



Bay of Plenty Regional Pest Management Plan 2011-2016

Annual Report for 2017/2018

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NEW ZEALAND

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Executive summary

The Biosecurity Act 1993 requires Council to report annual progress on the Regional Pest Management Plan (RPMP) Operational Plan. This report covers the period from 1 July 2017 to 30 June 2018.

Work has continued to focus on detecting and controlling of low-incidence and contained pests rather than well-established pests. This has led to good progress against some new incursions and most exclusion/eradication RPMP species.

This report provides an overview of highlights and issues from the last year, as well as progress against each Agency, Exclusion/Eradication and Containment pest in the RPMP. The report also gives an overview of other activities Council has carried out to implement the RPMP.

In general, the RPMP is considered to be progressing well.

Of the pest programmes, 75% are considered to be “on-track” to meet their RPMP management objectives, this is a slight increase (1%) when compared to 2016/17. Of the remaining programmes, 21% are considered “at risk” of not meeting all management objectives and 4% (two pest programmes) are unlikely to achieve the objectives.

Catfish work in Lake Rotoiti has confirmed that their population has increased dramatically in both numbers and distribution, despite significant effort since the discovery of the incursion.

Good progress continues with eradication programmes targeting horse nettle, kudzu vine, Senegal tea and white-edge nightshade. In total 34% of the eradication sites currently being managed across the region are at zero density. Increases were found at 21% of sites and in most cases their increases were small. The remaining sites had a decrease or remained the same as the previous year.

Most containment pest programmes are also progressing well. Innovation has become a big part of managing these more established pests. Trials with infrared technology, mobile data capture applications, and new control technology, are seen as essential to help us be more effective and efficient.

Hornwort control in lakes Ōkātina and Ōkāreka is progressing satisfactorily, with only a single site found in Ōkātina and no hornwort detected in Ōkāreka.

Challenges remain with controlling woolly nightshade, wild ginger, and green goddess lily. While progress has been achieved at some sites, these pests are at risk of failing to meet their RPMP management objectives. This is primarily due to the fact that they are relatively widespread, difficult to control or contain, and/or control tools or resources have been limited.

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Part 1:

Introduction

Introduction

The Regional Pest Management Plan for the Bay of Plenty 2011–2016 (RPMP) became operative on 30 September 2011. As Council is the Management Agency for the RPMP, it is required by Section 100B (2)(a) of the Biosecurity Act, to report progress on its implementation annually.

Definitions and terminology

The terms and definitions of the RPMP also apply to this report. A glossary of definitions can be found on page 51 of the RPMP.

Current status of the Regional Pest Management Plan

At the time of writing this report, Council have just agreed to extend the current Regional Pest Management Plan (RPMP) until 30 September 2018.

Council had intended to release its next Regional Pest Management Plan (RPMP) by 30 September 2017, which was when the plan was due to expire. However, extra time was needed to ensure feedback received through consultation and utilisation of new National Policy Direction provisions could be fully considered. Extending the current RPMP, gives Council an ongoing mandate for pest management compliance and enforcement, whilst a new RPMP is developed.

Part 2:

Monitoring performance and reporting progress

Progress against Regional Pest Management Plan indicators and Long Term Plan Key Performance Indicators

Reporting on RPMP Indicators and Long Term Plan (LTP) Key Performance Indicators (KPIs) relies on the collection and analysis of surveillance and control data to measure reductions in pest distribution and/or density.


The Land Resources Database, the system Council had used for many years to store biosecurity data, was decommissioned and replaced with Accela in April 2017. As the system is in its infancy and there were some data migration issues from the old database, its reporting ability at the time of developing this report is limited.

Progress against Regional Pest Management Plan Indicators

Intermediate plan outcome	Indicators	2017/2018 results
No new pests are established in the region.	Number of emerging pest threats identified.	<ul style="list-style-type: none">Armoured catfish discovered in Pāpāmoa drainage system. Thought only to be a single fish.Japanese laurel discovered in Rotorua via new incursion surveillance.
	Number of new pests detected in the region.	<ul style="list-style-type: none">Perch find at Pāpāmoa first discovery on the region, four individuals. Ongoing surveillance has not detected any other fish.Salvinia discovered in Pāpāmoa drainage system. Ministry of Primary Industries (MPI) leading eradication programme.Asian paddle crabs, two detected by NIWA Port surveillance. Ongoing surveillance has not detected any more crabs.
	Number of new pests with management plans in place.	<ul style="list-style-type: none">One, perch.
Identified pest impacts are excluded, reduced or contained.	Number of new occurrences eradicated and monitoring plans in place.	<ul style="list-style-type: none">Data not available.
	Percent of eradication and containment pest species that have had their densities reduced.	<ul style="list-style-type: none">Data not available.

Intermediate plan outcome	Indicators	2017/2018 results
	Percent of eradication and containment pest species that have had their distributions reduced.	● Data not available.
Our regional communities are experienced and effective pest managers.	Number of sites where community work is underway to control pests.	● Data not available.
	Number of reports and requests for advice made by the community.	● 1,051 enquiries received and responded to.
	Percent of restricted pests that have had their spread reduced.	● Data not available.

Biosecurity Programme Long Term Plan Key Performance Indicators

Programme KPI	Status	Results
KPI 13 – The percentage of high-risk pests detected in the Bay of Plenty, that are already present elsewhere in New Zealand, that have management plans in place within three months, outlining how the pests will be contained and controlled.		● One, perch.

Part 3:

2017/2018 highlights and issues

Highlights

Operational priorities in 2017/2018 included surveillance, monitoring and control of new incursions, exclusion/eradication pests and advisory services. Effort on containment pests focused on those with limited distributions and effective control programmes due to budget constraints.

The table below summarises biosecurity operational results and activities and compares results from the last three years.

Operational Activity Summary	2015/2016	2016/2017	2017/2018
Number of new incursion pest sites being managed.	23	23	28
Number of new incursion pest sites reduced to zero-density.	1	2	2
Number of new incursion pest sites that remained at zero-density.	4	5	7
Number of new incursion pest sites that were re-classified as eradicated.	1	2	0
Number of exclusion/eradication pest sites being managed.	51	41	47
Number of exclusion/eradication pest sites reduced to zero density.	4	8	2
Number of exclusion/eradication pest sites that remained at zero-density.	5	8	14
Number of exclusion/eradication pest sites that were re-classified as eradicated.	4	5	0
Number of property inspections completed.	3,465	3,513	2,649
Number of pest plant infestations recorded.	3,544	2,865	2,254
Number of RPMP exemptions granted.	2	0	3
Number of Notices of Direction issued.	11	17	22
Number of public enquiries received.	1,352	1,007	1,051

New incursion management highlights

Marine biosecurity

Council formally adopted the Marine Biosecurity Management Plan for the Bay of Plenty in May 2014. Council, with support from MPI and the University of Waikato, carried out comprehensive surveillance across the Bay of Plenty, with Tauranga Harbour being the priority.



This year, a total of 1,152 dive hours over 75 days was spent searching for Mediterranean fanworm and *Styela clava*. Mediterranean fanworm was found and controlled at eighteen sites. Eight of these sites were on vessels and ten were on marina pontoons at both Bridge (6) and Sulphur Point (2) marinas. A summary of the sites where Mediterranean fanworm was discovered and controlled during the year is provided below:

Site	Number of infestations found
Bridge Marina - Vessels	7
Bridge Marina - Pontoon	6
Sulphur Point Marina - Vessel	1
Sulphur Point Marina - Pontoon	2
Other	2

Styela clava was found and controlled at thirty sites. Five of these sites were on vessels within Bridge Marina and one vessel in Sulphur Point Marina. The rest were found on pontoon/hard structure. A summary of the sites where *Styela clava* was discovered and controlled during the year is provided below:

Site	Number of infestations found
Bridge Marina - Vessels	5
Bridge Marina - Pontoon	23
Sulphur Point Marina - Vessel	1
Sulphur Point Marina - Pontoon	0
Other	1

The Bay of Plenty Regional Council (BOPRC) dive team are considered experts in the field of marine biosecurity and their services are utilised by other Councils. Work was undertaken on behalf of Waikato Regional Council (WRC), Auckland Council and Gisborne District Council at various sites around the North Island. This work generated income for BOPRC.

In early 2018, while undertaking surveillance around the Port of Tauranga, NIWA scientists caught two large Asian paddle crabs near the Matapihi Bridge. Following this find, comprehensive surveillance was undertaken to determine if the population was established. During this work no additional crabs were detected. Surveillance will continue in the coming years.

Perch and armoured catfish

In early 2018, four large adult perch were caught during routine pest fish surveillance by Tauranga City Council Contractors in the Pāpāmoa stormwater system. This discovery was deeply concerning; it was the first instance of perch, an Exclusion/Eradication pest, being caught in the region. It is thought that the fish are most likely an intentional release.

Following the discovery, a collaborative programme with Tauranga City Council has begun netting the system to determine if the population has established. At this stage, after two comprehensive surveys, no other perch have been detected. There is no evidence that a breeding population has established at this stage but more work is needed to confirm this.

During the surveys, another very interesting, but concerning, discovery was made. The discovery of a 28 cm adult male Amazon armoured catfish on Anzac Day at the eastern most end of the stormwater system was of huge concern, when Te Papa scientists identified the euthanised catfish as being able to survive and possibly breed successfully in water temperatures as low as 8.8°C. Armoured catfish

are one of a number of species of aquarium suckermouth fish, used to keep aquarium glass free from algae. It is likely the male was dumped in the waterway by a local aquarium fish enthusiast. It is likely that dumping of unwanted aquarium species in local waterways will occur again in the future. Educational signage will be installed to encourage aquarium enthusiasts to return unwanted fish to pet shops, instead of releasing them to the nearest waterway. Tauranga City Council (TCC) will continue to carry out quarterly pest fish surveillance of the stormwater systems.



Regional Surveillance Plan - Surveillance for new to region pests.

A pilot survey, focused on designing a robust method for detecting New to Region pest plants, was undertaken in Rotorua in January and February. Two pre-identified high risk sites (a garden centre and a holiday park) were surveyed, including the adjacent reserve areas and riverbanks. Some naturalised Japanese laurel plants, found adjacent to the garden centre, may be a potential new to region pest plant. Further surveillance of identified high risk sites will now be carried out across the region this summer. High risk site examples are: greenwaste depots; camping sites; gully systems and freedom camping sites.

Exclusion and eradication pest management highlights

Senegal tea

Senegal tea is a perennial aquatic herb that occupies marginal and shallow freshwater habitat. It forms dense mats that can cause flooding, interfere with water movement and exclude other vegetation. Rotting vegetation that becomes trapped can lead to water quality issues.

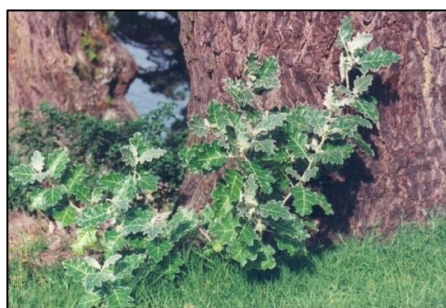
There are four sites in the region. Of these sites, only one was found with plants and only two plants were found and controlled. This species continues to progress towards eradication status for the region.



White edged nightshade

White edged nightshade was introduced to New Zealand in 1880's as an ornamental plant. It forms dense thickets in pasture which can exclude people and stock. It produces a toxin that can cause illness in people should they eat the fruit.

For the fourth year in a row, no white edged nightshade plants have been detected in the two known sites for the region. Due to its long seed life, this plant will need to be monitored for several more years before it can be classified as eradicated.



Alligator weed

There are currently six active alligator weed sites in the Western Bay area. The active sites were surveyed monthly during the 2017/2018 year.



Four of the active sites also had no alligator weed found. There was a slight increase, by three plants, at both sites where Alligator weed was found. All plants found were either removed or controlled with herbicide. The low incidence and numbers of plants found over the last four seasons indicates eradication is achievable for these sites, provided they continue to be intensively managed. The table below summarises plants found since 2013.

Site number and location	No. of sites	2014/2015	2015/2016	2016/2017	2017/2018
Alligator weed – Western Bay of Plenty	6	23	50	15	13

Significant progress was made at eight of the Alligator weed sites in the Eastern Bay. The largest land-based site at Matahina had a significant reduction in the number of plants found and controlled. Weather conditions meant it was a very good growing season for Alligator weed in the Eastern Bay. There were reductions in the numbers found at three sites, numbers remained similar at five other sites and there was a slight increase at three sites. The increase in numbers can largely be attributed to flooding events.

Containment pest management highlights

Hornwort eradication at Lakes Ōkātina and Ōkareka

In Lake Ōkātina, hornwort was only found along the main beach area, this is the same site as last year and this programme continues to progress well. These plants were controlled in May 2018 as part of the annual spray programme led by Land Information New Zealand. During the two rounds of surveillance in Lake Ōkareka, no hornwort was detected. While this result is positive, poor water visibility and prolific lagarosiphon weed beds made it difficult to detect hornwort. Further spraying of lagarosiphon was carried out to enable better surveillance next year.

Wallabies

Wallabies are managed in partnership with Department of Conservation (DOC), WRC and BOPRC.

While the long-term management of wallabies in the region is challenging, once again some good progress has been made in 2017/2018.

A series of ArcGIS applications have been developed to support the wallaby programme. Members of the public can now enter wallaby sightings directly into a GIS database (via the URL www.stoppests.co.nz). The data can be accessed by staff from the two Councils and DOC, enabling them to rapidly task contractors to respond to wallaby sightings from new areas. The contractors can see landowner contact details, access conditions and property boundaries on their smart phones and they can enter the locations of surveillance cameras, photos of wallaby sign, and survey reports in the field. The accumulated data is also beginning to highlight the areas where control efforts are best focused, to halt the spread of wallabies across the two regions.



Landowners around Rocky Cutting and Reid Roads (Welcome Bay) are being requested to report any wallabies (dead or alive) or wallaby sign, to help confirm the eradication of this population is complete. A control operation to eliminate the last one or two wallabies at Kaharoa is underway and operations are also being planned to eradicate outlying populations at Matahina Forest (in the east) and two properties in the south west of the distribution.

Biological control of weeds

Biological control of weeds involves releasing a host-specific agent (usually an insect, mite or fungi) from a weed's natural range to help control it in areas where the plant is a problem. Biocontrol offers a cost-effective, environmentally friendly, and permanent solution to weed control. Carefully selected biocontrol agents target only weeds. They don't harm desirable plants, and don't pollute the environment. Once established, they travel wherever the weed spreads and can return again and again to kill off new weed growth - all without human input.

A region-wide biocontrol strategy has been developed to ensure that available biocontrol agents are released and established in parts of the region where host weeds are a problem. Biocontrol agents for broom, Chinese privet and tradescantia (world's first release for this agent) have been released across the region this year. As part of the nationwide Biocontrol collective, we have also helped fund research into new agents for problematic weeds in the Bay of Plenty region, such as largarosiphon, moth plant, old man's beard, pampas, wild ginger and woolly nightshade. The aim of this research is release agents for these weeds in future.

Challenges

New incursion pest management challenges

Spiny emex

Spiny emex is a low lying annual herb that spreads from a dense rosette and has a thick tap root. It has hard spiny fruit that can injure humans and animals and cause lameness. It also contains oxalate levels which can poison sheep.

Currently there are ten spiny emex sites being managed under the new incursion programme, these sites are all located in the Western Bay of Plenty, primarily around Maketū. Of the ten sites being managed, four were discovered in 2017/18 including an outlier site on Matakana Island. An increased number of plants was found and controlled at five of the sites. Three of the increases were small but large increases were found at two sites.

This is similar to the trend seen in 2016/17. The current management approach will be reviewed and further work will be done with the landowners to ensure farm practices are not exacerbating the problem.

Exclusion/eradication pest management challenges

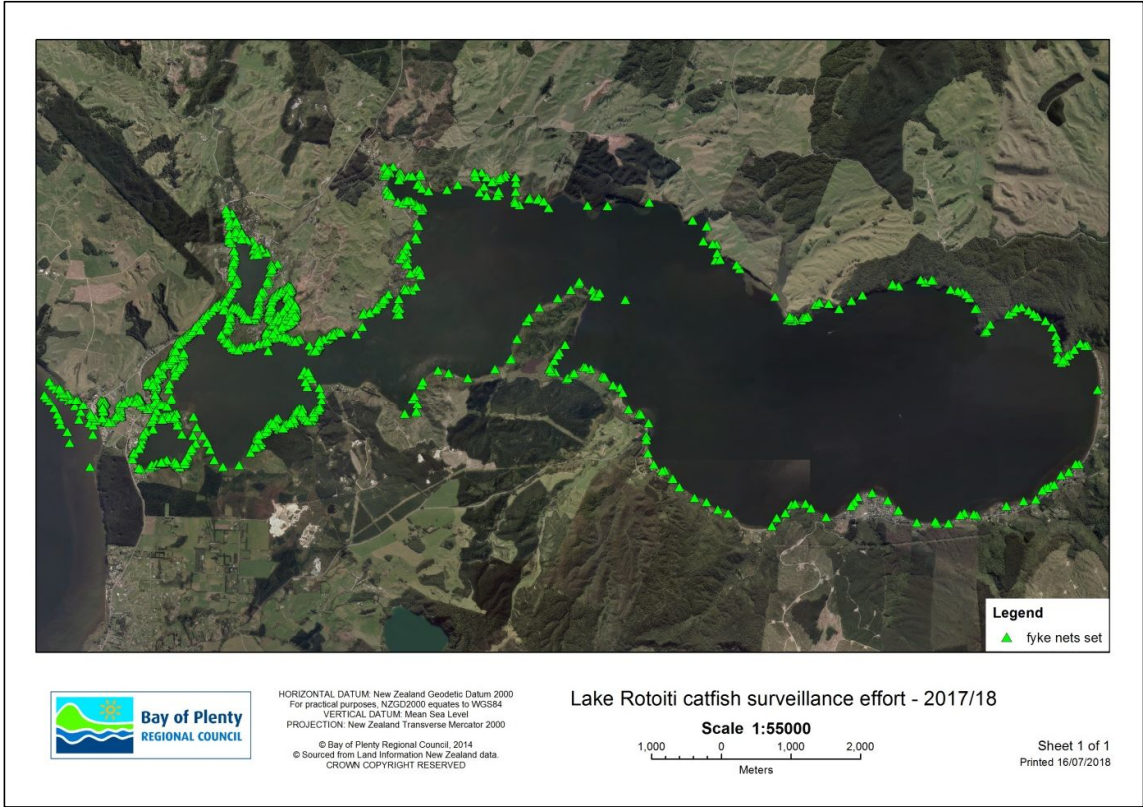
Brown bullhead catfish

Work continued with controlling brown bullhead catfish that were discovered in Lake Rotoiti in 2016. The table below summarises the control work undertaken in Lake Rotoiti in 2017/2018. Surveillance was also undertaken in Lake Rotoehu, Lake Ōkātina and Lake Rotorua during the year with no catfish found.

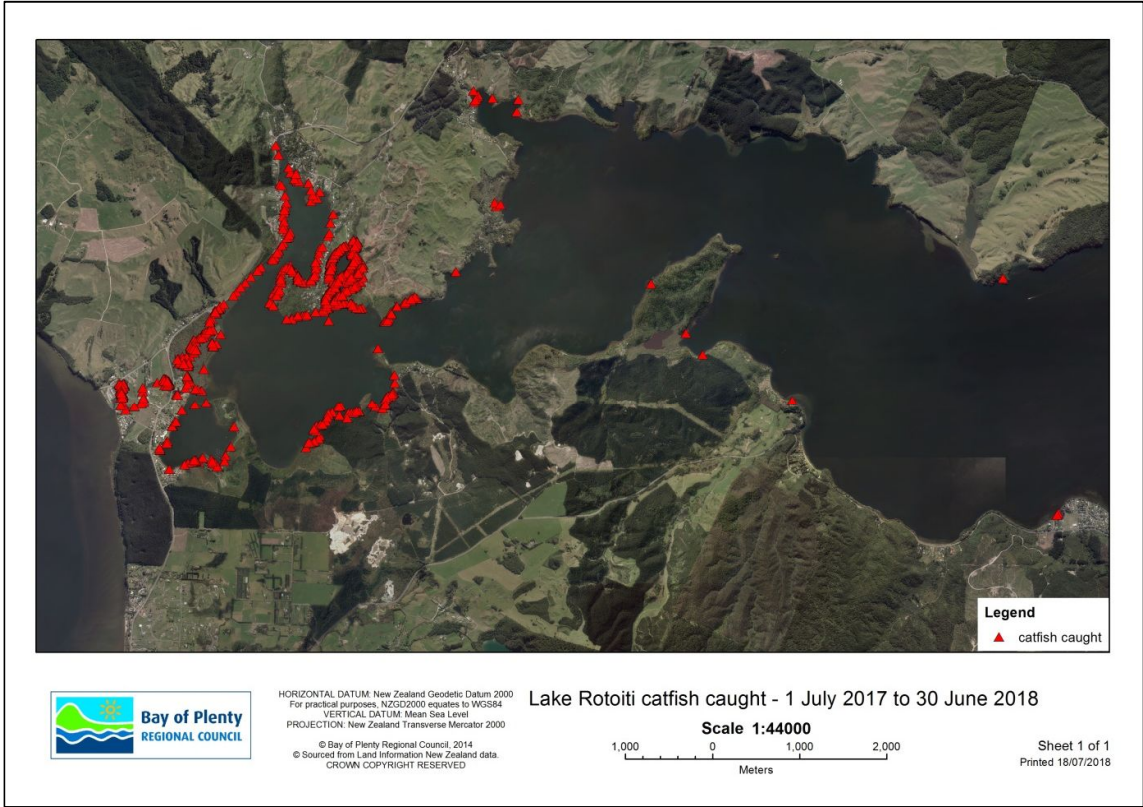
Site	Control nights	Nets set	Catfish caught
Lake Rotoiti	77	2,697	34,112
Lake Rotoehu	5	200	0
Lake Ōkātina	3	120	0
Lake Rotorua	3+	127	0

In total 34,112 catfish were caught using fyke nets. This is a significant increase compared to previous years, both numbers and distribution increased significantly in 2018. The numbers include a single site where approximately 7,000 catfish were caught, including over 4,000 juveniles in one net.

The map below shows all sites where fyke nets were set in 2017/2018.



The map below shows the net sites where catfish were caught.



While the majority of the population remains within Te Weta Bay, numbers have increased significantly at other sites, particularly Okere Inlet. Most alarming was the discovery of catfish in the Ōhau Channel, including at Marama Point which is very close to the weir which joins the Ōhau Channel to Lake Rotorua. Significant effort was placed in the Ōhau Channel after this discovery, 836 nets were set and a total of 1,540 catfish were caught.

The majority of the fish being caught are less than 100 mm in length, at this size they are still considered immature and unable to breed.

During the year, 100 catfish were sent to the University of Waikato to have their stomach contents analysed. The results will form part of a stable isotope analysis which uses carbon and nitrogen contents and ratios to determine what catfish are feeding on. This information will help determine the impact they could have on the lake.

Planning began for the acoustic tag trial during the year. In the trial, 30 fish will be fitted with acoustic tags which send data to receivers placed around the lake. This trial will measure the effectiveness of the cordon and also what parts of the lake, catfish utilise at different times of year. This could help target control work more effectively. The research programme is being supported by NIWA and the University of Waikato.

Containment pest management challenges

Woolly nightshade

The 2017/2018 programme focused on compliance work primarily in Western Bay of Plenty. Notices of Direction have been issued for significant infestations where the landowners have not undertaken adequate control work.

A biocontrol agent for this pest, the woolly nightshade lace bug (photo right), continues to spread around the region. The population is now well established and beginning to cause significant damage, including complete defoliation, at shaded sites.



Lodgepole pine

With the recent release of the New Zealand Wilding Conifer Management Strategy, wilding conifers continue to gain plenty of national attention.

Good progress continues in the collaborative programme on Mount Tarawera. Council is also working with landowners that have significant infestations in the east Taupō area. The infestations cover multiple land tenure including Crown, private and Māori land. This is going to require long-term commitment and a coordinated approach to reduce infestations.






The national programme is putting a bid to Treasury in 2019 asking for a significant increase in investment to deal with wilding pines across the country. Council has contributed data toward the bid. If successful, there is a good possibility that some of the money may be invested in our region which will allow large highly infested areas to be targeted for control.

Part 4:


Operational progress and current pest status

This section provides an overview of activities completed for each pest programme. It also provides a current status for each programme relating to progress against management objectives. Status ratings are provided in the table below.


Status	Description
	Pest programme is considered on-track to meet RPMP pest classification management objectives.
	Pest programme is considered at risk of not meeting RPMP pest classification management objectives or will not meet some of the management objectives.
	Pest programme will not meet RPMP pest classification management objectives.

New pest incursion surveillance and control

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> High risk areas were inspected. Operational work developed under the regional surveillance plan for high risk site developed. Field testing of methodology to detect new incursions trialled, first new incursion detected.
Rough horsetail	Results
Surveillance and monitoring	<ul style="list-style-type: none"> Five active sites in the region, two in the Western Bay of Plenty and four in Ōpōtiki. Surveillance undertaken at all sites.
Control pest	<ul style="list-style-type: none"> Site Management Plans in place for all sites. No plants found at Western Bay of Plenty sites. One site reduced to zero density.
Delta arrowhead	Results
Surveillance and monitoring	<ul style="list-style-type: none"> Five known sites monitored. Three sites remained at zero density. One site reduced to zero density.
Control pest	<ul style="list-style-type: none"> Site Management Plans in place for all sites. Only one plant found at one site.

Creeping gloxinia		Results
Surveillance and monitoring		<ul style="list-style-type: none"> Four sites monitored. 17 inspections completed.
Control pest		<ul style="list-style-type: none"> Site Management Plans in place for all sites. Two sites remain at zero density. Good reduction in number of plants found at other two sites.
Spiny emex		Results
Surveillance and monitoring		<ul style="list-style-type: none"> Ten sites monitored around the region. Four new sites discovered in 2017/18 including one on Matakana Island. 44 inspections completed. One site reduced to zero density, no plants found.
Control pest		<ul style="list-style-type: none"> Site Management Plans in place for all sites. Increase in numbers found and controlled at five of six sites. Site Management plans will be reviewed.
2017/2018 expenditure		\$7,395
Programme status		

Marine pests

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> 3946 boat hulls inspected. 41.2 km of marina pontoons inspected. 250 mooring blocks inspected. 840 marine/wharf piles inspected. 5.5 km of hard structure inspected (rock wall). Mediterranean fanworm was detected at eighteen sites (eight vessels, ten structures). Styela clava detected at 30 sites (6 vessels, 24 structures). Notice of Direction served on Bobby's fish market for repeatedly having <i>Styela clava</i> present in live mussels for sale.
Control pest	<ul style="list-style-type: none"> All pests were controlled. Small scale management programmes for Mediterranean fanworm and clubbed tunicate implemented.
2017/2018 expenditure	\$147,964
Programme status	

Agency pests and national programmes


Definition:

- Pests of national significance that are managed or subject to programmes co-ordinated by the Crown.


Management objective:

- Support national pest management initiatives led by the Crown.

Agency pests

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> • New salvinia site detected at Pāpāmoa, being managed by MPI. • Cape tulip surveillance undertaken. No plants found for the second year. • Didymo sampling completed at high risk sites. • Didymo advocacy carried out as part of Aquatic Pest Awareness Programme. • Contribution made to National Kauri Die-back Programme.
Control pest	<ul style="list-style-type: none"> • First round of salvinia control undertaken with good results.
2017/2018 expenditure	\$30,527
Programme status	

National pest plant accord

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> • 109 nurseries and “points of sale” inspected. • Nine instances of plants banned from sale detected. • Slight increase (2) in number of banned plants detected compared to last year.
Control pest	<ul style="list-style-type: none"> • All detected pests were voluntarily destroyed. • MPI notified, and all non-compliance entered into MPI database.
2017/2018 expenditure	\$9,258
Programme status	

Exclusion and eradication pests


Definition:

- Pests we want to prevent from entering the region, or eradicate from the region.


Management objective:

- Immediate control leading to the eradication of new occurrences.
- Control pest plants to zero density.
- Eradication of currently known populations of pest animals.


Alligator weed

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> • Six active sites monitored in Western Bay of Plenty. • 11 active sites monitored in Eastern Bay of Plenty. • 89 inspections for alligator weed completed. • Reduction in numbers at four sites across the region. • One site went to zero density and two sites remained at zero density. • Similar numbers at five sites. • Increase in numbers at five sites, largely due to flood events.
Control pest	<ul style="list-style-type: none"> • Challenges with use of herbicide for alligator weed control in kiwifruit orchards. • Site Management Plans in place for all sites. • All known sites controlled.
2017/2018 expenditure	\$49,045
Programme status	


Horse nettle

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> • Three sites monitored. • Reduction in numbers one sites. • One site remained to zero density. • One site had small (3) increase. • 12 inspections for horse nettle completed.
Control pest	<ul style="list-style-type: none"> • Site Management Plans in place for all sites. • All plants were controlled.
2017/2018 expenditure	\$7,039
Programme status	


Kudzu vine

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> Two sites monitored for kudzu vine. No plants found for second year, both sites remain at zero density. 11 inspections for kudzu vine completed.
Control pest	<ul style="list-style-type: none"> Site Management Plans in place for all sites.
2017/2018 expenditure	\$937
Programme status	


Marshwort

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> No known populations in region.
Control pest	<ul style="list-style-type: none"> No control work.
2017/2018 expenditure	\$0
Programme status	


Nassella tussock

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> One known site, one plants detected and controlled.
Control pest	<ul style="list-style-type: none"> One plant controlled.
2017/2018 expenditure	\$527
Programme status	


Noogoora bur

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> 13 sites monitored for Noogoora bur, one new site. 75 inspections completed. One site reduced to zero density in 2017/2018. Reductions in plant numbers at three other sites. Five sites remained at zero density. Small increase (1 and 9) at two other sites. One site had the same number of plants. Large increase at one site (130).
Control pest	<ul style="list-style-type: none"> All sites controlled. Site management plans in place for all sites.
2017/2018 expenditure	\$18,781
Programme status	


Wild purple loosestrife

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> Six inspections undertaken at one active site. The same number of plants was found compared to previous years.
Control pest	<ul style="list-style-type: none"> Control undertaken at active site. Site Management plan in place.
2017/2018 expenditure	\$178
Programme status	


Senegal tea

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> Four sites monitored for Senegal tea. Three sites remain at zero-density. Small increase (1) at other site. 22 inspections completed.
Control pest	<ul style="list-style-type: none"> All plants were controlled. Site Management plan in place.
2017/2018 expenditure	\$1,436
Programme status	


Spartina

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> No surveillance undertaken during the year.
Control pest	<ul style="list-style-type: none"> First round of control completed at Maketū with good results. Control will continue in coming years. Department of Conservation contributed to control at Maketū.
2017/2018 expenditure	\$16,498
Programme status	


Water poppy

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> No known populations in region.
Control pest	<ul style="list-style-type: none"> No control work.
2017/2018 expenditure	\$0
Programme status	


White edged nightshade

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> Two sites monitored for white edged nightshade. Four inspections completed. Both sites remained at zero density for a fourth year.
Control pest	<ul style="list-style-type: none"> No control work.
2017/2018 expenditure	\$763
Programme status	


Brown bullhead catfish

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> Surveillance undertaken on Lake Rotoehu, Ōkātina and Rotorua. Science programme developed and being implemented.
Control pest	<ul style="list-style-type: none"> 34,112 catfish controlled in Lake Rotoiti in 2017/2018. 26,054 from within Te Weta Bay. Significant numbers caught in Ōhau Channel. Significant increase in numbers and distribution Advocacy completed as part of Summer Aquatic Awareness Programme.
2017/2018 expenditure	\$224,852
Programme status	


Koi carp

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> Surveillance undertaken in response to sightings.
Control pest	<ul style="list-style-type: none"> Two fish controlled by DOC in Katikati. Advocacy completed as part of Summer Aquatic Awareness Programme.
2017/2018 expenditure	\$981
Programme status	

Perch

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> Surveillance undertaken in response to sightings. First record of perch confirmed in Pāpāmoa stormwater system. Work completed by TCC Contractors. Additional surveillance detected no other perch.
Control pest	<ul style="list-style-type: none"> Four adult perch controlled. Advocacy completed as part of Summer Aquatic Awareness Programme.
2017/2018 expenditure	\$7,327
Programme status	

Rooks

Action	Results
Surveillance and monitoring	<ul style="list-style-type: none"> No rooks seen in east Taupō region last year. Small number of birds identified near Waimana Valley and Ōpōtiki. Considered to be the same group of birds.
Control pest	<ul style="list-style-type: none"> No opportunity for control programmes due to bird movements.
2017/2018 expenditure	\$5,079
Programme status	

Containment pests

Definition:


- Pests we want to minimise the effects of and prevent their further spread.

Management objective:


- Reduction in spread and density of known populations.

Budget constraints meant available funding was insufficient to fully and effectively implement the full range of management actions required to achieve the RPMP objectives for containment pests. Effort was prioritised to pests based on their current distribution and effectiveness of current control programmes.


African feather grass

Action	Results
Programme summary	<ul style="list-style-type: none"> Isolated infestations currently dispersed around the Bay of Plenty region, particularly Rotorua. All plants have been controlled. Good progress being made with general reduction in plant numbers.
2017/2018 expenditure	\$12,631
Programme status	


Apple of Sodom

Action	Results
Programme summary	<ul style="list-style-type: none"> Very limited population currently confined primarily to the Western Bay of Plenty with a small isolated population around East Cape. All plants found have been controlled.
2017/2018 expenditure	\$3,350
Programme status	


Asiatic knotweed

Action	Results
Programme summary	<ul style="list-style-type: none"> Geographically dispersed populations around the region with the majority found in the Rotorua District. Considered a priority due to its potential impact. All plants found have been controlled.
2017/2018 expenditure	\$11,705
Programme status	


Blackberry

Action	Results
Programme summary	<ul style="list-style-type: none"> Boundary complaint species. No proactive surveillance. 11 boundary complaints received.
2017/2018 expenditure	\$1,571
Programme status	


Boneseed

Action	Results
Programme summary	<ul style="list-style-type: none"> Limited to coastal Bay of Plenty. Control work completed via abseiling along Ōhope bluffs. Control completed along dune systems in Western Bay of Plenty.
2017/2018 expenditure	\$14,566
Programme status	


Chilean rhubarb

Action	Results
Programme summary	<ul style="list-style-type: none"> No targeted surveillance carried out. Advisory services only. Pest distribution through Bay of Plenty is not well understood.
2017/2018 expenditure	\$773
Programme status	


Climbing spindle berry

Action	Results
Programme summary	<ul style="list-style-type: none"> • Good progress being made some at sites around Rotorua District, particularly Lake Rotomā. • Sites at Mourea and Lake Tarawera have been contained under Property Pest Control Plans. • Good engagement by landowners at Tarawera for community control. • Still widely distributed around Rotorua District.
2017/2018 expenditure	\$37,467
Programme status	


Coast tea tree

Action	Results
Programme summary	<ul style="list-style-type: none"> • Coast tea tree contained on Matakana Island. • Good progress made with landowners and community to increase effort in coming years. • Plan being developed with Matakana Island community. • Monitoring undertaken during the year to check on control effectiveness and progress.
2017/2018 expenditure	\$15,295
Programme status	


Darwin's barberry

Action	Results
Programme summary	<ul style="list-style-type: none"> • Surveillance undertaken In Whakarewarewa Forest and Rainbow Mountain. • Engagement with WRC on boundary issues. • Control carried out in Whakarewarewa Forest by forest manager. • Pest contained and at low density.
2017/2018 expenditure	\$4,335
Programme status	


Egeria densa, hornwort, lagarosiphon

Action	Results
Programme summary	<ul style="list-style-type: none"> Lakes Rotomā, Tikitapu, Rerewhakaaitu, Rotokakahi inspected for hornwort, no detections. Lakes Ōkātina, Rotomā, Tikitapu, Rotokakahi inspected for Egeria densa, no detections. Monitoring of hornwort control carried out in Lake Ōkāreka in 2017/2018 revealed no plants. Monitoring of control work at Lake Ōkātina detected hornwort at only one site. Monitoring to support Land Information New Zealand (LINZ) Spray Programme completed. Development of Lake Management plans underway in collaboration with LINZ. All complaints responded to. Hornwort controlled at Lake Ōkātina. Eight weed cordons maintained. Advocacy and awareness programme.
2017/2018 expenditure	\$83,712
Programme status	


Gorse

Action	Results
Programme summary	<ul style="list-style-type: none"> Boundary complaint species. No proactive surveillance. 9 boundary complaints received.
2017/2018 expenditure	\$3,792
Programme status	


Green goddess lily

Action	Results
Programme summary	<ul style="list-style-type: none"> No targeted surveillance. Advisory services only. Pest is widespread through Bay of Plenty – RPMP management objective will not be achieved.
2017/2018 expenditure	\$747
Programme status	


Italian buckthorn

Action	Results
Programme summary	<ul style="list-style-type: none"> Species confined to Western Bay of Plenty. Good progress made reducing distribution and density within Tauranga city.
2017/2018 expenditure	\$27,333
Programme status	


Lantana

Action	Results
Programme summary	<ul style="list-style-type: none"> Little proactive surveillance due to budget constraints. Reduction in plants at Rotorua. Distribution in the region, outside Rotorua, appears to be increasing.
2017/2018 expenditure	\$12,869
Programme status	


Lodgepole pine

Action	Results
Programme summary	<ul style="list-style-type: none"> Surveillance work undertaken by DOC, Kāingaroa Timberlands, Lochinver and Landcorp Rangitāiki Stations and on Māori land. Good progress with Lodgepole shelterbelt removal in east Taupō area. Increased investment by DOC to deal to issues on public land. Control work supported through Biodiversity Programme on Mount Tarawera. Engagement with neighbouring Councils and DOC to develop coordinated control programme.
2017/2018 expenditure	\$19,625
Programme status	


Old man's beard

Action	Results
Programme summary	<ul style="list-style-type: none"> Significant issue around Lake Tarawera. Development of management plan for Lake Tarawera underway on collaboration with DOC. More intensive monitoring in coming years to ensure landowners control recent discoveries.
2017/2018 expenditure	\$20,670
Programme status	


Ragwort

Action	Results
Programme summary	<ul style="list-style-type: none"> Boundary complaint species. No proactive surveillance or monitoring. No complaints received.
2017/2018 expenditure	\$166
Programme status	


Royal fern

Action	Results
Programme summary	<ul style="list-style-type: none"> Control work completed through Biodiversity Programme in Eastern Bay of Plenty. Spread by windblown spores, re-invasion very difficult to prevent.
2017/2018 expenditure	\$0
Programme status	


Variegated thistle

Action	Results
Programme summary	<ul style="list-style-type: none"> Limited distribution in region. No plants found in Rotorua District, small numbers detected in Eastern Bay of Plenty. All plants detected were controlled.
2017/2018 expenditure	\$1,982
Programme status	


Wild ginger

Action	Results
Programme summary	<ul style="list-style-type: none"> • Good progress around the Rotorua District. • Collaborative programme being developed around Waihi Beach. • Plan for long-term management of ginger east of Ōpōtiki completed and work began. • Pest relatively widespread. Current focus remains containment east of Ōpōtiki.
2017/2018 expenditure	\$54,586
Programme status	


Wild kiwifruit

Action	Results
Programme summary	<ul style="list-style-type: none"> • Significant investment continues in the programme. • Kiwifruit Vine Health now managing the control component of the programme. • Control focus was around Te Puke. • Seed source from orchards still an ongoing concern. • Still numerous large sites requiring control.
2017/2018 expenditure	\$140,537
Programme status	


Woolly nightshade

Action	Results
Programme summary	<ul style="list-style-type: none"> • 61 complaints responded to. • Significant compliance issues on some properties. • Pest relatively widespread through coastal Bay of Plenty - current focus is containment in the Rotorua and Ōpōtiki districts.
2017/2018 expenditure	\$64,927
Programme status	


Yellow flag iris

Action	Results
Programme summary	<ul style="list-style-type: none"> Sporadic distribution around the region, mainly around the Rotorua Lakes. Good progress being made. All plants detected were controlled.
2017/2018 expenditure	\$13,712
Programme status	


Feral goats

Action	Results
Programme summary	<ul style="list-style-type: none"> Good engagement and support from landowners in the East Cape. Remain at low numbers at sites where management has been ongoing. Trials using infrared technology continue and at this stage show promising results. Collaboration with DOC and Gisborne District Council.
2017/2018 expenditure	\$136,850
Programme status	


Rudd

Action	Results
Programme summary	<ul style="list-style-type: none"> Rudd are contained in Lake McLaren. No new sites detected. No control work.
2017/2018 expenditure	\$0
Programme status	

Tench

Action	Results
Programme summary	<ul style="list-style-type: none"> Historical records of tench being present in Lake McLaren. Surveillance has not been able to confirm their presence. No new sites detected. No control work.
2017/2018 expenditure	\$0
Programme status	

Wallaby

Action	Results
Programme summary	<ul style="list-style-type: none"> • ArcGIS applications have allowed rapid response to sightings from new areas, contractors can access landowner contact details, access conditions and property boundaries in the field, and data (e.g. camera locations, wallaby sign, reports and photos) can be entered in the field. Data can be accessed by Bay of Plenty and WRCs and DOC. GIS format excellent for informing future management decisions. • Systematic surveillance in both regions, is highlighting priority areas for wallaby management. • Welcome Bay eradication possibly complete (surveillance to confirm). Control ongoing at Kaharoa to remove last one or two animals. • Planning underway for control operations to eradicate wallabies from an area within Matahina Forest and two properties in the south-west of the distribution. • Research into dispersal, monitoring and control tools still needed.
2017/2018 expenditure	\$126,667
Programme status	


Restricted pests

Definition:

- Pests we want to reduce the further spread of and will support community and occupier efforts to control, in places where they are a problem.

Management objective:

- Residents understand the impacts of restricted pests and prevent their spread.
- Residents and community groups voluntarily participate in a wide range of activities that contribute towards managing the impacts of restricted pests.

Action	Results
Programme summary	<ul style="list-style-type: none"> • 142 complaints resolved. • 440 public enquiries received and responded to. • Presentations to stakeholder groups and weed-swap days held.
2017/2018 expenditure	\$16,715
Programme status	

Part 5:

Council activities to support the Regional Pest Management Plan

This section provides an overview of activities implemented to support RPMP outcomes.

Providing support, advice and information

Raising awareness of pests, the threats they pose and how they are spread, continues to be a priority across the region. This section summarises key actions undertaken during the last year.

Providing advice and information

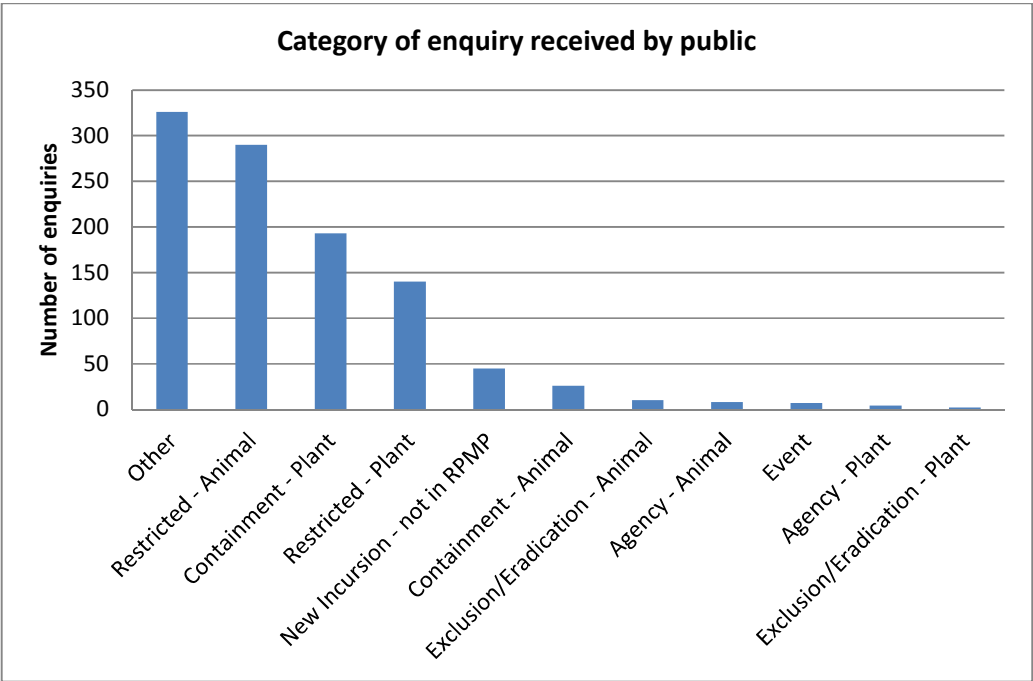
Council has responded to 1,051 enquiries from the public during the past year. These reports also play an important part of Council's surveillance programme.

Council has organised workshops that provide technical advice to the public and industry regarding pest control. These workshops focus on pest identification and control techniques. Examples of workshops included:

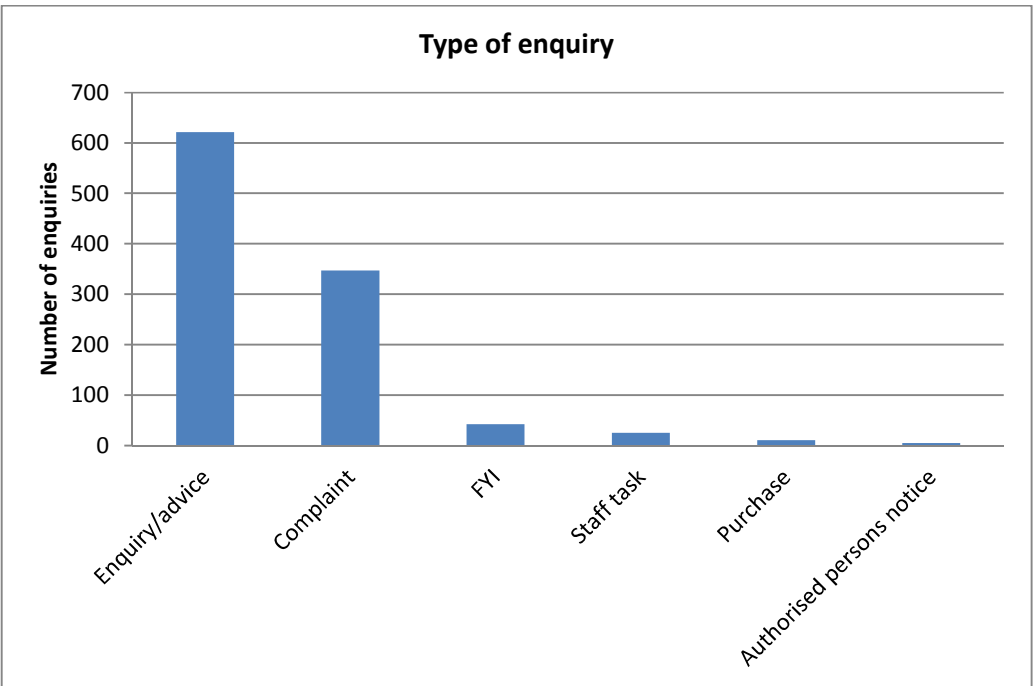
- Weed-swap days - public are encouraged to bring weeds to swap for a native plant. During these events, educational material is provided to inform the public regarding effective pest control.
- Workshops were held at Council's Pest Plant Collection - public taught how to identify pests of significance.
- Attendance at events (boat shows, expos) to educate the public on biosecurity issues.
- Presentations to a variety of stakeholders on biosecurity and technical aspects of pest management.



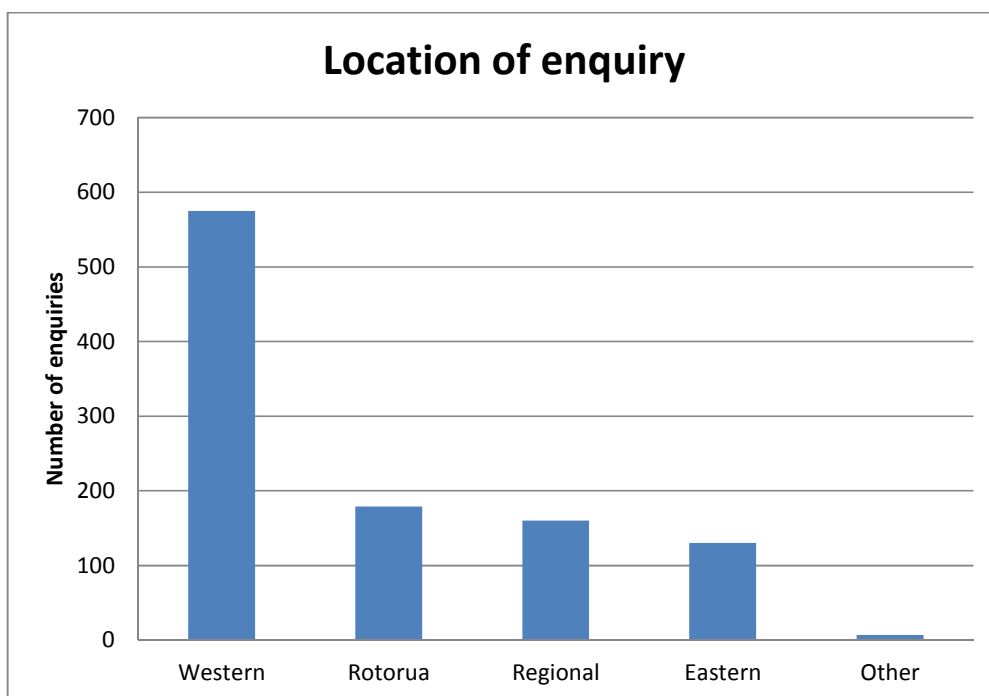
Analysis of enquires (see graph below) show that the majority of public concerns relate to common well established pests such as wasps, rabbits, possums and rats. The RPMP assumes that people or community groups will take voluntary action against these pests, when and where they cause a problem. Council's role is to provide advice and support community action.



The graph below shows the majority of calls are for information and advice on pest identification and control. However, more complaints were responded to during 2017/2018, than compared to previous years.



The next graph shows the majority of calls received are related to pest issues in the Western Bay of Plenty. This reflects not only the population base, but also suitable climatic conditions and habitat for pests. This trend has been identified for a number of years.



Aquatic Pest Advocacy Programme

The Aquatic Pest Awareness Programme aims to raise awareness of the threats aquatic pest plants, fish and didymo pose to our lakes and waterways. It also aims to educate people on how to prevent the spread of these pests.

Surveys were conducted at lake boat ramps and on the regions' rivers to assess waterway users' level of awareness of pest threats.

During the 2017/2018 advocacy campaign, a total of 617 individuals were surveyed and provided with promotional information. Of those surveyed, 74% claimed to have checked and cleaned their vessel between waterways. Of those surveyed, 76% claimed to have a medium to high level of knowledge when it came to aquatic pest awareness; this is an increase of 4%.

Supporting approved programmes

Council provides resources and funding, through approved programmes, to support occupiers and community groups, to control containment and restricted pests. Approved programmes such as Riparian Management Plans, Biodiversity Management Plans, Care Groups, and the Environmental Enhancement Fund, are outside the scope of this report but provide significant pest control effort.

Other approved programmes supported such as wallaby, goat and wild kiwifruit management are covered in Part 3 and 4 of this report.

National Pest Programme support

As described in Part 3 of this report, Council continued to support the national response to the velvet leaf incursion. Council has also provided support to the myrtle rust response following the recent discovery of this pest in the region.

National interest pests

The Ministry of Primary Industries leads the management of national interest pests. These pests are named as agency pests in the RPMP and Council support of these programmes is covered in Part 4 of this report.

National Pest Plant Accord inspections

Council is a party to the National Pest Plant Accord (NPPA). During 2017/2018, Council delivered on its roles under the accord. Details of inspection work are covered in Part 4 of this report.

Enforcement of rules

Notices of Direction were issued to 23 landowners requiring them to control a variety of species, including Mediterranean fanworm, woolly nightshade, gorse, wild ginger and wild kiwifruit. In these cases, the landowners had not voluntarily carried out control following property inspections. Most notices have been complied with, however, work on default (s128, Biosecurity Act) was carried out in one instance, costs were recovered from the landowner.

Exemptions

Three exemptions were granted in 2017/18 allowing individuals to derogate from Regional Pest Management Plan rules. One was to allow the display of wallabies at Paradise Valley Springs, another was to hold wallabies for research purposes. This final exemption was to allow Scion to undertake lodgepole pine research at their Rotorua facility.