Auckland Regional Council
TE RAUHITANGA TAIAO

Biosecurity Management Plan for the Hauraki Gulf Controlled Area

A biosecurity plan to help prevent the entry and establishment of pests into the Hauraki Gulf Controlled Area

12 March 2009

Auckland Regional Council
Private Bag 92012
AUCKLAND

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Background and Purpose

The Hauraki Gulf has biological diversity that makes it distinctive within New Zealand. This is recognised in the large area of land administered by the Department of Conservation (DoC). A number of islands in the Gulf are nationally important wildlife sanctuaries, such as Tiritiri Matangi, Hauturu and Great Barrier Island. The protection of New Zealand's threatened species on Hauraki Gulf island sanctuaries is also an important contribution to preserving global biodiversity.

Many of the islands within the Gulf do not have the same pest problems as those on the mainland, and therefore present a unique opportunity to maintain and improve the pest-free or low pest presence within the Gulf.

Several islands are also the subject of current and future restoration and pest eradication / management programmes e.g. Rakino, Motuihe, and the 2009 DoC programme on Rangitoto/Motutapu. To ensure these eradication programmes are successful i.e. prevent new incursions once islands are pest free, increased biosecurity measures need to be undertaken throughout the region. Additional to beneficial conservation and biodiversity values, maintenance of a pest free status benefits social and economic values to the region through recreation, tourism and maintenance of the unique Hauraki Gulf island lifestyle.

During 1998/99, the Auckland Regional Council (ARC) declared the Hauraki Gulf and all its islands, a Controlled Area under the Biosecurity Act 1993, in order to protect the area from the incursion of pests or unwanted organisms. The boundaries of the Hauraki Gulf Controlled Area (HGCA) are shown in Figure 1.

In the Auckland Regional Pest Management Strategy 2007-2012, the ARC signalled its intention to '*develop a Hauraki Gulf Controlled Area Biosecurity Plan (the Plan) to provide an integrated framework within which the current (and any future) pest control, management or research activities will be undertaken'*.

Because of the high and increasing visitation rates of vessels within the Hauraki Gulf, it can be assumed that the risk of pest incursions is also rising. This risk is further compounded by the number of island residents and visitors moving goods to and between islands. It can be assumed that there are risks associated with movement of vessels and goods therefore biosecurity procedures will need to be improved and consistently applied in order to minimise these risks.

The HGCA Biosecurity Plan:

a) identifies the ***risk organisms***[1] that pose a threat to biodiversity values within the Hauraki Gulf Controlled Area (HGCA);

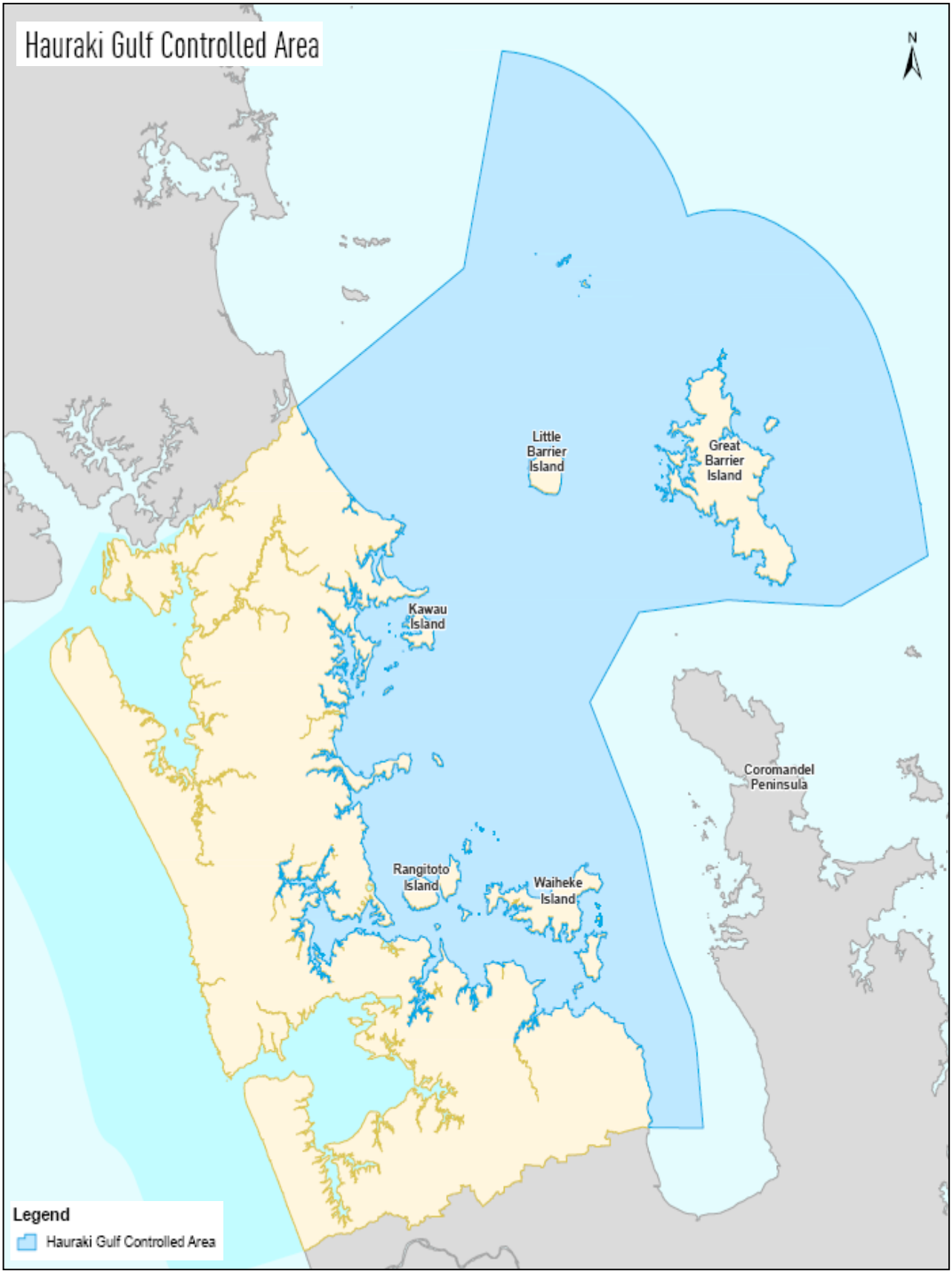
b) identifies the biosecurity ***vectors*** (risk pathways) to and within the HGCA;

c) outlines the tactics and mechanisms that will be employed to avoid, remedy or mitigate biosecurity risks; and

d) describes how and when these will be implemented.

[1] Terms in bold italics are defined in the glossary in Appendix A of this document.

Figure 1: Extent of the Hauraki Gulf Controlled Area



1.2 Scope/Approach Taken

The Auckland Regional Council has powers under the Biosecurity Act in relation to declared *pests*, *unwanted organisms* and associated *risk goods*. In addition, many islands within the HGCA are currently free of a number of plants and animals which are not declared *pests* or *unwanted organisms*, but which have the potential to adversely impact upon existing flora and fauna, if the organisms were to establish on those islands.

As such, this Biosecurity Plan gives consideration to any organism that has the potential to adversely affect biodiversity values within the HGCA. Such *risk organisms* may or may not be *declared pests* or *unwanted organisms*, and may only be considered a risk to a specific part of the HGCA. The inclusion of a *risk organism* within this document does not necessarily indicate that ARC is considering inclusion of that organism within its Regional Pest Management Strategy.

This document does not specifically address the following biosecurity risks, however some of the mechanisms and strategies recommended in this document may also be applicable in relation to such risks:

- the marine environment (e.g. sea squirt);
- the natural movement of flora or fauna

The general approach taken within this document is to focus on the management of risk pathways, rather than management of specific risk organisms. However, the methods used to manage risk pathways will vary depending on the risk organisms considered to be a significant threat along that pathway.

The ARC does not have the capability or budget to undertake *total control* of all risk organisms on all islands within the Hauraki Gulf Controlled Area. As such, prioritisation will be undertaken of risk organisms and islands to be targeted. Each island or group of islands is assessed in terms of the specific threats and vulnerabilities, and a management programme is developed in accordance with the threat/vulnerability level of each island/group of islands. For example, Great Barrier Island has few of the risk organisms that are present on the mainland or inner gulf islands. A higher level of control and hygiene therefore needs to be exercised on Great Barrier Island, to protect these values. The management programme for each island/group of islands will contain a range of methods, targeted at the different risk pathways, risk organisms and level of threat.

ARC will engage other regional councils in this Biosecurity Plan, namely Environment Waikato, Environment Bay of Plenty and Northland Regional Council, as there is significant vessel and cargo movement originating from those regions into the HGCA.

2 LEGISLATIVE FRAMEWORK

2.1 Biosecurity Act 1993

The Biosecurity Act provides the legislative basis for the creation of the Regional Pest Management Strategy, the Hauraki Gulf Controlled Area and, accordingly, this Plan. It also provides regulatory and compliance tools that may be used to ensure compliance with the Plan.

2.2 Auckland Regional Pest Management Strategy

The Auckland Regional Pest Management Strategy 2007-2012 (ARPMS) was made operative on 20 December 2007. The ARPMS sets out the strategic and statutory framework for efficient and effective pest management within the Auckland Region. The overall goal of the ARPMS is to assist and facilitate the regional community in creating and maintaining sustainable pest-free natural and man-made habitats. The ARPMS contains a number of objectives, programmes and rules relating to pest plants and animals throughout the Auckland Region generally and some that relate to the Hauraki Gulf Controlled Area (refer Section 3.2 below).

2.3 Department of Conservation Island Biosecurity Plan

The DoC Island Biosecurity Plan for the Auckland Conservancy became effective on 1 January 2005. The Plan covers mandatory biosecurity standards and standard operating procedures for prevention of pest invasion on all islands managed by DoC in the Auckland Conservancy including those within the HGCA (refer Section 6.1 below). DoC also advocates for the use of its biosecurity standards on Hauraki Gulf islands in Auckland Conservancy that are not under its management.

In 2008, a specific Rangitoto/Motutapu Biosecurity Plan set standards through which the risk of pests re-establishing on Rangitoto and Motutapu will be minimised. The intent of the Plan is to achieve a high standard of protection for Rangitoto and Motutapu through a mix of voluntary and compulsory standards that apply to all island users. The Plan sets out the process for how these standards will be implemented, a timeline for their implementation and identifies the parties responsible for ensuring how each standard is met. The Rangitoto/Motutapu Biosecurity Plan does not supersede the Auckland Conservancy Island Biosecurity Plan. Instead it broadens it by extending the responsibility for biosecurity to external stakeholders (e.g. ferry operators).

2.4 Ministry of Agriculture and Forestry Biosecurity New Zealand

At a national level, Ministry of Agriculture and Forestry Biosecurity New Zealand (MAFBNZ) deals with all new-to-New Zealand border incursions and will continue to undertake this role in the HGCA.

All marine biosecurity responsibilities also lie with MAFBNZ, which manages a marine biosecurity programme. ARC has powers under section 13 of the Biosecurity Act to assist MAFBNZ with monitoring or surveillance of any pest marine organism(s) when considered appropriate.

Non-marine pests on MAFBNZ's National Surveillance list fall within the framework of the ARPMS.

2.5 Hauraki Gulf Marine Park Act 2000

The Hauraki Gulf Marine Park Act 2000 (HGMPA) established the Hauraki Gulf Marine Park. The purpose of this Act is to:

a) integrate the management of the natural, historic, and physical resources of the Hauraki Gulf, its islands, and catchments;

b) establish the Hauraki Gulf Marine Park;

c) establish objectives for the management of the Hauraki Gulf, its islands, and catchments;

d) recognise the historic, traditional, cultural, and spiritual relationship of the tangata whenua with the Hauraki Gulf and its islands; and

e) establish the Hauraki Gulf Forum.

The Act provides for integrated management of the Gulf across 21 statutes, including the Resource Management Act, Conservation Act and Fisheries Act. Section 13 of the HGMPA requires any person exercising powers or carrying out functions for the Hauraki Gulf under the Biosecurity Act (amongst other Acts) to have particular regard to the provisions of Sections 7 and 8 of the HGMPA. Section 7 of the HGMPA recognises the national significance of the Hauraki Gulf, while Section 8 sets objectives for the management of the Hauraki Gulf, its islands and catchments. Both the ARPMS and this Hauraki Gulf Biosecurity Plan have been prepared having particular regard to Sections 7 and 8 of the HGMPA.

The defined area of the HGMPA is currently larger than the extent of the HGCA, as the HGMPA also encompasses all of the Firth of Thames, the east coast of the Coromandel Peninsula, North Head Historic Reserve and the island groups Cuvier, Skipper, Mercury and Aldermen (which are part of the Environment Waikato region).

2.5.1 Hauraki Gulf Forum

The Hauraki Gulf Forum (HGF) was established to integrate management of the Gulf across the boundaries of statutes and districts, through co-operation and communication. It promotes the conservation and sustainable management of the natural, historic and physical resources of the Hauraki Gulf for the benefit and enjoyment of the people and communities of the Hauraki Gulf and New Zealand. Forum members include representatives of all local authorities adjoining the Gulf and its catchments; representatives of the Ministers of Conservation, Fisheries and Maori Affairs; with 6 representatives from iwi.

3 EXISTING BIOSECURITY PROVISIONS

3.1 Auckland Regional Pest Management Strategy 2007-2012

The current ARPMS contains many provisions in relation to a large number of pest plants and animals. In many cases these rules are applicable across the entire region, but in other cases, there are specific provisions relating to the Hauraki Gulf as a whole, or to particular islands. These include:

- Brush cherry (*Syzygium australe*) and buttercup bush (*Senna septemtrionalis*) are Surveillance Pest Plants within the Hauraki Gulf Islands only;

- Rhamnus (*Rhamnus alaternus*) is a Total Control Pest Plant in the Hauraki Gulf Controlled Area, and is a Containment (Removal) Pest Plant on specified mainland coastal sites[2];

- Moth plant (*Araujia sericifera* syn. *A hortorum*) is a Containment (Removal) Pest Plant on the Hauraki Gulf Islands and on specified mainland coastal sites[3];

- Egeria (*Egeria densa*) is a Total Control Pest Plant only on Great Barrier Island;

- Smilax (*Asparagus asparagoides*), wild ginger (*Hedychium flavescens* and *H. gardnerianum*) and woolly nightshade (*Solanum mauritianum*) are Containment (Removal) Pest Plants on Great Barrier Island.

[2] *Note that the Containment measures are intended to reduce the likelihood of rhamnus spreading by bird-spread to the Hauraki Gulf islands.*

[3] *Note that the coastal mainland areas are intended to reduce the likelihood of moth plant spreading to the Hauraki Gulf islands.*

3.2 Hauraki Gulf Controlled Area

A Controlled Area may be declared (under Section 131 of the Biosecurity Act) to enable the implementation of movement and other controls in order to protect any area from the incursion of pests or unwanted organisms.

The Hauraki Gulf Controlled Area was declared by public notice on 14 and 18November 1998 in accordance with section 131 of the Biosecurity Act 1993 (see Appendix B for a copy of this notice).

The 2007-2012 ARPMS added to the list of animal pest species that are included in the HGCA and set out the following rules:

Rule 17.1.2.1

No person shall transport, move or distribute any of the following species into the Hauraki Gulf Controlled Area or onto or between any of the islands within the Area:

*Argentine ant (*Linepithema humile*)*

*blue-tongued skink (*Tiliqua scincoides *&* Tiliqua nigrolutea*)*

*brushtail possum (*Trichosurus vulpecula*)*

*feral cat (*Felis catus*)*

feral deer (any species of the genera Cervus, Axis, Dama, Odocoileus, Elaphurus *and/or any hybrid)*

*feral goat (*Capra hircus*)*

*feral pig (*Sus scrofa*)*

*ferret (*Mustela furo*)*

*hedgehog (*Erinaceus europaeus occidentalis*)*

*mouse (*Mus musculus*)*

*perch (*Perca fluviatilis*)*

*rabbit (*Oryctolagus cuniculus cuniculus*)*

*rat species (*Rattus rattus, R. norvegicus, R. exulans*)*

*rudd (*Scardinius erythrophthalmus*)*

*stoat (*Mustela erminea*)*

*tench (*Tinca tinca*)*

wallaby (any species of the Macropus, Petrogale *and/or* Wallabia *genera)*

*weasel (*Mustela nivalis vulgaris*)*

Rule 17.1.2.2

Any person intending to transport a building into the Hauraki Gulf Controlled Area or onto or between any of the islands within the Area shall give the ARC at least 48 hours notice of their intention, so that appropriate inspection and control measures can be undertaken.

3.3 Existing Pest Control Programmes

A number of plant and animal pest control programmes have been or are being carried out on islands in the Hauraki Gulf by the Council, other agencies, or in joint projects. These include:

- an ARC inspection service for all buildings being transported into the Gulf, to prevent movement of pests;
- ARC funded eradication of all animal pests on Rakino and ongoing rodent surveillance;
- ARC-led rhamnus control programmes on Waiheke and Rakino, and on key mainland coastal sites. DoC-led rhamnus control programmes on Motuihe, Browns, Rangitoto and Motutapu Islands;
- DoC and community group driven weed control work on Rangitoto, Motutapu, Motuihe, Motuora, Tiritiri Matangi and Little Barrier Islands;
- ARC funded pest plant control for key mainland coastal sites, to minimise spread of pests onto offshore islands;

- a Memorandum of Understanding between ARC and DoC for pest control on Great Barrier Island, which includes:
    - species-led pest plant control work, focusing particularly on climbing asparagus, boneseed, egeria, grey willow, kahili ginger, moth plant, royal fern, smilax, tree privet and woolly nightshade;
    - a feral goat eradication programme;
    - an Argentine ant eradication programme;
    - contingency actions for a range of pests, including a mustelid and Norway rat prevention programme;
- a multi-species pest eradication on Kaikoura Island;
- community driven animal pest control programmes on Great Barrier Island.

4 IDENTIFICATION OF RISK ORGANISMS

4.1 Risk Organisms

All animals identified as pest animals within the ARPMS 2007-2012 are considered risk organisms for the HGCA. In addition, animals identified for further research within the ARPMS (e.g. rainbow skinks), and other exotic animals that are currently not present on some of the islands of the Hauraki Gulf, are also considered to be risk organisms. It is noted that rainbow skinks are currently protected under the Wildlife Act 1953, however ARC is encouraging DoC to review this status.

All plants identified as pest plant species within the ARPMS 2007-2012 and the plants identified for further research within that document, are considered risk organisms for the HGCA.

Argentine ant is the proposed "benchmark risk organism" for which the implementation of new biosecurity management options (section 6) aims to prevent new incursions. By ensuring that Argentine ants are prevented from being transported within the HGCA, other risk organisms (e.g. rodents) should also be prevented by default, because the number and standard of measures required to exclude Argentine ants is greater than for any other known pest species. The current distribution of risk organisms within the Hauraki Gulf Controlled Area is outlined in Appendix C.

This plan has not attempted to address marine pest organisms and marine biosecurity risks, however for practical reasons the communications plan could include messages and information about marine biosecurity (coordinated by MAFBNZ) in order to be complete and to 'future proof' communications collateral (leaflets, posters, signs etc).

4.2 Risk Goods

To date the only restricted activity within the HGCA is the transport of buildings. Although biosecurity rules are already in place for this activity, recent research has identified an area requiring improvement, namely barge operators checking that correct building transport certification paperwork has been correctly completed prior to shipping. Additionally, pest control at both loading areas/storage yards where houses are kept prior to shipping needs improvement. An auditing system to ensure correct procedures are being followed at all stages of the shipping process will address such issues.

A sizeable number of goods may carry or harbour risk organisms, either plant, animal or pathogen.

- Landscaping supplies (e.g. topsoil, mulch, bark, compost, potting mix) and building supplies (e.g. wood, housing timbers, aggregate). This is considered to be the major risk for the movement of Argentine ant nests.
    - As well as private sales to residents, there are also several commercial outlets supplying such goods on both Waiheke and Great Barrier. The points of origin of these goods are unknown.
- Roading aggregate and quarries. This can contain weed seeds such as pampas and broom.
    - Auckland City Council (ACC) is responsible for road construction and maintenance on the three islands with public roading (Waiheke, Great Barrier, Rakino). Aggregate and chip is currently partly sourced locally from island quarries; Waiheke and Rakino from Stony Batter quarry, Waiheke, and the Fulton Hogan quarry on Great Barrier. As current quarry consents are not sufficient to meet the local aggregate demand on either island, up to 50% of aggregate is sourced from mainland quarries. Fulton Hogan has applied for resource consent to increase aggregate output from Great Barrier quarry, with the decision pending at this time.
    - Rodney District Council oversees road construction on Kawau, currently there are no public roading plans that require shipment of aggregate to Kawau.

- Aggregate for privately built roads e.g. Pakatoa.

- Plants (e.g. in pots and bags) sourced from mainland nurseries. These are a major risk good for transporting contaminants such as Argentine ant nests, rainbow skink eggs and pest plants.
  - Private sales – island residents purchasing plants on the mainland and then transporting to the islands.
  - Restoration projects – e.g. plants grown on mainland nurseries for revegetation of sites on offshore islands.
  - Commercial nurseries sourcing plants from mainland suppliers.
  - Plants supplied for commercial orchards and horticulturalists.
  - Pastoral forage seed (oversowing clovers etc).
- Animal feed – meal, hay etc.
- Livestock/ horses/ breeding bulls – may carry seeds in hooves or on coat/wool, or risk organisms may be carried as stowaways within bedding material (hay, straw, etc).
- Rubbish/waste removal – sequential interisland movement of rubbish e.g. rubbish barge collecting rubbish from Waiheke, then stopping at pest-free Rakino on the return journey to the mainland.
- Used vehicles and agricultural machinery/equipment (e.g. tractors, ploughs or a large car crushing unit shipped to Great Barrier Island).
- Houses and buildings transported from the mainland to islands. As discussed above, some new companies do not know that they need a certificate of compliance to move houses to islands. It is the responsibility of the mover to get this certificate. Barge companies also need to know the certification process so they can check that houses have been correctly certified prior to shipping.

The source, type and quantity of these risk goods being moved into the Gulf are only partly known. It is therefore important to quantify this so that any proposed screening or treatment is feasible and practicable (see actions in section 6.1).

5 IDENTIFICATION OF RISK PATHWAYS

Due to the large number of islands within the HGCA, they have been categorised into groups of islands with similar risk pathways, these are summarised in Appendix D.

The following lists the identified risk pathways into and between the islands of the HGCA.

5.1 Vessels

5.1.1 Commercial Passenger Vessels – Ferries and Charter Boats

- Cars and passengers travelling on ferries may carry risk goods or organisms, either deliberately or as stowaways. Vehicles moved on car ferries to Great Barrier Island are often completely full of baggage, supplies and recreational/camping equipment.
- Tourists or charter passengers may not be aware of the restrictions on the movement of pest animals to the HGCA islands, and may transport pets such as cats which can escape and breed.

5.1.2 Barges/Commercial Freight Vessels

(i) Vessels

- The largest volume of risk goods (buildings, aggregate, agricultural supplies) are moved via barge. Continued research is required with respect to exact quantity/frequency of risk cargo types carried by barges.

(ii) Loading areas/freight consolidation areas

- The contents and origin (and therefore risk of pest infestation) of cargo items that arrive pre-packed in a box or crate is usually unknown to the freight operator and not recorded on the cargo manifest.
- Bulky items transported as break-bulk cargo (such as timber lots, vehicles and machinery) have a large number of nooks and crannies in which pests may be harboured.
- Re-use of containers owned by the freight operator substantially reduces the risk of contaminants such as vegetation or soil being present on the outer surfaces, providing that the containers continue to be stored and loaded within the consolidation premises. The internal surfaces of containers can provide harbourages for a range of pests that may have originated from the surrounding environment or from loaded freight.
- Containers or pens used for livestock transportation could provide breeding material for rodents and insects if not cleaned adequately. Ideally feed and or bedding for the transit of animals should be of a type that will not carry a risk of weed seed contamination.

- Private boats (local and international)
  - Boats that sit on land for the winter and are launched in summer are considered more of a risk than those boats that are kept at marinas, as they are more likely to contain stowaway pests such as rats or ants.
  - Vessels arriving from international waters may land on islands within the HGCA prior to landing on the mainland, and may have stowaway pests, or other exotic animals or plants onboard.
  - Boat owners/passengers (especially international vessels) may not be aware of the restrictions on the movement of pest animals to the HGCA islands, and may have pets such as cats or ferrets onboard.
- Commercial fishing vessels.
  - May harbour pests and their size may make presence of these pests less obvious than for smaller recreational fishing boats.

5.2 Aircraft

- Scheduled flights
  - Two airlines currently have scheduled flights to Great Barrier Island
  - Cargo carried by flights may include risk organisms themselves, or may harbour risk organisms (as per freight vessels)
  - Passengers may not be aware of the restrictions on the movement of pest animals to the HGCA islands, and may transport pets such as cats.
- Charter flights & helicopters
  - Tourists or charter passengers may not be aware of the restrictions on the movement of pest animals to the HGCA islands, and may take pets such as cats on board.

- Air-freight consolidation premises/loading areas
    - See discussion above regarding shipping freight consolidation premises. Airfreight tends to undergo closer scrutiny due to the requirements of weight allocation (i.e. smaller loads) and checks for potentially dangerous goods. This could also provide a good opportunity by loaders to make visual checks for potential pest problems.
    - Generally the type of freight carried by air constitutes a lower risk than that carried by sea. Biosecurity risk still exists however, as some potentially high-risk items such as scientific equipment, fresh plant material/nursery stock and some animals such as pets and poultry are more likely to be transported by air.
- Private flights & helicopters
    - Private planes/helicopters that are stored in farm sheds or at private airstrips are considered a greater risk than those stored at aero clubs or similar, as they are more likely to contain stowaway pests.
    - There are currently 2 licensed heliports in the HGCA, both on Waiheke island (Reeves airfield and 370 Cowes Bay Road). However there are many privately chartered helicopter landings made at other locations on both Waiheke and Great Barrier.
    - Additionally inner Hauraki Gulf islands, Rakino, Ponui, Pakahi, Karamuramu, Pakatoa and Rotoroa can take helicopter landings.

5.3 Other Risk Pathways

Natural risk pathways that are outside the scope of this Biosecurity Management Plan include:

- Natural movement of risk animals from the mainland to islands (e.g. Norway rats can swim up to 2km, ship rats 500m, stoats up to 1km, or birds such as myna flying directly).
- Roosting exotic bird species (e.g. myna & starlings) may be vectors for seeds of risk plants.
- Many pest plant seeds (or other propagules) can be blown by the wind or carried by sea currents from the mainland to the gulf islands (especially the inner gulf islands).

6 MANAGEMENT ACTIONS

The management programme for each island/group of islands will contain a range of methods, targeted at the different risk pathways, risk organisms and level of threat. For example Waiheke, which already has many animal pest species present, will have a low level of threat with relatively few management options required to protect its possum free status. In contrast, pest free islands such as Rakino require a higher level of biosecurity management to protect their status. Islands with high volumes of risk goods being shipped (due to resident populations and primary production industries e.g. Great Barrier) or high visitor/boat numbers (e.g. Rangitoto) will need intensive biosecurity management. The new HGCA biosecurity programme will be supported by raised public awareness, an improved surveillance and rapid response plan. No change in management is proposed for DoC's sanctuary islands, such as Tiritiri Matangi and Little Barrier, which already have a detailed island biosecurity plan in place. This is currently being expanded to include another island biosecurity plan for Rangitoto/Motutapu in preparation for their animal pest eradication programme in winter 2009.

Significant stakeholder engagement and community consultation will be undertaken for the introduction and implementation of all new biosecurity rules and procedures. Additionally increased public awareness

and information dissemination needs to be undertaken throughout the region. A Communications Plan has therefore been produced and outlines a programme to raise awareness amongst key stakeholder groups and the community in general.

A similar procedure for cargo declaration, hygiene certification and permits *prior* to shipment could be extended for the movement of all risk goods within the HGCA, e.g. banning the movement of loose (unbagged) untreated soil, mulch, potting mix, throughout the HGCA, unless it is accompanied by a treatment certificate. The feasibility of wider restrictions, such as a complete ban on the movement of very high risk goods could also be considered.

6.1 Risk goods

Actions:

- Undertake further research to determine the type and quantity of goods being shipped in the Hauraki Gulf, particularly to Kawau, Rakino and Great Barrier Island (DoC have processes in place for the islands they administer).
- Identify high risk goods sites for monitoring purposes, e.g. holding areas for building and landscape supplies, nurseries.
- If appropriate, implement a certification and rating system for different types of goods.
- Implement a protocol for plant transportation to Great Barrier Island. This may be as simple as dunking bags into water to ensure they contain no Argentine ant nests.
- Form an agreement with all barge operators to transport 'clean goods'.
- Work with ACC to ensure rubbish barges are cleaned between visits and do not carry previously collected wastes from prior visits to mainland, or other islands. Pick up itineraries should be changed to ensure no rubbish is left on the barge between islands.
- Ensure a 'building-transport declaration form' is signed by barge operators so that they have checked and sighted a valid certificate of compliance.
- Work with ACC to ensure roading aggregate is sourced from a quarry with a pest management plan in place.
- Pasture or crop seed should be accompanied by a "Purity and Germination Certificate", which identifies that the seed has been screened for 'non-crop' species.
- Meet with farmers on Great Barrier Island to discuss options for reducing risk associated with movement of goods for farming.

6.2 Vessels

6.2.1 Commercial Passenger Vessels – Ferries and Charter Boats

Actions:

- Establish integrated pest management programmes for all commercial passenger and recreational vessels. Key components for all commercial vessels include:
    - Surveillance procedures to detect pest infestation or stowaways
    - Rodent control

- Insect control, specifically targeting Argentine ant
- On-board capability to deal with insect pest finds
- Whole vessel treatment/fumigation if significant or persistent pest problems are identified
- Flow charts of procedures to follow if pests are found, with options depending on destination and type of pest
- Specific biosecurity training for key staff/personnel (see section 6.7 below)
- Signage and information for passengers on risk organisms, risk goods and hygiene measures. This information should be supplied at time of booking.

- Additional component for passenger and vehicle ferries should include:
  - Hygiene procedures for specific risks – e.g. dunking baths for pot plants

6.2.2 Barges/Commercial Freight Vessels

(i) Vessels

Actions:

- Establish integrated pest management programmes for all commercial freight vessels. Key components should include:
  - The provision of a facility for passengers to check personal gear prior to departure
  - The provision of a facility for checking high risk items before loading
  - Surveillance procedures to detect pest infestation or stowaways
  - Rodent control
  - Insect control
  - On-board capability to deal with insect pest finds
  - Whole vessel treatment/fumigation if significant or persistent pest problems are identified
  - Flow charts of procedures to follow if pests are found, with options depending on destination, type of pest, etc
  - Training for key staff/personnel in biosecurity matters (e.g. pest identification and control measures, knowledge that all buildings for transport require inspection by ARC (See section 6.7 below)
  - Adequately clean and/or disinfect pens after carrying livestock
  - Material such as hay used for feed or bedding during livestock transport should not be unloaded or disposed of within the HGCA
  - Follow up monitoring and auditing of all biosecurity procedures put in place.

(ii) Loading areas/freight consolidation areas

Actions:

- Establish integrated pest management programmes for freight consolidation premises (on both mainland and on the gulf islands), key components of which should include:
  - Rodent control
  - Insect control
  - Bird control (if necessary)

- On site capability to deal with insect pest finds
- Site or freight treatment if significant or persistent pest problems are identified
- Additional monitoring/surveillance programs for specific pests if required
- Training of key staff/personnel on biosecurity matters (e.g. treatment procedures for containers and other high risk cargo. See section 6.7 below)
- Prior to loading, cargo should be visually inspected for pests or evidence of pest activity and contaminants by cargo handlers. If pests are found effective treatment should be undertaken
- Freight should meet a minimum standard/s for cleanliness including:
    - No obvious contaminants (soil, manure, plant material)
    - Steam-cleaning of vehicles and farm machinery with particular attention to areas where seed and soil can gather
    - Removal or treatment of ponded water.

- Specific biosecurity training for loaders/freight handling staff. (see section 6.7 below).

6.2.3 Commercial Fishing vessels

Actions:

- Undertake education and awareness programme to target the commercial fishing industry operators. This will cover unwanted pests, the biosecurity risk posed by some items and practices, and how to recognise and deal with basic quarantine issues.
- Establish integrated pest management programmes for operators of commercial fishing vessels who land/moor on any of the Hauraki Gulf Islands, key components of which should include:
    - Rodent control
    - Insect control
    - On board capability to deal with pest finds.

6.3 Aircraft

Screening procedures for passengers or their baggage is not planned, instead education and awareness raising should be the focus.

Actions:

- Implement an education campaign for aircraft operators, their passengers and the first points of contact for visitors to the Hauraki Gulf, such as tourism operators, private helicopter owners, residents, industry and community groups.
- Establish integrated pest management programmes for commercial flights (passenger & freight). Key components will include:
    - Rodent control
    - Insect control
    - On site capability to deal with insect pest finds
    - Aircraft treatment if significant or persistent pest problems are identified
    - Additional monitoring/surveillance programs for specific pests if required

- Specific biosecurity training for loaders/freight handling staff (see section 6.7 below)
- Signage and information for passengers on risk organisms, risk goods and hygiene measures. This information should ideally be supplied at time of booking.

6.4 Contingency/Rapid Response Planning

Contingency/rapid response planning is required should an unwanted risk organism be detected on one or more of the HGCA islands. It is noted that the DoC has developed a plan/s for use on DoC administered off-shore islands.

Primarily the strategies outlined in this document endeavour to mitigate risk before pests reach the HGCA, however even where stringent pre-border and border control exists, incursion of pests will occur.

Actions:

- Develop an incursion/rapid response plan that will:
  - identify key responsibilities
  - establish key inter agency relationships and communication channels/contact details
  - develop response procedures for specific islands and/or pest types, e.g. using a checklist or flowchart
  - allow for standardised recording of incursions

6.5 Surveillance

Early detection of pests through surveillance is an important aspect of any biosecurity system as it provides managers with a full range of response options; Eradication; Containment; Control; Do nothing.

The more established a pest becomes the less likely eradication or even containment will be possible. Control or no response becomes more likely as a pest increases in number and distribution.

The current baseline data about the occurrence of pests on islands within the HGCA is variable (Appendix C). On some HCV islands e.g. Hauturu and Tiritiri Matangi, DoC monitors for the presence of conservation pests and periodic collection surveys conducted. ARC/DoC currently are conducting surveillance for Argentine ants on GBI as part of an eradication programme.

6.5.1 Baseline survey

The presence of some pest species on some islands is still unknown (see Appendix C: Current Distribution of Risk Organisms). Surveys will be necessary to provide this missing information as the implementation and monitoring of the biosecurity measures outlined in this plan will be reliant on accurate baseline distribution data for all pest species within the HGCA.

Actions:

- Conduct surveys to complete distribution information of risk organisms within HGCA, in particular;
  - complete distributions for Argentine ant, pest fish and rainbow skink.

6.5.2 Risk site surveillance

Risk sites are essentially locations where there is a higher likelihood of a new pest incursion occurring. Within the HGCA such sites would include wharfs, airports and freight yards. Risk site surveillance can be a mix of both active techniques (trapping/baiting for insects, animals etc) and directed techniques (visual/sampling surveys using prescriptive protocols). The actual number of high risk sites within HGCA, optimal frequency of inspections and methods needs to be determined and prioritised. The highest risk sites where surveillance is considered most appropriate at this initial stage are the public wharves at Great Barrier Island and Rangitoto. Surveillance for mustelids and Norway rats is undertaken on Great Barrier Island by ARC and DoC.

Actions:

- Prioritise 'risk sites' in HGCA where pests are more likely to establish and undertake regular surveillance.
- Continue surveillance for mustelids and Norway rats at wharves on Great Barrier Island.
- Implement annual monitoring for Argentine ants on Rakino, Kawau and Great Barrier Island.
- Encourage DoC to implement annual surveillance for Argentine ants at risk sites on DoC administered islands.
- Advise nurseries and plant outlets on the mainland of the threat posed to islands by Argentine ants and provide identification and control advice.

6.6 Stakeholder staff training

Key staff involved with shipping and the handling of freight play a key role in protecting the HGCA from unwanted pests. These individuals are ideally placed to inspect, advise, treat and report on biosecurity issues. Currently the level of biosecurity awareness amongst this group is variable and a base level of training about unwanted pests and biosecurity/quarantine inspection is seen as a priority.

Accredited Person Training is a programme that has been developed and approved by the Ministry of Agriculture and Forestry for teaching basic biosecurity awareness to people who unload and handle imported containers. These half-day courses are run by private training providers and tend to deal with biosecurity in the New Zealand border context. The content could be modified to give a Hauraki Gulf biosecurity focus. The Chatham Island Biosecurity plan (2004) recommended a modified training programme be developed for such personnel. A similar model programme should also be adopted for this Plan.

Actions:

- Develop biosecurity training programme for stakeholder staff.
- Deliver biosecurity training to key staff involved with handling air and sea freight along similar lines to MAF 'Accredited Person' Training.

6.7 Communications Plan

Visitors and residents travelling to New Zealand from other countries generally have awareness about the importance of biosecurity. A similar sort of awareness needs to be fostered for visitors and residents travelling within the Hauraki Gulf Controlled Area.

The people and groups this Plan aims to reach include residents/landowners of the Hauraki Gulf islands, industry groups, short or long-term visitors and businesses involved with the transport of people and freight. It is hoped that both a general and targeted approach when implementing the Communications Plan will reach as wide an audience as possible.

There will need to be dialogue with other agencies including DoC and MAFBNZ, to share knowledge and coordinate communication activity with any other programmes that may be running concurrently.

The needs, concerns and aspirations of the resident island communities must be incorporated in the Communications Plan. Those living or owning land on the Islands (the resident community, or community of place) will be directly affected by some of the proposed actions listed in the Hauraki Gulf Biosecurity Plan. Successful implementation of the Plan requires acceptance and involvement with the programme. Specific communication and marketing tools to ensure community engagement are proposed in the Communications Plan

Actions:

- Work with DoC to ensure signage is established at key departure points on the mainland, (i.e. slipways, marinas and boat ramps) and on islands in the Hauraki Gulf.
- Factsheets
- Broadcast a message on coastguard radio re keeping boats pest free.
- Attend at events such as the boatshow to raise awareness of pest free islands and associated biosecurity messages.

6.8 Audit and Review

Nearly all of the proposed measures outlined in the Hauraki Gulf Biosecurity Plan need wide cooperation and 'buy-in' to be effective. Even small changes to deal with biosecurity risk will require an acceptance that it 'is all worth while'. A truly effective system will rely very much on self-regulation, in effect a form of quality management system. As with any quality system an audit and review process is required to ensure efficacy and continuous improvement. This process will provide the opportunity to document procedures, maintain momentum and provide on-going training for key people (in house staff & out sourced contractors) involved in biosecurity in the HGCA.

Actions:

- Develop an audit and review process for the proposed biosecurity measures.
- Review this HGCA Plan annually.

7 REFERENCES

Anon. 2005. A biosecurity strategy to help prevent the entry and establishment of pests onto the Chatham Islands; A Discussion Document. Prepared for the Chatham Islands Council by Environment Canterbury

Bester, A. Department of Conservation 2004: Island Biosecurity Plan. Chatham Islands Area Office.

Boow, J & Wilson, G. 2004. Island Biosecurity Plan: Auckland Conservancy. Department of Conservation unpublished report.

APPENDIX A: DEFINITION OF TERMS

Term	Definition
Pests	An organism specified as a pest in a Pest Management Strategy
Risk goods	
Risk organisms	
Unwanted organisms	Any organism that a chief technical officer believes is capable or potentially capable of caus 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 (ii) Any organism specified in Schedule 2 of the Hazardous Substances and New Org Act 1996; but (b) Does not include any organism approved for importation under the Hazardous Subst 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 comr 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 hun health
Total control	Refers to a pest plants that the Auckland Regional Council will assume responsibility to tre recognised methods at intervals that will ensure the infestations are controlled, reduced in and eventually eradicated, as described in section 6 of the ARPMS
Vectors	

APPENDIX B: HAURAKI GULF CONTROLLED AREA NOTICE, 1998

"Notice Under Section 131 of the Biosecurity Act 1993,

1. Pursuant to section 131 (2) of the Biosecurity Act 1993, the Auckland Regional Council, as management agency for the Auckland Regional Animal Pest Management Strategy, hereby declares the area specified in the attached schedule to be an area that is controlled for the purpose of controlling the movement of pests out of, or from one place to another place within, the controlled area.

2. The pests to which this notice applies are as follows;

Pests (Auckland Regional Animal Pest Management Strategy)
Possum (*Trichosurus vulpecula*)
Ferret (*Mustela furo*)
Stoat (*Mustela ermina*)
Weasel (*Mustela nivalis vulgaris*)
Feral goat (*Capra hircus*)
Feral red deer (*Cervus elaphus scoticus*)
Feral fallow deer (*Dama dama*)
Feral sika deer (*Cervus nippon*)
Feral wapiti (*Cervus elaphus nelsonii*)
Darma wallaby (*Macropus eugenii*)
Parma wallaby (*Macropus parma*)
Brushtailed rock wallaby (*Petrogale penicillata penicillata*)
Swamp wallaby (*Wallabia bicolor*)
Rabbit (*Oryctolagus cuniculus*)

3. Pursuant to section 131 (3) of the Biosecurity Act 1993, the Auckland Regional council hereby gives notice that the movement of pests named in 2 above, out of, into, of from one place to another place within the Controlled Area is prohibited except with the permission of an authorised person.

4. Pursuant to section 131 (3) of the Biosecurity Act 1993, the Auckland Regional Council hereby gives notice that any person wishing to move a relocatable building out of, into, of from one place to another place within the Controlled Area is required to apply to the Auckland Regional Council for a "*Certificate of compliance – Hauraki Gulf Islands*". No person shall remove any relocatable buildings out of, into, or form one place to another place within the controlled area without a "*Certificate of Compliance – Hauraki Gulf Islands*" being issued by the Auckland Regional Council.

5. Pursuant to sections 134, 154, and 157 of the Biosecurity Act 1993, any person who:

   (a) moves any pests out of, into, or from one place to another place within the controlled area in contravention of this notice; or

(b) Fails to carry out the procedures specified in this notice; commits an offence and is liable on conviction on indictment:

i. In the case of an individual person, to imprisonment for a term not exceeding 5 years, a fine not exceeding $100,000, or both:

ii. In the case of a corporation, to a fine not exceeding $200,000.

SCHEDULE

The areas described below:

(i) The coastal marine area on the east coast of the Auckland region, which is depicted on SO plan No. 63484 deposited with the Chief Surveyor of the North Auckland Land District; and,

(ii) All the Hauraki Gulf islands in the Auckland region including Waiheke Island, Great Barrier Island, Kawau Island, Rangitoto and Motutapu. "

APPENDIX C: CURRENT DISTRIBUTION OF RISK ORGANISMS

The following table outlines the current state of knowledge regarding the presence or absence of risk organisms on each of the islands within the Hauraki Gulf Controlled Area.

Key: + = Present; E = Eradicated; ? = Unknown; (+) = Eradication attempt underway

▲ = Chris Green (DoC) surveyed Kaikoura island and found no Argentine Ants, also thinks unlikely for other the islands where presence is unknown.

= Eradication of Argentine Ants underway on Tiritiri Matangi and Great Barrier Island

* = Feral Guinea pigs are reported to be on Motuketekete Island, however are not declared as a pest in the ARPMS. Research on their impact will be required to assess pest status.

** = Galahs are reported to be on Ponui (Chamberlains) island, however they are not declared as a pest in the ARPMS. Research on their impact will be required to assess pest status.

Kaikoura Island has undergone a multi-species pest eradication attempt, culminating in an aerial baiting operation in winter 2008. It is hoped that the remaining mammalian pests have been eradicated and monitoring is underway to confirm this.

Islands								Mustelids							Rats/mice				
	Argentine Ar	Cat	Deer	Pest fish	Feral goat	Feral guinea	Hedgehog	Ferret	Stoat	Weasel	Pig	Possum	Rabbit	Rainbow skir	Mouse	Kiore	Norway	Ship	Wallaby
Browns/Motuihe																			
- Browns (Motukorea)	?												E		E		E		
- Motuihe	?	E											E		E		E		
Goat	?																	E	
Great Barrier Group																			
- Great Barrier (Aotea)	#	+		?	E						+		+	?	+	+		+	
- Kaikoura	▲	?	(+)								(+)			?	(+)			(+)	
- Rakitu	?				E						E					+		+	
- others (Aiguilles, Motuhaku, Broken, etc)	?	+											+		+	+		+	
Kawau	?	+	E	?			+	+	+	?		+	?	?	?		?	+	+
Little Barrier (Hauturu)		E		?										?		E			
Mokohinau Group																			
- Atihau (Trig)					E									?		E			
- Burgess					E									?		E			
- Fanal					E									?		E			
- Flax					E									?		E			
- Groper Rock					E									?		E			
Warkworth Service Group																			
- Beehive Island																			
- Casnell Island																			
- Kohatutara																			
- Motuketekete	?					+									+				
- Motuora																			
- Moturekareka	?				E										+				

Islands								Mustelids							Rats/mice				
	Argentine Ar	Cat	Deer	Pest fish	Feral goat	Feral guinea	Hedgehog	Ferret	Stoat	Weasel	Pig	Possum	Rabbit	Rainbow skir	Mouse	Kiore	Norway	Ship	Wallaby
- Mototara	?																		
- Te Haupa (Saddle)	?													?	+		E		
Rangitoto/Motutapu																			
- Motutapu	?	+	E	?			+		+			E	+	+	+		?	+	E
- Rangitoto		+	E	?			E		+			E	+	+	+		?	+	E
Noises/Rakino																			
- Noises Group	?																E		
- Rakino	?	+															E		
East of Waiheke																			
- Karamuramu	?														+		+		
- Pakatoa	?	+												?			E		
- Pakihi (Sandspit)	?	?												?	+		+		
- Ponui** (Chamberlains)	?	+			+				+					?	+		+	+	
- Rotoroa	?	+									?			?	+		+		
- Tarahiki (Shag)	?													?			E		
Tiritiri Matangi #	#													E		E			
Waiheke	+	+		+	+		+	+	+		+		+	?	+		+	+	

APPENDIX D - ISLAND GROUPINGS FOR RISK PATHWAYS

Due to the large number of islands within the HGCA, they have been categorised into groups of islands with similar characteristics, such as risk pathways as in the table below;

KEY: Y = Yes N = No ? Unknown

Islands	Ownership	Public W	DOC only a	Small dingh jetties/ kaya landings	Ferries	Barges	Scheduled Flig	Tourist Flights	Public airstri	Private airstr heliports*
Browns/Motuihe										
- Browns (Motukorea)	DOC	wharf	N		N					
- Motuihe	DOC	Y	N		Y	Y				
Goat (Hawere)	DOC?				N	N	N	N	N	N
Great Barrier Group										
- Great Barrier (Aotea)	DOC/Private	Y	N		Y	Y	Y	Y	Y	Y
- Kaikoura	DOC	Y	N		?	Y				Y
- Rakitu	DOC	?	N		?	?				
- others (Aiguilles, Motuh Broken, etc)		Private w Rangiahı			N	Y				
Kawau	DOC/Private	Y	N		Y	Y				
Little Barrier (Hauturu)	DOC	N	Y		N	N				
Mokohinau Group										
- Atihau (Trig)	DOC		Y							
- Burgess	DOC	wharf	N		N	N				
- Fanal	DOC		Y							
- Flax	DOC		Y							
- Groper Rock	DOC		Y							
Warkworth Service Grou										
- Beehive	DOC		N		N	N				
- Casnell	DOC		N		N	N				
- Kohatutara	DOC		N		N	N				
- Motuketekete	DOC		N		N	N				
- Motuora	DOC		N		N	N				
- Moturekareka	DOC	old whar	N		N	N				
- Mototara	DOC		N		N	N				
- Te Haupa (Saddle)	DOC		N		N	N				
Rangitoto/Motutapu										
- Motutapu	DOC	Y	N		Y					
- Rangitoto	DOC	Y	N		Y					

Islands	Ownership	Public V	DOC only a	Small dingh jetties/ kaya landings	Ferries	Barges	Scheduled Flig	Tourist Flights	Public airstri	Private airstr heliports*
Noises/Rakino										
- Noises Group	Private	N	N		N	N				
- Rakino	Private/DOC		N							
East of Waiheke										
- Karamuramu	Private	N	N		N	N				
- Pakatoa	Private	N	N		N	N				
- Pakihi (Sandspit)	Private	N	N		N	N				
- Ponui (Chamberlains)	Private	N	N		N	N				
- Rotoroa	Private	N	N		N	N				
- Tarahiki (Shag)	Iwi/ACC	N	N		N	N				
Tiritiri Matangi	DOC		N		Y	?				
Waiheke	Private/DOC/		N		Y	Y		Y	Y	Y

- There are currently 2 licensed Heliports in the HGCA, both on Waiheke island (= Reeves airfield and at 370 Cowes Bay Road). However, there are many privately chartered helicopter landings made at numerous other locations on Waiheke as well as the other Hauraki Gulf islands.