



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);
- The Biological control programme - Undertaking biological control agent programmes including supporting community-led projects, 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 is limited at this time of year as many of the programmes are mostly delivered during the summer period.

Table 1: Progress reporting for Biosecurity Plants Annual Plan targets for 2019-20.

Performance Measures for Levels of Service	2019-20	Progress to Date
Any exclusion category pest plants that are found in the region are promptly managed. Where exclusion category pest plants are found in the region, an initial response plan will be completed within 2 weeks and then enacted (if not enacted before 2 weeks).	Number of response plans required. Percentage where a response plan has been produced within 2 weeks (target 100%) Number of response plans enacted with their specified timeframes (target 100%)	None required
Number of managed sites at zero-levels increases for pest plants identified for eradication in the Regional Pest Management Plan.	Overall % of managed sites at zero-levels increases by 10%	75% at start of the year ¹ .
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%	78% at start of the year
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	Biocontrol programme underway with planning for old man's beard (OMB) gall mite release
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	Sites assessed for broom gall mite impact and tutsan agent establishment.
Pest plant enquiries received are responded to within 3 working days.	95% of enquiries will be responded to within 3 working days	100% of enquiries responded to within three working days.

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>

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 **Ministry for Primary Industries** (MPI) and Regional Councils.

3.2 Activity Update

- 3.2.1 November-December was a busy period of small-scale incursion activity. We were alerted to a compliance breach of the pea weevil controlled area notice in Greytown, where a gardener was found to be growing peas with pea straw. This had the potential to jeopardise the last year of the response due to the previous couple of years trap cropping not presenting pea weevil detections and national sampling of peas also showing no pea weevils.
- 3.2.2 Velvetleaf-infected paddocks were inspected for surveillance. A number of these paddocks are in crops and were to be further inspected in late summer using a trained dog.
- 3.2.3 A live brown marmorated stink bug (Photo 1) was handed into the Department of Conservation's Whakapapa information centre, and their staff contacted Horizons to alert the Ministry for Primary Industries and to ask what to do next. The lone adult was found by a tourist who had arrived from a known stink bug hot spot in the United States the previous day, and upon rolling out a sleeping bag for the first night camping in New Zealand was able to catch and bag it. The information centre staff placed the bug in the freezer and shipped it to MPI for identification. The MPI response was minimal as the discovery of a lone adult was considered very low risk. If an aggregation of 10 or more is discovered there is likely to be breeding potential and population establishment. The bug is not established in NZ but is widespread in the US, Europe and Asia and has the potential to damage the economy and become a household pest. It attacks a wide range of crops including kiwifruit, grapes, apples, citrus, stone fruit and corn. We encourage any sightings to be reported to MPI 0800 809 966.

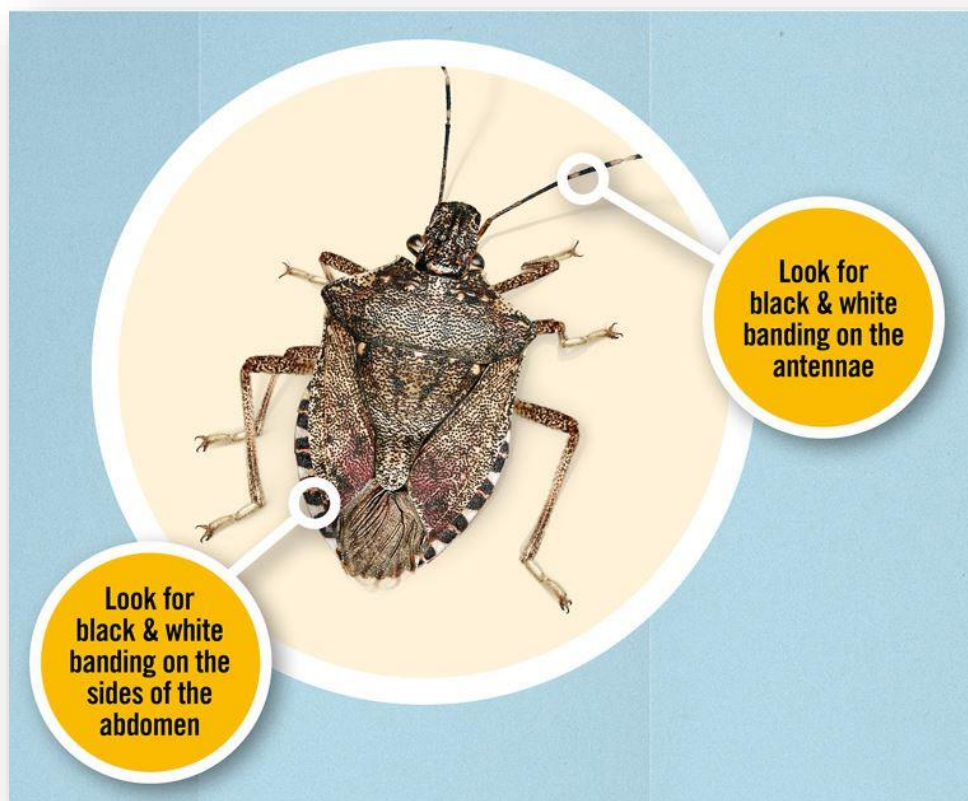


Photo 1 Brown marmorated stink bug, with diagnostic advice. (MPI)

- 3.2.4 Horizons facilitated the response to a new-to-our-region discovery of Chinese knotweed (*Persicaria chinensis*) (Photo 2). The plant is a rapid grower and if left unchecked will quickly smother most vegetation and is even known to out-compete Japanese knotweed. It is associated with herbal remedies and is known to be distributed via the Chinese community for culinary and cultural purposes. The sites were found by a Taranaki Regional Council staff member on holiday in Palmerston North. Horizons staff were alerted and visited the site to talk to the occupiers and assess the extent and likely control scenarios. MPI was informed as the plant is under a national eradication programme. One of the sites was on Palmerston North City Council reserve land adjacent to the original planting and with the assistance of a Chinese-speaking PNCC staff member and their parks team, MPI were able to organise control and undertake a track-and-trace of the pest's history which revealed no new sites.



Photo 2 Chinese knotweed with atypical leaf markings and stem form. (Stephen Thorpe; iNaturalist)

3.2.5 Horizons was notified on 19 December of what has since been confirmed as the first discovery of sea spurge (*Euphorbia paralis*) on our west coastline. An amateur botanist discovered the plant in the Himatangi dunes and posted photos to iNaturalist, an online geospatial plant observation community. Members on the forum alerted MPI and DOC to the post and DOC informed Horizons. DOC retrieved the only known plant for formal identification prior to seeding and MPI are now leading any further activity in the response. Sea spurge is only known in New Zealand at two other sites, a Mokau site found at the same time as the Himatangi site and a larger and previously well-established site at Aotea Harbour in the Waikato. Sea spurge is a northern hemisphere plant which is causing major environmental challenges along the Southern Australian and Tasmanian coast due to the transformational change it causes to the coastal strip. An invader to the southern hemisphere, it appears to have been rapidly spreading since around the turn of the century. Since arriving in Perth in 1927 its population has expanded and

now a large infestation is spreading from Perth around the southern coast to Victoria and Tasmania. Australia is attempting to contain the spread but seed, which can survive for six years on the ocean currents, arrived on Lord Howe Island in 2004 and now is constantly threatening our coast line. Its white sap is toxic to humans and animals, making walking through sites dangerous, and transforms dunes with its vertical growth habit. It requires long-term control operations due to a 2m tap root. Sea spurge infestations have caused major environmental problems at many Australian beaches by displacing native plants and changing natural patterns of sand movement. MPI is the lead agency in the response to this incursion and Horizons may assist MPI and DOC with further survey.



Photo 3 Severe infestation of sea spurge at Wilson Promontory in Victoria: What New Zealand beaches could possibly look like in the future.

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

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

is arranged in sections as per the RPMP groupings for pest management programmes as outlined in Table 2 below. More information on these groupings is located 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.	No plants were discovered for species targeted this period: Tussock Hawkweed.
Eradicating	Eradication Programme	Controlling and reducing the prevalence and extent of Eradication species.	Species targeted for control this period; alligator weed, blue passionflower, cathedral bells, Chilean rhubarb, climbing spindleberry, knotweed, nassella tussock, 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; banana passionfruit, darwins barberry, evergreen buckthorn, moth plant, old mans beard, and pest pines.
Maintaining low densities	Progressive Containment – un-mapped.	Ongoing control and to reduce its impact and spread to other properties.	Inspections for production plants and responding to boundary complaints.

4.1.2 A paper on progress on the RPMP is scheduled for presentation to Council in March-April. This will update an assessment of the likelihood of achieving the outcomes identified for plant species included in the RPMP.

4.2 Activity Update

Preventing establishment – Exclusion programme

4.2.1 For those pests that are in New Zealand but not in our region, our goal is to prevent establishment. We aim to detect these pests 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 rateable land. There are 11 species in this category and Chilean needle grass is an example.

4.2.2 Tussock hawkweed is best searched for in Spring, and as the closest known site to our region is at the Lakes Reserve, Kuripapango, in the Kaweka Forest Park in the Hawkes Bay area. It has potential for incidental spread from trampers, campers etc. Two nearby camping locations in Horizons' region were assessed with no plants found this year.

4.2.3 Chilean needle grass is a serious pasture pest which injures livestock and severely limits the stock carrying capacity of infected land. Known from Hawkes Bay near Waipawa, it presents a high risk to our drier farming areas and hill country. Surveillance coincides with flowering from November through February. Staff have been checking likely sites and will continue to engage with Hawkes Bay Regional Council staff regards spread minimisation and any new sites which may pose a greater distribution risk to farming in our region.

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 75% of the 1,610 sites were at zero levels.

4.2.5 Staff have been searching for methods to deliver the best control with minimal collateral damage for the places they are located for some time. Many sites are inaccessible to ground contractors except for abseilers and the option of aerial treatment can be costly and may lead to off-target damage. We have used a drone operator against Darwin's barberry at Tongariro National Park and this year a local operator was engaged to control Chilean rhubarb on river cliffs. The drone was able to fly across a river and treat individual plants with a modified drone spraying system which applied herbicide directly to the plants in a quick and efficient manner. We were able to avoid health and safety issues due to the cliffs and cover a lot of sites in a short time.



Photo 4 Drone about to spray gunnera on cliffs along the Mangahao River (J Keast).

Rolling back - Progressive Containment Programme

- 4.2.6 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 per the Eradication designation
- 4.2.7 The Progressive Containment Programme is split into the species that are mapped (e.g. old man's beard) and the species that are un-mapped (e.g. gorse).

Progressive Containment - Mapped Species

- 4.2.8 Eleven progressive containment species fall into the mapped category (e.g. old man's beard). At the start of the year the data showed 78% of 4,369 sites were at zero levels in the actively managed zones for these species.
- 4.2.9 An assessment of old man's beard management options was completed and is a topic for consideration by Council at the 12 February Environment Committee meeting.
- 4.2.10 After a recent minor over-spray incident at an aerial control site, the pest plant team are developing a template of considerations when working within One Plan Schedule F Biodiversity habitats. These are primarily those which are rare, threatened or at-risk habitat. Many of the control sites the team works in are within these habitats and the pest plants we target threaten to degrade and transform them. The control options we use and the way we communicate to those undertaking the work will acknowledge the significance of the habitat and the need to balance pest removal with species and place protection.

Progressive Containment - Unmapped species

- 4.2.11 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 of them 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 in these weeds is primarily through regulation via the good neighbour rules or clear land rules of the Regional Pest Management Plan 2017-2037 (RPMP) and through non-regulatory advice or in some cases biological control. For occupiers of large land areas, farmers and 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 objective 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.
- 4.2.12 Species we dealt with during the November-December reporting period included blackberry and gorse. A small number of good neighbour complaints (Table 3) were received, predominantly regarding weeds between neighbouring properties and on roadsides.

Table 3: Summary of Good Neighbour Rule activity for the period July to October 2019.

Description	Reporting Period				2019-20 totals
	1	2	3	4	
Boundary complaints received and actioned outside of compliance	4	2			6
Required to Clear (RTCs) issued	0	0			0
Notice of Direction (NODs) issued	0	0			0
Notices resolved in this period	0	0			0

4.2.13 Staff have spoken to councils in Horizons region and Crown agencies about their Pest Management Plan obligations. Agreement has been reached on pest programmes with six of the seven Councils. The Crown entities (DOC, Kiwirail, LINZ, NZTA) are engaged and at various stages of reaching an agreement, and Council will receive regular updates of progress.

4.2.14 Higgins has provided a comprehensive road spraying schedule for the state highway network covering the majority of the region. Staff were able to feed into the notification of priority stretches of road. Combined Road and Traffic Services manage the northern SH4 and SH43 runs and have also provided a spray programme for the year to monitor.

Progressive Containment - Unmapped aquatic species

4.2.15 Aquatic pest plants are also a part of the Progressive Containment – unmapped grouping of the RPMP. Aquatic pest plants are grouped together on the basis they are aquatic pests managed the same way for the same objectives. Eelgrass, 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. The aim is to progressively contain or reduce the number of sites affected across the region to prevent further spread and reduce adverse effects on the environment.

4.2.16 Lake Namunamu, west of Hunterville, is closed for the summer for personal use by the owners. NIWA are still to provide guidance on whether Eradication of hornwort is a feasible proposition at this important ecological site.

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 within the region.

5.2 Activity Update

5.2.1 Green thistle beetle is a popular and sought-after biocontrol agent. This year low numbers of beetles at the sites used to gather beetles for distribution meant demand for them could not be met. Approximately 80 farmers are on the list and only about eight were able to be provided with beetles.. We are not sure why this happened, but typically there are annual fluctuations. It could also be recovery from previous years over-harvest or high winds leading to greater dispersal. One staff member was able to collect enough green thistle beetles for three releases prior to a farmer spraying the farm for thistles. Despite good numbers of beetles present, interestingly on winged thistles, the farmer had a planned spray event and the staff member decided to quickly remove as many as possible prior to the food source being diminished. Despite the disappointing harvest conditions, one encouraging sign is the number of self-established sites located up to 10 km from known populations.

5.2.2 Establishment assessments were made for the tutsan leaf feeding beetle and seed eating moth, the privet lace bug and the japanese honeysuckle white admiral butterfly. None have been found established but it is only two years since they were released.

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 Giant buttercup is one of the plants being assessed for potential inclusion into the RPMP and trials into control and likely best options for rules or plan designations are being assessed with a decision due at the end of June 2020. A staff member attended an open day with AgResearch at the giant buttercup mowing trial farm. The scientists were talking about their research to date

and the staff member presented on the on-farm experiment we are undertaking in conjunction with the farmers from Takaka. A few weeks later the staff member returned and undertook the six-monthly population survey at the trial site, which showed a significant reduction in the abundance of giant buttercup where mowing is undertaken.

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.

7.1.2 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.

7.2 Activity Update

7.2.1 The pest plant team received 42 enquires in November-December with the main topics being:

- Production (15) - blackberry and field horsetail.
- Zero-Density (13) - old man's beard
- Non-Pest Plant (15) - privet and pink ragwort
- Others (1) - freshwater weed

All enquiries were dealt with within the three working days required.

7.2.2 A summary of activity across a range of collaborative project with stakeholder groups is provided below (Table 4).

Table 4: Collaborative Pest Plant Control Projects.

Project	Key Deliverables	YTD Progress	Horizons Role
Wilding Conifer – Central North Island Regional Steering Group (RSG) – Fund holder and Chair	<p>Work with partners and other stakeholders re:</p> <ul style="list-style-type: none"> ▪ Planning for management unit activity and reporting ▪ Managing the budget ▪ Annual meeting scheduled 	<p>Ministry of Primary Industries - Horizons contract signed; partners' variations signed. Work across the programme area. No health and safety issues. Manage a fund of \$371,000 initially but this has been recently expanded as MPI brought forward funding. New quantum is \$473,000.</p>	<p>Contracted to Government as the agency for managing central government funding for this activity in the broader area. Lead agency in planning and coordinating activities.</p>
Waimarino-Tongariro National Park Darwin's barberry control programme	<p>Coordinated control across public and private land to increase the protection of previously cleared areas.</p>	<p>Programme completed in Waimarino. Work occurred across 15 'blocks' of private land.</p>	<p>Organiser of control programmes on private land.</p>
Rangitikei Horsetail Group	<p>Support group activity with population releases and monitoring.</p>	<p>Application to Sustainable Farming and Futures Fund for one-year extension lodged. Required for multiplication of recently imported second tranche of English weevils. Yet to hear result.</p>	<p>Provide leadership and access to weevils and advice</p>
Desert Road Invasive Legume Control Group	<ul style="list-style-type: none"> ▪ Relationship between parties maintained. ▪ Memorandum of Understanding maintained and out-worked. ▪ Coordinated action in priority areas is undertaken against the target species. 	<p>Meeting held and collaboration agreements took a leap forward with the expressed intention for multiple parties to use single contractor. No monitoring flights planned till 2020.</p>	<p>Coordinate meetings and collaborative activities.</p>
Freshwater Pest Partnership Programme and Check, Clean, Dry (CCD) advocacy programme.	<p>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.</p>	<p>Advocacy under way throughout Central Plateau.</p>	<p>Provide and manage the programme in the greater region.</p>

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