



Northland Regional Pest and Marine
Pathway Management Plan 2017-2027
Operational Plan 2018-2019

Table of Contents

Introduction	3
Implementation programmes	4
Principle Measures to Manage Pests	5
Exclusion Pests	7
Introduction	7
Objective: Why are we doing it?	8
Aims: What are we wanting to achieve?	8
How will the programme be implemented?	8
Eradication Pests	9
Introduction	9
Objective: Why are we doing it?	10
Aims: What are we doing?	10
How will the programme be implemented?	10
Progressive Containment Pests	11
Introduction	11
Objective: Why are we doing it?	11
Aims: What are we doing?	11
How will progressive containment programmes be implemented?	12
Progressive Containment Plants	12
Progressive Containment Freshwater Pests	13
Sustained Control Pests	14
Introduction	14
Objective: Why are we doing it?	15
Aims: What are we doing?	15
How will sustained control programmes be implemented?	15
Sustained Control Plants	15
Sustained Control Animals	16
Sustained Control Disease (Kauri Dieback)	17
Objective: Why are we doing it?	17
Aims: What are we doing?	17
How will sustained control programmes be implemented?	17
Sustained Control Freshwater	19
Marine Biosecurity Pest and Pathways	20
Objective: Why are we doing it?	21
Aims: What are we doing?	21
Principal measures: How are we doing it?	21
How will the Marine Biosecurity Programme be implemented?	22
Year 1: 2018-2019	22
Year 2: 2019-2020	23
Year 3-10: 2020-2027	23
Ongoing marine pest surveillance:	24
Programme costs	27
How much will it cost?	27
Performance targets and measures	28
Assumptions and Risks	29
Operational Plan Reporting	30
Operational Plan Review	30

Introduction

Background

The Northland Regional Council (NRC) is the management agency responsible for developing and implementing the Northland Regional Pest and Marine Pathway Management Plan 2017-2027 (the Pest Plan) in accordance with the Biosecurity Act 1993.

The Pest plan is a combination of the eradication or effective management of specified pests or groups of pests, and a marine pathway plan which is designed to prevent and manage the spread of harmful marine organisms via boat hull fouling within Northland coastal waters.

The Pest plan describes the biosecurity activities that will be undertaken throughout Northland and outlines the management or eradication of specific organisms and/or marine pest pathways. Doing so will:

- minimise the actual or potential adverse or unintended effects associated with these organisms and/or pathways, and,
- maximise the effectiveness of individual actions in managing pests or pathways through a regionally coordinated approach

Purpose of the Operational Plan

This operational plan describes how the Pest plan will be implemented.

This plan describes the nature and scope of activities the Council intends to undertake in the implementation of the Northland Regional Pest and Marine Pathway Management Plan for the period July 2018 – 30 June 2019.

Linkage to the Regional Pest and Marine Pathway Management Plan 2017-2027

This plan has been prepared as a requirement of the Biosecurity Act 1993 section 100B and should be read in conjunction with the RPMP 2017-2027. It includes all species listed in the Northland Regional Pest and Marine Pathway Plan 2017-2027.

Linkage to Long Term Plan 2015-2025

This operational plan is integrated with councils Annual and Long Term plans which prescribes the funding and resources allocated to the programmes within this operational plan.

Council's Long Term Plan (2015-2025) maintains a focus on pest management activities in Northland. The plan states that the council will provide the services of:

- Reducing the impact of introduced pests on the environment, economic and social values;
- Protecting the health of forests and lakes through effective regional pest control; and
- Promoting community involvement in pest management, including tangata whenua, communities, district councils and other stakeholders.

Implementation programmes

Objectives have been set for each pest or class of pests. As required by the National Policy Direction, the objectives include:

Exclusion Pests

For the duration of the Pest plan, avoid impacts to biodiversity, cultural and economic values by preventing the establishment of exclusion pests in Northland. Council will search for and control new incursions of pests that are present in New Zealand but not yet established in Northland which have been identified as having the potential to be a serious pest in the future. Section 100V of the Act may be used to investigate emergency control of new incursions of pests that are not otherwise listed in the Pest plan.

Eradication Pests

For the duration of the Pest Plan, reduce impacts to biodiversity, cultural and economic values by eradicating identified pests in Northland. The intermediate outcome is to eradicate the pest in an area. In the short to medium term, infestation levels will be reduced to the point where it becomes difficult to detect the pest.

Progressive Containment Pests

For the duration of the Pest plan, reduce impacts to biodiversity, cultural and economic values by containing and, where practicable, reducing the geographic distribution of pests in Northland. The intermediate outcome is to contain and reduce the geographic distribution of the pest to an area over time. Progressive containment pests are those where a pest is at high densities in parts of Northland, but of low extent or limited range. Eradication is not feasible, but it is feasible to prevent the pest from spreading to other parts of Northland or to eradicate the pest from other parts of Northland.

Sustained Control Pests

For the duration of the Pest plan, reduce impacts to biodiversity, cultural and economic values by controlling identified pests in Northland and preventing unreasonable impacts from these plants spreading across property boundaries and causing unwanted effects on adjacent or nearby neighbours' assets and values. The intermediate outcome is to provide for the sustained control of the pest to a level where externality impacts are manageable. The focus is on ensuring densities do not reach a level where they are causing significant externality impacts.

Pathway Management Plan

For the duration of the Marine Pathway Plan, reduce and avoid impacts to biodiversity, cultural and economic values by preventing the establishment of marine pests and where practicable, containing the geographic distribution of pests in Northland.

Principle Measures to Manage Pests

The principal measures used in the Pest Plan and Marine Pathway Plan to achieve the objectives are in four main categories. Each category contains a suite of tools to be applied in appropriate circumstances.

Requirement to Act

Land owners and/or occupiers or other persons may be required to act where pest or pathway management rules dictate:

- pests are to be controlled;
- management plans are to be prepared and submitted;
- the presence of pests is to be reported;
- actions are to be reported (type, quantity, frequency, location, programme completion);
- pests are not to be spread (propagated, sold, distributed); or
- pathways are to be managed (for example, vessel hulls).

Council Inspection

Inspection by council may include staff:

- visiting places or doing surveys to determine whether pests are present, or rules and management programmes are complied with, or to identify areas that control programmes will apply to (places of value, exclusion zones, movement control areas);
- managing compliance with regulations (rule enforcement, action on default, prosecution, exemptions);
- taking limited control actions, where doing so is
- effective and cost efficient; or
- monitoring effectiveness of control.

Service Delivery

Council may deliver the service:

- where it is funded to do so within a rating district;
- on a user pays basis;
- by providing control tools, including sourcing and distributing biological agents, or provisions (for example, traps, chemicals).

Council will support the development of tools and best practice guidelines to manage pests.

Advocacy and Education

Council may:

- provide education, advice, awareness and publicity activities to owners and/or occupiers and the public about pests and pathways (and control of them);
- encourage owners and/or occupiers to control pests;
- facilitate or fund community and land owners and/or occupier self-help groups and committees;
- work co-operatively with other agencies and stakeholders with control, advocacy, and the sharing or sourcing of funding;
- promote industry requirements and best practice to contractors and owners and/or occupiers;
- encourage owners and/or occupiers and other persons to report pests they find or to control them; or
- facilitate or commission research.

Financial Summary

Council's Long Term Plan 2015 - 2025 provides the necessary funding, via rates and user charges, for the operational and planning activities associated with pest management.

Biosecurity Annual Budget	2018/2019
Biosecurity Overheads – <i>includes staff training, vehicle running costs, regional and national working group costs, administration staff</i>	\$2,092,627
Exclusion Pests	\$-
Eradication Pests	\$246,934
Progressive Containment Pests	\$287,574
Sustained Control Pests – Partnerships	\$2,025,384
Sustained Control Pests – other	\$772,459
Marine Pathway Management Plan	\$558,336
Total	\$5,983,316

Exclusion Pests

Introduction

Definitions

Exclusion Programme: To prevent the establishment of the subject, or an organism being spread by the subject, that is present in New Zealand but not yet established in an area.

Exclusion pests: Are pests which are not known to have established in Northland, or have previously established and have been eradicated. Exclusion Pests all have the potential to establish in Northland and are capable of causing adverse effects to the environmental, economic, social or cultural values of the region.

Eradication of infestations of the exclusion plants will be attempted by the council in conjunction with relevant Crown agencies and stakeholders where practicable.

Exclusion pests programme is currently reactive to incursions if they are suspected or presence of an exclusion species is detected. If a response is required funding will be made available through existing operational budgets.

There are a total of 132 species in the RPMP of which **23** are exclusion pests.

- Total number of exclusion plant species: **12**
- Total number of exclusion animal species: **8**
- Total number of sustained control freshwater species: **3**

Exclusion programmes include the following species:

Plants			
Exclusion plants	Asiatic and giant knotweed Chinese knotweed Climbing spindle berry Giant hogweed	Holly-leaved senecio Houttuynia Noogoora bur Old man's beard	Phragmites Purple loosestrife Sea Spurge Velvet leaf

Animals			
Exclusion animals	Sulphur crested cockatoo Indian ring-necked parakeet Rainbow lorikeet	Rook Wallaby Big headed ant	Bearded dragon Blue tongued skink

Freshwater pests		
Exclusion freshwater pests	Entire marshwort Water poppy	Orfe

Objective: Why are we doing it?

The 2017-2027 operational plan for the council's Exclusion programme includes (excluding marine species) plants, animals, freshwater pests. For the duration of the Pest Plan, avoid impacts to biodiversity, cultural and economic values by preventing the establishment of exclusion pests in Northland. Council will search for and control new incursions of pests that are present in New Zealand but not yet established in Northland which have been identified as having the potential to be a serious pest in the future. Section 100V of the Biosecurity Act may be used to investigate emergency control of new incursions of pests that are not otherwise listed in the Pest Plan.

Aims: What are we wanting to achieve?

Over the life of the RPMP NRC has the following aims:

- Exclusion pests will be detected before they become widely established in Northland.
- A prompt response with appropriate funding will be initiated to control or manage incursions / infestations in Northland.

How will the programme be implemented?

Eradication of infestations of exclusion pests will be attempted by the council in conjunction with relevant Crown agencies and stakeholders where practicable.

Council will provide training to relevant council staff and stakeholders about the identification of the exclusion pests to assist in early detection. Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of exclusion pests.

Regulatory Programmes Include:

- Enforcement of rules relating to exclusion species
- Eradication of exclusion pests found in Northland
- Inspection / enforcement of rules relating to Plant nurseries and retail outlets (National pest plant accord)

Non-Regulatory Services Include (Not Limited To):

- Support eradications undertaken by other Crown agencies and stakeholders.
- Provide advice about how to manage exclusion species.
- Support, attend and provide public pest control workshops to raise awareness.
- Manage contractors relating to control of exclusion species.

Key Performance Indicators:

- Identify new sites through passive and active surveillance by NRC staff, the public, or through regional surveillance.
- All reported sightings and/or discoveries in the course of other work will be investigated within 5 working days.
- Collaborate with Regional Councils to prevent spread into Northland.
- 95% of nurseries compliant under the National Pest Plant Accord
- Increase in awareness of the exclusion species

Eradication Pests

Introduction

Definitions

Eradication Programme: *To reduce impacts to biodiversity, cultural and economic values by eradicating identified pests in Northland.*

Eradication pests: *Eradication pests are present in low numbers or have a limited distribution within Northland, and eradicating them appears to be feasible and cost-effective. These pests all have the potential to establish widely in the region, and are capable of causing adverse effects to the environmental, economic, social or cultural values of the region. Council is either the lead agency or a partner for eradicating these pests from the region.*

Eradication of the eradication pests will be undertaken by the council in conjunction with relevant Crown agencies and stakeholders where practicable.

Eradication programme is currently allocated approximately **\$246,900** per annum which includes approximately **2.0 FTE**.

There are a total of **132** species in the RPMP of which **29** are eradication pests.

- Total number of eradication plant species: **20**
- Total number of eradication animal species: **1**
- Total number of eradication freshwater species: **8**

Eradication programmes include the following species:

Plants			
Eradication plants	Akebia Balloon vine Bat-wing passionflower Cape tulip Cathedral bells Chilean rhubarb Evergreen buckthorn	Field horsetail Firethorn Gypsywort Lesser knotweed Mexican feather grass Mickey mouse plant Monkey musk	Nassella tussock Nutgrass Royal fern Spartina Wilding kiwifruit Yellow flag iris

Animals	
Eradication animals	Feral deer

Freshwater pests			
Eradication freshwater pests	Eel grass Nardoo Salvinia	Senegal Tea Water hyacinth	Eastern water dragon Red eared slider turtle Snake necked turtle

Objective: Why are we doing it?

For the duration of the Pest plan, reduce impacts to biodiversity, cultural and economic values by eradicating identified pests in Northland. The intermediate outcome is to eradicate the pest in an area. In the short to medium term, infestation levels will be reduced to the point where it becomes difficult to detect the pest.

To maintain low to zero densities of feral deer in Northland through deer farmer liaison, fence inspections, surveillance, wild deer response activities, and statutory management, to prevent the successful establishment of wild deer populations.

To increase community awareness of the risks and environmental consequences of feral deer establishing in Northland in order to gain wide community support for the vision of no populations of feral deer in Northland.

Aims: What are we doing?

Over the life of the RPMP NRC has the following aims:

- Eradication plants and freshwater pests will be controlled to zero-density in Northland by 2027.
- A prompt response with appropriate funding will be initiated to control or manage infestations of eradication species in Northland.
- Council will work co-operatively with the Department of Conservation and other stakeholders to achieve the objectives of the Northland Wild Deer Response Plan 2016-2025.
- Land owners, occupiers and the public understand the risks and environmental consequences of feral deer establishing in Northland, and are supportive of the programme.

How will the programme be implemented?

Control work will be undertaken annually by council staff / contractors / partners and/or stakeholders and detailed workplans will be developed for specific pests.

Regulatory programmes include:

- Enforcement of rules relating to eradication species.
- Eradication of species listed within the Eradication programme.
- Inspection / enforcement of rules relating to Plant nurseries and retail outlets (National pest plant accord).

Non-Regulatory services include (not limited to):

- Support eradications undertaken by other Crown agencies and stakeholders.
- Provide advice about how to manage eradication species.
- Support, attend and provide public pest control workshops to raise awareness.
- Manage contractors relating to control of eradication species.

Key performance indicators:

- Identify new sites through passive and active surveillance by NRC staff, the public, or through regional surveillance.
- Response to reports from the public on eradication pests will be responded to within 5 working days.
- Increase in awareness of eradication species.

Progressive Containment Pests

Introduction

Definition

Progressive Containment Pests: Refers to pests that landowners/occupiers are required to treat throughout or in defined areas of the region, or in boundary situations. Pests are to be treated by a recognised Progressive Containment method, at intervals that ensure the pest is completely controlled or controlled to or from a stipulated distance from a property boundary.

Species in the Progressive Containment programme are pests that are present within defined areas within the region. These pests can cause adverse effects to the environmental, economic, social or cultural values of the region.

Progressive containment programme is currently allocated approximately **\$287,600** per annum which includes approximately **0.8 FTE**.

There are a total of **8** species listed under the progressive containment programme:

- Total number of progressive containment plants: **5**
- Total number of progressive containment freshwater fish: **3**

Plants			
Progressive containment plants	Manchurian wild rice African feather Grass	Mile a minute Pultenaea	Lantana

Freshwater pests		
Progressive containment freshwater pests	Koi carp Tench	Perch

Objective: Why are we doing it?

The 2017-2027 operational plan for the council's Progressive Containment programme includes plants and freshwater pests aims to:

- For the duration of the Pest plan, reduce impacts to biodiversity, cultural and economic values by containing and, where practicable, reducing or eradicating populations of pest plants and the geographic distribution of populations in Northland.

Aims: What are we doing?

Over the life of the RPMP this operational plan has the following aims:

- Populations of African feather grass, Manchurian wild rice, Mile-a-minute and Pultenaea outside the mapped containment areas will be eradicated. By 2027 there will be no active sites of these four species outside the containment zones.
- Populations of African feather grass, Mile-a-minute and Pultenaea inside the containment zones will decrease. By 2027 the size of the containment zone and the density of these species' populations within it will have reduced.

- All intransigent populations of Manchurian wild rice will be contained, reduced and eventually eradicated within Northland.
- Populations of Lantana outside the mapped containment zones will reduce. Land occupiers will be encouraged to control Lantana on land that they occupy.
- Biocontrol agents for progressive containment species will be encouraged in Northland, and release will be prioritised inside the containment zones.
- New incursions of African feather grass, Manchurian wild rice, Mile-a-minute and Pultenaea will be detected and controlled before it becomes widely established in Northland.
- Existing populations will be monitored and, where appropriate, systems set in place to prevent further spread.
- New incursions will be monitored and efforts made to trace their source.
- A prompt response with appropriate funding will be initiated to control or manage infestations in Northland.
- New technologies and methods will be investigated and introduced where possible.

How will progressive containment programmes be implemented?

Progressive containment pests are managed through a variety of programmes within Northland.

Council staff will aim to eradicate populations outside the containment zone and also reduce the size of the containment zone through a variety of control methods, including but not limited to, spraying and trapping.

Council staff will also support communities to reduce the impact of progressive containment pests through several regulated programmes.

Progressive Containment Plants

Progressive containment plants (Manchurian wild rice, African feather Grass, Lantana, Mile a minute, Pultenaea) are managed through both regulatory and non-regulatory biosecurity programmes.

Regulatory programmes include:

- Enforcement of rules relating to progressive containment plant species.
- Eradication and reduction of infestations of progressive containment plants will/may be attempted by the council in conjunction with relevant Crown agencies and stakeholders.

Non-Regulatory services include (not limited to):

- Develop and support community pest control programmes.
- Develop and support biosecurity environment fund projects.
- Support community and land care groups.
- Provide advice about how to manage progressive containment species.
- Support, attend and provide public pest control workshops.
- Provide public weed workshops.
- Support biocontrol for progressive containment species.

Key performance indicators:

- Response to reports from the public on progressive containment pests will be responded to within 5 working days.
- Annual reporting on the status of all progressive containment pests.
- Annual reporting on number of new sites of each plant.

- Increase awareness about Progressive containment.
- Maintain or increase in number of landowners undertaking work within progressive containment zone.

Progressive Containment Freshwater Pests

Progressive containment freshwater species are managed through both regulatory and non-regulatory biosecurity programmes.

Regulatory programmes include:

- Enforcement of rules relating to sustained control freshwater species.
- Eradication and/or reduction of infestations of the progressive containment freshwater pests may be attempted by the council in conjunction with relevant Crown agencies and stakeholders where practicable.

Non-Regulatory services include (not limited to):

- Council staff will assist land owners to develop management plans.
- Council will provide training to relevant council staff and stakeholders in the identification of pests to assist in early detection.
- Council staff will provide advice, attend events and undertake publicity campaigns to increase public awareness of pests.
- New technologies and methods will be investigated and introduced where possible.

Key performance indicators:

- Response to reports from the public on progressive containment pests will be responded to within 5 working days. (reported through IRIS).
- Annual reporting on the status of all progressive containment freshwater pests (reported through IRIS).
- Annual reporting on number of new sites of each species (reported through IRIS).
- Progressive containment pests will be used in regular display and educational activities (reported through IRIS).

Sustained Control Pests

Note: Excludes marine sustained control pests - these are described under a separate section.

Introduction

Definition

Sustained Control: For the duration of the Pest plan, reduce impacts to biodiversity, cultural and economic values by controlling identified pests in Northland and preventing unreasonable impacts from sustained control Pests. The intermediate outcome is to provide for the sustained control of the pest to a level where external impacts are manageable. The focus is on ensuring densities do not reach a level where they are causing significant externality impacts.

Species in this Sustained Control (excluding marine species) programme are pests that are widespread in suitable habitats throughout Northland. These pests can cause adverse effects to the environmental, economic, social or cultural values of the region. Biodiversity restoration projects controlling sustained control pests are generally managed outside the plan through Biosecurity Partnership Programmes. The following operational plan applies to all of the sustained control species in the Regional Pest and Marine Pathway Plan 2017-2027.

Sustained control programme is currently allocated approximately **\$2,797,800** per annum which includes approximately **12 FTE**. Of this budget, \$2,025,400 is allocated to the Partnerships programme.

There are a total of **132** species in the RPMP of which **67** fall under the sustained control programme.

Sustained control programme includes the following species:

Plants			
Sustained control plants	Bathurst bur Brazillian Pepper tree Gorse Gravel Groundsel	Phoenix palm Privet Queen of the night Rhus tree	Wild ginger Wilding conifers Woolly nightshade
Road and Rail sustained control species – See RPMP			
National Pest Plant Accord Species – See RPMP			

Animals			
Sustained control animals	Argentine ant Darwin ant Possums	Feral and stray cats Feral goats Feral pigs	Mustelids Rabbits Rodents

Diseases and Pathogens	
Sustained control diseases	Kauri Dieback

Freshwater pests	
Sustained control freshwater pests	Brown bullhead catfish Rudd

Objective: Why are we doing it?

The 2017-2027 operational plan for the council's Sustained Control (excluding marine species) programme includes plants, animals, freshwater pests, diseases and aims to, for the duration of the Pest Plan, reduce the impacts of sustained control pests on the biodiversity, cultural and economic values in Northland.

Aims: What are we doing?

Over the life of the RPMP this operational plan has the following aims:

- To help landowners, occupiers and the public to gain knowledge and skills to help reduce the impacts and spread of the sustained control pest.
- To prevent unwanted effects caused by sustained control pests on adjacent or nearby neighbours' assets and values.

How will sustained control programmes be implemented?

Sustained control pests are managed through a variety of programmes within Northland. Council staff support communities to reduce the impact of sustained control pests through several regulated sustained control species programmes and through non-regulated Biosecurity Partnerships.

Council staff will provide education, advice and support to enable landowners to manage sustained control pests on their properties. Support may be provided through but not limited to existing and new biosecurity partnerships such as biofund projects, community pest control areas and high value area programmes. Staff will assist landowners and agencies to develop management plans to manage sustained control species in Northland.

Council will provide advice to relevant road and rail authority staff regarding development and implementation of management plans for sustained control pests.

Sustained Control Plants

Sustained control plants are managed through both regulatory and non-regulatory biosecurity programmes.

Approximately **1.0 FTE** is allocated to Sustained Control Plants / Biosecurity partnerships

- Total number of sustained control plant species: **11**
- Total number banned from sale and distribution: **37**

Regulatory Programmes Include:

- Enforcement of rules relating to sustained control plant species.
- Enforcement of Good neighbour rules.
- Inspection / enforcement of rules relating to Plant nurseries and retail outlets (National pest plant accord).
- Inspection / enforcement of rules relating to Quarries.
- Enforcement of rules relating to Road and rail, and development and implementation of management plans).

Non-Regulatory Services Include (Not Limited To):

- Develop and support community pest control programmes.
- Develop and support biosecurity environment fund projects.

- Support community and land care groups.
- Provide advice about how to manage sustained control species.
- Support, attend and provide public pest control workshops.
- Provide public weed workshops.
- Support biocontrol for sustained control species.

Key Performance Indicators:

- Respond to requests within 5 working days.
- Increase number of biocontrol agents released in Northland.
- 95% compliant nurseries under NPPA.
- All exemptions to any rule are reported.
- Increase in awareness of sustained control species.
- All road and rail authorities have 5 year weed management plans or prioritised annual plans approved, and implemented.

Sustained Control Animals

Sustained control animals are generally managed through non-regulatory biosecurity partnerships, regulatory measures are used when required.

Approximately **7.0 FTE** is allocated to Sustained Control Animals / Biosecurity partnerships

- Total number of sustained control animal species: **14**

Regulatory Programmes Include:

- Enforcement of rules relating to sustained control animal species.

Non-Regulatory Services Include (Not Limited To):

- Develop and support community pest control programmes (CPCA).
- Develop and support biosecurity environment fund projects.
- Develop and support significant biosecurity partnerships (eg. NRC-Kiwi Coast Partnership).
- Support community and land care groups.
- Provide advice about how to manage sustained control species.
- Support, attend and provide public pest control workshops.
- Provide selected pest control materials.
- Manage contractors relating to sustained control species control.

Key Performance Indicators:

- Respond to requests within 5 working days.
- Increase in hectares of land under CPCAs per annum (increase by 5000 ha).
- Increase in number of NRC supported community led pest control programmes (increase by 10% per annum).
- Increase in kiwi populations within NRC supported programmes – increase by 2% per annum.
- All exemptions to any rule are reported.
- Increase in biodiversity indicators within council supported programmes.
- Increase in awareness of sustained control species.

Sustained Control Disease (Kauri Dieback)

Sustained control disease and pathogens are generally managed through regulatory and non-regulatory biosecurity programmes.

The Kauri Dieback programme is a multi-agency programme involving the Ministry for Primary Industries, Department of Conservation, Northland Regional Council, Auckland Council, Waikato Regional Council, Bay of Plenty Regional Council, and Tangata whenua.

Council contributes **\$88,000** directly towards the Kauri Dieback programme annually.

- Total number of sustained control disease species: **1**

Objective: Why are we doing it?

- For the duration of the Pest Plan, prevent the spread of kauri dieback to reduce impacts on biodiversity, cultural and economic values in Northland.
- Ensure coordination with other government agencies and the Department of Conservation to achieve the Pest Plan objectives.

Aims: What are we doing?

Over the life of the RPMP this operational plan has the following aims:

- To maintain a complete record of the full distribution and severity of kauri dieback in Northland.
- To increase public knowledge and skills, and encourage people to take action to help reduce the spread of kauri dieback.
- To ensure that measures taken under the Pest Plan are complementary to inter-regional and national approaches to kauri dieback.
- To utilise scientific and technological advancements to help reduce the spread of kauri dieback including Matauranga Māori.

How will sustained control programmes be implemented?

Regulatory Programmes Include:

- Enforcement of rules relating to sustained control disease species.
Rule 8.1.1
 1. *Authorised persons will determine whether a property is "high risk" by having regard to:*
 - *Site status – Is it a confirmed or likely site?*
 - *Site location – Is it close to known kauri dieback site(s)?*
 - *Vectors – Is there a high likelihood of spread to or from the site?*
 - *Any other relevant factors.*
 2. *Where the property is identified as "high risk", an approved kauri dieback management plan shall be prepared by the authorised person in consultation with the occupier / owner /manager / user (as relevant).*
 3. *The minimum criteria for an approved kauri dieback management plan are contained in Appendix 3 of the Northland Regional Pest and Marine Pathway Management Plan 2017-2027.*

4. *Land owners / occupiers / managers / users (as relevant) within Northland must implement the approved kauri dieback management plan to reduce the risk of kauri dieback spreading.*

Rule 8.1.2

Every person who sees or suspects the presence of KDB must report it to appropriate management agency.

- Development of high-risk kauri dieback management plans.
- Council staff and/or their contractors will visit all places on private land suspected of containing Kauri Dieback to undertake further assessment or testing.

Non-Regulatory Services Include (Not Limited To):

- Develop and support community pest control programmes (CPCA).
- Develop and support biosecurity environment fund projects.
- Develop and support significant biosecurity partnerships (NRC-Kiwi Coast Partnership and Māori).
- Support community and land care groups.
- Provide advice about how to manage sustained control species.
- Support, attend and provide public pest control workshops.
- Provide selected pest control materials.
- Manage contractors relating to sustained control species.

Key Performance Indicators:

- 100% of high-risk sites have management plans.
- Respond to requests / incidents within 5 working days.
- All exemptions to any rule are reported.
- Increase in awareness of sustained control species.
- Increase in hectares of high-risk KDB areas protected by fencing.

Council staff will develop an annual Kauri Dieback Work Plan describing a schedule of works for key activities relating to council's kauri dieback programme. This will include operational activities relating to the ongoing ground truthing of priority aerial surveillance risk sites, requests from public and other engagement and educational opportunities. This will be updated annually.

Kauri Dieback Management Plan – Minimum Criteria (RPMP Appendix 3)

All kauri dieback management plans developed under this RPMP must contain the following criteria:

1. *Description (site name, site location, soil sample numbers and other identification details).*
2. *Plan objectives to prevent or minimise the spread of kauri dieback.*
3. *Risk factors:*
 - a) *Proximity to other kauri;*
 - b) *Proximity to other infected sites*
 - c) *Vectors to infection;*
4. *Measures to be adopted:*
 - a) *Vector risk mitigation i.e. phytosanitary measures, access limitations, control of feral animals, any other detailed steps;*
 - b) *Obligation of landowner, occupier, manager, user as relevant;*
 - c) *Parameters and measures to ascertain whether objectives are being achieved;*
5. *Monitoring and review*

Sustained Control Freshwater

Sustained control freshwater species are generally managed non-regulatory biosecurity programmes.

Approximately **0.7 FTE** is allocated to sustained control freshwater species / biosecurity partnerships.

- Total number of sustained control freshwater species: **2**

Regulatory programmes include:

- Enforcement of rules relating to sustained control freshwater species

Non-Regulatory services include (not limited to):

- Develop and support community pest control programmes (CPCA).
- Develop and support biosecurity environment fund projects.
- Support community and land care groups.
- Provide advice about how to manage sustained control species.
- Support, attend and provide public pest control workshops.
- Provide selected pest control materials.
- Manage contractors relating to sustained control species.

Key performance indicators:

- Respond to requests / incidents within 5 working days.
- All exemptions to any rule are reported.
- Increase in awareness of sustained control species.

Marine Biosecurity Pest and Pathways

In 2012 an amendment to the Biosecurity Act 1993 added Pathway Management Plans as a legislative option to control the spread of pests in New Zealand. This operational plan includes both the Marine Pathway Management Plan AND the Marine Sustained Control species listed in the Regional Pest and Marine Pathway Management Plan 2017-2017. Both these programmes of work make up the Marine Biosecurity Programme for Northland undertaken by the Northland Regional Council. This plan has been prepared as a requirement of the Biosecurity Act 1993 section 100B.

The Marine Pathways Plan was appealed in the Environment Court and following mediation the Marine Pathway Plan was made operative on 1 July 2018.

The Marine Pathway Management Plan hereby after referred to as the 'MPMP', is designed to prevent marine pests from reaching new areas rather than responding to a pest once it has arrived and had time to establish. Put simply - 'pathways' are human activities that may transport a (marine) pest from one place to another, for example, moving a vessel to a new location which has hull biofouling, exchanging ballast water, or movement of aquaculture equipment.

Experience has shown that the eradication and control of established marine pest populations is difficult and expensive. Therefore, reducing the spread of marine pests through the management of pathways is a high priority. An effective pathways plan will not only reduce the risk of new marine pests establishing in the region, but also reduce the spread of harmful marine species that are already established in Northland's Coastal Marine Area ('Northland').

As well as addressing recognised pest species, pathways plans have the benefit of including all of the unknown or potential risk species that may be associated with a pathway, irrespective of their designated pest status.

Biofouling on the hulls of vessels is widely regarded as an important contributor to the spread and establishment of marine pests. Both recreational and commercial vessels have the potential to transport marine pests as hull biofouling. Vessels will accumulate local biofouling organisms on their hull during periods of inactivity or when the antifouling coating is not working effectively. This accumulation of local hull fouling may look unsightly but does not pose a biosecurity risk until that vessel moves and takes the local biofouling with it to a new location

Northland is frequently connected to other regions of NZ via commercial and recreational vessel movements; it is likely that new species will continue to be introduced unless effective management systems are put in place.

Marine Biosecurity Pest and Pathway plan is currently allocated approximately **\$558,300** per annum which includes approximately **3.75 FTE**

These programmes include the following species/pathways:

Marine Pests and Pathway			
Marine Pathway plan	Hull fouling: Level of Fouling 2		
Sustained control marine pests	Asian paddle crab Australian droplet tunicate Japanese Mantis Shrimp	Mediterranean fan worm Pyura sea squirt Styela sea squirt	Undaria seaweed

Objective: Why are we doing it?

The 2017-2027 operational plan for the council's Marine Biosecurity Pest and Pathway Plan aims to;

- Prevent the introduction of new marine pests into Northland and slow the spread of established marine pests within Northland; and
- Reduce the impacts of sustained control marine pests on the biodiversity, cultural and economic values in the Northland coastal marine area.

Aims: What are we doing?

Over the life of the RPMP (including MPMP), NRC has the following aims:

- To increase the number of vessel owners and/or persons in charge of vessels complying with the pathways plan rules.
- To increase the awareness of the risk hull fouling poses to marine pest spread.
- To see a reduction in the new marine pest introductions to Northland.
- To see a reduction in the rate of spread of established marine pests within Northland.
- To help marine stakeholders, coastal marine area occupiers, vessel owners and the public to gain knowledge and skills to help reduce the impacts and spread of the sustained control pests.

Since 2010 NRC has had a species led approach to managing marine pests. Species such as Mediterranean fanworm is one of many that has entered the region by way of hull biofouling. Since 2012 over 100 vessels carrying fanworm have been found in Northland. Encouraging cleaner hulls through a MPMP would have resulted in fewer vessels carrying marine pests and other biofouling to the region. Taking a proactive approach to biofouling will reduce the risk of new marine pest incursions.

Identifying marine pests and potential risk organisms for Northland is difficult; rather than relying solely on the species led approach, NRC is addressing a universal vector of spread.

Principal measures: How are we doing it?

Requirement To Act

- The person in charge of a vessel is required to ensure there are no pest species or unwanted organisms present on the hull of the vessel.
- The person in charge of a vessel is required to ensure the fouling on the hull of the vessel meets the requirements of the Marine Pathway Plan.
- People are required to undertake actions to help reduce the impacts and spread of the sustained control pests.
- The purpose of the rules is to assist both in reducing the impacts of sustained control pests in Northland on values, and the spread of sustained control pests to other places within and beyond the Northland coastal marine area.

Council Inspection

- Council staff and/or their contractors will conduct surveys to assess hull fouling on vessels in all areas within Northland.
- Council staff and/or their contractors will manage compliance activities such as rule enforcement, action on default, prosecution and rule exemption applications.
- Council staff and/or their contractors will visit places and conduct surveys to determine whether rules and management programmes are complied with and effective.
- Council staff will undertake compliance activities when required, such as rule enforcement, action on default, prosecution and processing exemptions

Service delivery

- Council will support voluntary compliance by vessel owners by funding surveillance and education activities.
- Council will ensure tools and best practice guidelines are available to vessel owners and relevant industries
- Council staff will provide education and advice to stakeholders, occupiers and the public about the sustained control pests and how to manage them.

Advocacy and education

- Council will encourage owners and/or persons in charge of vessels to control hull fouling.
- Council will work co-operatively with other agencies and stakeholders to facilitate research to understand potential risks of hull fouling, and develop tools and best practice guidelines to manage hull fouling.
- Council will provide training to relevant council staff and stakeholders in the assessment of vessel hull fouling and identification of marine pest species.
- Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of marine pests and hull fouling as a vector of spread.
- Council will provide training to relevant council staff and stakeholders in the identification and control of the sustained control pests. Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of these marine pests.

How will the Marine Biosecurity Programme be implemented?

Year 1: 2018-2019

- Develop communication and advice programme to assist vessel owners & stakeholders with ensuring compliance with rules
- Develop resources including; information on recommended hull maintenance regimes, common fouling organisms and how to assess if the fouling on their hull exceeds the MPMP threshold level.
- Undertake a diver hull surveillance programme with a target to assess over 2000 hulls for compliance annually with the MPMP and marine pest rules in the RPMP.
- Feedback vessel hull surveillance results to vessel owners where possible.
- Liaise with other regions such as Auckland to educate vessel owners travelling to Northland.
- Standard follow up of vessel where a listed marine pest, harmful or new to New Zealand, organism, or unwanted organism is found on a hull during surveillance will include a Notice of Direction (NOD), requiring the vessel owner to clean their hull. Evidence of this clean will be required before the notice is lifted.

- Increase of signage and communications around boat ramps, marina newsletters, radio advertising and marinepests.nz website.
- Continue to work with other regions in developing shared resources such as the marinepests.nz website
- Continue to liaise with crown research agencies, MPI, NIWA to build a wider toolkit for managing marine pests and pathways.

Year 2: 2019-2020

The diver hull surveillance programme will continue as per year one, if a vessel is over the fouling threshold it will be cross referenced against existing data to assess if any management has been undertaken or whether the vessel has moved. NODs will be issued to unauthorised movement and fines may apply.

The Craft Risk Management Standard will be enforced at the Border by MPI, 15th of May 2018 vessels that meet this standard will still be subject to regional rules should their stay exceed the short stay duration (this covers cruise ships) as set out in the CRMS standard.

All vessels that do not meet the regional rules will receive a notice that will state that they cannot move to a new 'place' until they comply with our MPMP fouling threshold. As with the current marine pest NOD's we will allow vessel owners to move directly to a haul out facility for treatment even if this is outside of the area they are currently located in.

NOD's will be tracked in IRIS (NRCs online incident logging database) and regular contact will be made with vessel owners to ensure they have not moved their vessels.

Year 3-10: 2020-2027

Develop a process to ensure feedback results of the hull surveillance programme to vessel owners. This will be part of a feedback process to encourage vessel owners to understand what is growing on their hulls. For example: vessel owners will receive a letter or email with the date their hull was inspected and a unique identifier that they can use to log onto an online database to see the hull surveillance results. If they exceed the MPMP threshold they will be advised what that will mean for them once the rules are enforced.

Establish an online database that vessel owners can access, they will be able to search for the dive surveillance results for their individual vessel but also see the hull fouling score and species present on the hulls of other vessels that have been surveyed. (This system will be set up with unique identifier codes to maintain privacy).

Haul out facilities will be encouraged to log the vessel name and the date that the vessel is relaunched and confirm its antifoul status on the online database.

Vessel owners who may not use haul out facilities will be encouraged to use an online logbook system which will be set up alongside the surveillance database; this will allow vessel owners to log maintenance against their vessel identifier. This will be a voluntary compliance system and risk reduction system. Hard copy logbooks will be made available to vessel owners who do not use online systems (similar to the CRMS risk assessment). If a vessel has recently been antifouled or had a visual inspection by approved operators and are clear of biofouling within the previous month, diver survey of their hull by compliance officers will be considered low priority.

Continue to use online database and logbooks to assess risk associated with vessels. Only use divers to assess high risk vessels, monitor trends in compliance vs no. vessels

checks. As compliance increases a decrease in diver survey effort and cost should be expected given other forms of evidence of rule compliance demonstrate the rule is being met upon movement to another designated place.

Ongoing marine pest surveillance:

During the implementation of the Marine Biosecurity Programmes ongoing marine pest surveillance will be carried out. Figures 1 and 2 outline the process of

- Vessel inspection (Figure 1)
- The protocol followed if a marine pest is found (Figure 2).

Not all cases are the same and may therefore not follow these protocols step by step.

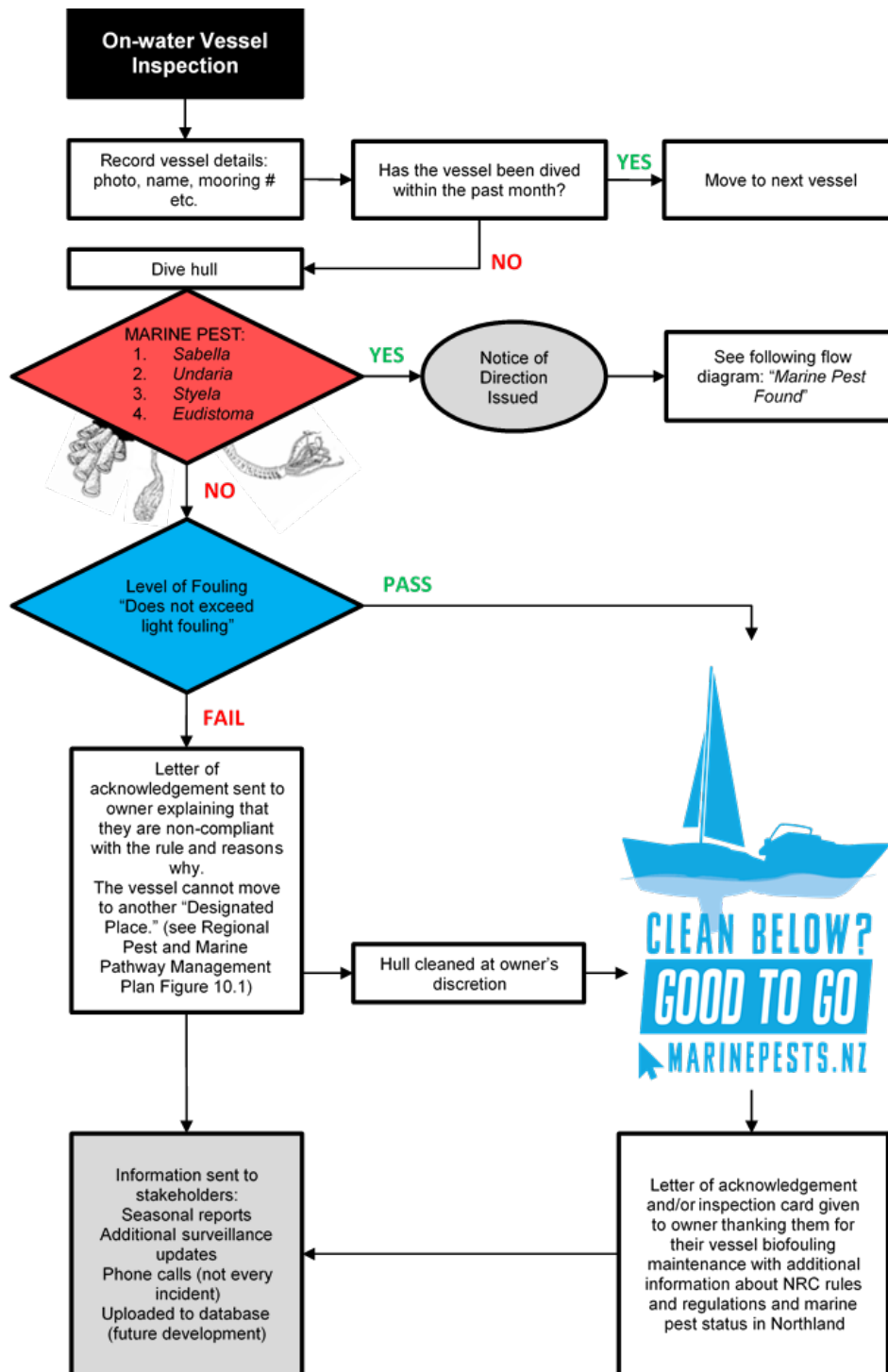


Figure 1: Flow diagram outlining the hull inspection process, from vessel identification, diving the hull, identifying marine pests present, the process for informing vessel owners once hull inspections have been carried out, and feedback to stakeholders.

Marine pest vessel hull removal matrix

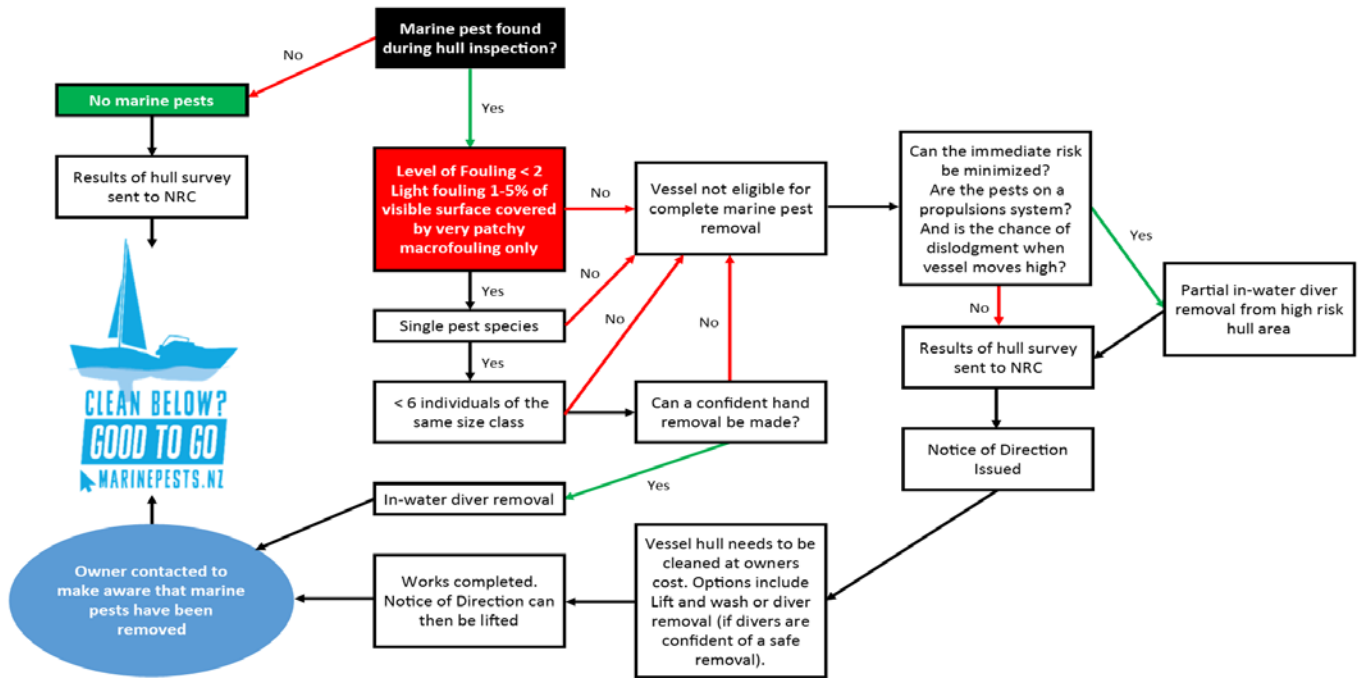


Figure 2: Flow diagram outlining the process for removing marine pests once identified on the hull of a vessel.

Programme costs

How much will it cost?

The total marine pest budget is proposed at **\$558,300** and covers labour and operational costs.

FTE's budgeted are approximately **3.75**.

Operational Cost Source	Details	Proposed Cost
Enforcement	Costs expected to rise as hull cleaning requirement rises.	\$30,000
Readiness	Keeping up to date with incident planning, including maintaining and updating operational manuals.	\$5,000
Liaison with other regions	Ongoing liaison with biosecurity practitioners and node managers in other regions that are sources of risk.	\$5,000
Legal and science advice	The quality of marine biosecurity management is dependent on access to good science advice.	\$30,000
Education and outreach	Workshops, boat shows, communications planning and execution.	\$20,000
Training and warranting	Training required for Council compliance staff and stakeholders.	\$10,000
Vessel surveillance (2000 vessels)	Random checking of vessels to ensure compliance with requirements. Assumes 2000 vessels are randomly checked annually at a cost of \$80 per vessel. Half are found to be in breach and owner charged.	\$200,000
Structural surveillance	Routine checking of structures and investigation of previously unchecked structures.	\$20,000
Incursion response	Response to pest populations, based on current annual costs. Assume would reduce if vector management was effective.	\$60,000
TOTAL		\$380,000

The 2017-2018 diver hull surveillance contract was tendered out at \$180,000 for inspection of 2,000 vessels and is currently the largest operational cost. An increase in compliance and a reliance on proxy measures of clean hulls like the voluntary antifoul declaration, a log book system, visual inspections and evidence of haul outs and antifoul applications could see a decrease in the need for inspection.

If Council were to require inspection of all vessels based in and visiting Northland (the fleet), the total costs for hull surveillance would be over \$750,000 annually. This cost may decrease as compliance increases due to the requirement for less inspection and lower compliance work costs in-house (Figure 3). The council costs are based on information obtained for the MPMP CBA analysis as are the levels of compliance. The diver surveillance costs are based on current commercial diver daily rates, if the whole fleet were to be inspected multiple dive teams would need to be working year-round.

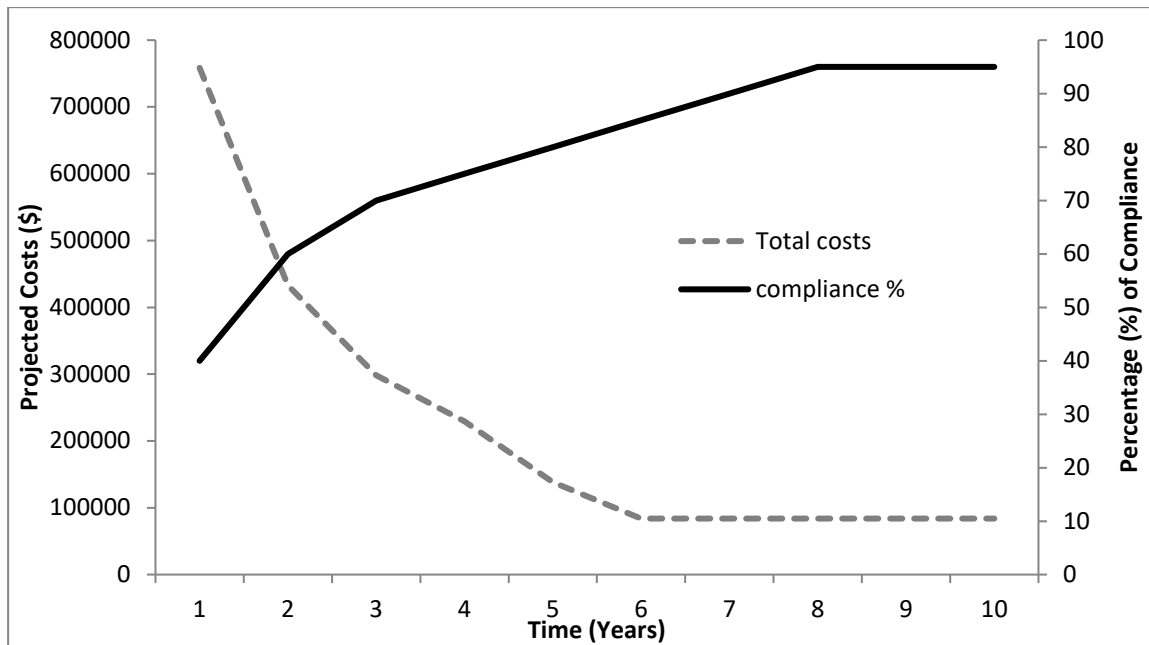


Figure 4: Projected costs for hull check of entire fleet. There is likely to be a significant decrease in the amount of surveillance required as compliance with the MPMP level of fouling threshold (LOF) increases.

Performance targets and measures

Key Performance Indicators; How will success be measured?

KPI	How will this be measured?
There will be an increase in the number of vessel owners and/or persons in charge of vessels complying with the Marine Pathway Plan rules annually. Targets are as follows; 85% compliance after year 2, 90% compliance after year 3, 98% compliance by the end of the plan.	Information recorded through vessel hull surveillance programme & incidents.
There will be an increase in awareness of the risk hull fouling poses to marine pest spread over the duration of the plan.	Surveys results from on-water education. Educational events are recorded and approximate reach
There will be a reduction in the new marine pest introductions to Northland over the duration of the plan.	Number of incidents & reports of marine pests
There will be a reduction in the rate of spread of established marine pests within Northland over the duration of the plan.	Number of incidents & reports of marine pests
Appropriate funding and resources are assessed annually and allocated accordingly.	Annual Plan & Long-term Plan
All requests/incidents from the public are recorded and responded to within 5 working days.	IRIS data reports
All exemptions to the rules are recorded and reported on. Exemptions include a description, reasons, time period and are made available to the public.	IRIS data reports

Assumptions and Risks

Assumption/Risk	How are we addressing this?	Is there any residual risk that needs to be considered?
Hull biofouling is the predominant vector of marine pest spread.	On-going research and collaboration with crown research agencies	Lack of tools to treat & prevent hull biofouling.
A vessel that meets the MPMP hull biofouling threshold presents a low risk of spreading or introducing marine pests.	Education through on-water surveys, boat shows, boat yards etc. to build awareness of niche areas on vessels and areas of high risk for known pest species	Resourcing for education of the public (staff time & publications)
Current marine pest infestation areas in Northland are known.	Mapping of known pest species & areas into Arc GIS. Maps will be made available online for the public.	Need continual surveillance of high risk areas and remote areas for presence/absence checks.
Current marine pest infestation areas in Northland are known	On-going surveillance. Implementation of benthic surveillance programmes. On-going communication with other agencies.	Risk of missing a pest species in-between surveillance sweeps. Risk of communication breakdown between agencies.
Vessel owners will cooperate with NRC officers and any necessary control options.	Use of education and enforcement tools. Use of infringement fines where necessary.	Potential for prosecution for offenders.
Compliance with MPMP rules will increase over time.	Use of education and enforcement tools. Use of infringement fines where necessary.	Haul out facilities being at capacity or no suitable haul out facilities available.
The NRC hull surveillance and awareness programme will be effective in reaching the target audience.	Targeted on-water surveillance, engagement with affected stakeholder groups.	Potential for some stakeholders to not engage with programme
New marine pest incursions and range extensions will be reduced due to MPMP implementation.	Increased awareness and compliance with biofouling rules	Risk of a non-compliant activity having adverse impacts is high. E.g. in-water cleaning dislodging a marine pest.
Potential incursions of new species or range extensions of existing species.	On-going surveillance of marine high-risk site surveillance with MPI/NIWA	Resourcing and funding from MPI to respond to a range extension.

Operational Plan Reporting

Council will produce a report on the operational plan and its implementation not later than 5 months after the end of each financial year. A copy of this will be provided to council.

Operational Plan Review

This operational plan will be reviewed each year in May.

The review will:

- Include an assessment of progress towards performance targets.
- Identify changes to planned activities to ensure continued progress.
- Identify opportunities for programme improvements.
- Financial analysis.

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