



BIOSECURITY PLANTS

1 ACTIVITY OVERVIEW

1.1.1 The Biosecurity Plants programme seeks to safeguard the regional economy and environment from damage caused by harmful pest plants, and to prevent the transformation of productive land and the region's natural biodiversity by invasive plants. This is achieved by delivering the following four programmes:

- Incursion response – Responding to 'new to the region' incursions and assisting in transitioning to long-term management if appropriate;
- Regional Pest Management Plan implementation – Implementing pest plant management programmes described in Horizons' **Regional Pest Management Plan (2017)** (RPMP);
- Biological Control Programme – Undertaking biological control agent programmes including supporting community-led projects, and distribution and monitoring of agent populations across a wide range of pest plant species; and
- Advice, promotion and awareness – Providing advice and information to the public about best-practice pest plant control and behaviour to prevent the spread of pest plants.

1.1.2 The pest plant management activity links with a range of national and regional policies and strategies as further outlined in the Natural Resources and Partnerships Group's Operational Plan.

2 ANNUAL PLAN TARGETS

2.1.1 A summary of the Annual Plan targets and progress to date is provided in Table 1 below. Progress reporting for the zero-level goal is limited to an annual tandem summation of all managed sites against their previous status (age, risk class) and the physical number and area of plants.

Table 1: Biosecurity Plants Annual Plan targets for 2020-21.

Performance Measures for Levels of Service	2020-21	Progress to Date
Any exclusion category pest plants that are found in the region are promptly managed with an initial response plan completed within two weeks and then enacted (if not enacted before two weeks).	Number of response plans required. Percentage where a response plan has been produced within two weeks (target 100%) Number of response plans enacted with their specified timeframes (target 100%)	No plants programmed for surveillance at this time of the year.
Number of managed sites at zero-levels increases for pest plants identified for eradication in the Regional Pest Management Plan.	Overall percentage of managed sites at zero-levels (ZL) increases by 10% per annum, from the start date of the RPMP. The 2020-21 target is 71%.	ZL% at start of the year ¹ 84%; 2019-20 result: 84%
Number of managed sites at zero-levels increases for pest plants identified as progressive containment – mapped in the Regional Pest Management Plan.	Overall % of managed sites at zero-levels increases by 10% per annum from the start date of the RPMP. 2020-21 target = 70%	ZL% at the start of the year, 73%. 2019-20 result: 73%
Financially support the national bio-control agent development programme and report annually to Council on this programme.	Financial support provided and annual report to Council	Work in progress.
Monitoring of some released biological agents will be completed to assess establishment and host damage (using the national protocol).	20 assessment plots will be monitored	No sites assessed through this period.
Pest plant enquiries received are responded to within three working days.	95% of enquiries will be responded to within three working days	100% of enquiries responded to within three working days. Achieved.

3 INCURSION RESPONSE

3.1 Programme overview

3.1.1 The Incursion Response programme aims to provide immediate and effective assistance for all national or regional biosecurity incursions and any transitions to long-term management. This is a function detailed by a Memorandum of Understanding between the **Ministry for Primary Industries** (MPI) and regional councils.

3.2 Activity Update

3.2.1 The sea spurge (*Euphorbia paralias*) incursion at Himatangi is now one of five locations along the west coast of New Zealand. Horizons staff were recently involved in a workshop with MPI and other regional councils to talk through next steps after a new population was discovered at

¹ The Annual Report to Environment Committee is available at: <http://www.horizons.govt.nz/HRC/media/Media/Agenda-Reports/Environment-Committee-2019-14-08/19118%20Annex%20C%20Biosecurity%20Activity%20Plants.pdf>

Karamea on the West Coast during winter. This was followed by another, the fifth find, at Karekare, Auckland, at the end of September.

3.2.2 Sea spurge surveillance is required through early spring, and Horizons is liaising with other agencies and beach communities to highlight the need to for interested people to know what to look for and how to report possible detections to MPI. This beach plant, which grows to 70 cm tall, is widely naturalised in Australia and invades coastal areas, displacing local species and colonizing open sand areas favoured by nesting birds.

3.2.3 Contact with landowners regards paddock cover or crop changes to the velvetleaf infection zones is underway. We use this information to remind farmers of the need to practice good equipment hygiene and to justify surveillance using the sniffer dog.

4 REGIONAL PEST PLAN IMPLEMENTATION

4.1 Programme overview

4.1.1 The Biosecurity Plants activity is strongly linked to the delivery of Horizons' Regional Pest Management Plan 2017-37, which can be reached via the following link². The activity reporting is arranged in sections as per the RPMP groupings for pest management programmes as outlined in Table 2. More information on these groupings is on page 25 of the RPMP.

Table 2: Activity Summary for Biosecurity Plants.

Aim	Programme	Key Deliverables	YTD Progress
Preventing establishment	Exclusion Programme	Keep unwanted pest plants that are not present out of the region.	Searching for: No locations/plants this period.
Eradicating	Eradication Programme	Controlling and reducing the prevalence and extent of Eradication species.	Species targeted for control this period are alligator weed, climbing alstromeria and woolly nightshade.
Rolling back	Progressive Containment Programme	To contain and reduce the geographic distribution of the pest to an area over time.	Species controlled this period are banana passionfruit, boneseed, Darwin's barberry and pest pines.
Maintaining low densities	Progressive Containment – un-mapped.	Ongoing control to reduce its impact and spread to other properties.	Site inspections for production plants and responding to boundary complaints.

² <http://www.horizons.govt.nz/HRC/media/Media/Pests/2017-2037-Regional-Pest-Management-Plan.pdf>

4.2 Activity Update

4.2.1 A paper updating Council on the progress of the regional **Pest Management Plan 2017-37** (RPMP) was presented on 13 October. The update identified that nine of the 55 species in the RPMP are not likely to meet the control objectives set out in the plan. The table below summarises those species not likely to meet their objectives. Council resolved to consider the management of these weeds as a part of the Long-term Plan process.

Table 3: Species not likely to meet RMP objectives.

Designation	Species with objectives unlikely to be met	Notes
Eradication	Chinese pennisetum	Grass pest in pasture, low numbers so theoretically achievable, total elimination will require more farmer responsibility and staff resource. Land use change from pasture to retirement is a risk.
	Purple loosestrife	Eradication is theoretically achievable with low numbers of sites and a weed that is easily found. The main issue is safe access to sites around Lake Horowhenua and other land holdings in the area, as well as limited herbicide tools for use in wetlands.
Progressive containment - mapped	Evergreen buckthorn	Species is difficult to find as seeds are dispersed by birds and mixed with other vegetation over a large area. Hot spots are Levin, Waiterere Beach, and Whanganui rural areas. Surveillance post RPMP designation has discovered a larger than expected regional population.
	Old Man's Beard	Suppression more likely as spill over from Good Neighbour Process Zone (GNPZ), other agency programmes and infected terrain will make eradication costly.
Progressive containment- unmapped	Eelgrass, Egeria, hornwort, lagarosiphon, reed sweetgrass	Eradication of aquatic weeds at sites is difficult to achieve due to late discovery and low probability of success. There are challenges with control operations in freshwater environments including cost and restricted methodologies available for use in aquatic environments.

Preventing establishment - Exclusion programme

4.2.2 For those pest plants that are in New Zealand but not in our region, our goal is to prevent establishment. We aim to detect these plants before they become widely established in the region and facilitate a quick response through appropriate funding that will enable the control or management of these species on ratable land. There are 11 species in this category and Chilean needle grass is an example.

4.2.3 Update of inspection register and interrogation of the iNaturalist online network for any possible detections.

Eradicating – Eradication Programme

- 4.2.4 High-risk species that should be totally removed from the region are managed via the Eradication programme. There are 18 species in this category and at the start of the year our information reported that 84% of the 1,624 sites were at zero levels.
- 4.2.5 The team continue to focus on alligator weed. We sent flyers to households and land owners across the broader Mangaone and downstream Manawatū River catchment, as well as targeted letters to 70 land occupiers directly in the historic inundation zone of the lower Manawatū; in an effort to seek any new sites and the source of the current infestation.
- 4.2.6 These enquiries resulted in members of the public sending in photos to be checked, and a few physical inspections were undertaken but none were alligator weed. Alligator weed being prioritised has impacts on other programmes.



Figure 1 *Palmerston North Tramping Club surveying the Kawau Stream, Palmerston North. (K. Hoggard)*

- 4.2.7 We inspected 30 likely deposition areas along the Manawatū River over two weeks, and given the river is tidal we inspected the bottom section of drains and streams feeding into the river. We also changed the surveillance technique in the Mangaone Stream from walking along the high banks of the stream to wading the full length, except for the lower section which we accessed via canoe. The change in technique was due to dense vegetation at the water level

preventing a thorough and reliable survey result. We now spend approximately 80 hours surveying the 10 km stretch of the Mangaone and the next inspection wade will occur in November, followed by 2 -3 more inspections before May.

- 4.2.8 The team have been buoyed by strong community support from environmental and farmer groups in the area. We have attended meetings and provided flyers and information for dissemination. The Palmerston North tramping club offered to help with surveillance and we were very grateful for their assistance along the Kawau Stream.
- 4.2.9 The next surveillance focus will be upstream of Palmerston North and through Bunnythorpe towards Colyton. We are monitoring historic sites for signs of regrowth to give us an indication on control and publicity timeliness.
- 4.2.10 The vegetation removed from the Mangaone stream in May 2020 was composted at Horizon' poplar nursery in Bulls over winter and was collected and dumped at Bonny Glenn landfill in late August. The plants were at various levels of decay and composting was beginning but was slow given the large amount of soil in the bags. Bonny Glen operators dug a hole at the bottom of a pit which was to be covered by 20 metres of refuse.

Rolling back – Progressive Containment Programme

- 4.2.11 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 Progressive Containment objective. For each species managed this way, an active management zone is defined within which the pest plant species will be controlled wherever it is found, as in the Eradication designation
- 4.2.12 The Progressive Containment Programme is split into the species that are mapped (e.g old man's beard and banana passionfruit) and the species that are unmapped (e.g gorse and tutsan).

Progressive Containment - Mapped Species

- 4.2.13 Eleven Progressive Containment species fall into the mapped category (e.g. old man's beard). At the start of the year the data showed 73% of 2,721 sites were at zero levels in the actively managed zones for these species. A more robust method of defining sites has been enabled by the new version of the WEEDS software that the team use to track and report activity and as a result, the number of individual sites was altered to combine search areas with multiple smaller sites within an homogenous operational area and count them as one site; this meant a reduction in site numbers. The measure of the percentage of our sites at zero levels remains a sound interpretation of the progress towards our targets, and the newer data measures of

“Extent” and “Area” allow the team to better communicate the hectares of land to be searched for pest plants, which should decrease over time.

- 4.2.14 Boneseed is targeted during the late winter months when it is flowering. A weed of coastal and urban areas predominantly, it is also a plant occasionally taken by gardeners for its flowers and has turned up in some inland places.
- 4.2.15 Boneseed is known to stretch from Whanganui to Hokio beach on the west coast. A larger than expected amount was found in forests around Waitarere after an intensive inspection period this winter. Good control has been established in the town but the dune land and forest edges will require many years of contractor intervention to maintain zero-levels.



Figure 2 Peri-urban boneseed, Whanganui city. (R.Sicely)

Progressive Containment – Unmapped species

- 4.2.16 Fifteen Progressive Containment species fall into the unmapped category (e.g gorse). These species are generally widespread but some parts of the region are clear and it is desirable to keep them clear. This programme does not have a strong information base to report on progress against these weeds. Horizons' involvement is primarily through regulation via the Good Neighbour or Clear Land rules of the Regional Pest Management Plan 2017-37 (RPMP) and through non-regulatory advice or in some cases by biological control. For occupiers of

large land areas, farmers, and other organisations we have the ability to allow responsibility to be acknowledged and actions planned via Approved Management Plans. The intent of these plans is to meet the objectives of rules and contribute to the outcomes of the RPMP by eradicating or reducing the spread of pests from the place(s) occupied or managed by the plan-maker.

- 4.2.17 Species we dealt with during the June to August reporting period included blackberry and gorse. A small number of Good Neighbour complaints were received.

Table 3: Summary of Good Neighbour Rule activity for the period July 2020 through June 2021.

Description	Reporting Period				2020-21 totals
	1	2	3	4	
Boundary complaints received and actioned outside of compliance	2	0	0	0	2
Required to Clear notices (RTCs) issued	0	0	0		0
Notices of Direction (NODs) issued	0	0	0	0	0
Notices resolved in this period	0	0	0	0	0

4.2.18 Staff have spoken to territorial authorities and Crown agencies in Horizons' Region about their Pest Management Plan obligations and agreement has been reached on pest programmes with five of the seven councils. The agreements are in the form of Approved Management Plans which set out how the entity will achieve their RPMP obligations. The Crown entities (DOC, KiwiRail, LINZ, NZTA) are engaged and at various stages of reaching an agreement.

TLA/ Crown Agency	Approved Management Plan	Memorandum of understanding	Notes
Ruapehu District Council	27/08/2020		
Rangitikei District Council			Rangitikei District Council using external consultant to develop AMP
Whanganui District Council	27/08/2020		
Manawatu District Council	30/09/2020	Consultation	
Tararua District Council	3/09/2020		
Palmerston North City Council			Waiting to receive AMP
Horowhenua District Council	1/09/2020	Consultation	
NZTA – Southern	27/08/2020		
NZTA - Northern			Consultation staff dependant
Kiwirail			Being worked on.
DOC			Consultation - ongoing
LINZ			Consultation - ongoing

4.2.19 Horizons has drawn up a Memorandum of Understanding template for use with, district councils. This was deemed necessary to ensure we were giving due recognition to the requirements within the RPMP and utilising a robust document which sets out long-term expectations of operating under the RPMP and pest plant management for all parties. The document is with two councils for consultation, and following feedback the remaining councils will be offered copies through ongoing RPMP engagement.

Progressive Containment – Unmapped aquatic species

4.2.20 Aquatic pest plants are also part of the Progressive Containment – Unmapped grouping of the RPMP and are grouped together on the basis that they are aquatic pests managed the same way for the same objectives. Eel grass, egeria, hornwort, lagarosiphon and reed sweetgrass are aquatic pest plants included in the Progressive Containment section of the RPMP 2017-37. Their distributions are not yet mapped with any certainty and our aim is to progressively contain or reduce the number of sites affected across the region, to prevent further spread and to reduce adverse effects on the environment.

5 BIOLOGICAL CONTROL

5.1 Programme overview

5.1.1 Many entrenched pest plants in the region are now the target of our Biological Control programme, which aims to assist the development of insects and diseases to control a wide range of pest plants and to release, distribute and monitor those agents within the region.

5.2 Activity Update

Tradescantia rust has been released for the second year in a row. Requiring a number of unusual conditions at introduction, this is the fourth bio-agent released against the pest, the other three being plant eating insects.



Figure 3 Planting infected material amongst a healthy population of tradescantia. (R.Sicely)

- 5.2.1 We made this release in what should be a prime location for the fungus to establish. For successful establishment it needs a shady, low wind, high humidity climate, and staff hope this site in Whanganui satisfies the requirements and that the weather plays its part to encourage establishment.
- 5.2.2 Staff will monitor progress of the release and will report back as part of the 20 sites included in the Biocontrol Annual Plan monitoring target.

6 INVESTIGATION

6.1 Programme overview

- 6.1.1 A number of plants present in the region may have the potential to become economically and ecologically damaging. This output contains the Pest Plant Investigation programme and the **National Pest Plant Accord** (NPPA).

6.2 Activity Update

6.2.1 Nothing to date.

7 ADVICE, PROMOTION AND AWARENESS

7.1 Programme overview

7.1.1 The aim of the Awareness Programme is to alert the community to the issues, threats and solutions of weed management, to ensure region-wide best-practice pest plant management. This includes responding to enquiries from the community and undertaking collaborative projects.

7.2 Activity Update

7.2.1 The pest plant team received 24 enquires during July through September and all were attended to within three working days.

8 COLLABORATIVE PEST PLANT CONTROL

8.1 Programme overview

8.1.1 Collaborative projects undertaken by Horizons staff and external stakeholders provide a team approach to managing weeds in some challenging environments. Working with others and providing advice and leadership has delivered some excellent results that otherwise would not have eventuated. A summary of this activity is provided in Table 4.

8.1.2 In September 2020 Council received a paper outlining the enlarged National Wilding Conifer Programme and resolved to be the fund manager for the Central North Island. This role involves Horizons staff providing leadership and secretariat services for the steering group, receiving and managing the funds for the programme from MPI, and disbursing funding to stakeholders once surveillance and control operations are completed. This programme has significantly increased in scale and activity and is aimed at eradicating wilding conifers from the landscape. Horizons share of the programme funding is \$329,000 for the 2020-21 year, and up to \$1.2 million over the next four years.

Table 4: Collaborative Pest Plant Control Projects.

Project	Key Deliverables	YTD Progress	Horizons Role
Wilding Conifer – Central North Island Regional Coordination Group (RCG) – Fundholder and Chair	Work with partners and other stakeholders re: <ul style="list-style-type: none"> ▪ Planning for management unit activity and reporting ▪ Managing the budget ▪ Annual meeting scheduled 	Ministry of Primary Industries - Horizons contract agreed to be signed by council; partners' new contracts prepped.	Contracted to Government as the agency for managing Central Government funding for this activity in the broader area.
Waimarino-Tongariro National Park Darwin's barberry control programme	Coordinated control across public and private land to increase the protection of previously cleared areas.	Programme underway.	Organiser of control programmes on private land.
Rangitikei Horsetail Group	Support group activity with population releases and monitoring.	Meeting held and planning for release of more weevils this spring and final field day for SFFF funding planned for summer.	Partner to group and access to weevils and advice.
Desert Road Invasive Legume Control Group	<ul style="list-style-type: none"> ▪ Relationship between parties maintained. ▪ Memorandum of Understanding maintained and implemented. ▪ Coordinated action in priority areas is undertaken against the target species. 	Meeting held and collaboration agreements progressed with the intention for multiple parties to use a single contractor. Gorse distribution and abundance map endorsed for creating. Flights this October.	Coordinate meetings and collaborative activities.
Freshwater Biosecurity Partnership Programme and Check, Clean, Dry (CCD) advocacy programme.	Representing Horizons at a national forum to champion behaviour change and freshwater protection. Attendance at high-risk events and strong advocacy with the main users of waterways in our headwater areas.		Provide and manage the programme in the greater region.

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