



Regional Pest Plant Management Strategy (RPPMS) Operational Plan 2011-2015

Endorsed by Council at the Environment Committee meeting on 12th August 2015

Author:

Craig Davey, Environmental Coordinator – Pest Plants

Cover Photo:

Horizons Regional Council

June 2015

Report No: 2015/EXT/1432

ISBN: 978-1-927259-18-4

CONTACT | 24hr Freephone 0508 800 800

help@horizons.govt.nz

www.horizons.govt.nz

**SERVICE
CENTRES**

Kairanga
Cnr Rongotea and
Kairanga-Bunnythorpe Rds
Palmerston North

Marton
Hammond Street

Taumarunui
34 Maata Street

**REGIONAL
HOUSES**

Palmerston North
11-15 Victoria Avenue

Wanganui
181 Guyton Street

DEPOTS

Levin
11 Bruce Road

Taihape
Torere Road
Ohotu

Woodville
116 Vogel Street

**POSTAL
ADDRESS**

Horizons Regional Council, Private Bag 11025, Manawatu Mail Centre, Palmerston North 4442 | F 06 9522 929

CONTENTS

1	Introduction	5
1.1	Background	5
1.2	Explanation of Management Programmes	5
1.3	Purpose of the Operational Plan	5
2	Pest Plant Programme Information	7
2.1	Introduction	7
2.2	Standards and Enforcement	7
3	Financial Overview	9
3.1	Financial	9
3.2	Targeted Rates Reserves	9
4	Implementation of Programmes	11
4.1	Zero-Density	11
4.2	Production	14
4.3	Crown/non-rateable	16
4.4	Surveillance	17
4.5	Biocontrol	19
4.6	Pest Plant Awareness	22
5	Reporting	25



Photo 1: Dead weeds, any way we can. Photo by Horizons Regional Council

1 Introduction

1.1 Background

Under the Biosecurity Act 1993, Horizons Regional Council has prepared the Manawatu-Wanganui Region's fifth Regional Plant Pest Management Strategy (RPPMS). The Strategy outlines work programmes for 61 individual pest plant species of Regional significance. The current strategy took effect on 24 September 2007.

The Strategy outlines how each pest plant will be managed over a five-year period (until 1 July 2012, though since rolled over until completion of the new Regional Pest Management Plan which is currently in progress). Responsibility for control work lies with Horizons Regional Council, Ministry of Primary Industry (MPI) and land occupiers. Horizons Regional Council has responsibilities to ensure land occupiers are aware of and meet their obligations for pest management on their properties, and Horizons will undertake direct pest control where there is clear justification and regional benefit.

Under section 85 of the Biosecurity Act, the management agency for a pest management strategy must prepare an annual Operational Plan. The plan must be reviewed and reported on annually, no later than five months after the end of each financial year. Copies of the Operational Plan and the report on its implementation must be made available to the public.

This document is the seventh Operational Plan to be prepared under the current RPPMS. Each individual officer has detailed action plans, with specified Key Result Areas (KRAs) related to this Operational Plan.

1.2 Explanation of Management Programmes

This Operational Plan outlines the nature and scope of activities Horizons Regional Council intends to undertake in the implementation of the RPPMS for the 2014-15 financial year. Performance measures and other targets by which performance can be judged by Council are identified.

1.3 Purpose of the Operational Plan

The activities that make up the implementation component of the Regional Pest Plant Management Strategy are summarised as follows:

- Horizons Regional Council funds and organises control for 13 plant species across the entire region and a further 11 plant species inside of individually specified control areas for regional benefit. Sixteen plants are managed under the Production Plant Species programme using boundary control and zero-density objectives and nine plants have been selected for investigation under the Potential Pest Plant programme.
- **Regulation** (enforcement) – Rules and restrictions are set, and compliance enforced with appropriate processes and penalties, including the recovery of costs incurred.
- **Biological control** – Horizons will give financial and logistical support to research into additional biocontrol agents and if new agents become available, they will be released. Wherever practical, Horizons will continue to release and redistribute appropriate agents for the control of production and environmental pest plants. Existing sites are monitored for continuing viability. Regular liaison with occupiers occurs to ensure the ongoing success of biological control release sites.

- **Surveillance** – Inspections of potential infestation areas will take place region-wide for high threat plants not presently known in the region. Horizons will monitor for, and act to eradicate, any infestation of the surveillance species to prevent production and natural areas being adversely affected. Horizons will also survey retail outlets to ensure that regulations banning plants from propagation, distribution and sale by the RPPMS and the National Pest Plant Accord (NPPA) are complied with. Surveillance will also be carried out for notifiable plants and any discoveries made will be reported to MPI.
- **Awareness and behaviour change** – Advice is given to raise awareness of pest problems and to provide land occupiers with information to control their own pests. This includes explaining people's obligations under the Strategy and responding to complaints and enquiries from the public. Our goal is to have an initial response to a complaint within two working days of the complaint being received. Awareness programmes will be organised and outcomes focused on changing people's behaviour, eg., responsible gardening and freshwater hygiene.

2 Pest Plant Programme Information

2.1 Introduction

The 2007 RPPMS assigns named pest plants into two main programmes, Production Pest Plants and Environmental Pest Plants. Another programme of surveillance includes plants not yet present in the Region.

This Operational Plan reflects the key priorities for pest plant management established through the RPPMS. The prioritised roles that Horizons Regional Council sees for itself include:

- Identifying plants that fall under the zero-density objectives, recording spatial information about them, and their control;
- Public liaison, including awareness and education programmes, developing community group initiatives and responding to complaints and enquiries from the public;
- Enforcement of the Strategy rules, particularly boundary control of production pests, to prevent adverse effects of pest plants on the occupiers of clear properties;
- Biocontrol work when suitable agents are available, as this offers the prospect of ongoing control without the ongoing costs of physical control; and
- Carry out surveillance to facilitate early detection of invading species. Monitor and assess identified potential environmental pest plants and undertake surveillance reporting, and necessary enforcement, as part of the National Pest Plant Accord agreement.

There are six Environmental Management Officers - Plants (EMOPs) and one Environmental Coordinator – Pest Plants, in the Manawatu-Wanganui Region. They have primary responsibility for inspection, enforcement, advisory and monitoring activities. The EMOPs are also responsible for organising contractors to carry out control work on zero-density plants and enforcement work. Contractors undertake treatment or remedial work, although isolated plants and smaller sites may be treated or removed by EMOPs.

The responsibility for control of pest plants can lie with a range of different organisations or land occupiers within the Region. Horizons funds control of high threat pest plants with limited distribution across the Region via the zero-density designation. Plants of similar high threat, but of greater density and distribution, are assigned containment zones where work is only undertaken outside the higher density containment zones in their respective control areas. Plants that are widespread across the Region are subject to boundary control and voluntary action is encouraged for all plants.

2.2 Standards and Enforcement

The principal objectives for pest plants identified in the Strategy are Zero-Density, Containment, Boundary Control and Monitoring. If the associated plant-specific rules are not met, an authorised person will:

1. Advise the occupier of their non-compliance and direct them to take remedial actions;
2. Follow the initial inspection with a further inspection to confirm what remedial action has been taken and/or identify outstanding requirements.

In circumstances of non-compliance, the authorised person will utilise the administrative and enforcement provisions of the Act.

3 Financial Overview

3.1 Financial

Table 1: Financial overview of RPPMS – 2015-16

Programme	2015-16 Annual Plan Budget
Zero-density/Containment	884,748
Production Pest Plants	202,221
Vector Corridors	67,242
Surveillance Pest Plants	114,455
Biocontrol	106,415
Pest Plant Awareness	120,696
Incursion	5,502
Total	\$1,511,279

Every effort is being made to deliver on the RPPMS targets and outcomes while operating within this budget. Close monitoring of expenditure will ensure budgets are not exceeded.

3.2 Targeted Rates Reserves

The expenditure on pest plant programmes can vary from budget on a year to year basis. These variations can be caused by such factors as adverse seasonal conditions or unusually high levels of infestations. When these events occur, the adverse budgetary impact can be funded using targeted rates reserves, if any exist.

Any call up¹ of any targeted rates reserves is subject to approval from Council and its Audit and Risk Committee. Formal approval for such a transaction (if required) will be sought from this Committee as the works programme unfolds during the year.

¹ **Call up of targeted rate:** a proportion of pest plant expenditure is funded via a targeted rate on properties over 4 ha. Annual surpluses (or deficits) are kept in reserve and can be “called up” and used to fund future pest plant projects.

4 Implementation of Programmes

4.1 Zero-Density

4.1.1 Introduction

Due to region-wide habitat losses and changing land use, our indigenous species, landscapes and habitats are further threatened by, and highly vulnerable to, pest plants. Environmental pest plants in general are widespread throughout the Region.

The Region's biodiversity is threatened by pest plants that cause the collapse of forest canopies, smother regeneration in natural areas, invade alpine and tussock land, degrade wetlands and clog waterways. This programme covers pest plant species that threaten the terrestrial and freshwater biodiversity and other natural areas of the Region.

The environmental pest plant programme incorporates a number of objectives in order to manage the species included within this programme. These objectives are:

- Zero-Density – all individuals of the plant are destroyed across the entire region;
- Containment – Where population levels or difficulty and expense of control prevent achievement of a region wide zero-density objective, high-threat pest plant species will be managed under a containment objective. For each species managed this way, a control area is defined within which the pest plant species will be controlled wherever it is found, as per the zero-density designation.

4.1.2 Performance Measures

Table 2: Zero-Density pest plant performance measures

Measuring achievement	Target
The investigating EMOPs will record work done and infestation size in the corporate database, WEEDS.	Reduce plant numbers to zero of each infestation in its Control area.
Zero-Density plants (Environmental)	Actions required
All Zero-Density and Containment designated plants	<ol style="list-style-type: none">1. Confirm annual programmes of control.2. Organise work staff programme or contractors to undertake control at the appropriate time.3. Inspect control sites to evaluate control. Record results in corporate database.

4.1.3 Planned activity

Plant Name	RPPMS Objective(s)	Planned activity
TERRESTRIAL PEST PLANTS		
Banana passionfruit	To control to zero-density within the control area by 2017.	We will continue the current programme of survey, control and delimit historic sites. This plant requires a long term approach to control, with site management moving from initial control to maintenance and then monitoring for a number of years. Areas of note are the Matahiwi section of the Whanganui river, sites in the Tararua, sites in and around Levin and the Totara Reserve and Ruahine buffer zone.
Blue-leaved wattle	Reduce all populations of blue-leaved wattle in the Region to zero-density by 2009.	The one confirmed site in the Region exists on Wanganui District Council land. The RPPMS requires that WDC control the site. The WDC has completely eliminated this site through physical and chemical control. The small amount of root re-growth on site is treated with chemicals on a regular basis.
Blue passion flower	To control to zero-density all blue passion flower within the control area by 2011.	There are a small number of urban sites being treated on an as/when found rationale.

Plant Name	RPPMS Objective(s)	Planned activity
Boneseed	To control to zero-density all boneseed within the control area by 2012.	This plant will continue to persist at historic sites due to its large seed bank and seed longevity. We aim to keep all known sites at zero-density but due to quick growth the odd adult is usually found within the site and bird dispersal of berries requires area wide delimiting. Hot spots include the beach settlements near Levin, coastal and peri-urban Wanganui, and the Tokomaru West/Koatanui Rd inland from Wanganui.
Cathedral bells	To control to zero-density all cathedral bells within the control area by 2011.	We expect site numbers to remain stable and the majority of sites will continue to have excellent control with reducing plant populations. We will continue to treat sites with multiple visits per season to arrest seedling production. Cathedral bells is a prolific seed producer and flowers within a few months of germinating – thus requiring early and late season control operations.
Chilean rhubarb plus hybrids and varieties	To control to zero-density all Chilean rhubarb in the Region by 2010.	We expect to find a small number of new sites in gardens and in wild areas. All sites will be managed as they are found.
Climbing spindleberry	To control to zero-density all climbing spindleberry in the Region by 2011.	The majority of sites are now at zero-density. The potential for mass suckering is high and sites require long-term control. Historic sites across the Region are showing low level re-growth which is pleasing.
Contorta pine	To control contorta pine to zero-density within the control area by 2012. Initial knock down of contorta pine as directed under Horizons' 2001 RPPMS is to be completed by 2007, with the exception of the occupier of Karioi Forest. One programme of pragmatic handover of harvested areas continues in the forests at Erua, Tongariro National Park, Taurewa and Lake Otamangakau	Contorta control will continue this year similar to previous years though with more resources allocated to the priority sites. We are at the tail end of controlling a significant number of sites around Waiouru with only a couple of shelter belts remaining. Our primary focus in the Waiouru area is the shelter rows adjacent to the township and the airfield. We will also have a larger effort on Ohinewairua station. Significant work is also required within the forestry land around Tongariro National Park. The Nature Central initiative is also a significant driver for efficiency and coordination between the NZDF, HBRC and DOC. We will financially support the National Wilding Conifer Management Group and provide a staff member on the executive. We will facilitate the activity of the Central North Island Wilding Conifer Group and organise the biennial meeting for Autumn 2016.
Darwin's barberry	To control to zero-density all Darwin's barberry within the control area by 2014.	We will continue to liaise with DOC to run a coordinated Darwin's barberry programme in the Waimarino. It is also a priority in the north around Waimiha and along both sides of the Ruahine spine.
Evergreen buckthorn	To control to zero-density all evergreen buckthorn within the control area by 2014. Maintain a 5 km wide buffer around Wanganui city free of evergreen buckthorn.	Evergreen buckthorn is proving difficult to eradicate from the peri-urban areas due to bird dispersal and the difficulty in finding this plant in the early establishment phase. We plan to continue the approach to date with control over the winter and early spring when the plant is more easily distinguished from other plants. Control will focus on areas adjacent to the urban infestations in the first instance.
Ginger - Kahili and Yellow	To control to zero-density all currently known populations of ginger in the Region by 2011.	Work on this plant will again be restricted to 'wilding' sites, and further restricted to sites of high priority, due to budget constraints. There are many sites of this plant in the large urban areas of Wanganui and Palmerston North.

Plant Name	RPPMS Objective(s)	Planned activity
Grey willow	To control to zero-density all grey willow within the control area by 2014.	High priority sites within close proximity to the Tongariro National Park/Lake Otamangakau, and specifically the boundary with Waikato Regional Council, will continue to receive control.
Heather	To control to zero-density all heather within the control area by 2011.	The heather programme will progress as in previous years. Most major infestations are located along roadsides, and are required to be controlled by district councils and NZTA.
Knotweed - Asiatic and Giant	Reduce all populations of knotweeds in the Region to zero-density by 2009.	We are confident we have achieved zero-density and as we now have an effective chemical tool for the long term management of knotweed sites we look forward to the eventual eradication of this plant from the Region.
Moth plant	To control to zero-density all moth plant within the control area by 2013.	This plant has the potential to rapidly expand within the Region if average temperatures increase, so getting on top of it before it begins to expand its range is a high priority. The small number of sites in our Region will be monitored and controlled. The majority of sites exist in Wanganui, Palmerston North and Foxton.
Old Man's Beard	To control to zero-density all Old Man's Beard within the control area by 2022.	OMB control is one of the larger work programmes undertaken by the pest plant team. There continues to be increasing discomfort from ratepayers about the levels of OMB in the containment zones. It is heartening that people are noticing OMB as a pest problem and would like action taken against it. The challenge for the pest plant team is to keep the best practice approach of our programme models and to keep the community engaged. There is scope for community driven programmes gaining support and assistance from the team to establish best practice control and management plans.
Alligator weed	Reduce all currently known populations of alligator weed in the Region to zero-density by 2012.	We will continue to monitor and treat the Taumarunui waste water treatment site to ensure it remains at zero-density. There is a good understanding between the site managers to ensure fragments do not leave the area and plants are not spread by mowing or removal of vegetation.
California bulrush	Reduce all known populations of California bulrush in the Region to zero-density by 2010.	We will continue to monitor the sole site in the Region as control to date has achieved zero-density.
Purple loosestrife	Reduce all known populations of purple loosestrife in the Region to zero-density by 2012.	All known sites will be treated this year. We have a well established work plan for the largest site at Lake Horowhenua and others are reducing to small populations.
Eelgrass	Dispersal of aquatic pest plant species from current locations is prevented.	Signage is present at the largest known site to alert people to the plant's presence, that intentional spreading of the plant is banned, and what actions can be taken to prevent its spread (eg., clean, check, dry).
Hornwort	Dispersal of aquatic pest plant species from current locations is prevented.	Signage is present at known sites to alert people to the plant's presence, that intentional spreading of the plant is banned, and what actions can be taken to prevent its spread (eg., clean, check, dry). We will also share in the costs of the management of the weed cordon established at Lake Otamangakau to contain any hornwort fragments from launching boats.
Egeria	Dispersal of aquatic pest plant species from current locations is prevented.	Signage is present at known sites to alert people to the plant's presence, that intentional spreading of the plant is banned, and what actions can be taken to prevent its spread (eg., clean, check, dry).
Lagarosiphon	Dispersal of aquatic pest plant species from current locations is prevented.	Signage is present at known sites to alert people to the plant's presence, that intentional spreading of the plant is banned, and what actions can be taken to prevent its spread (eg., clean, check, dry).

Plant Name	RPPMS Objective(s)	Planned activity
Reed sweet grass	Dispersal of aquatic pest plant species from current locations is prevented.	The full extent of this pest plant has not been determined at this stage, so will be the subject of a delimiting survey in future years.

4.2 Production

4.2.1 Introduction

The Manawatu-Wanganui Region's economy is heavily reliant on the agricultural sector and therefore it is essential that the RPPMS provides a regionally co-ordinated strategic and statutory framework for the management of production pest plants. The production pest plants covered by the RPPMS are largely those that have been carried through from historic legislation and remain of considerable concern to the farming community. While no new production pest plant species have established in New Zealand during the last 20 years, there are a number of species that the Manawatu-Wanganui Region is currently free of and it is highly desirable to maintain this situation.

The Production Pest Plant programme incorporates a number of objectives in order to manage the species included within this programme. These objectives are:

- Zero-Density – all individuals of the plant are destroyed.
- Boundary control – landowners are required to prevent the spread of these species onto or across a common boundary. Horizons becomes involved on a complaint basis.
- Biocontrol – one or more living organisms (eg., insect, fungus) is used to manage a pest plant species by reducing its vigour and/or ability to reproduce.

4.2.2 Performance Measures

Table 3: Production pest plant performance measures

Measuring achievement	Target
The EMOPs will record in the corporate database the results of inspections, covering both extent of infestation and compliance with rules.	Production land that is clear of pest plants remains so.
Production Pest Plants	Actions required
African feather grass, Chinese pennisetum, nassella tussock, woolly nightshade	<ol style="list-style-type: none"> 1. Control to zero-density region-wide. 2. Confirm annual programmes of control. 3. Organise contractors to undertake control at the appropriate time. 4. Inspect control sites to evaluate control. Record results in corporate database.
Australian sedge, blackberry, broom, gorse, ragwort, tutsan, nodding thistle, variegated thistle	Enforce boundary rules on complaint.

4.2.3 Planned activity

Plant Name	RPPMS Objective(s)	Planned activity
African feather grass	Reduce all currently known populations of African feather grass in the Region to zero-density by 2010.	All active sites will be inspected and treated. The Whanganui River sites are diminishing but require annual survey. The Tararua stretch of the Manawatu River is a hotspot that receives intensive monitoring and control at historic sites. Other sites in Levin, Taihape, Manawatu District and Rangitikei District will all require retreating.
Australian sedge	Reduce the occurrence of Australian sedge spreading between properties.	We will respond to boundary complaints and outwork the HRC pest plant compliance programme if required.
Blackberry	Reduce the occurrence of blackberry spreading between properties.	We will respond to boundary complaints and outwork the HRC pest plant compliance programme if required.
Broom	Reduce the occurrence of broom spreading between properties. To maintain self-sustaining populations of biocontrol agents for broom throughout the Region.	We will respond to boundary complaints and outwork the HRC pest plant compliance programme if required. We will monitor the current release sites and transfer agents if numbers allow.
Chinese pennisetum	To reduce the population of Chinese pennisetum to zero-density by 2027. Prevent the spread of Chinese pennisetum into neighbouring properties.	The control programme will again continue with the farm owners and Horizons undertaking co-management of the infestations. The river infestations will receive control this year.
Gorse	Reduce the occurrence of gorse spreading between properties.	We will respond to boundary complaints and outwork the HRC pest plant compliance programme if required.
Nassella tussock (Including the closely related Mexican feather grass)	Reduce all currently known populations of Nassella tussock in the Region to zero-density by 2011.	More urban sites of this group are expected from further delimiting of garden sites. There are garden sites in Taihape, Wanganui, Bulls, Woodville, Ohakune and Raurimu.
Nodding thistle	Reduce the occurrence of nodding thistle spreading between properties. To achieve self-sustaining populations of biocontrol agents for nodding thistle throughout the Region.	We will respond to boundary complaints and outwork the HRC pest plant compliance programme if required. We will monitor for any notable increase in the presence and effectiveness of biological control agents.
Ragwort	Reduce the occurrence of ragwort spreading between properties. To maintain self sustaining populations of biocontrol agents for ragwort throughout the Region.	We will respond to boundary complaints and outwork the HRC pest plant compliance programme if required. We will monitor for any notable increase in the presence and effectiveness of biological control agents. We will continue the distribution of the ragwort plume moth.

Plant Name	RPPMS Objective(s)	Planned activity
Tutsan	To reduce the occurrence of tutsan spreading from infested land to clean land.	We will respond to boundary complaints and outwork the HRC pest plant compliance programme if required.
	Reduce the spread of tutsan from the Ruapehu District to elsewhere in the Region.	HRC will continue to assist the Tutsan Action Group (TAG) with their biological control agent project. This will involve sponsorship and in-kind contributions to ensure the group has a high national profile.
	Investigate and support biocontrol options for tutsan.	
Variegated thistle	To reduce the occurrence of variegated thistle spreading from infested land to clean land.	We will respond to boundary complaints and outwork the HRC pest plant compliance programme if required.
Woolly nightshade	Reduce all populations of woolly nightshade in the Region to zero-density by 2010.	We will continue control at historic sites and delimit these areas for any bird dispersed plants that may have established. Hot spots are Wanganui, Pahiatua and Levin.

4.3 Crown/non-rateable

4.3.1 Introduction

Crown/non-rateable is the activity centre associated with managing Crown land, Territorial Local Authority (TLA) parcels and the road and rail networks of our Region. This cost centre was established as these networks cover large areas and are known vectors of pest plant spread. Vector corridors include management of plants under the Zero-Density, Containment and Boundary designations where the infestations occur. There are five Central Government agencies that are significant beneficiaries/exacerbators of pest plant management in the Region (Kiwi Rail, NZ Transport Agency, DOC, NZ Defence, and Land Information New Zealand). Crown agencies are required to manage pest plants on the lands they administer in the interests of being a good neighbour, although the Crown cannot be bound to the RPPMS. All agencies have carried out works that are consistent with the RPPMS objectives and targets to a greater or lesser extent, depending upon resource availability.

In addition to Crown agencies, there are seven TLAs within the Region. District and City Councils are required to carry out pest plant management pursuant to any RPPMS rule/objective on land they occupy/manage within their respective districts eg., road corridors.

4.3.2 Performance Measures

Table 4: Vector corridor performance measures

Plant designations	Measuring achievement	Target
Those Zero-Density plants not requiring specialist treatment or monitoring.	The EMOPs will record: All public complaints received, the result of investigations, and any action taken. Sites of plants treated to zero-density are controlled and recorded in the corporate database.	Ensure boundary control is undertaken as necessary on all known problem areas and valid complaint sites. That Memoranda of Understanding (MOUs) are established with suitable agencies that clearly outline the responsibilities of the various parties. That all control zone sites of Zero-Density and Containment plants in vector corridors are controlled.
All Containment plants inside their control areas.		
All plants that have an associated boundary rule.		

4.3.3 Planned activity

Crown Land	Agency/Area	Planned activity
Roads	Territorial Local Authorities (TLAs)	We will meet with TLAs to discuss their pest plant control operational plans as they relate to our RPPMS. HRC will contribute to a Sustainable Farming Fund (SFF) funded investigation into roadside dispersal of weeds. We will liaise with local road managers to ensure the science is directed to real world scenarios and that ground-truthing of any potential outcomes can be achieved.
	NZ Transport Agency (NZTA)	We will meet with the NZTA and its contractors to discuss their pest plant control operational plans as they relate to our RPPMS.
Rail	Treescape (the agency tasked with managing the rail corridor on behalf of Kiwi Rail)	We will meet with Treescape to discuss their pest plant control operations as they relate to our RPPMS.
Rivers	Rangitikei River	We will liaise with LINZ and landowners to tackle any issues that arise from the programmed maintenance of the corridor by LINZ.
	Manawatu River	Only targeted zero-density work is planned for this river.
	Whanganui River	Only targeted zero-density work is planned for this river.
	Pohangina River	We will liaise with LINZ and landowners to tackle any issues that arise from the programmed maintenance of the corridor by LINZ.
New Zealand Defence Force	Waiohuru, Ohakea and Linton	We will meet with the Defence Force land managers to share information about relevant infestations. NZDF is a major party to the Nature Central Wilding Conifer Implementation Plan and therefore commits to coordinating control programmes and sharing information. Other programmes of interest are the Desert Road Invasive Legume Control Project.
Forestry Blocks	Karioi	We will meet with Karioi forest managers to discuss their programmes as they maintain ongoing control of contorta.
	Erua, Lake Otamangakau, and Taurewa.	We will monitor the progress of contorta control in the LINZ owned blocks and the forest owned by Rotoaira Forest Trust.

4.4 Surveillance

4.4.1 Introduction

There are a large number of pest plants in New Zealand that have the potential to expand their range and become a problem here. The Surveillance programme has been developed to assist early detection of new invasive species either arriving in the Region or expanding within the Region, thereby allowing action to take place before control becomes unachievable. The pest plants included in the Surveillance programme are:

- Not currently present in the Region but are known to be a threat elsewhere and are likely to find a suitable habitat within the Region. Often these plants are to be found across the boundary in neighbouring regions; and
- Already present in the Region but only in a limited area or confined to a small number of sites.

This output contains the following projects:

- Surveillance programme
- Potential Environmental Pest Plants programme
- National Pest Plant Accord

- MPI-managed notifiable plants

Strategy objectives include:

- To detect new incursions of listed surveillance plants, and prevent their establishment in the Region.
- Determine appropriate future management objectives for the listed potential plants.
- To prevent the propagation, sale and distribution of legislated plants.

4.4.2 Performance Measures

Table 5: Surveillance pest plant performance measures

Measuring achievement	Target
<p>Notable encounters of significant pest plants will be reported on to Council and included in the Operational Plan report.</p> <p>Advice on control measures will be made available to the landowners.</p>	<p>Record sites discovered in corporate database.</p> <p>Determine appropriate control methods as plants identified.</p> <p>Inspect all nursery and plant outlets for the presence of Regional Surveillance pest plants each year and carry out enforcement where appropriate.</p>
Surveillance Plants	Actions required
<p>Arrowhead</p> <p>Bladderwort</p> <p>Chilean needle grass</p> <p>Heath rush</p> <p>Manchurian wild rice</p> <p>Noogoora bur</p> <p>Phragmites</p> <p>Saffron thistle</p> <p>Sagittaria</p> <p>Senegal tea</p> <p>Spartina</p> <p>Sweet pittosporum</p> <p>Tussock hawkweed</p>	<ol style="list-style-type: none"> 1. Record all newly discovered and historic sites in the corporate database and monitor as necessary. 2. Undertake site management at historic sites of: Senegal tea, arrowhead, and spartina.
<p>Nursery inspections and the NPPA programme.</p> <p>MAF Biosecurity New Zealand managed notifiable plants.</p>	<ol style="list-style-type: none"> 1. Inspect all at-risk nursery outlets and advise and educate about National Pest Plants. 2. Monitor for notifiable plants as part of Surveillance programme. 3. Carry out enforcement action against outlets that sell, propagate or distribute National and Regional Pest Plants. 4. Report incursions to MAF, BNZ.
<p>Potential Environmental Pest Plants programme.</p>	<ol style="list-style-type: none"> 1. Record and map all known infestations. 2. Research biology of plants. 3. Identify habitats at risk from the plants. 4. Report within timelines to determine management status.

4.4.3 Planned activity

Objective	Planned activity
To increase detection rates of new pest plant species becoming established within the Region, or species with limited distribution expanding their range.	A list of likely pest plant discovery, entry and/or distribution points (eg., along roads, old homestead sites, illegal garden waste dumping sites) will be displayed spatially. See Appendix 2.
To implement a systematic process whereby decisions and actions are taken following a discovery of a new species within the Region.	Publish incursion action plan.
To continue to assist MPI with enforcement of the National Pest Plant Accord (NPPA).	Inspections will take place at priority sites and results will be entered into the NPPA web-database.
Potential plant reports are completed.	All reports have been finished.

4.4.4 Pest Plants Programmes outside RPPMS

Horizons has been involved in committing financial and time resources to plants not listed in the RPPMS. We will continue to proactively deal with 'new' issues that arise and seek to understand the extent of the problem, whether any intervention will be successful and who or which organisation should best manage the intervention.

As examples of this approach, staff undertook survey and control against Himalyan balsam after expansion has been noted elsewhere; this has resulted in staff recommending Horizons manages the plant across the Region as an Eradication plant. We have also previously investigated the presence and absence, and management options for yellow bristle grass (*Setaria pumila*). During 2015-16 we will continue to champion awareness and best practice management options with roading authorities and farmers. We will present information at field days and in the press to highlight best management practice of farmland adjacent to roadsides and pathway management, especially with respect to machinery hygiene.

4.5 Biocontrol

4.5.1 Introduction

Biological control or biocontrol has resulted in substantial pest plant management gains through the use of one living organism to control another. It has proven particularly useful for controlling widespread weeds that are well established, that are heavy seeders, or have large seed banks. Once the agents are well established there is generally no need to make further releases as the population disperses and becomes self-sustaining. However, it can take many years (decades even) for the population to build up to a point where it impacts substantially on the host plant.

It is worth noting that successful biocontrol does not usually eradicate its host. Success may mean a reduction of infestation size, vigour, or abundance into the foreseeable future. It should be viewed as a tool that complements other weed management options. Biocontrol may reduce population levels to a point where control using physical or chemical methods is minimised, or even unnecessary.

The biocontrol programme exists to carry-out releases of new and existing agents against entrenched pests, raise awareness of the programme and support research into new agents.

4.5.2 Performance Measures

Table 6: Biological control performance measures

Measuring achievement	Target
EMOPs will record in the corporate database all releases of biocontrol agents in the Region, their survival and their effects on the pest plants.	Manage the successful release and establishment of new agents. Manage existing agents for maximum effect.
Actions Required	
	<ol style="list-style-type: none"> 1. Coordinate and manage new releases of biological control agents as they become available. 2. Record the new releases in the corporate database. 3. Establish, manage and record new biological control sites. 4. Report on agents managed, new releases and extent of establishment. 5. Continue to contribute funding to the national bioagent research/development programme.

4.5.3 Planned activity

Plant	Agent	Planned activity
Buddleia	Buddleia weevil	Transfer multiple releases across the Region.
Boneseed	Leaf roller	No work planned as agent not established.
Old Man's Beard	OMB leaf fungus	No work planned as agent not established.
	OMB leaf miner	
	OMB sawfly	Investigate reinstating this programme given new information regarding potentially solvable problems with establishment.
	OMB flower gall midge	Champion the EPA process for release of this agent into NZ.
Californian Thistle	Californian thistle leaf beetle	No work planned.
	Californian Thistle flea beetle	No work planned; has failed to establish.
	Phoma	No work planned. A self-introduced agent which is now widespread in the Region. Limited host impact to date.
	Californian thistle rust	No work planned. This is a systemic rust fungus, which has self-introduced and is now widespread in the Region. Limited host impact to date.
	Green Thistle Beetle	We plan to transfer agents to new sites if the numbers at release sites allow.
	Californian thistle gall fly	No work planned.
St John's Wort	St John's wort beetle	No work planned.
Ragwort	Ragwort flea beetle	No work planned. We will respond to enquires but this agent is across our entire region.
	Cinnabar moth	No work planned. This agent is widespread across the Region and is causing obvious, though not fatal, damage to plant foliage.
	Ragwort plume Mmoth	We will continue to transfer this agent across the Region as the numbers build.
Gorse	Seed weevil	No work planned. This agent is widespread throughout the Region. Its effect on the host plant is limited, but it does destroy many seeds in the spring seed set.

Plant	Agent	Planned activity
	Pod moth	No work planned. This seed feeder is becoming more common and has the potential to take out both the spring and autumn seed sets. This agent was widely released between 1995 and 2000 and is now well established.
	Colonial hard shoot moth	No work planned. This agent was released into the Rangitikei District in 2001 and 2002. Agent impact has been limited to date.
	Hard shoot moth	No work planned. This agent has failed to establish at initial release sites, and no further releases are planned at this stage.
	Soft shoot moth	No work planned. This agent was introduced to the Region between 1994 and 1996 near Turakina. To date the agent has not established, although some impressive results have been recorded in both Canterbury and Marlborough.
Scotch Thistle	Spider mite	No work planned. Widespread throughout the Region, this sap sucker causes obvious damage but the impacts are not widespread. The mite is actively predated by ladybirds.
	Gorse thrips	No work planned. This sap sucker, which attacks fresh shoots and possibly small seedlings, has been widely released since the 1990s. The UK strain is slow to disperse, whereas the Portuguese strain is much more mobile and can be found over most of the Region. Agent impact on host plants is limited at this stage.
	Gall fly	We will distribute this agent on request.
Heather	Heather beetle	No work planned. This foliage feeder was introduced to three sites near Waiouru. The original releases were disappointing as beetles established poorly. It has been found that the application of nitrogen fertiliser to the host plant significantly increases the vigour and impact of this agent. Damage to the host plant is severe, but remains localised.
Blackberry	Blackberry rusts	No work planned. Blackberry rusts cover a range of fungi, each of which is specific to a different strain of blackberry. These rusts have self-introduced and are now widespread across the Region, but host impact has been limited to date. Several new rusts have been introduced to Australia in recent years, and it is hoped they will self-introduce here in coming years.
Nodding Thistle	Receptacle weevil	No work planned. This seed feeder is widespread throughout the Region, where it is working well in conjunction with the other two agents.
	Gall fly	No work planned. Well established at most sites in the Region.
	Crown weevil	Look to make transfers and monitor establishment. This agent feeds on the host plant's crown and roots and has established well at all release sites, but further distributions are needed to ensure its spread through the Region. We will particularly look to establish more sites in the Tararua District.
Broom	Broom psyllid	Continue to monitor establishment. This sap sucker has established at several sites and is locally abundant. Has had some good successes nationally, but limited impact regionally.
	Broom seed beetle	No work planned. This seed feeder has spread readily through the Region unaided and is widespread and abundant. The agent acts to lower seed production.
	Broom twig miner	No work planned. This agent is both widespread and abundant, and causes visible damage at high population levels. Works best at dense host plant sites.
	Broom gall mite	We will assess sites and transfer if populations are high enough.
	Leaf beetle	Monitor establishment.
	Shoot moth	Has not been released into the Manawatu-Wanganui Region yet.
Hemlock	Hemlock moth	No work planned. This foliage feeder has self-introduced into the Region, and can cause severe damage in good years. However, in most years, impacts are limited.
Hieracium	Heiracium rust	No work planned. Released near Waiouru in 1997-98; impacts have been variable and limited to date.
	Hieracium plume moth	No work planned. Foliage feeder released near Waiouru. Impact unknown at this stage and there are breeding difficulties with this agent.

Plant	Agent	Planned activity
	Gall midge	No work planned. Very damaging under laboratory conditions. Seems to have established near Waiouru and it is hoped the impact will be evident early next year.
Smilax	Bridal creeper rust	Monitor establishment and impact. Self introduced into the Region. Plants have decreased on the three known sites in the Region; the fungus is abundant on all plants although the effect will be dependant on weather conditions later in the year.
Tradescantia	Leaf beetle	Monitor establishment.
	Stem beetle	Monitor establishment.
Tutsan	Multiple agents	Support the TAG to find best biocontrol options and release them in NZ.
Field horsetail	Not known as yet, but likely to be a flea beetle	HRC will support the Rangitikei Horsetail Group Sustainable Farming Fund project to bring into New Zealand a number of bio-agents for host testing.

4.5.4 Biocontrol Research

Horizons Regional Council is part of a consortium of interested agencies which, over the past 11 years, have contracted Landcare Research to investigate, test and introduce a variety of agents to target the most troublesome pest plants in the country. The consortium meets annually to agree on target pest species and to prioritise expenditure. During the 2015-16 financial year Landcare Research has been contracted to supply Horizons with the following:

- Stakeholder services \$35,000

4.6 Pest Plant Awareness

4.6.1 Introduction

The aim of providing awareness and promotion material, activities and programmes is to effect positive behaviour change across our community. If occupiers of land grow responsibly and dump garden waste responsibly then the transfer of weeds to vulnerable areas should stop. Alerting the community to the issues, threats and solutions of weed management should result in more effective pest plant management.

4.6.2 Performance Measures

Table 7: Pest plant awareness performance measures

Education / Public information and advice	Target
	<p>Horizons Regional Council will carry out community education programmes to increase public awareness and to provide information to the public.</p> <p>Respond to general inquiries and requests for advice within two working days.</p> <p>Horizons Regional Council will provide ongoing advice to the public on control measures, management programmes and plant identification.</p>
Actions required	
General programme	1. Organise and attend field days, as appropriate.
	2. Develop and implement a pest plant awareness strategy and events calendar.

4.6.3 Planned activity

Activity	Planned activity
Brochures and information sheets	Re-print of the very popular Central Districts <i>Plant Me Instead</i> booklet
Media Releases	As topics come to hand, but will include items such as: ATR weeds to watch for; Ruapehu regular weed information articles; Biocontrol interest pieces and promotion like the Rangitikei Horsetail Group; Wanganui urban weed programme; CCD when you move between rivers; and community groups.
Signage	Refresh signs established across the Region.
WEEDBUSTERS	Continue to support the use of the WEEDBUSTERS brand and to support the existing community groups and encourage new groups to form.
Field Days	Displays will be produced for Central District Field Days.
Other	Continue the Wanganui Urban Weed Programme during November and December. Talk to groups about work we do that is of interest to them. Carry out a Check, Clean, Dry behaviour change awareness programme to stop the spread of freshwater pests.

5 Reporting

The pest plant outputs will be reported on as described in the following table. Our aim is to highlight the important events that occur outside the planned operations as well as the outcomes being gained due to the intervention of Horizons site management and also its awareness programmes. We will collect outcome measurable data at weed sites and also aim to target and measure our other programmes so we can assess the success and fine tune our approach for future work.

Table 8: Reporting performance measures

Report	Comment:
Annual Report	The Annual Report will report against Annual Plan commitments as they relate to Pest Plant Management
Bi-monthly Environment Committee Report	Bi-monthly reports will be prepared to report progress towards meeting annual targets.
Pest Plant Monitoring Report Such reporting will include: <ul style="list-style-type: none"> • Achievement under each objective in the Strategy • Trends in the incidence and extent of pest plants, and of biocontrol agents • The results of inspections of plant nurseries and retail outlets • Assessing performance against budget • Targets met • Control programmes completed; and • Problems incurred. 	The Environmental Biosecurity, Habitat Protection and Regional Response Manager is responsible for preparing the 'Pest Plant Monitoring Report' to assess progress made against targets in the Pest Plant Operational Plan.
Pest Plant Operational Plan	The Biosecurity Manager is responsible for initiating a review of the Operational Plan (Monitoring report) by February each year. The completed Operational Plan is due by 30 October.
Financial	Monthly performance against monthly phased budget will report to Council's Audit & Risk Committee, to corporate standard "Monthly Financial Report"



11-15 Victoria Avenue
Private Bag 11 025
Manawatu Mail Centre
Palmerston North 4442

T 0508 800 800
F 06 952 2929
help@horizons.govt.nz
www.horizons.govt.nz