



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 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. The team were able to achieve the targets set against the long-term goals in all measures. A slight reduction in the percentage of sites at zero-levels eventuated in the Progressive containment mapped class of plants, due to increased funding providing additional

capacity to search and locate mainly adult sites. This programme is on track to meeting the Regional Pest Management Plan targets (Figure 2). Pleasingly, the tandem measure of plant area is reducing at a greater rate than the harder to achieve reduction in risk score; with a reduction of individuals covering nearly 70 hectares to an approximate total pest plant area of 42 hectares (Figure 3). The other measure is the Extent of Occurrence (Figure 4), the immediate vulnerable area requiring searching away from established sites. In 2019-20 the area was 77,000 hectares.

Table 1: 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%)	Site of <i>Sagittaria platyphylla</i> confirmed. One response plan required. Achieved.
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 increases by 10% per annum ([From the start date of the RPMP] 2019-20 target = 67%.	ZL% at start of the year ¹ 80%; 2019-20 result: 84% (Figure 1) Achieved.
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] 2019-20 target = 66%	ZL% at the start of the year, 75%. 2019-20 result: 73% (Figure 2) Increased number of new adult sites given more funds to survey reduced the overall zero-levels; however, the long-term target remains on track. Achieved.
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	National programme support and meeting attendance undertaken. Achieved.
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. Achieved.
Pest plant enquiries received are responded to within 3 working days.	95% of enquiries will be responded to within 3 working days	95% of enquiries responded to within three working days. Achieved.

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>

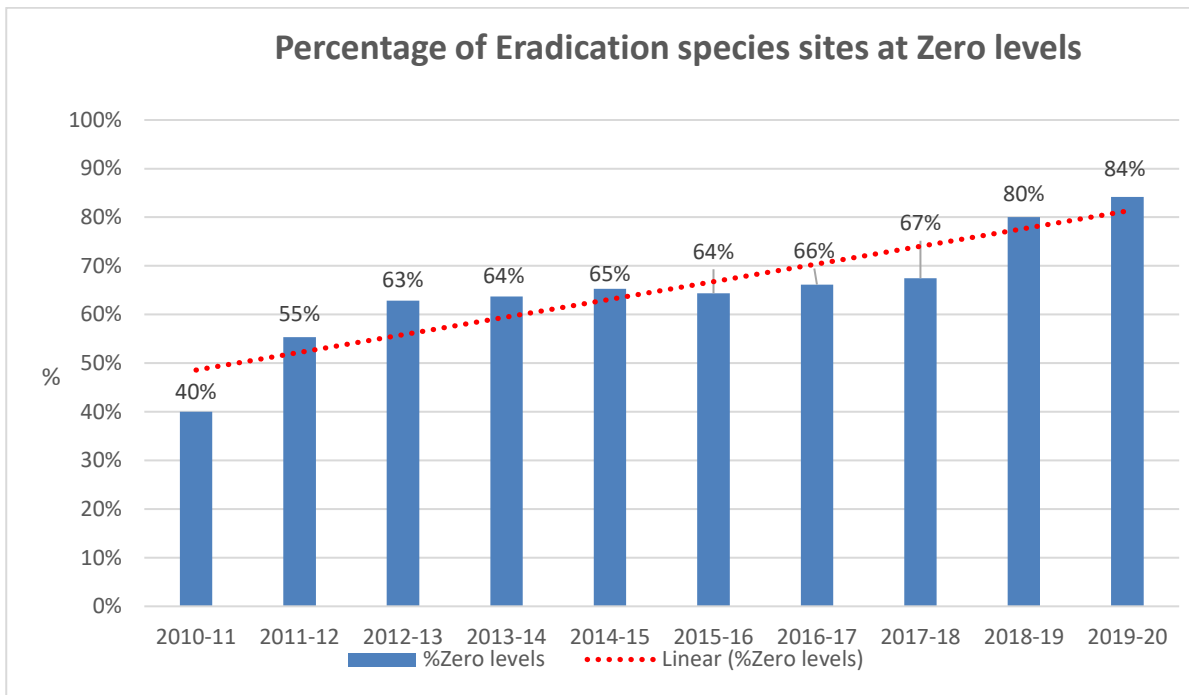


Figure 1 Year-on-year tracking of Eradication sites at Zero-levels

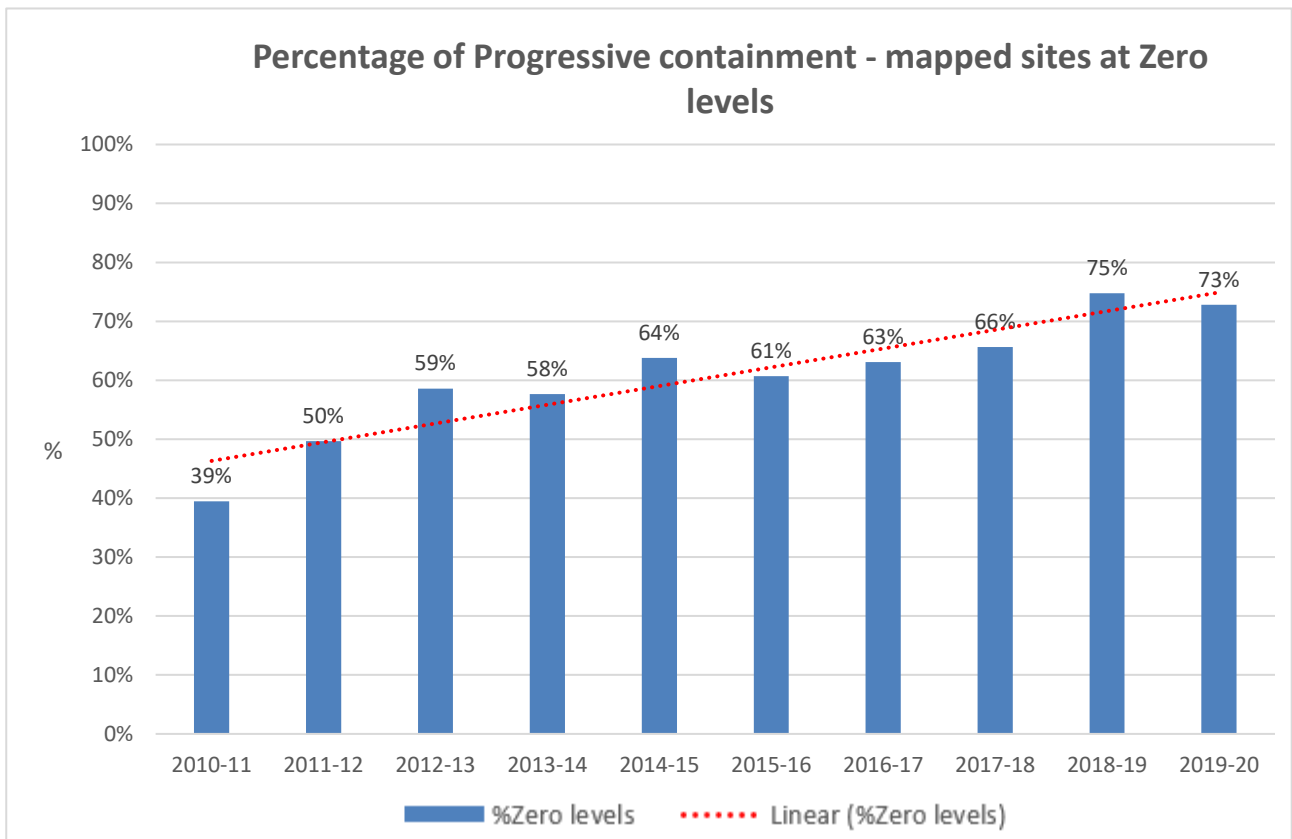


Figure 2 Year-on-year tracking of Progressive Containment - mapped sites at Zero-levels.

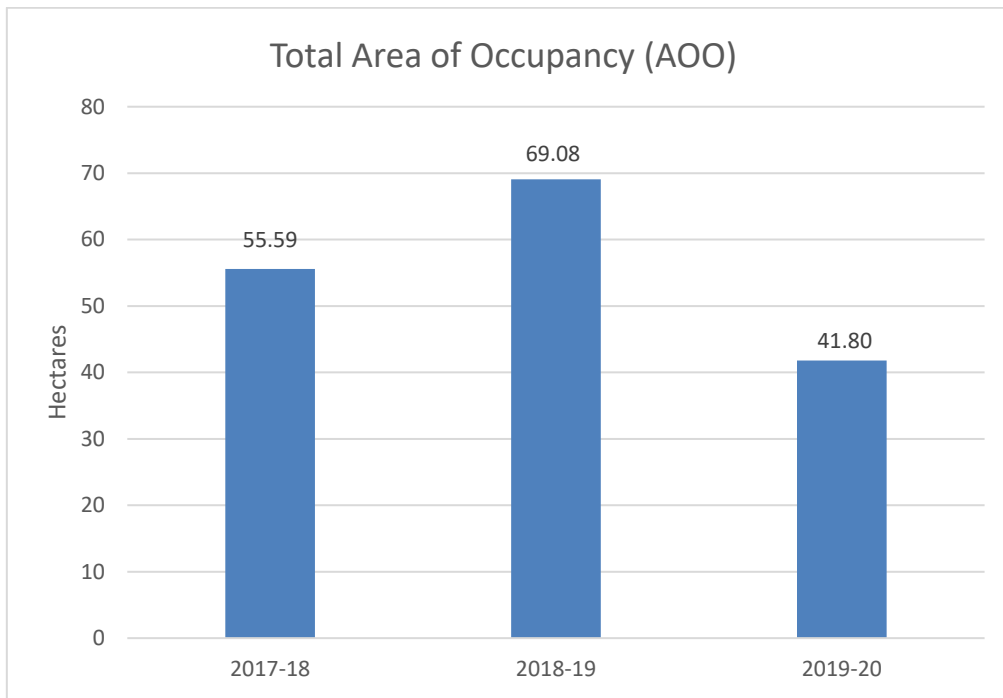


Figure 3 Total hectares of all pest plants under Horizons' active management within the Region.

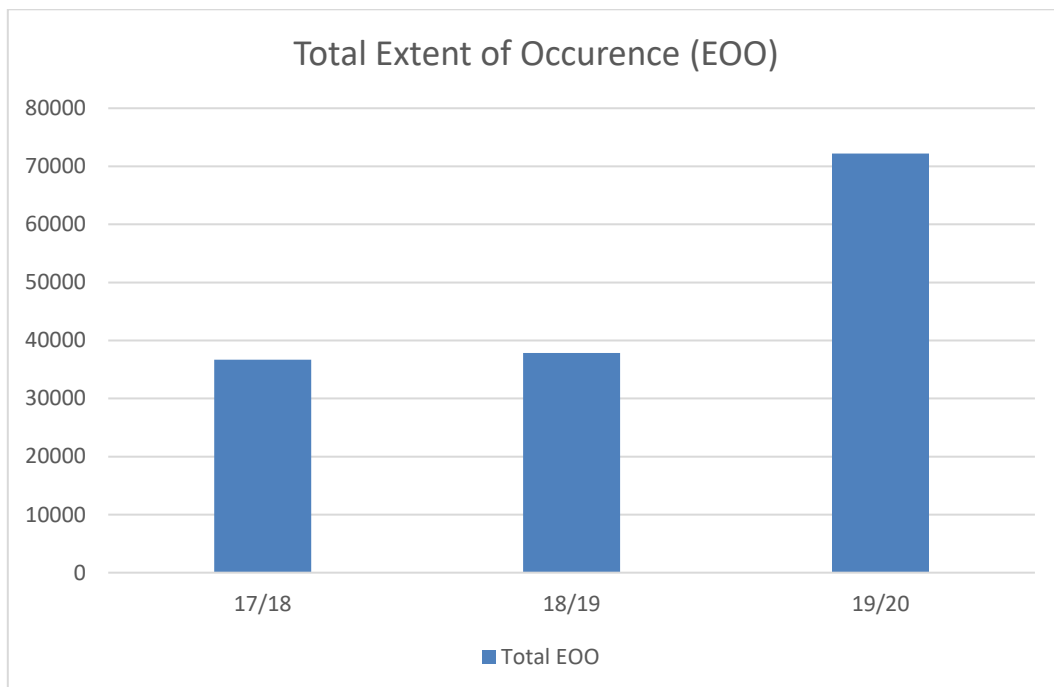


Figure 4 Total hectares of search areas within spread catchment from known sites.

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 No activity occurred on the ground in this period.

3.2.2 The Chinese knotweed site in Palmerston North City and managed jointly between Ministry for Primary Industries and Palmerston North City Council was inspected and good control was noted.

3.2.3 The sea spurge (*Euphorbia paralias*) incursion at Himatangi was a topic at a dune plant workshop at Foxton beach on 29 June, with the Department of Conservation, Horowhenua District Council, Horizons Regional Council, New Zealand Defence Force, and the Muaūpoko Tribal Authority, and one of the local dune advocates who discovered the plant.

3.2.4 After a flare-up of plants post-cultivation in one of the velvet leaf infection zone paddocks this year, staff created a Velvet leaf Story Map; essentially a webpage, to be used to keep the status of our region current and shareable with partners.

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.

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

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: Californian bulrush was suspected in the Mangaone stream, though identification of material from Landcare Research showed it to be a close relative, Lake clubrush.
Eradicating	Eradication Programme	Controlling and reducing the prevalence and extent of Eradication species.	Species targeted for control this period; alligator weed, cathedral bells, Chilean rhubarb, climbing alstromeria, spindleberry, knotweed, nassella tussock, Queensland poplar, rum cherry 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, old man's beard and pest pines.
Maintaining low densities	Progressive Containment – un-mapped.	Ongoing control to reduce its impact and spread to other properties.	Inspections for production plants and responding to boundary complaints.

4.2 Activity Update

Preventing establishment - Exclusion programme

- 4.2.1 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 rateable land. There are 11 species in this category and Chilean needle grass is an example.
- 4.2.2 During this period Hawkes Bay Regional Council confirmed Chilean needle grass seed is being transported uncontrolled through the Waipawa and Tukituki River systems. Because of this there has been a Notice of Direction placed on all gravel product movements out of the river corridor. The contaminated nature of the river system has potential implications for Horizons as there are contractors who work in both regions and potentially could source product from the Tukituki or Waipawa. Staff have looked into the issue, and so far the only product moved between regions is washed and graded metal, which is of minimal to no risk of contamination. A local Tararua concrete company do move some machinery in extreme circumstances, but they have a power washer on a truck to clean machines down before relocating.

Eradicating – Eradication Programme

- 4.2.3 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. Our full 2019-20 assessment has been completed and we now have 84% of 1,624 sites at zero levels.
- 4.2.4 The team have had a very large focus on alligator weed in this period. As earlier reported as soon as Level 3 was announced, staff got to work, treating, surveying for and removing large amounts of material from the infected areas to a secure site prior to permanent burial (Figure 5).



Figure 5 The decomposing vegetation post control - despite being in bags and wrapped in thick black plastic for 6 weeks, the roots are pushing up new growth; inset. (R.Sicely)

- 4.2.5 Pest Plant and Communications Team staff have been pushing information through most of the available channels. We have mailed out a flyer to 45,000 households in the lower Manawatū Catchment, produced a number of press articles, an interview on Radio NZ, HRC plus Fish and Game and other's Facebook posts along with engagement with community groups. Staff have liaised with council staff, contractors, and reps in the Northland area to learn from their experience of dealing with this invasive species. The weed is devastating to farmland, farm animals, and can clog waterways causing sedimentation and flooding. We cannot let this plant get established.
- 4.2.6 The attached maps (Figure 6) shows the full surveyed watercourses to date (overview) and the increased number of locations within the already known stretches of the Mangaone Stream. Post initial control visits revealed three issues.
1. Root material growing into the banks – Apollo Drain original site. These were dug out and then the site was spot treated. Ongoing monitoring and control will be required.
 2. Root material was deeper than estimated during the mechanised removal process and remained in-place, - since removed. Control operations need to be extensive and netted.
 3. Very low flows in late June revealed a further nine locations of previously hidden plants in the 10 km of stream surveyed. Survey techniques may need to be expanded. We are exploring the use of a trained alligator weed detection dog to add additional surveillance techniques to this project.
- 4.2.7 The known distribution is through the Mangaone Stream, Pest Plant staff are also pursuing robust and enduring systems for those interacting with the current infection zones to ensure spread does not occur from surveillance or control activities. The best practice is to ensure any machinery which engages vegetation in the stream environs is decontaminated before leaving the site. Vegetation removal from the areas of concern within the drain are treated as waste.
- 4.2.8 Any works within the Mangaone Catchment (HRC/PNCC) need to be checked by staff from the Pest Plant Team, when they are being planned. We need to ensure the work does not interfere with locations requiring intensive management, or become a vector in the spread of alligator weed to elsewhere. Job sheets and contracts for these sites will now need to be amended to include actions that do not exacerbate the spread of alligator weed in these waterways.

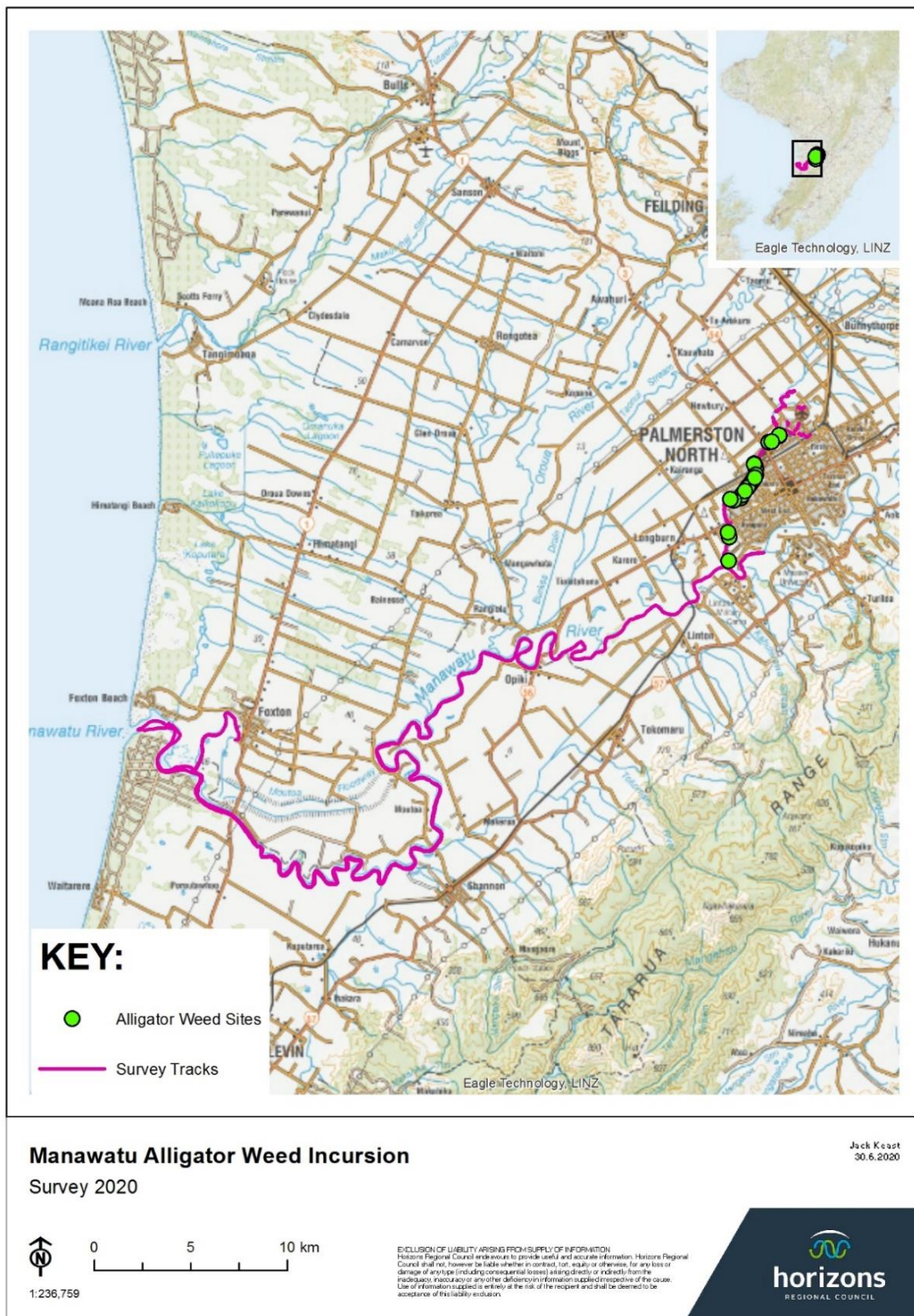


Figure 6 Surveyed river stretches March through June 2020.

- 4.2.9 Climbing spindleberry is targeted for surveillance during this period due to its stunning golden Autumn foliage. We accompanied this surveillance with a press release which was picked up by a number of outlets and we received a fair response from the public identifying nine likely sites requiring inspection.
- 4.2.10 With only a handful of sites in Taumarunui, woolly nightshade is nearly eliminated. However the odd bird dropped seed still pops up requiring the officer to maintain vigilant.



Figure 7 Woolly Nightshade plants quite a distance from the known source. (D.Alker)

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 the species that are un-mapped (e.g gorse).

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 78% of 4,369 sites were at zero levels in the actively managed zones for these species. Our full 2019-20 assessment has been completed and we now have 73% of 2,721 sites at zero levels. Due to a more robust method of defining sites, enabled by the new version of WEEDS software, 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; hence the reduction in site numbers. The measure of 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 and which should decrease over time.
- 4.2.14 A number species were worked on post COVID-19. Not all planned work was able to be completed due to contractor, time and weather constraints. If staff could not meet their control targets, some contractor expense was reallocated to aerial survey in preparation for next year's programme planning.
- 4.2.15 The pest conifer programme worked previously managed areas and also broke new ground with the broader species suite now under active management. Some large shelter trees of Scots pine (*Pinus sylvestris*) were removed (Figure 8) later in June as access was still possible despite the poor weather. With the broader scope to look at more than *Pinus contorta*, staff are finding new locations of species previously not on our radar. The image on the right of Figure 8 shows *Pinus stobus* spreading from nearby parent trees. We are aware of the spread potential of this species as it has previously been found in the middle of the Kaimanawa Ranges and although it has a potential to spread, due to low numbers planted there is only localised dispersal.



Figure 8 Contractors bring down large Scots pine near Ohakune (Left); a new species of wildings on the horizons - *Pinus strobus* (Right) (R.Bashford, D.Alker)

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 April-June 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 2019 through June 2020 2019.

Description	Reporting Period				2019-20 totals
	1	2	3	4	
Boundary complaints received and actioned outside of compliance	4	2	1	0	7
Required to Clear notices (RTCs) issued	0	0	0	1	1
Notices of Direction (NODs) issued	0	0	0	0	0
Notices resolved in this period	0	0	0	1	1

4.2.18 Staff have spoken to territorial authorities and Crown agencies in Horizons' Region 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.

4.2.19 Horizons has drawn up a Memorandum of Understanding template for use between Horizons and 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 out for consultation with two councils at the moment while the remaining councils will be offered the document through Annual Plan catch-ups and dependent on the feedback to date.

4.2.20 Yearly reports from all holders of Approved Management Plans are due 31 July 31. Inspections to-date on the state highway and rail networks are disappointing. Not all locations of Progressive Containment – unmapped plants need to be controlled, however comparing planned work with actuals has highlighted a number of areas requiring attention in 2020-21 across both networks, and staff will be actively following up.

Progressive Containment – Unmapped aquatic species

4.2.21 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.

4.2.22 Staff were alerted to a new site of eel grass by a new property owner. The site has no spread risk and is currently covering about 75% of a shallow pond covering 0.1ha. We have suggested using water fowl for control.

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

5.2.1 Staff contributed to the national assessment project of nodding thistle agents by visiting and interviewing a landowner of a property which received the nodding thistle bio-agents more than a decade ago. Staff also assessed the release sites and thistle population and found very few nodding thistles present.

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 Nurseries in the northern sector were inspected for the National Pest Plant Accord during this period, and nothing of concern was discovered.

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. A summary of this activity is provided in Table 4.

7.2 Activity Update

7.2.1 The pest plant team received 40 enquires during April and June and all were attended to within three working days. COVID-19 reduced our ability to deliver timely advice and prevented the team visiting sites, however once Level 1 started business was able to return to near-normal activity.

Table 4: Collaborative Pest Plant Control Projects.

Project	Key Deliverables	YTD Progress	Horizons Role
Wilding Conifer – Central North Island Regional Steering Group (RSG) – 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 signed; partners' variations signed. Work across the programme area. No health and safety issues. Managed a fund of \$371,000 initially but this has been recently expanded as MPI brought forward funding, and added under-utilised funds in other regions. New quantum is \$671,000. The Kaimanawa Memorandum of Understanding (MoU) was about 80% complete at the end of April.	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.
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 completed in Waimarino. Work occurred across 15 'blocks' of private land.	Organiser of control programmes on private land.
Rangitikei Horsetail Group	Support group activity with population releases and monitoring.	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.	Provide leadership 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 took a leap forward with the express intention for multiple parties to use single contractor. No monitoring flights planned until next financial year.	Coordinate meetings and collaborative activities.

Project	Key Deliverables	YTD Progress	Horizons Role
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.	Advocacy under way throughout Central Plateau. COVID-19 temporarily prevented advocacy work but this was to resume for about three weeks from Level 2 until the end of May.	Provide and manage the programme in the greater region.

Craig Davey
BIOSECURITY PLANTS COORDINATOR

Rod Smillie
BIODIVERSITY, BIOSECURITY & PARTNERSHIPS MANAGER

Jon Roygard
GROUP MANAGER NATURAL RESOURCES AND PARTNERSHIPS