

# Northland Regional Pest and Marine Pathway Management Plan 2017-2027



## **Northland Regional Pest and Marine Pathway Management Plan 2017- 2027**

Pursuant to Section 77(5) and 97(5) of the Biosecurity Act 1993 and all other powers vested in it, the Northland Regional council makes the following law.

Notice is hereby give of the making of the following sections of the Northland Regional Pest and Marine Pathway Management Plan 2017-2027:

- Section 8: Diseases and pathogens
- Section 10.1: Marine Pathway Management Plan.

This law was confirmed at a meeting of the council held on 21 June 2018 and ordered to come in to force on 1 July 2018.

The common seal of the Northland Regional Council was hereto affixed in the presence of:



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Malcolm Nicolson  
**Chief Executive Officer**



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Bill Shepherd  
**Chairman**

**Northland Regional Pest and Marine Pathway  
Management Plan 2017-2027**

Pursuant to 77(5) and 97(5) of the Biosecurity Act 1993 and all other powers vested in it, the Northland Regional council makes the following law.

Notice is hereby given of the making of the Northland Regional Pest and Marine Pathway Management Plan 2017-2027 at the 12 December council meeting, excluding:

- All of section 8: Diseases and pathogens;
- All of the Marine Pathways Management Plan, section 10.1

The above parts of the plan are currently under appeal pursuant to sections 76 and 96 of the Biosecurity Act 1993.

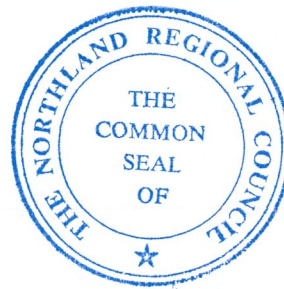
The remainder of the plan will come into operation from 12 December 2017.

This law was confirmed at a meeting of the council held on 12 December 2017 and ordered to come in to force on 12 December 2017.

The common seal of the Northland Regional Council was hereto affixed in the presence of:



Bill Shepherd  
**Chairman**



Malcolm Nicolson  
**Chief Executive Officer**



## Karakia (Prayer)

Tēnei au Tēnei au  
Tēnei au te hōkai nei o taku tapuwae  
Ko te hōkai nuku ko te hōkai rangi  
Ko te hōkai a tō tupuna a Tānenui-a-rangi  
Ka pikitia ai ki te rangi tūhāhā ki te Tihi-o-Manono  
Ka rokohina atu rā ko Te Matua-kore anake  
Ka tīkina mai ngā kete o te wānanga  
Ko te kete-tuauri  
Ko te kete-tuatea  
Ko te kete-arōnui  
Ka tiritiria ka poupoua  
Ka puta mai iho ko te ira tangata  
Ki te whei ao ki te ao mārama

Tihei-mauri ora!

Here am I, here am I  
here am I swiftly moving by  
the power of my karakia for swift movement  
Swiftly moving over the earth  
Swiftly moving through the heavens  
the swift movement of your ancestor  
Tane-nui-a-rangi  
who climbed up  
to the isolated realms  
to the summit of Manono  
and there found  
lo-the-Parentless alone  
He brought back down  
the Baskets of Knowledge  
the Basket called Tuauri  
the Basket called Tuatea  
the Basket called Aronui.  
Portioned out, planted  
in Mother Earth  
the life principle of humankind  
comes forth into the dawn  
into the world of light

I sneeze, there is life!

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## Mihi whakatau (Introductory welcome)

Ka hoki ki te tīmatanga, ko te pū, ko te weu, ko te more, ko te aka.

E takoto mai ngā atua nei ko Ranginui ko Papatūānuku, kei waenganui tonu ā rāua tamariki e noho ana, e whakaora tonu ana. Tēnei te hono hei tūhono i a tātou, kia tūhono, kia tūtaki, kia whiti te noho tahi e, Tihei mauri ora!

Ō tātou mate tuatini, i takoto mai ai i roto i te kōpū o te whenua, e tika ana hei poroporoaki i a rātou. āpiti hono, tātai hono, te hunga mate ki te whenua; āpiti hono, tātai hono ko te whenua ki te hunga ora.

E ngā iwi, e ngā mana, ka huri ngā mihi ki a koutou. Ahakoa te kaupapa taiao, te kaha ki te kōrero tahi me te mahi tahi, kāore he hua i tua atu i raro i te kaupapa whakakore rawāho kino.

Te tiaki i ngā āhuatanga katoa o te tangata me te taiao kia āhei ai te tokorua te puāwai tahi mo ake tonu atu.

Kei roto i tenei whakatauaki "Ka tipu ake ka puawai i te taiao ma nga tangata katoa ki nga ra kei te heke mai".

Tena koutou, tena koutou, tena tatou katoa.

We return to the beginning, where life itself began, and, like the development cycle of a plant, earth transformed itself into various stages of evolution.

Papatuanuku and Ranginui lay together with their children, and today continue to dwell and sustain all people. This relationship joins people and the land, it binds us and it joins us so that our co-existence will flourish. Long live this life force!

Our many deceased who lie in the belly of the land, it is right that they be appropriately eulogised. Let the deceased then be united with the earth below. So, too, let us, the living, be united with the land above.

All peoples, all authorities, our acknowledgement goes out to you.

There are many environmental issues to be balanced, there is therefore no greater asset and benefit to the environment than being able to talk and work together on pest management.

Through looking after the needs of the environment and people, the two will continue to flourish and sustain each other.

To end with "If people are immersed and nourished in the environment, they will ensure its survival".

Greetings to you, greetings to us all.

# Contents

1 INTRODUCTION   TĪMATATANGA KŌRERO	3
2 PLANNING AND STATUTORY BACKGROUND   WHAKATAKA MAHERE ME TE TURE	5
3 RESPONSIBILITIES AND OBLIGATIONS   TAKOHANGA ME NGĀ HERENGA	9
4 ORGANISMS DECLARED AS PESTS   RAUPORI E TAUĀKĪ NGĀRARA	11
5 PROGRAMMES AND ATTRIBUTES   NGĀ KAUPAPA ME NGĀ AHUA	18
6 PLANTS   NGĀ TARUTARU	22
6.1 Exclusion plants	23
6.2 Eradication plants	27
6.3 Progressive containment plants	36
6.4 Sustained control plants	48
6.4.1 (a) Plants banned from sale and distribution	55
6.4.2 (b) Road and rail	60
7 ANIMALS   NGĀ KARAREHE	62
7.1 Exclusion animals	63
7.2 Eradication animals	67
7.3 Sustained control animals	69

8 DISEASES AND PATHOGENS   NGĀ MATE URUTĀME NGĀ TUKU MATE	75
8.1 Sustained control diseases	76
9 FRESHWATER   WAI MĀORI	79
9.1 Exclusion freshwater pests	80
9.2 Eradication freshwater pests	82
9.3 Progressive containment freshwater pests	87
9.4 Sustained control freshwater pests	97
10 MARINE   WAI MOANA	100
10.1 Marine Pathway Plan	102
10.2 Sustained control marine pests	112
11 MONITORING   AROTURUKI	118
12 POWERS CONFERRED   NGĀ MANA I TUKU	119
13 FUNDING   PŪRANGA PUTEA	121
14 GLOSSARY   PAKAKUPU	122
APPENDIX 1   ĀPITI HANGA TUATAHI: NON-REGULATORY REGIONAL PEST METHODS	129
APPENDIX 2   ĀPITI HANGA TUARUA: MARINE PATHWAY PLAN DESIGNATED PLACES COORDINATES	135
APPENDIX 3   ĀPITI HANGA TUATORU: KAURI DIEBACK MANAGEMENT PLAN MINIMUM CRITERIA	137

# 1 Introduction

## | Tīmatatanga kōrero

The primary mechanisms available to regional councils for controlling pests are regional pest management plans, which place rules on pest species or sites, and regional pathway management plans, which manage the vectors of pests. These plans are developed under the Biosecurity Act 1993 (the Act) and regional councils are the agencies responsible for processing and approving the plans. While regional councils have no statutory obligation to undertake pest management, most have significant roles in this field. The Biosecurity Act 1993 prescribes the process to be followed in the preparation, subsequent implementation and review of pest and pathway management plans. The following plans aim to reduce the damaging impacts of priority pests on Northland's environment, economy and culture.

### 1.1 Purpose

Many organisms in Northland are considered undesirable or a nuisance. The Act has set criteria that must be met to justify regional intervention in managing such organisms.

The Northland Regional Pest and Marine Pathway Management Plan (the Plan) is a combined plan containing the:

- Pest Plan, which is a plan for the eradication or effective management of specified pest species or groups of pests, and
- Marine Pathway Plan, which is a plan for the prevention or management of the spread of harmful marine organisms via boat hull fouling within Northland coastal waters.

The purpose of this combined plan is therefore to outline the framework to efficiently and effectively manage or eradicate specified organisms and/or marine pest pathways in Northland. 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.

The pest management plan and marine pathway plan are designed to work together to achieve mutual impact. By presenting these as one physical document - the Plan - it is anticipated that they will be integrated and their implementation coordinated.

The Biosecurity Act 1993 (the Act) has prerequisite criteria that must be met to justify such intervention. The Plan identifies those organisms classified as pests and marine pathways to be managed through the Plan.

Once operative, the Plan will empower the council to exercise the relevant advisory, service delivery, regulatory and funding provisions available under the Act to deliver the specific objectives identified in this Plan.

### 1.2 Coverage

The Pest Plan will operate within Northland, which covers a total area (land and sea) of 3,008,425 hectares, as shown in Figure 1.1 'Map of Northland.' This includes the land area, surface water bodies (rivers, lakes and streams) and coastal waters. The Marine Pathway Plan will operate within the Northland coastal marine area only, which is defined as the area around Northland's coast from Mean High Water Springs (MHWS) to the 12 nautical mile (22.3 kilometre) limit of New Zealand's territorial sea.

### 1.3 Duration

The Pest Management Plan will take effect on the 12 December 2017 under Section 77(5) of the Act.

*The Marine Pathway Management Plan (Section 10.1) will take effect under Section 97(5) of the Biosecurity Act 1993 from 1 July 2018.*

*The Pest Management Plan provisions relating to Kauri Dieback (Section 8) will take effect under Section 77(5) of the Biosecurity Act 1993 from 1 July 2018.*

Both plans will be referred to as the Northland Regional Pest and Marine Pathway Management Plan (the Plan) and will remain in force for 10 years from their date of effect. The Plan may cease at an earlier date if the council declares by public notice that the Plan has achieved its purpose. It may also cease at an earlier date if, following a review, it is revoked.



Figure 1.1 Map of Northland.

## 1.4 Plan review

Council may review the Northland Regional Pest and Marine Pathway Management Plan (the Plan) or any part of it if it believes circumstances or management objectives have changed sufficiently. However, where the Plan has been in force for ten years or more and the Plan has not been reviewed within the last ten years, then council must review the Plan. A review may also be necessary if council or the Environment Court considers the Plan is inconsistent with any requirements of an operative National Policy Direction (NPD).

Council can make minor amendments to the Plan without needing a review. Any minor amendment;

- i. must not significantly affect any person's rights and obligations; and
- ii. must not be inconsistent with the NPD.

A review may result in no change to the Plan, or may extend its duration.



# 2 Planning and statutory background | Whakataka mahere me te ture

## 2.1 Regional leadership

Northland Regional Council is involved in pest management to promote the social, economic, environmental and cultural wellbeing of communities in the present and for the future; and to reflect regional variations in pests, pathways and environments. Regional councils also carry out devolved functions where they are best placed to achieve national outcomes, and are the management agency responsible for implementing regional pest management and pathway management plans.

The Northland Regional Pest and Marine Pathway Management Plan 2017-2027 is one component of the council's biosecurity activities. Outside these plans, the council works closely with communities, landowners/occupiers, tangata whenua and other agencies to achieve biosecurity and biodiversity outcomes.

More details about this work can be found in 'Appendix 1 | Āpitihanga tuatahi: Non-regulatory regional pest methods'.

## 2.2 Legislative background

The Biosecurity Act 1993 (the Act), the Resource Management Act 1991 (the RMA) and the Local Government Act 2002, provide a national framework for council's biosecurity activities. The Pest Plan and Marine Pathway Plan are the primary tools for managing pests in Northland. However, they sit within a biosecurity framework for the region which is supported by a number of other complementary policies and plans. Within the council, these policies and plans include the Regional Policy Statement and regional plans prepared under the Resource Management Act 1991.

### 2.2.1 Biosecurity Act 1993

The council can use the [Biosecurity Act 1993](#) (the Act) to exclude, eradicate or effectively manage pests in its region, including unwanted organisms. While regional councils have no statutory obligation to undertake pest management, most have significant leadership roles in this field. The Act prescribes the

process to be followed in the preparation, implementation and review of pest and pathway management plans.

This includes:

- Developing and aligning regional pest management plans and pathway management plans;
- Promoting public support for managing pests;
- Supporting those involved in managing pests to make programmes more effective and efficient;
- Helping to prevent, reduce or eliminate adverse effects from harmful organisms on land and people (including Māori, their kaitiakitanga and taonga);
- Undertaking surveillance and monitoring for pests, pest agents, and unwanted organisms;
- Declaring and implementing small-scale management programmes for the control or eradication of unwanted organisms that are not included in the Pest Management Plan;
- Gathering information, keeping records and undertaking research; and
- Addressing issues about who should pay for the cost of pest management.

### 2.2.2 Resource Management Act 1991

Regional councils have responsibilities under the [Resource Management Act 1991](#) (RMA) to sustainably manage the natural and physical resources of the region, including the Coastal Marine Area. These responsibilities include sustaining the potential of natural and physical resources, safeguarding life-supporting capacity and protecting environmentally-significant areas and habitats.

The RMA sets out the functions of regional councils in relation to the maintenance and enhancement of ecosystems, including:

- The coastal marine area;
- The control of actual or potential effects of use, development or protection of land; and
- The establishment, implementation and review of objectives, policies and methods for maintaining indigenous biological diversity.

The focus of the RMA is on managing adverse effects on the environment through regional policy statements, regional and district plans, and resource consents. The RMA, along with regional policies and plans, can be used to manage activities so that they do not create a biosecurity risk or those risks are minimised. While the Biosecurity Act is the main regulatory tool for managing pests, there are complementary powers within the RMA that can be used to ensure the problem is not exacerbated by activities regulated under the RMA.

The Biosecurity Act cannot over-ride any controls imposed under the RMA; for example, bypassing resource consent requirements.

### Regional Policy Statement for Northland

The Regional Policy Statement for Northland promotes the sustainable management of Northland's resources by providing an overview of resource management issues and setting out policies and methods to achieve integrated management of these. The stated issues, objectives, policies and methods include consideration of the effects of pests and pest management. The policy statement identifies key pressures on Northland's indigenous terrestrial, freshwater, and coastal marine ecosystems and species, including terrestrial, aquatic and marine pest species.

These issues are addressed by objectives, policies and methods that aim to safeguard Northland's ecological integrity by protecting significant indigenous biodiversity, and to maintain and enhance the region's indigenous ecosystems and habitats. The threat of pest species is acknowledged, as is the requirement for key regulatory methods to be included within regional and/or district plans in addition to support for voluntary pest management efforts. The regulatory methods include:

- Required provision within regional plans to control land or water use and development that could cause aquatic pest species to be released or otherwise spread;
- Required provision within district plans to control the introduction or keeping of species with recognised pest potential (that is, those listed within this Plan); and
- Required allowance within both regional and district plans for pest control activity in order to allow quicker responses to pest incursions and to reduce procedural costs for those responsible for undertaking pest management.

There is also a commitment to work with district councils, the Department of Conservation, iwi and affected landowners to establish priorities on indigenous biodiversity and pest control that enable coordinated and effective pest management in areas of significant indigenous vegetation and significant habitats of indigenous fauna.

### Regional plans

The regional plans prepared by the council contain objectives, policies and rules for managing resource management issues including plant and animal pest control. Currently these plans are the Regional Water and Soil Plan, the Regional Coastal Plan, and the Regional Air Quality Plan. These plans will be combined under the new Regional Plan for Northland which is due to be notified late 2017 and includes a number of new provisions relating to pest management.

These plans include rules on the use of pesticides and herbicides to ensure any associated adverse environmental effects are appropriately managed. The plans also include specific rules to help prevent the introduction of pest species and allow for their removal where they are found to occur.

These plans cover:

- The effects of land use activities on water and soil in Northland;
- The introduction or planting of aquatic pest species in the bed of lakes or rivers;
- The aerial application of pesticides and herbicides; and
- The introduction and spread of exotic species which represent a threat to significant marine indigenous vegetation (where practicable).

### 2.2.3 Local Government Act 2002

The purpose of the [Local Government Act 2002](#) is to provide a framework and powers for local authorities to decide how they will undertake their activities. The Local Government Act currently underpins the funding of biosecurity activities through the collection of both general and targeted rates.

Northland Regional Council is mandated under the Local Government Act to:

- Perform funding functions, such as rating; and
- Perform duties under Acts other than the Local Government Act.

While planning and delivering pest management objectives could fall within powers and duties under the Local Government Act, using legislation focused

on managing pests at the regional level (that is, the Biosecurity Act) is considered the most transparent and efficient approach.

### Long Term Plan 2015-2025

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.

The plan provides the necessary funding, via rates and user charges, for the operational and planning activities associated with pest management.

### 2.2.4 Other statutory requirements

Activities in implementing these plans must comply with other legislation. Other acts with relevant requirements include the [Wild Animal Control Act 1977](#), [Wild Animal Control Amendment Act 1997](#), [Wildlife Act 1953](#), [Reserves Act 1977](#) and the [Conservation Act 1987](#).

- The Wild Animal Control Act 1977 controls the hunting and release of wild animals and regulates deer farming and the operation of safari parks. It also gives local authorities the power to destroy wild animals under operational plans that have the Minister of Conservation's consent. Control of wild animals under this Pest Plan has this consent.
- The Wildlife Act 1953 controls and protects wildlife not subject to the Wild Animal Control Act 1977. It defines wildlife which is not protected (e.g. feral cattle, feral cats, feral dogs), and others which are considered game e.g. mallard ducks, black swan, and which are partially protected or injurious. It authorises that certain unprotected wildlife may be kept and bred in captivity even if they are declared pests under a pest management plan (e.g. stoat, weasel, polecat). The Director-General of Conservation must approve any plans to control injurious birds (e.g. rooks) and as yet there has been no such requirement to approve such plans within Northland.
- The role of regional councils under the Reserves Act 1977 and the Conservation Act 1987 is generally limited to advocacy.

### National Pest Plant Accord

The Regional Pest Management Strategies 2010-2015 included a number of pests that are also listed in the National Pest Plant Accord (pest plant accord). The pest plant accord is an agreement between the Nursery and Garden Industry Association, regional councils and government departments with biosecurity responsibilities. The goal of the pest plant accord is to stop the spread of pest plants through casual and nursery trade where distribution through either of those trades is the plant's primary distribution pathway (it is not intended as a wider means of pest management).

The Ministry for Primary Industries (MPI) is responsible for coordinating, developing and managing the accord. The pest plant accord includes approximately 150 plants. All of these plants are unwanted organisms and are banned from sale, propagation and distribution throughout New Zealand. Regional councils undertake regular surveillance to prevent their sale, propagation or distribution. The full list of species on the pest plant accord is available on MPI's website: [www.mpi.govt.nz](http://www.mpi.govt.nz). The council still regards these plants as pests, and they can still be part of a Biosecurity Partnerships programme.

The **statutory obligations** of any person under Sections 52 and 53 of the Act continue to apply. Those sections ban anyone from selling, propagating or distributing any unwanted organism. Not complying with Sections 52 and 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### 2.3 Relationship with other pest and pathway management plans

This plan must not be inconsistent with:

1. any national pest management or regional pest management plan that is focused on the same organism;
2. any regulation; or
3. any pathway management plan.

Northland Regional Council shares a boundary with Auckland Council. This is unique, particularly for marine management, in that the statutory management of the Kaipara Harbour is shared. It is in the interests of efficient and effective pest management that the pest management objectives between neighbouring councils are not inconsistent with each other. In developing this Plan, Northland Regional Council has given regard to the aims and objectives of the Auckland Council pest management

plan. The two councils have worked closely to identify approaches to managing pests common to both region's pest management plans.

Council is also aware of, and has given regard to, the control of unwanted organisms that are under the auspices of central government agencies, and will work with the Department of Conservation and the Ministry for Primary Industries to ensure the Pest Plan and Marine Pathway Plan are not inconsistent with their objectives for unwanted organisms.

**Note:**

The Act also requires (in Sections 70(2)(f) and 90(2)(e)) that if a plan would affect another pest management plan or pathway management plan, the plan must state how it is proposed to co-ordinate the implementation of the plans.

## 2.4 Relationship with Māori

One specific purpose of a regional pest management or pathway management plan under the Act is to provide for the protection of the relationship between Māori and their ancestral lands, waters, sites, wāhi tapu and taonga, and to protect those aspects from the adverse effects of pests. Māori involvement in biosecurity is an important part of exercising

kaitiakitanga. Māori also carry out significant pest management through their primary sector economic interests and as landowners and/or occupiers.

Council believes it is important to take into account management plans recognised by iwi authorities as repositories of Mātauranga Māori or traditional ecological knowledge. Mātauranga Māori is a central part of maintaining the mauri of indigenous habitats and biodiversity. The use of this traditional knowledge supports and contributes to Māori aspirations in managing the natural environment from a Māori world view. The council will work in partnership with tangata whenua to better manage the impacts of pests and, on request, will assist in the development of localised pest management plans with Māori. A case study highlighting such partnerships is included in [Appendices](#).

The Local Government Act requires council to recognise and respect the Crown's responsibilities under the Tiriti o Waitangi - [Treaty of Waitangi Act 1975](#). It also requires councils to maintain and improve opportunities for Māori to contribute to decision-making processes. This includes considering ways to help Māori to contribute. These responsibilities and requirements were met while preparing this Plan and will continue after it takes effect.





# 3 Responsibilities and obligations | Takohanga me ngā herenga

## 3.1 Management agency

Under Sections 73 and 93 of the Biosecurity Act 1993 (the 'Act'), regional pest management plans and pathway management plans (in this instance, the Marine Pathway Plan) are required to specify the management agency that will be responsible for implementing the plan.

Northland Regional Council is the management agency responsible for implementing this Plan. The council is satisfied that it meets the requirements of Section 100 of the Act for management agencies in that it:

- is accountable to the plan funders, including Crown agencies, through the requirements of the Local Government Act 2002;
- is acceptable to the funders and those persons subject to the plans' management provisions because it implemented previous Regional Pest Management Strategies; and
- has the capacity, competency and expertise to implement this Plan.

How the council will undertake its management responsibilities is set out in 12 'Powers conferred | Ngā mana i tuku' and 13 'Funding | Pūranga putea' within this Plan, and in council's operational plans.

## 3.2 Compensation and disposal of receipts

This Plan does not provide for compensation to be paid to any persons meeting their obligations under their implementation. However, should the disposal of a pest or associated organism provide any net proceeds, a person will be paid disbursement in the manner noted under Section 100I of the Act.

## 3.3 Responsibilities of owners and/or occupiers

A number of agencies and individuals have roles and responsibilities for pest management. These are generally set out in the Act. In addition to the regional council, the following parties also play a part in the management of pests in Northland:

- The public
- Individuals (including landowners, occupiers and those who occupy the Coastal Marine Area)
- The Crown
- Territorial local authorities
- Roading authorities
- Rail corridor occupiers.

Their roles are briefly explained below.

### Public

The general public has an interest in reducing the impacts of pests on Northland's social, economic, environmental and cultural wellbeing. Public awareness, behaviour, participation and support are fundamental to effective pest management. Ultimately, central and local government are accountable to local communities.

### Individuals (landowners/occupiers)

Pest management is an individual's responsibility in the first instance because generally occupiers contribute to the pest problem and, in turn, benefit from the control of pests. The term occupier has a wide definition under the Act and includes:

- the person who physically occupies the place; and
- the owner of the place; and
- any agent, employee, or other person acting or apparently acting in the general management or control of the place.

Under the Act, place includes: any building, conveyance, craft, land or structure and the bed and waters of the sea and any canal, lake, pond, river or stream.



Owners and/or occupiers must manage pest populations at or below levels specified in the rules. If they fail to meet the rules' requirements, they may face legal action. In some instances, owners and/or occupiers must report pests to the regional council. They must never sell, propagate, distribute or keep pests.

An owner and/or occupier cannot stop an authorised person from entering a place, at any reasonable time, to:

- find out whether pests are on the property;
- manage pests; or
- ensure the owner and/or occupier is complying with biosecurity law.

While the owner and/or occupier may choose the methods they will use to control any pests, they must also comply with the requirements under other legislation (for example, the RMA and/or the [Hazardous Substances and New Organisms Act 1996](#)).

This Plan treats all private land equitably and emphasises the responsibilities and obligations of all landowners and/or occupiers, including Māori. Council acknowledges the complex and variable relationships of Māori land ownership and occupation. This includes multiple owners (including lessees) or a range of corporate management systems under the [Companies Act 1993](#) or [Te Ture Māori Whenua Act 1993](#). Where owners and/or occupiers are unknown, the Māori Land Court or the Registrar of Companies may help to identify and communicate with them. Within Northland, the approximate area of land under multiple ownership is unknown. This is significant to the regional interest if the proposed plan is implemented; or, conversely, is a risk if communicating with owners and/or occupiers about their obligations and responsibilities in this Plan is an issue.

### 3.4 Crown agencies

The Crown has an interest in protecting the national interest and ensuring the pest management system is equitable, efficient and achieves the best overall outcomes for New Zealand and under the Treaty of Waitangi and international treaties. The Crown is also a landowner and protects the public's interest in the land of the Crown, including land managed by the Department of Conservation.

## 3.5 Territorial local authorities

There are three territorial authorities in Northland:

- Far North District Council;
- Kaipara District Council; and
- Whangarei District Council.

Each territorial authority will be bound by the rules in these plans. Territorial local authorities are required to control pests on land that they occupy in accordance with the rules of this Plan. Each territorial local authority must meet the costs of complying with this Plan. Where relevant, the regional council believes there is benefit in developing operational plans with territorial local authorities to limit the spread of pests and facilitate effective pest management.

## 3.6 Road reserves

Road reserves include the land on which the formed road lies and the verge area that extends to adjacent property boundaries. The Act allows the option of making either roading authorities (New Zealand Transport Agency and district/city councils) or adjoining land occupiers responsible for pest management in road reserves (see Section 6(1) of the Act).

The territorial local authorities are the roading authorities for local roads, and the New Zealand Transport Agency (NZTA) is the roading authority for State Highways. NZTA is a statutory entity and a crown agent under Section 7 and Schedule 1 of the Crown Entities Act 2004 and therefore a crown entity. As a crown entity, NZTA is subject to provisions applicable to land occupiers for the purposes of obligations for pest control on road reserves or verges in terms of the Act (as described in Part Two of this plan). Accordingly, the NZTA has the same obligations as any other land occupier.

## 3.7 Rail

KiwiRail is deemed not to be the Crown for the purposes of the Act and comes within the definition of an occupier of that land under the Act. Accordingly, it has obligations and responsibilities for pest management on the land that it occupies, equal to those of other land occupiers. KiwiRail and the regional council have signed a Memorandum of Understanding to describe their mutual obligations and expectations.

# 4 Organisms declared as pests | Raupori e tauākī ngārara

The organisms listed in Table 4.1 'Organisms classified as pests' are classified as pests. The table also indicates what management programme or programmes will apply to the pest and if a Good Neighbour Rule applies.

Attention is also drawn to the **statutory obligations** of any person under Sections 52 and 53 of the Biosecurity Act 1993 (the 'Act'). Those sections ban anyone from selling, propagating, breeding or distributing any pest, or part of a pest, covered by the Pest Plan. These sections also relate to unwanted organisms, whether or not they are in a plan. Non-compliance with Sections 52 and 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

Common name	Scientific name	Programme	Page
African feather grass	<i>Cenchrus macrourus</i>	Progressive Containment Plants	Page 37
Agapanthus**	<i>Agapanthus praecox</i>	Sustained Control Plants	Page 56
Akebia	<i>Akebia quinata</i>	Eradication Plants	Page 28
Argentine ant	<i>Linepithema humile</i>	Sustained Control Animals	Page 70
Asian paddle crab	<i>Charybdis japonica</i>	Sustained Control Marine	Page 114
Asiatic knotweed	<i>Fallopia japonica</i>	Exclusion Plants	Page 24
Australian droplet tunicate	<i>Eudistoma elongatum</i>	Sustained Control Marine	Page 114
Balloon vine	<i>Cardiospermum grandiflorum</i>	Eradication Plants	Page 28
Bathurst bur	<i>Xanthium spinosum</i>	Sustained Control Plants	Page 49
Bat-wing passion flower	<i>Passiflora apetala</i>	Eradication Plants	Page 28
Bearded dragon	<i>Amphibolurus barbatus</i>	Exclusion Animals	Page 64
Big-headed ant	<i>Pheidole megacephala</i>	Exclusion Animals	Page 64
Black-eyed Susan	<i>Thunbergia alata</i>	Sustained Control Plants	Page 56

Common name	Scientific name	Programme	Page
Blue-tongued skink	<i>Tiliqua nigrolutea</i> , <i>T. scincoides</i>	Exclusion Animals	Page 64
Brazilian pepper tree	<i>Schinus terebinthifolius</i>	Sustained Control Plants	Page 49
Broom	<i>Cytisus scorparius</i>	Sustained Control Plants	Page 56
Brown bullhead catfish	<i>Ameiurus nebulosus</i>	Sustained Control Freshwater	Page 99
Brush wattle	<i>Paraserianthes lophantha</i>	Sustained Control Plants	Page 56
Buddleia	<i>Buddleja davidii</i>	Sustained Control Plants	Page 56
Camphor laurel	<i>Cinnamomum camphora</i>	Sustained Control Plants	Page 56
Cape honey flower	<i>Melianthus major</i>	Sustained Control Plants	Page 56
Cape ivy	<i>Senecio angulatus</i>	Sustained Control Plants	Page 56
Cape tulip	<i>Moraea flaccida</i>	Eradication Plants	Page 28
Cathedral bells	<i>Cobaea scandens</i>	Eradication Plants	Page 29
Cats - feral and stray	<i>Felis catus</i>	Sustained Control Animals	Page 70
Century plant	<i>Agave americana</i>	Sustained Control Plants	Page 56
Chilean rhubarb	<i>Gunnera tinctoria</i>	Eradication Plants	Page 29
Chinese knotweed	<i>Persicaria chinensis</i>	Exclusion Plants	Page 24
Climbing spindle berry	<i>Celastrus orbiculatus</i>	Exclusion Plants	Page 24
Coastal banksia	<i>Banksia integrifolia</i>	Sustained Control Plants	Page 57
Cotoneaster	<i>Cotoneaster glaucophyllus</i> , <i>C. franchetii</i>	Sustained Control Plants	Page 57
Darwins ants	<i>Doleromyrma darwiniana</i>	Sustained Control Animal	Page 70
Deer - feral	<i>Cervus</i> , <i>Dama</i> , & <i>Odocoileus</i> <i>spp.</i> & <i>hybrids</i>	Eradication Animals	Page 68
Eastern water dragon	<i>Intellagama lesueurii lesueurii</i>	Eradication Freshwater	Page 83

Common name	Scientific name	Programme	Page
Eel grass	<i>Vallisneria australis</i>	Eradication Freshwater	Page 83
Eleagnus	<i>Eleagnus x reflexa</i>	Sustained Control Plants	Page 57
Elephant's ear	<i>Alocasia brisbanensis</i>	Sustained Control Plants	Page 57
English ivy	<i>Hedera helix</i>	Sustained Control Plants	Page 57
Evergreen buckthorn	<i>Rhamnus alaternus</i>	Eradication Plants	Page 32
Field horsetail	<i>Equisetum arvense</i>	Eradication Plants	Page 32
Firethorn	<i>Pyracantha angustifolia</i>	Eradication Plants	Page 32
Furcraea	<i>Furcraea spp.</i>	Sustained Control Plants	Page 57
German ivy	<i>Delairea odorata</i>	Sustained Control Plants	Page 57
Giant hogweed	<i>Heracleum mantegazzianum</i>	Exclusion Plants	Page 24
Giant knotweed	<i>Fallopia sachalinensis</i>	Exclusion plants	Page 24
Goat - feral	<i>Capra hircus</i>	Sustained Control Animals	Page 71
Gorse*	<i>Ulex spp.</i>	Sustained Control Plants	Page 50
Gravel groundsel*	<i>Senecio skirrhodon</i>	Sustained Control Plants	Page 50
Greater bindweed	<i>Calystegia silvatica</i>	Sustained Control Plants	Page 57
Gypsywort	<i>Lycopus europaeus</i>	Eradication Plants	Page 32
Hakea	<i>Hakea spp.</i>	Sustained Control Plants	Page 58
Himalayan fairy grass	<i>Miscanthus nepalensis</i>	Sustained Control Plants	Page 58
Himalayan honeysuckle	<i>Leycesteria formosa</i>	Sustained Control Plants	Page 58
Holly-leaved senecio	<i>Senecio glastifolius</i>	Exclusion Plants	Page 25
Houttuynia	<i>Houttuynia cordata</i>	Exclusion Plants	Page 25

Common name	Scientific name	Programme	Page
Indian ring-necked parakeet	<i>Psittacula krameri</i>	Exclusion Animals	Page 65
Japanese mantis shrimp	<i>Oratosquilla oratoria</i>	Sustained Control Marine	Page 115
Jasmine	<i>Jasminum polyanthum</i>	Sustained Control Plants	Page 58
Kangaroo acacia	<i>Acacia paradoxa</i>	Sustained Control Plants	Page 58
Kauri dieback	<i>Phytophthora agathidicida</i>	Sustained Control Diseases	Page 78
Koi carp	<i>Cyprinus carpio</i>	Progressive Containment Freshwater	Page 88
Lantana	<i>Lantana camara</i>	Progressive Containment Plants	Page 39
Lesser knotweed	<i>Aconogonon campanulatum</i>	Eradication Plants	Page 33
Lily of the valley vine	<i>Salpichroa organifolia</i>	Sustained Control Plants	Page 58
Manchurian wild rice	<i>Zizania latifolia</i>	Progressive Containment Plants	Page 42
Marshwort	<i>Nymphoides geminata</i>	Exclusion Freshwater	Page 81
Mediterranean fanworm	<i>Sabella spallanzanii</i>	Sustained Control Marine	Page 116
Mexican feather grass	<i>Nassella tenuissima</i>	Eradication Plants	Page 33
Mickey Mouse plant	<i>Ochna serrulata</i>	Eradication Plants	Page 33
Mile-a-minute	<i>Dipogon lignosus</i>	Progressive Containment Plants	Page 44
Monkey musk	<i>Erythranthe guttata</i>	Eradication Freshwater	Page 33
Mustelids	<i>Mustela furo</i> , <i>M.erminea</i> & <i>M.nivalis vulgaris</i>	Sustained Control Animals	Page 73
Nardoo	<i>Marsilea mutica</i>	Eradication Freshwater	Page 84
Nassella tussock	<i>Nassella trichotoma</i>	Eradication Plants	Page 34



Common name	Scientific name	Programme	Page
Noogoora bur	<i>Xanthium strumarium</i>	Exclusion Plants	Page 25
Nutgrass	<i>Cyperus rotundus</i>	Eradication Plants	Page 34
Old man's beard	<i>Clematis vitalba</i>	Exclusion Plants	Page 25
Orfe	<i>Leuciscus idus</i>	Exclusion Freshwater	Page 81
Oxylobium	<i>Callistachys lanceolata</i>	Sustained Control Plants	Page 58
Paperbark poplar	<i>Melaleuca quinquinervia</i>	Sustained Control Plants	Page 58
Perch	<i>Perca fluviatilis</i>	Progressive Containment Freshwater	Page 92
Periwinkle	<i>Vinca major</i>	Sustained Control Plants	Page 58
Phoenix palm	<i>Phoenix canariensis</i>	Sustained Control Plants	Page 51
Phragmites	<i>Phragmites australis</i>	Exclusion Plants	Page 26
Pig - feral	<i>Sus scrofa</i>	Sustained Control Animals	Page 72
Possum	<i>Trichosurus vulpecula</i>	Sustained Control Animals	Page 73
Prickly moses	<i>Acacia verticillata</i> (A. v. subsp. <i>cephalantha</i> & A. v. subsp. <i>ruscifolia</i> )	Sustained Control Plants	Page 59
Privet*	<i>Ligustrum spp.</i>	Sustained Control Plants	Page 51
Pultenaea	<i>Pultenaea daphnoides</i>	Progressive Containment Plants	Page 46
Purple loosestrife	<i>Lythrum salicaria</i>	Exclusion Plants	Page 26
Pyura sea squirt	<i>Pyura praepetualis</i> & <i>P. doppelgangera</i>	Sustained Control Marine	Page 116
Queen of the night	<i>Cestrum nocturnum</i>	Sustained Control Plants	Page 52
Rabbit	<i>Oryctolagus cuniculus cuniculus</i>	Sustained Control Animals	Page 74

Common name	Scientific name	Programme	Page
Rainbow lorikeet	<i>Trichoglossus haematodus</i>	Exclusion Animals	Page 65
Rat	<i>Rattus spp.</i>	Sustained Control Animals	Page 74
Red-eared slider turtle	<i>Trachemys scripta elegans</i>	Eradication Freshwater	Page 84
Rhus tree	<i>Toxicodendron succedaneum</i>	Sustained Control Plants	Page 52
Rook	<i>Corvus frugilegus</i>	Exclusion Animals	Page 66
Royal fern	<i>Osmunda regalis</i>	Eradication Plants	Page 34
Rudd	<i>Scardinius erythrophthalmus</i>	Sustained Control Freshwater	Page 99
Salvinia	<i>Salvinia molesta</i>	Eradication Freshwater	Page 85
Sea spurge	<i>Euphorbia paralias</i>	Exclusion Plants	Page 26
Senegal tea	<i>Gymnocoronis spilanthoides</i>	Eradication Freshwater	Page 26
Sexton's bride	<i>Rhaphiolepis umbellata</i>	Sustained Control Plants	Page 59
Sharp rush	<i>Juncus acutus</i>	Sustained Control Plants	Page 59
Snake-necked turtle	<i>Chelodina longicollis</i>	Eradication Freshwater	Page 85
Spartina	<i>Spartina alterniflora</i> , <i>S. anglica</i> & <i>S. townsendii</i>	Eradication Plants	Page 35
Styela sea squirt	<i>Styela clava</i>	Sustained Control Marine	Page 117
Sulphur-crested cockatoo	<i>Cacatus galerita</i>	Exclusion Animals	Page 66
Sycamore	<i>Acer pseudoplatanus</i>	Sustained Control Plants	Page 59
Sydney golden wattle	<i>Acacia longifolia</i>	Sustained Control Plants	Page 59
Taiwan cherry	<i>Prunus campanulata</i>	Sustained Control Plants	Page 59
Tench	<i>Tinca tinca</i>	Progressive Containment Freshwater	Page 95

Common name	Scientific name	Programme	Page
Undaria seaweed	<i>Undaria pinnatifida</i>	Sustained Control Marine	Page 117
Velvet groundsel	<i>Roldana petasitis</i>	Sustained Control Plants	Page 59
Velvetleaf	<i>Abutilon theophrasti</i>	Exclusion Plants	Page 26
Wallaby	<i>Macropus, Petrogale &amp; Wallabia spp.</i>	Exclusion Animals	Page 66
Water hyacinth	<i>Eichhornia crassipes</i>	Eradication Freshwater	Page 86
Water poppy	<i>Hydrocleys nymphoides</i>	Exclusion Freshwater	Page 81
Wild ginger*	<i>Hedychium flavescens &amp; H. gardnerianum</i>	Sustained Control Plants	Page 53
Wild kiwifruit	<i>Actinidia spp.</i>	Eradication Plants	Page 35
Wilding conifers*	<i>Pinus spp. &amp; Pseudotsuga menziesii.</i>	Sustained Control Plants	Page 53
Woolly nightshade	<i>Solanum mauritianum</i>	Sustained Control Plants	Page 54
Yellow flag iris	<i>Iris pseudacorus</i>	Eradication Plants	Page 35

Table 4.1 Organisms classified as pests

\* Good Neighbour Rules

\*\* Banning *Agapanthus praecox* from sale and distribution does not include sterile varieties.

# 5 Programmes and attributes | Ngā kaupapa me ngā ahua

## 5.1 Objectives

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

- the particular adverse effect(s) (Section 54(a) of the Act) to be addressed;
- the intermediate outcomes of managing the pest;

- the geographic area to which the objective applies;
- the level of outcome, if applicable;
- the period for achieving the outcome; and
- the intended outcome in the first 10 years of the Plan (if the period is greater than 10 years).

Table 5.1 'Example of programme objective' gives an example of an objective in each category.

Category	Objective
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.

Table 5.1 Example of programme objective

Classifying pests into categories makes it easier to understand the potential risks and impacts of those pests. The council has used an ‘invasion curve model’ to help classify pests and guide decision-making on pest management options.

### Invasion curve

The invasion curve is a simple descriptive model (derived from Williams, 1997) that demonstrates basic pest population dynamics and can be used to help guide strategy objectives and management programmes for individual pests. There is a strong relationship between where a pest sits on the invasion curve and the likelihood of controlling it. The invasion curve has four stages which can be explained as follows:

1. **Absent:** These pests have not yet established in Northland, or all known sites have been eradicated.

The most effective form of management is to continue to exclude them.

2. **Lag stage:** This is the initial slow establishment stage. Pest numbers are low, the rate of population increase is slow and distribution is limited. The most cost effective option during this stage may be eradication, to prevent further establishment.
3. **Explosion stage:** The explosion stage occurs once a pest has adapted to its environment and has reached a population base that allows rapid growth in population size and range. At this stage it is not realistic or cost effective to eradicate the pest, but it may be possible to prevent further spread through containment.
4. **Established stage:** This stage occurs when the rapid growth in population size and range slows as the pest fills most of its available habitat. At this stage, pests can only be suppressed to mitigate their impacts.

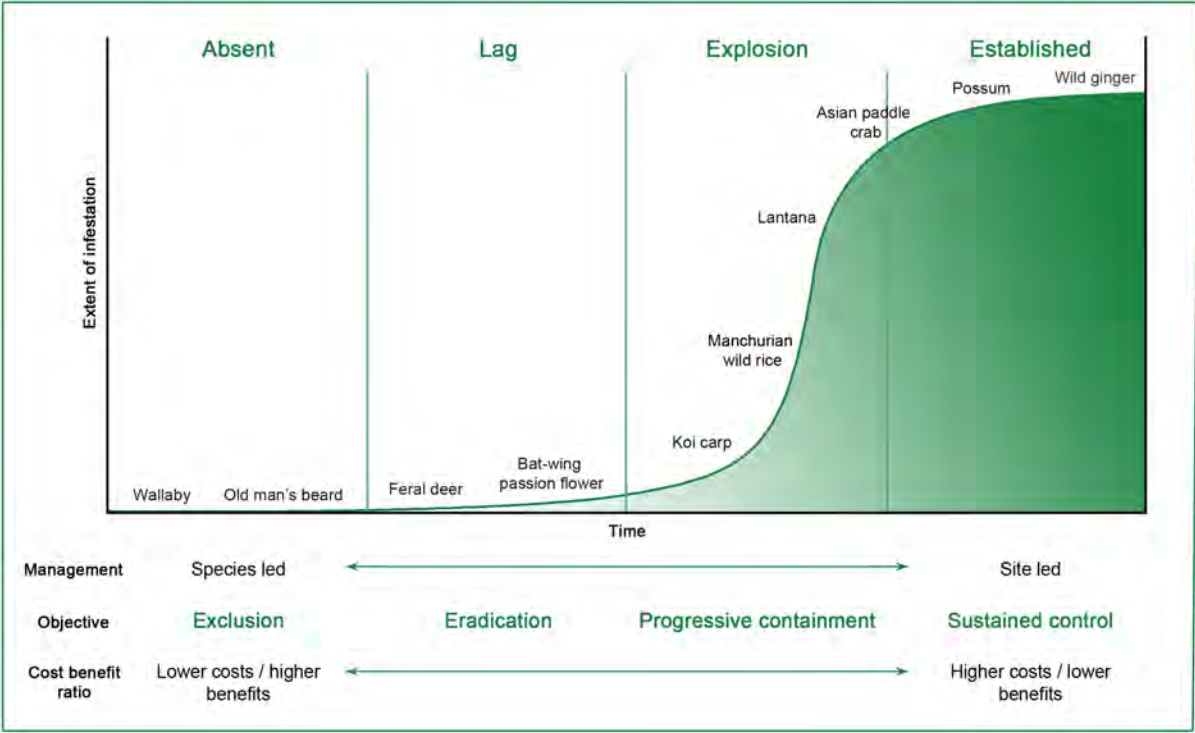


Figure 5.1 Invasion curve graph



## 5.2 Pest management programmes

One or more pest management programmes will be used to control pests and any other organisms covered by the Pest Plan. The types of programme are defined by the National Policy Direction and reflect outcomes in keeping with:

- the extent of the invasion; and
- whether it is possible to achieve the desired control levels for the pests.

The intermediate outcomes for four programmes are described below.

- **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.
- **Eradication Programme:** to reduce the infestation level of the subject, or an organism being spread by the subject, to zero levels in an area in the short to medium term.
- **Progressive Containment Programme:** to contain or reduce the geographic distribution of the subject, or an organism being spread by the subject, to an area over time.
- **Sustained Control Programme:** to provide for ongoing control of the subject, or an organism being spread by the subject, to reduce its impacts on values and spread to other properties.

## 5.3 Vector Management: Pathway Management Plan

The Marine Pathway Plan will be used to control the spread and transfer of marine pests. This type of programme is defined by the National Policy Direction.

The intermediate outcome for the programme is to:

- Reduce the spread of harmful marine organisms to and within Northland for the duration of the plan.

## 5.4 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.

## 5.5 Rules

Rules play an integral role in securing many of the pest management outcomes sought by this Plan. They create a safety net to protect owners and/or occupiers from the effects of the actions or inactions of others where non-regulatory means are inappropriate or do not succeed. Importantly, amendments to the Act arising from the [Biosecurity Law Reform Act 2012](#) now make the Crown bound by those rules identified as Good Neighbour Rules in pest management plans.

Section 73(5) of the Act prescribes the matters that may be addressed by rules, and the need to:

- specify if the rule is to be designated as a Good Neighbour Rule;
- specify if breaching the rule is an offence under the Act;
- specify if an exemption to the rule, or any part of it, is allowable or not; and
- explain the purpose of the rule.

Section 93(5) of the Act prescribes the matters that may be addressed by pathway plan rules.

Rules can apply to owners and/or occupiers or to a person's actions in general.

The National Policy Direction and accompanying guidance notes provide extra requirements to include in the rules of a new Good Neighbour Rule. Of particular note, the Good Neighbour Rule will:

- identify who the Good Neighbour Rule applies to
  - either all owners and/or occupiers, or a specified class of owner and/or occupier;
- identify the pest to be managed;
- state that the pest must already be present on the owner's and/or occupier's land;
- state that the owner and/or occupier of the adjacent or nearby land must, in the view of the

management agency, be taking reasonable measures to manage the pest on their land; and

- (if relevant) state the particular values or uses of the neighbouring land that the pest's spread affects, and that the Good Neighbour Rule is intended to address.

An example of a **Good Neighbour Rule** concerning owners and/or occupiers of land follows.

### Example rule

Land occupiers within Northland shall destroy all wild ginger within 10 metres of an adjacent property, where the adjacent or nearby land occupier is taking reasonable measures to manage wild ginger or its impacts on pastoral production or environmental values. This Good Neighbour Rule will be enforced on receipt of a complaint from a directly affected land occupier.

An example of a **Pest Plan** rule that refers to owners and/or occupiers of land follows.

### Example rule

No person shall keep in captivity or farm goats within one kilometre of the boundaries of areas of regionally significant indigenous habitat identified on maps held by Northland Regional Council (Figure 7.1 'Restricted goat farming areas').

*"A breach of this rule will create an offence under section 154N(19) of the Act."*

### Example exemption to rule

Goats may be kept within these areas subject to conditions stated in an exemption issued by the Northland Regional Council.

# 6 Plants | Ngā tarutaru

Pest plants threaten native forest, wetlands, lakes and production land across Northland, preventing seedling regeneration and invading pasture, wetlands and native forests. Many species have seeds that last years in the soil, requiring extensive monitoring and surveillance programmes. Northland's warm and wet climate favours the establishment of pest plants and their spread is aided by wind, water, rhizome creep, fragments, birds, animals and humans. Many of these plants are also extraordinarily hardy and difficult to control or eradicate.



*Image credit; K. Hansen*

# 6.1 Exclusion plants

Exclusion plants are potential pest plants which are not known to have established in Northland, or have previously established and have been eradicated. These pest plants all have the potential to establish here and are capable of causing adverse effects to the environmental, economic, social or cultural values of the region. The following information applies to all of the exclusion plants.

## Objective

For the duration of the Pest Plan, avoid impacts to biodiversity, cultural and economic values by preventing the establishment of exclusion plants in Northland.

## Aims

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

## Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute or otherwise spread any pest in this Plan, or any unwanted organism. Not complying with Sections 52 and 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

## Rules

### Rule 6.1.1

Every person who sees, or suspects the presence of any exclusion plant, shall immediately report the sighting to Northland Regional Council.

### Rule 6.1.2

No person shall possess any exclusion plant (including any seeds or live vegetation) within Northland.

*A breach of these rules will create an offence under Section 154 N(19) of the Act.*

## Principal measures

### *Requirement to act*

- People are required to report the presence or suspected presence of the exclusion plants and may not possess those pests.
- The purpose of the rules is to assist in preventing the exclusion plants from becoming established in Northland.

### *Council inspection*

- Council staff and/or their contractors will conduct searches in areas that are vulnerable to infestation by the exclusion plants.
- Council staff will undertake compliance activities when required, such as rule enforcement, action on default, prosecution and processing exemptions.

### *Service delivery*

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

### *Advocacy and education*

- Council will provide training to relevant council staff and stakeholders to help them identify exclusion plants and assist in early detection.
- Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of exclusion plants.



## Asiatic knotweed (*Fallopia japonica*) and Giant knotweed (*Fallopia sachalinensis*)

Also known as: Japanese knotweed, *Reynoutria japonica*, *Reynoutria sachalinensis*, *Polygonum sachalinense*.

These two species grow in shrubland and riparian areas. They can spread rapidly, forming dense stands and out-competing native species. Their tough shoots and roots can break through gravel, tarmac and even concrete. Asiatic knotweed has zig zag, red-purple shoots which appear early in spring and become green in summer. In late summer it produces masses of creamy white flowers. Giant knotweed looks similar but is taller.



Image credit; Weedbusters

## Chinese knotweed (*Persicaria chinensis*)

Chinese knotweed is a hardy, fast-growing weed that tolerates a wide range of conditions. It forms dense mats which suppress native plants, particularly along forest fringes. It can grow as a shrub up to one metre high or as a scrambling vine. The leaves are wavy-edged with a white v-shaped blotch, and the flowers are pink/cream.



Image credit; Vinayaraj

## Climbing spindle berry (*Celastrus orbiculatus*)

Climbing spindle berry is a deciduous climber mainly found in scrub, shrub-land and young forest. It grows up to 15 metres high, strangling and smothering vegetation as it climbs and causing tree canopies to collapse. It has serrated leaves and produces clusters of small green flowers. Yellow-orange capsules split open to reveal a scarlet fruit.



Image credit; David Smith

## Giant hogweed (*Heracleum mantegazzianum*)

Also known as: wild rhubarb, cartwheel flower, wild parsnip, cow parsnip.

Giant hogweed is a perennial herb that grows along the banks of rivers or streams. It grows up to six metres tall, and forms dense colonies that suppress the growth of native plants and grasses. When it dies down in winter it leaves bare banks liable to erosion or to invasion by other weeds. It is also poisonous to humans. It has large serrated leaves and produces large, umbrella-like clusters of greenish-white flowers.



Image credit; Terry English



## Holly-leaved senecio (*Senecio glastifolius*)

Also known as: pink ragwort.

Holly-leaved senecio is an erect perennial herb that mainly grows near the coast. It is an aggressive invader that is a threat to dune and coastal sites. This plant grows up to 1.5 metres high and has holly-like toothed leaves. Clusters of flowers occur in October, and are purple, mauve or pink. Holly-leaved senecio can be mistaken for purple groundsel, an introduced plant that grows in sand dunes.



Image credit; Tony Willis

## Houttuynia (*Houttuynia cordata*)

Also known as: chameleon plant, ground ivy.

Houttuynia is a dense groundcover that likes damp, shady sites in wetlands, gardens, riparian margins, forest, and shrubland. Its rampant growth can rapidly displace native plants in forest and wetland ecosystems. Its heart-shaped leaves are usually multi-coloured and, when crushed, they smell of pepper, coriander, or orange. Flowers are small and white and densely clustered on short spikes.

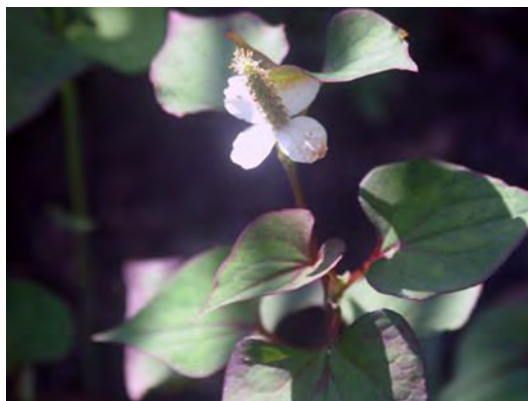


Image credit; Antonie van den Bos

## Noogoora bur (*Xanthium strumarium*)

Also known as: Noogoora bur, rough cockle bur.

Noogoora bur is a fast-growing summer annual that can reach heights of 2.5 metres. It favours fertile soils and is often found close to water. It contains chemicals that can impede the growth and germination of neighbouring plants. This fast-growing and highly competitive weed can cause significant losses in many crops. It has clusters of distinctive, egg-shaped burs that contain seeds.



Image credit; Karduelis

## Old man's beard (*Clematis vitalba*)

Also known as: traveller's joy.

Old man's beard is a deciduous climbing vine that grows up to 20m tall and likes plenty of light. It smothers and collapses even tall trees and can reduce a forest to an impenetrable, low-growing infestation of the vine. Fragrant, creamy-white flowers are produced from December to May, followed by dense, fluffy clusters of seeds. Currently, there are no known sites of old man's beard in Northland.



Image credit; Jolie Hazley, DOC

### Phragmites (*Phragmites australis*)

Phragmites is a perennial grass that grows up to three metres tall on water margins. It has bamboo-like stems, long, tapering leaves and large, fluffy, purplish flower heads. In its native range, phragmites forms dense patches on the edges of waterways and displaces native vegetation. It can block drainage channels, trap and accumulate sediment and exacerbate flooding.

Phragmites is a Notifiable Organism (Biosecurity (Notifiable Organisms) Order 2010) and is part of the National Interest Pests Response. Management of this pest plant is led by the Ministry for Primary Industries..



Image credit; NIWA

### Purple loosestrife (*Lythrum salicaria*)

Purple loosestrife is an erect, summer-green perennial herb that grows 1-2 metres tall. The woody stems are square in cross-section. From December to February it produces spikes of purple-magenta flowers. The flowers are followed by blackish seed capsules. Purple loosestrife is a highly aggressive invader of damp ground, wetlands and shallow water. It over-tops native species with its dense, bushy growth and is long-lived. It tolerates hot or cold conditions and low to high nutrient levels, but is intolerant of salt water.



Image credit; Garten Akedemie

### Sea spurge (*Euphorbia paralias*)

Sea spurge is a fleshy, bluish-grey/green coastal plant. It forms dense infestations in open sand areas which can alter the natural movement of sand and displace native species. It grows up to 70 centimetres tall and produces a cluster of cup-shaped flower heads on a stalk. Stems contain a milky sap that is toxic to people and animals. Capsule-like fruit produces large buoyant seeds that can be carried vast distances by ocean currents.



Image credit; Frank Vincentz

### Velvetleaf (*Abutilon theophrasti*)

Velvetleaf is a summer-growing annual plant that can grow up to 1.5 metres tall or more. In countries where it has been introduced it affects many arable crops by competing for nutrients, space and water. It also produces chemicals that inhibit the germination and growth of other species. It has large, velvety heart-shaped leaves, small yellow-orange flowers and distinctive black seed pods.



Image credit; Salicyna



## 6.2 Eradication plants

Eradication plants 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.

### Objective

For the duration of the Pest Plan, reduce impacts to biodiversity, cultural and economic values by eradicating identified pests in Northland.

### Aims

- Eradication plants will be controlled to zero-density in Northland by 2027.
- A prompt response with appropriate funding will be initiated to control or manage infestations in Northland.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute, release or otherwise spread any pest in this Plan, or any unwanted organism. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Rules

#### Rule 6.2.1

Every person who sees, or suspects the presence of, any eradication plant shall immediately report the sighting to Northland Regional Council.

#### Rule 6.2.2

No person shall possess any eradication plant (including any seeds or live vegetation) within Northland.

*A breach of these rules will result in an offence under Section 154 N(19) of the Act.*

### Principal measures

#### *Requirement to act*

- People are required to report the presence or suspected presence of eradication plants and may not possess the pests.
- The purpose of the rules is to assist in preventing eradication plants from spreading in Northland.

#### *Council inspection*

- Council staff and/or their contractors will conduct searches in areas that are vulnerable to infestation by eradication plants.
- Council staff will undertake compliance activities when required, such as rule enforcement, action on default, prosecution and processing exemptions.

#### *Service delivery*

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

#### *Advocacy and education*

- Council will provide training to relevant council staff and stakeholders to help them identify eradication plants and assist in early detection.
- Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of eradication plants.

## Akebia (*Akebia quinata*)

Also known as: chocolate vine, five-leaved akebia.

Akebia is a twining vine or ground cover found in open to semi-shaded sites along forest edges or road sides. It grows rapidly, forming dense patches that out-compete and kill ground cover, shrubs and young trees. From August to October it has chocolate/purple-coloured flowers, which smell like chocolate or vanilla. Fruit are purple-violet, sausage-shaped pods.



Image credit; Liz Sherwood, DOC

## Balloon vine (*Cardiospermum grandiflorum*)

Balloon vine is a vigorous climbing vine which prefers moist areas along river edges, forest margins and road edges. It can climb up into trees or spread at ground level, blanketing other vegetation. The vine may change the ecology of an area and inhibit re-colonisation by native species. It has fragrant white flowers and its balloon-like seed pods are light green or straw-coloured and papery in the autumn.



Image credit; Forest & Kim Starr

## Bat-wing passion flower (*Passiflora apetala*)

Bat-wing passionflower is a shade-tolerant vine that can grow in a variety of locations. It is very invasive, and can smother, shade and strangle the vegetation it grows on. It has distinctive bat-wing shaped leaves, small yellow or light-green coloured flowers and produces small black berries. Infestations are known to exist in and around Kerikeri, Kaitiā, Mangonui, Waikare Inlet, Kamo, and Whau Valley.



Image credit; Paola Carrera

## Cape tulip (*Moraea flaccida*)

Also known as: *Moraea collina*, *Homeria collina*.

Cape tulip is a perennial herb that grows best in open environments, such as grasslands and pasture. It has the potential to establish dense colonies over wide areas of pasture, and could have a serious economic impact on agriculture if widely established. It produces shoots in winter, and dies back in early summer. Flowers are six-petaled and usually salmon-pink.

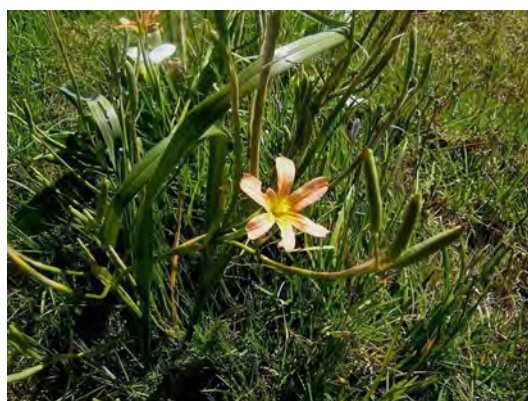


Image credit; Andrew Massyn

### Cathedral bells (*Cobaea scandens*)

Cathedral bells is a fast-growing evergreen vine that can grow to six metres tall. It climbs over trees and shrubs, forming a dense canopy that smothers them. It usually has three pairs of oval leaflets with twining tendrils growing from the midrib, and green bell-shaped flowers turn purple as they mature. Its 'fruit' are hard, oval capsules that split to release numerous winged seeds.



### Chilean rhubarb (*Gunnera tinctoria*)

Chilean rhubarb is a giant, rhubarb-like herb with huge prickly leaves that can reach up to 2.5 metres tall. It likes damp sites on wetland and riparian margins, coastal cliffs, moist banks and disturbed sites. It produces abundant fruit, which are dispersed by birds, and forms dense patches that exclude virtually all other plants. In winter it dies back to large creeping stems and large, sausage-like flower spikes that are up to one metre tall. The spikes are covered in little flowers that are followed by tiny orange fruits.



Chilean rhubarb is an eradication plant within the mapped areas (Figure 6.1 and 6.2). The eradication plant rules apply in these mapped areas, but Sections 52 and 53 of the Biosecurity Act 1993 apply throughout Northland.

#### Exemption to rule 6.2.2

Chilean rhubarb plants may be kept outside the identified areas in Figure 6.1 'Chilean rhubarb eradication zones (1)' and Figure 6.2 'Chilean rhubarb eradication zones (2)'. However, Sections 52 and 53 of the Act still apply.



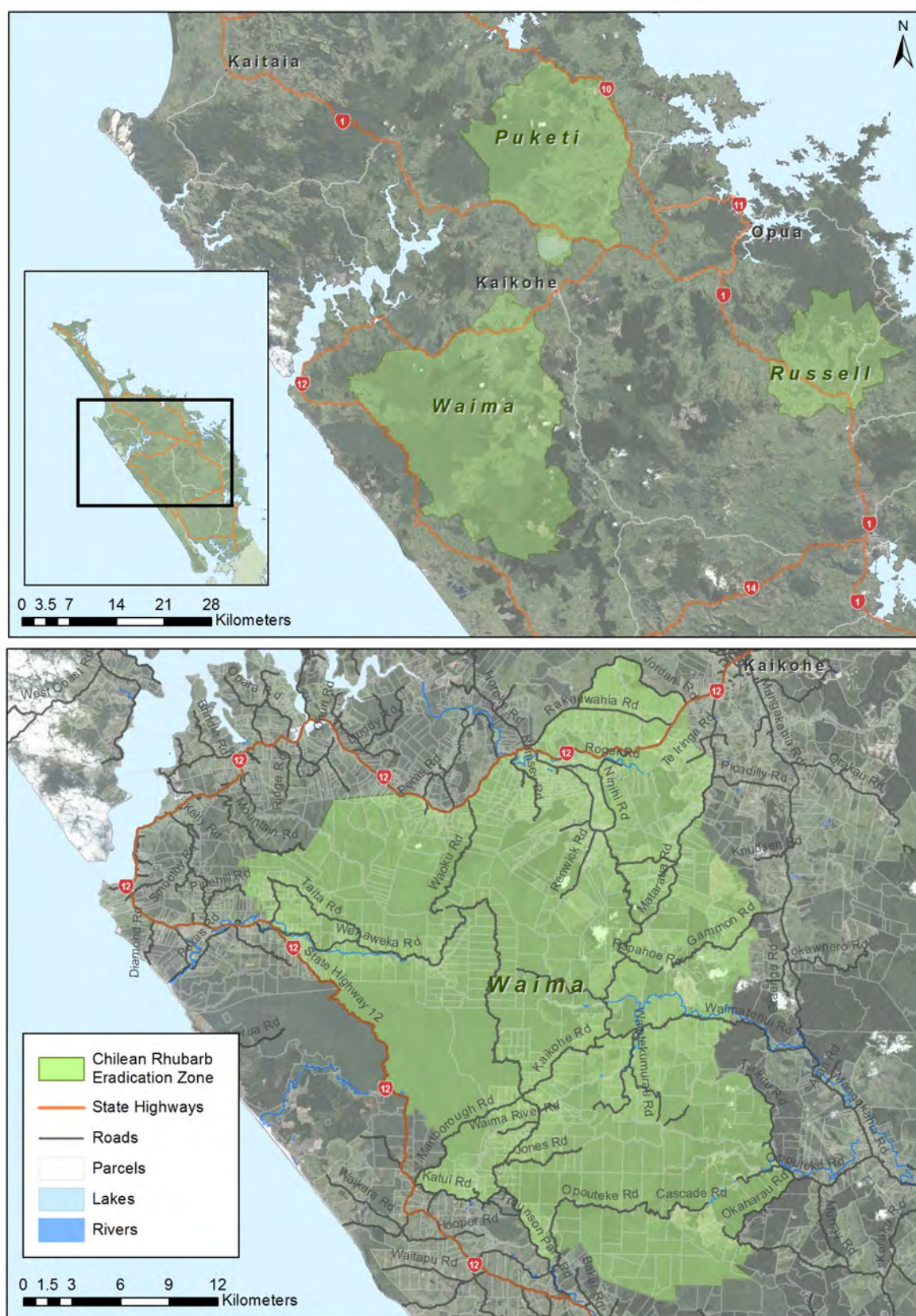


Figure 6.1 Chilean rhubarb eradication zones (1).



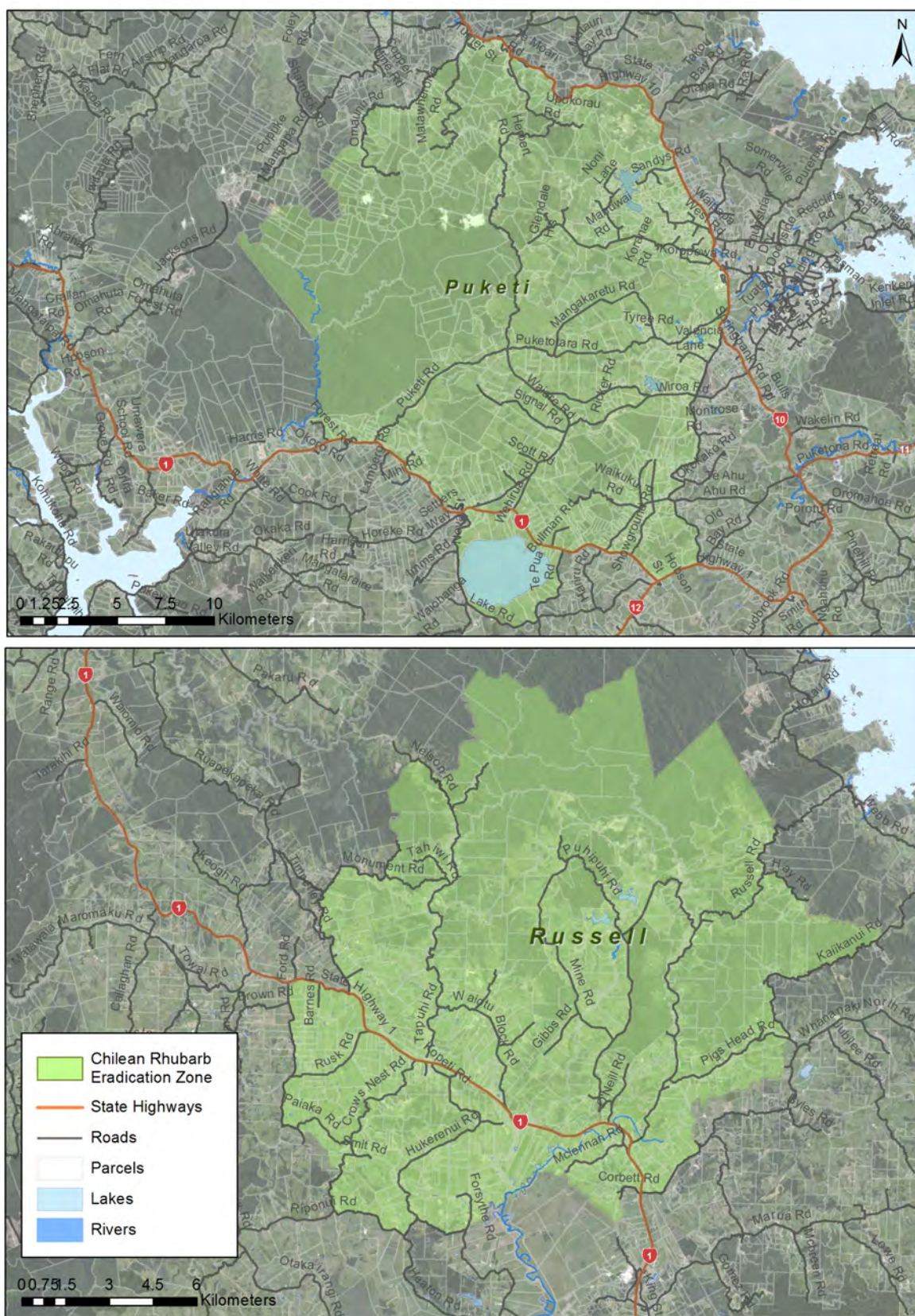


Figure 6.2 Chilean rhubarb eradication zones (2)



## Evergreen buckthorn (*Rhamnus alaternus*)

Also known as: Italian evergreen buckthorn, Italian buckthorn.

Evergreen buckthorn is an evergreen shrub or tree that tolerates a wide range of conditions. It forms dense stands and develops a dense leafy canopy under which no other plants can grow. It can grow to five metres tall, but may become a stunted shrub in exposed sites. It has distinctive purplish shoots and glossy berries which ripen from dark-red to black from December to January.

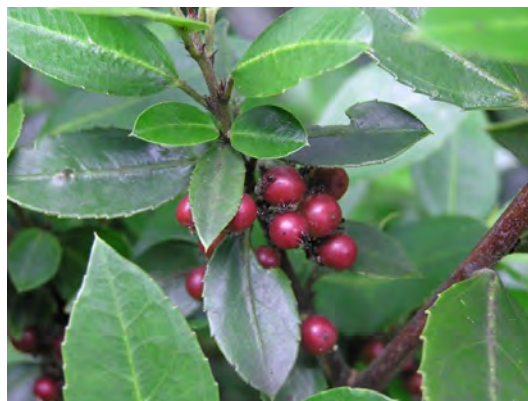


Image credit; Holly Cox, ARC

## Field horsetail (*Equisetum arvense*)

Also known as: horsetail.

Field horsetail is an erect, primitive fern-ally that grows up to 80 centimetres high in a range of habitats. This aggressive weed forms extensive colonies which are difficult to kill. It produces fertile stems that appear in spring and die back in summer, and infertile stems that resemble miniature pine trees. It dies back in winter to a deep, branching root system with round tubers.



Image credit; Weedbusters

## Firethorn (*Pyracantha angustifolia*)

Also known as: orange or yellow firethorn, Pyracantha.

Firethorn is a large spiny shrub growing 2-5 metres tall and up to five metres across. It can form dense stands, out-competing native species and restricting access to grazing by domestic and wild animals. It has hairy stems, shiny dark green leaves with undersides that are hairy and whitish, and white flowers in dense clusters. Its small berry-like fruit turn yellow or orange when ripe.

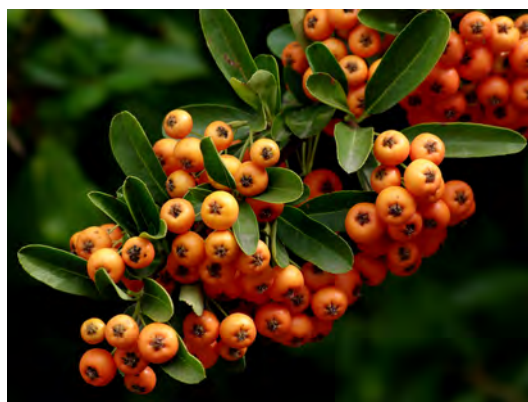


Image credit, Wikipedia JLPC

## Gypsywort (*Lycopus europaeus*)

Gypsywort is a perennial herb up to about one metre tall. It lacks the characteristic minty smell of similar species. Flowers occur summer-autumn and are small, white to pale pink/purple. This pest mainly occurs in the margins of lakes, rivers, ponds and other water bodies, in drainage ditches, damp pasture and waste land. Gypsywort is invasive in Waikato and overseas. It can spread rapidly via water movement followed by localised vegetative spread. It is presumed to displace native vegetation, but this and other potential biodiversity impacts are data deficient.



Image credit; Zell 5sep

### **Lesser knotweed (*Aconogonon campanulatum*)**

Also known as: *Persicaria campanulata*, *Polygonum campanulatum*.

Lesser knotweed is a perennial herb that can grow to one metre tall. Little is known about potential impacts in New Zealand, but in Britain it is a vigorous coloniser that grows in dense patches and suppresses other plants. It has hairy leaves and bunches of white or pink flowers. Lesser knotweed spreads readily from rhizome (root) fragments.



### **Mexican feather grass (*Nassella tenuissima*)**

Also known as: fine-stemmed needle grass.

Mexican feather grass is a densely tufted, perennial tussock grass that grows up to 70 centimetres tall and prefers a dry, temperate climate. This invader crowds out pasture species and reduces productivity because it has no grazing value. Native species can also be replaced in open and coastal areas. Its feathery flower head appears between October and December.



Photo credit; Weedbusters

### **Mickey Mouse plant (*Ochna serrulata*)**

Also known as: bird's eye bush.

Mickey Mouse plant is a 1-2 metres tall shrub found in gardens, derelict building sites and the under-storey and edges of forest. It can form a dense monoculture that prevents regeneration of native species. It is easily dispersed, and could spread from urban areas to other habitats. Its black berry-like fruits are attached to red sepals, resembling the face of Mickey Mouse.



Image credit; Gina Williams, DOC

### **Monkey musk (*Erythranthe guttata*)**

Also known as: monkey flower, *Mimulus guttatus*.

Monkey musk is a soft herb that grows up to 60 centimetres tall, forming bright-green leafy clumps or large masses. It has yellow flowers with red spots on the bearded lower lip. This wetland plant grows along freshwater margins but it can also grow partially submerged in water. It will also occur on damp, disturbed ground away from wetlands. Monkey musk can out-compete native plants and has the potential to choke channels and impede drainage. Due to its relatively high light demand, it is out-competed by taller perennial or woody plants.

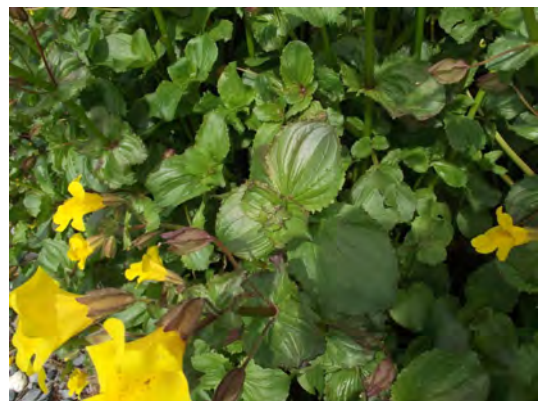


Image credit; Weedbusters



## Nassella tussock (*Nassella trichotoma*)

Also known as: serrated tussock.

Nassella tussock is a perennial tussock-forming grass found in dry farmland. It can form dense stands in low-growing plant communities such as pasture, preventing other species from establishing, and making large areas incapable of supporting livestock. It grows up to one metre high and has fine-bladed, wiry leaves. Drooping seed heads have a purplish tinge.



Image credit; Harry Rose

## Nutgrass (*Cyperus rotundus*)

Also known as: purple nut sedge.

Nutgrass is a grass-like perennial that grows to about 30 centimetres high. It has been described as one of the world's worst weeds based on its distribution and effect on crops. Nutgrass will compete with other plants for ground resources and is also allelopathic, with the roots releasing substances into the soil that can be harmful to other plants. Its roots are nut-shaped and are the main way in which it spreads.



Image credit; Jeevan Jose

### Rule 6.2.3

Land owners or occupiers must destroy all nutgrass on land that they occupy.

## Royal fern (*Osmunda regalis*)

Royal fern is a deciduous fern that has large, feather-like fronds up to three metres long and 75 centimetres wide. Separate fertile fronds are brown and resemble tiny bunches of grapes. A short woody trunk grows up to 1.5 metres high and plants die back to the woody trunk in winter. Royal fern grows in wet, peaty habitats, roadside drains and occasionally on clay banks next to water bodies. It can naturalise and form dense colonies in a range of wetland habitats, especially in disturbed areas and under the shade of willows or manuka. The plants displace other small native wetland plants.



## **Spartina (*Spartina alterniflora*, *S. anglica* and *S. townsendii*)**

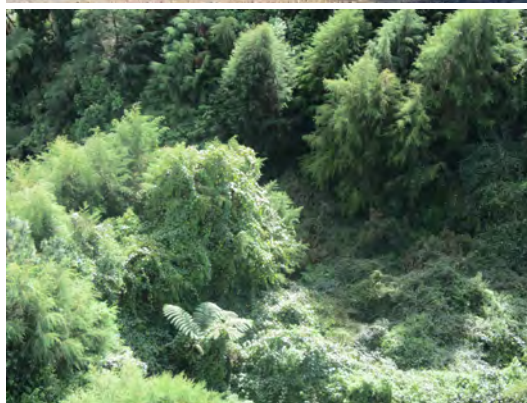
Also known as: cord grass or salt grass.

Spartina is an estuarine grass that grows in clumps up to 1.5 metres tall. It is an aggressive and persistent invader of inter-tidal mudflats, leading to a loss of habitat for birds and fish, surface flooding on adjacent land, and trapped sediment that raises ground levels. *Spartina alterniflora* is the most common spartina species in Northland, while *S. townsendii* is rare.



## **Wilding kiwifruit (*Actinidiaceae* spp.)**

Kiwifruit is a vigorous vine that is cultivated for its fruit. The entire plant is hairy with oval leaves and reddish leaf stem. Wilding kiwifruit can grow in a wide variety of habitats including scrub, gullies, stands of native bush and pine plantations. Wild kiwifruit vines can grow more than 20 metres up into the forest canopy and are also very long-lived, out-competing native seedlings and smothering growth. Wilding kiwifruit are a vector for PSA (*Pseudomonas syringae* pv. *actinidiae*).



*Image credit; Andy Wills*

## **Yellow flag iris (*Iris pseudacorus*)**

Yellow flag iris grows as leafy clumps up to two metres tall. It has sword-like leaves and from October to December it produces pale-yellow to golden-orange flowers followed by seed capsules containing many disc-like seeds. Yellow flag iris is a fast-growing and fast-spreading invasive plant that can out-compete other plants, forming almost impenetrable thickets as it over-tops and replaces native species. It can also grow out across the water, forming floating mats that are strong enough to support the weight of a person. It is poisonous to grazing animals.



## 6.3 Progressive containment plants

Progressive containment plants are present in the region at numbers or distributions that mean eradication is not possible in the short term, but populations can be contained or reduced over time. These pest plants are capable of causing adverse effects to the environmental, economic, social or cultural values of the region.

### Objective

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

- 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.
- A prompt response with appropriate funding may be initiated to control or manage infestations in Northland.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993, no person can sell, propagate, breed, distribute, or otherwise spread any pest in this Plan, or any unwanted organism. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Principal measures

#### *Requirement to act*

- People are required to report the presence or suspected presence of progressive containment plants and may not possess those pests outside the mapped containment areas.
- Within the containment zones, people are required to develop and implement a management plan to reduce the amount of progressive containment plants on their properties to help prevent further spread.
- The purpose of the rules is to assist in the progressive containment of these pest plants in Northland.

#### *Council inspection*

- Council staff and/or their contractors will conduct searches in areas that are vulnerable to infestation by progressive containment plants.
- Council staff will undertake compliance activities when required, such as rule enforcement, action of default, prosecution and processing exemptions.

#### *Service delivery*

- Eradication and reduction of infestations outside of the progressive containment zones will be attempted by the council in conjunction with relevant Crown agencies and stakeholders where practicable.
- Council will assist in the release of biocontrol agents for progressive containment species where appropriate.

#### *Advocacy and education*

- Council staff will assist land occupiers to develop management plans where required.
- 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.



## African feather grass (*Cenchrus macrourus*)

Also known as: veld grass, *Pennisetum macrourum*

African feather grass is a perennial grass that forms large clumps up to two metres tall. From November to April, it produces long, thin flower heads with a distinctive yellow to purple flower, with prominent bristles. The shape of the flower head distinguishes it from the fluffy flower heads of pampas grass and toe toe. African feather grass requires full sunlight and prefers low-lying areas over drier sites, but it can tolerate drought and establish on dry shady banks. It can completely suppress all other low-growing plants, and dense clumps restrict drainage and the movement of animals, people and machinery. African feather grass is very persistent and is difficult to eradicate.



### Rules

#### Rule 6.3.1

Every person who sees, or suspects the presence of any African feather grass outside the containment areas shall immediately report the sighting to Northland Regional Council.

#### Rule 6.3.2

Where African feather grass is present on a property within the containment areas, the occupier shall develop and implement a management plan, agreed to by Northland Regional Council, that reduces the extent of the infestation on the property and ensures that it does not spread to non-infested areas.

The progressive containment zone for African feather grass is shown in Figure 6.3 'African feather grass containment zone.'

*A breach of these rules will create an offence under Section 154 N(19) of the Act.*



## Lantana (*Lantana camara*) - all varieties

Lantana is a prickly, multi-stemmed, evergreen shrub that grows 2-4 metres tall. The small flowers grow in clusters. *Lantana camara* var. *aculeata* is the most common variety of lantana in New Zealand and it has small cream and pink flowers. Other varieties have other flower colours, such as orange. The flowers are followed by small blue-black fruits. Lantana produces many well-dispersed seeds, is long-lived, and forms dense thickets that exclude other species. It also produces toxins that poison the soil around it so other species cannot replace it. Lantana is extremely versatile in its habitat preferences, tolerating a range of conditions.



### Rules

#### Rule 6.3.3

Land owners or occupiers must destroy all lantana on land that they occupy outside the mapped containment zones, where the property occupied is less than 0.5 hectares in size.

#### Rule 6.3.4

Where lantana is present on a property larger than 0.5 hectares outside the containment zones, the occupier shall develop and implement a management plan, agreed to by Northland Regional Council, that reduces the extent of the infestation on the property and ensures that it does not spread to non-infested areas.

The progressive containment zones for Lantana are shown in Figure 6.4 'Lantana containment zones (1)' and Figure 6.5 'Lantana containment zones (2)'. ***A breach of these rules will create an offence under Section 154 N(19) of the Act.***



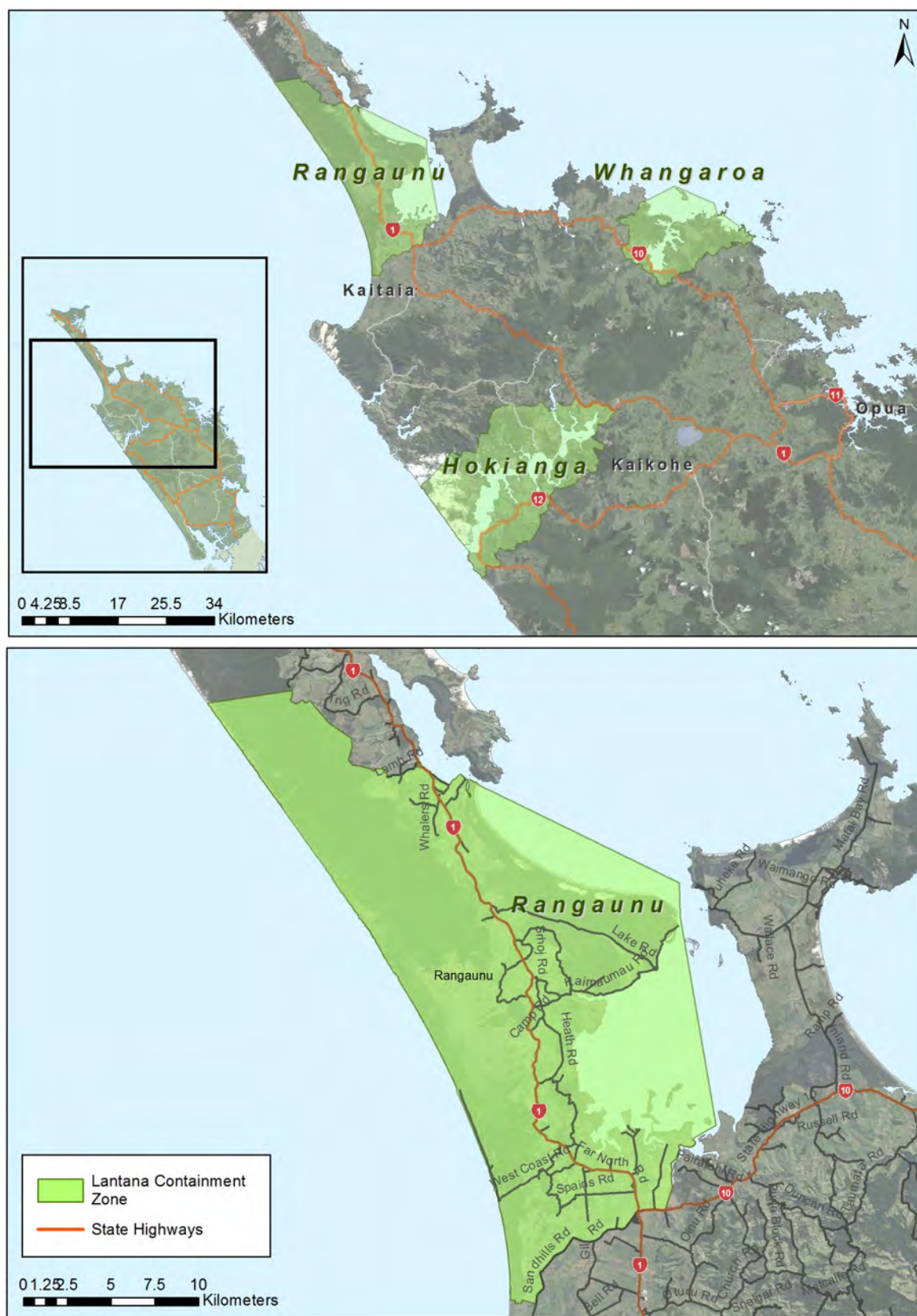


Figure 6.4 Lantana containment zones (1)





## Manchurian wild rice (*Zizania latifolia*)

Also known as: Manchurian rice grass.

Manchurian wild rice is a giant grass that grows up to four metres high. It has harsh, narrow, dull green leaves that grow in fans. Purplish or red-brown flower heads are produced from November to December. Manchurian wild rice is often confused with native raupō and flax, but raupō is slightly smaller and dies back in winter. In New Zealand, Manchurian wild rice has been recorded in lagoons and on river banks, tidal flats, roadside ditches, damp pasture and cropping land.

Manchurian wild rice forms dense stands in aquatic or semi-terrestrial situations. It is very invasive and quickly spreads on land that is not grazed. It is tolerant of drought, frost and poor drainage but does not tolerate shade. Regrowth from underground rhizomes occurs after physical damage, such as fire and grazing.



Manchurian wild rice is found primarily in the Kaipara area, especially along the banks of the Northern Wairoa River, where it is widespread and forms dense, continuous infestations. There are other small infestations in the Kaipara, Far North and Whangārei districts.

### Rules

#### Rule 6.3.5

Every person who sees, or suspects the presence of any Manchurian wild rice outside the containment areas shall immediately report the sighting to Northland Regional Council.

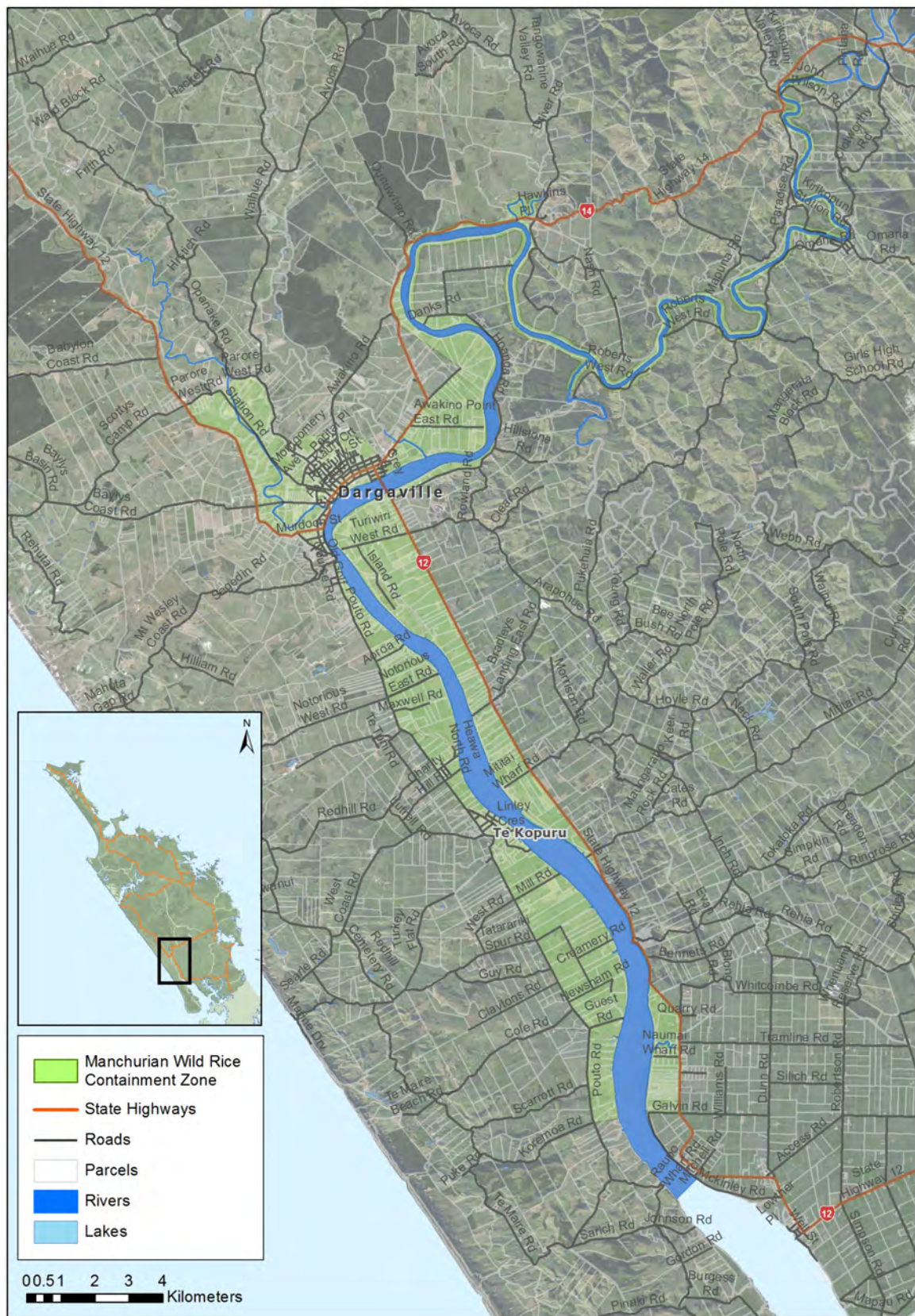
The progressive containment zone for Manchurian wild rice is shown in Figure 6.6 'Manchurian wild rice containment zone.'

*A breach of these rules will create an offence under Section 154 N(19) of the Act.*

### Other relevant legislation or programmes

Manchurian wild rice is listed as an unwanted organism under the Biosecurity Act 1993, is a notifiable organism (Biosecurity (Notifiable Organisms) Order 2010), and is listed in the National Pest Plant Accord 2012. It is also one of 11 pest species that are part of the National Interest Pests Response. Management of this pest plant is funded by the Ministry for Primary Industries (MPI) and in Northland the programme is managed by the Northland Regional Council. Due to the extremely large scale of the infestation, the programme is reliant upon continued funding from MPI to achieve its goals.





## Mile-a-minute (*Dipogon lignosus*)

Also known as: Cape sweet pea.

Mile-a-minute is a fast-growing, evergreen climbing vine. Each leaf has three, roughly triangular to heart-shaped leaflets. Between July and January it produces attractive, pea-type flowers ranging in colour from white, red, pink, and purple. The flowers are followed by sickle-shaped seed pods. Growth and seeding is vigorous, rapidly smothering native vegetation, weighing it down and causing plants to break. It also grows over the ground, smothering native groundcover plants, and reducing species diversity. In Northland, mile-a-minute has infested a natural area with high ecological values and has the potential to invade forest margins, scrub and shrublands. Most infestations are in gardens, on roadsides and in locations where garden waste has been dumped.



*Image credit: Tony Rodd*

### Rules

#### Rule 6.3.6

Every person who sees, or suspects the presence of any mile-a-minute outside the containment area/s shall immediately report the sighting to Northland Regional Council.

#### Rule 6.3.7

No person shall possess any mile-a-minute (including any seeds or live vegetation) outside the containment zone in Northland.

The progressive containment zone for mile-a-minute is shown in Figure 6.7 'Mile-a-minute containment zone.'.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*



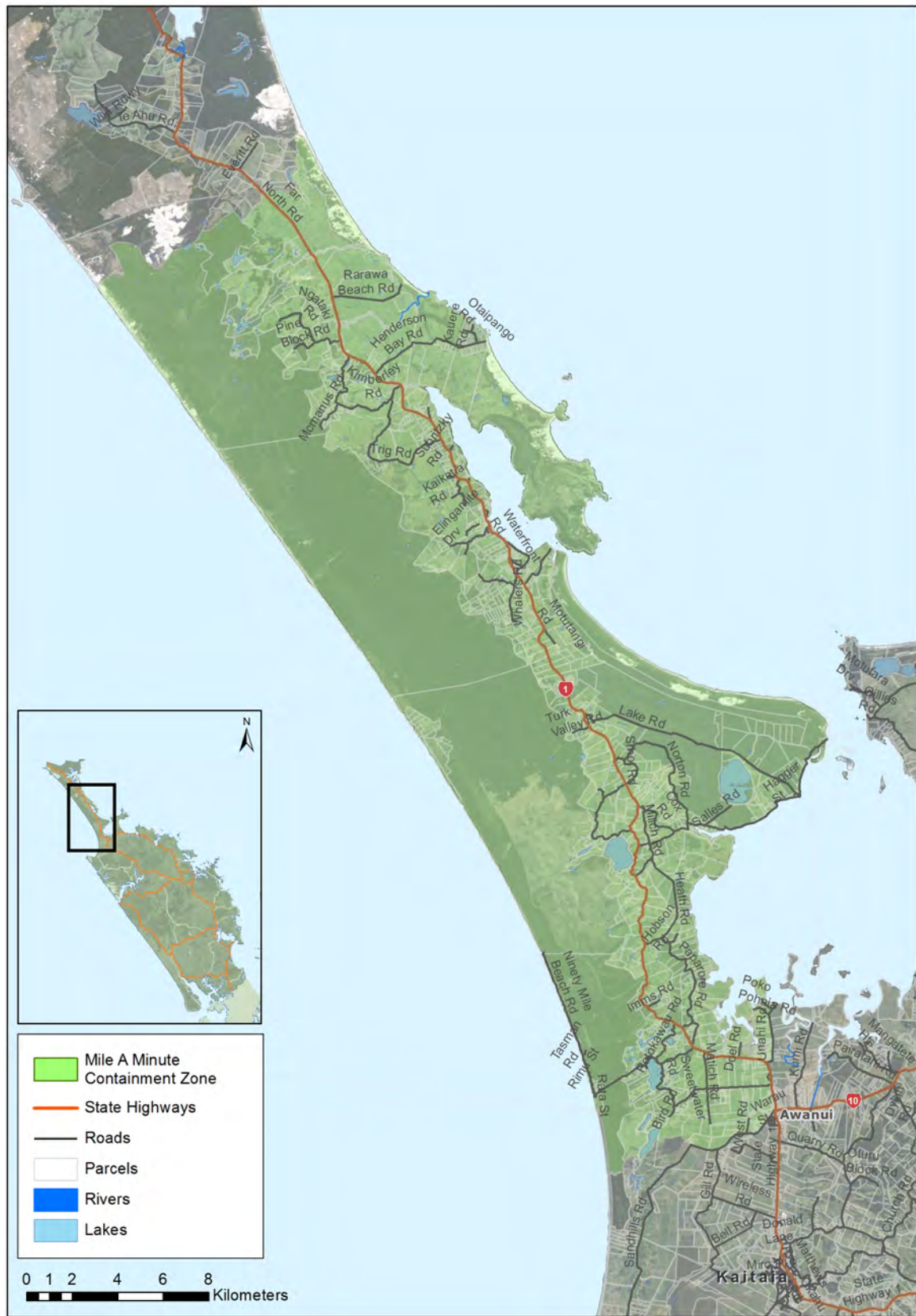


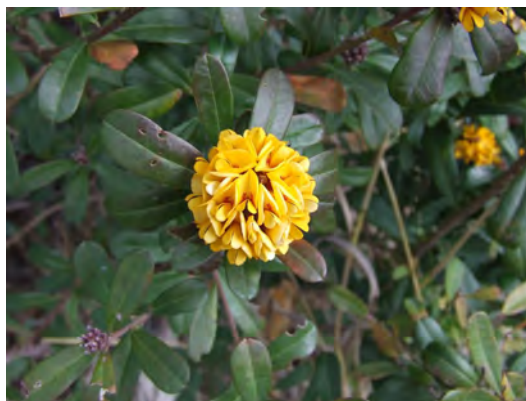
Figure 6.7 Mile-a-minute containment zone.

## **Pultenaea (*Pultenaea daphnoides*)**

Also known as: pea daphne, large-leaf bush pea, Australian bush pea.

Pultenaea is a medium-sized shrub that grows to three metres tall. Leaves are up to four centimetres long, narrow at the base, broad at the top and end in a narrow point. The pea-like flowers are yellow with red-pink markings in the centre, and are followed by flat pods. Pultenaea has become naturalised at Mangawhai. It is spreading along approximately two kilometres of roadsides and on a hillside. It is present in manuka shrubland and on the edges of tracks in native forest.

Pultenaea is fast-growing but apparently short-lived. It is resistant to drought and frost. Based on observations of the infestation at Mangawhai, it has the potential to invade gumland, shrubland, open road banks, cliffs and other lower fertility sites.



### **Rules**

#### **Rule 6.3.8**

Every person who sees, or suspects the presence of any Pultenaea outside the containment areas shall immediately report the sighting to Northland Regional Council.

#### **Rule 6.3.9**

No person shall possess any Pultenaea (including any seeds or live vegetation) outside the containment zones in Northland.

#### **Rule 6.3.10**

Where Pultenaea is present on a property within the containment areas, the occupier shall develop and implement a management plan that reduces the extent of the infestation on the property and ensures that it does not spread to non-infested areas.

The progressive containment zone for Pultenaea is shown in Figure 6.8 'Pultenaea containment zone'.

*A breach of these rules will create an offence under Section 154 N(19) of the Act.*



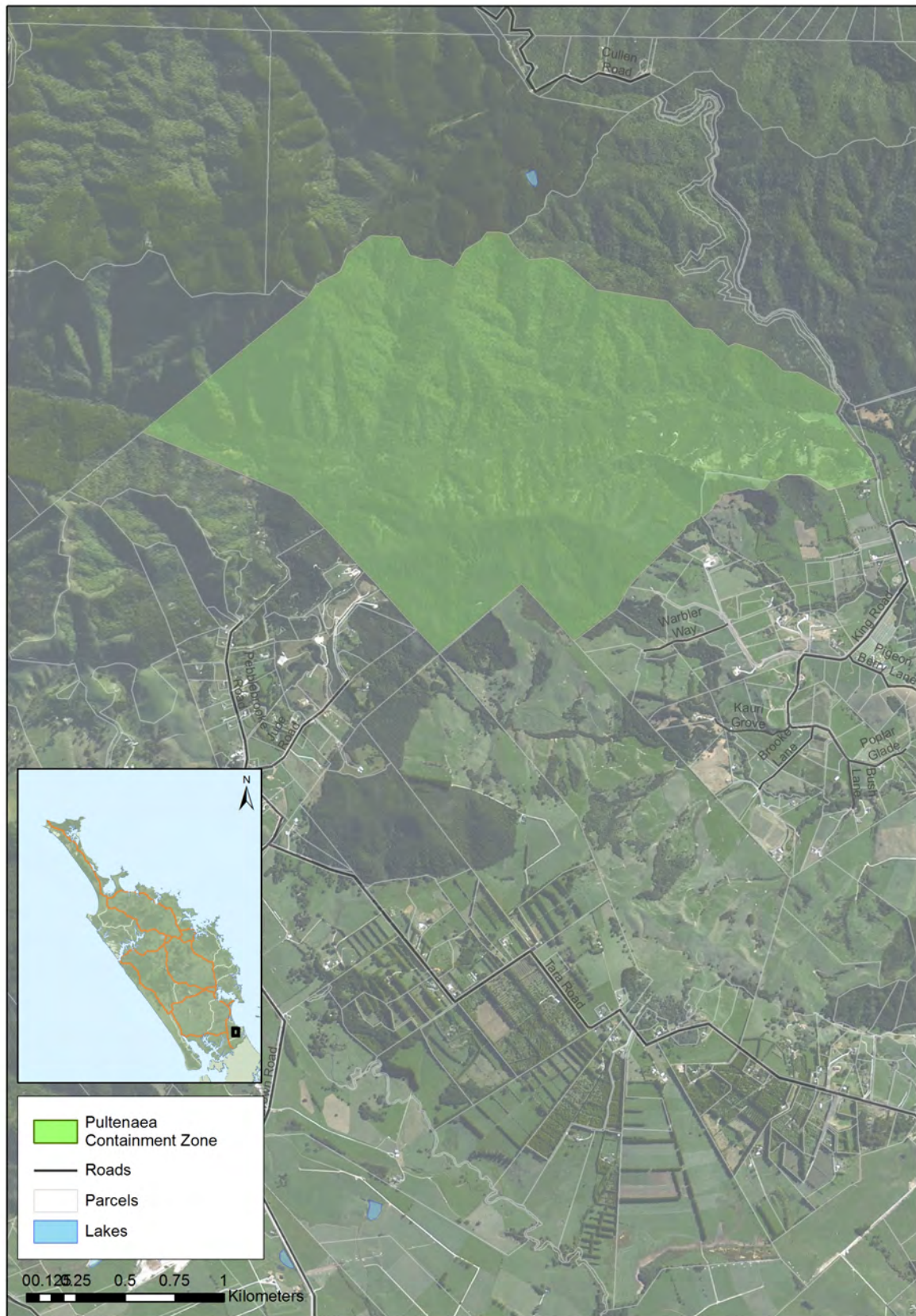


Figure 6.8 Pultenaea containment zone.



## 6.4 Sustained control plants

The pest plants in the sustained control programme are plants that are widespread in suitable habitat throughout Northland. They all cause adverse effects to the environmental, economic, social or cultural values of the region. Biodiversity programmes involving the sustained control of pest plants are managed outside the pest management plan through the biodiversity enhancement programme.

### Land owners and occupiers

In the first instance, the management of most pest plants is the responsibility of individual land occupiers. This is because occupiers generally contribute to the pest plant problem and, in turn, benefit from the control of the plants. This includes the Crown where Good Neighbour Rules have been identified. A Good Neighbour Rule can help manage the costs incurred by one neighbour due to the spread of pest plants from an adjacent or nearby property. These rules can be useful to ensure that a person who is managing pest plants on a property is not incurring unreasonable ongoing costs resulting from a neighbour not controlling pests. For the Good Neighbour Rules to be enforced, the pest plant must be present at a such a density that significant cost is being imposed on a neighbour or near neighbour.

### Objectives

For the duration of the Pest Plan, reduce impacts to biodiversity, cultural and economic values by controlling identified pest plants 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.

### 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 plants.
- To prevent unwanted effects caused by sustained control pest plants on adjacent or nearby neighbours' assets and values.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute or otherwise spread any pest in this Plan, or unwanted organism. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Principal measures

#### *Requirement to act*

- People are required to undertake actions to help reduce the impacts and spread of the sustained control pest plants and prevent unreasonable impacts from these plants spreading across property boundaries.
- The purpose of the rules is to assist in reducing the impacts of the sustained control pest plants on values and spread to other properties in Northland.

#### *Council inspection*

- Council staff and /or their contractors may visit places 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 staff will provide education and advice to owners, occupiers and the public about the sustained control pest plants and how to control them.

#### *Advocacy and education*

- Council staff will encourage land owners and occupiers to control pest plants.
- Council will provide training to relevant council staff and stakeholders on the identification and control of the sustained control pest plants.
- Council staff will provide advice, attend events and undertake publicity campaigns to increase public awareness of these pest plants.

## Bathurst bur (*Xanthium spinosum*)

Also known as: spiny cocklebur.

Bathurst bur is a spiny annual plant that grows up to one metre tall and has narrow, three-pronged leaves. Burs with hooked spines occur in late summer. Bathurst bur spreads entirely by seeds, which are within the spiny burs. Seed may lie dormant for many years before germinating, forming a very long-lived seed bank. Bathurst bur is a highly invasive weed that is capable of growing in a range of habitats and environmental conditions. It is usually found on fertile, disturbed or bare ground, particularly in pasture and cultivated areas.



*Image credit; ARC*

### Rule 6.4.1

Land occupiers within Northland must destroy all Bathurst bur on land they occupy prior to bur formation. If plants are found with burs present, all burs/plants are to be collected and incinerated or buried at least half a metre underground.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

## Brazilian pepper tree (*Schinus terebinthifolius*)

Also known as: Christmas berry, pepper tree.

Brazilian pepper tree is a small, fast-growing evergreen tree that grows 3-7 metres tall. Its short trunk is usually hidden in a dense head of branches with leathery fern-like leaves. Crushed leaves smell peppery or turpentine-like. Small, white flowers on the female trees are followed by bright red fruit. It grows in sites with a range of light levels (though faster in full sunlight) and water availability, and is highly competitive in wet habitats. The tree's fruits, leaves and its resinous seep from the trunk may be toxic to humans. It commonly causes an allergic reaction that includes an itchy rash and swelling of the face. In some people, sneezing and asthma-like reactions often occur near blooming plants.



*Image credit; Forest and Kim Starr*

### Rule 6.4.2

Land occupiers within Northland must destroy Brazilian pepper tree on their land within 20 metres from the affected individual's residence or fixed workplace, where the plant exacerbates human health problems. This rule will be enforced on receipt of a complaint from a directly affected person. A medical certificate/letter must be provided by the affected person.

### Rule 6.4.3

Land occupiers within Northland must destroy all Brazilian pepper tree on their land where it is deemed to be the source of wilding plants.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

### **Gorse (*Ulex spp.*)**

Gorse is a deep-rooted, woody perennial shrub that can grow to four metres tall. It has densely spined branches and is woody when mature. Gorse has bright yellow flowers and often has two seeding periods between May and November. Seed is explosively ejected from black seed pods and can land eight metres away from the parent plant. Gorse seed reserves in the soil are long-lasting and abundant under and near established infestations. Gorse has the ability to occupy a wide range of soil types, and recovers quickly after burning. It very quickly colonises new areas, forming dense thickets. It invades pasture land and roadsides as well as low growing or regenerating native vegetation. However, it can act as a nurse crop for the regeneration of native bush if left for long periods.



#### **Rule 6.4.4**

**Good Neighbour Rule:** Land occupiers within Northland must destroy all gorse within 10 metres of an adjacent or nearby property, where the adjacent or nearby land occupier is taking reasonable measures to manage gorse on their property or its impacts on pastoral production or environmental values. This Good Neighbour Rule will be enforced on receipt of a complaint from a directly-affected land occupier.

#### **Rule 6.4.5**

Land occupiers within Northland must destroy all gorse in the operational areas of a quarry.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

### **Gravel groundsel (*Senecio skirrhodon*)**

Gravel groundsel is a member of the daisy family. It is a semi-annual to perennial bush-like herb that curves upwards in growth and usually grows to 25-40 centimetres tall.

Flowers are bright yellow and appear individually at the tips of stems. The plant has narrow leaves and downy, wind-borne seeds. Preferred habitats include grasslands, coastal areas, waste areas and railway lines. It is an aggressive invader of grasslands and is not eaten by cattle.



#### **Rule 6.4.6**

**Good Neighbour Rule:** Land occupiers within Northland must destroy all gravel groundsel within 50 metres of an adjacent or nearby property, where the adjacent or nearby land occupier is taking reasonable measures to manage gravel groundsel on their property or its impacts on pastoral production or environmental values. This Good Neighbour Rule will be enforced on receipt of a complaint from a directly-affected land occupier.



#### Rule 6.4.7

Land occupiers within Northland must destroy all gravel groundsel in the operational areas of a quarry.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

#### Phoenix palm (*Phoenix canariensis*)

The stocky Phoenix palm has a trunk up to 18 metres tall and 1.2 metres in diameter. The trunk has a diamond-shaped pattern. Large leaves form a spreading crown at the top of the trunk and there are sharp spines on the leaf stalks. The cylinder-shaped berries are 1-5 centimetres long, fleshy, date-like, and orange-yellow to dark purple in summer. Phoenix palm prefers coastal cliffs, forest, sand dunes, saline wetlands, urban areas and roadsides. It is capable of invading native bush. Phoenix palm has been widely cultivated as an ornamental in urban gardens and parks. The sharp spines on frond tips can cause minor to moderate injuries and reactions in those who come into contact with the spines.



*Image credit; Weedbusters*

#### Rule 6.4.8

Land occupiers within Northland must destroy Phoenix palm on their land within five metres from the affected individual's residence, where the plant exacerbates human health problems. This rule will be enforced on receipt of a complaint from a directly affected person. A medical certificate/letter must be provided by the person affected.

#### Privet (*Ligustrum spp.*)

Privet is an evergreen shrub or tree and four species are found in New Zealand: tree privet (*Ligustrum lucidum*), Chinese privet (*Ligustrum sinense*), privet (*Ligustrum ovalifolium*) and common privet (*Ligustrum vulgare*). Tree and Chinese privet are common in Northland. Tree privet can grow to 15 metres tall and has tiny, fragrant, cream-coloured flowers from November to March, followed by bluish or purplish-black berry-like fruit. Chinese privet grows to more than five metres tall and has loose drooping clusters of fragrant white flowers from July to March, followed by round berries. Privet inhabits bush, gardens, roadsides and ungrazed wasteland areas. It spreads dense carpets of seedlings that displace native shrubs and prevent native plant regeneration. The highly scented flowers are an irritant to most allergy sufferers.



*Image credit; Weedbusters*

#### Rule 6.4.9

**Good Neighbour Rule:** Land occupiers within Northland must destroy all Privet within 10 metres of an adjacent or nearby property, where the adjacent or nearby land occupier is taking reasonable measures to manage privet on their property or its impacts on pastoral production or environmental values. This Good Neighbour Rule will be enforced on receipt of a complaint from a directly-affected land occupier.



#### Rule 6.4.10

Land occupiers within Northland must destroy privet on their land within 50 metres from the affected individual's residence, where the plant exacerbates human health problems. This rule will be enforced on receipt of a complaint from a directly-affected person. A medical certificate/letter must be provided by the person affected.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

#### Queen of the night (*Cestrum nocturnum*)

Also known as: night-scented jasmine.

Queen of the night is a shrub up to 2.5 metres tall, with oval leaves that have an unpleasant smell when they are crushed. In summer it produces bunches of greenish-white flowers that release a fragrant scent at night. Queen of the night can prevent native plant seedlings from establishing by forming dense stands. All parts of the plant are poisonous to people and animals. Queen of the night may cause hayfever-like symptoms in some people.



#### Rule 6.4.11

Land occupiers within Northland must destroy queen of the night on their land within 50 metres from the affected individual's residence, where the plant exacerbates human health problems. This rule will be enforced on receipt of a complaint from a directly-affected person. A medical certificate/letter must be provided by the person affected.

#### Rhus tree (*Toxicodendron succedaneum*)

Also known as: Japanese wax tree, wax tree, Synonym - *Rhus succedanea*.

Rhus tree is a small deciduous tree or large shrub that is highly toxic and allergy causing. The tree grows to 8-12 metres. Its leaves change from their bright green colour to orange/scarlet in autumn. Tiny yellow-green flowers form in spring and early summer, followed by clusters of pale brown papery fruit through autumn and winter. Seed remains viable for many years, and the tree may also reproduce vegetatively by suckering. Rhus tree can be invasive in disturbed sites, forests, open woodlands, urban bushland, roadsides, gardens and waste areas. It is a serious weed in Sydney, Australia, where birds spread the seeds and thousands of seedlings are found. It appears to be naturalising in Northland, and it is unclear what the impacts might be.



#### Rule 6.4.12

Land occupiers within Northland must destroy rhus tree on their land within five metres from the affected individual's residence, where the plant exacerbates human health problems. This rule will be enforced on receipt of a complaint from a directly-affected person. A medical certificate/letter must be provided by the person affected.

#### Rule 6.4.13

Land occupiers within Northland must destroy all rhus tree on land they occupy where it is deemed to be the source of wilding plants.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

#### **Wild ginger - yellow ginger (*Hedychium flavescens*) and kahili ginger (*Hedychium gardnerianum*)**

Wild ginger is listed as an unwanted organism under the Biosecurity Act 1993 and is listed in the National Pest Plant Accord 2012. There are two species, yellow ginger and Kahili ginger. Kahili ginger is the most common and most invasive of the two. Both species are non-woody perennials, growing up to two metres tall from thick-branching rhizomes (swollen underground stems). Rhizomes form dense beds up to one metre deep excluding all other species. Kahili ginger produces lemon-yellow flowers with red stamens from January to March, followed by fruiting spikes. Yellow ginger produces clusters of scented, cream-coloured flowers from May to June and does not produce fruit. Both species form dense colonies in native bush, forestry, road sides and riverbanks, smothering and eventually replacing all other species.



#### Rule 6.4.14

**Good Neighbour Rule:** Land occupiers within Northland must destroy all wild ginger within 10 metres of an adjacent or nearby property, where the adjacent or nearby land occupier is taking reasonable measures to manage wild ginger on their property or its impacts on pastoral production or environmental values. This Good Neighbour Rule will be enforced on receipt of a complaint from a directly-affected land occupier.

#### Rule 6.4.15

Land occupiers within Northland must destroy all wild ginger in the operational areas of a quarry.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

#### **Wilding conifers (*Pinus contorta*), douglas fir (*Pseudotsuga menziesii*), maritime pine (*Pinus pinaster*) and radiata pine (*Pinus radiata*)**

Wilding conifers are the natural regeneration (that is, the seedling spread) of introduced conifer trees. They are well established in Northland and their range is increasing. They are of particular concern in drier coastal areas and rare and vulnerable habitats such as gumlands and wetlands at Kaimaumau. *Pinus contorta* has successfully invaded a number of nutrient-poor sites. They reduce the productivity of primary industries and damage environmental, social,



cultural and landscape values. While wilding conifers are pests, planted conifers are valuable resources. Two of the spread-prone conifer species in New Zealand are important commercial species which contribute significantly to forestry exports.

#### Rule 6.4.16

**Good Neighbour Rule:** Land occupiers within Northland must destroy all wilding conifers within 10 metres of an adjacent or nearby property, prior to cone-bearing, where the adjacent or nearby land occupier is taking reasonable steps to control wilding conifers on their property to protect pastoral production or environmental values. This Good Neighbour Rule will be enforced on receipt of a complaint from a directly affected land occupier.

#### Exemption to rule 6.4.16

This rule focuses on wilding conifers that are acting as a dispersal source. A Good Neighbour Rule cannot be applied to manage spread from planted conifer plantations (including but not limited to shelter belts, plantation forestry and amenity plantings), as the cost of control would exceed the benefits. Impacts deriving from commercial and other deliberate plantings of conifers are best managed through other avenues such as the Resource Management Act or through the New Zealand Wilding Conifer Management Strategy.

### Woolly nightshade (*Solanum mauritianum*)

Also known as: tobacco plant, tobacco tree.

Woolly nightshade is a shrub or small tree that can rapidly grow to 10 metres tall. It has large, grey-green leaves with fine hairs, purple flowers with yellow centres and bunches of yellow berries. Woolly nightshade can invade forest margins, disturbed forest, light gaps within forest, shrublands, riparian margins, estuarine margins, consolidated sand dunes, wetlands and urban areas. It rarely invades intact habitats. Woolly nightshade is widespread throughout Northland. It poisons the soil to inhibit or prevent the establishment of native plant seedlings and slows the regeneration of native forests. Even very young plants can produce seed. All parts of the plant are poisonous to humans, especially the green berries. The minute hairs can cause contact irritation or respiratory issues if inhaled when the plant is disturbed.



*Image credit: Weedbusters*

#### Rule 6.4.17

Land occupiers within Northland must destroy woolly nightshade on their land within 20 metres from the affected individual's residence or fixed workplace, where the plant exacerbates human health problems. This rule will be enforced on receipt of a complaint from a directly-affected person. A medical certificate/letter must be provided by the person affected.



## 6.4.1 (a) Plants banned from sale and distribution

The following species pose significant risks to various economic, biodiversity, recreational, cultural and aesthetic values of Northland. They are included in the Pest Plan and are considered to be part of the sustained control programme. The aim of naming species in this section is to help reduce their spread through sale and distribution. Distribution includes the sharing of these species but also other methods such as movement of vegetation via earthworks and drain clearing.

### Objectives

For the duration of the Pest Plan, reduce the impacts on values caused by the spread of plants that are sold and distributed through gardening practices, nursery outlets and other activities that include the distribution of these species.

### Aims

- Land owners, occupiers and the public have the knowledge and skills to help reduce the impacts and spread of sustained control plants.
- Land owners and occupiers are encouraged to control these pest plants on land that they occupy.
- Nurseries and plant retail outlets are not selling plants in the National Pest Plant Accord (NPPA), plants banned from sale in Northland, or any other unwanted organism.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute or otherwise spread any pest in this Plan, or unwanted organism. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Principal measures

#### *Requirement to act*

- Nurseries and plant retail outlets are required to ensure that they are not selling any of the species included in the Pest Plan, the NPPA or any other unwanted organism.
- The purpose of the rules is to help reduce the spread of these pests caused by sale and distribution.

#### *Council inspection*

- Council staff and/or their contractors will visit places 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 staff will provide education and advice to owners, occupiers and the public about sustained control pests and how to control them.
- Ensure all retail outlets and earthmoving contractors, including those for road and rail, have up to date lists of plants on the NPPA and those plants banned from sale or distribution regionally, listed in Table 6.1 'Pest plants banned from sale in Northland'.
- Ensure all retail outlets and earthmoving contractors, including those for road and rail, are aware of the requirements and penalties under Section 52 and 53 of the Biosecurity Act for sale or distribution of these plants.

#### *Advocacy and education*

- Council staff will encourage land owners and occupiers to control pests.
- Council will provide training to relevant council staff and stakeholders regarding the identification and control of sustained control pests.
- Council staff will provide advice, attend events and undertake publicity campaigns to increase public awareness of these pest plants.

Common name	Scientific name	Description
Agapanthus	<i>Agapanthus praecox</i> (non sterile varieties)	Agapanthus is widely cultivated in Northland. It grows as clumps of arching, green, strap-like leaves. In summer it produces showy balls of purplish-blue or white flowers that grow at the top of tall stalks. Agapanthus flourishes in coastal, frost-free (or lightly frosted), temperate climates. It is commonly cultivated in public and private gardens. It grows wild on roadsides and in urban areas, on cliffs, streamsides, damp sites within dunes, beside ditches and on forest margins.
Black-eyed Susan	<i>Thunbergia alata</i>	Black-eyed Susan is a vine-type plant that can grow to a height of 2.5 metres. It has twining stems with arrow-shaped leaves. The flowers are typically orange, although different varieties can be red, white, yellow or red-orange with or without the characteristic dark centre.
Broom	<i>Cytisus scorpius</i>	Broom is an aggressive, invasive woody shrub, up to three metres tall. Leaves are sparse, mostly narrow and simple. It has golden-yellow flowers in spring and seeds prolifically in summer. Seed pods are black when ripe and explode loudly on warm days, scattering the seed, which is poisonous. It can dominate low canopy habitats and is drought tolerant.
Brush wattle	<i>Paraserianthes lophantha</i>	Brush wattle is a short-lived, fast growing tree, usually 5-10 metres tall, with densely hairy twigs. It has many tiny green-yellow flowers from May to August on flower heads resembling a bottle brush. Flowers are followed by flat seed pods containing long-lived black seeds. Brush wattle forms tall stands that over-top low-growing vegetation. It tolerates high to low rainfall, poor soils, salt, wind and low fertility, and it fixes nitrogen which can alter soils and change habitats.
Buddleia	<i>Buddleja davidii</i>	Buddleia is a fast-growing, woody, deciduous ornamental shrub that grows up to three metres tall. It has mauve to purple flowers with orange centres. The flowers form distinctive cone-shaped hanging clusters of many small flowers from December to February. Buddleia establishes and grows quickly, forming dense thickets in a wide range of habitats, including river beds, streamsides, disturbed forest and shrubland, stony and bare land.
Camphor laurel	<i>Cinnamomum camphora</i>	Camphor laurel is an evergreen tree up to 30 metres high, with a dense and spreading canopy. Leaves are alternate and glossy green, and flowers are minute and white. It is easily identified by the pungent camphor odour arising from crushed leaves or exposed wood. Overseas, it is most commonly naturalised in riparian areas and disturbed areas such as roadsides and fence rows. It is also able to naturalise in forest and scrubland areas. The tree has been widely planted as an ornamental.
Cape honey flower	<i>Melianthus major</i>	Cape honey flower is a smelly, clump-forming shrub that grows to about two metres tall, with hollow stems and a suckering root system. It has frond-like leaves and is covered in grey, hairy down. Tall, erect flower stalks have foul smelling, dark reddish-brown flowers from July to April. Cape honey flower tolerates wind, salt, hot and cold temperatures, and damp or drought conditions. It is poisonous and not grazed by stock.
Cape ivy	<i>Senecio angulatus</i>	Cape ivy is a hairless, scrambling plant which can form a dense tangled shrub 2-3 metres tall, or a vine able to climb up to 5 metres. It has wiry stems and very fleshy, leathery leaves with coarse serrations on each side. Dense clusters of yellow, ragwort-like flowers are produced from March to August, followed by fluffy seeds. Cape ivy can become an aggressive weed once established and can scramble over large trees and the ground, forming dense, tall thickets.
Century plant	<i>Agave americana</i>	Century plant is a very large, distinctive-looking succulent plant. It doesn't have a stem so the bases of the leaves are at ground level, like those of a flax. The leaves are fleshy, grey-green in colour and have coarse, spiky teeth on their margins. After 10 to 15 years, century plant produces a large, woody spike up to

Common name	Scientific name	Description
		10 metres tall with many yellow flowers at the tip. Young plants are tolerant of salt water. Century plant can out-compete dune plants but it requires open sites, is slow-growing and dies after flowering.
Coastal banksia	<i>Banksia integrifolia</i>	Coastal banksia is a large, long-lived shrub or small tree that grows up to about 15m high. Oval leaves are a dark, shiny green on the upper surface and white beneath, and are leathery and tough. Flowers occur from May to July, and are greenish-yellow forming a broadly cylindrical cone. Flowers are followed by hard wooden cones, with a covering of brown felt-like hairs. Coastal banksia is likely to out-compete native plants and is fast growing with a high seed output.
Cotoneaster	<i>Cotoneaster glaucophyllus</i> , <i>C. franchetii</i>	Cotoneasters are long-lived, evergreen shrubs, up to three metres tall. They have small, white flowers borne in clusters, followed by red berries, and are widely naturalised in native habitats in Auckland and Northland (especially <i>C. glaucophylla</i> ). Open coastal forest may be most at risk from the shrubs. Dense thickets can form which exclude regeneration of other plant species.
Eleagnus	<i>Eleagnus x reflexa</i>	Elaeagnus is a vigorous, dense, evergreen shrub that can scramble over supporting vegetation or structures to a height of 20 metres. It has long, arching, tough stems. The leaves have silvery or brownish-scaly undersides. Elaeagnus produces pale reddish-orange, berry-like fruits. A weed of scrub, forest margins and secondary forest, it slowly smothers the plants it grows over and can reach canopy height.
Elephant's ear	<i>Alocasia brisbanensis</i>	Elephant's ear is a robust perennial with thick stems up to 1.2 metres long and large, wide arrow-shaped leaves. Mature plants can form dense stands reaching 1-2 metres in height. The plant produces erect, cream-coloured flowers up to six centimetres long with small orange or scarlet berries. Elephant's ear prefers wet or damp areas such as wetlands, riverbanks or damp open areas. Plants will re-grow after slashing, and can re-grow from fragments.
English ivy	<i>Hedera helix</i>	English ivy is an evergreen, perennial climber. It forms a groundcover and climbs on trees, walls and other structures. Many cultivars are available, leading to variation in leaf shape, habit and colour. The ivy produces numerous deep purple to black berries. Its preferred habitat includes roadsides, native forest, riparian zones and cliffs. Because it is herbicide tolerant, control requires frequent repeat treatments to be successful.
Furcraea	<i>Furcraea</i> spp.	Furcraea has fleshy or leathery leaves held in a rosette, with or without a basal trunk, and grows up to three metres tall. Flowers occur on distinctive flower spikes up to 12 metres tall. Bulbils often replace flowers in the axils of leaves. The plant's preferred habitat includes open or semi-open coastal areas including banks, cliffs and rocky outcrops, and other disturbed or open sites. It is capable of forming localised mono-cultures which exclude most other plant species.
German ivy	<i>Delairea odorata</i>	German ivy is a scrambling or climbing vine that can reach heights of five metres. It has thin, weak, green stems and thin, soft, glossy leaves that are ivy-shaped and clammy to the touch. It is in the same family as ragwort, and has ragwort-like yellow flowers during May to October, that go on to form fluffy seeds. German ivy is fast-growing and has a dense, smothering habit.
Greater bindweed	<i>Calystegia silvatica</i>	Greater bindweed is a scrambling, twining vine, which produces white, trumpet-like flowers from October to May. The large, arrow-shaped leaves are arranged alternately along the stems and usually die back during winter. It has thick, white roots that can spread out over wide distances, helping it spread easily. It scrambles up and over other plants and out-competes them by smothering, particularly affecting the survival of native species on streambanks, forest margins and in wetlands.



Common name	Scientific name	Description
Hakea	<i>Hakea spp.</i>	Hakea is an upright shrub or small tree, often characterised by extremely spiny hairs or leaves with wooden fruits and small yellow, white or cream flowers. Hakea grows on thin, poor soils including gumlands, scrub, open hillsides and sandy soils, and can form dense populations. Winged seeds, two per fruit, are released on the death of the adult plant.
Himalayan fairy grass	<i>Miscanthus nepalensis</i>	Himalayan fairy grass is a tall, perennial grass that forms tufted clumps 1-2 metres tall. It has long, stiff leaf blades, mid-green in colour with a white mid-rib. The drooping, fan-shaped, golden-brown flower heads grow on a long stem. It grows in sunny areas such as roadsides, waste areas, forest margins, cliffs, and disturbed sites. Himalayan fairy grass produces large numbers of wind-dispersed seeds. It will rapidly colonise disturbed or open areas.
Himalayan honeysuckle	<i>Leycesteria formosa</i>	Himalayan honeysuckle is a shrub that grows up to two metres tall. It has straight, hollow stems and heart-shaped leaves. From December to May, drooping spikes of white and reddish-purple flowers grow. They are followed by juicy, dark brownish-purple or red berries. Himalayan honeysuckle grows rapidly to produce dense thickets that replace and exclude other species. It prefers sunny sites but can tolerate shade, frost, physical damage, damp, and most soils.
Jasmine	<i>Jasminum polyanthum</i>	Jasmine is a vigorous scrambling climber that forms large, dense mats. It can climb up trees and produce underground runners that begin new patches. It is evergreen, but is frost tender. Leaves are opposite, usually with seven long-stalked, spear or egg-shaped leaflets. Flowers are white and very fragrant, and occur in clusters. Jasmine grows rapidly and forms dense, long-lived masses. It competes with slower-growing native species in riparian zones and clearings, particularly when these are at the juvenile stage.
Kangaroo acacia	<i>Acacia paradoxa</i>	Kangaroo acacia is a perennial shrub up to about three metres tall. Spines are up to one centimetre long. Clusters of many yellow flowers are borne between July and October. It produces numerous seeds, which probably remain viable for more than a year. Seed banks in the invasive range have been recorded at 1000 seeds per square metre. Kangaroo acacia can form very dense stands and is known to be invasive overseas.
Lily of the valley vine	<i>Salpichroa origanifolia</i>	Lily of the valley vine is a scrambling, fast-growing, perennial herb. It has numerous stems which are erect at first, then grow outwards trailing for up to three metres. Oval-shaped, hairy leaves are produced singly or in pairs and each pair is unequal in size. Flowers are bell-shaped, white or cream. Small berries are pale yellow when ripe. It is mainly found in disturbed habitats including scrub, roadsides, waste places, gardens, river banks and coastal ecosystems.
Oxylobium	<i>Callistachys lanceolata</i>	Oxylobium is a tall, evergreen shrub with densely hairy angular stems. Leaves are oval-shaped and narrow, silky when young and hairless and smooth when mature. Dense flower clusters of yellow/orange pea-like flowers appear in spring. Seedpods are densely silky initially but become hairless, hard and ribbed when mature. Oxylobium is a fast-growing, thicket-forming species that colonises rapidly after disturbance. It can out-compete other plants, particularly low-growing shrubs and ground cover species.
Paperbark poplar	<i>Melaleuca quinquinervia</i>	Paperbark poplar is an evergreen tree up to 20-30 metres tall. The bark is shed in pale, papery layers and leaves are aromatic. It has prolific roots capable of penetrating to depths of over one metre. Flowers are white with pronounced stamens, and seeds are tiny. The deep and extensive root system provides a competitive advantage in accessing water. Foliage is highly flammable and can fuel fires which may damage co-occurring vegetation.
Periwinkle	<i>Vinca major</i>	Periwinkle is a scrambling groundcover plant that resembles a vine. It has blue-violet flowers and trailing stems that can grow more than two metres long

Common name	Scientific name	Description
		and take root where they come in contact with the soil. Its leaves are glossy and arranged in opposite pairs on the stem. Periwinkle is fast-growing, tolerant of shade, and moderately tolerant of dry or wet conditions. Its creeping, layering habit allows it to form dense, long-lived stands.
Prickly moses	<i>Acacia verticillata</i> (A. v. subsp. <i>cephalantha</i> and A. v. subsp. <i>ruscifolia</i> )	Prickly moses is a short-lived shrub or small tree. Twigs are ribbed and hairy and leaves are reduced to flattened leaf stalks. Flowers are pale yellow and grouped on flower heads during September and November. Prickly moses can dominate disturbed ecosystems such as regenerating bush and roadsides. Coastal dune ecosystems may be vulnerable due to frequent disturbance, suitable habitat and a lack of structurally equivalent natives. Mass recruitment following fire or soil disturbance can lead to almost impenetrable stands with little under-storey.
Sharp rush	<i>Juncus acutus</i>	Sharp rush is a perennial, spiny rush forming dense stiff clumps up to one metre tall. Stems are cylindrical and sharp tipped, and rhizomes woody. Clumped green/brown flower heads occur near the end of each stem in summer. Red/brown/orange fruit capsules are present in autumn, with approximately 200 seeds per head. Can form dense stands which can affect use of waterways, obstruct water flow and exacerbate flooding. Can invade damp pasture and salt marsh areas, leading to local dominance at the expense of valued pasture species and reduced species richness and diversity.
Sexton's bride	<i>Rhaphiolepis umbellata</i>	Sexton's bride is a perennial shrub up to about three metres tall. Clusters of flowers appear from July to December. Petals are white, stamens and sepals pink/red. Fleshy, purple-black fruit, about six to 12 millimetres diameter, ripen during March-April. Coastal cliff habitats are most at risk. There is some displacement of native plants in coastal areas, based on the current level of naturalisation.
Sycamore	<i>Acer pseudoplatanus</i>	Sycamore is a large tree up to 20 metres tall, with a smooth trunk. Leaves are five-lobed, green but with reddish petioles up to 15 centimetres long. Sycamores have a copious seed production, producing more than 10,000 winged seeds a year. Preferred habitats include open or regenerating forest/scrub and forest margins (including pine plantations as well as native vegetation). Sycamore seedlings grow rapidly, and the tree is a competitive coloniser of open sites.
Sydney golden wattle	<i>Acacia longifolia</i>	Sydney golden wattle is a shrub or small tree that grows up to about 10 metres tall. Its leaves are narrow with two prominent veins. It produces spikes of pale or golden yellow flowers during July and August and seed pods up to 120 millimetres long. Sydney golden wattle has high growth rates and uses a lot of water, so it can shade out other species and reduce water availability. Its deep leaf litter layer suppresses seedling establishment and its ability to fix nitrogen gives it a competitive advantage in a wide range of soil types.
Taiwan cherry	<i>Prunus campanulata</i>	Taiwan cherry is a deciduous, small, spreading tree usually 3-8 metres tall when mature. Leaves are hairless and thin, with a long tapered tip. Bell-shaped flowers appear between July-September, hanging in clusters of 2-3 on short stalks. Fruit are scarlet, and like a small cherry. The tree invades native forest, and there is likely to be competition with and displacement of native plant species. It is likely that this species is still in a lag phase, with potential to substantially increase in abundance in forest fragments due to bird-dispersed seeds.
Velvet groundsel	<i>Roldana petasitis</i>	Velvet groundsel is a large shrub or bush up to two metres tall. It has round, lobed, hairy leaves that feel soft and velvety. Its stems are also hairy and are usually reddish in colour. The bush has small, bright-yellow, daisy-like flowers from July to November, followed by white fluffy seed heads. It is fast growing and can out-compete other plant species, smothering them and shading them out.

Table 6.1 Pest plants banned from sale in Northland

## 6.4.2 (b) Road and rail

Areas of disturbed, unrehabilitated or unmanaged ground such as road reserves and rail corridors can exacerbate the spread of weeds to new places. These often large areas of ground, very suitable for weeds, can spread weeds into farmland and environmental areas and popular tourist routes. The pest plants in the sustained control programme are pests that are widespread in suitable habitat throughout Northland. These pest plants all cause adverse effects to the environmental, economic, social or cultural values of the region. Road and rail authorities have requirements to act and this responsibility is stated in 3 'Responsibilities and obligations | Takohanga me ngā herenga' of this Plan.

### Objective

For the duration of the Pest Plan, reduce the impacts of sustained control plants found within the road reserve and rail corridors on the environmental, economic, social and cultural values of Northland.

### Aims

- The impacts of the road and rail pest plants along transport corridors are reduced.
- Transport corridors are rehabilitated to improve resilience to reduce future weed re-invasion.

### Rules

#### Rule 6.4.2.1

Road and rail authorities must control pest plants on land they occupy where the adjacent or nearby land occupier is taking reasonable measures to manage these species or their impacts on pastoral production or environmental values. This rule will be enforced on complaint from a directly-affected land occupier, where the pest plant is present at a such a density that significant cost is being imposed on a neighbour or adjacent neighbour.

#### Rule 6.4.2.2

Road and rail authorities are required to prepare and implement a five-year road and rail weed management plan negotiated with, and agreed to by Northland Regional Council. This plan shall include any or all of the pest plant species in this Pest Plan. Priority species include broom, Taiwan cherry, cotoneaster, gorse, wilding conifers, and wild ginger.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

#### Exemption to rule 6.4.2.2

An exemption to this rule may be granted subject to development and implementation of a prioritised annual operational plan agreed to by Northland Regional Council.

### Principal measures

#### Requirement to act

- Road and rail authorities are required to undertake actions to help reduce the impacts and spread of the sustained control pests.
- Road and rail authorities develop and implement prioritised operational plans for weed control along transport corridors.
- The purpose of the rules is to assist in reducing the impacts on values and spread to other properties of sustained control pest plants in Northland.

#### Council inspection

- Council staff and/or their contractors may visit places 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 assist road and rail authorities to develop and implement operational plans for weed control.
- Council will encourage other land occupiers to help control weeds along transport corridors from the safety of their property boundary.



## ***Advocacy and education***

- Council will provide training to relevant council staff and stakeholders in the identification and control of the road and rail sustained control plants.
- Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of these pest plants.
- Road and rail authorities are encouraged to rehabilitate transport corridors where possible to improve resilience and reduce future weed invasion.

## **Responsibilities**

Road and rail authorities are responsible for controlling pests on road reserves and rail corridors that they occupy. This also includes:

- rest areas;
- weigh pits and stockpile areas;
- road reserves or rail corridors where works have contributed to the establishment of named pests;
- other isolated areas of road reserve or rail corridor, mainly for safety reasons;
- road reserves or rail corridors adjacent to land where the landowner or occupier is undertaking pest management.

Where the road reserve boundary is unknown it will be taken as 10 metres from the road centre line.

Adjacent land owners or occupiers are responsible for controlling pests on road reserves and rail corridors in the following situations:

- unformed (paper) roads or rail corridor that they occupy, or are contiguous to the land they occupy;
- on land beyond 10 metres of the road centre line where the road reserve boundary is unknown;
- where fences encroach into a surveyed road reserve, the occupier adjoining the road reserve is responsible for pests within that fenced area;
- where adjacent occupiers do not support the use of toxins to control pests (for example, organic farming practices), the occupier adjoining the road reserve is responsible for pest control in the road reserve as well. An approved traffic management plan from the roading authority may be required.

## **Priorities**

Northland includes about 8380 kilometres of road reserve and 223 kilometres of rail corridor. The council recognises the difficulties faced by road and rail authorities undertaking weed control over large

areas and encourages development of annual operational plans for transport corridors with the following priorities:

- through high-visibility public spaces such as town entrances;
- near schools and other public spaces;
- where resealing and/or rehabilitation is already underway or is planned;
- through areas of high biodiversity value;
- in areas with a low incidence of the target weed species;
- in areas adjacent to low re-infestation areas such as weed-free farmland;
- in areas with high traffic volumes; and
- on receipt of a complaint from a directly-affected land occupier.

# 7 Animals | Ngā kararehe

Animal pests threaten biodiversity and limit native forest regeneration. Animal pests which have invaded Northland have had devastating impacts on our forests, pastures, scrubland and, to a lesser extent, urban areas. Northland's warm climate favours the establishment for animal pests and mild winters enable their survival and persistence. Many animal pests have the ability to outcompete native birds, predate on native invertebrates and consume native vegetation. These pests can be difficult to manage and require persistent effort to control.



*Image credit; I. Middleton*

# 7.1 Exclusion animals

Exclusion animals are potential pests which are not known to have established in Northland, or have previously established and have been eradicated. These pests all have the potential to re-establish in the region and are capable of causing adverse effects to the environmental, economic, social or cultural values of the region. The following information applies to all exclusion animals.

## Objective

For the duration of the Pest Plan, avoid impacts to biodiversity, cultural, and economic values by preventing the establishment of exclusion animals in Northland.

## Aims

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

## Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute, release or otherwise spread any pest in this Plan. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

## Rules

### Rule 7.1.1

Every person who sees, or suspects the presence of any exclusion animal, shall immediately report the sighting to Northland Regional Council.

### Rule 7.1.2

No person shall possess any exclusion animal within Northland.

*A breach of these rules will create an offence under Section 154 N(19) of the Act.*

## Other relevant legislation or programmes

Rooks are unwanted organisms under the Biosecurity Act 1993. Rainbow lorikeets are unwanted organisms under the Biosecurity Act 1993, with an exemption for people to hold and sell birds.

## Principal measures

### *Requirement to act*

People are required to report the presence or suspected presence of exclusion animals and may not possess those pests.

The purpose of the rules is to assist in preventing exclusion animals from becoming established in Northland.

### *Council inspection*

Council staff and/or their contractors will conduct searches in areas that are vulnerable to infestation by exclusion animals.

Council staff will undertake compliance activities when required, such as rule enforcement, action on default, prosecution and processing exemptions.

### *Service delivery*

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

### *Advocacy and education*

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



### Bearded dragon (*Pogona barbata*)

Bearded dragons are grey-brown reptiles native to Australia, which can grow to 55 centimetres long. The throat is covered with distinctive spiny scales which can be raised to form a black "beard". The inside of the mouth is usually a bright yellow colour. Bearded dragons have long, spiny scales along the lower sides of the body. Bearded dragons are active during the day and can move with considerable speed. Juveniles are insectivorous and adults are omnivorous, eating mainly insects and some vegetation. The lifespan in the wild is unknown but they are known to live for more than 10 years in captivity. Potential for predation on native invertebrates as they are opportunistic omnivores, also competition for food and resource with native species.



Image credit; Frank C. Muller

#### Exemption to rule 7.1.2

Bearded dragons may be held in captivity, bred and sold, but it is illegal to release them into the wild.

### Big-headed ant (*Pheidole megacephala*)

Big-headed ants are relatively small, grey-yellow to dark brown in colour and covered in many sparse, long hairs. They have two main growth forms. Major workers are usually about 3.5 millimetres long with large, heart-shaped heads while minor workers are about two millimetres long. Big-headed ants are omnivorous, feeding on seeds, invertebrates and small vertebrates. This can affect invertebrate communities, vegetation and ecosystem processes. They are aggressive to other ants and can reach high densities.



Image credit; Sarefo

### Blue tongued skink - common (*Tiliqua scincoides*) and blotched (*T. nigrolutea*)

Common blue-tongue skinks are native to Australia and can grow to 60 centimetres long. They have dark bands around the body and tail, a cream-coloured belly, and a large, triangular head with a distinctive bright blue tongue. Blotched blue-tongue skinks are mostly black with varying amounts of light brown or grey blotches or bands. They also have the distinctive blue tongue. Blue-tongue skinks are omnivorous, feeding during the day on berries, fruits, eggs, invertebrates and small vertebrates, as well as carrion. They can live for more than 30 years in captivity. Potential for predation on native invertebrates, smaller lizards and birds and their eggs as they are opportunistic omnivores. Also competition for food and resource with native species. Potential for disease transmission to other reptiles (for example, mites, endoparasites, skin conditions, and they can transmit *Salmonella*).



Image credit; Harrison

### Exemption to rule 7.1.2

**Exemption:** Blue tongued skinks may be held in captivity, bred and sold, but it is illegal to release them into the wild.

### Indian ring-necked parakeet (*Psittacula krameri*)

Also known as: rose-ringed parakeet.

Indian ring-necked parrots are 38-42 centimetres, typically with a green body. Colour variations are available due to selective breeding/mutation. The neck is encircled by a red band (males) or indistinct emerald band (females). The parrots are gregarious and feed and breed in groups. They are highly aggressive to other species, including birds and small mammals such as bats, and have the potential to competitively exclude other cavity-nesting species through eviction or early occupancy and successful defence of cavities.



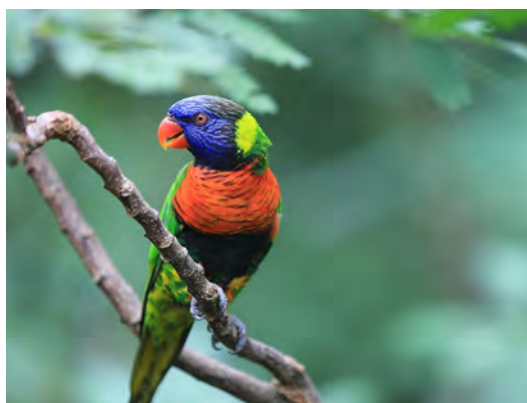
*Image credit; Dick Daniels*

### Exemption to rule 7.1.2

Indian ring-necked parakeets may be held in captivity, bred and sold, but it is illegal to release them into the wild.

### Rainbow lorikeet (*Trichoglossus haematodus*)

Rainbow lorikeets are long-tailed, brightly-coloured parrots, about 30 centimetres long. They have a bright-red beak and eyes, a blue head and belly, green wings, tail and back, and an orange/yellow breast. They make distinctive screeching and chattering calls and are almost always seen in pairs or in flocks. Rainbow lorikeets look very similar to the more common eastern rosella, but rosellas have a red head and the lorikeet's head is blue. Rainbow lorikeets are prolific breeders and can compete with native birds for food and nesting sites. They can also carry diseases that can threaten the health of native bird species.



*Image credit; D. Gordon, E. Robertson*

### Exemption to rule 7.1.2

Rainbow lorikeets may be held in captivity, bred and sold, but it is illegal to release them into the wild.

## Rook (*Corvus frugilegus*)

Rooks are black birds about the same size as magpies. Adults are black except for their face, which has light-grey skin bare of feathers. Juvenile birds have a black-feathered face. Rooks have long, pointed black beaks and dark-brown eyes. They can cause serious damage to farms and market gardens as they feed on most types of crops, either eating the seed heads or pulling out young plants. They occasionally pierce fruit such as apples and pears with their bills, and can also tear up large areas of pasture looking for invertebrates.



Image credit; H. Zell

## Sulphur crested cockatoo (*Cacatua galerita*)

Sulphur-crested cockatoos are large, white birds that have prominent yellow crests on the tops of their heads. There is also pale yellow on the underside of the tail and wing. Their beaks are black and their eyes are a dark red-brown. Females are slightly larger than males and juveniles have a paler eye, and may have some grey in their plumage. Sulphur-crested cockatoos usually occur as pairs or small groups in spring and summer and may form large flocks in autumn and winter. Sulphur-crested cockatoos may effect threatened species either directly (by defoliating plants) or indirectly (through competition for nest sites or by changing vegetation composition or structure).



Image credit; John Turnbull

### Exemption to rule 7.1.2

Sulphur crested cockatoo's may be held in captivity, bred and sold, but it is illegal to release them into the wild.

## Wallaby (*Macropus*, *Petrogale* and *Wallabia species*)

Wallabies are small marsupial animals that look like small kangaroos. They are silver-grey to dark brown in colour. Wallabies live in scrub, native forest and production forests, preferring the edges of these habitats. They are nocturnal and start feeding during early to late evening when they eat grasses, native shrubs and trees. Their browsing of native plants changes vegetation composition with subsequent negative impacts on the indigenous flora and fauna.



Image credit; Adamantios



## 7.2 Eradication animals

The following information refers to feral deer.

### Objectives

- To maintain low 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 feral populations of deer in Northland.

### Aims

- 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.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute or otherwise spread any pest in this Plan. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Rules

#### Rule 7.2.1

Every person who sees or suspects the presence of any feral deer in Northland, must immediately report the sighting to Northland Regional Council.

*A breach of this rules will create an offence under Section 154 N(19) of the Act.*

### Other relevant legislation or programmes

Deer are considered feral wherever they are not:

- held behind fencing that meets the requirements of the Deer Farming Regulations; and
- identified as required by those Regulations.

The Department of Conservation is responsible for regulating deer farming under the Wild Animal Control Act 1977. This includes specifying the areas deer farming is allowed, the fencing requirements and other requirements.

### Principal measures

#### *Requirement to act*

- People are required to report the presence or suspected presence of feral deer.
- The purpose of the rule is to help prevent the successful establishment of feral deer in Northland.

#### *Council inspection*

- Council staff, other agencies and/or contractors will conduct searches in areas that are vulnerable to infestation by feral deer.
- Council staff will undertake compliance activities when required, such as rule enforcement, action on default, prosecution and processing exemptions.

#### *Service delivery*

- Reduction and eradication of infestations of feral deer will be attempted by the Northland Deer Response team where practicable as part of the joint agency programme run by the council, Department of Conservation and other stakeholders.

#### *Advocacy and education*

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

## **Feral deer (*All Cervus, Dama and Odocoileus species and hybrids*)**

There are currently three species of deer known to be present in Northland: red deer (*Cervus elaphus scoticus*), fallow deer (*Dama dama*) and sika deer (*Cervus nippon*). Red deer and fallow deer are farmed but sika deer is present only as a result of illegal releases.

Red deer are the largest of the three species and tend to be reddish-brown, occasionally with white spots around the spine. Sika deer are one of the few deer species that does not lose its spots upon reaching maturity. Fallow deer are the most variable of any deer species in New Zealand with four quite distinctive colour phases. The most common colour is a brown-black back with paler grey-brown underside and neck, and no spots.



Deer are selective browsers and target particular forest species over others. This can result in significant changes to forest composition and has effects on the fauna that rely on those plants. Deer can destroy the under-storey of native forest by browsing, grazing, bark-stripping and trampling, which in turn may increase soil erosion. Feral deer can reduce production by damaging crops and exotic forests. They have also been implicated in the transmission of bovine tuberculosis.

## 7.3 Sustained control animals

Sustained control animals are pests that are widespread in suitable habitats throughout Northland. These pests all cause adverse effects to the environmental, economic, social or cultural values of the region. Biodiversity projects involving the sustained control pests are managed outside the Pest Plan through Biosecurity Partnership Programmes. The following information applies to all of the sustained control animals.

### Objective

For the duration of the Pest Plan, reduce the impacts of sustained control animal pests on the biodiversity, cultural and economic values in Northland.

### Aim

- To help landowners, occupiers and the public to gain knowledge and skills to help reduce the impacts and spread of the sustained control pests.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute, release or otherwise spread any pest in this Plan. Section 53 also includes organisms which may contain or harbour a pest or unwanted organism. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Other relevant legislation or programmes

The Wild Animal Control Act 1977 includes requirements for keeping wild animals in captivity including identification and fencing, and restricts the release of wild animals.

### Principal measures

#### *Requirement to act*

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 in reducing the impacts on values and spread to other properties of the sustained control pests in Northland.

#### *Council inspection*

Council staff and/or their contractors will visit places 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 staff will provide education and advice to owners, occupiers and the public about sustained control pests and how to control them.

#### *Advocacy and education*

Council will provide training to relevant council staff and stakeholders regarding 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 animal pests.



## Argentine ant (*Linepithema humile*) and Darwin's ant (*Doleromyrma darwiniana*)

Argentine ants are only 2–3 millimetres long and are a uniform honey-brown colour. Foraging ants move steadily in defined continuous trails that can often be seen going up trees or shrubs, especially if these are flowering. The ants cannot sting but some people react to their bite. They have a slight greasy odour when crushed, as opposed to the strong formic acid smell of some ant species. Darwin's ants are about two millimetres long. They have a dark-brown head but the rest of the body and the legs are light brown. They look similar to Argentine ants but they give off a strong odour when crushed.



Image credit; Andrew Townsend

### Rule 7.3.1

No person shall knowingly transport, distribute, sell or offer for sale any material or equipment that may contain or harbour Argentine ant or Darwin's ant without first undertaking suitable control measures to eliminate those ants.

### Rule 7.3.2

Where a property, through activities undertaken on the property, is identified as a portal for the active distribution of ants, a management programme to control or contain the infestation is required to be implemented by the land occupier.

*A breach of these rules will create an offence under Section 154 N(19) of the Act.*

## Cats - feral and stray (*Felis catus*)

Feral and stray cats are widely distributed throughout New Zealand and live in most terrestrial habitats. Feral cats have none of their needs provided by humans. They do not usually live around centres of human habitation and their population is self-sustaining. Stray cats are companion/domestic cats that have been lost or abandoned. They may have many of their needs indirectly supplied by humans and live around centres of human habitation. Companion cats, which are excluded from this plan, live with humans as a companion and are dependent on them for their welfare. Cats are generalist predators and can have large home ranges. It is estimated that feral, stray and companion cats kill up to 100 million birds in New Zealand each year. They are a major predator of kiwi chicks and also eat eggs, lizards, invertebrates and frogs. Cats that are not given regular preventative treatments can spread diseases, such as toxoplasmosis.



## Feral goat (*Capra hircus*)

Under the Wild Animal Control Act 1977, any goat that is not suitably identified and effectively contained is recognised as a “wild” or feral goat. Feral goats vary in size and colour and are social, preferring to travel in small groups. Goats destroy the under-storey of vegetation and, when combined with possum damage to the upper canopy, severe deterioration of native forest occurs. Browsing reduces vegetation cover and density and causes the loss of plant species' richness and altered community composition in favour of unpalatable species. Goats also damage vegetation planted on land retired for soil conservation purposes and newly planted or young trees in exotic forests.



### Rule 7.3.3

No person shall keep in captivity or farm goats within one kilometre of the boundaries of areas of regionally significant indigenous habitat identified on maps held by Northland Regional Council.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

### Exemption to rule 7.3.3

Goats may be kept within these areas subject to the conditions stated in an exemption issued by the Northland Regional Council.

## Feral pig (*Sus scrofa*)

Under the Wild Animal Control Act 1977, any pig that is living in a wild state and is not being herded or handled as a domestic animal or kept within an effective fence or enclosure for farming purposes, is recognised as a wild or feral pig. Feral pigs occur in both native forest and exotic plantations, and are well established throughout New Zealand. They are smaller and more muscular than domestic pigs.



Feral pigs eat grasses and crops and cause damage through uprooting. They can destroy forests by uprooting trees and saplings and eating native plants. Feral pigs eat native animals and are particularly damaging to native insect numbers. They are known to be carriers of bovine tuberculosis and leptospirosis and may also contribute to the spread of kauri dieback disease.

### Rules

#### Rule 7.3.4

No person shall knowingly feed or provide access to food for feral pigs in Northland.

#### Rule 7.3.5

No person shall liberate or release pigs, feral or domestic, in Northland

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

#### Exemption to rule 7.3.4

Using feed to trap and kill wild pigs is permitted.



### **Mustelids - ferret (*Mustela furo*), stoat (*Mustela erminea*) and weasel (*Mustela nivalis vulgaris*)**

Ferrets, stoats and weasels belong to a group of animals known as mustelids. Ferrets are the largest of the three species at about 48-56 centimetres long, including the tail, and are usually dark brown or blackish with a creamy under fur. Stoats, the most common of the three mustelids, grow to 34-40 centimetres long, are very thin. Stoats have a chestnut-brown coat, which turns white in winter, a light-coloured belly, and a bushy, black-tipped tail. Weasels are the smallest and least common of the three mustelids, growing to 20-25 centimetres long with similar colouring to a stoat. Weasels will attack prey that is much larger than themselves. Mustelids are widespread throughout Northland. They can be devastating to native bird life and other fauna. Native bird species, lizards, frogs and large native insects (like weta) are particularly susceptible to mustelid attack.



*Image credit; Keven Law*

#### **Rule 7.3.6**

No person shall possess any live mustelid in captivity or as a pet in Northland.

*A breach of this rule will create an offence under Section 154 N(19) of the Act.*

### **Possum (*Trichosurus vulpecula*)**

Possums are furry marsupial animals of medium to stout build with thick, bushy tails. Their bodies are 38-45 centimetres long excluding the tail. They can be grey or black. Possums have large eyes and catlike whiskers, which are characteristic of nocturnal animals. Possums are found throughout the region, although their density varies from area to area. They are one of the most destructive animals in a forest environment. Their browsing damages and destroys forests, and affects pasture, vegetable and horticultural crops. Possums can be a vector in the spread of diseases affecting domestic animals and people, including bovine tuberculosis.



*Image credit; Christopher Watson*

#### **Rule 7.3.7**

No person shall transport any possum, dead or alive, into Northland.

#### **Rule 7.3.8**

No person shall possess any live possum in captivity or as a pet in Northland.

*A breach of these rules will create an offence under Section 154 N(19) of the Act.*

## Rabbit (*Oryctolagus cuniculus cuniculus*)

Rabbits are usually grey-brown in colour, with other colour varieties occasionally occurring in the wild. They may live in communal warrens (underground tunnels with multiple entrances) or above-ground where sufficient cover exists.

Rabbits are widespread throughout Northland at varying levels of infestation. Soil type and land management have a significant influence on population levels, with the greatest densities on hard-grazed lighter and drier sandy and volcanic soils. Rabbits breed rapidly and populations can recover quickly after being reduced by disease, control pressures or environmental changes. They eat a variety of plant matter including grasses (they compete directly with stock for grazing and can sour pasture by eating out the most palatable species of grass), seedlings of trees and crops.



Domestic rabbit varieties, when in proper confinement, are excluded from the Pest Plan.

## Rats - including Norway rat (*Rattus norvegicus*) and ship rat (*Rattus rattus*)

Rats are widespread throughout Northland. Norway rats are the larger of the two European rats found in New Zealand. Their coats are grey-brown and shaggy with a pale underside. Ship rats are smaller than Norway rats but their tails are larger and thicker and longer than their bodies.

Rats are mainly nocturnal. They have a varied diet that includes native birds, eggs and chicks, invertebrates, frogs, and lizards. They eat large quantities of native seeds, either from the ground or straight from the tree (in the case of ship rats, which can climb high into the canopy). Norway rats are common in wet habitats and urban areas. Ship rats are found in most habitats and they are the most abundant and widespread rat on mainland New Zealand. Since their arrival in New Zealand, rats have had significant impacts on native flora and fauna, and have been implicated in the decline of many native species.



*Image credit: DOC*

Domestic rat varieties, when in proper confinement, are excluded from the Pest Plan.

# 8 Diseases and pathogens | Ngā mate urutāme ngā tuku mate

Diseases and pathogens are a serious threat to Northland's native biodiversity, industry, cultural and social values. Diseases and pathogens are often difficult to detect and, once they are detected, difficult to manage. Diseases and pathogens require new and novel methods for control and furthermore, a high level of community awareness especially for identifying and minimising vectors of spread. The following section describes the management of diseases and pathogens of particular concern in Northland.



*Image credit: MPI*

## 8.1 Sustained control diseases

Sustained controlled diseases are one in which they are widespread throughout Northland in suitable habitats. The following section relates to the management of kauri dieback disease in Northland.

### Objectives

- 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

- 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.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute or otherwise spread any pest in this plan, or any unwanted organism. Section 53 also includes organisms which may contain or harbour a pest or unwanted organism. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Rules

#### 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 kauri dieback shall immediately report the sighting to Northland Regional Council or an appropriate management agency.

*A breach of these rules will create an offence under Section 154 N(19) of the Act.*



## Principal measures

### *Requirement to act*

- Members of the public are required by Rule 8.1.1 and Sections 52 and 53 of the Biosecurity Act 1993 to take action to help reduce the impact and spread of kauri dieback.
- People are required to report the presence or suspected presence of kauri dieback.
- The purpose of these rules are to help prevent the spread of kauri dieback and reduce the impact on values in Northland.

### *Council inspection*

- Council staff and/or their contractors will visit all places on private land suspected of containing kauri dieback to undertake further assessment or testing.
- Council staff will undertake compliance activities when required, such as rule enforcement, action on default, prosecution and processing exemptions.
- Council staff and/or their contractors will visit places to determine whether rules and management programmes are complied with and effective.

### *Service delivery*

- Council staff will provide education and advice to owners, occupiers and the public about kauri dieback and how to reduce the risks of spread.

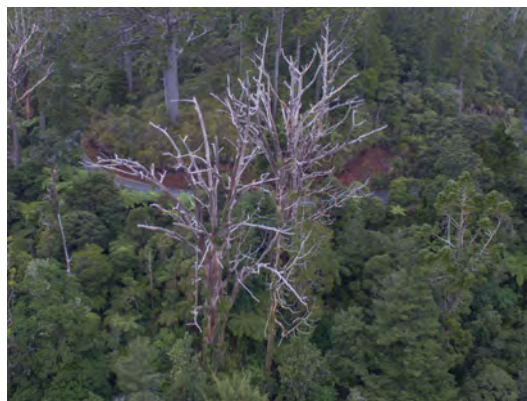
### *Advocacy and education*

- Council staff will assist land occupiers to develop management plans for kauri dieback.
- Council will provide training to relevant council staff and stakeholders about the identification of kauri dieback, and how to reduce the risks of spread.
- Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of kauri dieback.

## Kauri dieback (*Phytophthora agathidicida*)

Also known as: PA, kauri dieback disease, (formerly known as PTA or *Phytophthora taxon agathisa*).

Kauri dieback is a deadly, fungus-like disease that can kill kauri trees of any age. Spores in the soil infect kauri roots and damage the tissues that carry nutrients within the tree. Infected trees show a range of symptoms including yellowing of foliage, loss of leaves, canopy thinning, dead branches and lesions that bleed gum at the base of the trunk. However, some trees can show symptoms of dieback and even be killed without any gum showing on the trunks. There is no known cure for kauri dieback and the disease kills most, if not all, kauri it infects. Kauri dieback disease produces millions of spores that are spread through soil movement. Resting spores (oospores) can be found in root tissue and soil around infected trees and can survive for many years. Motile spores (zoospores) are produced in wet conditions and move through water films in soil. There is no known cure for Kauri dieback disease.



*Image credit; MPI*

# 9 Freshwater | Wai Māori

Freshwater is one of Northland's most precious resources, and the lakes, rivers and streams provide habitats for native birds, fish, invertebrates and a wide range of aquatic and wetland plants. Northland lakes are of national and international significance, with dune lakes the predominant lake type. Northland has the greatest number of dune lakes nationally, and represents a large proportion of warm, lowland New Zealand lakes, still with relatively good water quality. These lakes and their surrounding wetland margins support a range of endemic endangered species. They provide the only known habitats and are national strongholds for animal and plant life.

Perhaps the most outstanding character of these lakes is the currently limited impact of invasive species on the animals and plants, which is unparalleled in any other region of mainland New Zealand. Freshwater pests can be hard to detect, more so than pests on land, and can easily spread throughout connected waterways. As a result, pest control can be a challenging exercise, alongside the fact that a limited number of management tools is currently available.



*An example of Northland's outstanding freshwater biodiversity values can be found at the Kai iwi lakes.*

## 9.1 Exclusion freshwater pests

Exclusion freshwater pests are potential pests which are not known to have established in Northland or have previously established and have been eradicated. These pests all have the potential to re-establish in the region and are capable of causing adverse effects on the environmental, economic, social or cultural values of the region. The following information applies to all of the exclusion pests.

### Objective

For the duration of the Pest Plan, avoid impacts to biodiversity, cultural and economic values by preventing the establishment of exclusion freshwater pests in Northland.

### Aims

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

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute, release or otherwise spread any pest in this Plan. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Rules

#### Rule 9.1.1

Every person who sees, or suspects the presence of any exclusion freshwater pest, shall immediately report the sighting to the Northland Regional Council.

#### Rule 9.1.2

No person shall possess any exclusion freshwater pest (including any seeds or live vegetation) within Northland.

*A breach of these rules will result in an offence under Section 154 N(19) of the Act.*

### Other relevant legislation or programmes

These species are unwanted organisms under the Biosecurity Act 1993 and/or are listed in the National Pest Plant Accord 2012.

### Principal measures

#### *Requirement to act*

- People are required to report the presence or suspected presence of exclusion freshwater pests and may not possess those pests.
- The purpose of the rules is to assist in preventing the exclusion freshwater pests from becoming established in Northland.

#### *Council inspection*

- Council staff and/or their contractors will conduct searches in areas that are vulnerable to infestation by exclusion freshwater pests.
- Council staff will undertake compliance activities when required, such as rule enforcement, action on default, prosecution and processing exemptions.

#### *Service delivery*

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

#### *Advocacy and education*

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



### Marshwort (*Nymphoides geminata*)

Marshwort is a bottom-rooted perennial water lily-like plant. It has long-branched running stems, several metres long. The leaves are 30-80 millimetres long, broadly ovate and are smaller than the leaves of other water lilies. Marshwort has bright-yellow flowers with five petals and hair-like margins, which sit above the water surface on long stalks that grow in pairs. Marshwort rapidly colonises shallow water, forming dense mats which block waterways and smother other aquatic plants. It has a history of invasiveness overseas and closely related plants are also invasive. It can rapidly out-compete other ornamental lily species.

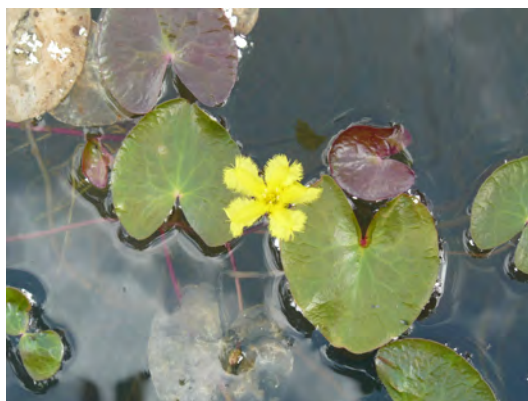


Image credit; Trevor James, AgResearch

### Orfe (*Leuciscus idus*)

Orfe are a native of Northern Europe and were illegally introduced to New Zealand in the 1980s. They are thought to have been eradicated from New Zealand but it is possible that they persist in some areas in the lower reaches of Northland. Orfe are similar to rudd in appearance with smaller scales and they lack the projection at the base of pelvic and pectoral fins that rudd have. Adult orfe have a varied diet, feeding on prey on the surface, mid-water and benthic areas. They will also switch to a vegetative diet when other food sources are scarce and as they grow larger. Orfe can grow to 80 centimetres long. Orfe are carnivores and compete with other native fish, they can tolerate brackish water and are likely to impact on taonga species.



Image credit; Viridiflavus, Wikipedia

### Water poppy (*Hydrocleys nymphoides*)

Water poppy looks like a water lily. It has thick, glossy, floating leaves attached to rubbery creeping stems and distinctive yellow flowers with a purple centre. The flowers have three petals and are up to eight centimetres across. Water poppy can grow in still or slow-flowing water that is less than two metres deep, especially if the water is warm and well-lit. It is an aggressive coloniser of ponds, streams, farm dams and lake margins. Water poppy quickly forms mats that block waterways and drains, causing flooding. It is a particular threat to native species that cannot compete with its aggressive growth.

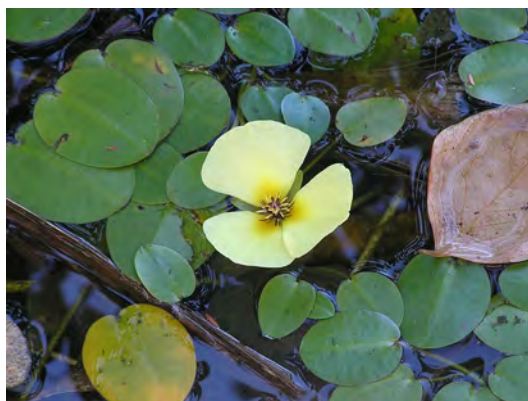


Image credit; ARC

## 9.2 Eradication freshwater pests

Eradication freshwater pests are pests that are present in low numbers or have a limited distribution within Northland and their eradication is thought 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 on the environmental, economic, social or cultural values of Northland. The council is either the lead agency or a partner for eradicating these pests from the region.

### Objective

For the duration of the Pest Plan, reduce impacts to biodiversity, cultural and economic values by eradicating identified pests in Northland.

### Aims

- The eradication 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 in Northland.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute, release or otherwise spread any pest in this Plan. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Rules

#### Rule 9.2.1

Every person who sees, or suspects, the presence of any eradication freshwater pest shall immediately report the sighting to Northland Regional Council.

#### Rule 9.2.2

No person shall possess any eradication freshwater pest (including any seeds, live vegetation, eggs or juveniles) within Northland.

*A breach of these rules will result in an offence under Section 154 N(19) of the Act.*

### Principal measures

#### *Requirement to act*

- People are required to report the presence or suspected presence of eradication freshwater pests.
- No person shall possess eradication freshwater pests.
- The purpose of the rules is to assist in preventing eradication freshwater pests from spreading in Northland.

#### *Council inspection*

- Council staff and/or their contractors will conduct searches in areas that are vulnerable to infestation by eradication freshwater pests.
- Council staff will undertake compliance activities when required, such as rule enforcement, action of default, prosecution and processing exemptions.

#### *Service delivery*

- Control of infestations of eradication freshwater pests will be attempted by the council in conjunction with relevant Crown agencies and stakeholders where practicable, unless defined by a specific rule.

#### *Advocacy and education*

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

### Eastern water dragon (*Intellagama lesueurii lesueurii*)

Eastern water dragons are the largest species of exotic lizard available in the New Zealand pet trade and can grow about 80 to 90 centimetres long. They are a grey to brownish-grey colour above with patterns of black stripes along the ridge of the back and down the tail, and a dark stripe from the eye down the neck. They are yellowish-brown underneath, with the chest becoming bright red in mature males. Adult water dragons have very sharp claws and can deliver a serious bite. They are capable of thriving in urban environments. There are no known populations currently established in the wild in Northland, or elsewhere in New Zealand. Modelling indicates a very high risk of establishing in the wild in parts of New Zealand. Eastern water dragons could be spread via the pet trade, accidental/intentional release or escape from captivity.



*Image credit; Adam J. W. C...*

#### Rule 9.2.3

Every person who sees an unconfined eastern water dragon or suspects the presence of any unconfined eastern water dragon must immediately report the sighting to Northland Regional Council.

#### Exemption to rule 9.2.2

Eastern water dragons may be held in captivity, bred and sold, but it is illegal to release them into the wild.

### Eel grass (*Vallisneria australis*)

Also known as: ribbongrass, eel weed.

Eelgrass is a submerged, bottom-rooted freshwater plant. It produces long, thick, strap-like leaves that are up to three metres long and 0.5-5 centimetres wide. The leaves never extend above the surface of the water. Eelgrass can be found in moderately-fast flowing water and still water bodies. It forms dense beds that displace native plants, may affect recreational activities, impede navigation and obstruct water out-takes.



*Image credit; Paul Champion, NIWA*

### Nardoo (*Marsilea mutica*)

Nardoo looks like a member of the clover family, but is actually a freshwater fern. It has flat leaves like a large four-leaf clover. Leaves float on the surface of the water on stalks up to one metre long, and roots form dense, floating masses. Nardoo grows either in water or on mud, and prefers water less than one metre deep, such as swamps, dams, lake edges and garden ponds. It can form dense beds of vegetation which can block dams and waterways, impede drainage and disrupt recreational activities. Nardoo out-competes native species and is also highly toxic to stock.

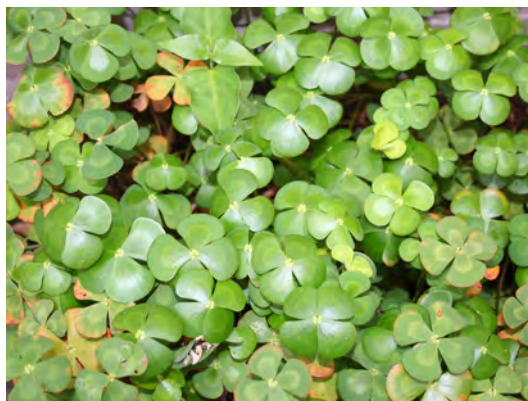


Image credit; Jason May

### Red-eared slider turtle (*Trachemys scripta elegans*)

Red-eared sliders are commonly sold as hatchlings, and as adults grow up to 30cm long. Their shell is olive to brown with yellow spots/stripes, and they have a distinctive red stripe behind each eye. The diet is omnivorous, including vegetation, zooplankton, molluscs, frogs, crustaceans, insects, gastropods, birds and small reptiles.

Red-eared sliders can inhabit a wide variety of still and slow-moving water bodies. They are capable of rapid range expansion via overland dispersal. They are classified as one of the "World's Worst Invasive Alien Species" by the World Conservation Union's (IUCN) Invasive Species Specialist Group.



Image credit; Greg Hume

#### Rule 9.2.4

Every person who sees an unconfined red-eared slider turtle or suspects the presence of any unconfined red-eared slider turtle must immediately report the sighting to Northland Regional Council.

#### Exemption to rule 9.2.2

Red-eared slider turtles may be held in captivity, bred and sold, but it is illegal to release them into the wild.



## Salvinia (*Salvinia molesta*)

Also known as: kariba weed.

Salvinia is a free-floating aquatic fern. With its hairy leaves and floating habit, it can be hard to recognise as a fern. Salvinia quickly forms extensive mats, completely smothering waterways, excluding native plants, impeding drainage, disrupting recreational activities and reducing water quality by lowering oxygen levels. Salvinia is a Notifiable Organism (Biosecurity (Notifiable Organisms) Order 2010) and is part of the National Interest Pests Response (NIPR). Management of this pest plant is led by the Ministry for Primary Industries.



Image credit: MPI

## Senegal tea (*Gymnocoronis spilanthoides*)

Also known as: temple plant, costata.

Senegal tea is a hardy, semi-aquatic, perennial herb. It can form rounded bushes up to 1.5 metres tall or scrambling mats of tangled stems that spread out over water. It produces distinctive, white, clover-like flowers in summer. Alligator weed and willow weed look similar, but the margins of Senegal tea leaves are bluntly serrated. Senegal tea grows very quickly. It can rapidly cover water bodies with a floating mat that displaces and out-competes native plants. It can block drainage channels causing flooding, and can affect recreational activities and irrigation.



Image credit: Weedbusters

## Snake-necked turtle (*Chelodina longicollis*)

Snake-necked turtles are medium-sized turtles, with an average length of 25 centimetres. They have long, narrow necks, and a shell that is black to light brown. They are endemic to Australia. They are semi-aquatic, preferring slow moving water, and are capable of long distance overland migration. If conditions are dry, they will seek out new habitat. Snake-necked turtles are opportunistic carnivores and feed on a broad range of plankton, bottom-dwelling macro-invertebrates, carrion and terrestrial insects. There are no known populations established in the wild in Northland or elsewhere in New Zealand. Climatic suitability modelling suggests that this species could find suitable nesting sites in some parts of New Zealand, including Auckland and Northland.



Image credit: Bidgee

### Rule 9.2.5

Every person who sees an unconfined snake-necked turtle or suspects the presence of any unconfined snake-necked turtle must immediately report the sighting to Northland Regional Council.

### Exemption to rule 9.2.2

Snake-necked turtles may be held in captivity, bred and sold, but it is illegal to release them into the wild.

### Water hyacinth (*Eichhornia crassipes*)

Water hyacinth is a free-floating plant that has glossy green leaves with spongy leaf stems that act like floats. It produces a spike of up to ten large, lilac-mauve flowers. Water hyacinth grows in still or slow-moving freshwater, forming dense mats which can completely smother waterways, reduce water quality, exclude native plants, impede drainage and disrupt recreational activities. Water hyacinth is a Notifiable Organism (Biosecurity (Notifiable Organisms) Order 2010) and is part of the National Interest Pests Response (NIPR). Management of this pest plant is led by the Ministry for Primary Industries.



*Image credit; Annie Lamb*

## 9.3 Progressive containment freshwater pests

Progressive containment freshwater pests are those that are present in the region in numbers that mean eradication is not possible in the short term, but populations can be contained or reduced over time. These freshwater pests can have a severe impact on waterways and are capable of causing adverse effects to the environmental, economic, social or cultural values in Northland.

### Objective

For the duration of the Pest Plan, reduce impacts on biodiversity, cultural and economic values by containing and, where practicable, reducing or eradicating populations of pest fish and the geographic distribution of populations of pest fish species in Northland.

### Aims

- 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.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute, release or otherwise spread any pest in this plan. Not complying with Section 52 or 53 is an offence under the Act and may result in the penalties noted in Section 157(1).

### Rules

#### Rule 9.3.1

Every person who sees, or suspects the presence of, any containment pest fish species outside the identified locations must immediately report the sighting to Northland Regional Council. Any person who catches containment pest fish species intentionally or accidentally in Northland must destroy them immediately upon capture.

#### Rule 9.3.2

No person will transport any live or dead progressive containment pest fish species (including spawn and juvenile fish) into or around Northland.

#### Rule 9.3.3

No person shall have in their possession any live progressive containment pest fish species (including spawn and juvenile fish) in captivity or for resale purposes in Northland.

*A breach of these rules will result in an offence under Section 154 N(19) of the Act.*

### Principal measures

#### Requirement to act

- People are required to report the presence or suspected presence of the progressive containment freshwater pests outside the mapped containment areas.
- The purpose of the rules is to assist in the progressive containment of freshwater pests in Northland.

#### Council inspection

- Council staff and/or their contractors will conduct searches in areas that are vulnerable to infestation by the progressive containment freshwater pests.
- Council staff will undertake compliance activities when required, such as rule enforcement, action on default, prosecution and processing exemptions.

### Service delivery

- 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.

### Advocacy and education

- Council staff will assist land occupiers 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.

### Other relevant legislation or programmes

Koi carp is listed as an unwanted organism under the Biosecurity Act 1993 and a noxious pest fish under the Freshwater Fisheries Regulations 1983. Perch and tench are considered sport fish by coarse anglers, however there is no catch or weight limit set by Fish and Game New Zealand in Northland. **The introduction of any aquatic life into an area where it does not already occur is an offence under Part 5b (26ZM) of the Conservation Act 1987.**

### Koi carp (*Cyprinus carpio*)

Koi carp are an ornamental strain of common carp. Body colouration is variable, often in a blotchy pattern, which can include black, red, orange, gold and white. They have two pairs of barbels around the mouth. Koi carp grow up to around 70 centimetres long. They are bottom-feeding omnivores and eat plankton as juveniles. Adults mainly eat macro-invertebrates, but also some plant material and fish eggs/larvae.

Koi carp grow rapidly, and have wide environmental and habitat tolerances, including poor water quality. When feeding, koi carp suck up and expel material from the bottom, filtering out edible material. They can greatly increase the turbidity of the water because they are constantly stirring up and dislodging the substrate. Koi prefer still or slow moving freshwater bodies, especially shallow, warm water. They may spend a lot of time in one area, but some individuals undertake long distance movements (greater than 20 kilometres in some cases), particularly during the spawning season.



*Image credit; DOC*

Koi carp reach sexual maturity early in New Zealand; males mature by two years old, females by three years old. The time to maturation is influenced by water temperature. Multiple spawning events (batches) can occur within one season, and koi carp are highly fertile. Eggs stick to submerged vegetation and reproduction may be limited in habitats devoid of vegetation. Where available they will seek off-stream wetland habitats for spawning.

Progressive containment zones for Koi carp are shown in Figure 9.1 'Koi carp progressive containment zones (1)', Figure 9.2 'Koi carp progressive containment zones (2)' and Figure 9.3 'Koi carp progressive containment zones (3)'.



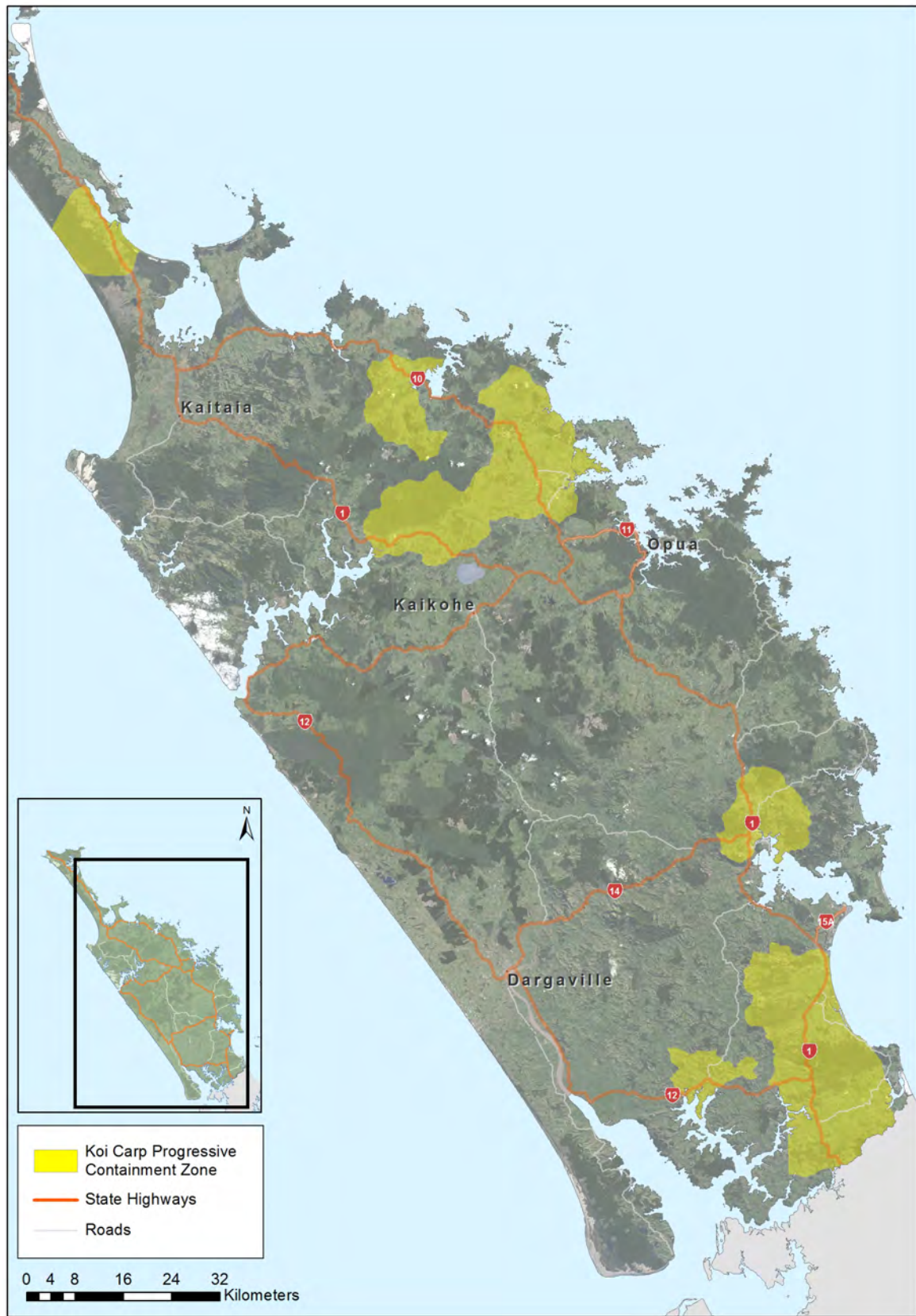


Figure 9.1 Koi carp progressive containment zones (1)

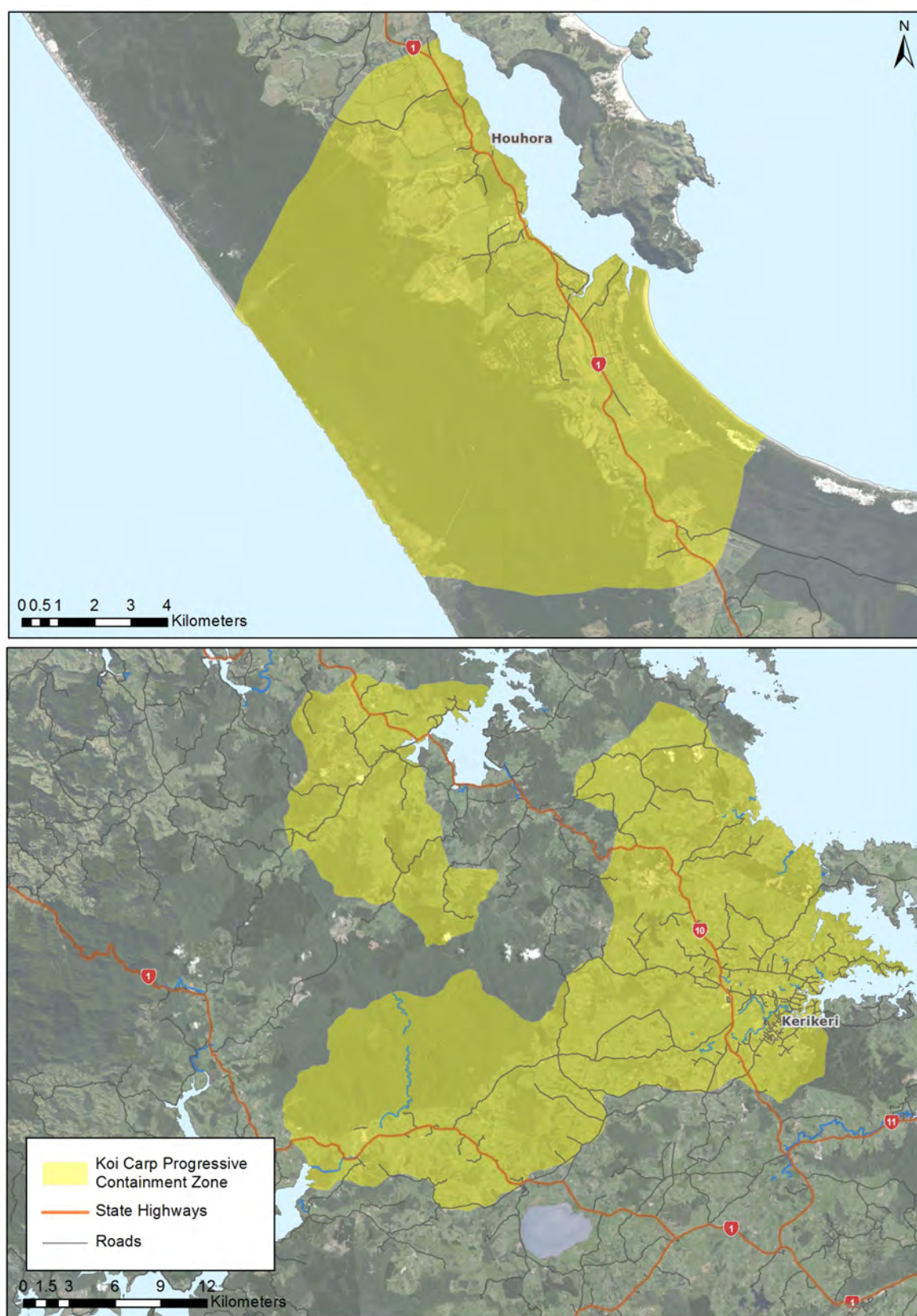


Figure 9.2 Koi carp progressive containment zones (2)



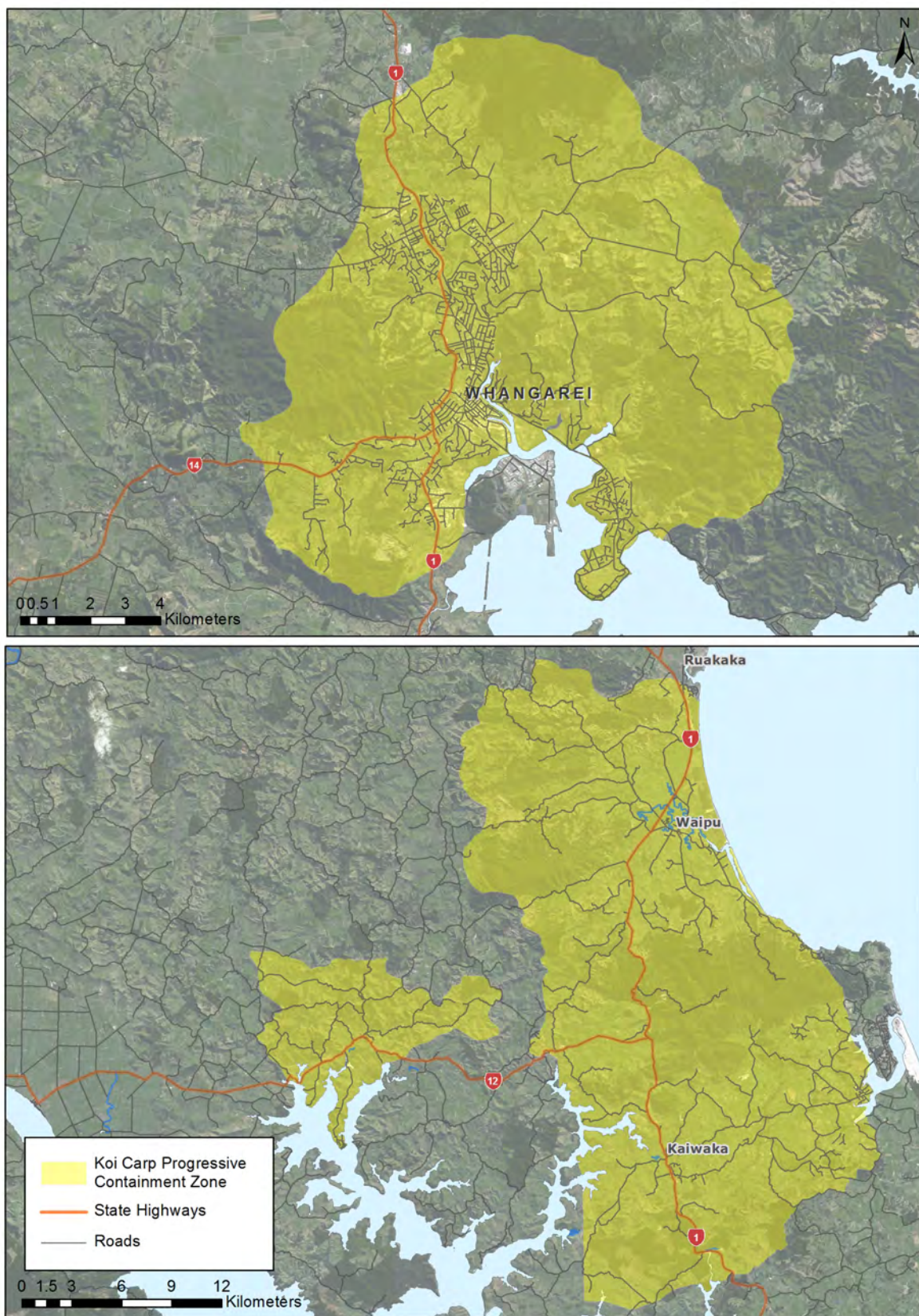


Figure 9.3 Koi carp progressive containment zones (3)

## Perch (*Perca fluviatilis*)

Perch are olive green-grey, with six or more dark vertical bands across their sides. The pelvic and anal fins and lower half of the tail are bright red-orange. Adults are reported at around 40-45 centimetres long and 1-2 kilograms overseas. The fish are predominantly active during the day and are known to live to 20 plus years overseas. Perch shoal as young and are more solitary as adults. The larvae eat free swimming zooplankton and larger juveniles eat bottom-dwelling macro-invertebrates. Adults mainly eat other fish (including cannibalising juvenile perch). Perch are a warm-water species and becomes less active during winter, but tolerate a wide temperature range.



The spread of perch in Northland beyond known locations should be avoided as far as possible as this species has the potential to create major problems in lakes through its effects on water quality and endemic biodiversity. Perch have the potential to significantly alter native freshwater communities through predation and competition with native fish species. They show habitat and behavioural flexibility and fill a niche not represented within native freshwater fauna. Perch can dominate fish fauna of freshwater bodies and are invasive overseas.

Progressive containment zones for perch are shown in Figure 9.4 'Perch progressive containment zones (1)' and Figure 9.5 'Perch progressive containment zones (2)'.



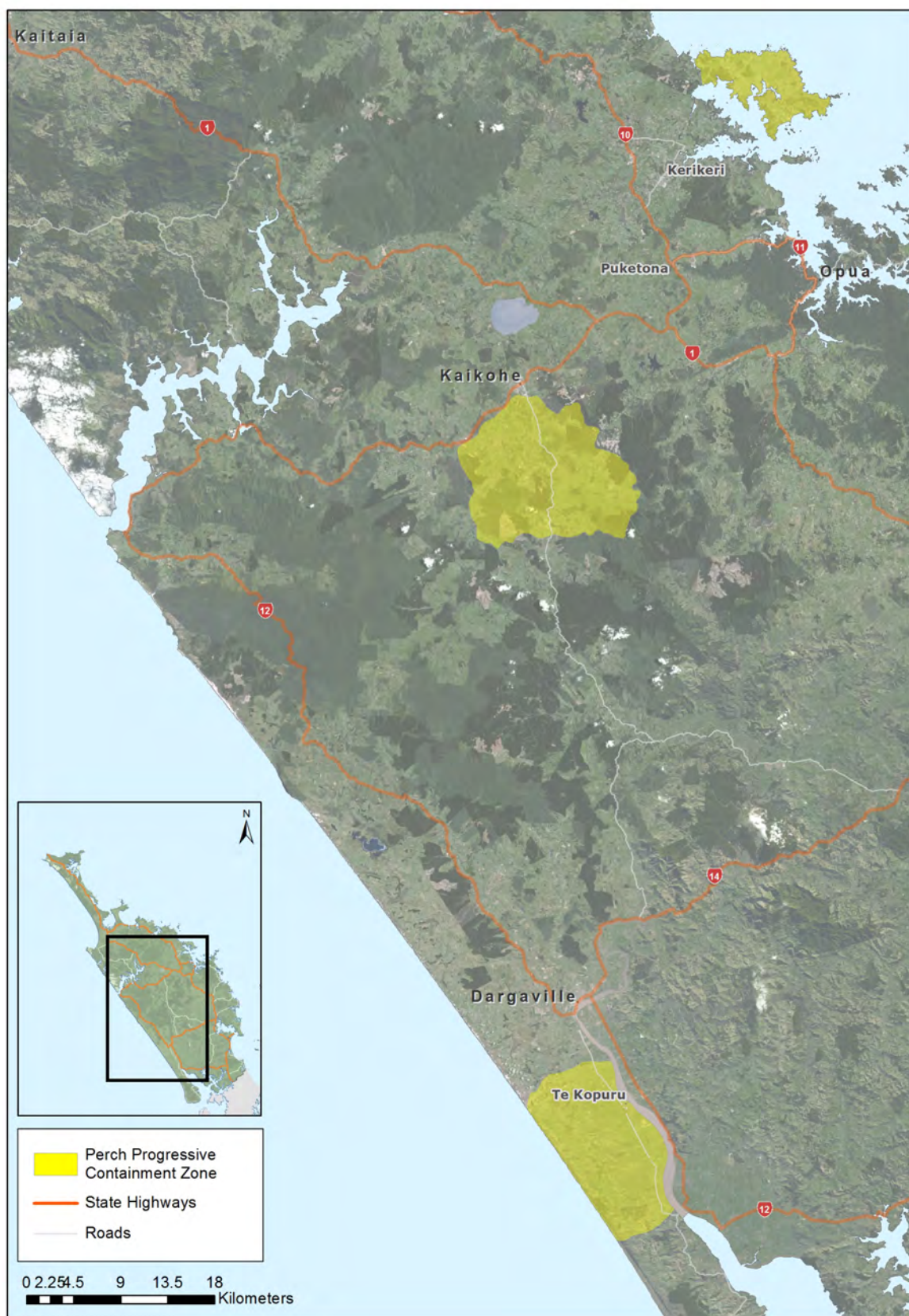


Figure 9.4 Perch progressive containment zones (1)



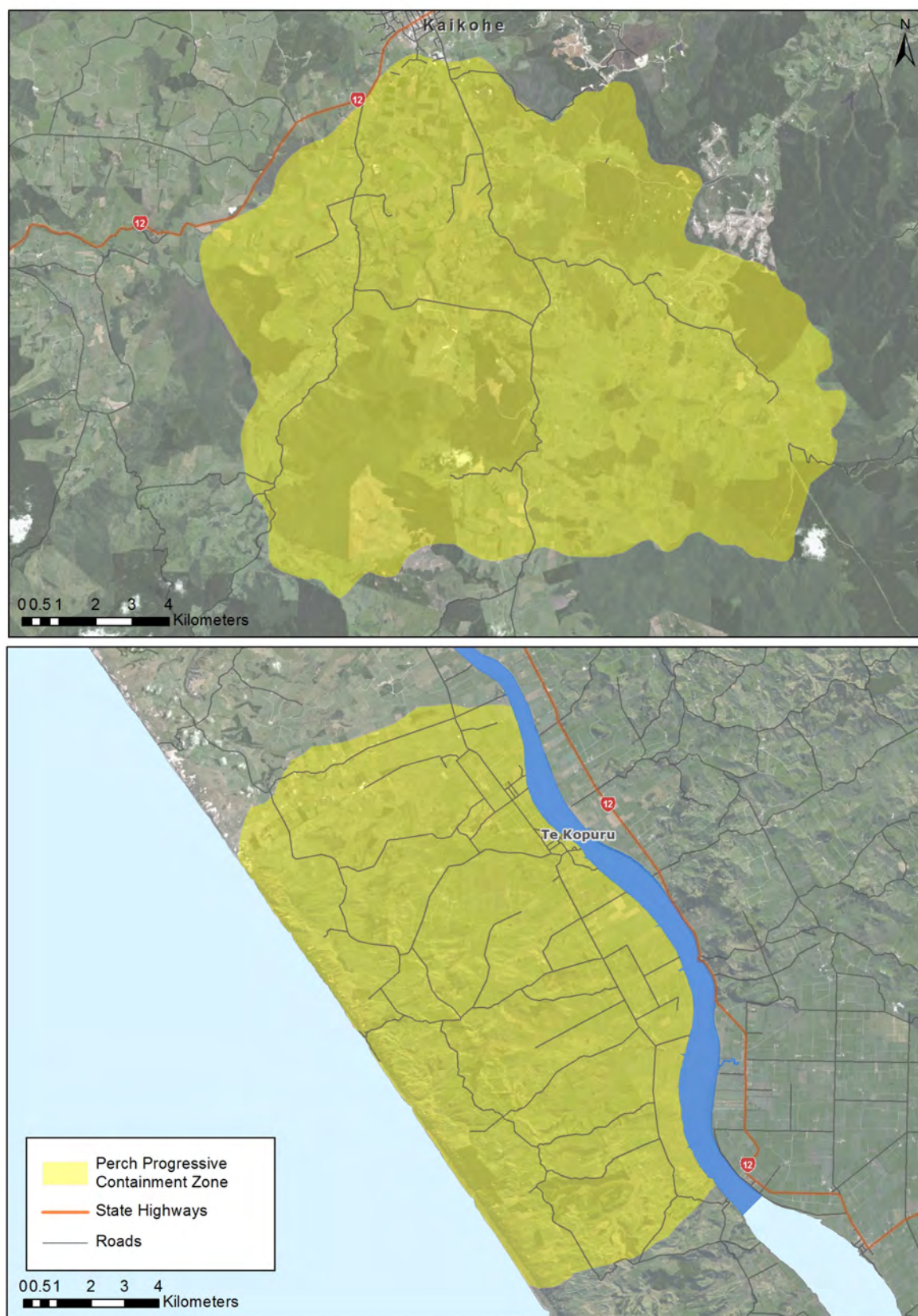


Figure 9.5 Perch progressive containment zones (2)

## Tench (*Tinca tinca*)

Tench were first introduced to New Zealand in 1867 as a sport fish. They grow to a large size in New Zealand and fish weighing more than two kilograms are not uncommon. Tench are usually olive green-bronze in colour, with red eyes, two barbels, large soft-rayed fins and copious mucous. Adults are about 30-40 centimetres long (sometimes up to 70 centimetres) and the lifespan is around five-plus years. Juveniles predominantly feed on zooplankton. Adults are primarily bottom feeders, preferring small molluscs when available, but can survive solely on zooplankton when alternative food sources are absent. Tench are predominantly nocturnal foragers and are a warm water species, becoming less active during winter.



*Image credit; Karelj*

Tench are found in shallow regions of warm, still or slow-moving freshwater bodies with soft substrates (mud/silt/sand) and preferably some submerged vegetation. They tolerate very low oxygen levels, high turbidity, brackish water and a wide pH range. Tench spawn in shallow water, broadcasting eggs over substrate. They can spawn more than once within one season. Warmer temperatures favour earlier sexual maturation and higher fertility. Tench have the potential to significantly alter native freshwater communities. They have few predators in New Zealand.

The progressive containment zone for tench is shown in Figure 9.6 'Tench progressive containment zone'.



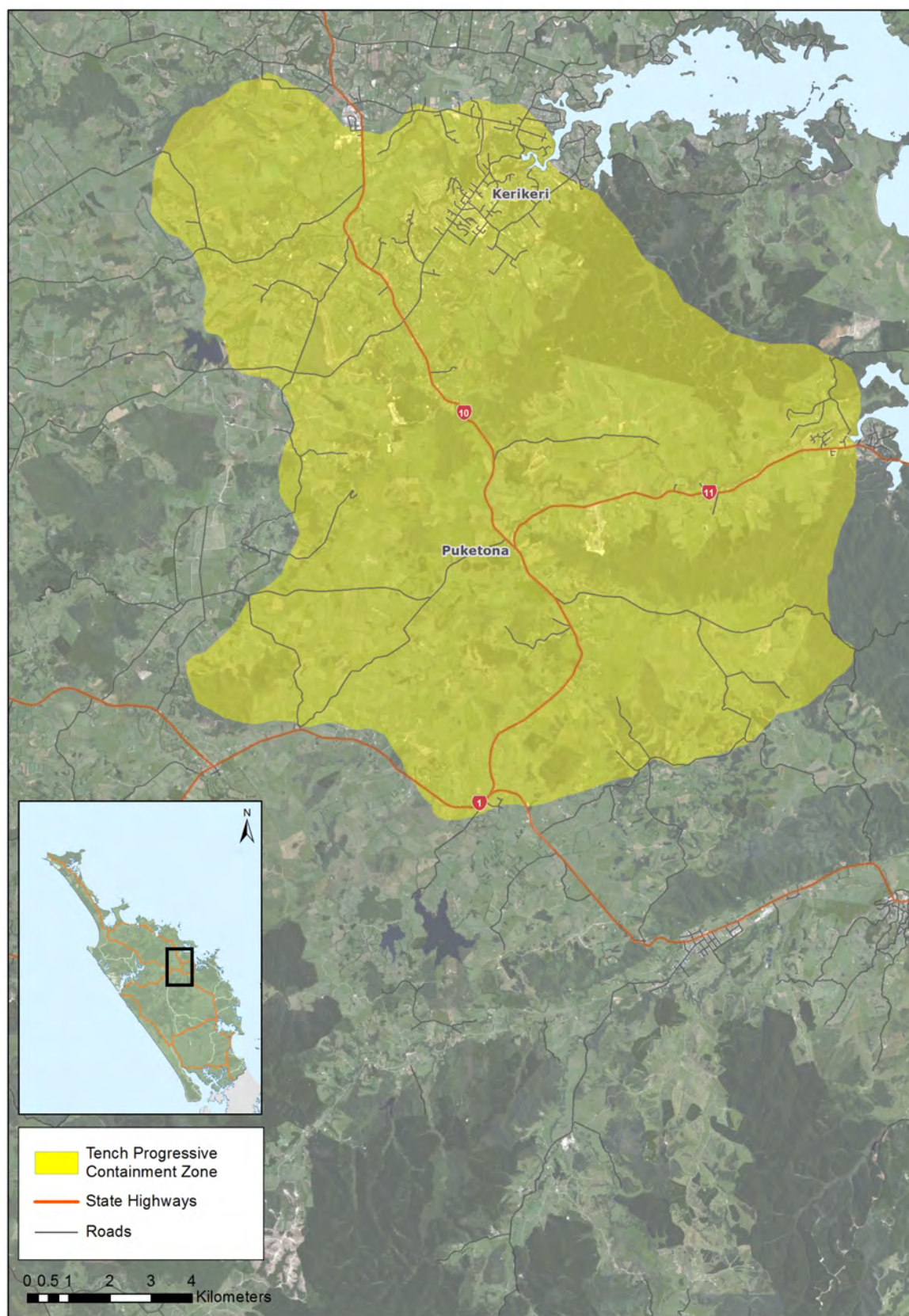


Figure 9.6 Tench progressive containment zone

## 9.4 Sustained control freshwater pests

The freshwater pests in the sustained control programme are pests that are widespread in suitable habitats throughout Northland. These pests all cause adverse effects to the environmental, economic, social or cultural values of the region. Biodiversity projects involving the sustained control freshwater pests are managed outside the Pest Plan through the Biosecurity Partnerships Programme.

### Objectives

For the duration of the Pest Plan, reduce impacts to biodiversity, cultural and economic values by controlling identified pests in Northland and prevent unreasonable impacts from these sustained control pests spreading.

### Aim

To help landowners, occupiers and the public gain knowledge and skills to help reduce the impacts and spread of the sustained control pests.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute, release or otherwise spread any pest in this Plan. Section 53 also includes organisms which may contain or harbour a pest or unwanted organism. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Rules

#### Rule 9.4.1

Any person who catches sustained control pest fish species in Northland, intentionally or accidentally, must destroy them immediately upon capture.

#### Rule 9.4.2

No person will transport any live or dead sustained control pest fish species (including spawn and juvenile fish) into or around Northland.

#### Rule 9.4.3

No person shall have in their possession any live sustained control pest fish species (including spawn and juvenile fish) in captivity or for resale purposes in Northland.

A breach of these rules will result in an offence under Section 154 N(19) of the Act.

### Principal measures

#### *Requirement to act*

- People are required to undertake actions to help reduce the impacts and spread of the sustained control freshwater pests.
- The purpose of the rules is to assist in reducing the impacts of the sustained control freshwater pests in Northland on values and spread to other properties.

#### *Council inspection*

- Council staff and/or their contractors will visit places 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 staff will provide education and advice to owners, occupiers and the public about the freshwater sustained control pests and how to control them.

#### *Advocacy and education*

- Council will provide training to relevant council staff and stakeholders in the identification and control of the sustained control freshwater pests.
- Council will provide advice, attend events and undertake publicity campaigns to increase public awareness of these freshwater pests.

## Other relevant legislation or programmes

Rudd are listed as a noxious pest fish under the Freshwater Fish Regulations 1983 and as a sport fish under Schedule 1 of that Act. However, there is no catch or weight limit set by Fish and Game New Zealand in the Northland region. **The introduction of any aquatic life into an area where they do not already occur is an offence under Part 5b (26ZM) of the Conservation Act 1987.**



## Brown bullhead catfish (*Ameiurus nebulosus*)

Brown bullhead catfish are a dark brown to olive green colour with paler sides and bellies. They have eight distinctive barbels around the mouth, small eyes and smooth, scaleless skin. The leading edge on their dorsal and pectoral fins has a sharp toxic spine.

Catfish are found in lakes and slow-moving water bodies, and favour areas with submerged vegetation. Tolerance of poor water quality enables them to cope with habitats that many other species are unable to tolerate. Tolerance of low oxygen levels could also increase their chance of survival if people move them between water bodies.



Photo credit; Noel Burkhead

Catfish are now well established in the Wairoa River catchment, but they appear to be relatively scarce elsewhere in Northland (only 10 known sites). Catfish could be readily spread from the Wairoa River catchment to a range of other waters, including lakes, in Northland. Rated highly for impact and management priority in New Zealand and some overseas jurisdictions. Opportunistic, generalist feeders, therefore wide range of taxa potentially impacted by predation. Documented eating common bullies as well as a wide range of invertebrates including koura (native crayfish - preferred food source where available), caddis fly, snails and midges. May affect establishment and persistence of submerged vegetation.

## Rudd (*Scardinius erythrophthalmus*)

Rudd were illegally imported into New Zealand in 1967, and widely released into freshwater systems. Rudd are darker on their backs than on their bellies and have bronze highlights when the light catches their scales. Their fins are usually bright reddish-orange. They do not have spines on the front edge of the dorsal fin, but have projections at the bases of their pectoral and pelvic fins. Rudd are usually 20-25 centimetres long.

Rudd are restricted mainly to lakes and ponds in Northland. Current data indicates they are present in Lakes Rototuna, Ngatu, Parawanui, Kapoai and Kai Iwi, along with four unnamed lakes and ponds. Populations have been recorded in the Waitangi River and a small tributary of the Wairoa River.



Image credit; Хомелка

Rudd are prolific breeders. Juvenile rudd are carnivorous, but as adults their diet consists mainly of aquatic plants. A high-density rudd population could impact on native fish and plant communities, particularly where plant communities are limited. Rudd are often caught for sport by coarse anglers.

# 10 Marine | Wai moana

Northland's coastal marine has significant economic, ecological, social and cultural value, comprising approximately 3000 kilometres of coastline, encompassing offshore islands and stacks, 17 harbours and major estuaries, and extensive stretches of rocky and sandy open coast. It also has an expanse of subtidal habitats, ranging from rocky reefs to sand or mud bottom areas. Largely due to this diversity of habitat and the region's warm subtropical climate, Northland has a greater biodiversity of marine fish and invertebrates than any other region in New Zealand. It also contains marine ecosystems of national and regional importance, including two marine reserves and a number of nursery areas for economically and culturally significant fish stocks.



*The Poor Knights Islands Marine Reserve off the Tutukaka coast exemplifies Northland's high marine biodiversity values.*

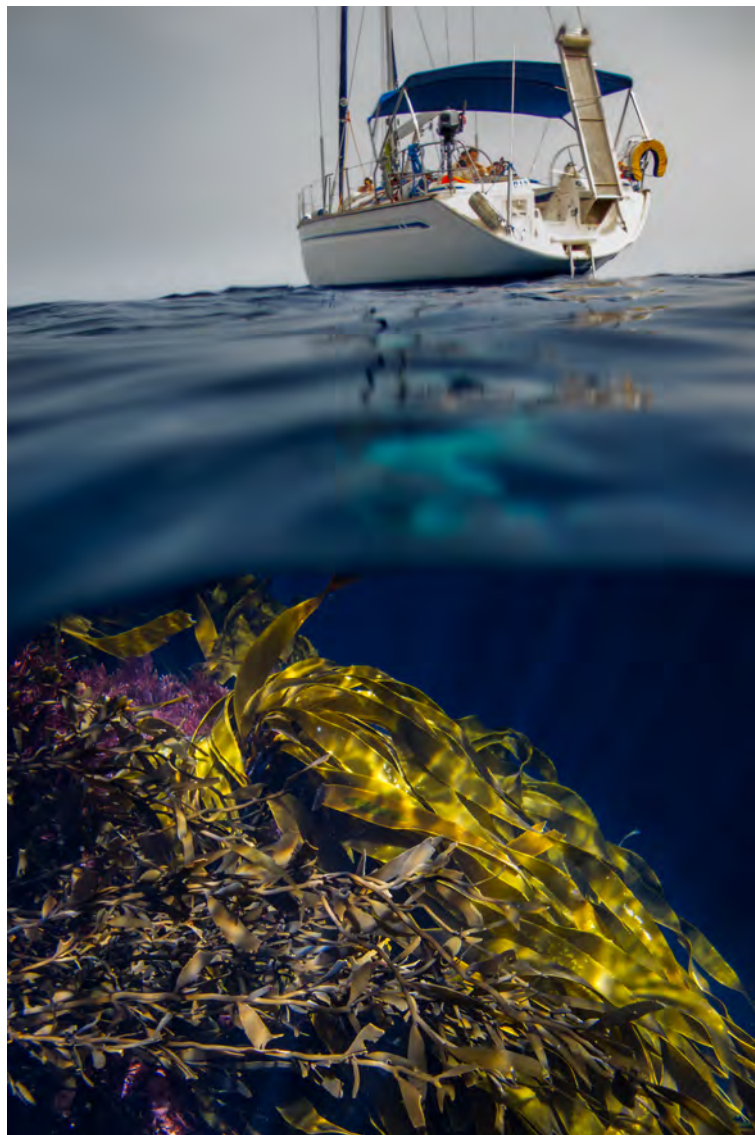
## Managing marine pests

Once introduced, marine pests have the potential to impact on the region's natural environment, human health and Māori values and cause serious harm to Northland's economy, such as aquaculture, fishing, and tourism industries. The subtropical climate that creates high biodiversity also encourages many pest species to survive and spread. Marine pests can be hard to detect and can easily spread. This difficulty in detection and the limited number of management tools available make effective marine pest management challenging and expensive.

The council has a three-pronged approach to manage the risks posed by marine pests:

1. The Marine Pathway Plan to deal with the spread of new marine pests into, and around, Northland before they become established;
2. Sustained control marine pests identified in the Pest Plan to help council and the public manage impacts of marine pests already in the region; and
3. Regional Plan provisions to deal with the movement of marine pest species and discharges from in-water boat hull cleaning.

The marine pest and pathway management rules will apply to the area around Northland's coast from Mean High Water Springs (MHWS) to the 12 nautical mile (22.3 kilometre) limit of New Zealand's territorial sea (the Northland coastal marine area). Management of marine pests in Northland will align with policies and objectives in both the Northland Regional Council's Long Term Plan 2015-2025 and the Regional Plan.





# 10.1 Marine Pathway Plan

## Introduction

A pathway plan is designed to prevent 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, hull biofouling, ballast water, or movement of aquaculture equipment.

Experience has shown that the eradication and control of established marine pest populations is difficult and expensive, so reducing the spread of marine pests through management of pathways is a high priority. An effective pathways plan will not only prevent incursions of new marine pests into the region, but will also reduce the spread of harmful marine species that are already established in Northland's coastal marine area.

As well as addressing recognised harmful marine organisms, pathways plans have the benefit of including all the unknown or potential risk species that may be associated with a pathway, irrespective of their designated pest status. The pest management national plan of action clearly defines roles and responsibilities of agencies within the scope of marine biosecurity. The Ministry for Primary Industries (MPI) manages border biosecurity, the national high-risk site surveillance and national incursion responses. MPI is also responsible for setting marine pest priority species at a national level and carrying out the risk assessments of new-to-New Zealand organisms. At the time of development of this plan, New Zealand has an existing list of 10 marine pests designated as Unwanted Organisms by the MPI. However, as these are set at a national level, some of the regionally-specific threats may be overlooked; for example, species that may not pose a threat in cooler southern waters could become problematic if introduced to Northland.

## Marine pest pathways into Northland

Biofouling on the hulls of moored, anchored or berthed vessels is widely regarded as an important contributor to the spread and establishment of marine pests. Significant fouling can arise on vessels, particularly those that spend long periods of time idle. Some vessel types (for example, yachts) also travel at slow speeds, meaning that fouling pests are not dislodged and can easily be transported to new locations.

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 vessels move and take the local biofouling with them to new locations.

Northland is highly connected to other regions of New Zealand through the movement of both commercial and recreational vessels and it is likely that new species will continue to be introduced unless effective management systems are put in place.

Commercial and recreational vessels arrive into Northland from both domestic and overseas ports. Northland receives about 400 large (greater than 99 tonnes) commercial vessels annually with the vast majority of these being bulk and cargo vessels that travel to Northport in Whangārei Harbour. However, the majority of vessel movements in Northland are visiting recreational vessels (more than 2000 per year). Recreational vessels arrive in Northland from many parts of the country and the region's two customs clearance ports mean it also receives a large proportion of vessels from overseas. Ōpua is among New Zealand's busiest ports for recreational vessels, with more than 1300 long-distance arrivals and departures each year, while Whangārei receives about half that number. Vessel hull biofouling has been implicated in incursions of the marine pests *Sabella spallanzanii* (Mediterranean fanworm) and *Styela clava* (a sea squirt) in Northland.



*The Northland marine environment not only supports high biodiversity values, but also has economic and recreational value*

## Objective

The objective of the Marine Pathway Plan is to prevent the introduction of new marine pests into Northland and slow the spread of established marine pests within the region.

## Pathway to be managed

The pathway to be managed is vessel movement.

## Aims

For the duration of the plan:

- 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;
- There will be an increase in awareness of the risk hull fouling poses to marine pest spread;
- There will be a reduction in new marine pest introductions to Northland;
- There will be a reduction in the rate of spread of established marine pests within Northland; and
- Appropriate funding and resources will be allocated to the control and/or management of hull fouling in Northland.

## Principal measures

### 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

*Advice note: marine pest species for Northland are identified in 10.2 'Sustained control marine pests'.*

- 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.

### Voluntary Antifouling Declaration

- Council will issue an Antifouling Declaration to people in charge of a vessel where a declaration is made:
  - Providing the full name; contact address; email address and phone number of the person making the declaration;
  - Detailing the craftname; any relevant ID number; craft type; and closest home port of the vessel in respect the declaration is made;
  - That the vessel has had antifouling paint applied to its hull in accordance with the manufacturer's instructions within the preceding 12 months.

- Antifouling Declarations are valid for 12 months.
- Rules 10.1.1 and 10.1.2 must still be complied with where a vessel has a current Antifouling Declaration.

### 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.

### 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.

### 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.

## Marine pests and unwanted organisms

Even when the requirements of the Marine Pathway Plan rules are met, the following legislation still applies.

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute or otherwise spread any pest in this plan, or any unwanted organism. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

## Other relevant legislation or programmes

- The Regional Plan has rules relating to in-water cleaning of vessel hulls and marine pests. These rules cover the following sections of the RMA: discharge of contaminants to water ((Sections 15(1)(a) and 15B(1)(a)); deposit any substance in, on and under any foreshore or seabed ((Section 12(1)(d)), and introduce or plant any marine pest in, on and under any foreshore or seabed ((Sections 12(1)(f) and 12(3)(a)).
- The Marine Pathway Plan rules will not apply to international vessel arrivals because the Pest Management National Plan of Action allocated responsibility for border biosecurity to the Ministry for Primary Industries, which has developed the *Craft Risk Management Standard: Biofouling on vessels arriving to New Zealand 2014* to manage the risk of international vessels introducing marine pests to New Zealand. Information about this standard can be found via [Craft Risk Management Standard, for bio fouling](#).
- The fouling rules have been based on the 'level of fouling guidelines' developed by *Floerl O, Inglis GJ and BJ Hayden (2005). A risk-based predictive tool to prevent accidental introductions of nonindigenous marine species. Environmental Management 35: 765–778.*

## Rules

The purpose of the rules is to prevent the spread and establishment of marine pests into and around Northland.

### Rule 10.1.1

The owner or person in charge of a craft entering Northland must ensure that the fouling on the hull and niche areas of the craft does not exceed 'light fouling'.

### Rule 10.1.2

The owner or person in charge of a craft moving from one designated 'place' and entering a separate designated 'place' in Northland must ensure that the fouling on the hull and niche areas of the craft does not exceed 'light fouling'.

**Definition:** 'Light fouling' is defined as: small patches (up to 100 millimetres in diameter) of visible fouling, totalling less than five percent of the hull and niche areas. A slime layer and/or any species of barnacles are allowable fouling.

*A breach of Rules 10.1.1 and 10.1.2 will create an offence under section 154N(19) of the Act. However, if these Rules are breached and the following three criteria are each met, the Council will not prosecute and instead will issue a notice of direction pursuant to s122 of the Act;*

1. There is a current Antifouling Declaration for the craft; and
2. The owner or person in charge of the craft provides documents to Council that confirm application of antifouling paint to the craft in accordance with manufacturer's instructions within the preceding 12 months of the date the declaration was made; and
3. Macrofouling or filamentous algae does not exceed 15% of the visible hull surface.

Exemptions to rules 10.1.1 and 10.1.2 are listed below. Further information concerning exemptions is given in 12 'Powers conferred | Ngā mana i tuku'.

### Exemption to rule 10.1.1 and 10.1.2

The above pathway plan rules will not apply to craft entering Northland, or moving between areas in Northland in an emergency situation. For the purposes of this pathway plan, an emergency arises when the craft enters Northland, or moves between areas in Northland, because of an emergency relating to:

- i. the safety of the craft; and/or the health and safety of any person on board the craft; or
- ii. the New Zealand Defence Force acting in the event of a natural disaster, or emergency management response. This exemption does not apply to training purposes.



### Exemption to rule 10.1.2

Vessels can travel from one designated place to another for the purpose of a haul out. The vessel haul out must be undertaken within 24 hours of arriving in the new designated place. Proof via receipt from a haul out facility must be provided to a council authorised person.

- 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.

## Marine Pathway Plan designated 'places'

Council has designated harbours and popular anchorages as discrete 'places'. A vessel moving between these designated 'places' must ensure fouling on the hull does not exceed 'light fouling'.

The 'place' boundaries take into account the known marine pest risks of the 'place', common vessel movements and anchorages, and the proximity of haul out or cleaning facilities. Co-ordinates for these 'places' can be found in 'Appendix 2 | Āpitihanga tuarua: Marine Pathway Plan designated places coordinates'.



Figure 10.1 Map of designated 'places' in Northland.



Figure 10.2 Marine pathways plan designated 'place' limit for Bay of Islands



Figure 10.3 Marine pathways plan designated 'place' limit for Cavalli Islands (800m out from the line of Mean Low Water spring tide, from closest land)



Figure 10.4 Marine pathways plan designated 'place' limit for Bream Head to Bream Bay



Figure 10.5 Marine pathways plan designated 'place' limit for Doubtless Bay



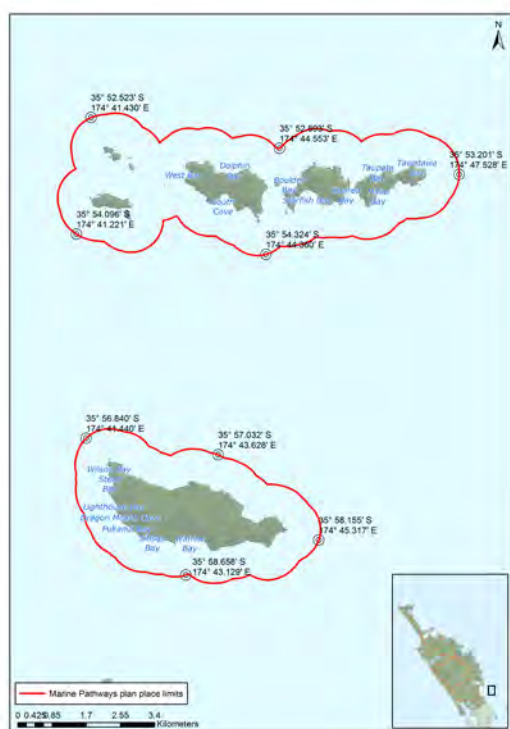


Figure 10.6 Marine pathways plan designated 'place' limit for the Hen and Chicken Islands (800m out from the line of Mean Low Water spring tide, from closest land)



Figure 10.7 Marine pathways plan designated 'place' limit for Whangape and Herekino Harbour



Figure 10.8 Marine pathways plan designated 'place' limit for Waipū Estuary and Mangawhai Harbour



Figure 10.9 Marine pathways plan designated 'place' limit for Hokianga Harbour







Figure 10.14 Marine pathways plan designated 'place' limit for Tutukaka Harbour to Pataua Estuary



Figure 10.15 Marine pathways plan designated 'place' limit for Whangaroa Harbour



Figure 10.16 Marine pathways plan designated 'place' limit for Whananaki Harbour



Figure 10.17 Marine pathways plan designated 'place' limit for Whangaruru Harbour





Figure 10.18 Marine pathways plan designated place limit for Kaipara Harbour

## 10.2 Sustained control marine pests

Marine pests in the sustained control programme are pests that are already established in suitable habitats throughout Northland. These pests all cause adverse effects to the environmental, economic, social or cultural values of the region.

### Objective

For the duration of the Pest Plan, reduce the impacts of sustained control marine pests on the biodiversity, cultural and economic values in the Northland coastal marine area.

### Aim

- 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.

### Banned from sale and distribution

Under Sections 52 and 53 of the Biosecurity Act 1993 no person can sell, propagate, breed, distribute or otherwise spread any pest in this plan. Not complying with Section 52 or 53 is an offence under the Act, and may result in the penalties noted in Section 157(1).

### Rules

#### Rule 10.2.1

No person shall knowingly transport, distribute, sell or offer for sale any material or equipment that may contain or harbour a marine sustained control pest. Suitable measures will be undertaken to ensure all marine sustained control pests are removed or rendered non-viable.

**Advice note:** *Suitable measures* include but are not limited to; ensuring all marine gear and equipment on a vessel or used in the marine environment is visibly clean and all on-board residual seawater has been treated or is visibly clean and free of marine pests.

#### Rule 10.2.2

Where an authorised person identifies a property or structure or activity as high risk in the coastal marine area, the owners must implement an approved management plan to reduce the risk of the identified marine pest from spreading.

**Advice note:** *Activity* includes, but is not limited to, dredging, marine farming (including transport of product or equipment), commercial fishing, tourism charters and marine construction.

*A breach of these rules will create an offence under Section 154 N(19) of the Act.*

### Other relevant legislation or programmes

Biodiversity programmes and community-led projects involving the sustained control pests are managed outside the pest management plan through the 'Biosecurity Partnerships' programme.

In addition to the marine species listed within this plan, there are a number of marine species that are named as unwanted organisms by MPI that have not yet established in New Zealand. More information can be found on the [MPI Website](#)

### Principal measures

#### Requirement to act

- 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 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 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 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.



### Asian paddle crab (*Charybdis japonica*)

Asian paddle crabs are relatively large swimming crabs with paddle-like hind legs. The shell can reach 12 centimetres across. Adults have six distinct spines or spikes on each side of the shell below the eyes, and five prominent spines on the upper surface of each claw. The crabs range in colour from pale-green or olive-green to a deep chestnut-brown with purplish markings on the shell. They are typically found in estuaries where there is firm sand, muddy fine sand, or muddy-shelly fine sand. These crabs are very aggressive and have the potential to compete with native crabs for space and food. They also prey on native species including shellfish, fish, other crustaceans and polychaete worms.



#### Rule 10.2.3

Any person who catches Asian paddle crabs in Northland, intentionally or accidentally, must destroy them immediately.

#### Rule 10.2.4

No person is allowed to transport any live Asian paddle crabs, eggs and larvae into or within Northland.

#### Rule 10.2.5

No person is allowed to have in their possession any live Asian paddle crabs, eggs and larvae in captivity or for resale purposes in Northland.

#### Exemption to rule 10.2.3, 10.2.4 and 10.2.5

Any person, company or stakeholder that wishes to catch Asian paddle crabs for commercial purposes must apply in writing for a permit from Northland Regional Council.

### Australian droplet tunicate (*Eudistoma elongatum*)

The Australian droplet tunicate is a type of sea squirt. It forms large colonies that look like clusters of white or cream-coloured cylindrical tubes. Each colony contains numerous small individuals and they can appear orange flecked due to the colour of the larvae within them. The Australian droplet tunicate is firm and gelatinous to the touch and the cylindrical colonies are generally 5-30 centimetres long, but can occasionally reach 1.5 metres long. Colonies over-winter as small cream buds, re-growing into larger colonies when the conditions are favourable.



Image credit: H. Blomfield

The Australian droplet tunicate is able to occupy a wide range of lower inter-tidal and shallow sub-tidal habitats in both sheltered bays and semi-sheltered coastlines. It is generally found in soft-bottomed tidal habitats and on hard structures such as wharf piles, aquaculture equipment and mangrove roots. It competes with native species for both space and food, grows rapidly, can inhabit a wide range of habitats, and can reach high abundances. Its larvae can disperse naturally with water currents. Australian droplet tunicates are most commonly spread as fouling on marine farming equipment and potentially as fouling on boat hulls.

### Japanese mantis shrimp (*Oratosquilla oratoria*)

The Japanese mantis shrimp is a large light grey mantis shrimp that can grow up to 185 millimetres long. As with other mantis shrimp, it has two long spiny claws to capture food. Japanese mantis shrimp has red-maroon ridges running down the mid-length of its body, and the outer surface of the tail fan is blue and yellow (it is grey and yellow in the native species). Japanese mantis shrimp live in burrows in soft sediments, sand and mud in sheltered bays and estuaries. It is native to the north-west Pacific where it is most common in the temperate waters of China and Japan.



*Image credit; Dr S. Ah Yong*

In New Zealand, Japanese mantis shrimp has been reported in harbours along the west coast of the North Island. It was found in the Kaipara Harbour in 2009 and has subsequently been discovered in the Hokianga Harbour and reported in the Waikare Inlet. The Japanese mantis shrimp preys on shrimps, crabs and juvenile fish and can alter habitats through its burrowing activities.

#### Rule 10.2.6

Any person who catches Japanese mantis shrimps in Northland, intentionally or accidentally, must destroy them immediately.

#### Rule 10.2.7

No person is allowed to transport any live Japanese mantis shrimp, their eggs and larvae into or around Northland.

#### Rule 10.2.8

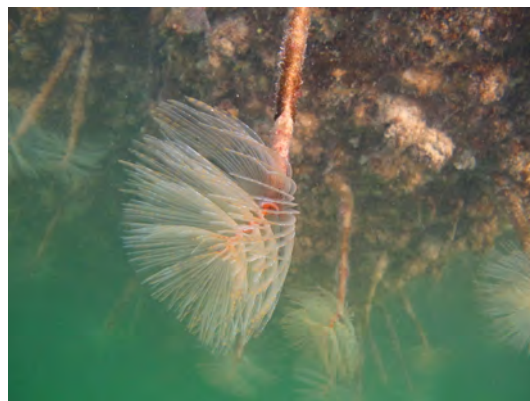
No person is allowed to keep any live Japanese mantis shrimp, eggs and larvae in captivity or for resale purposes in Northland.

#### Exemption to rule 10.2.6, 10.2.7 and to 10.2.8

Any person, company or stakeholder wishing to catch Japanese mantis shrimps for commercial purposes must apply in writing for a permit from Northland Regional Council.

### Mediterranean fanworm (*Sabella spallanzanii*)

Mediterranean fanworm is a large tube-dwelling bristle worm that is typically found in estuaries and sheltered sites up to depths of around 30 metres. It has a tube up to 80 centimetres tall, which is always anchored to a hard surface, topped with a single, spiral fan (radiole). The tube is tough and flexible and often muddy in appearance. It can often have other organisms growing on the surface. Mediterranean fanworm can live in most artificial and natural habitats in the marine environment but it will not tolerate freshwater. It is generally found on hard sub-tidal structures, but can also be buried up to 10 centimetres deep in soft substrates. It is also a fouling species on moored vessels and this is the most common way it is spread.



Mediterranean fanworm can form dense beds that are likely to out-compete other species, clog fishing gear and dredges, and interfere with biological processes. It has the potential to compete with native filter-feeding organisms for food and space, and in high densities is likely to impact commercially on important species (for example, mussels, oysters, and scallops). Mediterranean fanworm is established in the Whangārei Harbour, Waitemata Harbour and elsewhere in the Auckland region and in Lyttelton Harbour.

### Pyura sea squirt (*Pyura praeputialis* and *Pyura doppelgangera*)

Formerly known as *Pyura stolonifera praeputialis*

The pyura sea-squirt has a sack-like body with a brown, or reddish-brown, leathery skin. There is sometimes sand and shell material incorporated into the outer skin and other sea life such as sea lettuce can grow on and around them. Each sea squirt has two siphons or holes for inhaling and exhaling sea water and adults grow up to 15 centimetres or more in height and around 3-5 centimetres in diameter. The only visible difference between the two species of pyura sea-squirt is that *Pyura praeputialis* generally grows to a larger size.



The pyura sea-squirts are native to Australia and South America, and have established at a number of sites in the Far North. They generally inhabit the low to mid-intertidal, zone as well as shallow subtidal areas less than 12m deep. In New Zealand, they mainly colonise rocky platforms and outcrops, rock pools and the underside of rock overhangs, but they are also found on artificial structures such as oyster farms and wharf piles. Aggregations are often in very exposed areas with strong wave or tidal action. The pyura sea squirt is an aggressive competitor for space and has the potential to significantly alter the structure and composition of intertidal communities. Dense mats have already engulfed and displaced native green-lipped mussel beds in some areas of the Far North.



## Styela sea squirt (*Styela clava*)

Styela sea-squirt is a large, solitary sea squirt that is native to the north-west Pacific. The styela sea-squirt has a long, club-shaped body and uses a short, tough stalk to attach to substrate. Its surface is leathery and usually brown in colour; however, underwater it can appear fuzzy with secondary growth coating it. Styela sea squirts grow attached to hard artificial and natural surfaces and are frequently transported as biofouling on vessels and other mobile marine structures.

The Styela sea squirt poses a threat to biodiversity values through its smothering behaviour. It can multiply rapidly and forms dense stands in suitable sites and competes with other filter feeders for space and food. As a result it can disrupt native ecosystems. The styela sea-squirt can also add significant maintenance costs to marine structures and vessels through its fouling behaviour. Styela is established in Northland and is prevalent in Marsden Cove Marina and Bay of Islands (Ōpua) Marina.



*Image credit: Matt Conmee*

## Undaria seaweed (*Undaria pinnatifida*)

Undaria is a large seaweed that grows to 1–2 metres long. Mature plants are golden brown or green-brown in colour, crinkly in appearance, slightly slimy to the touch, and have a distinct midrib. Juvenile plants have an undivided blade which looks like a single leaf with the midrib starting to become apparent once the plant grows more than five centimetres. Undaria plants have a holdfast, a stem and a sporophyll at the base of the stem (a frilly-shaped reproductive structure which produces spores).



Undaria is present in many harbours and ports around New Zealand and is established in Rangaunu and Houhora harbours. Undaria can produce millions of spores, tolerate a wide range of light levels and grow on a variety of surfaces. These characteristics allow it to spread rapidly in favourable conditions and form dense underwater forests. Through competition for light and space, stands of Undaria can displace native species and alter habitats.

# 11 Monitoring | Aroturuki

## 11.1 Measuring what the objectives are achieving

Anticipated result	Indicator	Method of monitoring	Frequency of monitoring	Frequency of reporting
Exclusion	Presence/absence	Field inspections, public reports	At least once annually or as reports are received	Annually and as required
Eradication	Presence/absence	Field inspections, public reports	At least once annually or as reports are received	Annually and as required
Progressive containment	Presence/absence distribution and extent	Field survey and GIS mapping	On-going and in accordance with operational plans	Annually and as required
Sustained control	Outcome and result based, pest trend monitoring	Species led, national protocols	On-going and in accordance with operational plans	Annually and as required
Marine Pathways Plan	Level of hull fouling	Diver survey, passive and active reporting by the public	Continuous, active dive surveys concentrated around the summer months when vessel movements peak	Upon completion of diver surveys and as reports are received from the public

Table 11.1

## 11.2 Monitoring the management agency's performance

Northland Regional Council is the management agency. As the management agency responsible for implementing the plans, the council will:

- prepare operational plans within three months of the Pest Plan and the Marine Pathway Plan being approved;
- review the operational plans, and amend them if needed;
- report on the operational plans each year, within five months after the end of each financial year;
- implement the Pest Plan and Marine Pathway Plan in line with the operational plans; and
- maintain up-to-date databases of complaints, pest levels and densities, and responses from the regional council and owners and/or occupiers.

## 11.3 Monitoring plan effectiveness

Monitoring the effects of the Pest Plan and Marine Pathway Plan will ensure that they continue to achieve their purpose. It will also check that relevant circumstances have not changed to such an extent that the plans require review. A review may be needed if:

- the Act is changed, and a review is needed to ensure that the plans are not inconsistent with the Act;

- other harmful organisms create, or have the potential to create, problems that can be resolved by including those organisms in the Pest Plan;
- monitoring shows the problems from pests, other organisms to be controlled, or pathways (as covered by the plans) have changed significantly; or
- circumstances change so significantly that Northland Regional Council believes a review is appropriate.

If the plans do not need to be reviewed under such circumstances, they will be reviewed in line with Section 100D of the Act. Such a review may extend, amend or revoke the plans, or leave them unchanged.

The procedures to review the plans will include officers of Northland Regional Council:

- assessing the efficiency and effectiveness of the principal measures (specified for each pest and other organism (or pest group or organisms) or pathway to be controlled to achieve the objectives of the plans;
- assessing the impact the pest or organism (covered by the plan), or pathway has on the region and any other harmful organisms that should be considered for inclusion in the plans; and
- liaising with other agencies and key interest groups on the effectiveness of the plan.

# 12 Powers conferred | Ngā mana i tuku

## 12.1 Powers under Part 6 of the Act

The Principal Officer (Chief Executive) of the Northland Regional Council may appoint authorised persons to exercise the functions, powers and duties under the Act in relation to a regional pest management plan or pathway plan.

Northland Regional Council will use those statutory powers of Part 6 of the Act as shown in Table 12.1 'Powers to be used, from Part 6 of the Act', where necessary, to help implement these plans. Any or all of the powers described in this table may be granted to Authorised Persons as per the Biosecurity Act 1993.

Administrative provisions	Biosecurity Act Reference
Power to request information from land occupiers	Section 43
Grant exemption from the plan rules	Section 78
The appointment of authorised and accredited persons	Section 103(3) & (7)
Authorised persons to comply with instructions	Section 104
Delegation to authorised persons	Section 105
Power to require assistance	Section 106
Power of inspections entry and duties	Section 109, 110, 111 & 112
Power to record information	Section 113
General powers	Section 114 & 114A
Use of dogs and devices	Section 115
Power to seize evidence	Section 118
Power to seize abandoned goods	Section 119
Power to intercept risk goods	Section 120
Power to examine organisms and apply substances	Section 121, 121A
Power to give directions	Section 122
Power to act on default	Section 128
Liens	Section 129
Declaration of restricted areas	Section 130
Declaration of controlled areas	Section 131
Duration of place and area declarations	Section 133
Options for cost recovery	Section 135
Failure to pay	Section 136
Offences	Sections 154M, 154N, 154O

Table 12.1 Powers to be used, from Part 6 of the Act

Note: The Biosecurity Act 1993 sets out the procedures Northland Regional Council will follow when land owners and/or occupiers or other persons do not comply with the rules or other general duties.



## 12.2 Powers under other sections of the Act

An owner and/or occupier or any person in breach of a plan rule creates an offence under Section 154N(19) of the Act, where the rule provides for this. Northland Regional Council can seek prosecution under Section 157(5) of the Act for those offences.

A Chief Technical Officer (employed under the State Sector Act 1988) may appoint authorised people to implement other biosecurity law considered necessary. One example is where restrictions on selling, propagating and distributing pests (under Sections 52 and 53 of the Act) must be enforced. Another example is where owners and/or occupiers are asked for information (under Section 43 of the Act).

## 12.3 Power to issue exemptions to plan rules

Any owner and/or occupier or other person may write to Northland Regional Council to seek an exemption from any provision of a plan rule set out in this Plan. However, a rule may state that no exemptions will be considered, or it may limit the circumstances to which exemptions apply (for example, scientific purposes).

The requirements in Section 98 of the Act must be met for a person to be granted an exemption.

The council will keep and maintain a register that records the number and nature of exemptions granted. The public will be able to inspect this register during business hours.

# 13 Funding | Pūranga putea

## 13.1 Funding introduction

The Act requires that funding is thoroughly examined. This includes the reason for, and source of, all funding.

## 13.2 Funding sources and reasons for funding

The Biosecurity Act 1993 and the Local Government (Rating) Act 2002 require that funding is sought from:

- those people who have an interest in the plan;
- those who benefit from the plan (beneficiaries); and
- those who contribute to the pest problem (exacerbators);

in a way that reflects economic efficiency, equity and the ability to target those funding the plan and the costs of collecting the funding.

These factors were considered when the council developed this Plan, and will continue to be considered during development of the council's Annual Plan and Long Term Plans as required by Section 100T of the Biosecurity Act. The plan will be funded by rates, user charges, and other council income (for example, dividends). The pests in question have the potential to significantly impact the economic, biodiversity, recreation, amenity and cultural values of the region as a whole, and the regional community has an interest in protecting these values. There are some instances where it is appropriate for exacerbators of pests to contribute by way of user charges, and these are set out in council's charging policy.

## 13.3 Anticipated implementation costs

The anticipated costs of implementing this Plan reflect a best estimate of expenditure levels. Funding levels will be further examined and set during subsequent Long Term Plan and Annual Plan processes, including the revision of rates and user charges. While community funding is mainly sourced from rates, alternative funding sources will be sought by the council. Such funds will offset rates or be used as a value-added component in appropriate circumstances.

The funding of the implementation of the plans is from predominantly a region-wide targeted rate, set and assessed under the Local Government (Rating)

Act 2002, and in determining this, the council has had regard to those matters outlined in Section 100T of the Biosecurity Act.

Where the implementation of these plans are to be funded by a targeted rate, or a user-pays charge the matters outlined in Section 100T of the Biosecurity Act will be given specific regard to as part of the Annual Plan or Long Term Plan process.

Activity (principal measure)	Cost (\$)	Rates (\$)
Inspection, monitoring and response	2,515,000	2,803,207
Education	355,000	90,000
Total	2,870,000	2,893,207

Table 13.1 Pest Management Plan cost allocation

Activity (principal measure)	Cost (\$)	Marine biosecurity charge
Inspection, monitoring and response	420,000	420,000
Education	30,000	30,000
Total	450,000	450,000

Table 13.2 Marine Pathway Plan cost allocation

Funding for the marine biosecurity programme (sustained control marine pest species and the Marine Pathway Plan) will be split between mooring holders, marina berth owners, boatsheds, three commercial port facilities and ratepayers. The split is a 65% share to mooring holders, marina berth owners, boatsheds and three commercial port facilities; and a 35% share to ratepayers. Presently rates are not set to cover the full cost associated with the council's activity. Council has other forms of revenue, such as dividends, interest and user charges which are used to fund the balance of costs not funded by rates. The portion funded by rates may vary from year to year. In addition, council may from time to time include a user-pays charge and/or targeted rate programmes.

## 13.4 Funding limitations

No unusual administrative problems or costs are expected in recovering the costs to any of the people that are required to pay.

# 14 Glossary | Papakupu

Term	Definition
Abandoned	In relation to wild kiwifruit, the term 'abandoned' means being untended or unmanaged for a period longer than 12 months.
Act	The Biosecurity Act 1993.
Amenity values	Those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.
Animal	Any mammal, insect, bird, including invertebrates and any living organism (except a plant or a human being). This includes any egg, larva, pupa or other reproductive material.
Animal pest	An animal that has been declared a pest in this Plan.
Appropriate	As determined to be appropriate by Northland Regional Council or its officers acting under delegated authority.
Authorised person	A person for the time being appointed an authorised person under Section 103 of the Biosecurity Act 1993.
Biodiversity	The variability among living organisms from all habitats, including terrestrial, marine and other aquatic ecosystems and the ecological systems of which they are part. This includes diversity within species, between species and of ecosystems.
Beneficiary	The receiver of benefits accruing from the implementation of a pest management measure or the Plan
Biological control	The application to a pest of a natural enemy, which will prey upon or adversely affect the pest with the intention of reducing the level of infestation of the pest.
Chief executive	The head of a Department, and includes a chief executive appointed under the State Sector Act 1988.
Chief technical officer	A person appointed a chief technical officer under section 101 of the Biosecurity Act 1993.
Coarse fish	For the purposes of freshwater pest management this includes the fish species listed in the Plan.
Controlled Area	An area for the time being declared under subsection (2) of Section 131 of the Biosecurity Act 1993 to be an area that is controlled for the purposes of that section.
Costs and benefits	Includes costs and benefits of any kind, whether monetary or non-monetary.
Craft	As defined in the Biosecurity Act; (a) means an aircraft, ship, boat, or other machine or vessel used or able to be used for the transport of people or goods, or both, by air or sea; and  (b) includes— (i) an oil rig; and  (ii) a structure or installation that is imported by being towed through the sea
Defined area	An area as shown on maps in this Plan that illustrates where a pest designation is operative.

Term	Definition
Department	Has the same meaning as in the State Sector Act 1988.
Destroy	Kill or dispose of in a manner that will not allow the pest to reinfest an area.
Designated 'place'	For the purposes of the Marine Pathway Plan, a designated 'place' is those areas identified in Section 10.1 (maps 10.1-10.18) and further defined by location points described in 'Appendix 2   Āpitianga tuarua: Marine Pathway Plan designated places coordinates'.
District council	A district council constituted under Part 1A of the Local Government Act 1974.
Distribute	To propagate, offer for sale or sell, transport, release or in any way spread a pest, whether for commercial gain or not.
Easement	Right of way or a similar right over another person's ground or property.
Ecosystem	A dynamic complex of plant, animal and micro-organism communities and their non-living environment, interacting as a functional unit.
Effect	Unless the context otherwise requires, the term 'effect' includes: <ol style="list-style-type: none"> <li>1. Any positive or adverse effect; and</li> <li>2. Any temporary or permanent effect; and</li> <li>3. Any past, present or future effect; and</li> <li>4. Any cumulative effect which arises over time or in combination with other effects – regardless of the scale, intensity, duration or frequency of the effect; and also includes</li> <li>5. Any potential effects of high probability; and</li> <li>6. Any potential effect of low probability which has a high potential impact.</li> </ol>
Environment	Includes: <ol style="list-style-type: none"> <li>1. Ecosystems and their constituent parts, including people and communities; and</li> <li>2. All natural and physical resources; and</li> <li>3. Amenity values; and</li> <li>4. The aesthetic, cultural, economic, and social conditions that affect or are affected by any matter referred to in paragraphs (a) to (c) of this definition.</li> </ol>
Eradicate	In relation to an organism, means to completely remove it from New Zealand, the region or a defined area of the region.
Eradication	Refers to pests that are known to have limited distribution in Northland. The council will assume responsibility to treat by recognised methods at intervals that will ensure the infestations are controlled, reduced in size and eventually eradicated.
Exacerbator	The person, who by activities or inaction, contributes to the creation, continuance, or aggravation of a pest management problem.
Exclusion	Potential pests not yet known to be present in Northland.
Exotic plant	Introduced plants that are not native to New Zealand.
Feral animal	Any animal not held behind effective fences or otherwise constrained or identified in accordance with the Animal Identification Act 1993. (Excluding feral cats – see below.)
Feral cat	Cats that have none of their needs provided by humans.
Fishing	For the purpose of the Plan, 'fishing' means the catching, taking, or harvesting of pest, coarse or sport fish; and includes:



Term	Definition
	<ol style="list-style-type: none"> <li>1. any other activity that may reasonably be expected to result in the catching, taking or harvesting of pest, coarse or sport fish; or</li> <li>2. any attempt to catch, take or harvest pest, coarse or sport fish.</li> </ol>
Forestry planting	An area principally comprised of exotic tree plantings.
Hapū	Sub-tribe, usually a number of whanau with a common ancestor.
Health	In relation to human health, a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity.
High Value Area	An area containing valuable botanical or wildlife resources that has been assessed and added to the list of areas that will be subject to prioritised pest control by the regional council.
Integrated management	Regionally co-ordinated responses through different sectors (for example, biodiversity issues and cross-boundary issues).
Intrinsic values	<p>In relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right, including:</p> <ol style="list-style-type: none"> <li>1. Their biological and genetic diversity; and</li> <li>2. The essential characteristics that determine an ecosystem's integrity, form, functioning and resilience.</li> </ol>
Iwi	Māori tribe, usually a number of hapū with a common ancestor.
Iwi authority	The authority which represents an iwi and which is recognised by that iwi as having authority to do so.
Kaitiaki	The Tangata Whenua guardian who exercises the ancestral responsibilities of kaitiakitanga.
Kaitiakitanga	The exercise of guardianship by the tangata whenua of an area in accordance with tikanga Māori in relation to natural and physical resources, and includes the ethic of stewardship.
Land owner	As for occupier below.
Light fouling	Small patches (up to 100 millimetres in diameter) of visible fouling, totalling less than five percent of the hull and niche areas. A slime layer and/or any species of barnacles are allowable fouling.
Local authority	A regional council or territorial authority.
Manaakitanga	Expression of hospitality towards people.
Mana	Prestige, power, authority.
Mana whenua	Customary authority exercised by an iwi or hapu in an identified area.
Māori land	Māori customary land and Māori freehold land as defined by Section 4 of the Māori Land Act 1993.
Management agency	The Department, authority, or body corporate specified in a pest management plan as the agency given the task of implementing this Plan.
Minister	<p>Minister of the Crown; and:</p> <ol style="list-style-type: none"> <li>1. In relation to a national pest management plan, means the Minister who recommended the making of the order under Section 68 (of the Biosecurity Act 1993) making the plan; and</li> <li>2. In relation to a proposal for a national pest management plan that has been notified, means the Minister who notified the proposal.</li> </ol>

Term	Definition
Naturalise	Introduced plants that form self-sustaining populations outside of cultivation, either through the production of viable seed or by vegetative reproduction.
Occupier	<ol style="list-style-type: none"> <li>1. In relation to any place physically occupied by any person, means that person; and</li> <li>2. In relation to any other place, means the owner of the place; and</li> <li>3. In relation to any place, includes any agent, employee, or other person acting or apparently acting in the general management or control of the place.</li> </ol>
Operational plan	Operational plan means a plan for the implementation of this Regional Pest and Marine Pathway Management Plan which must be prepared in accordance with Section 100B of the Act.
Organism	<ol style="list-style-type: none"> <li>1. Does not include a human being or a genetic structure derived from a human being;</li> <li>2. Includes a micro-organism;</li> <li>3. Subject to paragraph (a) of this definition, includes a genetic structure that is capable of replicating itself (whether that structure comprises all or only part of an entity, and whether it comprises all or only part of the total genetic structure of an entity);</li> <li>4. Includes an entity (other than a human being) declared by the Governor-General by Order in Council to be an organism for the purposes of the Biosecurity Act 1993;</li> <li>5. Includes a reproductive cell or developmental stage of an organism;</li> <li>6. Includes any particle that is a prion.</li> </ol>
Pathogen	A bacterium, virus, or other microorganism that can cause disease.
Pathway Management Plan	Means a plan for the prevention management of the spread of harmful organisms made under Part 5 of the Act.
Person	Includes the Crown, a corporation sole, and a body of persons (whether corporate or non-corporate).
Pest	An organism specified as a pest in a pest management plan.
Pest agent	<p>In relation to any pest, means any organism capable of:</p> <ol style="list-style-type: none"> <li>1. Helping the pest replicate, spread, or survive; or</li> <li>(b) Interfering with the management of the pest.</li> </ol>
Pest fish	For the purposes of freshwater pest management this includes the fish species listed in the Plan.
Pest Management Plan	Means a plan for the eradication or effective management of a particular pest or pests made under Part 5 of the Act.
Pest plant	A plant that has been declared a pest in the Pest Plan.
Place (also see Designated 'place' above)	Includes any building, conveyance, craft, land or structure, and the bed and waters of the sea and any canal, lake, pond, river or stream.
Plant	Any grass, tree, shrub, herb, flower, nursery stock, culture, vegetable, or other vegetation. This includes the fruit, seed, spore, portion or product of any plant and Includes all aquatic plants.
Principal officer	The principal administrative officer of a regional council; and: (a) In relation to a regional council, its chief executive; and (b) In relation to a region, the chief executive of the region's regional council. This includes an acting chief executive.
Private covenanted bush or wetland	Refers to an area of native bush or wetland on private land that is protected in perpetuity by a covenant registered on the title of the land.

Term	Definition
Progressive Containment	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 method, at intervals that ensure the pest is completely controlled or controlled to or from a stipulated distance from a property boundary.
Public notice	<ol style="list-style-type: none"> <li>1. A notice published in a newspaper circulating generally in the district to which the subject-matter of the notice relates; or</li> <li>2. Where there is no newspaper circulating generally in any district, a notice published on placards affixed to public places in the district to which the subject-matter of the notice relates.</li> </ol> <p>"Published" and "publicly notified" have corresponding meanings. A public notice setting forth the object, purport, or general effect of a document shall in any case be sufficient notice of that document.</p>
Quarry	Land used for commercial mining, taking or extraction of minerals in their natural state, including roading metal, sand, coal, and other aggregate material. It is noted that for this Pest Plan it is only applicable to the operational areas of quarries (that is, the active areas of extraction, processing and stockpiling, and a buffer zone around each of those areas).
Region	In relation to a regional council, means the region of the regional council as determined in accordance with the Local Government Act 2002.
Regional council	(a) Has the same meaning as in section 5 of the Local Government Act 2002; and (b) Includes a unitary authority within the meaning of that Act.
Regional plan	An operative plan (including a regional coastal plan) approved by a regional council or the Minister of Conservation under Schedule 1 of the Resource Management Act; and includes all operative changes to such a plan (whether arising from a review or otherwise).
Regional policy statement	An operative regional policy statement approved by a regional council under Schedule 1 of the Resource Management Act. This includes all operative changes to such a policy statement (whether arising from a review or otherwise).
Release	For the avoidance of doubt, in relation to any Rule within this Pest Plan, release includes, but is not limited to, the deliberate or neglectful liberation of any pest organism.
Responsible Minister	The Minister who, under the authority of any warrant or with the authority of the Prime Minister, is for the time being responsible for the administration of the Biosecurity Act 1993.
Restricted place	Any place that an inspector or an authorised person has declared to be a restricted place under Section 130 of the Biosecurity Act 1993.
Road	Includes all bridges, culverts, and fords forming part of any road.
Rule	Means a rule included in a pest or pathway management plan in accordance with Section 73(5) or Section 93(5) of the Biosecurity Act 1993.
Rural areas	Those areas of a region which lie outside the defined urban areas; that is, those areas which lie outside the metropolitan urban limits and outside the urban area of rural town and coastal settlements.
Rūnanga	Tribal representative and administrative body.
Secure containment	Means a facility or structure that effectively prevents the escape or passage of an organism.
Sell	Includes barter; and also includes offering, exposing, or attempting to sell, or having in possession for sale, or sending or delivery for sale, causing or allowing to be sold, offered, or exposed for sale, and also includes any disposal whether for valuable consideration or not. "Sale" has a corresponding meaning.
Slime layer	A layer of microscopic organisms, such as bacteria and diatoms, and the slimy substances that they produce.

Term	Definition
Species	For the purpose of this Plan, a species is considered to include all cultivars, varieties and forms of that species, unless stated otherwise. However, a species is considered to exclude any hybrids of that species with another species, unless stated otherwise.
Structure	For the purpose of this Plan, structure means any building, equipment, device, or other facility made by people and which is fixed to land; and includes any raft.
Sustained Control	Refers to pests for which the sale, propagation, distribution and exhibition has been prohibited, in order to arrest the further spread of these pests by humans, as well as those pests that people are required to undertake control of to further mitigate spread.
Tangata Whenua	In relation to a particular area, means the iwi, or hapū that holds mana whenua over that area.
Taonga	Something highly prized or treasured, tangible or intangible, that contributes to Māori wellbeing. The term equates roughly to the concept of a resource, but incorporates a range of social, economic and cultural associations. Included, for example, are te reo (the Māori language) waahi tapu, waterways, fishing grounds, mountains and place names.
Tapu	Sacred, restricted.
Tikanga Māori	Māori customary values and practices.
Tino rangatiratanga	Chieftainship, chiefly authority, full authority.
Transport corridor	Local roads, state highways and railway lines as owned or occupied by district/city councils, New Zealand Transport Agency and KiwiRail. A local road is one that is not a state highway.
Unwanted organism	<p>Any organism that a chief technical officer believes is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health; and</p> <ol style="list-style-type: none"> <li>Includes – <ol style="list-style-type: none"> <li>Any new organism, if the Authority has declined approval to import that organism; and</li> <li>(Any organism specified in Schedule 2 of the Hazardous Substances and New Organisms Act 1996; but</li> </ol> </li> <li>Does not include any organism approved for importation under the Hazardous Substances and New Organisms Act 1996, unless – <ol style="list-style-type: none"> <li>The organism is an organism which has escaped from a containment facility; or</li> <li>A chief technical officer, after consulting the Authority and taking into account any comments made by the Authority concerning the organism, believes that the organism is capable, or potentially capable, of causing unwanted harm to any natural and physical resources or human health.</li> </ol> </li> </ol>
Urban area	Means the area included within the metropolitan urban limits and the areas included within the urban zones of rural or coastal settlements.
Vessel	Ship, boat or other machine or craft used, or able to be used, for the transport of people or goods, or both, by sea.
Waterbody	Means fresh water or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, that is not located within the coastal marine area.
Waahi tapu	A place sacred to Māori in the traditional, spiritual, religious, ritual or mythological sense.
Wetland	Includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions.
Whanau	An extended Māori family.
Wild kiwifruit	Any self-propagated or abandoned plant or any unmanaged plant material of the Actinidia genus.



Term	Definition
Zero-density	A medium term target of maintaining an area free from the adverse effects of the pests. The pests may still be present in the region, but they are managed so they cease to be a threat to economic, environmental or social/amenity values.
Zone	A specified area within the region as defined by maps within the pest management plan.

*Table 14.1 Glossary*

# Appendix 1 | Āpitihianga tuatahi: Non-regulatory regional pest methods

This Plan sets out the rules used by the council to manage specified plant and animal pests in Northland. However, effective pest management also requires the development and maintenance of partnerships with our communities, Māori and a range of agencies, under the umbrella of a complementary suite of non-regulatory activities. This section summarises the council's key non-statutory pest management methods and possible future options.

## Partnerships

The council has strong alliances at a national and local level with Crown agencies such as the Ministry for Primary Industries and the Department of Conservation, and also with non-governmental organisations such as the Queen Elizabeth II National Trust, the NZ Landcare Trust, Ngā Whenua Rāhui and Northland Fish & Game. Working relationships with primary industry - farming and forestry, and the horticulture sector - are also key.

Relationships are also being built up with national initiatives, such as Predator Free NZ, and regional initiatives, such as Reconnecting Northland - a large-scale ecological restoration programme inspired by similar landscape projects in North America, Europe and Australia.

## Technology and biocontrol

Advances in technology are offering new ways of controlling some individual pest species. The council will continue to work with communities and researchers to leverage funding and foster investigation into new or improved pest control tools, such as the biological control agents aimed at weeds and insect pests. These tools have been used effectively in Northland for the past five years. Another developing technology is remote surveillance technology to track and detect pests such as possums, mustelids and feral pigs.

## National Accords

A list of plant pests and pets that could impact on the environment and are banned from sale and distribution is administered by the Ministry for Primary

Industries under the National Plant Pest and Pet Trade Accords. Such accords are co-operative agreements between regional councils and government departments with shared pest control responsibilities. The council's role in implementing these will be to provide trained biosecurity staff to carry out inspections of nurseries and pet shops to ensure compliance with the Accord.

## Stakeholder/community education

The number of people and community groups involved in pest control throughout Northland is building steadily, and the actions they take on an everyday basis help to limit the spread of pests in the region. To continue to grow the region's capacity and pest control capability, communities need opportunities to share knowledge and improve pest control skills. To enable this, the council provides advice and publications, offers public workshops, and provides low cost pest control materials to support landowners' efforts. Importantly, council's advice is not limited to the pests contained within this Plan - there are many more species that might also be considered pests by particular individuals and communities within the region. The council also regularly provides displays and/or attends public events with a pest management element, and uses a variety of social media platforms to increase pest awareness.

## Species-led initiatives

Northland's diversity of habitats and warm, moist climate makes the region especially vulnerable to new pests and diseases, potentially impacting on our economic, social and cultural values. Preventing new pest species from entering Northland and slowing the spread of established pest species are priority pest management activities. The most serious pest species arrivals generally require an urgent and effective response focused on eradication and involving resourcing, advance planning and implementation. Where possible, such responses involve Crown agencies and other key stakeholders working alongside the council.

## Biosecurity partnerships

Site-led pest management approaches aim to manage the impacts of several pests all at the same time at a defined site or location. High value sites such as Kai Iwi lakes are a good example of a suite of aquatic animal and plant pests being targeted through a site-led approach. This contrasts with a species-led approach which targets the pest wherever it occurs within the region with the aim of preventing spread and establishing. Many weed species are managed via the site-led approach.

Pest management at identified sites will be managed under an umbrella programme called Biosecurity Partnerships. This supports the current policies of high-value areas (see below), a refocused approach to the existing programme of Community Pest Control Areas (CPCAs), and grants for pest control work made through the council's Environment Fund. 'Biosecurity partnerships site-led map' shows key site-led initiatives proposed over the next 10 years.

## High-value areas

The high-value area approach aims to reduce pest impacts in specific identified areas of high biodiversity and/or cultural, recreational or economic value. These areas are identified in conjunction with landowners, the Crown and other stakeholders. Pest plans (subject to council approval) will be developed in these areas in partnership with landowners and the community.

The council proposes to align some of its activities with Reconnecting Northland and the New Zealand Biodiversity Action Plan as part of implementing site-led pest control and responding to community initiatives to restoring biodiversity. An aspirational goal will be that, for the next 50 years, predator pests are eliminated or effectively controlled in all areas of ecological significance throughout Northland. To give effect to this goal, a programme called "Seven in Ten" will aim to restore seven of Northland's large native forests over the next 10 years. This programme will be planned in conjunction with key agencies, stakeholders and communities. It is intended that a precedent will be set by using/trialling new and innovative pest control funding which will eventually produce a financial and social gain to the regional economy.

## Community Pest Control Areas (CPCAs)

Community Pest Control Areas are a way of assisting communities to manage pests on private land and can be awarded to defined community groups for terrestrial, marine or freshwater pest control.

Fifty-two CPCAs covering a total of 60,050 hectares have been implemented since the programme was established in 2005. There is now increasing emphasis on providing support and mechanisms directed toward landowners becoming self-funding over time.

Proposals for establishing new CPCAs are assessed for feasibility and the environmental, cultural or economic benefit likely to accrue as a result of pest control. The costs and level of ongoing stakeholder support are also taken into account. For more information about CPCAs, go to [www.nrc.govt.nz/cpca](http://www.nrc.govt.nz/cpca)

'Biosecurity partnerships site-led map' shows site-led programmes throughout Northland.

There are a number of species that have not been included in this Plan that may be appropriate species to target within CPCA's. As this programme aims to provide greater flexibility and is outside the statutory requirements of the pest management plan, there is no requirement to list the species that will be considered for inclusion in a community plan, and the plans can include any invasive species having local impacts.

Species that are not included in this Plan that may be appropriate for CPCAs include, but are not limited to, the species listed in 'Animal species not included in Plan that may be appropriate for CPCAs to target.' and 'Freshwater species not included in Plan that may be appropriate for CPCAs to target.'

Common name	Scientific name
Canada geese	<i>Branta Canadensis</i>
Common wasp and German wasp	<i>Vespula vulgaris</i> , <i>Vespula germanica</i>
Guava moth	<i>Coscinoptycha improbana</i>
Hedgehog	<i>Erinaceus europaeus occidentalis</i>
Indian myna	<i>Acridotheres tristis</i>
Magpie	<i>Gymnorhina tibicen</i>
Mouse	<i>Mus musculus</i>
Plague skink	<i>Lamproholis delicata</i>
Tropical grass webworm	<i>Herpetogramma licarsialis</i>

*Animal species not included in Plan that may be appropriate for CPCAs to target.*

Common name	Scientific name
Alligator weed	<i>Alternanthera philoxeroides</i>
Egeria (oxygen weed)	<i>Egeria densa</i>

Common name	Scientific name
Elodea (Canadian pondweed)	<i>Elodea canadensis</i>
Hornwort	<i>Ceratophyllum demersum</i>
Hydrilla (Florida elodea)	<i>Hydrilla verticillata</i>
Lagarosiphon (oxygen weed)	<i>Lagarosiphon major</i>

*Freshwater species not included in Plan that may be appropriate for CPCAs to target.*

## Roading authorities

The construction and maintenance of roads can exacerbate pest problems by creating establishment sites and by spreading pests via machinery, equipment and materials. Roads are recognised as corridors for the spread of pest plants, while the construction and maintenance of bridges and structures in water bodies can introduce marine or freshwater pests. The Biosecurity Act allows the option of making either roading authorities or neighbouring landowners responsible for road verge pest control. In Northland, the responsibility for roadside verge control for all formed roads will be the responsibility of the roading authority, in common with other pest management strategies in New Zealand. Responsibility for pest control on unformed roads will lie with the land occupier who physically occupies the land. The council believes there is benefit in developing operational plans with road controlling authorities to limit the spread of pests and facilitate effective pest management.

## Rail corridor occupiers

Rail corridors can exacerbate pest problems by creating establishment sites and by spreading pests via machinery, equipment and materials. Rail corridors also act as pathways for the spread of pest plants, while the construction and maintenance of bridges and other structures in water bodies can introduce and spread marine or freshwater pests. The council believes there is benefit in developing operational plans with rail corridor occupiers to limit the spread of pests and facilitate effective pest management.



## Case study 1: Community Pest Control Area

Warawara Forest (Ngahere) ranks as one of the region's highest priority kauri forests, covering more than 13,000 hectares. The council is a partner in the 'Warawara Whakaora Ake' project, which aims to restore the ecological health of the 13,000 hectares of forest by ridding it of introduced pests.

The project is supported and backed by Te Rarawa Anga Mua and led by representatives of the 10 marae that surround the forest, which comprises private, Maori and Crown land. Other partners include Northland Regional Council and the Far North District Council, Reconnecting Northland (an ecological restoration collaboration between World Wildlife Fund, New Zealand and New Zealand Landcare Trust), the Department of Conservation, Ngā Whenua Rāhui, Kiwi for Kiwis and the Ministry for Primary Industries.

Possum and rat numbers are significantly reducing through the pest control work carried out to date, and the forest is beginning to recover. A survey of plant and bird life was carried out in late 2016 by survey teams comprising botanists, bird experts and people from the local area (the last comprehensive vegetation survey was in the 1950's).

Warawara is home to the most northern population of North Island rifleman (Titi pounamu) and the survey found evidence of further rifleman populations and of kiwi well beyond the current known range of both species within the forest.



*Council staff member Mike Knight with Rongo Bentson Te Rarawa - Komiti kaitiaki*

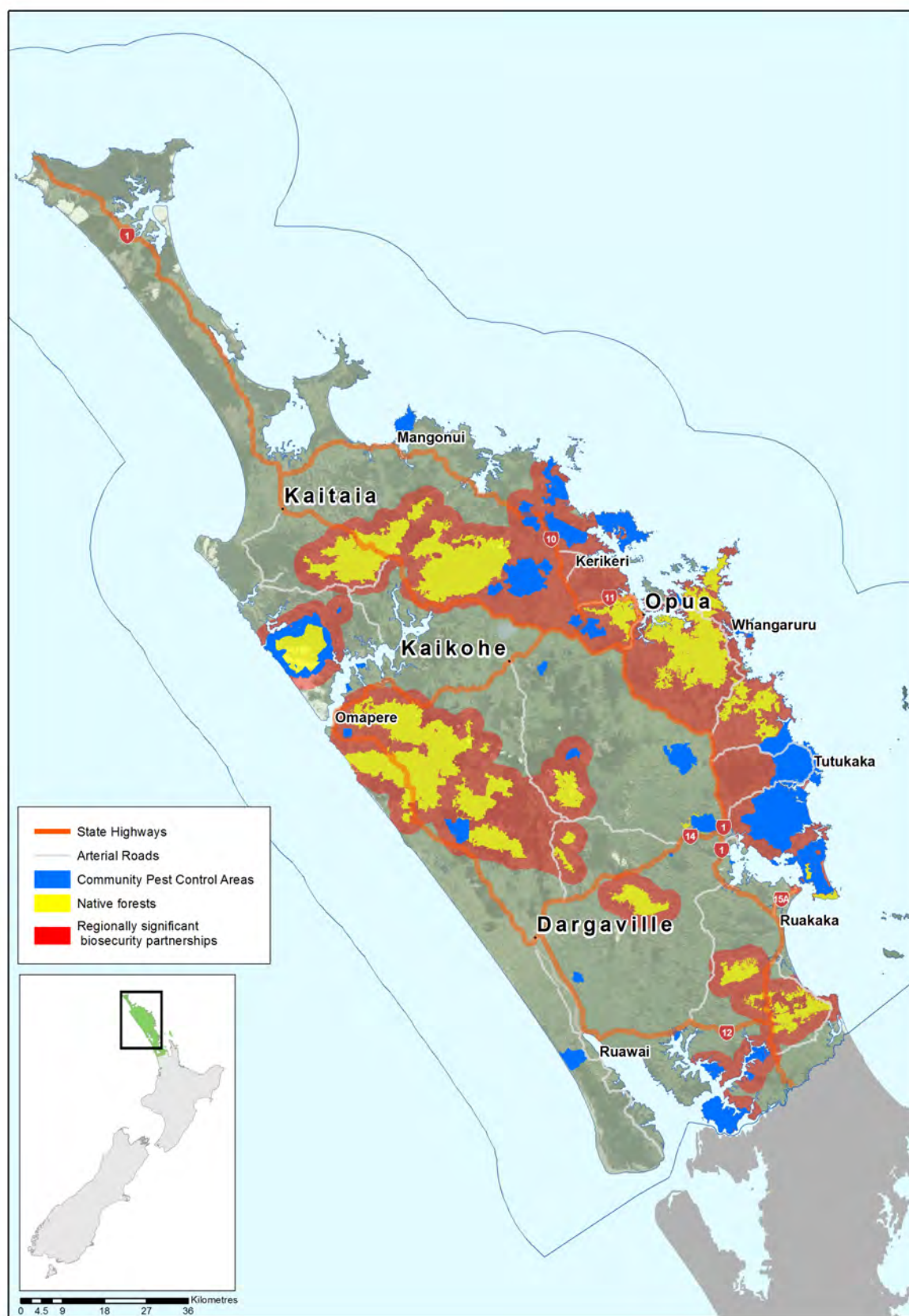
## Case study 2: High value area approach

Lakes Kai Iwi, Taharoa and Waikare are outstanding Northland dune lakes with excellent water quality and outstanding ecological condition, providing habitats for a range of endangered plants and animals. However, their accessibility and high recreational use raises the risk of aquatic pest introduction, and there are already significant threats to the lakes from terrestrial weeds and pest animals.

Since 2013/14, council staff have been working with the Taharoa Domain Governance Committee, Kaipara District Council, iwi and surrounding landowners on a series of projects to reduce the impact of introduced pests, improve wetland and water quality on adjacent farms, and raise public awareness of the lakes and how to look after them.



*A public open day held at Kai Iwi Lakes*



Biosecurity partnerships site-led map



# Appendix 2 | Āpitihianga tuarua: Marine Pathway Plan designated places coordinates

The following coastal names and coordinates complement the Marine Pathways Plan designated places, Figures 10.2 to 10.18. The coordinate format used is Degrees and Decimal Minutes (DMM) and the datum used is World Geodetic System 1984 (WGS84).

**Figure 10.2: Bay of Islands** designated place limit, Cape Wiwiki to Cape Brett; westerly starting waypoint 35° 9.317' S 174° 7.383' E, moving in a general NE direction to waypoint 35° 8.641' S 174° 8.070' E, then moving in a general ESE direction to 35° 10.183' S 174° 19.924' E.

**Figure 10.3: Bream Head to Bream Bay (Ruakaka Coast)** designated place limit; northern starting waypoint 35° 51.274' S 174° 35.499' E, moving in a general WSW direction to 35° 54.949' S 174° 27.637' E.

**Figure 10.4: Cavalli Islands** designated place limit, 800m out from the line of Mean Low Water spring tide, from closest land; Horonui Island (northwesterly point), Motutakupu Islands (northeasterly point), Kaitirehe Rock (mid-west), Motuharakeke Island (Flax Island, mid-east), Piraunui Island (southwest), and Motuhua Island (southeast); waypoints have been provided as a guide to mark the limits at various boundary locations 34° 57.838' S 173° 55.777' E, 34° 58.093' S 173° 58.372' E, 34° 58.778' S 173° 56.106' E, 34° 59.014' S 173° 58.985' E, 34° 59.348' S 173° 57.970' E, 34° 59.627' S 173° 55.128' E, 35° 0.140' S 173° 58.792' E, 35° 0.403' S 173° 57.465' E, 35° 1.248' S 173° 56.004' E, 35° 1.444' S 173° 57.808' E, 35° 2.650' S 173° 58.156' E.

**Figure 10.5: Doubtless Bay** designated place limit, Knuckle Point to Te Whatu (Berghan Point); northern starting waypoint 34° 50.951' S 173° 28.188' E, moving in a general SE direction to 34° 54.762' S 173° 33.518' E.

**Figure 10.6: Hen & Chicken Islands** designated place limit, 800m out from the line of Mean Low Water spring tide, from closest land; Wareware Island (northern northwesterly point), West Chicken Island

(Mauitaha Island; northern southwesterly point), Coppermine Island (northeasterly point), and Taranga Island (to the south, east and west points); waypoints have been provided as a guide to mark the limits at various boundary locations 35° 52.523' S 174° 41.430' E, 35° 52.893' S 174° 44.553' E, 35° 53.201' S 174° 47.528' E, 35° 54.096' S 174° 41.221' E, 35° 54.324' S 174° 44.360' E, 35° 56.840' S 174° 41.440' E, 35° 57.032' S 174° 43.628' E, 35° 58.155' S 174° 45.317' E, 35° 58.658' S 174° 43.129' E.

**Figure 10.7: Waipu Estuary to Mangawhai Harbour** designated place limit; northern starting waypoint 35° 59.204' S 174° 28.759' E, moving in a general ENE direction to 35° 58.759' S 174° 32.829' E, then in a SE direction to 36° 2.111' S 174° 36.562' E, then moving in a general SSW direction and ending at 36° 5.155' S 174° 35.974' E.

**Figure 10.8: Herekino Harbour to Whangape Harbour (Tuapeke Point)** designated place limit; northern starting waypoint 35° 17.415' S 173° 9.612' E, moving in a general SW direction to 35° 18.356' S 173° 8.817' E, then moving in a general SSE direction to 35° 22.662' S 173° 12.516' E, then moving in a general SE direction and ending at Tuapeke Point, 35° 22.941' S 173° 13.131' E.

**Figure 10.9: Hokianga Harbour** designated place limit; northern starting waypoint 35° 31.385' S 173° 21.399' E, moving in a general SSE direction to waypoint 35° 32.676' S 173° 21.902' E.

**Figure 10.10: Houhora Harbour** designated place limit, Perforated Point to Ngāruī-o-te-Marangai Beach (East Beach); northern starting waypoint 34° 47.307' S 173° 9.938' E, moving in a general SE direction to 34° 48.203' S 173° 11.213' E, then moving in a general SSW direction to 34° 49.968' S 173° 10.857' E, then moving in a general WSW direction and ending at 34° 50.482' S 173° 9.477' E.



**Figure 10.11: Parengarenga Harbour** designated place limit, Ohao Point (Coal Point) to Kokota (The Sandspit); northern starting waypoint 34° 30.548' S 173° 0.523' E, then moving in a general SW direction to waypoint 34° 31.876' S 172° 59.436' E.

**Figure 10.12: Poor Knights Islands** designated place limit, 800m out from the line of Mean Low Water spring tide, from closest land; Te Paki Point (north) to Archway Island (south); waypoints have been provided as a guide to mark the limits at various boundary locations 35° 26.204' S 174° 44.172' E, 35° 26.865' S 174° 43.335' E, 35° 26.936' S 174° 45.116' E, 35° 27.527' S 174° 43.394' E, 35° 27.609' S 174° 45.217' E, 35° 28.162' S 174° 44.930' E, 35° 28.239' S 174° 43.398' E, 35° 29.094' S 174° 45.417' E, 35° 29.225' S 174° 43.433' E, 35° 29.936' S 174° 44.322' E.

**Figure 10.13: Rangaunu Harbour** designated place limit; Cape Karikari (Whakapouaka) to Ngārui-o-te-Marangai Beach (East Beach); north-easterly starting waypoint 34° 46.899' S 173° 23.762' E, moving in a general SW direction to waypoint 34° 52.527' S 173° 12.832' E.

**Figure 10.14: Tutukaka Harbour** to Pataua Estuary designated place limit; Tutukaka Head (South Gable) to Taiharuru Head; northern starting waypoint 35° 36.728' S 174° 32.813' E, moving in a general SSE direction to waypoint 35° 43.015' S 174° 34.100' E.

**Figure 10.15: Whananaki Harbour** designated place limit; Motutara Point to the north point of Oruaea Bay; northern starting waypoint 35° 31.143' S 174° 28.659' E, moving in a general SW direction to waypoint 35° 31.999' S 174° 27.925' E.

**Figure 10.16: Whangaroa Harbour** designated place limit; North Head to South Head; northern starting waypoint 35° 0.016' S 173° 45.425' E, moving in a general ESE direction to waypoint 35° 0.295' S 173° 46.086' E.

**Figure 10.17: Whangaruru Harbour** designated place limit; Cape Home to northeasterly point of Mimiwhangata Bay; northern starting waypoint 35° 22.559' S 174° 22.641' E, moving in a general SSE direction to waypoint 35° 25.529' S 174° 25.065' E.

**Figure 10.18: Kaipara Harbour** designated place limit; North Head to Auckland Regional Boundary; northern starting waypoint 36° 23.765' S 174° 3.282' E, moving in a general SE direction to waypoint 36° 26.537' S 174° 6.594' E.

# Appendix 3 | Āpitihianga tuatoru: Kauri dieback management plan minimum 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. Measure to be adopted:
  - a. Vector risk mitigation i.e. phytosanitary measures, access limitations, control of feral animals, any other details 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



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