capra hircus)

Description

This Total Control pest management programme applies to feral goats. For the purposes of this Strategy and this pest management programme, a feral goat is any goat that is a wild animal, as defined by the Wild Animal Control Act 1977. Under section 2 of that Act, the definition of a wild animal includes -

(iii) Any goat that is not -

(A) Held behind effective fences or otherwise constrained; and

(B) Identified in accordance with an identification system registered under section 3 of the Animal Identification Act 1993 or [in accordance with an identification system approved under section 50 of the Biosecurity Act 1993 and approved by the Director-General for the purposes of this Act]

Feral goats are all derived from domestic goats that escape due to poor fence maintenance, or are deliberately released. Males are larger than females, standing up to 70cm at the shoulder. Female feral goats range up to 5km, but males can range up to 200km. In good condition, feral goats can double their numbers every two years. Feral goats can tolerate a wide range of habitats and conditions from peaty moors to sub-tropical forests over a range of latitudes.

Distribution

Goat farming is uncommon on the Chatham Islands, and it is estimated that feral goats number about 800 animals on Chatham Island and less than 50 animals on Pitt Island. Feral goats are not known to be present on the Outer Islands.

Adverse Effects

Feral goats destabilise soils in forests and shrublands, defoliate and eat the stems of palatable under-storey species, and prevent regeneration of seedlings. Feral goats may occasionally compete with sheep for feed, and have a wide range of parasites and diseases in common with sheep. Feral goats access rocky areas that sheep cannot, and in association with possums, have adversely altered the composition and structure of forests, resulting in the loss of canopy trees such as rata, pohutukawa, kamahi, fuschia and coprosma, and the local extinction of threatened plants throughout New Zealand. Feral goats decrease habitat quality and indirectly compete with native birds for food, two of the many causes contributing to the decline of native birds.

Objective

Over the duration of the Strategy, to eradicate feral goats from the Chatham Islands.

Principal Measures

Over the duration of the Strategy, the Council will:

- regulate to totally control all feral goats on the Chatham Islands
- in accordance with section 131 of the Biosecurity Act 1993, declare the Chatham Islands Territory or part of it, a controlled area, and as is considered necessary, place restrictions on the movement of all goats into and/or within the Territory for the purpose of limiting the spread of feral goats within the Territory

The Council is of the opinion that long-term, all goats should be banned from the Chatham Islands. Existing feral goats will increase numbers rapidly, resulting in losses of Maori and Moriori cultural and natural values and increased costs of future control. Without removal of domestic goats, feral goats will be continually replaced, making total control unlikely.

SECTION 5: CONTAINMENT CONTROL

Introduction

Containment Control pests are pests that are established in the Chatham Islands, and unable to be eradicated from the Territory. The long-term objective is to minimise the impacts on regional economic, cultural and environmental values by:

- preventing pest plants present on one property from invading adjoining properties;
- reducing plant pests in moderate densities to low densities; and
- maintaining low densities of pest animals and pest plants in areas where regional biodiversity values and potential impacts on them are high, and it is cost effective to do so.

Containment control includes a range of pest management approaches, including small scale within properties (e.g. annual control of all plants on boundaries), medium scale within properties (e.g. annual control of plants of a certain size) or large scale within properties (e.g. annual control of all plants). Containment control within properties is the responsibility of the landowner or occupier.

Containment Control programmes may also be large scale, involving more than one property. In these cases the Council may regulate to ensure coordinated control, or undertake control programmes for the benefit of protecting regional values. While the Council recognises that coordinated control, particularly of animal pests, can be cost effective and provide regional benefit, the emphasis of the Strategy is on preventing new pests establishing on the Chatham Islands. For this reason, the Council will give support to the community in establishing and maintaining large-scale coordinated control.

RAGWORT (Senecio jacobaea)

Description

Ragwort is a robust, branched, bi-annual or perennial plant reaching up to 1.5m. It has numerous bright yellow flowers, slightly furry leaves, stems that are purplish in colour and has an unpleasant smell when crushed. The plant is capable of producing 50,000-150,000 seeds of which 70% may be viable.

Adverse Effects

Ragwort out-competes pasture grasses and reduces production. It contains alkaloids toxic to cattle.

Distribution

Ragwort is establishing in the Chatham Islands, although it is currently absent from some areas and in low incidence in others. Extensive areas of suitable habitat and the potential for it to cause significant adverse effects mean that the benefits of containment control outweigh the costs.

Objective

Over the duration of the Strategy, to reduce, or at least maintain, the distribution and density of ragwort on the Chatham Islands

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestations of ragwort
- administer and enforce rules (see Section 7 for the specific rules)
- develop property plans with landowners not complying with the rules
- carry out public advocacy on the identification and control of ragwort

VARIEGATED THISTLE (Silybum marianum)
CALIFORNIAN THISTLE (Cirsium arvense)

Description

Variegated thistle and Californian thistle are spiny leaved perennials that initially have a slender taproot that produces a deep, lateral, creeping root system. Each plant sends up many aerial shoots, up to 1m high. The male and female flowers occur on separate plants. Variegated thistle leaves are variable in colour, often with pale lines. Californian thistle flowers are variable in colour, ranging from white through mauve to purple. Leaves are lance-shaped with triangular lobes, bearing many small teeth on the margins, with 5-10mm spines.

Distribution

Variegated thistle and Californian thistle are in a restricted distribution on Chatham Island and Pitt Island. Their distribution on the Outer Islands is unknown.

Adverse Effects

Variegated thistle and Californian thistle form dense stands that are difficult to control. Plants can form dense stands of up to 150,000 plants per hectare. They obstruct livestock movement and out-compete pasture grasses. Mature thistles can produce 10,000 seeds per plant with 60-80% germination viability. Seed may survive in the soil for long periods.

Objectives

1. Over the duration of the Strategy, to reduce, or at least maintain, the distribution and density of Californian thistle and variegated thistle on the Chatham Islands; and
2. Over the duration of the Strategy minimise the spread of Californian thistle and variegated thistle onto neighbouring properties on land that is clear or being cleared of the pests

Principal Measures

Over the duration of the Strategy, the Council will:

- inspect properties with known or suspected infestations of Californian thistle and variegated thistle
- administer and enforce rules (see Section 7 for the specific rules)
- carry out public advocacy on the identification and control of Californian thistle and variegated thistle
- develop property plans with landowners not complying with the Strategy rules

GORSE (Ulex europaeus)

Description

Gorse is a spiny, woody, deeply rooted perennial legume that grows up to 4m in height. The plant may seed twice a year. Seeds are ejected approximately 5m from the pods, and can survive more than 50 years. Seeds can also be spread by water, birds, roading materials, gravel, animals and machinery.

Distribution

Although gorse is widespread on Chatham Island, and establishing on Pitt Island, there are areas on both Chatham and Pitt Island where gorse occurs in low densities. Satellite images taken in 2001 and the Land Cover Database (LCDB) were used to define areas of high, moderate and low gorse density. For the purposes of this programme and the applicable rules, these gorse density areas are defined as follows:

- High density: gorse covers more than 3ha over a 10ha area (on average)
- Moderate density: gorse covers less than 3ha over a 10ha area, but more than 1ha over a 10ha area (on average)
- Low density: gorse cover is less than 1ha over a 10ha area (on average)

Large areas of low-density gorse were identified in the southern, western and eastern extremes of Chatham Island, and over most of Pitt Island. Production land is covered in gorse to variable extent, but generally falls within the moderate density category.

The accuracy of the satellite images and the LCDB in terms of where the different gorse density areas are, have been affirmed for Chatham Island through community consultation and a Council workshop. The areas of low, moderate and high density gorse are shown in Appendix 1 as Gorse Management Area 1, Gorse Management Area 2, and Gorse Management Area 3 respectively. The gorse density information has not been confirmed for Pitt Island. Therefore, although the satellite imagery indicated primarily low density gorse on Pitt Island, given the age of this data, the fact that it hasn't been confirmed 'on the ground', and the more onerous nature of the rules for low density areas (i.e. destruction of all plants under Rule 7), Pitt Island is shown in Appendix 1 as moderate density (Gorse Management Area 2).

The distribution of gorse on the Outer Islands is not known.

Adverse Effects

Gorse forms dense thickets that prevent stock access and suppress natural regeneration. In some areas where environmental conditions are optimal, It can form a nursery crop for native vegetation, as it fixes nitrogen into the soil.

Objectives

1. Over the duration of the Strategy, to prevent gorse from invading adjoining land that is clear or being cleared of gorse as from a baseline date of November 2001
2. Over the duration of the Strategy, to reduce and maintain gorse at low densities on properties located within Gorse Management Area 2 (shown in Appendix 1) as from a baseline date of November 2001
3. Over the duration of the Strategy, to destroy all gorse plants prior to viable seed set on properties located within Gorse Management Area 1 (shown in Appendix 1) as from a baseline date of November 2001

Principal Measures

Over the duration of the Strategy, the Council will:

- develop property plans with landowners and occupiers not complying with the Strategy rules
- administer and enforce rules (see Section 7 for the specific rules)
- undertake a gorse control programme to contain gorse along all roadsides and roadside reserves
- provide advice to landowners and occupiers through public awareness on appropriate control methods and timing
- require as a condition of contract with roading contractors that best operational practice in terms of machinery hygiene is employed, and that roading and construction materials are sourced from sites that are kept free of gorse and other plant pests

Regional intervention is justified in keeping areas of low density gorse in the south, west and east of Chatham Island contained. Regional intervention is also justified in keeping areas of low density gorse on Pitt Island contained. The Council will regulate to ensure that landowners and occupiers undertake annual control.

Regional intervention is justified to prevent externality impacts of gorse. The Council will regulate to enforce boundary control.

Regional intervention is justified through the use of Property Plans. Property Plans will form the basis of an agreement between the Council and landowners and occupiers, and will include inspection of areas within properties where gorse densities are high, medium or low. Property Plans will be underpinned by the Strategy rules.

Possum (Trichosurus vulpecula) (Chatham Island only) Feral cattle (Bos taurus) Feral sheep (Ovis aries) Feral pig (Sus scrofa)

Description and Distribution

Possum are described in Surveillance - Pitt Island above.

Feral cattle differ from domestic cattle only by lack of clear signs of domestication. Feral cattle were widespread throughout New Zealand during the mid 19th century, and now only occur in remote areas where farming is less intensive. Feral cattle control on Chatham Island has substantially reduced feral herd numbers, and populations appear to be in steady decline. It is understood that all cattle on Pitt Island are domestic stock, and there are no feral cattle on the Outer Islands.

Feral sheep on Chatham Island are predominantly white, or part-coloured, while the feral sheep on Pitt Island are predominantly black with badger face masks and white-tipped tails. Males are larger (up to 50kg) than females (up to 40kg). Tracks and faecal sign of feral sheep are indistinguishable from domestic sheep. Sheep were eradicated from Rangatira Island in 1961 and from Mangere Island in 1968 by the New Zealand Wildlife Service.

Feral pigs are smaller than domestic pigs, with large forequarters, smaller, shorter hindquarters and longer, coarser hair. Boars (male pigs) stand 0.5 to 1m high at the shoulder.

Sows (female pigs) are slightly smaller and stand 0.4 to 0.6m high at the shoulder. Feral pigs weigh up to 200lb (90kg), or an average of about 80lb (35kg). Feral pigs occupy most suitable habitat, preferring cutover scrub, fern and bracken areas. Densities of 40-100 animals per km2 occur in areas with good food supply. Feral pigs eat succulent vegetation, fruit, seeds, fungi and small animals. In poor years, pigs are able to double their numbers, and in good years, pigs can breed twice, making recovery from even extensive and intensive control possible within a year. Their home range is about 130ha, and they range about 3-10km. On the Chatham Islands, feral pigs are in highest density in the southern tablelands of Chatham Island, and are in low densities in the southern area of Pitt Island.

Adverse Effects

Feral sheep occur in rough pasture in broken scrub and forest, using forested areas for shelter and some browse.

On Pitt Island, feral pigs, and feral sheep prevent natural regeneration and disturb nesting areas of burrowing seabirds.

In native forests, feral pig-rooting turns over the soil and may expose new seed, but persistent feral pig rooting means that weeds, rather than native seedlings establish. Any benefits from soil turnover are outweighed by the loss of soil invertebrates, and subsequent loss of nutrient recycling. Feral pigs therefore directly and/or indirectly impact on native snails, seabirds and tussocks.

Possums and other feral animals, including feral sheep, cattle and pigs, can act as disease hosts which may threaten agriculture and native biodiversity.

Objective

Over the duration of the Strategy, to minimise the impact of possums, feral sheep, feral pigs and feral cattle on the biodiversity values of the Chatham Islands by maintaining low densities in areas where biodiversity values are high.

Principal Measures

Over the duration of the Strategy, the Council will:

- provide advice through public awareness measures to landowners and occupiers on appropriate control methods and timing, support landowners and occupiers in gaining access to information that identifies and prioritises the biodiversity values of the Territory, and promote and encourage voluntary control

SECTION 6: PRINCIPAL MEASURES

Introduction

Principal measures are the means by which the objectives of the Strategy will be met. Principal measures and pest management obligations and responsibilities are applied to each pest, in relation to its position on the infestation curve (Figure 4). The different principal measures that will be used are outlined in more detail below.

Figure 4: Pest Management Obligations in Relation to the Pest Infestation Model

Administrative Power	Reference in the Biosecurity Act
Liens	Section 129
Options for cost recovery	Section 135
Failure to pay	Section 136
Option to undertake a prosecution action	Section 154
The appointment of authorised and accredited persons	Section 103
Delegation to authorised persons	Section 105
Power to act on default	Section 128
Declaration of restricted place	Section 130
Declaration of controlled area	Section 131
Power to require assistance	Section 106
Power of inspection and entry	Sections 109, 110, 111 and 112
Power to record information	Section 113
General powers	Section 114
Power to apply articles or substances from aircraft	Section 114A
Use of dogs and devices	Section 115
Power to seize abandoned goods	Section 119
Power to intercept baggage etc	Section 120
Power to examine organisms	Section 121
Power to apply article or substance to a place	Section 121A
Power to give directions	Section 122
Power to order destruction	Section 127

Regulation

Regulation is the imposition of rules or restrictions for the management and control of pests. Regulation will be used to prohibit sales, distribution and propagation of pests, or to require compulsory pest control work by landowners and occupiers who fail to meet the Strategy rules. Non-compliance with the rules will be determined by complaints or inspections. Searching and small scale pest control operations may occur as part of inspections at no cost to the occupier.

Enforcement

In the event of a landowner, occupier or other person failing to comply with any Strategy rule, or with any provisions of the Biosecurity Act in relation to declared pests, an authorised person of the Council will:

(a) advise the landowner, occupier or other person of their non-compliance, and advise that they take remedial action; and

(b) follow up the initial inspection to confirm that remedial action has been taken and/or to identify any outstanding requirements

If non-compliance continues, then an authorised person will utilise the enforcement provisions of the Biosecurity Act.

Failure to Comply

Where a Notice of Direction has been given to a landowner, occupier or other person under section 122 of the Biosecurity Act and the requirements of the Direction have not been complied with within the time specified, then the Council will consider taking enforcement action. Depending on the circumstances involved, the Council may undertake one or both enforcement options available under the Act. These are:

(a) Action on default under section 128. Action on default means that the Council will undertake the works or measures specified in the Notice of Direction and recover the costs and expenses of that work, inclusive of the issue of the Notice of Direction.

(b) Prosecution action under section 154.

A Notice of Direction given under section 122 of the Act must be served in accordance with the procedure specified in section 164A of the Act.

Exemptions

Section 80D of the Biosecurity Act provides that the Council may exempt any person from any specified requirement in any rule included in the Strategy.

Before granting an exemption under section 80D, the Council must be satisfied that:

(a) the requirement has been substantially complied with and further compliance is unnecessary; or

(b) the action taken, or provision made with respect to the requirement is as effective, or more effective than actual compliance with the requirement; or

(c) the prescribed requirements are clearly unreasonable or inappropriate in the particular case; or

(d) events have occurred that make the requirement unnecessary or inappropriate; and
the granting of the exemption will not significantly prejudice the attainment of the objectives of the Strategy.

The Council will maintain a register recording the number and nature of exemptions granted. This register will be available for public inspection during normal office hours.

Exemptions from the rules may be sought so that the landowner or occupier can agree with the Council on a binding programme of gorse control through a Property Plan that is consistent with the Strategy objectives, and is carried out within a fixed time frame. For example, such a programme could include initially dealing with larger gorse infestations ahead of smaller non-complying gorse infestations.

Offences

Any person who contravenes section 154 of the Biosecurity Act, including but not limited to, breaching a rule in the Strategy, or failing to comply with a Notice of Direction, or failing to comply with the Act, commits an offence against the Act. For the purpose of clarity, the existence of rules in the Strategy in no way limits the application of any provision of the Act. The Council will, at its discretion, bring a prosecution against any person who commits an offence against the Act.

Inspections

Properties will be inspected to assess compliance with the Strategy, and to undertake searching on properties including businesses known to have or suspected to have pests, or after complaints are received. Where an inspection reveals a small pest infestation that can be eliminated at negligible cost, then an authorised person may eliminate the pest at no cost to the landowner or occupier.

Property Plans

Property Plans will form the basis of a contract between landowners or occupiers and the Council for pest control work to meet the objectives of the Strategy. Property Plans will set out pest objectives, a programme of control and set timeframes. All landowners and occupiers will be advised of their responsibilities under the Animal Welfare Act 1999 to, as far as practicable, and without detracting from the particular pest management objective, take into account animal welfare issues and to follow best practice operating and environmental procedures when carrying out pest control or contracting out pest control services. Property Plans will be reviewed annually, and if agreements are not upheld, then rules in the Strategy may be enforced. Property Plans will not be required if landowners and occupiers voluntarily comply with the Strategy.

Pest Control Operations

The Council will undertake pest control operations when control methods require technical skills or qualifications (e.g., genetic or biological control), or if control is only effective if coordinated over a large scale or short time frames (e.g., total control). Pest control methods may include physical (e.g., trapping and shooting), chemical (e.g., baits and sprays), biological (e.g., parasites and disease), and genetic methods, and will follow sustainable management practices.

The Council will require all pest control contractors that it engages to utilise best practice operational and environmental procedures and recognised humane methods for animal pest management, while still achieving the particular pest management objectives.

Pests new to the Territory that can be eradicated are more likely to be subject to Council pest control, of which priority will be given to Pitt Island. Eradication will be considered subject to early detection and feasibility of control.

Unless stated otherwise in the Strategy, landowners and occupiers will be responsible for pest control on land that they own or occupy. There is no differentiation of responsibilities based on differing forms of private land ownership. Council may regulate to ensure that control occurs.

Incursion Response

While the Council recognises the need to be able to totally control Surveillance pests if it is technically feasible, it does not have the operational capacity or resources to respond to all potential pest incursions. Furthermore, the nationally important biodiversity values and marine industry of the Chatham Islands mean that an incursion response for some pests on the Chatham Islands is in both the national and regional interest. Therefore, the Council proposes to work with other organisations and agencies to develop a multi-agency incursion response action plan for the Territory, with technical and financial support from central government agencies. This is outlined in further detail at Part I, Section 1, in the 'Strategic Approach' section.

However, the level of resources required to respond to an incursion will vary from pest to pest, depending on the type of pest and control methods available. Therefore, although the Council is unable to resource responses to the high number of potential pest incursions in the Territory, in the event that a Surveillance pest is discovered on the Chatham Islands, the Council will assess the practicability and feasibility of utilising appropriate and available means of preventing such pest from becoming established within the Territory. Such means may include the removal of isolated plants or individual animals where they are discovered, and the Council will respond accordingly, subject to the availability of resources.

Internal Border

Internal border activities focus on pests that are:

a) in restricted distributions in New Zealand and/or the Chatham Islands; and/or

b) sold through retail or wholesale outlets in New Zealand and/or the Chatham Islands; and/or

c) distributed more quickly and in greater numbers through human transport and trade than by any other means; and/or

d) Unwanted Organisms; and/or

e) Total Control pests.

For the Chatham Islands, marine pests have the potential to impact significantly on the economy and the environment. Given that it is most cost-effective to ensure pests remain outside the Chatham Islands, effort should be focused on managing risk pathways. In terms of marine pests, the principal risk pathway is shipping, and in particular, ships' cargo, ballast water, and hulls. Therefore, the Council will focus first on working and forming partnerships with other parties involved in the movement of people and freight to the Chatham Islands and between Chatham Island and Pitt Island, to ensure that correct searching, pest identification and quarantine procedures are being followed, and to develop inter-island protocols to manage the risk of pest transfer between the islands. Ongoing surveillance programmes (de-limiting surveys) will occur around the ports and emphasis will be placed on vessel hygiene.

Pest identification and risk assessment training will be provided to all freight handlers that work at an exit point for transportation to the Chatham Islands. The Council will also continue to work with local businesses and the Chatham Islands airport to advocate the provision of information relating to pest risks through pamphlets and signs, and will seek assistance from central government agencies and New Zealand airport companies to improve controls, information and signage at New Zealand airports servicing the Chatham Islands.

The Council will collect any unusual plant and animal specimens as part of its searching activities at the Chatham Island airport and ports, and forward these on to appropriate taxonomists for identification. Regular audits will be undertaken for pre-border programmes. In addition, general surveys (e.g. for weeds) will be encouraged to ensure that a list of introduced plants and animals is kept current.

Public Awareness

Education and training programmes can ensure that businesses and suppliers to the Chatham Islands have good hygiene practices that minimise the risk of “hitch-hikers” travelling on or in their vehicles, goods or equipment.

The Council will provide advice and information to landowners and occupiers, and the wider community, for the purposes of:

a) Enabling the public to identify, or access services to identify, pests included in the Strategy, Unwanted Organisms, and organisms that may constitute a risk to the Chatham Islands Territory in the future.

b) Maintaining a high degree of awareness about the actual and potential adverse effects of pests.

c) Maintaining a high degree of awareness of how individuals and business actions or inaction can increase the potential of pests being introduced to, or spreading throughout, the Chatham Islands, including between islands.

d) Developing and maintaining a skill base within the community to enable landowners and occupiers to undertake safe and humane pest control using appropriate methods at appropriate times.

e) Encouraging the local community to take appropriate voluntary action with respect to pest control.

f) Raising awareness of the potential impacts of freshwater and marine pests, and of particular marine organisms of concern.

g) As far as practicable, and without detracting from the particular pest management objective, minimising the impacts of pest control on animal welfare.

h) Supporting landowners and occupiers in gaining access to information that identifies and prioritises the biodiversity values of the Territory.

Information will be disseminated using a range of methods including:

a) Responding to public enquiries, including the identification of pests and organisms, and requests for technical information on pest control.

b) Visits to properties and premises by authorised persons associated with inspections, monitoring, searching and Property Plan development and implementation.

c) Presentations, demonstrations, events, workshops and field days for stakeholder and interest groups.

d) The publication and distribution of pamphlets, posters and fact sheets on pest identification and control, including freshwater and marine organisms.

e) The maintenance of website information on pest identification and control, including freshwater and marine organisms.

f) Preparing features for, and placing advertisements and special features in, the Chatham Islands newspaper and Chatham Islands television.

g) Public meetings.

h) Encouragement of community managed pest control initiatives.

i) Providing a pest identification service.

j) Training key industries (shipping and airport) in pest identification and other internal border activities.

Investigations

The aim of investigation and survey programmes is to address gaps in available information and knowledge, to improve the effectiveness and reduce the cost of control methods (e.g. new techniques), and to assess the feasibility of eradication. Investigations may include surveys and studies into the ecology of pest species or the effectiveness of biological control agents.

Section 13 of the Biosecurity Act provides for the Council to gather information, keep records and undertake research. There are at present many gaps in available and confirmed data regarding the status of many pests in the Chatham Islands. Although the Council does not have the resources to undertake comprehensive surveys for all potential pests in all parts of the Territory, the Council will establish a system to record pest related information, will gather information where practicable and feasible, and will encourage and work cooperatively with other organisations and agencies undertaking research within the Territory.

Biological Control

There have been several attempts to introduce bumblebees and white butterfly parasites (Apanateles glomeratus and Pteromalus puparium) to the Chatham Islands. The gorse pod moth (Cydia ulicetana) has also been released, and is still present on the Chatham Islands. Gorse spider mites (Tetranthus lintearius) were released on the Chatham Islands, but do not appear to have established there.

There are at least 43 insect species, 5 mite species, and 15 pathogens that could be considered for introduction to act as bio-control agents for plants and insects that are already present on the Chatham Islands (MacFarlane et al. 1991). The ragwort flea beetle (Longitarsus jacobaeae) for example, has proven to be a safe and effective method of control in New Zealand and could be considered for the Chatham Islands.

As the impact of bio-control agents on the endemic native insect fauna may not be known, the Council, by supporting investigations, will ensure that any trials that are carried out have minimal or no effect on freshwater or terrestrial habitats, or on the indigenous flora and fauna of the Islands.

SECTION 7: RULES

The following rules will be enforced to ensure that the objectives of the Strategy are met. A breach of any of these rules creates an offence under section 154 of the Biosecurity Act and may initiate enforcement procedures. Powers conferred on authorised persons are specified below.

RULE 1: No person shall introduce, propagate or distribute pests identified in this Strategy as Surveillance or Total Control pests from New Zealand or any other place, to the Chatham Islands, between Chatham Island and Pitt Island or the Outer Islands, or within Chatham Island, Pitt Island or the Outer Islands.

RULE 2: The operator of any vehicle (including machinery, aircraft and shipping vessels) used to transport persons, cargo or equipment from New Zealand to the Chatham Islands shall keep and make available to the Chatham Islands Council upon request, records in writing of any sightings of Surveillance or Total Control pests found on any vehicle entering the Chatham Islands Territory.

RULE 3: Landowners and occupiers shall undertake an annual control programme to eradicate all feral goats on their property over the life of this Strategy.

RULE 4: Landowners and occupiers shall undertake an annual control programme to destroy all Californian thistle, variegated thistle, and ragwort, plants on their property, prior to viable seed set within:

- 40 m of any irrigation race or stock water race; and
- 40 m of any adjoining property occupied by another land occupier where that adjoining property is clear of or being cleared of Californian thistle, variegated thistle, and/or ragwort.

Gorse Boundary Rule

RULE 5: Landowners and occupiers shall undertake an annual control programme to destroy all gorse plants prior to viable seed set within 15m of any boundary of the property where the adjoining land is clear or being cleared of gorse, or gorse on that adjoining land is being controlled to low density.

Figure 5: Illustration of Gorse Boundary Rule

Gorse Reduction Rule

RULE 6: In areas of moderate gorse density (shown as Gorse Management Area 2 in Appendix 1), landowners and occupiers shall undertake an annual gorse control programme to destroy all gorse plants prior to viable seed set in areas of gorse that are less than 50 square metres in area.

Figure 6: Illustration of Gorse Reduction Rule

Gorse Elimination Rule

RULE 7: In areas of low gorse density (shown as Gorse Management Area 1 in Appendix 1), landowners and occupiers shall undertake an annual control programme to destroy all gorse plants prior to viable seed set.

Figure 7: Illustration of Gorse Elimination Rule

Powers Conferred

To implement and enforce the Strategy, the Council will use statutory powers conferred by the Biosecurity Act. Those powers include Part 6 of the Act and any powers given to the Council by Regulations made under Part 9 of the Act. Relevant sections are discussed below.

Section 131 of the Act enables the institution of movement and other controls in order to:

(a) enable the limitation of the spread of any pest or Unwanted Organism; or

(b) minimise the damage caused by any pest or Unwanted Organisms; or

(c) protect any area from the incursion of pests or Unwanted Organisms.

Section 131(2) enables the Council, as the management agency for the Strategy, to declare by public notice any specified area (e.g., all or part of the Chatham Islands) to be an area that is controlled, and may give notice of either or both of the following:

(a) The movement into, within or from the controlled area of such organisms, organic material, risk goods or other goods that are specified in the notice is restricted, regulated, or prohibited in the manner, to the extent and subject to the conditions specified in the notice.

(b) The organisms, organic material, risk goods, or other goods within the controlled area that are specified in the notice, must be subject to such treatment and procedures as are specified in the notice.

Section 131 notices can have application to pests in pest management strategies and any organism, organic material, risk goods and other goods. This being the case, the Council can use a notice issued under section 131 to restrict the entry of specified goods that are considered to be a risk pathway, so that they may only enter the restricted place or area that is controlled where they have some certification of a specified treatment. Any notice under section 131 remains in force until revoked, replaced or amended by a further notice.

Section 134 of the Biosecurity Act provides for the enforcement of controls established under section 131 as follows:

(1) No person shall -

(b) move, or direct or arrange the movement of, any organism, organic material, risk goods, or other goods in contravention of a notice under section 131(3), unless permitted by an inspector or authorised person.

(1A) Every owner or person in control of an organism, organic material, risk goods, or other goods in respect of which treatment and procedures are specified by a notice under section 131(3) must carry out the treatment and procedures specified in the notice.

(2) All organisms, organic material, [risk goods, or other goods] that are removed or moved in contravention of subsection (1) of this section may be seized by an inspector or authorised person and destroyed, treated, or otherwise dealt with, if it is reasonable in the circumstances to do so.

Section 154(m) makes failure or refusal to comply with section 134, an offence.

Section 109 of the Act gives authorised persons power, at any reasonable time or times, to enter and inspect any place to confirm the presence, former presence, or absence, of a pest, pest agent, Unwanted Organism, unauthorised goods, or risk goods, or to manage or eradicate any pest, pest agent, or Unwanted Organism.

"Place" is defined in section 2 of the Act as including any building, conveyance, craft, land, or structure, and the bed and waters of the sea and any canal, lake, pond, river or stream.

Section 122 empowers authorised persons to direct the occupier of any place or the owner or person in charge of any organism or risk goods to -

(a) treat any goods, water, place, equipment, fitting, or other thing that may be contaminated with pests or Unwanted Organisms; or

(b) destroy any pest or Unwanted Organism or any organism or organic material or thing that there are reasonable grounds to believe harbours a pest or Unwanted Organism; or

(c) take steps to prevent the spread of any pest or Unwanted Organism.

Failure to comply with a notice issued under section 122 constitutes an offence under section 154 of the Act.

Section 103 of the Biosecurity Act enables the Principal Officer/Chief Executive of the Council to appoint authorised persons for the purpose of exercising functions, powers and duties under the Act in relation to any regional pest management strategy in force in the Territory, or to ascertain the presence or distribution of any pest, pest agent, or Unwanted Organism. Such persons must have appropriate experience, technical competence and qualifications, but need not be employed by the government or the Council, allowing for the appointment of persons employed by a private sector service provider.

The Council has the power to enforce restrictions on the sale, propagation, distribution and spread of pests in accordance with sections 52 and 53 of the Act. Authorised persons also have the power to request information from specified persons under section 43 of the Act.

Table 4 (page 69) identifies some of the sections under Parts 6 and 7 of the Biosecurity Act under which the Council may exercise powers to implement and enforce the Strategy.

Table 4: Administrative Powers Under Parts 6 and 7 of the Biosecurity Act

Administrative Power	Reference in the Biosecurity Act
Liens	Section 129
Options for cost recovery	Section 135
Failure to pay	Section 136
Option to undertake a prosecution action	Section 154
The appointment of authorised and accredited persons	Section 103
Delegation to authorised persons	Section 105
Power to act on default	Section 128
Declaration of restricted place	Section 130
Declaration of controlled area	Section 131
Power to require assistance	Section 106
Power of inspection and entry	Sections 109, 110, 111 and 112
Power to record information	Section 113
General powers	Section 114
Power to apply articles or substances from aircraft	Section 114A
Use of dogs and devices	Section 115
Power to seize abandoned goods	Section 119
Power to intercept baggage etc	Section 120
Power to examine organisms	Section 121
Power to apply article or substance to a place	Section 121A
Power to give directions	Section 122
Power to order destruction	Section 127

Section 154 of the Act describes the offences that can be committed against the Act, and corresponding penalties are set out in section 157. Some of the offences and penalties of particular relevance to the implementation and enforcement of this Strategy that can be imposed by the Court are listed in Table 5.

Table 5: Offences and Penalties Under the Biosecurity Act

Offences (Section 154)	Penalties (Section 157)
Every person commits an offence against the Act who -	
a) Threatens, assaults or intentionally obstructs or hinders, - i) an inspector, authorised person or accredited person; or ii) an assistant of an inspector, authorised person or accredited person, - in the exercise or performance of a function, power or duty under this Act, the regulations, a pest management strategy, or a declaration of emergency under section 144 of this Act.	An individual can receive a penalty of either a term of imprisonment not exceeding 12 months, or a fine not exceeding $50,000, or both. A corporation can receive a fine not exceeding $100,000.
d) Without reasonable excuse, fails to comply with a reasonable direction given to that person in accordance with and for the purposes of this Act by an inspector or authorised person, or the assistant of an inspector or authorised person	An individual can receive a penalty of either a term of imprisonment not exceeding 3 months, or a fine not exceeding $50,000, or both. A corporation can receive a fine not exceeding $100,000.
e) Without reasonable excuse, fails to comply with a reasonable requirement made of that person in accordance with and for the purposes of this Act by an inspector or authorised person, or the assistant of an inspector or authorised person	An individual can receive a penalty of either a term of imprisonment not exceeding 3 months, or a fine not exceeding $50,000, or both. A corporation can receive a fine not exceeding $100,000.
q) Without reasonable excuse, fails to comply with a strategy rule included in a national pest management strategy where that rule specifies that a breach of the rule creates an offence under the Act	An individual can receive a penalty of a fine not exceeding $5,000. A corporation can receive a fine not exceeding $15,000.
r) Without reasonable excuse, fails to comply with a strategy rule included in a regional pest management strategy where that rule specifies that a breach of the rule creates an offence under the Act	An individual can receive a penalty of a fine not exceeding $5,000. A corporation can receive a fine not exceeding $15,000.

SECTION 8: ORGANISMS NOT INCLUDED IN THE STRATEGY

Table 6 lists organisms that were nominated by submitters to the Strategy for inclusion in the pest management programmes within the Strategy, but which were not included. Some of the nominated organisms are absent from the Chatham Islands, but are present on mainland New Zealand so have the potential to arrive, and some are present on the Chatham Islands, but the information known about them is incomplete, or they were not prioritised for control. Those organisms that are known to be present on the Chatham Islands but for which information (e.g., distribution) known about them is incomplete, are identified by an X in the fifth column, indicating that they should be prioritised in terms of any efforts or investigations into species distribution in the Territory. Section 13 of the Biosecurity Act gives power to councils to gather information, keep records and undertake research so that they may act effectively under the Act. Although the Council's resources and capacity are very limited in terms of undertaking research, where it is practicable and feasible, the Council will gather information to support existing data relating to these species. In addition, the Council will encourage other agencies and organisations to undertake research and gather information in relation to these and other potential pest species that may be a high risk to the Chatham Islands.

Some of the organisms listed in Table 6 are Unwanted Organisms and may be controlled in accordance with the Biosecurity Act or other relevant legislation without being included in a pest management strategy. Unwanted Organisms are indicated in the fourth column of the Table. In addition, some organisms that have pest attributes may be controlled by other agencies. For example, the Department of Conservation has powers to carry out control of species that threaten conservation values, such as grass carp, mice, stoats, and weasels. The Council will continue to encourage other agencies to undertake control of such species whenever they may pose a significant adverse effect to the Chatham Islands Territory.

Table 6: Organisms Not Included in the Strategy

Common name	Scientific name	Nominated programme	Unwanted Organism	Priority for information development
Land				
Animals				
Mammals				
mouse	*Mus musculus*	Not specified		
stoat	*Mustelo erminea*	Surveillance		
weasel	*Mustelo nivalis*	Surveillance		
Molluscs				
garden snail	*Helix adspersa*	Total Control (Pitt Island) and Surveillance-Pitt Island		
Plants				
Vines				
climbing asparagus	*Asparagus scandens*	Prohibited	X	
common ivy	*Hedera helix*	Total Control and Surveillance		X
madeira vine	*Anredera cordifolia*	Prohibited	X	
Ground cover				
aluminium plant	*Galeobdolon luteum*	Surveillance	X	X
ice plant	*Carpobrotus edulis*	Surveillance	X	X
wandering jew	*Tradescantia fluminensis*	Containment Control	X	X

Herb				
Mexican daisy	*Erigeron karvinskianus*	Total Control and Prohibited	X	X
Tree				
Chinese privet	*Ligustrum sinense*	Prohibited		
crack willow	*Salix cinerea*	Total Control and Prohibited	X	X
grey willow	*Salix fragilis*	Total Control and Prohibited	X	X
lantana	*Lantana camara*	Prohibited	X	
moth plant	*Araujia sericifera*	Prohibited	X	
woolly nightshade	*Solanum mauritianum*	Prohibited	X	
Shrub				
boneseed	*Chrysanthemoides monilifera*	Total Control and Prohibited	X	
flowering cherry		Surveillance		
tree privet	*Ligustrum lucidum*	Prohibited	X	X
tutsan	*Hypericum androsaemum*	Containment Control	X	X
Grass				
purple pampas grass	*Cortaderia jubata*	Prohibited	X	X
veldt grass	*Ehrhata erecta*	Total Control		
white pampas grass	*Cortaderia selloana*	Surveillance	X	X
Freshwater				
Animals				
Fish				
grass carp	*Ctenopharyngodon idella*	Surveillance		
silver carp	*Hypophthalmichthys molitrix*	Surveillance		
stickleback	*Gasterosteus aculeatus*	Surveillance	X	
caudo	*Phallocerus caudimaculatus*	Surveillance		
Amphibians				
whistling tree frog	*Litoria ewingii*	Containment Control and Surveillance-Pitt Island		X
southern bell frog	*Litoria raniformis*	Surveillance		
Plants				
Canadian pondweed	*Elodea canadensis*	Surveillance and Total Control		
parrot's feather	*Myriophyllum varriifolium*	Surveillance		
purple-backed duckweed	*Spirodela punctata*	Total Control		X
starwort	*Callitriche stagnalis*	Total Control		X

yellow flag iris	*Iris pseudocorus*	Total Control	X	X
sharp rush	*Juncus acutus*	Prohibited		
rush	*Juncus articulatus*	Containment Control		
	Carex flacca	Containment Control		
	Angelica pachycarpa	Containment Control		
	Leycestria formosa	Containment Control		
Marine				
Plants				
undaria	*Undaria pinnatifida*	Surveillance	X	

PART III: FUNDING

Introduction

Section 77 of the Biosecurity Act requires that the following matters be specified in a proposed pest management strategy in relation to any organism to which the strategy applies:

(a) the extent to which any person or persons of any class, kind, or description are likely to benefit from the strategy;

(b) the extent (if any) to which any persons or persons of any class, kind, or description by their activities or inaction contribute to the creation, continuance, or exacerbation of the problems proposed to be resolved by the strategy;

(c) the rationale for the allocation of costs; and

(d) whether any unusual administrative problems or costs are expected in recovering the costs allocated to any of the persons who are required to pay.

The funding tests required by section 77 require that different classes of exacerbators and beneficiaries be identified, along with the classes of costs it is reasonable to charge them. As the Chatham Islands community is small, it is inefficient to separate exacerbators from beneficiaries, although different geographic classes of both beneficiaries and exacerbators can be identified.

Surveillance and Total Control programme principal measures are generally preventative, so that benefits accrue to both the Chatham Island community and New Zealanders as a whole. These benefits include protecting biodiversity and marine fishery values of national importance, and mitigating the potential costs of pest control and pest impacts on production and other regional values.

The funding rationale incorporates the principle that those who fund the Strategy should not pay for activities within the Strategy for which they receive no benefit, or for which another party would normally consider is its role to fund. For instance, advice and education is a principle measure but the Council also offers education funded from other regional funds.

Cost Allocation and Funding Rationale

In giving effect to this Strategy, both the Biosecurity Act 1993 and the Local Government (Rating) Act 2002 require that funding should be sought from:

- those persons who have an interest in the Strategy;
- those persons who benefit from the Strategy; and
- those persons who contribute to the pest problem.

Most of the pests in the Strategy are either Surveillance or Total Control pests. With internationally important biodiversity values, and nationally important fisheries, the Chatham Islands is a unique region of New Zealand. Surveillance and Total Control programme activities on the Islands therefore benefit all New Zealanders, not just Chatham Islanders. As it is most cost effective to prevent pests from arriving on Chatham or Pitt Islands, and to eradicate them when technically feasible, it is not efficient to allocate these pests to classes of beneficiaries and exacerbators.

For Containment Control pests, when economic values are involved, costs could be charged to landowners or businesses either as beneficiaries or exacerbators. Similarly, inspection, monitoring, enforcement and other administration costs could be charged to beneficiaries, usually landowners. Re-inspection and enforcement costs could be charged to exacerbators.

When other regional values are involved, Containment Control costs could be shared by the landowners or businesses as exacerbators, and the regional community as beneficiaries. Direct user charges could be imposed in response to non-compliance to ensure that only actual rather than potential exacerbators bear the cost. Similarly, inspection, monitoring, enforcement and other administration costs could be charged to the regional community.

The funding of costs allocated to rural landowners and occupiers could be through targeted rates applied to occupiers of rateable rural land. Where there is an agreed area for containment pest control, costs could be allocated to land occupiers via a targeted rate applying to all rateable land on an area and/or value based rating.

The Council recognises that exceptional circumstances exist in managing pests in the Chatham Islands. The small size of the Chatham Islands community makes it difficult to identify classes of beneficiaries and exacerbators. In addition, although the island population is small, there is a considerable range in socio-economic status. Providing equity in allocating costs is therefore difficult, and sometimes compounded by conflicts in the cultural values (Moriori, Maori and European) of individual landowners. Furthermore, the isolation of the Chatham Islands brings with it high costs of goods and services. The full costs incurred in enforcing rules for Containment Control pests may therefore be unable to be justified or recovered.

In recognising the exceptional circumstances of the Chatham Islands, the Council has developed a unique partnership with the New Zealand Government, which assists in the funding of the development, review and implementation of this Strategy and associated pest management programmes.

The Council recognises that landowners and occupiers will contribute to significant control costs in complying with rules, and undertaking voluntary control (Table 7). User charges will be applied through the enforcement process to ensure that landowners who comply with the Strategy, are not disadvantaged by those who do not. Costs of Surveillance and Total Control pest programmes are of benefit to all New Zealanders, including the people of the Chatham Islands, and funding will be by way of central government grant(s). It is important to note, that the extent to which the Surveillance and Total Control programmes may be implemented will be subject to the availability of sufficient funding.

Table 7: Beneficiaries and Exacerbators

Pest Programme	Beneficiaries	Exacerbators	Funding source
Surveillance	New Zealand community and Chatham Islands community	Users of New Zealand ports servicing the Chatham Islands	Government grant
Total Control	New Zealand community and Chatham Islands community	Users of New Zealand ports servicing the Chatham Islands Chatham Island and Pitt Island communities Production, marine and tourism industries	Government grant
Containment Control	Chatham Islands community	Landowners and occupiers on whose property the Containment Control pest is located	Government grant and non-complying landowners and occupiers

Anticipated costs

The cost of administering and implementing the Strategy principally relates to:

(a) administration;
(b) principal measures; and
(c) compensation.

These costs are discussed in detail below.

Administration

General administrative costs include those arising from general administrative functions such as liaison with other government agencies, planning, and provision of other pest services, such as contributing towards the implementation of National Pest Management Strategies, and working with other agencies and organisations in the development of a multi-agency incursion response action plan for the Territory.

The Council will advocate and encourage other agencies and businesses to adopt policies, practices and procedures that avoid, remedy or mitigate adverse effects associated with harmful or potentially harmful organisms. The Council will also make submissions in respect of other documents prepared on pest management by other agencies.

Principal Measures

The anticipated costs of implementing the principal measures of the Strategy are summarised in Table 8 below. No allowance has been made for input and assistance from other agencies and organisations, such as will be required in relation to developing a multi-agency incursion response action plan, strengthening internal border controls, and freshwater and marine biosecurity.

Table 8: Anticipated Costs of Principal Measures

Principal Measures	Surveillance	Total Control	Containment Control
Regulation	$5 000	$10 000	$10 000
Inspection, surveillance, searching – Chatham and Pitt Islands	$30 000	$15 000	$10 000
Property Plans			$15 000
Pest control operations – Chatham and Pitt Islands		$40 000	
Internal border – Chatham and Pitt Islands	$20 000		
Public awareness – Chatham and Pitt Islands	$10 000	$10 000	$10 000
Investigations/Research – Chatham and Pitt Islands	$5 000	$5 000	$5 000
Monitoring – Chatham and Pitt Islands		$10 000	
Incursion Response – Chatham and Pitt Islands	$45 000		
TOTAL	**$115 000**	**$90 000**	**$50 000**

Compensation

No compensation shall be payable by the Council for any claims resulting from the implementation of the Strategy, except where the pest is recognised as legal property. The owner of any pest property damaged or destroyed in the course of implementing the Strategy shall be entitled to receive the net proceeds (if any) arising from the disposal of the pest property. Any dispute concerning the eligibility for or the amount of net proceeds will be assigned to independent arbitrators for resolution.

PART IV: MONITORING

Operational Plan and Operational Report

In accordance with section 85 of the Biosecurity Act, the Council will report annually through an Operational Report, on a 5 year Operational Plan, outlining the implementation of principal measures, and the extent to which objectives of the Strategy are being met. The Operational Plan sets budgets and targets for achieving the Strategy objectives, while the Operational Report outlines progress towards achieving those objectives. The Operational Plan must be prepared within 3 months after the Strategy becomes operational, and must be reviewed annually. The Operational Report is the major monitoring mechanism for how well the objectives of the Strategy are being met, and will report on the factors set out in Table 9 below.

Pest control operations and regulation are two of the key principal measures that will be applied under the Strategy. Operational monitoring measures the effectiveness and efficiency of pest control operations, while compliance monitoring measures the effectiveness of regulation. Public awareness (information and advice) informs landowners and occupiers of their obligations, and of appropriate pest control methods. Investigations improve the efficiency and effectiveness of pest management operational and monitoring methods.

The Council will monitor implementation of the pest management programmes set out in this Strategy by:

- recording the number of public complaints received relating to each pest
- recording the number of incidences of non-compliance with the Strategy rules
- reporting on the success or otherwise of any investigations
- reporting on the distribution of any biological control agents released
- assessing the public awareness of pest control programmes

Table 9: Monitoring the Strategy Objectives

Anticipated Result	Indicator	Method of Monitoring	Frequency of Monitoring	Reporting to Council
Surveillance				
Surveillance pests known to be absent from the Chatham Islands and Pitt Island do not establish on the Chatham Islands or Pitt Island	Presence	Searching at Chatham Island and Pitt Island ports and high risk locations	Twice yearly	Annual
Total Control				
There is a reduction in the distribution and density of Total Control pests	Distribution and density of Total Control pests	Mapping the distribution, and where possible, the location and density of Total Control pests	Annual	Annual
Containment Control				
Impacts of Containment Control pest plants on regional values are minimised	Compliance with rules	Property Plans	Following control operations	Annual
Impacts of Containment Control pest animals on regional values are minimised	Voluntary control and landowner partnerships with agencies	Property Plans	Following control operations	Annual

PART V: SUPPORTING INFORMATION

Supporting Information is presented in three sections.

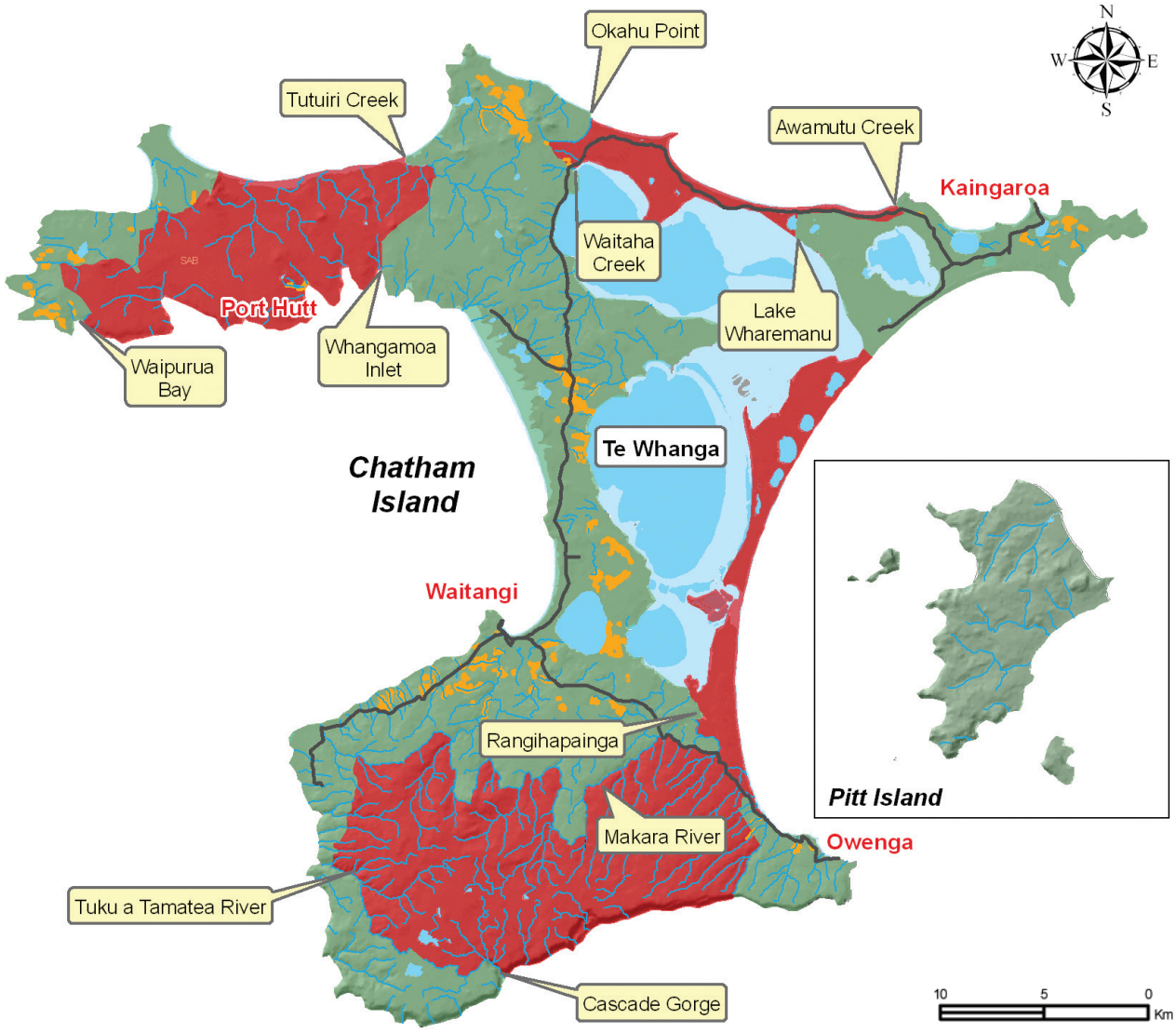
Section 1: Appendices

- Appendix 1: Chatham Islands Gorse Control Areas
- Appendix 2: National Pest Plant Accord List
- Appendix 3: National Pest Management Priorities

Section 2: Glossary of Terms

Section 3: References

APPENDIX 1: CHATHAM ISLANDS GORSE CONTROL ARES



KEY

- Gorse Management Area 1
- Gorse Management Area 2
- Gorse Management Area 3
- Road
- Lagoon or Lake

APPENDIX 2: NATIONAL PEST PLANT ACCORD LIST

The Table below lists the species covered by the National Pest Plant Accord (NPPA). The NPPA is a cooperative agreement between the Nursery and Garden Industry Association, Regional Councils and government departments with biosecurity responsibilities. All species covered by the NPPA are Unwanted Organisms under the Biosecurity Act, and cannot be sold, propagated or distributed in New Zealand (sections 52 and 53 of the Act). Regional Councils that are signatories to the Accord undertake inspections of nurseries to prevent the sale or distribution of these plants. The NPPA list may change from time to time as it is updated. The Table below reflects those species included in the NPPA as at November 2006. The most up-to-date version of the NPPA list may be accessed on the Biosecurity New Zealand website (http://www.biosecurity.govt.nz/nppa) or by email at nppa@maf.govt.nz.

It is important to note that the NPPA list is only a sub-set of the organisms currently declared to be Unwanted Organisms in accordance with the Biosecurity Act. Biosecurity New Zealand maintains the Unwanted Organisms register, which can be accessed on the Biosecurity New Zealand website (http://www.biosecurity.govt.nz/commercial-imports/unwanted-organisms-register-). This register is extensive and therefore impractical to include here. It includes many types of organism, including plants, mammals, fish, birds, amphibians, virus, insects, alga, etc.

Scientific Name	Common Name/s
Acmena smithii	monkey apple
Ailanthus altissima	tree of heaven, tree from hell, lacquer tree, copal tree, varnish tree, ailanthus, rotting carrion tree, baked sewage tree, kerosene tree
Alternanthera philoxeroides	alligator weed, alligatorweed, pigweed
Anredera cordifolia	madeira vine, mignonette vine
Araujia sericifera	moth plant, cruel plant, white bladder flower
Arundo donax	giant reed, arundo grass
Asparagus asparagoides	smilax, bridal creeper
Asparagus densiflorus	bushy asparagus, fern asparagus, emerald feather, sprengeri fern, Sprenger's asparagus, foxtail fern, possum tail
Asparagus scandens	climbing asparagus
Berberis darwinii	Darwin's barberry
Bryonia cretica	white bryony
Calluna vulgaris (excluding double flowered cultivars)	heather, ling
Cardiospermum grandiflorum	balloon vine
Cardiospermum halicacabum	balloon vine
Carpobrotus edulis and hybrids	iceplant
Celastrus orbiculatus	climbing spindle berry, Oriental bittersweet
Ceratophyllum demersum	hornwort, coontail
Cestrum parqui	green cestrum
Chrysanthemoides monilifera	boneseed
Clematis vitalba	old man's beard
Cobaea scandens	cathedral bells
Cortaderia jubata	purple pampas grass
Cortaderia selloana	pampas grass
Cotoneaster simonsii	khasia berry

Dipogon lignosus	mile-a-minute
Drosera capensis	Cape sundew
Eccremocarpus scaber	Chilean glory creeper, Chilean glory vine, glory vine, Chilean glory flower
Egeria densa	egeria, oxygen weed, Brazilian elodea
Ehrharta villosa	pyp grass
Eichhornia crassipes	water hyacinth
Eomecon chionantha	snow poppy, poppy of the dawn, Chinese bloodroot
All species in Equisetum genus	horsetail
Eragrostis curvula	African love grass
Erigeron karvinskianus	Mexican daisy
Euonymus japonicus	Japanese spindle tree
Ficus rubiginosa	-
Fuchsia boliviana	-
Galeobdolon luteum	aluminium plant, artillery plant
Gunnera tinctoria	Chilean rhubarb
Gymnocoronis spilanthoides	Senegal tea, temple plant, costata
Hedychium flavescens	yellow ginger
Hedychium gardnerianum	kahili ginger
Heracleum mantegazzianum	giant hogweed, cartwheel flower, wild parsnip, wild rhubarb
All species in Hieracium genus	hawkweed
Homalanthus populifolius	Queensland poplar, bleeding heart tree, poplar leaved omalanthus
Homeria collina	Cape tulip
Houttuynia cordata	chameleon plant
Hydrilla verticillata	hydrilla
Hydrocleys nymphoides	water poppy
Hypericum androsaemum	tutsan, sweet amber
Ipomoea indica	blue morning glory
Iris pseudacorus	yellow flag, yellow flag iris
Lagarosiphon major	lagarosiphon, oxygen weed
Lantana camara	lantana
Ligustrum lucidum	tree privet
Lonicera japonica	Japanese honeysuckle
Ludwigia peploides	primrose willow, floating primrose willow, water primrose
Lythrum salicaria	purple loosestrife
Macfadyena unguis-cati	cat's claw creeper, cat's claw vine, cat's claw ivy, yellow trumpet vine
Menyanthes trifoliata	bogbean
Myoporum insulare and hybrids	Tasmanian ngaio
Myrica faya	fire tree, candle-berry myrtle

Myricaria germanica	false tamarisk
Myriophyllum aquaticum	parrot's feather, thread of life, Brazilian watermilfoil
All species in Nassella genus	
Nephrolepis cordifolia	tuber ladder fern
Nuphar lutea	yellow water lily, spatterdock, cow lily, brandybottle
Nymphaea mexicana	Mexican waterlily, banana waterlily
Nymphoides geminata	marshwort, entire marshwort
Nymphoides peltata	fringed water lily
Ochna serrulata	mickey mouse plant
Osmunda regalis	royal fern
Panicum maximum	Guinea grass, green panic, buffalo grass
Passiflora caerulea	blue passionflower
Passiflora tarminiana	northern banana passionfruit
Passiflora tripartita	banana passionfruit
All species in Pennisetum genus (excluding P. clandestinum and P. glaucum)	(excluding kikuyu grass and pearl millet)
Phragmites australis	phragmites
Pinus contorta	lodgepole pine
Pistia stratiotes	water lettuce
Pittosporum undulatum	Australian cheesewood, Victorian box, mock orange, sweet pittosporum, New Zealand daphne, Victorian laurel, orange pittosporum, wild coffee, Australiese kasuur, soet pittosporum
Plectranthus ciliatus	plectranthus, blue spur flower
Polygala myrtifolia (excluding Grandiflora)	sweet pea shrub, sweet pea bush, myrtle-leaf milkwort
Potamogeton perfoliatus	clasped pondweed
Pyracantha angustifolia	firethorn, orange firethorn, yellow firethorn
Reynoutria japonica	Asiatic knotweed, German sausage, Japanese knotweed, Mexican bamboo
Reynoutria japonica x sachalinensis	
Reynoutria sachalinensis	giant knotweed
Rhamnus alaternus	evergreen buckthorn
Sagittaria montevidensis	arrowhead, sagittaria, Californian arrowhead
Sagittaria platyphylla	sagittaria, delta arrowhead
Sagittaria sagittifolia	arrowhead
Salix cinerea	grey willow, pussy willow, grey sallow
Salix fragilis	crack willow
Salvinia molesta	salvinia, kariba weed
Schinus terebinthifolius	Christmas berry, Brazilian pepper tree

Schoenoplectus californicus	Californian bulrush
Selaginella kraussiana	selaginella, African club moss
Solanum marginatum	white-edged nightshade
Solanum mauritianum	wild tobacco tree, tobacco nightshade, woolly nightshade, tobacco weed, kerosene plant, flannel plant
Tradescantia fluminensis	wandering Jew
Tropaeolum speciosum	Chilean flame creeper
Tussilago farfara	coltsfoot
Typha latifolia	great reedmace, cumbungi, common cattail
Utricularia arenaria	
Utricularia gibba	bladderwort, humped bladderwort
Utricularia livida	
Utricularia sandersonii	
Vallisneria gigantea	eelgrass
Vallisneria spiralis	eelgrass
Zantedeschia green goddess	
Zizania latifolia	Manchurian wild rice, Manchurian ricegrass

APPENDIX 3: NATIONAL PEST MANAGEMENT PRIORITIES

National Priority Marine Organisms

The Table below sets out the marine organisms that Biosecurity New Zealand has identified as of particular concern. All of these organisms are Unwanted Organisms in accordance with the Biosecurity Act and it is accordingly an offence under the Act to sell, propagate, distribute or spread these organisms (sections 52 and 53 of the Act).

Scientific Name	Common Name
Styela clava	clubbed tunicate sea squirt / sea squirt
Undaria pinnatifida	Wakame sea weed / undaria
Eriocheir sinensis	Chinese mitten crab
Sabella spallanzanii	Mediterranean fanworm
Asterias amurensis	Northern Pacific seastar
Carcinus maenas	European shore crab
Potamocorbula amurensis	Asian clam
Caulerpa taxifolia	marine aquarium weed

National Pest Programme Priorities

The Table below sets out the eleven species (listed in order of priority) that have been identified for management under MAF-led national programmes. All of these species are Unwanted Organisms in accordance with the Biosecurity Act, and it is accordingly an offence under the Act to sell, propagate, distribute or spread these organisms (sections 52 and 53 of the Act). The first four species are notifiable pests and must be reported if found.

Scientific Name	Common Name
Salvina molesta	salvinia
Eichhornia crassipes	water hyacinth
Sorghum halapense	Johnson grass
Moraea flacida (syn.Homeria collina)	Cape tulip
Ehrharta villosa	pyp grass
Phragmites australis	phragmites
Hydrilla verticillata	hydrilla
Ceratophyllum demersum	hornwort
Bryonia cretica subsp. dioica	white bryony
Tricoglossus haematodus	rainbow lorikeet
Zizania latifolia	Manchurian wild rice

SECTION 2: GLOSSARY OF TERMS

The use of italics indicates meanings adopted from section 2 of the Biosecurity Act 1993.

animal pest	means any animal that is declared a pest in a pest management strategy.
appropriate	means as determined to be appropriate by the Chatham Islands Council or its officers acting under delegated authority.
authorised person	means a person for the time being appointed an authorised person under section 103 of this Act.
benefits	includes benefits of any kind, whether monetary or non-monetary.
beneficiaries	means the receivers of benefits accruing from the implementation of a pest management principal measure or strategy.
biodiversity	means the variability among living organisms from all sources including, among other things, terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part. This includes diversity within species, between species, and of ecosystems.
biological control	means the introduction and establishment of natural enemies that will prey on or adversely affect a pest or other organism to be controlled.
capital value of land	means the sum that the owner's estate or interest in the land, if unencumbered by any mortgage or other charge, might be expected to realise at the time of valuation if offered for sale on such reasonable terms and conditions as a bona fide seller might be expected to require. (This is the same meaning as in the Rating Valuations Act 1998, subject to sections 20 and 21).
containment control	means containing the spread or density of a pest to defined areas or levels.
Crown	means the New Zealand Government.
costs	includes costs of any kind, whether monetary or non-monetary.
de-limiting survey	means systematically searching for a pest to determine exactly where it occurs.
destroy	means pull, breakdown, demolish, make useless, kill, cause to cease to exist.
direction	means a notice issued in accordance with section 122 of the Biosecurity Act 1993 requesting a person or land occupier to carry out certain work or measures.
distribute	means to transport or in any way spread a pest.
ecosystem	means a dynamic complex of plant, animal and micro-organism communities and their non-living environment, interacting as a functioning unit.
effect	unless the context otherwise requires, the term "effect" includes: • any positive or adverse effect; • any temporary or permanent effect; • any past, present or future effect; • any cumulative effect which arises over time or in combination with other effects – regardless of the scale, intensity, duration or frequency of the effect, and also includes- • any potential effect of high probability; and • any potential effect of low probability which has a high potential impact.

endemic	occurs only in that place, e.g., only on the Chatham Islands.
environment	includes: (a) Ecosystems and their constituent parts, including people and their communities; and (b) All natural and physical resources; and (c) Amenity values; and (d) The aesthetic, cultural, economic, and social conditions that affect or are affected by any matter referred to in paragraphs (a) to (c) of this definition.
Environment Canterbury	is the branding name of the Canterbury Regional Council, the management agency that controls pests in the Canterbury region.
eradicate	means to completely remove from the Territory.
exacerbator	means a person aggravating or contributing to a particular pest management problem by action or inaction.
feral	where another meaning is not specified, means wild or otherwise unmanaged.
habitat	means the place or type of site where an organism or population normally occurs.
incursion response	means a series of actions to prevent a new pest establishing on the Chatham Islands.
indigenous	means produced by, or naturally belonging to, a particular region or area.
landowner	refer 'occupier'.
management agency	means the Department, authority, or body corporate specified in a pest management strategy as the agency given the task of implementing the strategy. For the purposes of this Strategy, the Chatham Islands Council is the management agency.
monitoring	in relation to a pest or other organism to be controlled means to observe and measure the occurrence or non-occurrence of a pest or other organism to be controlled.
occupier	(a) In relation to any place physically occupied by any person, means that person; and (b) In relation to any other place, means the owner of the place; and (c) In relation to any place, includes any agent, employee, or other person, acting or apparently acting in the general management or control of the place.
Operational Plan	means a plan prepared by the management agency under section 85 of the Biosecurity Act.
organism	(a) Does not include a human being or a genetic structure derived from a human being: (b) Includes a micro-organism: (c) Subject to paragraph (a) of this definition, includes a genetic structure that is capable of replicating itself (whether that structure comprises all or only part of an entity, and whether it comprises all or only part of the total genetic structure of an entity): (d) Includes an entity (other than a human being) declared by the Governor-General by Order in Council to be an organism for the purposes of this Act: (e) Includes a reproductive cell or developmental stage of an organism: (f) Includes any particle that is a prion:
person	includes the Crown, a corporation sole, and a body of persons (whether corporate or unincorporate).
pest	means an organism specified as a pest in a pest management strategy.

pest management strategy	means a strategy, [made] under Part 5 of this Act, for the management or eradication of a particular pest or pests.
pest plant	means any plant that is declared a pest in a pest management strategy.
plant	means any plant, tree, shrub, herb, flower, nursery stock, culture, vegetable, or other vegetation, and also includes fruit, seed, spore and portion or product of any plant; and also includes all aquatic plants.
propagate	means to multiply or reproduce by sowing, grafting, breeding or any other way.
rule	means a rule included in a pest management strategy in accordance with section 80B of the Biosecurity Act 1993.
sale	includes bartering; offering for sale; exposing, or attempting to sell; or having in possession for sale; or sending or delivery for sale; causing or allowing to be sold, offered, or exposed for sale; and also includes any disposal whether for valuable consideration or not. “Sell” has a corresponding meaning.
surveillance	means systematic searching.
tangata whenua	means people of the land, the people who hold the turangawaewae and the manawhenua in an area, according to tribal and hapu custom.
taonga	means treasured possessions of tangata whenua including both tangible and intangible treasures.
total control	means destroying or removing every pest individual. See also eradicate.
toxin	means a poison, whether produced by a living organism or not.
Unwanted Organism	means any organism that a chief technical officer believes is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health; and (a) Includes – (i) Any new organism, if the Authority has declined approval to import that organism; and (ii) Any organism specified in the Schedule 2 of the Hazardous Substances and New Organisms Act 1996; but (b) Does not include any organism approved for importation under the Hazardous Substances and New Organisms Act 1996, unless – (i) The organism is an organism which has escaped from a containment facility; or (ii) A chief technical officer, after consulting the Authority and taking into account any comments made by the Authority concerning the organism, believes that the organism is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health:
vector control	means controls on means by which pests may be transported, for the purposes of slowing the distribution of pests.
wahi tapu	means places of sacred and extreme importance to tangata whenua.

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