Biosecurity Operational Report

Northland Regional Pest and Marine Pathway Management Plan - Annual Report 2019-2020

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

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Kauri dieback infected trees – Gavin Clapperton, Northland Regional Council
Kiwi chick – Todd Hamilton, Backyard Kiwi
Heavily fouled boat hull, Mangonui Harbour – Kathryn Lister, Northland Regional Council
Manchurian wild rice – Matt Johnson, Northland Regional Council

1. Kia ora and welcome

Together we've achieved many of our pest management goals over the past year (July 2019 to June 2020) – despite the challenges of Covid-19. So, it's with great pride that we share these results in our annual report on the Northland Regional Pest and Marine Pathways Management Plan 2017-2027.

Northland Regional Council focuses on enabling our communities to deliver pest action, preventing and managing the pests that negatively impact our forests, wildlife and regional economy. We feel privileged to play a part in this work and admire how effective our communities are at protecting native species and our most valued habitats on private land (which also provides much needed employment for Northlanders).

Within these pages you'll see the progress we've made on enabling our community led trapping to protect kiwi and other wildlife and learn more about initiatives such as Predator Free 2050 and the National Wilding Conifer Control Programme. We're also excited to share what is happening with the weed action groups, and the interest in weed workshops and other knowledge sharing events our staff are involved in.

We present a feature on kauri dieback and the progress being made to build awareness and reduce the spread of the disease. A partnership with Northland Rugby has greatly assisted this campaign: two wonderful educational videos resulted in more than 80,000 views on our Facebook page.

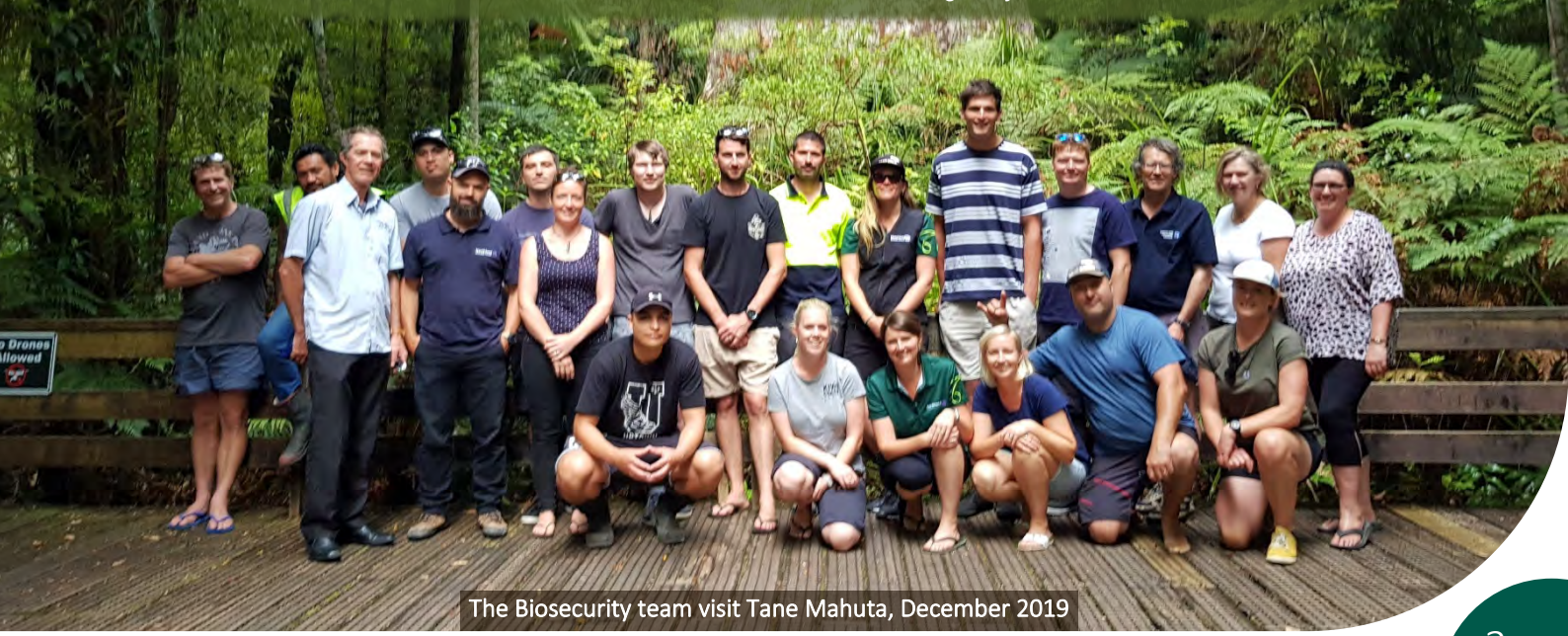
Our marine biosecurity staff have successfully surveyed more than 50% of the Northland vessel fleet, checking for marine pests. They've also been working closely with counterparts from Auckland, Bay of Plenty, Waikato, and the crown ministries of MPI and DOC on a Clean Hull Plan – the first of its kind in New Zealand. The plan aims to provide a more coordinated, consistent approach to marine biosecurity, and public submissions will be sought in mid 2021.

It's also a great pleasure to highlight the huge achievements of one of our biosecurity staff, Kane McElrea, who in the past year won two national awards for his services to biosecurity and building community partnerships.

We trust you will find the 2019-2020 annual report of interest, and again congratulate everyone undertaking pest control on their own land. These efforts contribute to our long term vision of a pest free Northland, and we welcome your ideas about future work.

Malcolm Nicholson
Chief Executive

Jack Craw
Chair Biosecurity and Biodiversity
Working Party



The Biosecurity team visit Tane Mahuta, December 2019

2. Introduction

Background

The Northland Regional Council (council) is the management agency responsible for developing and implementing the Northland Regional Pest and Marine Pathway Management Plan 2017-2027 in accordance with the Biosecurity Act 1993 (Pest Plan). The Pest Plan is a combination of the eradication or effective management of specified pests (or groups of pests), and a marine pathway plan designed to prevent and manage the spread of harmful marine organisms via boat hull fouling within Northland coastal waters.

An Operational Plan is prepared and reviewed annually as a requirement of the Biosecurity Act 1993 (section 100B). It describes how the Pest Plan will be implemented for a given year. Council has a statutory requirement under the Act to report on progress in implementing the Pest Plan, within five months of the end of the relevant financial year.

This Annual Report on the Operational Plan 2019-2020 is the second produced under the 10 year Pest Plan. The report notes progress made against aims, objectives and performance measures contained in the Operational Plan and expands on these where appropriate.

Implementation Programme

Exclusion Pests

Preventing the establishment of named 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 and have the potential to be a serious pest. Emergency control actions of pests that are not listed in the Pest Plan can also be carried out.

Eradication Pests

Eradicating identified pests in Northland. The intermediate outcome is to achieve zero density of these pests in certain areas. In the short to medium term, infestation levels will be reduced to the point where it becomes difficult to detect the pest.

Implementation Programme Objectives

Progressive Containment Pests

Containing and, where practicable, reducing the geographic distribution of certain pests in Northland over time. Eradication is not feasible, but it is practicable to prevent them from spreading to other parts of Northland, or to eradicate the pest from other parts of Northland.

Sustained Control Pests

Providing ongoing control of a pest (or group of pests), or an organism being spread by a pest to prevent unreasonable impacts. The intermediate outcome is to ensure any external impacts are manageable. This includes plants banned from sale and distribution.

Marine Pathway Management 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 marine pests in Northland.

Practical Pest Management

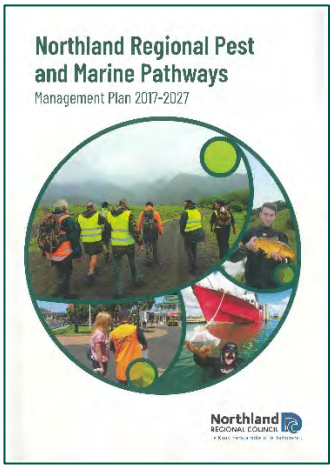
Council achieves practical pest management by:

- Requiring landowners and/or occupiers or other persons to adhere to pest or pathway management rules (eg. pests controlled, pathways managed, management plans prepared, and the presence of pests reported).
- Undertaking inspections of properties and places for a variety of outcomes (eg. to determine whether pests are present, that rules and management programmes are being complied with and monitoring effectiveness of control).
- Carrying out direct control (service delivery) of high threat pests where council is best placed to coordinate control efforts (eg. pests that are difficult to identify and/or control, distributing biological control agents, traps and herbicides and work on a user pays basis).
- Promoting awareness and education on what good biosecurity management looks like. To help occupiers and communities control pests the council provides practical advice and advocacy material around impacts of pests and pathways of pest spread. This includes working cooperatively with other agencies and stakeholders, contributing to research, cost sharing with others and promoting 'good practice' guidelines to control pests.
- Supporting community led pest management activities through non-regulatory approaches such as council's biosecurity partnerships.

Report format

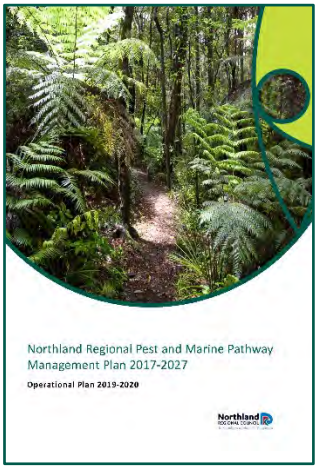
This report should be read in conjunction with the:

Northland Regional Pest and Marine Pathway Plan 2017-2027



https://www.nrc.govt.nz/media/uhudlio4/northlandregionalpestandmarinepathwaymanagementplan20172027.pdf

Operational Plan 2019-2020



Sections 1 to 4 set the scene for the need for the report based on the programmes implemented, and the actions carried out by council as the management agency. Section 5 provides a financial overview for expenditure during the year.

Sections 6 to 10 comprise the main part of the document and report on the five pest management implementation programmes in the same order as set out in the Pest Plan. Programme activities and key performance measures are listed in left hand columns. The comments in right hand columns and the row below note achievements (or the reasons why a performance measure has not been met). Supplemental reporting material is detailed in the appendices.

3. Structure of Biosecurity

Biosecurity was restructured in 2019 resulting in the creation of four teams led by the Biosecurity Manager.

Partnerships

Responsible for delivery of biodiversity restoration projects controlling sustained control pest animals. Management of programmes is generally outside of the Pest Plan and includes:

- Community Pest Control Areas (CPCAs) – a way of assisting communities to manage pests on private land.
- High Value Areas (HVAs) – specifically identified land areas of high biodiversity, cultural, recreational or economic value.
- Predator Free 2050 – landscape scale eradication programmes.
- Biofund (Environment fund) – small management agreements and grant funding to establish pest control projects.
- Significant biosecurity partnerships – such as the Northland Regional Council – Kiwi Coast partnership.

Pest Plants & Freshwater

Responsible for delivery of both the:

- Pest plant programme (exclusion, eradication, progressive containment and sustained control plant pests).
- Freshwater pest programme (exclusion, eradication, progressive containment and sustained control freshwater pests).

Incursions & Response

Responsible for delivery of:

- Wild animal control (large exclusion and eradication pest animals).
- Sustained control disease (kauri dieback).
- Incursion response as required.
- Freshwater Check, Clean, Dry programme.

Marine

Responsible for the delivery of the:

- Marine Pathway Plan.
- Sustained control marine pests programme.

4. Pests species in the plan

Northland's Pest Plan contains **143** species. A breakdown on the number and types of pests along with a detailed listing of the pests included is detailed in the tables below and overleaf.

Type of Pest	Number of Species (or groups of species) in the Pest Plan					
	Exclusion	Eradication	Progressive Containment	Sustained Control	Banned from sale or distribution	Total
Plants	13	22	5	18	35	93
Animals	11	3		12		26
Diseases				1		1
Fresh water	3	8	3	2		16
Marine				7		7
Total	27	35	8	40	38	143

How are pest species determined?

Many organisms in the Northland region are considered undesirable or a nuisance. Criteria set in Biosecurity Act 1993 must be met to justify regional intervention in managing them as pests. Evaluation details can be found here: https://www.nrc.govt.nz/media/ahhdcmt5/amendedcostbenefitanalysisreportaugust2017.pdf

Pest species included in the plan

Pest Type	Exclusion Species	Eradication Species	Progressive Containment
Plants	Asiatic knotweed Chinese knotweed Climbing spindle berry Giant hogweed Giant knotweed Holly-leaved senecio Houttuynia Noogoora bur Old man's beard Phragmites Purple loosestrife Sea Spurge Velvetleaf	Akebia Balloon vine Bat-wing passionflower Cape tulip Cathedral bells Chilean rhubarb Evergreen buckthorn Field horsetail Firethorn Gypsywort Lesser knotweed Mexican feather grass Mickey mouse plant Monkey musk Nassella tussock Nutgrass Royal fern Spartina species including: *Spartina alterniflora* *Spartina anglica* *Spartina townsendii* Wilding kiwifruit Yellow flag iris	African feather Grass Lantana (all varieties) Manchurian wild rice Mile-a-minute Pultenaea
Animals	Bearded dragon Big headed ant Blotched blue tongued skink Common blue tongued skink Indian ring-necked parakeet Rainbow lorikeet Rook Sulphur crested cockatoo Wallaby (all *Macropus*, *Petrogale* and *Wallabia* species)	Feral deer including all species and hybrids of: *Cervus* *Dama* *Odocoileus*	
Disease			
Fresh water	Entire marshwort Orfe Water poppy	Eastern water dragon Eel grass Nardoo Red-eared slider turtle Salvinia Senegal Tea Snake-necked turtle Water hyacinth	Koi carp Perch Tench
Marine			

Pest Type	Sustained Control	Banned from Sale and Distribution
Plants	Bathurst bur Brazillian Pepper tree Gorse Gravel Groundsel Phoenix palm Privet (Ligustrum) including: *L. lucidum* (tree privet) *L. sinense* (Chinese privet) *L. ovalifolium* (privet) *L. vulgare* (common privet) Queen of the night Rhus tree Wild ginger including: Yellow ginger Kahili ginger Wilding conifers including: *Pinus contorta* Douglas fir Maritime pine Radiata pine Woolly nightshade	Agapanthus Black-eyed Susan Broom Brush wattle Buddleia Camphor laurel Cape honey flower Cape ivy Century plant Coastal banksia Cotoneaster incl: *C. glaucophyllus* *C. franchetii* Eleagnus Elephant's ear English ivy Furcraea German ivy Greater bindweed Hakea Hakea Himalayan fairy grass Himalayan honeysuckle Jasmine Kangaroo acacia Lily of the valley vine Oxylobium Paperbark poplar Periwinkle Prickly moses incl: *Acacia verticillata subsp. cephalantha* *A. v. subsp. ruscifolia* Sexton's bride Sharp rush Sycamore Sydney golden wattle Taiwan cherry Velvet groundsel
Animals	Argentine ant Darwin's ant Feral and stray cats Feral goat Feral pig Mustelids incl: Ferret Stoat Weasel Possum Rabbit Rodents incl: Norway rat Ship rat	
Disease	Kauri dieback	
Fresh water	Brown bullhead catfish Rudd	
Marine	Asian paddle crab Australian droplet tunicate Japanese mantis shrimp Mediterranean fanworm Pyura sea squirt Styela sea squirt Undaria seaweed	

5. Financial summary

Council's Long Term Plan 2018 - 2028 provides the necessary funding (via rates and user charges) for the operational and planning activities associated with biosecurity and pest management carried out by Northland Regional Council. Additional external funding grants have also been allocated to supplement council investment in pest management.

External Funding 2019-2020

During the course of the year $2,042,226 of external funding grants were allocated from the Ministry for Primary Industries, the Department of Conservation and other sources. $703,556 of this funding was included in the revised departmental budgets and expenditure is detailed in the table below. Of the $2,042,226 funding allocated, $675,948 was deferred to complete the agreed works.

Strong partnerships have been forged with the Ministry for Primary Industries and Predator Free 2050 directorships and these have resulted in significant financial contributions to pest management programmes. Staff are committed to further strengthening these relationships and showcasing the value of collaborative action with crown agencies and Māori.

Unbudgeted Expenditure 2019-2020

Marine incursion funding

This funding was allocated from the Ministry for Primary Industries as part of a cost share agreement for marine incursion response. This revenue is invoiced after expenditure is incurred and does not appear in departmental revenue or expenditure budgets.

Wilding Conifer Control Project

This funding was allocated from the Ministry for Primary Industries as part of the Wilding Conifer Control Project in early 2020 ($190,000). In March 2020, the funding was supplemented as part of the government's Covid-19 response by an additional $1,000,000. Wilding conifer control work funded by these grants was delayed two months by New Zealand's Covid-19 response and the funded project work completed by end August 2020.

Biosecurity Activities 2019- 2020	Revised Budget	Actual Expenditure
Biosecurity Overheads [1]	$2,303,643	$2,507,515
Partnerships [2]	$2,781,090	$2,246,423
Pest Plants and Freshwater	$965,596	$929,712 [3]
Diseases and Incursions [4]	$567,033	$476,680
Marine	$591,603	$574,587 [5]
Total Budgeted Expenditure	**$7,208,965**	**$6,734,916**
Additional Biosecurity Activities (unbudgeted)		
Marine incursion response (cost share agreement)		$71,462 [5]
Wilding Conifer Control Project [6]	–	$575,445
Total Biosecurity Expenditure		**$7,381,823**

The total biosecurity budgeted expenditure for 2019-2020 was **$6,734,916**. This was an operational surplus because of Covid-19 of **6.6%** or **$474,049** as at 30 June 2020.

[1] Includes staff training and leave, vehicle running costs, regional and national working group costs, administration staff, and council support services.
[2] Includes sustained control animals, Predator Free Whangārei, and materials for resale.
[3] Expenditure includes $70,012 of carry forwards for uncompleted eradication and roadside weed contracts.
[4] Includes large eradication and exclusion animals.
[5] Marine expenditure split to reflect $71,462 of unbudgeted supplementary Ministry for Primary Industries subsidies for marine incursion response.
[6] Ministry for Primary Industries funding as part of the Wilding Conifer Control project and Covid-19 response funding.

6. Pest plants

Manchurian wild rice at Tangowahine

1
Exclusion species incursion

26
Eradication plant incidents

10
Biofund projects with a pest plant component

692
Public enquiries

9
Community events

4,266
High Value Area volunteer hours

9,624
Pest control hub total page views

29.4 days of viewing

6
New biocontrol agent releases

9 since 2018

61
Weed workshops participants

960 since 2011

6.1 Exclusion plants

Juvenile velvetleaf (photo Ministry for Primary Industries)

Key points of the exclusion pest plant programme

- Enforcement of rules relating to exclusion plants.
- Eradication of exclusion plants found in Northland.
- Inspection and enforcement of rules relating to plant nurseries and retail outlets (National pest plant accord). This performance measure is reported in *Section 6.4 Sustained control plants*.

Progress in achieving aims

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Identify new sites
New incursion sites of exclusion plants are identified.</td><td>Achieved</td><td><table><tr><th></th><th>2018-19</th><th>2019-20</th></tr><tr><td>Confirmed incursions</td><td>0 *</td><td>1</td></tr></table>* Two potential incursions were referred to other authorities in 2018-2019.</td></tr>
<tr><td colspan="3">Houttuynia
Officers detected one new, relatively small Houttuynia incursion in the early stages of establishment in a public site.

There was one report of Old Man’s Beard investigated and confirmed as being the exotic lichen Tillandsia usneoides. This species is not known to be invasive with only one naturalised record in the herbarium, possibly from a bird’s nest.</td></tr>
<tr><td>Incident investigation and response
• Initial investigations for all reports undertaken within 5 working days.
• Response plans developed and implemented within 20 working days.
 
New Houttuynia cordata incursion, November 2019</td><td>Achieved</td><td>Initial investigation of the single incursion was undertaken within 5 working days and the response plan prepared and implemented within 20 working days. Two associated sites were found during the extended search and are included in surveillance and control.

Ongoing surveillance at the pre-existing Houttuynia site (three times per annum) has found a single seedling on the last two visits.</td></tr>
<tr><td>Interagency collaboration
Collaborate with Regional Councils, Ministry for Primary Industries (MPI), other Crown agencies and stakeholders to prevent the spread of exclusion pest plants into Northland.</td><td>Achieved</td><td>Collaboration with other agencies is maintained by:
• Biosecurity Working Group: The Biosecurity Manager – Partnerships & Strategy is chair of this industry Special Interest Group.
• MPI – Velvetleaf familiarisation: Staff visited Auckland sites to increase familiarity with species, growing conditions and risk factors.
• MPI – Field Day Participation: MPI staff attended the Northland Field Days with a live velvetleaf specimen to increase awareness.
• Velvetleaf Surveillance: Council staff are taking over inspection of the single Northland velvetleaf surveillance site from MPI.</td></tr>
</table>

6.2 Eradication Plants

Bat-wing passionflower

Key points of the eradication pest plant programme

- Enforcement of rules relating to eradication plants.
- Eradication of eradication plants found in Northland.
- Inspection and enforcement of rules relating to plant nurseries and retail outlets (National pest plant accord). This performance measure is reported in *Section 6.4 Sustained control plants*.

Progress in achieving aims

Performance Measure	Result	Details
Identify new sites New incursion sites of eradication plants are identified. *Bracketed figures in italics are new sites identified from public reports.*	Achieved	See table below

New sites identified	2018-19	2019-20
Bat-wing passionflower	17 *(6)*	31 *(5)*
Mickey mouse plant	55 *(16)*	16 *(2)*
Yellow flag iris	3 *(2)*	4 *(1)*
Evergreen buckthorn	2	2
Spartina		1 *(1)*
Mexican feathergrass		1 *(1)*
Wilding kiwifruit		1 *(1)*
Firethorn		1
Akebia		1

Significant effort was invested in undertaking extended searches beyond known infestation areas, resulting in new sites being detected, particularly for batwing and Mickey mouse plant. The effectiveness of eradication work is predicated on having a reasonably high certainty that most infestation sites are known. This is achieved by undertaking active surveillance beyond known infestation areas. Additional investigations undertaken were:

Balloon vine

An extended search undertaken beyond the known balloon vine infestation area – nothing was found.

Firethorn

Three reports were investigated and proved to be either a different species or potential hybrids.

Yellow flag iris

A yellow flag infestation area was confirmed but was out of region and referred to Auckland Council.

Performance Measure	Result	Details
Incident investigation and response Response to reports from the public on eradication plants will be initially responded to within 5 working days and actions completed within 20 days.	Not achieved	See table below

	2018-19	2019-20
Incidents reported	36	26

Of the 26 reports responded to, 8 took longer than the target response time.

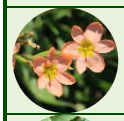
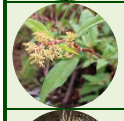
The shortfall in staff and contract capacity raised in 2018-2019 Operational Report remains. These significant capacity issues and scheduling constraints mean it is not always possible to investigate and complete actions within the targeted periods. Annual plan and long term plan bids have been completed to address this.

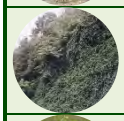
This new management site of eradication plant **Mexican feather grass** *was not suitable for herbicide treatment, so was dug out and double bagged for disposal.*

New performance measure – eradication plant management site visits 2019-2020		
Best practice management All management sites visited on scheduled best practice rotation.	**Achieved in part**	Refer species specific details below.

There are currently 776 small scale, and 200 moderate-to-large scale pest plant management sites spread across the Northland region that require inspection and control. The capacity constraints raised in the 2018-2019 Operational Report were still an issue in 2019-2020, preventing best practice with regard to frequency of inspections. This was compounded by Covid-19 lockdowns and subsequent restrictions on contractor travel and budget. Annual plan and long term plan bids have been completed to address this.

Eradication plant management site visits 2019-2020

Eradication plant		Results	Details
	Akebia	Achieved in part	Annual inspection and control visits were achieved, but the inspection frequency is still at approximately 9 monthly intervals whereas the target is 6 monthly for all active sites.
	Balloon vine	Achieved	Two inspections, control and extended surveillance activity undertaken.
	Bat-wing passionflower	Achieved in part	A significant proportion of sites did not receive their third treatment for the year because of the impacts of Covid-19 lockdowns on top of existing capacity issues. The target of 4 monthly visits of all 250 smaller sites and the extensive grid search work required for the large bush areas remains difficult to meet because of capacity issues. Significant effort was put into extended surveillance which adds to workloads, but the discovery of a large number of previously unknown sites with significant adult plants highlights the importance of resourcing this work.
	Cape tulip	-	Managed by Ministry for Primary Industries.
	Cathedral bells	Achieved in part	All the surveillance sites were visited, however inspection and control frequency is still only annual, whereas the target is 6 monthly for all active sites and several sites missed treatment during Covid-19.
	Chilean rhubarb	Not achieved	The annual inspection period was impacted by Covid-19 and staff resourcing. It has been rescheduled for December 2020.
	Evergreen buckthorn	Not achieved	Auckland based contractors were unable to travel to undertake abseil and grid search contracts because of Covid-19. Staff capacity issues also make the target of 6 monthly inspection difficult to achieve. Contracts have been prioritised in 2020-2021.
	Field horsetail	Achieved	Annual inspection and control undertaken.
	Firethorn	Not achieved	Not achieved because of the impacts of the Covid-19 lockdowns on top of existing capacity issues.
	Gypsywort	-	Managed by Department of Conservation and Fish and Game.
	Lesser knotweed	Achieved	Previous site visit records were incomplete, but the site was located and controlled. A 6 monthly visit target is required to achieve eradication of the single site more rapidly.
	Mexican feather grass	Not achieved	Not achieved because of the impacts of the Covid-19 lockdowns on top of existing capacity issues.

Eradication plant management site visits 2019-2020			
Eradication plant		Results	Details
	Mickey mouse plant	Achieved	The target of 6 monthly inspection and control was achieved; however, it does not seem to be sufficient to prevent seeding (based on the number of adults plants recorded). This is most likely because of small plants being missed on prior rotations, and no extended surveillance being able to be undertaken in the past.
	Monkey musk	Achieved	Two inspections, control and extended surveillance activity undertaken.
	Nassella tussock	Achieved in part	Extensive searching was undertaken in active status sites at Taupo Bay and Whananaki. Extended search of long term surveillance status sites was not possible because of capacity issues. Effective large scale grid search in sites in regenerating bush is very labour intensive and there are no local trained contractors available for this work.
	Nutgrass	Achieved	Two inspections and control were undertaken.
	Royal fern	Not achieved	Extended surveillance work and drone survey follow up was delayed by Covid-19. This has been rescheduled to late summer 2020-2021 for drier ground conditions.
	Spartina species	Not achieved	Not achieved because of the impacts of the Covid-19 lockdowns on top of existing capacity issues.
	Wilding kiwifruit	-	No sites were prioritised for follow up. The programme and sites will to be reviewed in 2020-2021.
	Yellow flag iris	Achieved	Currently targeting annual control during flowering period. Six monthly treatments would reduce time to eradication for larger sites but would require additional capacity.

Passions entwine at Hurupaki School

Enthusiastic weed warriors from Hurupaki School have led to the discovery of a large infestation of bat-wing passionflower. Passions entwined when super sleuths from the school's DIP (Dive into Passions) group found a single batwing passionflower seedling while foraging for weeds in the school's wetland area.

"It was really exciting," said one of the 12 members of the DIP group, which is supported by the Enviroschools programme. "We were out in the wetlands putting pink ribbons on all the pest plants in the area when we saw this funny looking little plant we hadn't seen before. I've seen the batman logo and I thought its leaves looked like a bat wing."

The find was reported to the council biosecurity team who took up the search finding large vines smothering the native tree tops. A drone, saws and various tools were used to find and remove the vines completely.

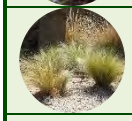
A Hurupaki School weed warrior attaches a pink ribbon to a pest plant.

The removed bat-wing passionflower vines.

The new management site will require regular surveillance and control for several years and the school's students will be a valuable asset in the battle to stop the spread of the pest plant.

The school principal says the school's proximity to Pukenui Forest makes the task even more important because of the heightened risk.

"I have a real philosophy about our children being engaged with the world to make it a better place," she said. "This is part of their role as kaitiaki of the school's wetlands area."

New Performance Measure – Number of mature eradication plants 2019-2020 (baseline measurement)			
Decrease in seeding plants Decrease in number of mature plants in existing sites.		**New measure**	This new measure will be used to demonstrate whether inspection and control frequencies have been successful in preventing eradication plants from maturing, and therefore reducing the risk of spread to new sites. Baseline data for comparison in the future has been collated below.
Eradication plant		**No adults**	**Details**
	Akebia	3 sites	Existing sites with mature foliage.
	Balloon vine	0	No mature plants since March 2019.
	Bat-wing passionflower	72	Mature plants at 39 existing sites (15% of all existing sites).
		166	Mature plants found at 17 new sites (55% of all new sites) through extended surveillance work.
	Cathedral bells	2 sites	Existing sites with mature foliage.
	Chilean rhubarb	18	Mature plants at 5 existing sites.
	Evergreen buckthorn	29	Mature plants at 7 existing sites (16% of all existing sites).
		16	Mature plants found at 2 new sites through extended surveillance work.
	Field horsetail	0	No mature plants since 2015.
	Firethorn	1 site	Adult foliage found at 1 existing site.
		1	Adult plant at 1 new site.
	Lesser knotweed	1 site	Existing site with mature foliage.
	Mexican feather grass	0	No mature plants at existing sites.
		1	Mature plant at 1 new site.
	Mickey mouse plant	207	Mature plants at 84 existing sites (17% of all existing sites).
		18	Mature plants found at 6 new sites (38% of all new sites) through extended surveillance work.
	Monkey musk	2 sites	Mature foliage present at 2 sites.
	Nassella tussock	1	Mature plant at 1 existing site.
	Nutgrass	0	No adult plants since March 2016.
	Yellow flag iris	13 sites	Existing sites with mature foliage.
		4 sites	Mature foliage found at 4 new sites.

6.3 Progressive Containment Plants

Key points of the progressive containment pest plant programme

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

Council staff will also support communities to reduce the impact of progressive containment pests through several regulatory and non-regulatory biosecurity programmes.

Progress in achieving aims

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Response to public reports
Reports from the public on progressive containment pests will be responded to within 5 working days.</td><td>Not achieved</td><td><table><tr><th></th><th>2018-19</th><th>2019-20</th></tr><tr><td>Public reports</td><td>7</td><td>8</td></tr></table>Of the 8 reports responded to, 3 took longer than the target response time.</td></tr>
<tr><td colspan="3">The shortfall in staff and contract capacity raised in 2018-2019 Operational Report remains. These significant capacity issues and scheduling constraints mean it is not always possible to investigate and complete actions within the targeted periods. Annual plan and long term plan bids have been completed to address this.</td></tr>
</table>

Annual status reports

Annual reporting on the status and number of new sites of all progressive containment plants is required in the Pest Plan. With the exception of Manchurian wild rice, the 2019-2020 status reports are detailed below. The Manchurian wild rice programme is funded by the Ministry for Primary Industries and reported on separately – only highlights from the programme are reported here.

Manchurian wild rice – annual status report

This programme is carried out in partnership with the Ministry for Primary Industries as part of the National Interest Pest Response Programme (NIPR), and an annual report produced separately. The 2019-2020 programme report is summarised below.

Manchurian wild rice

Work outside containment (intransigent) zone

The programme in Northland is based on progressive containment, prioritising sites outside of the Intransigent zone (centred around the core river infestations) for eradication. Significant work has been completed this year including:

- Restructuring the database to improve reporting against the Ministry for Primary Industry's T.I.M.E [7] classifications.
- An improved system for extracting job sheets from the database with more details for contractors to reference in the field.
- More intensive contractor induction and training to increase the intensity of control at difficult sites.

This has resulted in improved efficiencies and better outcomes for the programme that will have ongoing benefits for next years' control and the years beyond.

[7] T = treatment, I = interim, M = monitored, E = eradicated.

The target for all active sites receiving two treatments or inspections was not met. The Covid-19 lockdowns severely impacted the programme, but contractors and staff were still able to achieve two treatments at 56% of treatment sites and see infestation reductions and status change at several sites (refer below).

Sites that underwent status change during 2019-2020			
Positive change		Negative change	
Treatment to Interim	10	Interim to Treatment	3
Interim to Monitored	9	Monitored to Interim	0
Monitored to Eradicated	1		

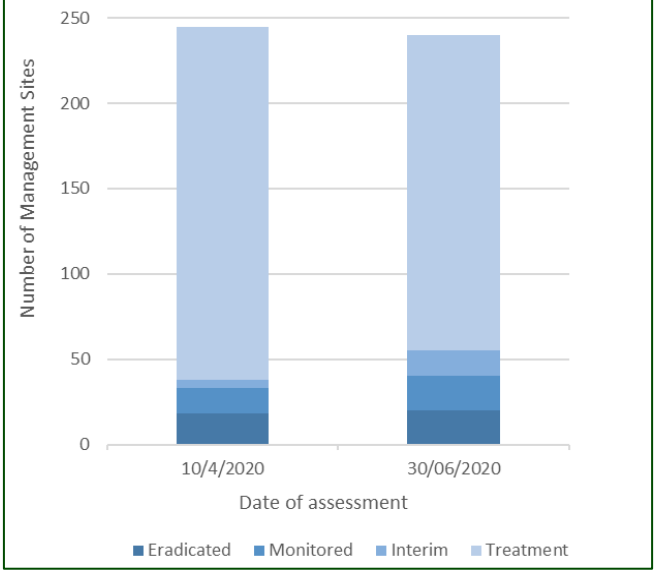
In addition, a conservative approach is being taken to updating classifications to Interim. Rather than relying on only one observation of no live foliage, classifications were only updated to Interim if there had been two consecutive inspections with no live foliage present. This is because sites will regularly fluctuate between the Treatment and Interim definitions with biannual treatment. This fluctuation creates additional data handling and manipulation that adds limited value in terms of identifying sites that will likely only require inspection. Consequently, there were 28 sites with no live foliage found at the most recent visit, which have been left at Treatment status based on the site history.

There are also several sites that would qualify for eradicated status based on the 8 year 'no live foliage' criteria, but a 10 year 'no live foliage' criteria has been adopted as the required criteria.

No new sites were identified outside of the intransigent zone. One report from the public was investigated and found to be sweet reed grass.

The graph below provides an overview of the relative proportions of the sites by T.I.M.E classification status as progress is made toward eradication.

Figure 2.1: Northland Manchurian Wild Rice Management Sites by T.I.M.E Classification (excludes Intransigent Zone classification)



Inside of the containment (intransigent) zone

Land occupiers are not required to undertake control of Manchurian wild rice on their properties inside the intransigent zone. However, council staff have been working with and supporting landowners to undertake control, providing advice and information on best practice techniques and herbicide, including:

- Supporting ongoing aerial control undertaken by the Pukehuia Working Group (9 landowners).
- Herbicide supplied to three landowners undertaking ongoing control.
- Herbicide supplied to thirteen new landowners commencing control in 2019-2020.

Clawing back the land

Kerry Perreau's spader

Battling highly invasive Manchurian wild rice to return arable land to kumara production is key focus for Kaipara farmer Kerry Perreau. Kerry farms on the eastern river flats of the Wairoa River, in the heart of the Manchurian wild rice progressive containment zone. Like several of his neighbours, many of Kerry's paddocks had been totally consumed by wild rice cover.

Through trial and error, Kerry knew the plant's rhizomes did not tolerate dryness and sunlight, so he needed a way bringing them to the surface and leave them exposed. Whilst a rotary hoe brought rhizomes to the surface, clumps were left covered in dirt and simply kept on growing. Mulching the grass was satisfying at the time, but again didn't suppress growth at all. Similarly, spraying and burning did work, but only to a degree.

Manchurian wild rice rhizomes

In a bid to find a better approach, Kerry turned to a soil tilling machine called a spader (pictured). The plough-like tool is towed behind a tractor, plunging spades into the soil which rips roots apart and flicks them out behind, leaving the rhizomes to dry out in the sun. Kerry uses a multi-phase approach, treating infestations with a single herbicide / burning treatment followed by spading. After several months the area is spaded a second time to kill regrowth. The treated paddocks can then be re-sown in ryegrass. The method uses less chemical than other methods and has yielded outstanding results.

While Kerry has done much of the work himself, he says Northland Regional Council has always been supportive. "Council staff have been always really encouraging, providing support when needed and supplying herbicide at no charge, and its Biosecurity Team is working hard to keep a lid on the wild rice devil in our region."

Kerry says while obviously the battle against Manchurian wild rice is far from over, he's heartened by the visible progress to date.

> *"Regrowth is still a major issue for us, but it is manageable and a far cry from the complete wild rice cover on this block before. To others, I'd say be patient – there is no quick fix, but it's well worth persisting with efforts to keep wild rice at bay."*

Pasture reclaimed from Manchurian wild rice through Kerry's innovative techniques.

African feather grass – annual status report

African feather grass

The annual inspection and spraying contract was completed for existing sites, covering both areas inside and outside the containment zone on the Poutō peninsula.

This work focuses on controlling infestations outside the containment zone as well as roadsides inside the containment zone to reduce the risk of spread. Following this year's control and reporting, a full review of programme was undertaken, and management site boundaries and maps have been updated to improve the level of detail in reporting required from staff and contractors in 2020-2021.

The single outlier site at near Puketī, was found to have a very small amount of juvenile regrowth. Ongoing mowing of this site by cemetery caretaker makes herbicide treatment less effective.

Outside of the containment zone

- One new management site with adult plants present was identified by staff outside of containment in a new area in coastal dunes whilst undertaking aerial survey for other purposes. Access for this site will be difficult and staff are working with the Department of Conservation and the local community to find better access routes. Three new management sites were created to split existing sites into better data management blocks.
- Of the 15 Surveillance sites (free of African feather grass for three years), 13 continue to be clear of plants. Two sites were found to have 2 adult plants and 2 juvenile plants respectively and have reverted to an active status.
- There are 10 other sites remaining active. Five of these had adult plants present with a total count of 47 adult plants.

Inside of the containment zone

One new management site identified in the containment zone, and a management plan is under development with owner and tenant. The current spray contract covers 12 properties to assist landowners inside the containment zone, as well the roadside control. Further resources are required for extended surveillance to identify additional sites and to support landowner management plan development. Annual plan and long-term plan bids have been completed to address this.

Lantana species

Lantana – annual status report

Under the Pest Plan, landowners must undertake control of lantana on properties outside of the identified containment zones. Landowner control is not required within the containment zones.

Landowner control was initiated at two new sites (one landowner will require a Biofund project in 2020-2021). Staff undertook direct control of two sites at the time of inspection for efficiency purposes.

The programme currently has no set targets for follow up contact with landowners where control or management plans have previously been enforced. Revisits of existing sites for continued compliance have largely been put on hold because of capacity issues (being of a lower priority than eradication species). There is a need for additional resources to more proactively enforce this programme and it will be reviewed 2020-2021.

Mile-a-minute

Outside of the containment zone

- Three new sites were identified and controlled by staff. One of these sites had adult foliage present.
- One report from the public was investigated and found to be a different species.
- The four surveillance sites (free of Mile-a-minute for three years) continue to be clear of plants.
- A further 33 other sites remain active. Seven of these had mature foliage present.

Mile-a-minute

Not all active sites received the best practice twice yearly inspection and control visit because of capacity constraints – return times are on average 8 months for the majority of sites in South and Central regimes. The Mid North and Far North regimes still only receive planned annual treatment, but all are under good control with no mature foliage present.

Inside of the containment zone

Land occupiers are not required to undertake control of Mile-a-Minute on their properties inside the containment zone. There was limited proactive engagement with landowners within progressive containment zone because of capacity constraints.

Pultenaea

Pultenaea

Outside of the containment zone

There was a single pultenaea report from the public of a new site outside of containment zone, which is now a management site controlled by staff.

Staff grid search work was impacted by capacity constraints and then further delayed by Covid-19 but has since been completed. An extended search has been undertaken and management sites reviewed and restructured. There were 131 plants classed as potentially mature.

Further contracted grid search work was impacted by staff capacity constraints and then further delayed by Covid-19 lockdown. This work has been rescheduled for November 2020.

Inside of the containment zone

Within the containment zone, follow up contract work to support the landowners (one block with multiple owners) was impacted by staff capacity constraints and then further delayed by a Covid-19 associated temporary budget freeze. This work has been rescheduled for November 2020.

6.4 Sustained Control Plants

Agapanthus

Key points of the sustained control pest plant programme

- Enforcement of rules relating to sustained control plants.
- Enforcement of Good Neighbour Rules [8].
- Inspection and enforcement of rules relating to quarries.
- Inspection and enforcement of rules relating to plant nurseries and retail outlets (National Pest Plant Accord).
- Enforcement of rules relating to road and rail corridors, and development and implementation of management plans relating to the corridors.
- Reducing the impacts of 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.
- Council will provide education, advice and support to enable landowners to manage sustained control pests on their properties.

Progress in achieving aims

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>New requests
The number of requests received is tracked.</td><td>Achieved</td><td>
<table>
<tr><th></th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Sustained control pest plant requests</td><td>1,050</td><td>657</td></tr>
</table>
The number of requests received is reduced from 2018-2019 as result of reduced community interaction during the Covid-19 response lockdown.
</td></tr>
<tr><td>Request response time
Response to reports from the public on sustained control plant pest responded to within 20 working days.</td><td>Data not available</td><td>The council database reporting system is not currently able to report on request response times and requires modification to capture response data (rather than close date) for this performance measure.</td></tr>
<tr><td colspan="3">Enforcement requests (incidents)
Of the 28 requests for enforcement of sustained control pest plant rules, 26 were actioned within 20 working days. Note, most of these enforcements were not resolved within 20 days because of the enforcement process compliance window.</td></tr>
<tr><td>Rule Exemptions
All exemptions to any rule are reported.</td><td>Achieved</td><td>No exemptions were granted in 2019-2020.</td></tr>
<tr><td>Road and rail 5 year weed management plans
All road and rail authorities have 5 year weed management plans or prioritised annual plans approved and implemented.</td><td>Achieved in part</td><td>The New Zealand Traffic Authority and Whangarei District Council have plans in place.

The Kaipara District Council is working with staff to upgrade their plan for re-submission to the NZTA for co-funding.

Engagement to progress plans with Far North District Council and New Zealand Rail is ongoing but constrained by staff capacity.</td></tr>
</table>

[8] Good neighbour rules are designed to address the external effects of pests spilling over from land onto adjacent properties.

Performance Measure	Result	Details
Land area in CPCAs Increase in land under CPCA by 5,000 ha per annum.	Achieved	This performance measure is reported through pest animals (refer *Section 7*) as the programme is managed by the Partnerships team. Whilst there is no designated partnerships resource in the pest plant team, staff were able to develop and implement a 105 ha pest plant CPCA focussed on tree privet. This project trials the use of a coordinator resource for owner engagement, support and auditing.

Hidden treasures

Council's Biofund (Environment Fund for small management agreements and grant funding to establish pest control projects) is subscribed with several pest plant projects each year. This year the Donnelly's Crossing Community Group put their Biofund grant to good use removing morning glory from this old rail building.

Biofunds	2018-19	2019-20
With pest plant component	8	10
Total biofunds granted	70	87

Performance Measure	Result	Details
Plant retail outlet compliance All known plant outlets in Northland are aware of obligation and inspected annually for species identified in the National Pest Plant Accord (NPPA) and Pest Plan	Achieved in part	All listed plant outlets were sent reminder information on species banned from sale and propagation under the NPPA and the Pest Plan. **61%** of known plant outlets were inspected. There were three instances of non-compliance (all sustained control species) which were removed from sale or display (two Taiwan cherry supplied by out of region suppliers and one piece of *Egeria densa* removed from aquarium display). Trade Me was monitored through saved searches for species banned from sale and propagation (focused on higher risk species). Five listings for agapanthus reported and removed.
Capacity constraints, combined with the Covid-19 restrictions and the resulting impact on programme delivery meant that only a proportion of nurseries and outlets could be targeted for inspection, and inspections were delayed. Priority was given to the larger nurseries and retail outlets selling exotic species rather than those that have been identified as being native only nurseries. Annual plan and long term plan bids have been completed to address the underlying capacity issue.		

Biological control

Biocontrol is not designed to totally eradicate an individual species, but to keep pest populations at low levels. In addition to the work detailed below council invests $50,000 a year in biocontrol as part of a wider collective of 13 other regional councils and the Department of Conservation. Collectively, group members fund a national biocontrol programme of about $670,000 annually. This is managed on behalf of the collective by Landcare Research, who provide research, quarantine facilities, management, and releases of the agents within New Zealand.

Honshu white admiral – Japanese honeysuckle biocontrol agent

Performance Measure	Result	Details
Encourage use of biocontrol agents Encourage the release of biocontrol agents in Northland.	Achieved	

	2018-19	2019-20
New releases	3	6
Re-releases	1	3
Redistribution of existing agents	26	3
Monitoring existing sites	-	13

New Releases

Biocontrol agent		Controlling	Location
Moth plant beetle	*Freudeita cf cupripennis*	Moth plant	Sweetwater, Awanui
Tutsan beetle	*Chrysolina abchasica*	Sweet amber	Waimamaku, Hokianga
Honshu white admiral	*Limenitis glorifica*	Japanese honeysuckle	Broadwood
Parasitoid wasp	*Tamarixia triozae*	Tomato potato psylid	Kaumaumau
Tutsan beetle	*Chrysolina abchasica*	Sweet amber	Taratara, Otangaroa
Parasitoid wasp	*Tamarixia triozae*	Tomato potato psylid	Sweetwater, Awanui

Redistribution of existing agents

Biocontrol agent		Controlling	Location
Chinese privet lacebug	*Leptoypha hospita*	Chinese privet	Tautoro
			Broadwood
Tradescantia stem borer beetle	*Lema basicostata*	Tradescantia	Puketī

Monitoring and maintenance of existing sites

Biocontrol agent	Location	
Boneseed leaf roller	Mangawhai Heads	
Arundo donax gall wasp	Hokianga	Bay of Islands
Gorse soft shoot moth	Ruakākā	
Chinese privet lacebug	Kāeo	Morewa
Broom gall mite	Kaumauau	
Dung beetle	Karikari peninsula	Doubtless Bay
Honshu white admiral	Kāeo	Oruaiti

Other Research

Stop Wild Ginger Project – Investigating and testing biocontrol agents for Wild Ginger

This project is a partnership with councils, forestry industry stakeholders and the Ministry for Primary Industries' Sustainable Farming Fund. The project reached a crucial stop/go point and a review of all results to date was undertaken to determine the next steps. To date the project has tested/reviewed and discarded 5 potential agents/groups of agents. Two potential agents remain but require further testing to determine hosts specificity and impacts. Project partners have agreed to progress these agents to the next phase of testing; however the project is currently paused because of Covid-19 restrictions on international travel.

Sydney golden wattle (*Acacia longifolia)*

A flower bud phenology study was completed on Aupōuri peninsula.

S.W.A.T – The war on weeds

Briefing S.W.A.T volunteers before a weed ramble and identification session.

A war of sorts has been declared on the Tutukaka Coast. Whilst it's not trench warfare, a bit of digging might be a useful tactical option. The battle is led by Special Weed Assistance Tutukaka (S.W.A.T), a new initiative of the successful Tutukaka Landcare Coalition (TLC) which is now substantially backed by Northland Regional Council.

As with all serious wars, allegiances are important. Particularly in this case where much of the action on the ground will be undertaken by partisans (local weed workers), some who have already been engaged in the struggle for many years. What is different is that among their allies in this War against Weeds the partisans now have direct intelligence and supply lines to the council. It is part of a new Northland wide initiative where the council has identified High Value Areas (HVAs) in which significant biodiversity and recreational values are matched with strong community interest in pest control (Bay of Islands, Tutukaka, Whangārei Heads, and Mangawhai/Waipū).

Each HVA has a working group with landowners, members from the local community and representatives from other stakeholders such as local Landcare groups, iwi and agencies. These groups help to ensure funding is allocated to appropriate pest control activities.

In the Tutukaka case the battle began around 20 years ago when a number of individuals began extensive trapping in their neighbourhoods, targeting mainly stoats and weasels. In particular, they were keen to keep hold of remnant kiwi populations and begin the long task of rebuilding. The Tutukaka Landcare Coalition grew from these first trappings and now contributes to pest control over >10,000 ha of private land. The result has been a steady increase in wild kiwi numbers on the coast and significant improvement in the health of many other species, particularly the threatened pateke (brown teal) and more recently the oi (grey faced petrel) which in some places has resumed breeding on our coastal cliffs.

When the council voted to allocate funding to support biodiversity in the designated High Value Areas it came with a caveat. A portion of the funding was required to be spent on weed control. To accomplish this a S.W.A.T commander has been appointed to manage intelligence gathering, strategic planning and resourcing.

In an initial reconnaissance a troop of local volunteers has reported over 1,000 sightings of weed infestations on the Tutukaka Coast, consisting of 149 different plant pest species. These have all been logged with GPS positions noted for future attack. From this S.W.A.T has declared its "dirty dozen" of the most significant weed threats which will be the first to be targeted, with 40 others on the "naughty forty" watch list for attention where possible.

A weed warrior uses a mobile app to identify a plant during a weed ramble on the Tutukaka coast.

The S.W.A.T team have used part of the council funding to procure weaponry and now have a range of hand tools, safety gear and (if appropriate) chemicals available for their local weed warriors on S.W.A.T missions.

To build capacity in its local workforce the S.W.A.T team are holding weed identification sessions and practical demonstrations of techniques to combat the range of plant pest types invading our coast.

S.W.A.T are getting ready for a weed war!

PREVENT THE SPREAD

Right tree, wrong place

https://www.wildingconifers.org.nz/

Northland's Wilding Conifer Control Programme has got off to a great start.

Wilding pines in Northland are rapidly becoming a major problem outside of plantation forests and some of our most unique habitats are now vulnerable to invasion. While many people have become accustomed to seeing wilding conifers in the Northland landscape, they don't belong in our wetlands, gumlands, indigenous forest, dunes, lakes, or coastal margins.

$1.2M of Covid-19 relief funding from the government provided employment and a chance to learn new skills for more than 50 Northlanders over a period of 4 months. Two areas of focus have been in Northland's iconic dune lake systems – Kai Iwi Lakes in the Kaipara district and Lake Ngatu in the Ti Hiku region.

The wilding pines at Kai Iwi are dominating the light, water and food needed by native flora and fauna. They also threaten mahinga kai (food-gathering sites) and wāhi tapu (sacred places).

The Kai Iwi wilding conifer project team celebrate the completion of the 16 week project.

Council together with local iwi, the Kaipara District Council, the Department of Conservation, RecruitMe NZ, and the local community worked on an eradication project, to remove and kill the wilding pines with the goal of helping to restore the lake and surrounding land to its natural state.

Eradicating wilding pines from the 50 hectare project site at Kai Iwi took a group of six rangatahi (young people) 16 weeks of full time work, where they got to fine tune a range of skills such as the safe handling of machinery and forestry vehicles, chemical use, mapping and tree classification.

Lake Ngatu is a 55 ha Sweetwater dune lake and provides a habitat to threatened animals and plants, including inanga and the New Zealand dabchick. Northwest of Kaitaia, it is a recreation reserve popular with watersport enthusiasts, day visitors and locals alike.

Local iwi NgāiTakoto, Northland Regional Council, Far North District Council, the Department of Conservation and private landowners worked together to remove huge wilding pines – some a century old and two metres thick that were dominating the lake and its surrounds.

Lake Ngatu is also a historical site and ecological taonga for NgāiTakoto. Keeping the lake healthy isn't just about the lake and its ecosystem, it's also about the tikanga and the cultural health of the people using it. Eradicating wilding pines around Northland's dune lakes is a significant step in the ongoing efforts to protect the region's unique biodiversity.

The type of work seen at Lake Ngatu and Kai Iwi are examples of a win-win situation – creating employment for locals and protecting the natural environments that make Northland's landscape so unique.

By working together community partners and local government agencies can expect to see significant impact – and the potential eradication of wilding pines from the region – over the next 5 - 10 years.

Wilding conifer removal at Lake Ngatu.

6.5 Community engagement

Performance Measure	Result	Details
Community engagement - events Engagement activities are conducted to increase awareness of plant pests	Achieved	*Refer Appendix for more details*

Refer Appendix for more details	2018-19	2019-20
Field Days / Agricultural & Pastoral Shows	4	5
Community events and displays	13	4
School visits and workshops	1	2
Stakeholder activities	4	14
Pest workshops	4	5
	26	**30**

Wise up to weeds

"Informative, fun and free, these workshops are just the thing you've been looking for if you've ever wondered which weed is which, why weeds wander and what can be done about it,"

Pest plant experts passed on tips on how to tackle some of the Northland's worst weeds at free workshops in Whangarei, Paparoa, Kerikeri and Coopers Beach. First launched in 2011 the council's weed workshops teach how to better manage both land and freshwater based pest plants. The workshops are hands-on but delivered in a relaxed and fun way to help people learn how best to tackle more than 20 pest plants including nasties like wild ginger, lantana and moth plant. The workshops also highlight the need to report freshwater weeds like salvinia and water hyacinth.

Year	Workshop particpants
2018-2019	78
2019-2020	61
Since 2011	**960**

Participant in this year's Weed Workshops learn about the regions pest plants.

Performance Measure	Result	Details
Community engagement - media Increase in awareness of plant pests.	Achieved	*Refer Appendix for more details*

Refer Appendix for more details	2018-19	2019-20
Pest control hub – page views	*Data n/a*	9,624
Pest control hub – total page view time	*Data n/a*	29.4 days
Council YouTube channel – clip views [9]	*Data n/a*	3,226
Press releases	2	2
Council website stories	0	4

Community partnership engagement activities

Ongoing collaboration and support for weed focused community groups in three High Value Areas delivers weed awareness message through events, workshops, campaigns, social media, promotional publications and landowner site visits and advice. Activities this year have included:

HVA community engagement	2019-20
Volunteer events	48
Awareness and education events	21
Awareness campaigns	13
Recorded volunteer hours	4,266
Landowner site visits and advice	164
Social media posts	106

More than just a pretty picture, the Weed Action Whangārei Heads 2020 Calendar is a go-to guide for seasonal weed control.

The CityLink buses helping to drive the pest plant message home…

[9] Detailed metric data not available for YouTube video clips – clip view data runs between November 2019 and October 2020.

7. Pest animals

4,275
Customer requests

76
CPCAs covering
130,393 ha

87
Biofund projects
211 since 2017

Kiwi numbers have gone from
80 → 900
in Whangārei Heads
Since 2002

159
Kiwi Coast Community Groups actively managing
198,000 ha

396,638
pests gone from the Kiwi Coast
since 2013

55,934
pests gone from High Value Areas

9,000
Traps issued

89
Event activities

7.1 Exclusion Animals

Key points of the Exclusion Programme

- Prevention of 8 pest animal species establishing populations in Northland.
- Council and Crown agencies are responsible for control.
- Success is related to fast and efficient response planning and action in the field.

Progress in achieving aims

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Identify new sites
New incursion sites of exclusion animals are identified.</td><td>Achieved</td><td><table><tr><th></th><th>2018-19</th><th>2019-20</th></tr><tr><td>Exclusion animal incident reports</td><td>12</td><td>6</td></tr></table></td></tr>
<tr><td colspan="3">Rainbow lorikeet
Four incidents reported and responded to, but no lorikeets were found.

Rook
One incident reported but had been incorrectly identified.

Wallaby
One incident reported and responded to with extensive hunting and surveillance. No evidence of the wallaby was found, and no further sightings have been reported.</td></tr>
<tr><td>Incident investigation and response
Initial investigations for all reports undertaken within 5 working days.
Response plans developed and implemented within 20 working days.</td><td>Achieved</td><td>All exclusion pest animal reports were responded to within 5 days and response plans implemented within 20 working days.</td></tr>
<tr><td>Interagency collaboration
Collaborate with Regional Councils, Ministry for Primary Industries, other Crown agencies and stakeholders to prevent spread into Northland.</td><td>Achieved</td><td>Collaboration with other agencies is maintained by:
Biosecurity Working Group: The Biosecurity Manager – Partnerships & Strategy is chair of this industry Special Interest Group).
Direct communications: With other councils (particularly Bay of Plenty Regional Council) about risks posed by wallabies).</td></tr>
</table>

Exclusion species

Rainbow Lorikeet

These birds look very similar to the more common Eastern rosella but have a blue head (rosella heads are red). Prolific breeders they compete with native birds such as the Tui, Bellbird, and Hihi.

7.2 Eradication animals

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 are only present in Northland as a result of illegal releases.

Programme objectives

The goals of Northland Wild Deer Response Programme 2016-2025 (a collaboration of stakeholders including the Department of Conservation, OSPRI [10], and Northland Regional Council) has two broad goals.

- To eradicate low densities of wild deer in Northland through deer farmer liaison, fence inspections, surveillance, wild deer response activities and statutory management; and 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.

Programme aims

Council will work cooperatively with the Department of Conservation and other stakeholders to achieve the objectives of the Northland Wild Deer Response Plan 2016-2025.

Landowners, occupiers and the public understand the risks and environmental consequences of feral deer establishing in Northland and are supportive of the programme.

Progress in achieving aims

Performance Measure	Result	Details
Surveillance Incursions are responded to through passive and active surveillance.	Achieved	Incursion response has included ground hunting, thermal aerial surveillance, listening devices, and trail cameras.

Ground hunting
The Deer Response Team [11] has conducted 1,000 hours of active surveillance throughout Northland's known deer sites in 2019-2020.

Thermal aerial surveillance
Survey of the Russell Forest detected 4 deer after searching 50% of the known range. It is estimated there are 40-50 deer in the forest. Further surveillance is required to determine the exact number.

Acoustic listening devices
Devices in areas north of Russell Forest detected 36 sika calls over two weeks in May 2020.

Trail cameras
At least 13 deer were recorded on trail cameras at a farm in Elliot Bay in May 2020.

Trail camera footage of feral deer in Elliot Bay.

[10] OSPRI is a partnership between primary industries and the government that manages two national programmes – NAIT and TBfree. NAIT provides the National Animal Identification and Traceability system and TBfree aims to eradicate bovine tuberculosis from New Zealand.

[11] The Deer Response Team are a group of deer specialists contracted from a local Northland company.

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Incident investigation and response
• Initial investigations for all reports undertaken within 5 working days.
• Response plans developed and implemented within 20 working days.</td><td>Achieved</td><td><table><tr><th></th><th>2018-19</th><th>2019-20</th></tr><tr><td>Deer incident reports</td><td>6</td><td>6</td></tr></table>All incidents were responded to within 5 working days, and (if required) had response plans implemented within 20 working days. The team has responded to 6 incidents, 4 of which have required ongoing surveillance.</td></tr>
<tr><td colspan="3">Kaiwaka
A liberation of fallow deer was responded to quickly and is ongoing, with this area a focus of surveillance in the coming year. To date 17 deer have been destroyed.

Russell Forest (sika deer)
A ground operation and aerial survey took place during the roar (mating season), however difficulty in obtaining access to private land limited activities considerably. One sika was destroyed and another 13 detected using cameras and acoustic devices.

Tōpuni
Feral deer were reported and possibly relate to deer farming without a permit. To date 3 fallow deer have been destroyed and ongoing maintenance is required, as this area borders with Auckland where feral deer are established.

Ōmāpere/Tāheke
The discovery of fallow deer skins along with old reports of pig hunters' dogs catching deer, suggests an old Puketī fallow deer liberation was either not eradicated or has been bolstered recently with further animals. Surveillance work is ongoing in the large area to determine where the animals are.</td></tr>
<tr><td>Deer farm fence inspection
All deer farm fences (24 farms) are inspected biannually in partnership with the Department of Conservation.</td><td>Data not available</td><td>Fence inspections are managed by the Department of Conservation. Council has been advised 12 inspections were completed in 2019-2020, with a further 13 scheduled for 2020-2021.</td></tr>
<tr><td>Increase community awareness – Find Deer Hotline
Increase the awareness of feral deer.</td><td>Achieved</td><td>The Find Deer Hotline had received very few calls in 2019-2020, so a campaign has begun to raise the profile of the hotline and community awareness of feral deer in Northland.</td></tr>
</table>

'0800 FIND DEER'

"Northlanders are being urged to let authorities know if they have seen feral deer after several were spotted during a recent Bay of Islands aerial operation."

The Find Deer hotline was the subject of a press release and council Facebook page posting in June 2020. The campaign featured the aerial sweep of approximately 2,500 hectares of bush and farmland for sika deer on privately owned Far North properties in and around Elliot Bay (pictured), as well as fallow and red deer found in an unauthorised fenced holding area in the Kaipara District.

Contractors with the thermal imaging equipment used to track feral deer in bush below from the air.

The press release was picked up by news outlets in Northland and the Facebook post received 49 comments and 29 shares.

7.3 Sustained control animals

Biodiversity restoration projects controlling sustained control pest animals are generally managed outside the Pest Plan through council's Biosecurity partnership programmes. These include:

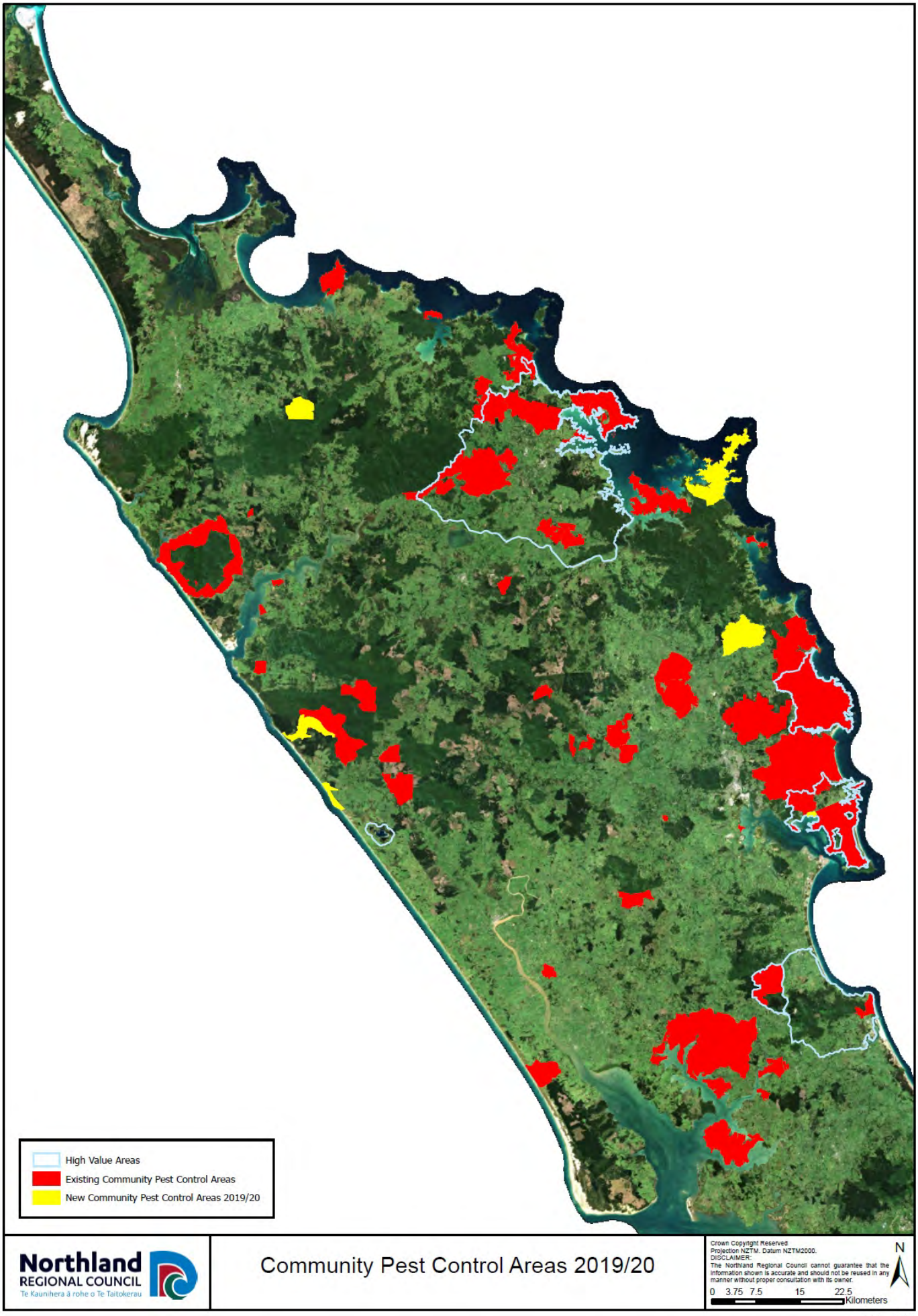
- **Community Pest Control Areas (CPCA)**
  A way of assisting communities to manage pests on private land.
- **High Value Areas (HVA)**
  Specifically identified areas of high biodiversity and/or cultural, recreational or economic value where community lead and undertake pest control.
- **Biofund (Environment Fund)**
  Small management agreements and grant funding to establish pest control projects.
- **Predator Free 2050 projects**
  These are large scale predator eradication and control projects that have been established in Northland in partnership with community, iwi and hapū, and other agencies.
- **Biosecurity Partnerships**
  Such as the Northland Regional Council – Kiwi Coast Trust Partnership to support and enable coordination of community pest control across Northland.

Possum *(Trichosurus Vulpecula)*

Council uses regulatory measures when required (rules differ for each animal), such as not holding mustelids in captivity.

Progress in achieving aims

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Land area in CPCAs
Increase in land under CPCA protection by 5,000 ha per annum.</td><td>Achieved</td><td>
<table>
<tr><th></th><th>2017-18</th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Number of CPCAs</td><td>57</td><td>68</td><td>76</td></tr>
<tr><td>CPCA land area (ha)</td><td>83,043</td><td>120,286</td><td>130,393</td></tr>
<tr><td>Increase (ha)</td><td>-</td><td>37,243</td><td>10,107</td></tr>
</table>
</td></tr>
<tr><td colspan="3">The new CPCAs initiated during the year were:
<table>
<tr><th>CPCA Name</th><th>Area (ha)</th></tr>
<tr><td>Pārua Bay Privet CPCA</td><td>105</td></tr>
<tr><td>Kaimamaku CPCA</td><td>3,171</td></tr>
<tr><td>Maunganui Bluff CPCA</td><td>508</td></tr>
<tr><td>Te Toa Whenua CPCA</td><td>1,441</td></tr>
<tr><td>Honeymoon Valley CPCA</td><td>1,488</td></tr>
<tr><td>Te Tangi o Te Ata CPCA</td><td>4,241</td></tr>
</table>
New and pre-existing CPCAs are shown in the map overleaf.</td></tr>
<tr><td>Rule Exemptions
All exemptions to any rule are reported.</td><td>Achieved</td><td>No exemptions were granted in 2019-2020.</td></tr>
</table>


High Value Areas
Existing Community Pest Control Areas
New Community Pest Control Areas 2019/20
Northland
REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau
Community Pest Control Areas 2019/20
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Kilometers

Hear the difference

Kerikeri Peninsula CPCA

Regular visits by a pair of kukupa to Dean Wright's Opito Bay property are just one of the signals that native bird life is returning in force to the Kerikeri Peninsula.

This pair of kukupa are regular visitors to Dean Wright's Opito Bay property. (Photo: Dean Wright).

Since May 2017	
Rats	1,759
Possums	285
Stoats	53
Total pest animals removed	Nearly 5,000
Dogs kiwi aversion trained	30

After two and a half years of intensive trapping across the peninsula, native bird numbers are on the rise. The CPCA began with a few local champions door knocking around Doves Bay and Opito Bay, and there are now >200 properties involved on the peninsula, and 120 trappers across the network.

Performance Measure	Result	Details
Increase in kiwi populations Kiwi populations in council supported programmes increase by 2% per annum.	Not achieved	

	2018-19	2019-20	Change
Average call/hr	7.2	7.3	0.1 ↑ *1.4%*

Kiwi call count monitoring is carried out annually across Northland by community landcare groups and some government agencies, in accordance with the Kiwi Best Practise Manual [12].

Data from council's High Value Area programmes (Piroa-Brynderwyn, Whangarei Heads, Tutukaka, and Mid-North) is collated. These community led projects are council's four largest supported programmes protecting Kiwi. Data received from these groups in July each year is collated and averaged (call counts per hour) for the four areas. The baseline was established in 2018-2019 for comparison with subsequent years.

Factors affecting the 2019-2020 call count

Community groups have noted the drought has had a significant impact on calling kiwi this year. The Covid-19 response also made it difficult to get accurate data by restricting the time available for listeners could get out into the field to conduct listening.

Response to reports from public

Reports on sustained control pests will be responded to within 20 working days.

Data not available

	2018-19	2019-20
Requests received	5,200	4,263

The number of requests received is reduced from 2018-2019 as a result of reduced community interaction during the Covid-19 lockdown.

The council database reporting system is not currently able to report on request response times and requires modification to capture response data (rather than close date) for this performance measure.

[12] Kiwi Best Practice Manual, Department of Conservation, August 2017
https://www.doc.govt.nz/globalassets/documents/science-and-technical/sap262entire.pdf

Performance Measure	Result	Details
Council supported programmes – traps supplied to community Record of traps supplied maintained.	Achieved	

	2017-18	2018-19	2019-20
Traps issued	1,380	11,500	9,000

Trap issues were impacted by the Covid-19 response lockdown.

Council supported programmes – Kiwi Coast
Outputs of the Kiwi Coast partnership.

Achieved

	2017-18	2018-19	2019-20
Kiwi Coast entities	120	129	159
Increase	-	*9*	*30*
Pests trapped	56,629	68,756	98,506

Kiwi Coast activities have continued to expand across the region. Collectively the partnership groups have trapped **396,634** animal pests over the past 7 years.

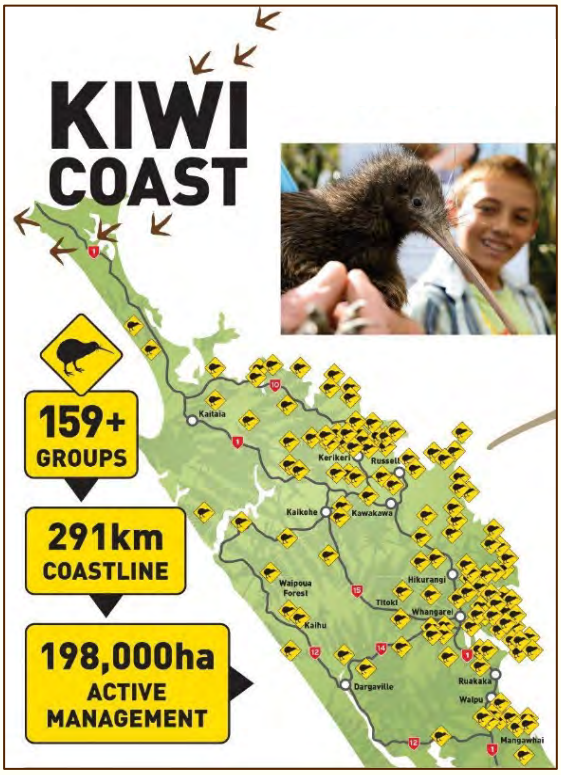
Northland Regional Council – Kiwi Coast Partnership

https://kiwicoast.org.nz/

In 2017, council consolidated its strong working relationship with the Kiwi Coast Trust into a significant working partnership. Working together, they are ensuring gains made to date are not lost and momentum continues. Working in unity also allows both Kiwi Coast and council to leverage further potential funding and show a strategically coordinated regional approach to community conservation.

The kiwi coast programme has been expanding since work began seven years ago and now operates at a regional scale, linking projects over 291 km of coastline from Mangawhai at the southern limit of the Northland region to the Aupōuri Peninsula in the Far North.

Kiwi Coast's main priorities are to reduce threats to kiwi survival and engage Northlanders in caring for their kiwi. It continues to support predator control in key areas with a goal to link projects and build continuous trapping networks across landscapes. This will boost kiwi survival and allow their safe dispersal into new areas.



Distribution of Kiwi Coast community groups in Northland.

Monitoring results demonstrate the strength of Kiwi Coast's collaborative approach. Collated trap catch data shows that **396,634** animal pests were trapped by groups and projects involved in the Kiwi Coast over the last seven years. On average, **1,800** animal pests were trapped on the Kiwi Coast every week in 2019-2020.

Kiwi Coast Statistics	2016-17	2017-18	2018-19	2019-20
Groups working to save kiwi	94	120	129	159
Land in active pest management *(ha)*	130,700	146,800	155,000	198,000
Animal pests gone *(since 2013)*	169,731	229,372	297,753	396,634

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Council supported programmes – High Value Areas
Outputs of the areas measured.</td><td>Achieved</td><td>
<table>
<tr><th>High Value Area outputs (2019-2020)</th><th>Mustelids trapped</th><th>Total pests trapped</th></tr>
<tr><td>Mid-North</td><td>518</td><td>47,495</td></tr>
<tr><td>Tutukaka</td><td>142</td><td>2,812</td></tr>
<tr><td>Whangārei Heads</td><td>45</td><td>865</td></tr>
<tr><td>Piroa-Brynderwyn</td><td>295</td><td>4,762</td></tr>
<tr><td>Total</td><td>1,000</td><td>55,934</td></tr>
</table>
</td></tr>
<tr><td>Council supported programmes – Biofund
Biofunds approved for the community.</td><td>Achieved</td><td>
<table>
<tr><th></th><th>2017-18</th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Biofund projects</td><td>54</td><td>70</td><td>87</td></tr>
<tr><td>Increase</td><td>-</td><td>16</td><td>17</td></tr>
</table>
</td></tr>
<tr><td colspan="3">The Biofund (Environment Fund for small management agreements and grant funding to establish pest control projects) continues to be well subscribed by the community with 87 projects in 2019-2020.

A map of Northland showing the location of the Biofund 2019-2020 projects is shown overleaf.</td></tr>
</table>

Predator Free 2050 – Predator Free Whangārei

https://www.nrc.govt.nz/environment/weed-and-pest-control/biosecurity-programmes/predator-free-whangarei/

Predator Free Whangārei aims to protect, restore and enhance thousands of hectares of Northland's native forests, coastal habitats and wetlands, allowing for greater protection and enhancement of threatened species of native fauna and flora.

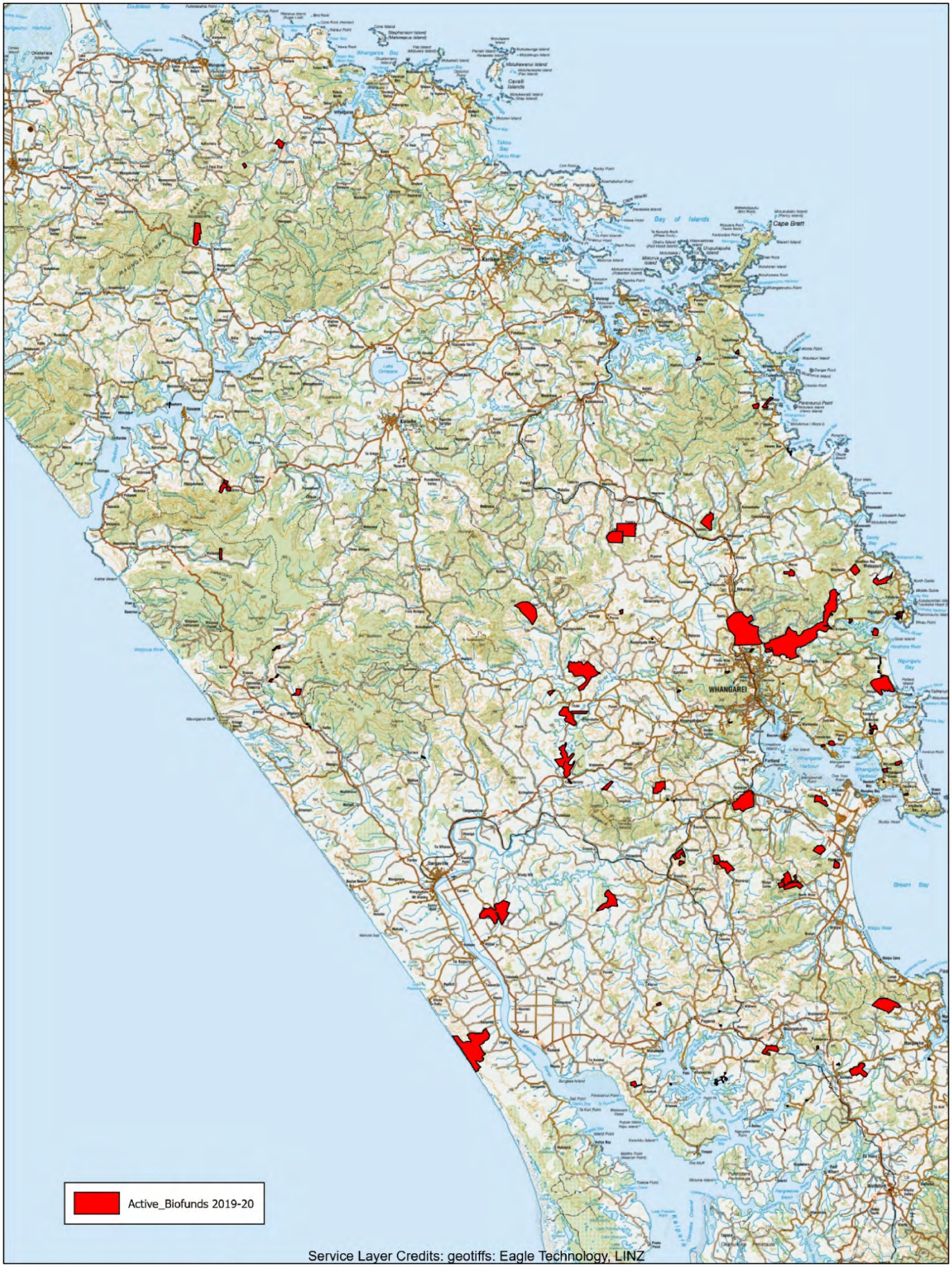
It will link and connect several community led, landscape scale predator control programmes delivering environmental awareness and enhancement programmes. The project will completely remove possums from 8,600 ha of the Whangārei Heads area and utilise the narrow neck of the peninsula and numerous inlets and streams to protect from reinvasion.

Over five years Predator Free Whangārei aims to:

- Completely remove possums from the Whangārei Heads Peninsula and prevent re-establishment through the ongoing detection and removal of invading individuals.
- Intensively control possums over 20,000 ha in the adjacent buffer zone.
- Intensively control mustelids over 60,000 ha between Whangārei and Bream Head.
- Intensively control rodents within priority sites.
- Develop, implement and support an urban predator control programme to increase engagement and awareness of Whangārei Predator Free.

The project is intended as a stepping stone towards a Predator Free Taitokerau.

View of Whangārei Heads from the Te Whara Track (photo by Robyn Broadhurst)



Northland REGIONAL COUNCIL
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Biofund Projects 2019-2020

Projection NZTM. Datum NZTM2000.
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0 2.25 4.5 9 13.5 18 22.5
Kilometers

N

Tiakina Whangārei

https://tiakinawhangarei.co.nz/about/

Tiakina Whangārei is a community led urban initiative helping people connect with their environment through conservation activities. Whilst supporting existing mahi, the programme will help people get involved in protecting and enhancing Whangārei's native biodiversity.

Tiakina Whangārei (supported in the Northland Regional Council Long Term Plan) is resourced for a 10 year period and was officially launched in August 2019.

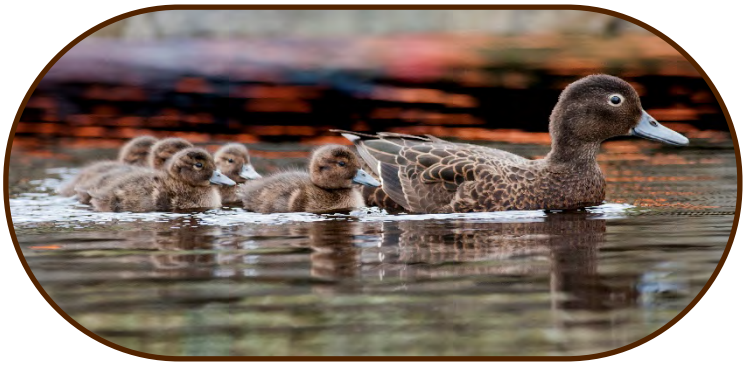
The Tiakina Whangārei operational area includes all urban Whangārei, and also has some work done within the forest fragments adjacent to the city, such as Parihaka and Pukenui. It is anticipated that the 'Urban Pest Control Buffer' area will eventually be part of Tiakina Whangārei's operational area.

The primary focus of Tiakina Whangārei is to initiate, promote, and support mammalian predator control by Whangārei residents to protect native biodiversity. However, the initiative also has a wider mandate to enhance the connection residents have with their environment through conservation activities. This will increase environmental awareness and help build community cohesion. Tiakina Whangārei aims to deliver on objectives across three Core Work Streams:

1. Increase community cohesiveness, ecological knowledge, and social wellbeing.
2. Encourage kaitiakitanga/guardianship of the environment.
3. Protect and enhance native biodiversity within Whangārei.

Pateke Flock Count

data shows distribution continues to expand on Northlands East Coast. Despite the drought, the population size is increasing. The 2020 average Tutukaka flock size (six sites) was 37.5 – an increase from 30.5 in 2019.



Pateke with ducklings at Ngunguru (photo kiwicoast.org.nz)

7.4 Community engagement

2019-2020 pest animal community engagement activities in a glance

9
School visits / events
11 since 2018

15
Kiwi releases & associated events
23 since 2018

5
A&P Shows / Field Days
10 since 2018

6,269
YouTube channel views

27
Pest workshops

50,300
Facebook video views

9
Stakeholder activities
13 since 2018

146
Students attained NCEA credits
856 since 2011

8
Community shows and events
18 since 2018

Performance Measure	Result	Details
Community Engagement – Events Engagement events are conducted to increase awareness of pest animals.	**Achieved**	

Refer Appendix for more details	2018-19	2019-20
Field Days / Agricultural & Pastoral Shows	5	5
Community events	4	10
School visits and workshops	2	9
Enviroschools workshops	6	7
Stakeholder activities	4	9
Pest workshops	4	27
Kiwi releases	8	3
Associated kiwi handling activities	*Data n/a*	12
Controlled substances licence training courses	*Data n/a*	7
Total	**35**	**89**

Kiwi releases

Kiwi releases are part of ongoing kiwi recovery work in Northland. The releases and the follow up radio monitoring of the kiwi are a cornerstone of engaging locals with their kiwi.

Biosecurity staff assisted the Kiwi Coast Trust with three planned kiwi releases during 2019-2020, the larger of which were:

- **Tawapou** – 4 kiwi released on 25 October 2019 drawing a crowd of approximately 300 visitors from all over Northland.
- **Parua Bay** – 5 kiwi released on 16 February 2020 with approximately 400 people attending.

A further three releases saw 3 kiwi released at Tutukaka, 3 kiwi at Pataua North and 5 kiwi at Parua Bay, but unfortunately Covid-19 restrictions severely limited public involvement in these events.

Hancock the kiwi at the Parua Bay release. Hancock was named after Hancock Forestry who are doing sterling work protecting kiwi in Northland.

19 kiwi were also released into Whangārei Heads, Pukenui and Marunui as part of drought related emergency translocation form Motuora Island.

Approximately 300 visitors gathered in the evening at Tawapou for the release of 4 kiwi from Matakohe-Limestone Island on 25 October 2019.

Enviroschools

Enviroschool students learn how to machine pluck possum fur.

The Northland Enviroschools Project Pest Control Programme is a huge success, opening-up real opportunities for students including educational qualifications (NCEA credits), career pathways and the very real potential to make a living from possum fur.

The programme started with Project Possum in 2011 and evolved to include Project Mustelid in 2016 and Project Rodent in 2017. The three initiatives were combined into Project Pest Control the following year and now enjoy considerable success in the battle against pests. Council and Can Train NZ tutors run the theory and field based programme, teaching students to respect animal pests and showing them how to trap and kill them humanely, skin possums, or pluck their fur.

As part of the best practice learning during the two-day skills course, tutors start with the life of the pests, establishing the creatures as living, breathing animals deserving of respect and humane treatment. Humane leg-hold traps are used to trap possums, and the students are taught how to place them and set them to cause the least discomfort to the animal while also placing the trap beyond the reach of kiwi.

After a few weeks, to allow for pest control practice and completion of theory work, an assessment day is held. Here, students are put through their paces and investigate a variety of biosecurity career pathways.

Enviroschools	2018-19	2019-20	Since 2011
Students attaining NCEA credits	110	146	*856*

"People don't do this work because they don't like pests. They do it because they like other things more – like native birds and animals, our native trees, and all the life our native bush sustains."

Performance Measure	Result	Details

Community Engagement – Online Media

Engagement activities are conducted to increase awareness of pest animals.

Achieved

Refer Appendix for more details	2018-19	2019-20
Council Facebook page tags – posts	19 posts	6 posts
Council Facebook page tags – reach	49,186	18,523
Council Facebook most popular post	3	1
Council Facebook video collection – views [13]	*Data n/a*	50,300
Council Facebook video collection – reactions [13]	*Data n/a*	945
Stories	4	3
Council YouTube channel – new clips	2	4
Council YouTube channel – views [14]	*Data n/a*	6,269
Press releases	3	1
Pest control hub – page views	*Data n/a*	2,708
Pest control hub – total page view time	*Data n/a*	9.1 days

[13] Detailed metric data not available for Facebook video clips – clip view and reaction data runs from inception to October 2020.

[14] Detailed metric data not available for YouTube video clips – clip view data runs between November 2019 and October 2020.

8. Diseases and pathogens – kauri dieback

2019-2020 at a glance – kauri dieback

70
Sites Sampled

15
New high risk properties

55 properties in Northland

33
Management plans

45 since 2018

64
Public enquiries

KEEP KAURI STANDING
STOP KAURI DIEBACK DISEASE SPREADING
KIA TOITU HE KAURI

57
Mitigation advice

75 since 2018

7
Hygiene stations

10 since 2018

43
Event activities

76 since 2018

0
Rule exemptions

Programme objectives and aims

Sustained controlled diseases are ones that are widespread throughout Northland in suitable habitats. The following section relates to the management of kauri dieback disease in Northland. Kauri dieback is managed by a multi-agency collaborative partnership between tāngata whenua, Biosecurity New Zealand, Department of Conservation, Auckland Council and the Northland, Waikato and Bay of Plenty regional councils.

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 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.

Progress in achieving aims

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Soil sampling
Completion of aerial survey sites and follow up sampling of positive sites (122 sites left of 305 identified in 2017-2018).</td><td>Achieved in part</td><td>
<table>
<tr><th>Sample site</th><th>2018-19</th><th>2019-20</th><th>Total</th></tr>
<tr><td>Aerial surveillance</td><td>183</td><td>70</td><td>253</td></tr>
<tr><td>Requests</td><td>25</td><td>9</td><td>34</td></tr>
</table>
Overleaf is a map of Northland sample site locations.
Positive sites identified 2019-2020 = 15
</td></tr>
<tr><td colspan="3">Covid-19 restrictions affected field work in March / April preventing staff from completed scheduled sampling.</td></tr>
<tr><td>Management plans
All high risk properties [15] have management plans.</td><td>Achieved in part</td><td>
<table>
<tr><th></th><th>2018-19</th><th>2019-20</th><th>Total</th></tr>
<tr><td>High risk properties</td><td>40 [16]</td><td>15</td><td>55</td></tr>
<tr><td>Plans prepared</td><td>12</td><td>33</td><td>45</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Plans preparation for high risk properties has been prioritised and is proceeding as quickly as is possible within constraints of staff availability.</td></tr>
</table>

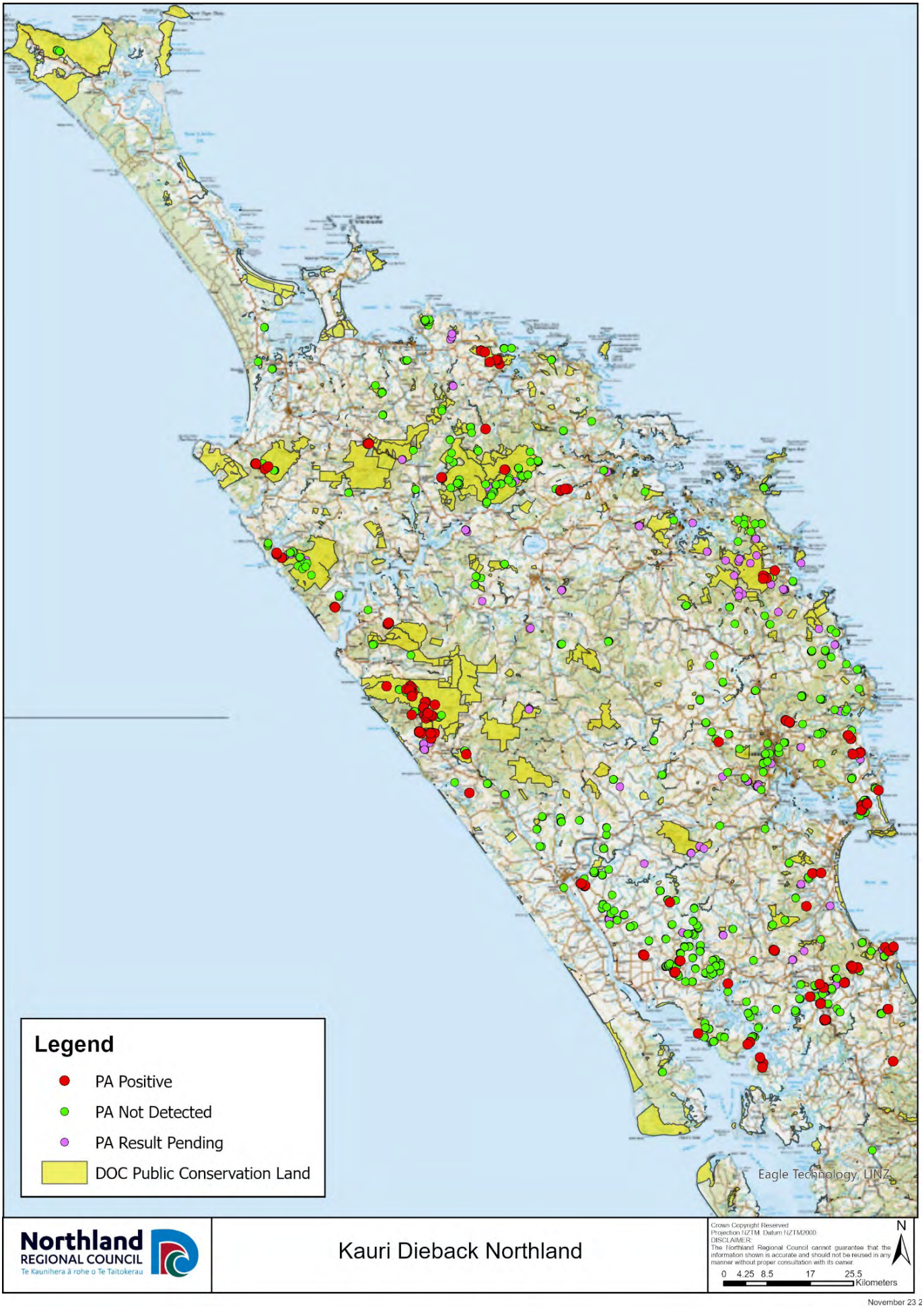
Mitigation advice

Landowners with sites that have tested negative or deemed to be low risk for *Phytophthora agathidicida* are supplied with a mitigation advice plan. This landowner support is undertaken outside of the Pest Plan and is considered a valuable additional measure to help prevent the spread of kauri dieback.

Mitigation advices issued		
2018-19	2019-20	Total
18	57	75

[15] High risk properties are those either infected with *Phytophthora agathidicida*, or at risk of becoming infected because of proximity to an infected property.

[16] Positive properties include 30 historical cases identified prior to the aerial surveillance done in 2017-2018.


Legend
PA Positive
PA Not Detected
PA Result Pending
DOC Public Conservation Land
Eagle Technology, LINZ
Northland
REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau
Kauri Dieback Northland
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Kilometers
November 23 2

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Request response times
Requests from the public shall be responded to within 5 working days.</td><td>Achieved</td><td><table><tr><th></th><th>2018-19</th><th>2019-20</th></tr><tr><td>Requests received</td><td>48</td><td>18</td></tr></table></td></tr>
<tr><td colspan="3">All requests received were responded to within 5 working days.</td></tr>
<tr><td>Incident response times
All incidents are recorded, and a response plant developed and implemented within 20 working days</td><td>Not achieved</td><td><table><tr><th></th><th>2018-19</th><th>2019-20</th></tr><tr><td>Incidents reported</td><td>38</td><td>16</td></tr></table>All incidents were responded to and a plan formulated within 20 days, but plans could not always be implemented.</td></tr>
<tr><td colspan="3">This performance indicator will be reviewed as:
Kauri dieback sampling can not be performed in wet conditions and testing takes two months to complete.
Workload constraints also make the performance measure unrealistic as a full response is not always practical or necessary within 20 days.</td></tr>
<tr><td>Kauri dieback distribution records
Maintain a record of distribution of kauri dieback disease across Northland.</td><td>Achieved</td><td>Data has been recorded on both national and council databases. Sampling data is recorded in ARCGIS online and viewed through a kauri dieback viewer.</td></tr>
<tr><td>Rule exemptions
All exemptions to any rule are reported.</td><td>Achieved</td><td>No exemptions were granted in 2019-2020.</td></tr>
<tr><td>Hygiene stations
Improve hygiene of tracks through installation of hygiene stations.</td><td>Achieved</td><td><table><tr><th></th><th>2018-19</th><th>2019-20</th></tr><tr><td>Stations installed</td><td>3</td><td>7</td></tr></table></td></tr>
</table>

Hygiene Stations come in many shapes and sizes

13
School visits / events
24 since 2018

500
Hygiene kits distributed
750 since 2018

10
Pig hunting competitions

80,000
Facebook NRU video views

KEEP KAURI STANDING
STOP KAURI DIEBACK DISEASE SPREADING
KIA TOITU HE KAURI

81,547
Tagged Facebook post reach

11
Marae visits and stakeholder meetings
22 since 2018

780
Students educated about kauri dieback

8
Community shows and events
18 since 2018

Performance Measure	Result	Details
Community engagement – events Engagement activities are conducted to increase awareness of kauri dieback.	Achieved	*Refer Appendix for more details*

Refer Appendix for more details	2018-19	2019-20
Field Days / Agricultural & Pastoral Shows	3	2
Community events (includes sponsorships)	7	6
School visits and workshops	11	13
Stakeholder activities and marae visits	11	11
Hygiene workshop	-	1
Pig hunting competitions	1	10
Total	33	43

Northland pig hunting competitions

Kauri dieback disease is predominately spread by the movement of soil and it will take the actions of everyone in the community to prevent further spread across kauri lands. In 2019, the kauri dieback team began sponsoring and attending pig hunting competitions across Northland with the aim of establishing a positive ongoing relationship with the pig hunting community. This relationship will enable better uptake of kauri dieback mitigation practices.

In 2019-2020, the kauri dieback team attended 10 pig hunting competitions run by the Northland Pig Hunting Club and other entities. These events are often attended by hundreds of pig hunters across Northland. Along with prize sponsorship, the team provide information and free hygiene kits to enable pig hunters to continue hunting while reducing the risk of spreading kauri dieback.

Over the past year there has been a gradual but positive shift in pig hunter attitudes towards kauri dieback and mitigation practices, with them understanding that their efforts will protect our kauri for generations to come.

A Biosecurity Officer discusses kauri dieback with a hunter at the Ridgeline pig hunting competition in Kāeo.

Hygiene kits
An essential tool to help protect kauri, **500** *kits were distributed to the community in 2019-2020.* **750** *have been distributed since 2018.*

Performance Measure	Result	Details
Community engagement – online media Engagement activities are conducted to increase awareness of kauri dieback.	Achieved	

Refer Appendix for more details	2018-19	2019-20
Council Facebook page tags – posts	7 posts	6 posts
Council Facebook page tags – reach	21,670	81,547
Council Facebook most popular post	-	1
Council Facebook video collection – views [17]	*Data n/a*	86,600
Council Facebook video collection – reactions [15]	*Data n/a*	217
Stories	1	1
Council YouTube channel – new clips	-	4
Council YouTube channel – views [18]	*Data n/a*	747

Keep kauri standing – "Clean your boots"

The Mitre 10 Cup provided the perfect opportunity for a partnership between the Northland Rugby Union (NRU) and Northland Kauri Dieback Programme partners (Northland Regional Council, Department of Conservation and Ministry for Primary Industries) to come together to ram home the importance of clean footwear to prevent the spread of kauri dieback disease.

Council Facebook Video Clip Views	
Keep Kauri standing - NRU / Tane Mahuta	49,500
Clean your boots	30,500

Like those that came before them, today's Northland Rugby players draw strength and pride from the kauri emblem every time they pull on the blue jersey. The partnership gave the team an opportunity to get in behind the fight against kauri dieback.

Kicking off the three year campaign was the first home game of the Mitre 10 Cup saw two heartfelt videos, including striking footage of the Waipoua Ngahere, reduce the boisterous crowd to a hush, as the significance of the threat to kauri and the need for urgent action to prevent Northland's rākau rangatira (chiefly) trees from facing extinction, hit home.

The following Saturday it was the turn of the younger rugby players to meet the Taniwha's and find out more about protecting kauri from the council's kauri dieback team. Over 500 young players attended the event at Kensington Park in Whangārei.

The campaign was covered by One News and Te Ao – Māori News, and the online promotion of the campaign included posts on the Facebook pages of council, the Northland Rugby Union and Te Ao Māori News. The videos proved extremely popular on council's Facebook page with **80,000** views.

Northland's Taniwha rugby team members with boot bags to give away.

[17] Detailed metric data not available for Facebook video clips – clip view and reaction data is from inception to October 2020.

[18] Detailed metric data not available for YouTube video clips – clip view data runs between November 2019 and October 2020.

9. Freshwater pests

0

Exclusion species incursions

14

Eradication species incidents

11

New eradication pest sites identified

18,812

Tagged Facebook post views

47

Customer requests

9

Shows and CCD events

3

School visits and activities

5 since 2018

1,523

Pest Control Hub page views

4.1 days of viewing

5

Pest workshops

9 since 2018

9.1 Exclusion freshwater pests

Key points of the exclusion freshwater pest programme

- Enforcement of rules relating to exclusion freshwater pests.
- Eradication of exclusion freshwater pests found in Northland.
- Inspection and enforcement of rules relating to plant nurseries and retail outlets (National pest plant accord). This performance measure is reported in *Section 9.2 Eradication freshwater pests.*

Progress in achieving aims

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Identify new sites
New incursion sites of exclusion freshwater pests are identified.</td><td>Achieved</td><td>
<table>
<tr><th></th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Confirmed incursions</td><td>0 *</td><td>0</td></tr>
</table>
* There were 2 suspected incursions referred to other authorities in 2018-2019.
</td></tr>
<tr><td colspan="3">An officer undertook a review of historic material sourced from the Ministry for Primary Industries to determine any high risk sites for orfe, based on potential release locations. Three potential were sites identified for further investigation.</td></tr>
<tr><td>Incident investigation and response</td><td>Not applicable</td><td>No incursions were identified.</td></tr>
<tr><td>Interagency collaboration
Collaborate with Regional Councils, Ministry for Primary Industries (MPI), other Crown agencies and stakeholders to prevent spread into Northland.</td><td>Achieved</td><td>Collaboration with other agencies is maintained by:
Ministry for Primary Industries: Collaboration to obtain historic data regarding potential illegal orfe release sites in Northland. Review of this data and discussions with people involved at that time indicates that the orfe were never able to be bred in captivity despite significant efforts of breeders, and it is thought to be unlikely any of the releases would have resulted in breeding populations.
Department of Conservation, Auckland Council, and Fish & Game: Ongoing collaboration with these organisations to share knowledge and resources in the pest fish work space.</td></tr>
</table>

Exclusion freshwater pest

Marshwort

9.2 Eradication freshwater pests

Key points of the eradication freshwater pests programme

- Enforcement of rules relating to eradication freshwater pests.
- Eradication of eradication freshwater pests found in Northland.
- Inspection and enforcement of rules relating to plant nurseries and retail outlets (National Pest Plant Accord).

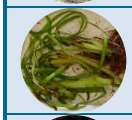
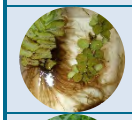
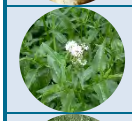
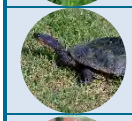
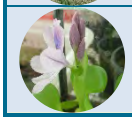
Progress in achieving aims

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Identify new sites
New incursion sites of eradication freshwater pests are identified.</td><td>Achieved</td><td>
<table>
<tr><th>New reports for</th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Red-eared slider turtle</td><td>14</td><td>5 (3)</td></tr>
<tr><td>Salvinia</td><td>3</td><td>3 (2)</td></tr>
<tr><td>Eastern water dragon</td><td>1</td><td>-</td></tr>
<tr><td>Snake-necked turtle</td><td>-</td><td>3 (2)</td></tr>
</table>
Bracketed figures in italics are new sites identified from public reports.
</td></tr>
<tr><td colspan="3">Red-eared slider turtle
The 2019-2020 figure includes two public Facebook posts observed by staff in which pet red eared slider turtles were reported as lost or missing. Staff were unable to contact originator of the posts to determine if the turtles were found and determine how escapes occurred. These incidents remain unresolved. Of the three other public turtle reports, one was handed in, and two have been identified as sites for ongoing management.

Salvinia
After completing the initial investigations the salvinia sites were passed onto the Ministry for Primary Industries who manage this species eradication programme nationally. One additional report was received with regard to a potential reoccurrence at a previous salvinia site which was also passed on to the Ministry.</td></tr>
<tr><td>Response to public reports
Reports from the public responded to within 5 working days.</td><td>Achieved in part</td><td>
<table>
<tr><th></th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Incidents reported</td><td>14</td><td>14</td></tr>
</table>
14 reports of freshwater eradication species were responded to in 2019-2020. One of those reports took longer than the target time for initial response to requestors.
</td></tr>
<tr><td colspan="3">Resolution of reports frequently takes significantly longer, especially where remote sites require a site visit or where multiple staff are required for netting work. Resources and staff capacity continue to be a barrier to resolving new reports in a timely fashion. This performance measure will be updated for 2020-2021 to be consistent with measures set for eradication plant species.</td></tr>
</table>

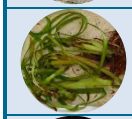
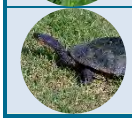
Basking in the sun, a public report of a **red-eared slider turtle** *in an active management site in Whangarei.*

New performance measure – eradication freshwater management site visits 2019-2020		
Best practice management All management sites visited on scheduled best practice rotation.	**Achieved in part**	Refer species specific details below.

Eradication freshwater pest management site visits 2019-2020			
Eradication plant		**Results**	**Details**
	Eastern water dragon	Achieved	No active management sites.
	Eel grass	Achieved	No active management sites.
	Nardoo	Achieved	One surveillance site confirmed to still be free of nardoo.
	Red-eared slider turtle	Not achieved	There are currently 5 active management sites where turtles seen or reported but have not been retrieved, including the two new sites identified in 2019-2020. As there is no current set best practice for turtle eradication, capture methods remain experimental. Requests for advice on the basking trap methodology have been received from Australian biosecurity officers, and Bay of Plenty and Auckland Council staff. Basking traps were deployed at two of the sites on multiple occasions but were not successful. More intensive research and trial work is required, but the single biosecurity officer working on freshwater species did not have capacity for the more intensive trapping activity required because of pest fish management activities.
	Salvinia	-	Sites are managed by the Ministry for Primary Industries.
	Senegal tea	Achieved	One active site visited annually.
	Snake-necked turtle	Achieved	No active management sites. One captured turtle was rehomed.
	Water hyacinth	-	Sites are managed by the Ministry for Primary Industries.

A biosecurity officer deploying a turtle trap at one of the five active management sites.

New Performance Measure – Number of adult eradication freshwater pests 2019-2020 (baseline measurement)		
Decrease in adult pests Decrease in the number of mature specimens in existing sites.	New measure	This new measure will be used to demonstrate whether inspection and control frequencies have been successful in preventing eradication freshwater species from maturing, thus reducing the risk of spread to new sites. Baseline data for comparison for future years has been collated below.

Eradication freshwater pest management site visits 2019-2020			
Eradication freshwater pest		No adults	Details
	Eastern water dragon	0	No active management sites.
	Eel grass	0	No active management sites.
	Nardoo	0	This aquatic pest plant is approaching eradicated status.
	Red-eared slider turtle	5	5 active management sites where turtles seen or reported but have not been retrieved.
	Senegal tea	0	No adult foliage found.
	Snake-necked turtle	0	No active management sites.

Performance Measure	Result	Details
Plant retail outlet compliance All known plant outlets in Northland are aware of obligations and inspected annually for species identified in the National Pest Plant Accord (NPPA) and Pest Plan	Achieved in part	All listed plant outlets were sent reminder information on species banned from sale and propagation under the NPPA and the Pest Plan. **61%** of known plant outlets inspected. There were no instances of freshwater exclusion or eradication species being sold. Trade Me was monitored through saved searches for freshwater exclusion and eradication species. There were no listings in 2019-2020.
Capacity constraints, combined with the Covid-19 restrictions and the resulting impact on program delivery meant that only a proportion of nurseries and outlets could be targeted for inspection, and inspections were delayed. Priority was given to the larger nurseries and retail outlets selling exotic species rather than those that have been identified as being native only nurseries. Annual plan and long term plan bids have been completed to address the underlying capacity issue.		

9.3 Progressive containment freshwater pests

Key points of the progressive containment freshwater pest programme

- Enforcement of rules relating to progressive control freshwater pests.
- Eradication or reduction of infestations of progressive containment freshwater pest may be attempted with council in conjunction with Crown agencies and stakeholders where practical.

Progress in achieving aims

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Response to public reports
Reports from the public responded to within 5 working days.</td><td>Achieved in part</td><td><table><tr><th></th><th>2018-19</th><th>2019-20</th></tr><tr><td>Public reports</td><td>7</td><td>13</td></tr></table>There were 13 reports of freshwater progressive containment species responded to. Four of those reports took longer than the target time for initial response to requestors.</td></tr>
<tr><td colspan="3">Resolution of reports frequently takes significantly longer than 5 working days, especially where remote sites require a site visit or where multiple staff are required for netting work. Resources and staff capacity continues to be a barrier to resolving new reports in a timely fashion. This performance measure will be updated for 2020-2021 to be consistent with measures set for progressive containment plant species.</td></tr>
<tr><td>Maintain distribution record
Maintain an updated distribution record of progressive containment freshwater species.</td><td>Achieved</td><td>Significant effort was spent in 2019-2020 in reviewing and restructuring the council's database to better reflect:
Site status
Relationship to containment zones
Unconfirmed reports
The database can now be built upon in 2020-2021 and used as a basis for improved reporting, control work prioritisation, and surveillance netting of unconfirmed reports.</td></tr>
<tr><td>Management site visits
All management sites visited on scheduled best practice rotation.
 
Netting of pest fish is very labour intensive</td><td>Not achieved</td><td>Best practice is highly specific to the situation of each waterbody and pest fish status. However, the labour intensive nature of any pest fish work and the limited staff and contract resources available mean that work could only be undertaken at a proportion of management sites and potential sites. Annual plan and long term plan bids have been submitted to address this shortfall. Covid-19 also had a significant impact on both the control programme and the planned surveillance netting of unconfirmed sites as these primarily occur between February–April when seasonal water temperature and depth requirements are optimal.

Staff have continued to work with Department of Conservation staff to scope and progress the steps required to make additional detection, control tools and barrier technology (eg. eDNA, piscicides) more feasible.</td></tr>
</table>

Performance Measure	Result	Details

Management site visits *(continued from previous page)*

Koi

Two intensive koi netting operations were conducted at a small, privately owned farm dam in Pahi within the containment zone, removing 118 koi carp. The purpose was to investigate the effectiveness and cost of intensively netting a small waterbody (which has limited recruitment), to determine whether this is a viable option for pest fish management. It is very difficult to achieve eradication via netting, however the sandy substrates of many of our sites mean that current piscicides are not appropriate and a variety of methods are required.

Tench

Tench netting to determine population structure and control options was undertaken at the Lake Kapoai site, outside of the containment zone. This operation saw 6225 tench removed.

Perch

Perch netting to determine population structure and control options was undertaken at the unnamed lake outside of containment zone. A total of 9979 perch were removed.

Annual status reports

Annual reporting on the status and number of new sites of all progressive containment freshwater pests is required in the Pest Plan. The 2019-2020 status reports are detailed below.

Koi carp – annual status report

Koi carp

Outside the containment area

Location	Type of site	Notes
New site identified		
Kaingaroa – Mangatete River	River system	Later confirmed in September 2020
Potential sites identified		
Mangapai	river system	
Arapohue	drain	

The new site identified in the Kaingaroa in the Mangatete River is a major cause for concern and represents a significant range expansion outside of the known containment areas. This infestation also likely relates to the as yet unconfirmed Fairburn site in the Karemuhako stream, which is connected to the Awanui river. Control in rivers is not likely to be feasible given the current resources and tools available and highlights the need to increase the intensity of engagement/community awareness work to prevent new releases.

Existing sites outside of containment area

Location	Type of site	Notes	
1 existing confirmed site outside of the containment area			
Ōmāmari	dune lake/ wetland	The site has been scoped for potential for netting work, but it will be very difficult because of dense reed beds. Sandy substrate is likely to make it an inappropriate target for piscicides.	
8 existing potential sites that remain unconfirmed			
Location	Type of site	Location	Type of site
Awanui	dune lake	Ngāraratunua	pond
Fairburn	river system	Maungatāpere	dam
Taipā	stream	Ruawai	canal
Ruatangatata West	farm dam	Tangowahine	river system

Intensive surveillance netting of unconfirmed sites was planned for March 2020 had to be cancelled because of Covid-19 and is rescheduled for summer 2020-2021.

Inside of containment area

New reports of sightings and new sites within containment areas continue to be received. Without capacity to provide more advocacy and awareness to locals and landowners, these populations represent an ongoing threat for further range expansion.

Perch – annual status report

Perch

New sites outside of containment area

- 1 potential site identified in 2019-2020:
  - Pīpīwai – river system

Existing sites outside of containment area

- 1 existing confirmed site outside of containment area:
  - Te Korporu – unnamed dune lake/wetland

Tench

Tench – annual status report

New sites outside of containment area

- No new sites identified in 2019-2020

Existing sites outside of containment area

- 1 existing confirmed site outside of containment area:
  - Te Koporu – Lake Kapoai

9.4 Sustained control freshwater pests

Key points of the sustained control freshwater pest programme

- Enforcement of rules relating to sustained control freshwater pests.

Progress in achieving aims

Performance Measure	Result	Details
New requests and response times • The number of requests received is tracked. • Reports from the public responded to within 20 working days.	Achieved in part	<table><tr><th></th><th>2018-19</th><th>2019-20</th></tr><tr><td>Public reports</td><td>1</td><td>20</td></tr></table>Staff received 20 tracked requests for freshwater sustained control pests. One of those reports took longer than the target time for initial response to requestors.
Rule Exemptions All exemptions to any rule are reported.	Achieved	No exemptions were granted in 2019-2020.

9.5 Community engagement

Performance Measure	Result	Details
Community engagement - events Engagement activities are conducted to increase awareness of freshwater pests.	Achieved	

Refer Appendix for more details	2018-19	2019-20
Field Days / Agricultural & Pastoral Shows	4	2
Community events / waka ama	3	7
School visits and workshops	2	3
Stakeholder activities	-	
Pest workshops	4	5
Total	12	17

Freshwater education, Lake Ngatu

The second of five dune lake education events was held at Lake Ngatu on 20 February. Some 50 students from three kura (Te Rangi Āniwaniwa, Te Hāpua, Ngātaki) learned about pest and native fish, tuna, water quality testing and lake plants. These events provide an opportunity for council to demonstrate the importance of not releasing unwanted pets like turtles and goldfish into the wild, while educating students about pest fish species and their impact on New Zealand's waterways.

Part of the Freshwater Improvement Fund (FIF) Dune Lakes project administered by the Ministry for the Environment, the education days are run in conjunction with Enviroschools and Te Aho Tū Roa.

Five dune lake education events were scheduled during the year, of which two were held (Lake Waimimiha and Lake Ngatu) before the rest were delayed because of Covid-19.

A Biosecurity Officer sharing information about pest fish with students at the Lake Ngatu Dune Lakes education event.

Performance Measure	Result	Details
Community engagement - media Increase awareness of freshwater pests.	Achieved	

Refer Appendix for more details	2018-19	2019-20
Pest control hub – page views	*Data n/a*	1,523
Pest control hub – total page view time	*Data n/a*	4.1 days
Council Facebook page – posts	*Data n/a*	8 [19]
Council Facebook page – reach (tag posts)	*Data n/a*	18,812
Council Facebook most popular post	1	1

Check, Clean, Dry (CCD)

Check Clean Dry (CCD) is a freshwater pest awareness campaign led and funded by the Ministry for Primary Industries. The campaign is aimed at preventing the spread of freshwater pests between waterways. In Northland, the campaign is managed and implemented by the council and includes employment of a full time CCD advocate in the summer months, as well as input from other staff and contractors. These staff conduct advocacy and surveys at freshwater sites and at events.

Collateral material (educational information and merchandise) is distributed at freshwater events also to the relevant businesses, clubs and freshwater users throughout the region.

Check, Clean, Dry Events	Location
Wiki Hā - Waka ama 2019	Lake Ngatu
Waka ama - 32nd annual regatta	Lake Ngatu
Kaihoe O Ngāti Rēhia Pre-Nationals	Lake Manuwai
Waitangi Day Festival	Waitangi
Pouto Lighthouse Challenge	Southern Poutō Peninsula
Whānau at the falls	Whangārei Falls
Northland Field Days	Dargaville

A hornwort incursion in a dune lake at the southern end of the Pouto peninsula was used as a means of highlighting the importance of Check, Clean, Dry.

[19] Only one of the eight Facebook posts were tagged.

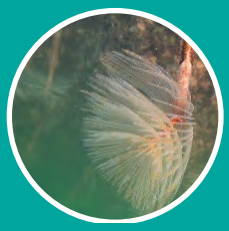
10. Marine pests and pathways

2,048
Hulls surveyed
4,085 since 2018

8
Range extensions

↓ 2 from 2018-19

9
Community / stakeholder activities
19 since 2018

4
Pest workshops

6 since 2018

CLEAN BELOW? GOOD TO GO

145
Incidents

47.5%
Vessel compliance

3
New to Northland marine pests


0
Rule exemptions

Background of the Marine Pathway Management Plan (MPMP)

Over the life of the Marine Pathway Management Plan (MPMP) council has the following aims:

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

From 2010 council has had a species led approach to managing marine pests. However, identifying marine pests and potential risk organisms for Northland is difficult, so rather than relying solely on the species led approach, the council has also begun addressing the universal vector of spread. Mediterranean fanworm (*Sabella spallanzanii*) is one of many species that has entered the region via hull biofouling. Taking a proactive approach and encouraging cleaner hulls through a MPMP will result in fewer vessels carrying marine pests, such as Mediterranean fanworm, and other biofouling into the region and reduce the risk of new marine pest incursions.

Sabella spallanzanii (Mediterranean fanworm)

Marine pathway		
Hull fouling: Level of Fouling 2 (LOF2) 'Light fouling' allowed, which means no more than small patches (up to 100 mm in diameter) of visible fouling, totalling less than 5% of the hull and niche areas.		
Marine pests		
Asian paddle crab Australian droplet tunicate Japanese mantis shrimp	Mediterranean fan worm Pyura sea squirt Styela sea squirt	Undaria seaweed

Programme implementation – year 2

Programme implementation in 2019-2020 included:

- The diver hull surveillance programme continued as per year one with levels of fouling recorded and any vessel carrying a named marine pest of concern placed under a Notice of Direction and directed to have the vessel cleaned in a timeframe and location appropriate to the level of risk posed.
- Whilst it had been intended to inform the owners of vessels that exceed the MPMP fouling threshold of their result directly and warn that should they move to another designated place with that level of fouling they would be in breach of our rules, this was not able to be achieved because of inadequate staff resource levels. However, existing communication and advice programmes have continued to assist vessel owners and stakeholders with ensuring compliance with rules.
- Where Notices of Direction were issued to the owners of vessels found with listed marine pests, these enforcement notices were tracked in IRIS (council's incident logging database) and regular contact was made with vessel owners to ensure they had met the requirements of the notice.

Progress in achieving aims

Vessel compliance to the Marine Pathways Management Plan

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Hull survey
Inspect a minimum of 2,000 vessel hulls annually.</td><td>Achieved</td><td>
<table>
<tr><th></th><th>2018-19</th><th>2019-20</th><th>Total</th></tr>
<tr><td>Hulls surveyed</td><td>2,037</td><td>2,048</td><td>4,085</td></tr>
</table>
</td></tr>
<tr><td colspan="3">2,048 hulls were assessed, representing between 50 – 60 % of the vessels that pose a risk for the spread of marine pests in Northland.</td></tr>
<tr><td>Vessel compliance reporting
Compliance with the pathway plan and all incidents shall be reported monthly.</td><td>Achieved</td><td>
<table>
<tr><th></th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Vessel Compliance</td><td>59%</td><td>47.5%</td></tr>
<tr><td>Incidents</td><td>317</td><td>145</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Hull surveillance and vessel compliance data is reported monthly in the Chief Executive’s report to council.

Approximately 47.5% of the vessels inspected met the required biofouling threshold (these are vessels that would be compliant with the MPMP rules if the vessel was to move to a different designated area).
As the surveillance programme predominantly inspects stationary vessels it is not an accurate proxy of true compliance with the biofouling threshold. Education around being ‘clean before you go’ continues so that these vessel owners are aware that their vessel needs to be compliant when they move. Surveillance efforts in the coming year will target more of recent arrivals into marinas and vessels on anchor to provide a more accurate measure of compliance levels and to target the greatest level of risk.</td></tr>
</table>

Strengthening national marine partnerships

The Top of the North Marine Biosecurity Partnership (TON) is an alliance between the northernmost regional councils in New Zealand (Northland, Auckland, Waikato, Bay of Plenty, Hawkes Bay and Gisborne), the Department of Conservation and Biosecurity New Zealand. The collaboration is working towards developing consistent rules for marine biosecurity across the four largest northern regions.

Preferred option

There has been considerable progress during the year following feedback on a Discussion Document in early 2019. The feedback and options have been considered by staff within the TON partnership and the preferred approach is to develop an Inter-regional Marine Pathway Management Plan (IRMPMP). This is a “Clean Hull Plan” that sets a requirement for all craft to meet hull bio-fouling standards when moving (ie. when they are not moored or berthed) has been presented to each council and development of a formal proposal has been endorsed.

Reasons why this approach is preferred

- Vessel biofouling is the highest risk pathway for the introduction and spread of marine pests.
- The TON regions have a high proportion of New Zealand’s vessel fleet and therefore face the greatest risk from this pest pathway.
- Requiring vessels to comply with a specified level of fouling is proactive and the approach is consistent with the controls that already apply to craft entering New Zealand under the international Craft Risk Management Standards.
- There is a precedent established through the Fiordland and Northland marine pest pathway plans.

The preferred option is now ready to enter a period of early engagement and testing with key stakeholders and partners while the plan proposal is being formed. This is ahead of a formal stakeholder consultation process, likely to commence from June 2021, involving notification, submissions and hearings.

Introduction and spread of marine pests in Northland

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>New marine pests
Introduction of new marine pests to Northland is reported.</td><td>Achieved</td><td>
<table>
<tr><th>New Pests Reported</th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>From hull surveillance</td><td>0</td><td>1</td></tr>
<tr><td>From NIWA divers</td><td>0</td><td>2</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Hull surveillance
Clavelina lepadiformis, a new to Northland marine pest was recorded on a vessel hull during the surveillance of 2,048 vessel hulls throughout Northland. This vessel was subsequently lifted and washed.

NIWA surveillance – Ōpua Harbour
Agnezia sp, a new to New Zealand species that is still to be formally identified.
Caprella scauroides, represents a range extension into Northland.</td></tr>
<tr><td>Range extensions within Northland
Spread of established marine pests within Northland is reported.</td><td>Achieved</td><td>
<table>
<tr><th></th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Range Extension Reports</td><td>8</td><td>6</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Public reports – Houhora Harbour
Botrylloides giganteum, Polycera hedgpethi and Omobranchus anolius reported by the public (NIWA staff on recreational dives).

NIWA divers – Rangaunu Harbour
Thalamoporella californica by NIWA divers conducting unrelated fieldwork.

Council officers – Whangārei Harbour
Undaria pinnatifida within Northland was detected by council officers during a public engagement event in Whangārei Harbour. The individual was removed an no new individuals have been found to date in follow up surveys.</td></tr>
</table>

New to Northland marine pest *Clavelina lepadiformis*

Performance Measure	Result	Details
Incidence response All incidents are recorded, and a response plan is developed and implemented within 5 working days.	Data not available	58 incidents are recorded as not having been closed within 5 working days. In reality, all incidents were risk assessed upon receipt, and a response implemented on the basis of likely harm to the receiving environment. The reporting system requires modification to capture response data (rather than close date) for this performance measure
Rule exemptions All exemptions to any rule are reported.	Achieved	No exemptions were granted in 2019-2020.

Incursion response

Biosecurity New Zealand
Ministry for Primary Industries
Manatū Ahu Matua

With support from Biosecurity New Zealand, council has funded several responses to marine pest incursions.

Mangonui Harbour

Marine biosecurity dive contractors discovered a boat heavily infested with Mediterranean fanworm in Mangonui Harbour during the Hull Surveillance Programme in February 2020. Marine biosecurity staff, in collaboration with Biosecurity New Zealand, immediately launched a response which included ordering the vessel out of the water for immediate cleaning and sending in a dive team to search the seafloor and structures nearby. Divers subsequently found and removed six individual fanworm from the seafloor directly under the vessel. No other evidence of an established population was found, and it appears the infestation was caught early enough to stop the pest establishing. Additional monitoring for the next 2 – 5 years will be required.

Ōpua Harbour

A step-wise eradication response to the 2018 incursion of Mediterranean fanworm in Ōpua continued this year with divers removing 1000+ individuals from the area. The feasibility of this response will continue to be regularly assessed by a panel of independent scientists.

Tutukaka Harbour

After five years of follow up diving the 2015 Mediterranean fanworm incursion in Tutukaka has been declared successfully eradicated.

Thick biofouling – including unwanted Mediterranean fanworm – covering the hull of a vessel ordered out of the water at Mangonui for cleaning.

Community engagement

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Community Engagement – Events
Engagement activities are conducted to increase awareness of marine pests.</td><td>Achieved</td><td>
<table>
<tr><th>Refer Appendix for more details</th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Boat shows and marine events</td><td>5</td><td>1</td></tr>
<tr><td>School visits / workshops</td><td>3</td><td>2</td></tr>
<tr><td>Stakeholder activities</td><td>1</td><td>6</td></tr>
<tr><td>Marine pest workshops</td><td>2</td><td>4</td></tr>
<tr><td>Total</td><td>12</td><td>13</td></tr>
</table>
</td></tr>
<tr><td colspan="3">The country's Covid-19 response caused the cancellation of key marine events such as the Hutchwilco Boat Show therefore limiting the opportunities for community engagement.</td></tr>
</table>

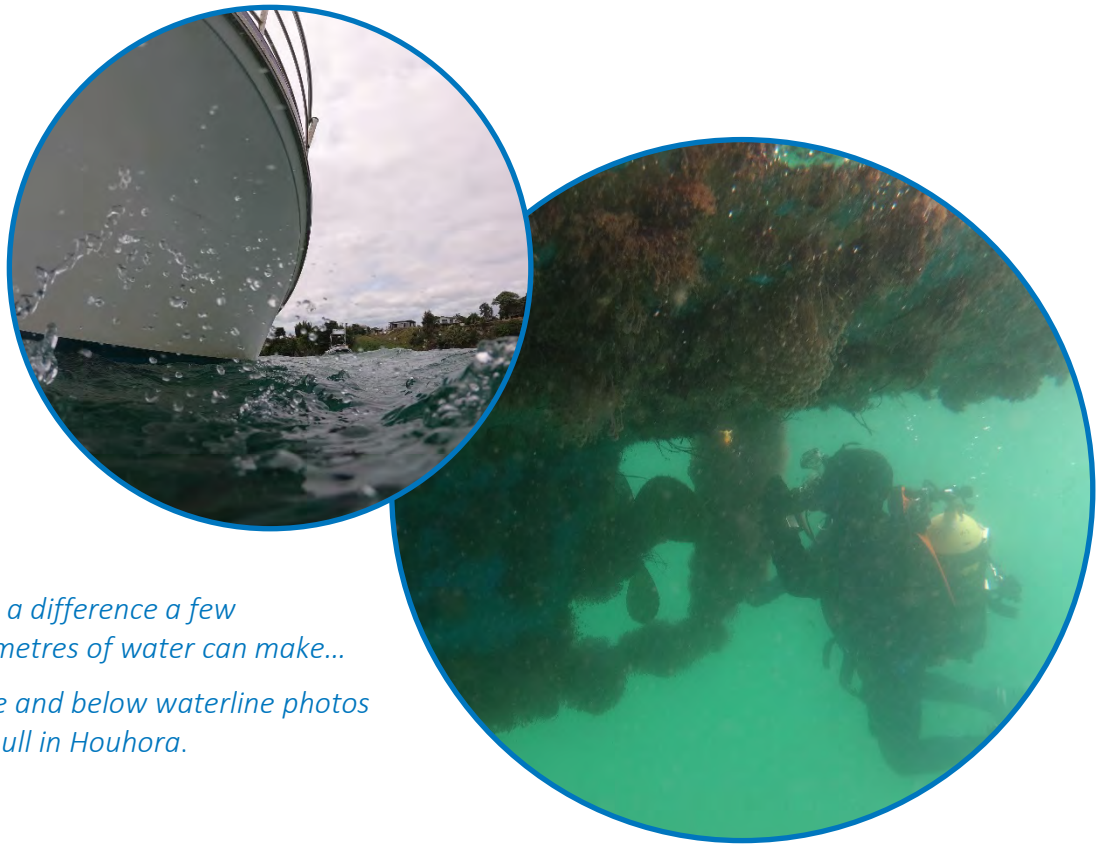
Reotahi snorkel survey, November 2019

Doubling up as both a marine survey and an opportunity to educate the public on marine pests, this survey involved marine biosecurity staff and local groups passionate about Whangārei's marine environment (including NorthTec, Experiencing Marine Reserves, Patuharakeke, and Ocean Spirit). The survey was run to identify any invasive marine species present, and with permission from the Department of Conservation 30+ Mediterranean fanworm were removed from the reserve. A single juvenile *Undaria pinnatifida* (an invasive Japanese kelp) was also found, which represents a range extension into Whangārei Harbour.

Juvenile Undaria pinnatifida *found in the survey at Reotahi.*

Volunteers came from many local groups for the Reotahi Marine Reserve Survey

<table>
<tr><th>Performance Measure</th><th>Result</th><th>Details</th></tr>
<tr><td>Community engagement – media
Increase in awareness of the risk hull fouling poses to marine pest spread.</td><td>Achieved</td><td>
<table>
<tr><th>Refer Appendix for more details</th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Pest control hub – page views</td><td>Data n/a</td><td>1,275</td></tr>
<tr><td>Pest control hub – total page view time</td><td>Data n/a</td><td>3.9 days</td></tr>
<tr><td>Council YouTube channel – clip views [20]</td><td>Data n/a</td><td>1,615</td></tr>
<tr><td>Council Facebook page – posts</td><td>15</td><td>8 [21]</td></tr>
<tr><td>Council Facebook page – reach (tag posts)</td><td>57,168</td><td>4,624</td></tr>
<tr><td>Council Facebook most popular post</td><td>1</td><td>1</td></tr>
<tr><td>Press releases</td><td>6</td><td>3</td></tr>
<tr><td>Marine advertisements</td><td>5</td><td>3</td></tr>
</table>
</td></tr>
<tr><td>Education surveys
Vessel owner surveys to assess marine community awareness of marine pests.</td><td>Not achieved</td><td>
<table>
<tr><th></th><th>2018-19</th><th>2019-20</th></tr>
<tr><td>Vessel owners surveyed</td><td>88</td><td>-</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Staff undertook a review of the vessel owner survey and decided not to undertake a survey in the 2019-2020 year. Resource was redirected instead towards the TON Partnership in which considerable progress was achieved towards a more consistent approach to managing marine pests across the northernmost regions. Outcome monitoring remains a key focus for council and TON, and it is believed capturing robust data to track behaviour change will be better achieved through the coordinated approach of the TON partnership. A vessel owner behaviour change survey will become part of the annual boat show events and be distributed through TON media channels and websites.</td></tr>
</table>



What a difference a few centimetres of water can make…

Above and below waterline photos of a hull in Houhora.

[20] Detailed metric data not available for YouTube video clips – clip view data runs between November 2019 and October 2020.

[21] Only one of the eight Facebook posts were tagged.

A Public engagement activities

A1 Council Facebook page

https://www.facebook.com/NorthlandRegionalCouncil/

Tagged posts

Tag reporting is data recorded on *tagged* posts on the council's Facebook site. Not all posts are tagged – only those with significant content.

Results for Biosecurity tagged posts are summarised in the table below.

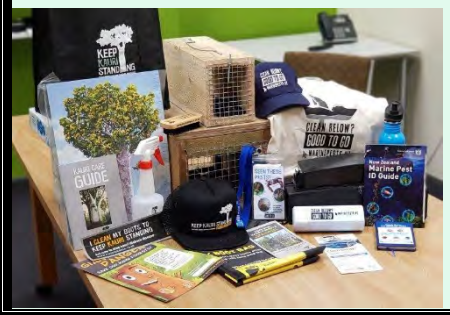
Biosecurity Activity	Tagged Posts Sent [22]	Impressions *(reach)*	Engagements
Pest animals / partnerships	6	18,523	3,525
Kauri dieback	6	81,547	2,162
Marine	1	4,624	338
Freshwater	1	18,812	3,135
Biosecurity week	4	11,864	645
Other biosecurity posts	11	46,117	5,090
Totals 2019-2020	**29**	**181,487**	**14,895**
Total 2018-2019	*78*	*134,521*	*10,980*
Increase / Decrease	↓ *49 posts*	↑ *46,966* ***(35%)***	↑ *3,915* ***(36%)***

Despite a considerable reduction in biosecurity tagged posts from the preceding year, Facebook impressions and engagements increased by 35 – 36 %.

Biosecurity Week

The annual week long New Zealand Biosecurity Institute promotion this year was:

All Hands on Deck



The Facebook campaign showcased innovative ways Biosecurity is carried out in Northland and drew 11,864 impressions.

The Community Prize Pack drew entries from both groups and individuals.

[22] *Only selected posts are tagged, so actual Facebook activity will be higher than recorded here.*

Most popular Facebook post

This is a monthly assessment of council's most popular Facebook post. The post is assessed on two industry metrics:

M1 Engagement / Total Fans = $\frac{\text{Likes + Comments + Shares (of post)}}{\text{Total fans}}$

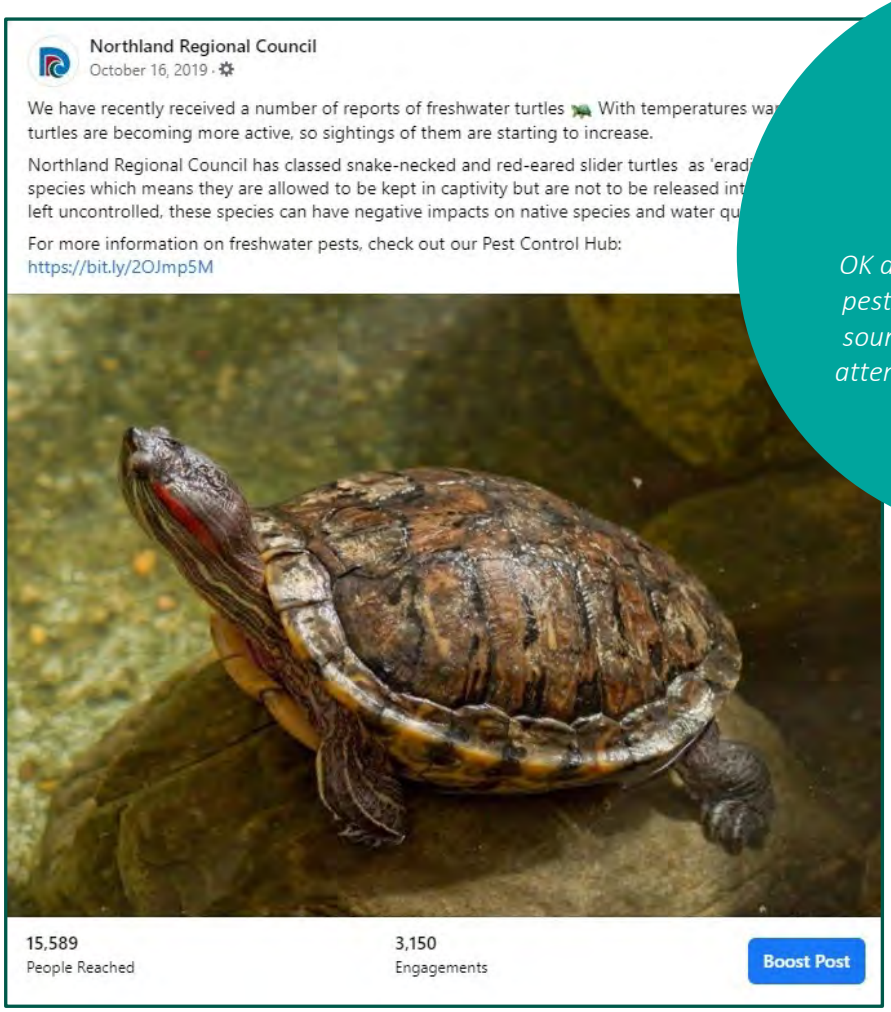
*This metric has an industry average of **1 – 2%***

M2 Engagement / Reach = $\frac{\text{Likes + Comments + Clicks + Shares (of post)}}{\text{Reach}}$

*This metric has an industry average of **10 – 20%***

Biosecurity posts were the most popular on the council Facebook page for three months of the year.

Month	Category	Subject	Reach	Reactions	Post Clicks	M1	M2
Oct 19	Eradication	Turtle	14,741	266	2,868	2.8%	21.3%
Dec 19	Sustained control	Kauri dieback	6,050	269	1,479	2.9%	28.9%
Mar 20	Sustained control	Mediterranean Fanworm	11,465	168	1,663	1.6%	14.5%



Most Popular Post, October 2019

Turtles

OK as a pet, but an eradication pest in Northland's freshwater sources, turtles attract a lot of attention on council's Facebook page.

Facebook video collection

On the Facebook page there is a large collection of videos covering the range of services provided by council as well as promotional clips. Biosecurity was a major component of **97** video clips (21% of the 458 clips on the page) at the end of June 2020. Facebook does not offer detailed metric data for videos, however clip view data from inception is available to October 2020 and details are summarised below.

Category	Number of Videos on the Page	Page Views [23] as at 12/10/2020	Reactions [24] as at 12/10/2020
Animals	36	50,300	945
Plants	13	7,900	187
Disease	8	86,600	217
Freshwater	8	19,000	186
Marine	8	52,400	267
General	24	36,200	991
Total Biosecurity Video Views	**97** *(21%)*	**252,400** *(40%)*	**2,793**
Total Video Views (all videos)	*458*	*631,900*	*n/a*

Biosecurity related videos are extremely popular on the page drawing **40%** of the viewing audience. Biosecurity features in four of the five most popular videos on the page as detailed below.

Facebook Page Clip Ranking	Title	Category	Views	Reactions
1	Keep Kauri standing – Northland Rugby Union / Tāne Māhuta *(Aug 2019)*	Disease	49,500	46
2	Fanworm attached to a scallop *(Sep 2018)*	Marine	44,100	143
3	Clean your boots (Northland Rugby Union) *(Aug 2019)*	Disease	30,500	57
5	Brad and Milo – Bush Bay Action *(Jul 2017)*	Animal	11,600	139

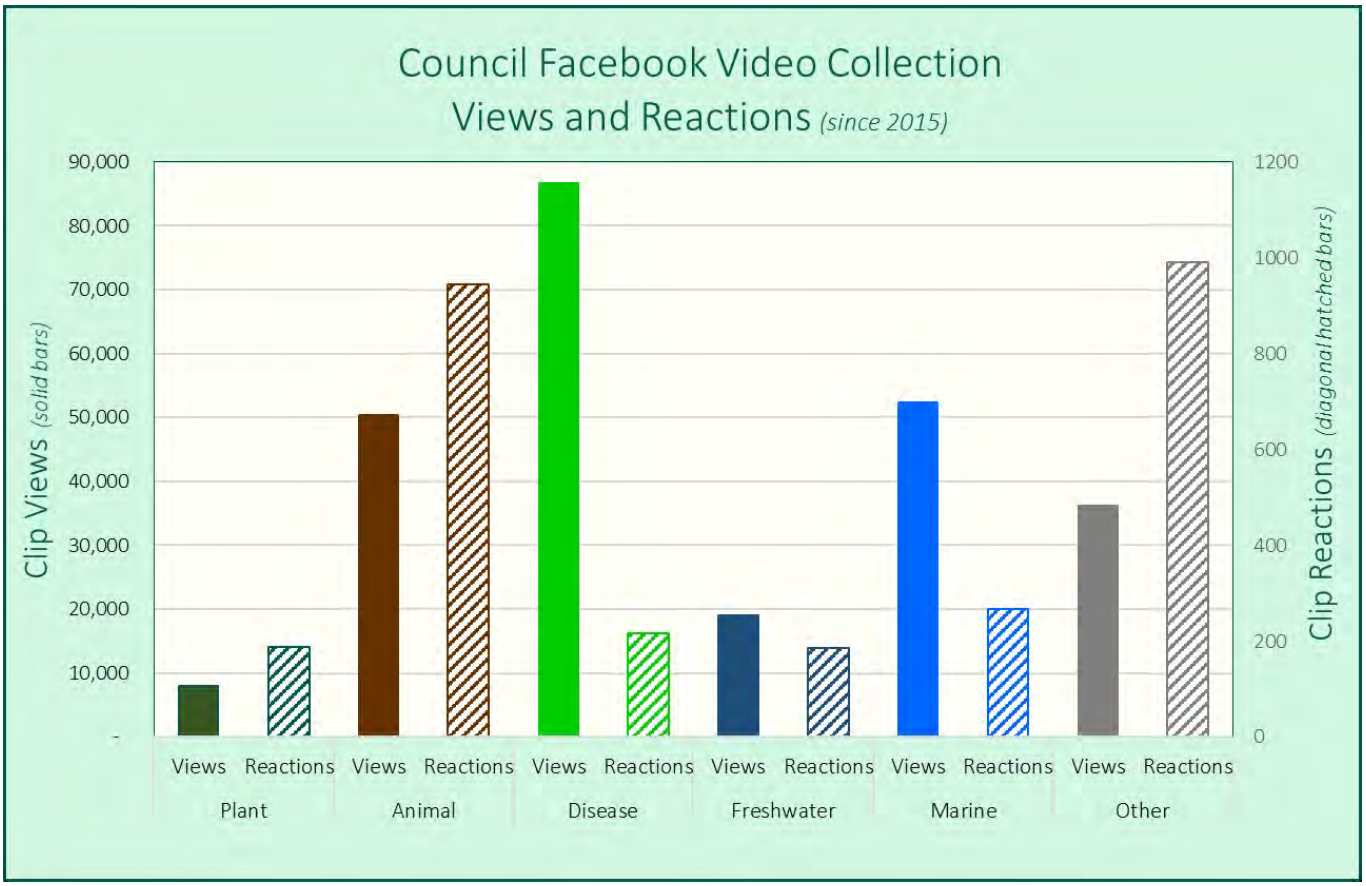
Council's Facebook Page most popular video clip

Keep Kauri Standing

Made in partnership with the Northland Rugby Union

[23] Clip view numbers >1,000 are rounded to the nearest hundred.
[24] Reactions = likes, comments, shares or other responses to a post.

The kauri dieback partnership with the Northland Rugby Union was by far the departments most successful Facebook campaign of the year garnering a total of 80,000 views with two videos. These two videos alone are responsible for 12.7% of the total Facebook page video views to date.



A2 Pest Control Hub

https://www.nrc.govt.nz/environment/weed-and-pest-control/pest-control-hub/

Developed in Northland, this user friendly portal provides the means for people to learn more about Northland's worst pests, how to control them, and the rules regarding their control. The Hub also provides a way for the public to report new pests and incidents, thereby increasing the regions ability both to detect new pests early and manage existing ones.

The layout of the portal allows easy searching on the basis of both pest type (eg. animal, plant etc) and classification under the Pest Plan. Included on the front page of the Hub is a *Pest of the Month* highlight bar which is used to raise the profile of selected pests on a seasonal basis.

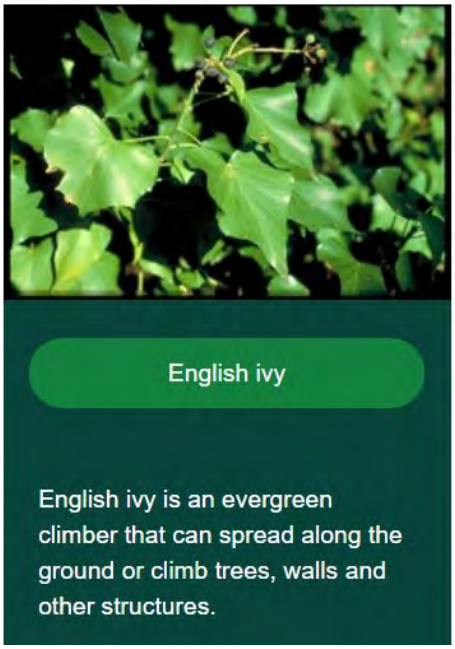
With 191 pest species included in the Hub, it is a comprehensive pest database that has usage tracking data available to allow analysis of site traffic including the number of page view, unique page views, and time spent on pages.

Pest Control Hub Section	Number pages in the Hub	Pest Control Hub Usage Data 2019-2020					
		Number of Pages Viewed	Total Page Views [25]	Total Unique [26] Page Views	Average Time on Page *(minutes)*	Total Time on Page *(Hours)*	Total Time on Page *(Days)*
Animal	34	33	2,708	2,473	3.3	218.2	9.1
Disease	3	2	201	185	2.5	12.4	0.5
Freshwater	24	20	1,523	1,392	3.3	98.1	4.1
Marine	17	15	1,275	1,129	3.9	92.9	3.9
Plant	113	100	9,624	8,799	3.4	706.3	29.4
Total	**191**	**170**	**15,331**	**13,978**	**3.4**	**1,127.9**	**47.0**

Most Popular Pest Hub Page 2019-2020

English Ivy

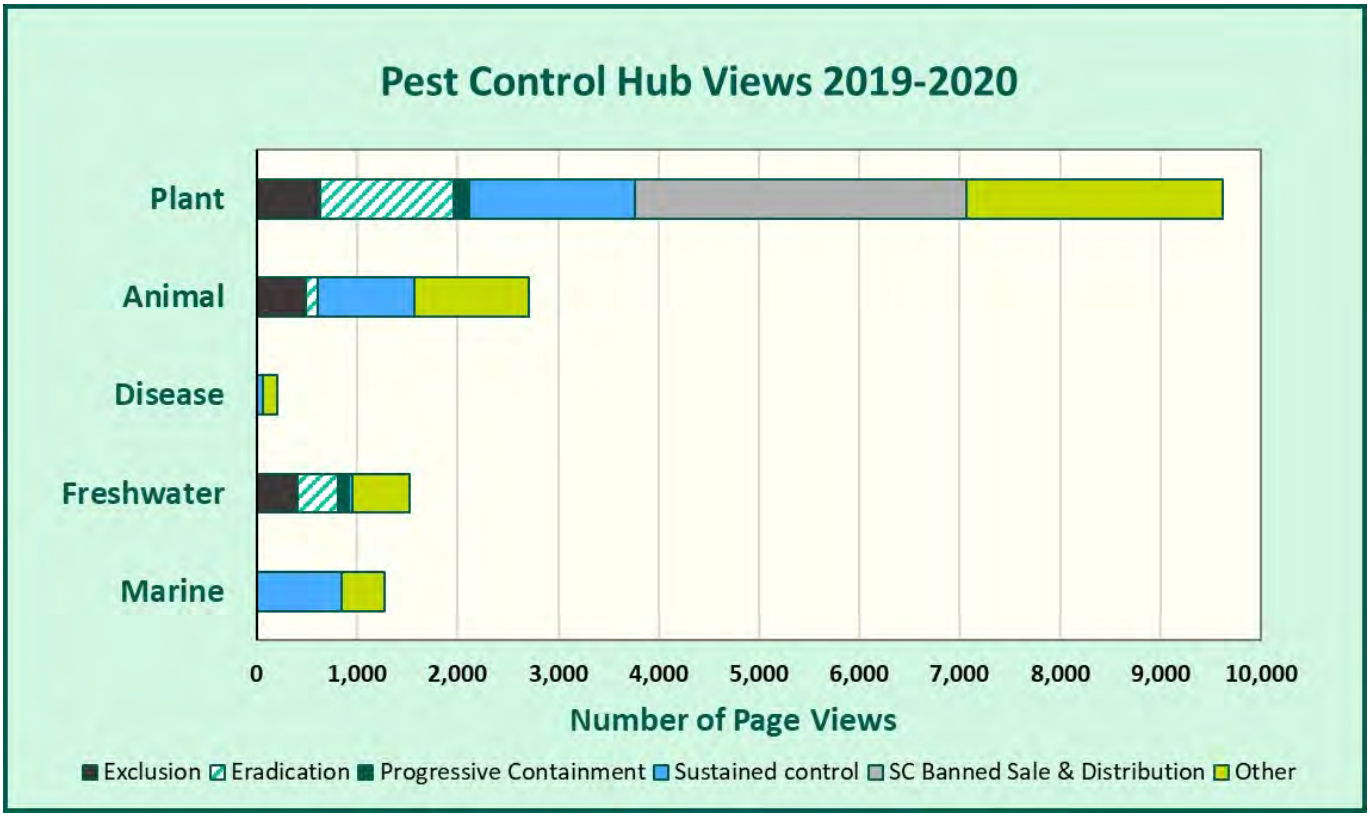
587 page views (537 unique)
Average time on page
= 3.5 minutes
Total time spent on page
= 60.2 hours (2.5 days)

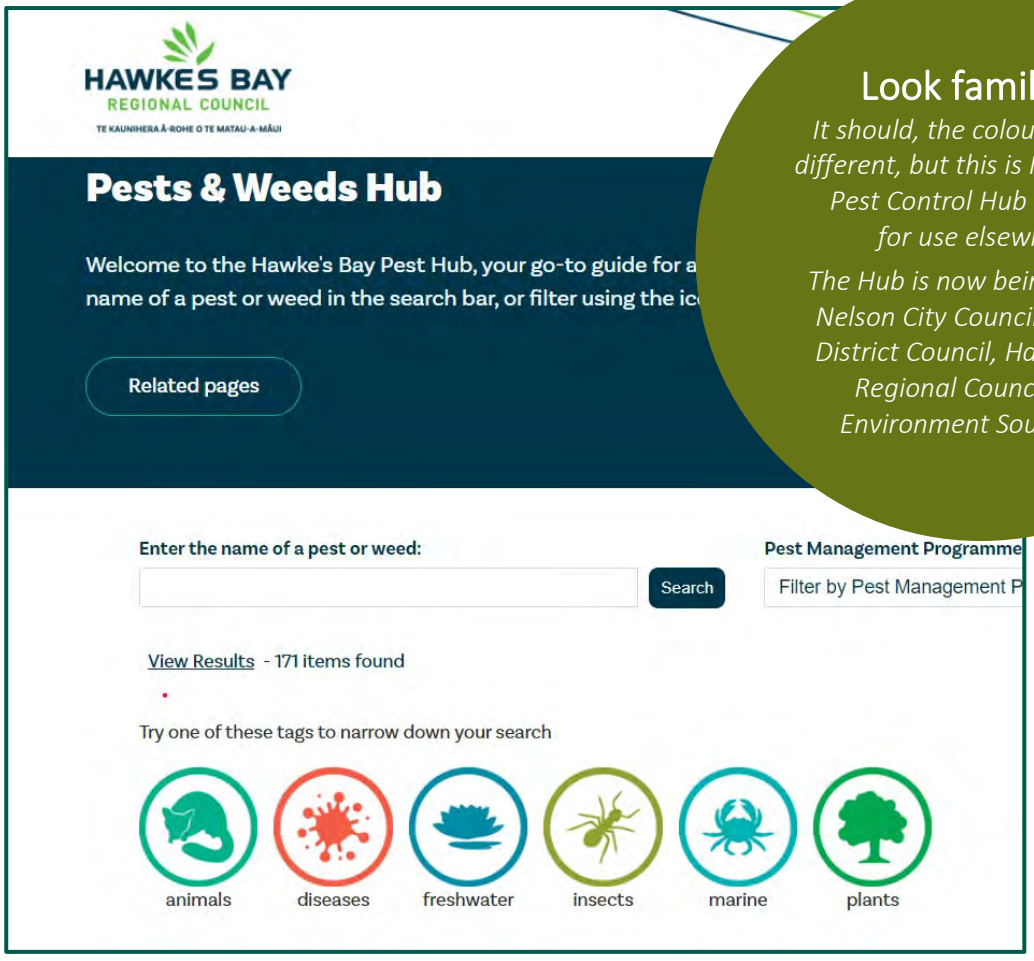


[25] Page views is the total number of pages viewed. Repeated views of a single page are counted.

[26] Unique page views are the number of sessions during which the specified page was viewed at least once.

With plants making up nearly 60% of the species in the Hub, this group of pests dominate Hub usage statistics.





Look familiar?

It should, the colours may be different, but this is Northland's Pest Control Hub adopted for use elsewhere.

The Hub is now being used by Nelson City Council, Tasman District Council, Hawkes Bay Regional Council, and Environment Southland.

A3 Council YouTube channel

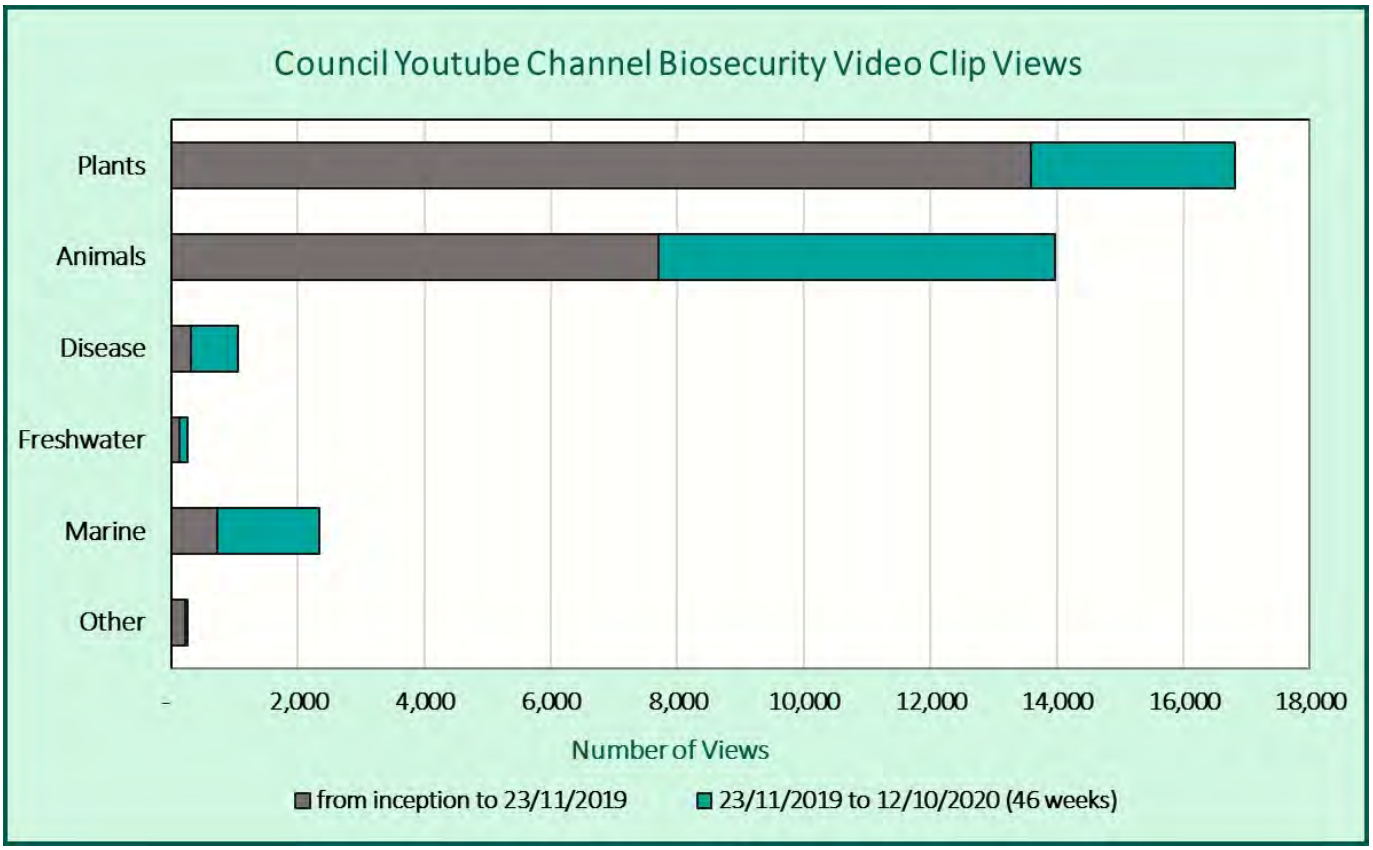
https://www.youtube.com/user/NorthlandRegCouncil/playlists

Council maintains a YouTube Channel of videos covering the range of services provided. The channel had 43 new video clips added to it during the 2019-2020 year (new total of 186 videos as at 30 June 2020). Biosecurity was a major component of 14 of the new videos to the channel in 2018-2019 as detailed below.

Month	Subject	Category
Jul-19	Pest control hub – report it	Disease
Aug-19	Northland rugby players visit Tāne Māhuta	Disease
Aug-19	Northland rugby players "Clean your boots"	Disease
Jan-19	Check Clean Dry - dry your gear	Freshwater
Feb-20	Innovating pest management	Animals
Feb-20	Commercial forestry protecting kiwi	Animals
Feb-20	Friends of Matakohe-Limestone Island	Animals
Feb-20	Fauna and flora flourish	Animals
Feb-20	Protecting our ngahere	Disease
Jun-20	Portland School - te kura o tikorangi	Awards
Jun-20	Patukeha and Ngāti kuta hapū	Awards
Jun-20	Bream Head Conservation trust	Awards
Jun-20	Patukeha and Ngāti kuta hapū	Awards
Jun-20	Ian Wilson and John Dawn	Awards

The YouTube Channel is not actively promoted by Council, but still attracts approximately 1,700 views per month. Detailed metric data is not available for the channel; however clip view data is available for November 2019 and October 2020 and is summarised below.

Category	Video Clips as at 12/10/2020	Page Views as at 23/11/2019	Page Views as at 12/10/2020	Views over period *(46 weeks)*
Animals	17	7,708	14,147	**6,269**
Plants	9	13,585	16,811	**3,226**
Disease	5	303	1,050	**747**
Freshwater	5	129	265	**136**
Marine	4	734	2,349	**1,615**
General	11	213	248	**35**
Total Biosecurity Video Views		**22,672** *(49%)*	**34,870** *(54%)*	**12,198**
Total Channel Views (all videos)		*46,152*	*65,081*	*18,929*

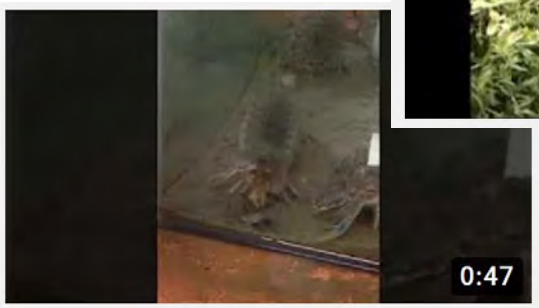


There were 51 Biosecurity related videos in the channel (27% of the 186 video clips) as at the end of 2018-2019. These videos are maintaining a strong presence in the YouTube channel drawing an increasing share of views (54% of total views by October 2020). Overall, pest plant video clips are the most popular followed by pest animals.

Council's YouTube Channel most popular Biosecurity videos over the last 46 weeks.

How to trap and kill rats
3,201 views

Weeds – Japanese honeysuckle
1,823 views



Japanese Mantis Shrimp (*Oratosquilla oratoria*)
1,583 views

A4 Council press releases

https://www.nrc.govt.nz/news/

Biosecurity was involved in nine of council's 64 press releases in 2019-2020.

Biosecurity related press releases are summarised in the table below.

Date	Subject	Category	Programme
Oct-19	Fanworm removed at Opua	Marine	Pathways
Nov-19	Emerging Leader Award – Kane McElrea	Other	
Dec-19	Boat hull surveillance	Marine	Pathways
Mar-20	Fanworm Mangonui	Marine	Pathways
May-20	Emerging Leader Award – Kane McElrea	Other	
May-20	Wilding conifer funding	Plant	Sustained control
Jun-20	Environmental awards	Other	
Jun-20	Wilding conifer career opportunities	Plant	Sustained control
Jun-20	Report feral deer	Animal	Eradication

National recognition

Biosecurity Partnerships & Strategy manager, Kane McElrea earned national recognition during the year winning two emerging leader awards.

- AsureQuality Emerging Leader Award
  from the New Zealand Biosecurity Awards recognising his work in forging sustainable community and iwi led biosecurity programmes, particularly to help protect Northland's kiwi.

- Brookfields Emerging Leader of the Year Award
  from the Society of Local Government Managers (SOLGM) recognising an emerging leader (under 35 years.) whose work has positively influenced community based biosecurity initiatives and has helped turn the tide on Northland's dwindling kiwi populations.

A5 Council stories

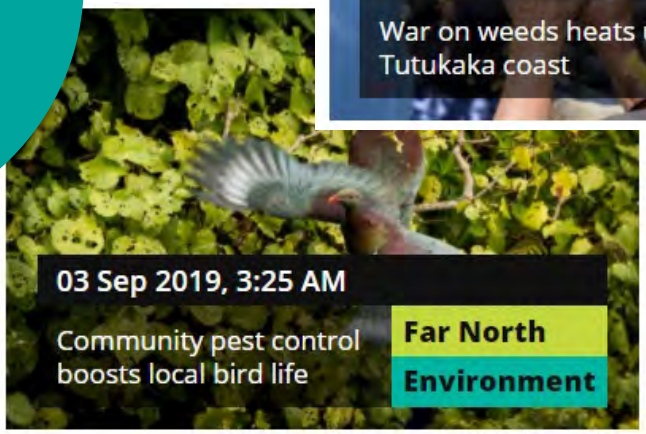
https://www.nrc.govt.nz/our-northland/stories/

The Stories page was a new addition the council's website in June 2018. A total of 20 stories were added in 2019-2020, of which Biosecurity was involved in eight.

Biosecurity related stories are summarised in the table below.

Date	Subject	Category	Programme
Sep-19	Community pest control boosts local bird life	Animals	Sustained control
Sep-19	Passions entwine at Hurupaki School	Plants	Eradication
Sep-19	Keep kauri standing – "Clean your boots"	Disease	Sustained control
Nov-19	Ring of steel tightens its grip	Animals	Sustained control
Nov-19	Millington Road pest busters	Animals	Sustained control
Nov-19	War on weeds heats up on Tutukaka Coast	Plants	Sustained control
Nov-19	Clawing back the land	Plants	Progressive containment
May-20	North recovery efforts, shovel ready, provincial growth work supported	Plants	Sustained control

Covering many aspects of pest control, the council's Stories page showcases many biosecurity activities across Northland.



A6 Events

The Biosecurity team was involved in a wide range of public events during the year as summarised below.

Event Type	Number of Events Attended 2019-2020				
	Pest Plants	Partnerships	Disease & Incursions (kauri dieback)	Freshwater	Marine
Field Days	1	1	1	1	
Agricultural and Pastoral Shows	4	4	1	1	
Kiwi Releases and Associated Activities		15			
Other Community Events	4	10	4	7	
Enviroschools Workshops		7			
School Visits and Workshops	2	9	13	3	2
Stakeholder Activities	14	9	11		6
Pest Workshops	5	27		5	4
Hygiene Workshop			1		
Pig Hunting Competitions			10		
Controlled substance licencing		7			
Boat Shows					1
Static Displays			1		
Prize sponsorship			1		
Total	**30**	**89**	**43**	**17**	**13**

Enviroschool Expo, November 2019

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