

Report No.	20-142
Decision Required	

## PEST PLAN UPDATE

### 1. PURPOSE

- 1.1. To update Council on progress against the pest plant species managed within the **Regional Pest Management Plan (2017-37)** (the Plan).

### 2. EXECUTIVE SUMMARY

- 2.1. The region's biodiversity and productive capacity is threatened by pest plants. Pest plants transform ecosystems, sometimes irreparably. They can cause the collapse of forest canopies, smother regeneration in natural areas, modify coastal dune systems, invade alpine and tussock land, degrade wetlands, clog waterways and reduce the potential of agricultural land.
- 2.2. Pest plants also have a social element. Ratepayers identify that pest plants can diminish the natural capital of our region. People may struggle to access areas they want to use for recreation and vistas can change as weeds impact landscapes. Weeds can also impact landowners' activities. In summary, pests invade, impose costs and transform.
- 2.3. In recognition of its regional leadership role under the **Biosecurity Act 1993** (the Act), Horizons is the management agency for the Plan. A plan is made by Council fixing its seal once it has determined the process described in the Act was satisfactorily completed. This requires a council to propose a plan, complete requirements such as, but not limited to, checking consistency with the **National Policy Direction for Pest Management 2015** (NPD) and ensuring that each subject qualifies as a pest according to rigorous criteria, as well as undertaking consultation with those impacted by the presence of the pest plants.
- 2.4. This report reviews two years' progress against the objectives of the Plan. The Plan provides management objectives for 55 plant species. The plan also covers the pest animals (wallabies, possums, rabbits and rooks), and progress on these is not reviewed as a part of this report.
- 2.5. The Plan has a term of 20 years, with a planned review to begin within 10 years of the Plan start date (2017). This review, two years into the Plan, is intended to inform Council ahead of relevant decisions informing the Long-term Plan.
- 2.6. The 55 pest plant species covered by the Plan are managed differently, depending on their abundance and extent; management is aimed at either eradication from the entire region, or from mapped zones.
- 2.7. Horizons assumes the management responsibility for 34 species described in the Plan while 8 are the full responsibility of land occupiers and 13 are shared between Horizons and occupiers including the **Department of Conservation** (DOC). For species that appear on non-rateable or Crown land, the goal is to minimise the spread via a good neighbour rule and larger control programmes via Approved Management Plans or Memoranda of Understanding.
- 2.8. The intent of the Plan is to prevent, eliminate, or reduce the adverse effects of those organisms deemed pests and to maximise the effectiveness of the individual pest management action by way of a regionally coordinated approach.

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- 2.9. The 2017 Plan is a refinement of previous approaches to pest management, including new concepts of Clear Land Rules, Good Neighbour Process Zones, Approved Management Plans, and alignment with the NPDs Good Neighbour Rules.
- 2.10. The review two years into implementing the plan identifies that identifies that 46 of the 55 (84%) plant species in the Plan are on track to meet the Plan objectives and nine species out of 55 (16%) are not likely to meet the objectives set out in the Plan (Table 1).

**Table 1:** Potential levels of success for different designations.

Designation	Potential Level of Success			
	High	Likely	Low	Total
Exclusion	11			11
Eradication	9	7	2	18
Progressive Containment - Mapped	8	1	2	11
Progressive Containment - Unmapped	10		5	15
<b>Total</b>	<b>38</b>	<b>8</b>	<b>9</b>	<b>55</b>

- 2.11. The nine species where Plan objectives are not likely to be met are overviewed further in Table 2 and within the report. The report briefly overviews options to address the potential of Plan objectives not being met for these species including completing additional activity on these weeds and reviewing the Plan.

**Table 2:** Species assessed as having a low potential to meet Plan objectives based on current activity levels.

Designation	Species with objectives unlikely to be met	Notes
Eradication	Chinese pennisetum	Grass pest in pasture, low numbers so theoretically achievable; total elimination will need more farmer responsibility and staff resource. Land-use change from pasture to retirement is a risk.
	Purple loosestrife	Eradication is theoretically achievable with a low number of new sites and a weed that is easily found. The main issue is safe access to 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 and over a large area. Hot spots are Levin, Waitarere 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 very 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.

### 3. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 20-142.
- b. considers the results of the review of the Regional Pest Management Plan as a part of the budget process for the Long-term Plan.

### 4. FINANCIAL IMPACT

- 4.1. This item does not have a financial impact. Depending on Council's decisions on this paper, there may be a financial impact. Should Council choose to invest more in the programme, or to review and adjust the Plan to account for species where goals are unlikely to be reached, there will likely be a financial impact. The Long-term Plan process provides an opportunity to review investment in Biosecurity Plants activity. At this point there are no plans or resourcing allocated for a plan update process for the Long-term Plan.

### 5. COMMUNITY ENGAGEMENT

- 5.1. The Plan went through a range of internal and external steps in its formation, including a submission and consultation process. This is a public item and Council may deem it sufficient in terms of community engagement. The Biosecurity Plants team's work includes a range of community engagement and is reported regularly to Environment Committee.

### 6. SIGNIFICANT BUSINESS RISK IMPACT

- 6.1. This paper is not considered to have a significant business risk impact; however, it does provide some risk assessment about the Plan goals and whether they are able to be achieved. It also identifies some targets that are not on track to be achieved and which therefore present a risk to Horizons' reputation.

### 7. CLIMATE IMPACT STATEMENT

- 7.1. This decision is likely to have no or minimal increase in greenhouse gas emissions over the current level of emissions generated through the pest plant activities undertaken by staff and contractors.
- 7.2. Horizons is required to deliver the pest plant activity by the Regional Pest Management Plan 2017-2037, as provided for by the Biosecurity Act 1993.

### 8. BACKGROUND

- 8.1. Roles and responsibilities for biosecurity are set out in part 2 of the Biosecurity Act 1993. The Director-General of the **Ministry of Primary Industries** (MPI) provides overall leadership on pest management in New Zealand, including decision-making on new pest incursions and may lead responses where necessary. Regional Councils and Unitary Authorities provide regional leadership on pest management and have key relationships with communities in their respective regions.
- 8.2. The Biosecurity Act is a significant enactment and is the principal statute for managing pests and other harmful organisms in NZ. It also sets out the processes for providing resources needed to manage or eradicate such organisms.
- 8.3. The Act overrides any of these laws when a biosecurity emergency or provisional control programme has been declared under Part VII (Emergency Powers) of the Act. These

occasions will be limited because strict criteria govern when a biosecurity emergency or provisional control programme may be declared. These control measures are most likely to be used where the movement of people needs to be restricted or equipment commandeered, to prevent the spread or development of the organism of concern.

- 8.4. The previous **Regional Pest Plant Management Strategy** (RPPMS) (2007-12) was extended for an interim period of five years due to the timing of concurrent government processes. These included a review of the Biosecurity Act and the formation of the **National Policy Direction** (NPD) and a satisfactory consultation period for the changes proposed to our pest management. An outcome of the Biosecurity Act change was for all strategies to now be called Plans and for these to be nationally consistent in terminology and to account for and be constructed around regional outcomes. The NPD also dictates a finite set of designations for pests, and these are all used in the Plan except for site-led pest programmes.
- 8.5. The Act requires that Horizons be satisfied the named pests are capable of affecting:
- Economic wellbeing,
  - The viability of threatened species of organisms,
  - The survival and distribution of indigenous plants or animals,
  - The sustainability of natural and developed ecosystems, ecological processes and biological diversity,
  - Soil resources,
  - Water quality,
  - Human health,
  - Social and cultural wellbeing,
  - The enjoyment of the recreational value of the natural environment,
  - The relationship between Māori, their culture and traditions, and their ancestral lands, waters, sites, wāhi tapu, and taonga,
  - Animal welfare.
- 8.6. Horizons reviewed the species nominated by public submission and those previously managed by the RPPMS against these factors.
- 8.7. The Plan has a term of 20 years with a planned review to begin within 10 years of the Plan start (2017).
- 8.8. Species are managed in differing ways depending on their abundance and extent, for eradication from the entire region, from mapped zones or unmapped areas, depending on abundance and proximity.
- 8.9. Horizons assumes the management responsibility for 34 species while 8 are the full responsibility of land occupiers and 13 are shared between Horizons and occupiers including the Department of Conservation. For species that appear on non-rateable or Crown land, the goal is to minimise the spread via a good neighbour rule and larger control programmes via Approved Management Plans or Memoranda of Understanding.
- 8.10. The intent of the Plan is to prevent, eliminate, or reduce the adverse effects of those organisms deemed pests, and via the Plan to maximise the effectiveness of the individual pest management action by way of a regionally coordinated approach.
- 8.11. The Act requires the management agency of a pest plan to provide annual Operational Plans and an annual monitoring report. This paper is not the annual monitoring report. The annual monitoring report was provided to the Environment Committee on June 9 2020.

## 9. DISCUSSION

- 9.1. The Plan deals with species, and groups these into NPD-mandated designations of exclusion, eradication, progressive containment and sustained control. This discussion provides an explanation of each designation with an assessment of how Horizons and other occupiers and agencies are progressing against each species, some of which are new to regional management and others which have been managed for some time. We have relied on a mix of short-term and long-term infestation data collected by the pest plant team, along with staff experience and industry-based assessment.
- 9.2. A summary table is included in each designation section which 'scores' the species against the likelihood of the status quo interventions from Horizons and other partners, and including constraints or support contributing to the level of success against RPMP objectives. This level of success 'score' is represented by colours:
- **Green** - high probability;
  - **Amber** - potentially likely but with issues such as cost, external influence, plant characteristics and the like;
  - **Red** - low probability.
- 9.3. The scores were calculated using species-specific factors to build a weed risk assessment component, which is combined with current regional objective data collected since 2010. The factors and data used are:
- Number of sites
  - Known extent of occurrence; how much land needs to be surveyed thoroughly
  - Known area of occupancy; the area of plants requiring control
  - Annual cost of control
  - Confidence of known distribution
  - Programme risk factors; do we have confidence in surveillance tools to find locations and is the spread controlled?
  - Plant-specific characteristics such as how resilient to control, how long-lived are seed banks and are the plants able to be controlled prior to repeat seeding or spread events? and
  - The current zero-level status of the known infestation; how close are we already?
- 9.4. This report presents a summary of results for each of the RPMP categories i.e. exclusion, eradication and progressive containment, and then presents a summary section. The final section discusses options to address the species that are low probability of meeting their management objectives.

## 10. Exclusion pest plants

- 10.1. A large number of pest plants in New Zealand have the potential to expand their range and become a problem within the Horizons region. The Exclusion section of the Plan identifies some of these. The programme has been developed to assist early detection of new invasive species arriving in the region. The pest plants included in the Exclusion 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. The programme aims to detect these pests before they become widely established in the region and to facilitate a quick response through appropriate resourcing that will enable the control or management of these species on rateable land. Section 100V of the Act may be used to instigate emergency control of new incursions of pests that are not otherwise listed in this Plan.

### Summary

- 10.2. Our assessment, based on available information, is that none of the Exclusion species have been found to date and all eleven Exclusion species are on track (Table 3).



Table 3: Exclusion species summary

Species	Effort required to reach objective	Notes
Californian bulrush	Surveillance of Taumarunui ponds and other potentially infected effluent pond plantings and west coast estuaries	Previously known but eradicated, potential for coastal dispersal, nursery contamination low risk
Chilean needle grass	Surveillance of dryland farms, engagement with stock traders and Hawkes Bay Regional Council	
Heath rush	Surveillance	Only known of in the South Island.
Humped bladderwort	More intense surveillance and engagement with occupiers - known to be spreading south	Eradication once found is difficult so action needed to protect valuable water bodies. Most likely spread intentionally by humans
Manchurian wild rice	Coastal deposition location surveillance	Limited machinery movement and these plants are able to be found by detector dogs.
Noogoora burr	Cropland and pasture surveillance	Limited machinery movement and plants able to be found by detector dogs.
<i>Phragmites australis</i>	Surveillance and engagement with Hawkes Bay Regional Council	
Saffron thistle	Dryland surveillance and engagement with Hawkes Bay Regional Council	
<i>Sagittaria platyphylla</i>	Surveillance of garden and amenity ponds	
Sweet pittosporum	NPPA plant so working with plant nursery trade	Difficult to identify.
Tussock Hawkweed	Very close to region in area visited by potential dispersal pathway from Kuripapongo	One of the many <i>heiraciums</i> in New Zealand.

### Example

- 10.3. An example of this type of pest is Chilean needle grass. Mature seeds can penetrate animal hides, causing animal welfare issues as well as preventing shearing or dagging of sheep and downgrading carcasses at processing plants. It is a weed predominantly of dryland pasture with infected habitat in New Zealand matching the station country east of Taihape. It has been known to be present in Waipawa, Hawkes Bay, and the wider Marlborough district though recent discoveries in North Canterbury highlight the need to stay vigilant and engage with the industry pathway of stock, stock feed, gravel and equipment movement.



Image 1: Chilean needle grass, Waipawa. (Hawkes Bay Regional Council).

10.4. The Pest Plant Team uses a register of our exclusion species which details:

- Timeliness of inspections
- Named locations for inspections
- Responsible staff and other organisations required to participate in surveillance.

10.5. We use social media, newspapers, people engagement and direct location searching in our surveillance.

## **11. Eradication pest plants**

11.1. Horizons' eradication programme covers species for which the Council has opted in the Plan to be the lead agency or partner in the eradication of these pests from our region. These pests are present in the Manawatū-Whanganui region but are limited in their size or extent of infestation, or their eradication is feasible and a cost-effective solution to protecting production or environmental values into the future. The intermediate outcome is to eradicate the pest in an area. In the short term to medium term, eradication involves reducing infestation levels to zero levels. This category includes potentially invasive pests where their rate of increase or geographic extent is not well known, but is assumed to be at low densities or low geographic spread.

11.2. Horizons assumes the management responsibility for all locations on ratepayer land in the region for plants in this designation, except for Chinese pennisetum and woolly nightshade, where occupiers have shared or full responsibility to control. Crown or territorial organisations have their own programmes against five of the 18 species.

### **Summary**

11.3. Our assessment, based on available information, is that 16 of the 18 eradication category species of the RPMP (Table 4) are on track, with nine at a high probability of meeting the RPMP objective, seven that are likely to meet the RPMP objective, and two (Chinese pennisetum and purple loosestrife) that are unlikely to meet the RPMP objective.

Table 4: Eradication species summary.

Species	Effort required to reach objective	Notes	Infestation status	
			Extent of Occurrence (ha)	% of all sites at zero levels
African feather grass	Increased surveillance	New sites within well-searched river reaches. Good control of land-based sites though annual inspection required for some time. Management of upper Whanganui River is noted as an ongoing risk.	405 ha	90%
Alligator weed	Increased surveillance and control resources needed after Mangaone catchment detection, 2020.	Long-term management is required due to root system persistence. Spread risk reduced, abundance reduced and surveillance over long term. Ongoing work with Ruapehu District Council and Palmerston North City Council.	17 ha	50%
Arrowhead	Increased surveillance	Identification and surveillance are issues due to numerous garden ponds that are difficult to find and eliminate.	0.002 ha	100%
Blue passion flower	Increased surveillance	Known sites surveillance is an issue due to urban placement.	0.3 ha	98%
Cathedral bells	Status quo	Long-term site management and rapid growth means plants mature annually.	26.7 ha	76%
Chilean rhubarb	Increased surveillance	Due to number of sites, and especially a few in Whanganui hinterland associated with cliffs and dense bush, make locating all difficult	255 ha	90%
Chinese pennisetum	Ongoing effort from land occupiers and contractors needs to be increased	Grass pest in pasture, low numbers so theoretically achievable although total elimination will need more farmer responsibility and staff resource. Land-use change from pasture to retirement is a risk.	199 ha	45%
Climbing alstromeria	Increased surveillance	Expect this to change as current score is based on new site numbers.	13 ha	25%
Climbing spindleberry	Status quo	Long-term site management and persistence of sites mean eradication is some time away but spread potential is very low.	80 ha	76%
Himalayan balsam	Increased surveillance	Easily killed, depends on good surveillance.	2.3 ha	83%
Knotweed (Asiatic and giant)	Status quo	Good control at state highway, Ruapehu and Rangitikei District Council roadside sites; one new site in Palmerston North during 2020.	2.4 ha	94%
Nassella tussock and Mexican feather grass	Increased surveillance	Limited sites, although undiscovered new sites create risk as there is a large number of low-risk urban sites. Roadside water table sites within Rangitikei District require monitoring.	1 ha	76%
Purple loosestrife	Unlikely to achieve target for eradication due to habitats and restricted access to all invaded locations	Low number of new sites, easily found. Currently there is incomplete control due to restricted access to areas with purple loosestrife around Lake Horowhenua and on other land holdings. Further there are limited herbicide tools for use in wetlands.	92 ha	82%
Queensland poplar	Increased surveillance	Apart from surveillance risk, knowledge of sites is increasing and plant is controllable.	0.04 ha	78%
Rum cherry	Increased surveillance	Few sites at present.	0.001 ha	100%
Senegal tea	Status quo	Easily found, limited distribution. Aquatic environment only issue.	1 ha	75%
Spartina	Status quo	No new areas, good surveillance with dog, collaboratively managed with DOC. Recent efforts have been excellent.	510 ha	100%
Woolly nightshade	Treatment of large, persistent infestations. Requires more staff resourcing to deal with large number of sites around Palmerston North and Whanganui.	Easily found and controlled.	174 ha	85%



**Example**

- 11.4. An example of an eradication pest is purple loosestrife. Chosen by pond gardeners for its shock of upright purple flowers, it quickly became evident that the invasive potential observed overseas was happening in New Zealand. Capable of producing many thousands of seeds per plant and forming large rafted, persistent populations, this weed is considered one of New Zealand's worst herbaceous riparian transformers.
- 11.5. This species is a candidate for achieving the pest plan goal of eradication. The species is considered at a relatively low level of abundance in the region (17 locations, with three sites having active adult plants). Purple loosestrife is an easily discovered plant with control options available for most environments to enable control and seedling reduction over time, making eradication a feasible management objective if access to the sites and resources are sufficient.



**Image 2:** Purple loosestrife, Lake Horowhenua.

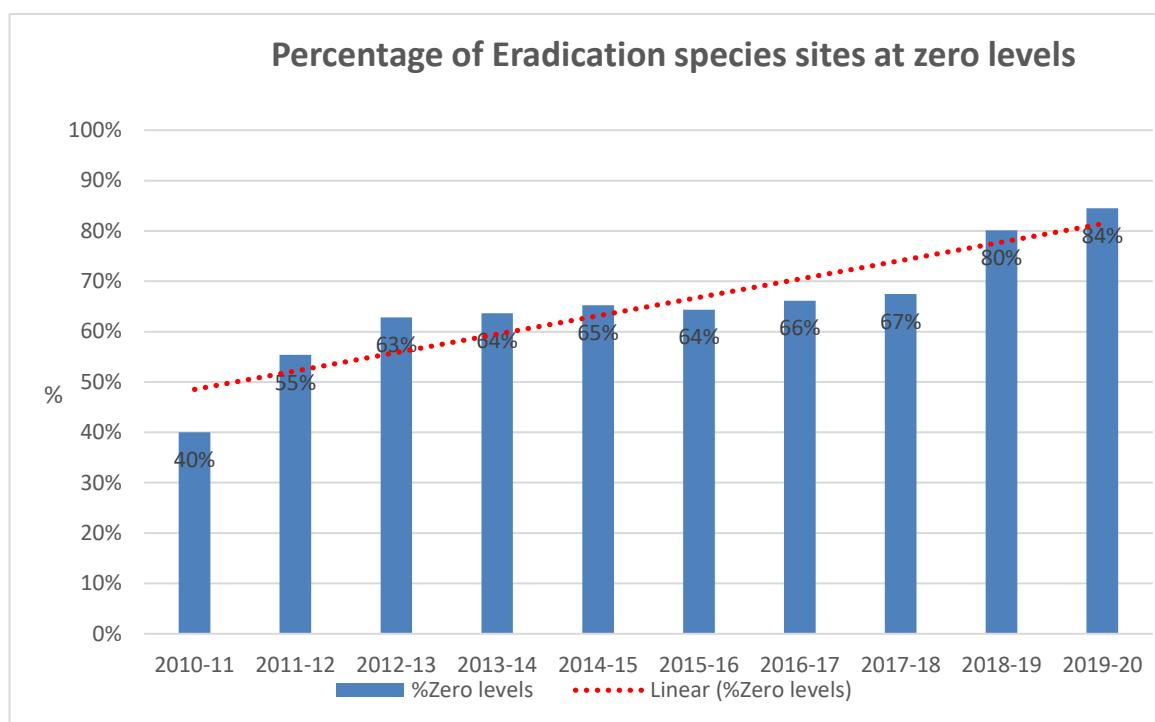
- 11.6. Most sites identified as having purple loosestrife have been successfully controlled to zero levels within the region as control has been undertaken for a number of years and we have the right tools to enable eradication at sites.
- 11.7. However, this species is also an example of the challenges of placing a plant in the Eradication designation. To be successful, a programme needs to build up full knowledge of all the locations of these plants, have the tools available to sustain control of plants at zero levels where no seeding and spread takes place, and to have control of sites to the extent that access is available and uncontrolled dispersal via human assistance does not occur. Another factor is the influence of other organisations on the goal, due to shared management. There is a general rule of thumb relating to the last 5% of an infestation costing as much to remove as the first 95%, as individual plants are harder to find and the close-out of management programmes can extend to many years. Programmes may drop off or be minimised through factors such as public perception or funding cuts when the pest species are not visible although unfortunately this is the very time when the effort needs to be continued to achieve eradication. Most of our target species have or could have some

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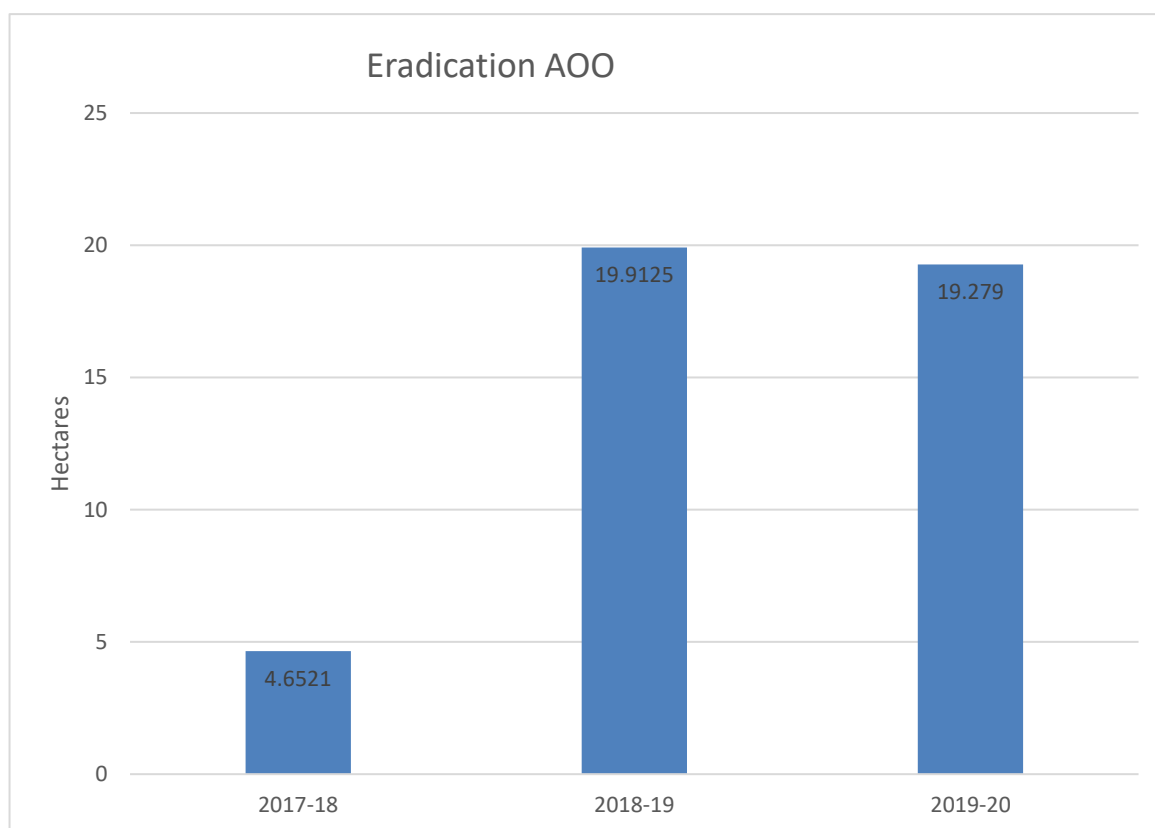
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element of external stakeholder interest, with most species being well maintained, and several species have stakeholder relationships flagged as potential risks to success.

- 11.8. Purple loosestrife is one weed species where DOC is managing an infestation at Papaitonga Scenic Reserve (Lake Waiwiri), which is adjacent to our largest infestation. However, Horizons staff have experienced restricted access to areas around Lake Horowhenua and places downstream, which has prevented management of the largest population of purple loosestrife in the region. As a result, the population has grown to a point where we are unlikely to achieve the Plan objective, and the increasing population around the lake is putting pressure on nearby lakes. Early in 2019 staff received a fresh report of purple loosestrife from a nearby lake owner, along with concerns from DOC about the increasing plant population creating concern for their well-managed infestation at Papaitonga Scenic Reserve.
- 11.9. Lake Horowhenua and Hokio Beach have almost 15 hectares of solid infestation. Previous control efforts were very successful with control initiated in the late 1990s. This initially required weeks of gun and hose work and tens of thousands of dollar but the required effort was reduced to one week of knapsack control work after several years, costing less than \$5,000 per year by 2010 compared with the partial control in 2020-21 estimated to cost \$17,000.
- 11.10. The purple loosestrife example is not the norm and 16 of 18 eradication species are on track to reach the Plan eradication objective. Of the 16, seven are likely to be controlled to our goal level, however are difficult to manage. As was learnt this year, our objectives are constantly at risk from undetected range expansion requiring staff and budget reallocation to respond to occurrences. The Palmerston North alligator weed 'incursion' has almost tripled the alligator weed footprint in the region, from 6 ha to 17 ha, and we now have a river system and flood inundation zone of thousands of hectares to survey. Prioritising this species over others means we have to redirect resources to ensure we are successful.
- 11.11. The latest data from our site recording system shows 84% of the 1,624 Eradication species sites we manage are at zero levels. Those we have managed for longer than three years are over 84%.
- 11.12. The two graphs in this section show the increasing percentage of sites meeting the objective of zero levels, and the reducing plant area of occupancy (AOO) of these sites in our region. The large jump in area of AOO from 2017-18 to 2018-19 is due to an adjusted accounting process for the area inundated by purple loosestrife. Overall, the percentage of sites at zero levels has increased from 40% in 2010-11 to 84% in 2019-21, showing solid progress for this measure and the area of the region with eradication plants increased from 4.65 ha in 2017-18 to 19.91 ha in 2018-19, then reduced to 19.27 ha in 2019-20.



**Graph 1:** Historical tracking of Eradication species site zero levels.



**Graph 2:** Plant area of all Eradication species.

**12. Progressive Containment pest plants - mapped**

- 12.1. Where population levels, or difficulty and expense of control prevent achievement of a region-wide zero-density objective, high-threat pest plant species are considered for management under a Containment objective. Managing a species to a Progressive Containment goal involves reducing the geographical distribution of these pests within the region over time. As total eradication is not a cost-effective solution it is feasible to prevent spread and limit the effects these pests have on values in some locations. Coordination with other councils and central government agencies is a key component of success. For each species managed in this way, an Active Management Zone (AMZ) is defined within which the pest plant species will be controlled wherever it is found, as per the Eradication designation. The programme aim is to contain over time these species to the Good Neighbour Process Zone (GNPZ) identified for reduce adverse effects on the environment.
- 12.2. The goal is to work towards eradication in vulnerable areas of high value against infestations where success is feasible but not working in other areas means they 'fill up'. This creates two challenges – the view of unmanaged dense infestations becoming the norm to the community and which increases the effort required in areas where it is feasible to work. Spill-over of seeds from these areas into the AMZ can be managed with more intensive surveillance along the edge of the zone but it means we are likely to achieve suppression rather than total removal from AMZs.
- 12.3. As noted in the Eradication section, reliance on external partners and other programme factors need to align for success to be achieved against pest plants. Many of our target species are managed towards what may be termed aspirational goals, however community support and a desire to contain the more damaging risks to our region keep these programmes going. During the development of the RPMP, Horizons modified AMZs for a number of species due to the adjusted work programmes of other agencies. In future, we may need to reconsider where we work based on the inability to control spread and this would impede our ability to achieve the Plan goals.
- 12.4. Horizons assumes the management responsibility for all locations on ratepayer land in the region for plants in this designation. Crown or territorial organisations have their own programmes against three of the 11 species (RPMP pages 10-13).

**Summary**

- 12.5. Our assessment, based on available information, is that nine of 11 species in the Progressive Containment – mapped category are on track to reduce their respective AMZs to zero levels. The two species which are unlikely to meet their RPMP objectives are evergreen buckthorn and old man's Beard (OMB). Those proving problematic are due to the number of sites increasing, requiring greater resourcing to achieve the objectives.

## 13. Summary table

Table 5: Progressive Containment - Mapped species summary

Species	Effort required to reach objective	Notes	Infestation status	
			Extent of occurrence (ha)	% of all sites at zero levels
<b>Banana passionfruit</b>	Increase in budget and staff resource	Due to spill-over from GNPZ, neighbouring regions and sites in difficult to control locations as well as partner organisations' prioritisation	787 ha	68%
<b>Boneseed</b>	Status quo		138 ha	100%
<b>Darwin's barberry</b>	Status quo	Reliant on DOC; long-standing programmes are ensuring success.	4,700 ha	65%
<b>Evergreen buckthorn</b>	Increase in budget, staff time, to decrease AMZ	Difficult to find as seed dispersed by birds and mixed with other vegetation over a large area. Hot spots of Levin, Waitarere Beach and Whanganui rural areas. Surveillance post-RPMP designation has revealed a larger regional burden.	106	75%
<b>Grey willow</b>	Status quo	Collaborative programme including two regional councils, Genesis Energy and New Zealand Forest Managers.		
<b>Moth plant</b>	Status quo		3 ha	92%
<b>Old man's beard</b>	Increase in budget, re-prioritisation of work areas and acceptance of suppression as opposed to all AMZ at zero levels.	See report to Strategy and Policy Committee, 10 March 2020.	28,000 ha	76%
<b>Pest conifer species (4)</b>	Status quo	Recent support from the National Wilding Conifer Control Programme has advanced the programme and is assisting us to achieve our goals.	36,000 ha	70%

## Examples

- 13.1. Old man's beard is an example of a Progressive Containment mapped plant. The OMB programme has recently been reported to Council and the challenges relating to success measures against Progressive Containment targets discussed, (**Old man's beard management in the Horizons Region, Strategy and Policy Committee, 10 March 2020**). This is similar for a number of Progressive containment species where the good work of removing populations within the AMZ is countered by the presence of uncontrolled populations in the public eye outside of the AMZ.



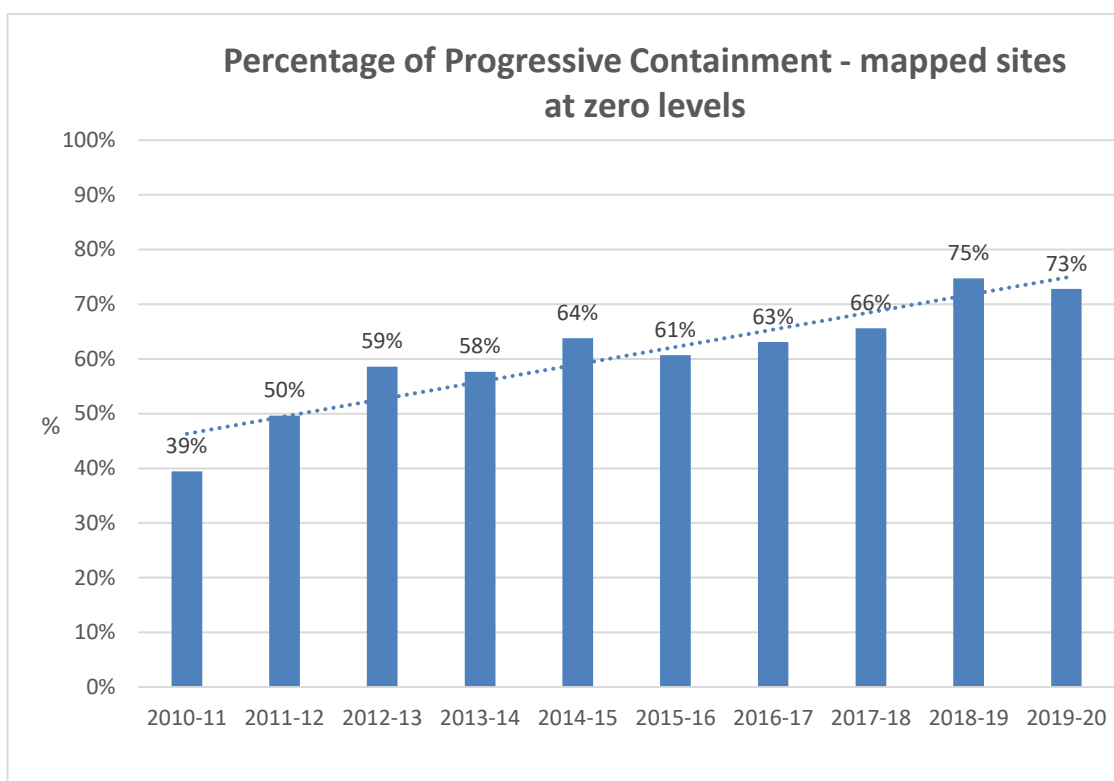
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- 13.2. Another example is the recently reported pest conifer suite of species that Horizons has been actively managing for a number of years. (**National Wilding Conifer Control Programme, Regional Council, 22 September 2020**). The extent of occurrence is vast but the programme is on track to achieving its goals. This programme has a mix of traditional and innovative surveillance and control tools at its disposal and aligned partner organisations, meaning full landscape control is achievable. It has resources from Horizons ratepayers and recently from the National Wilding Conifer Control Programme that allow fully-funded operations.

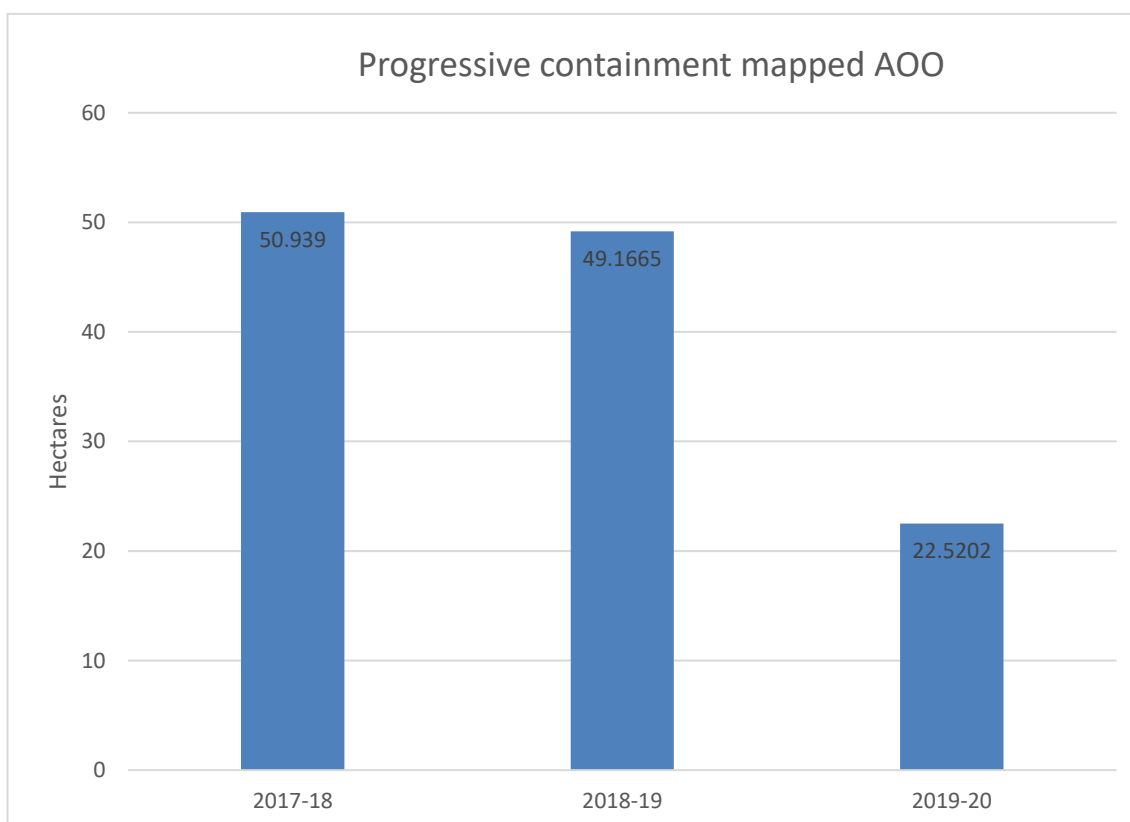


**Image 3:** Basal treatment of *Pinus contorta*, upper Rangitikei River Catchment.

- 13.3. The latest data from Horizons' site recording system shows that 73% of the 2,719 sites we manage are at zero levels. Those we have managed for longer than three years are at 80%.
- 13.4. A small number of Good Neighbour Process Zone requests for OMB control have been received, with none for the other species.
- 13.5. The two graphs below show the increasing percentage of sites meeting the objective of zero levels moving from 39% in 2010-11 to 73% in 2019-20, showing solid progress for this measure. The area of the region with Progressive Containment plants decreased from 51 ha in 2017-18 to 22.5 ha in 2019-20, also showing solid progress towards meeting the RPMP objective.



**Graph 3:** Historical tracking of eradication species site zero levels.



**Graph 4:** Reduction in plant area over time.

**Progressive Containment pest plants – Unmapped**

- 13.6. The Progressive Containment - Unmapped species designation includes Aquatic/Freshwater pest plants and those pests of productive land managed via both Clear Land and Good Neighbour Rules. There are 15 species in this sub-category of Progressive Containment. And while they are generally widespread, some parts of the region are clear of these pests and it is desirable to keep them clear. The clear areas cannot be reliably mapped with the currently available information, hence the name for this group.
- 13.7. Since the Plan came into effect Horizons has not recorded any activity under the clear land rule.
- 13.8. Boundary control managed by the Good Neighbour Rule continues at low levels with demand remaining similar to the previous Strategy's boundary rules.
- 13.9. Freshwater pests are included in the Plan with the aim of controlling new incursions where resources are available. This provision reflects reality where there is a small number of potentially successful operations against target aquatic species. The cost of intervening in the aquatic environment depends on the water body, the size of the pest population, the tools available for control of the pest to enable eradication and other factors such as experienced contractor availability.

**Summary**

- 13.10. Our assessment, based on available information, is that 10 of 15 species in the Progressive Containment – Unmapped category are on track to meet their RPMP objective. The five species that are unlikely to meet their objectives due to late discovery and low probability of success are the aquatic pest plant species including eelgrass, egeria, hornwort, lagarosiphon and reed sweetgrass. Challenges with control operations in freshwater environments include restricted methodologies available for use in these environments.

## Summary table

Table 6: Progressive Containment – Unmapped species.

Species	Effort required to reach objective	Notes
Australian sedge	Good process and timely communications; and where managed by large occupiers, TLA and Crown via Approved Management Plans these need to be current, monitored and reported on.	Reactive to 'boundary' matters between land owners larger than 4ha.
Blackberry		
Broom		
Field horsetail		
Gorse		
Nodding thistle		
Ragwort		
Tutsan		
Variegated thistle		
Yellow bristle grass		
Eelgrass, Egeria, Hornwort, Lagarosiphon, Reed sweetgrass	Comprehensive and regular surveillance of high-value water bodies as well as affordable and easier to access control tools.	Difficult to achieve eradication due to late discovery and low probability of success. Challenges with control operations in freshwater environments include restricted methodologies available for use in aquatic environments.

## Example

- 13.11. An example of the challenges associated with freshwater pest eradication is the recent. (discovered in 2019) incursion of hornwort into Lake Namunamu. A highly ranked lake for its biodiversity, lake habitat, and community values due to recreation and fishing. A thorough investigation began immediately after the initial discovery by a member of the public. This included a lake vegetation survey, bathometric survey, preparatory consent work and NIWA feasibility report on the likelihood of control success.
- 13.12. The full lake survey by professional divers revealed hornwort in low to moderate density throughout the whole lake and to a depth of six metres. The consent process for use of herbicide control options provides transparency and assurance correct steps would be taken to satisfy the Environmental Protection Agency (EPA), however it also confirmed the instruments the industry has to deal with aquatic herbicide use are sometimes cumbersome. This exercise highlighted the high cost of control due to the requirement to treat waterbodies in quarters with four separate applications of herbicide to achieve full coverage.

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- 13.13. The project cost of undertaking herbicide application and the other actions required under the permissions, and with the NIWA report not able to provide certainty of success the decision was made to not progress control against hornwort in Lake Namunamu.

### Summary

- 13.14. Overall there are 9 pest plant species that are unlikely to meet their RPMP objectives out of 55 species in the RPMP. Four are terrestrial pest plants, and five are aquatic pest plants which are difficult to achieve eradication with increasingly restricted methodologies treating weeds in freshwater, the significant costs associated with control, and the lower certainty of success.
- 13.15. Table 6 summarises the categories of pest plants and their likelihood of achieving the objectives set out in the RPMP. The results below are based on available information from surveillance and control activities undertaken by the Pest Plant Team.

**Table 7: Summary of species expected management levels.**

Potential Level of Success				
Designation	High	Likely	Low	Total
Exclusion	11			11
Eradication	9	7	2	18
Progressive Containment - Mapped	8	1	2	11
Progressive Containment - Unmapped	10		5	15
Total	38	8	9	55

### 14. Options to address nine species low probability of meeting RPMP objectives.

- 14.1. There are two main options for Councillors if they wish to increase the probability of meeting the management objectives in the RPMP:
- 1) Increase the amount of surveillance and control by increasing resourcing from Horizons or others, or
  - 2) Amend the objective in the RPMP.
- 14.2. Both options have potential costs and further work is required to assess potential increased resourcing requirements to meet the objectives for each of the species through increased control and the potential costs of a plan change.
- 14.3. If the changes to the RPMP are unable to be achieved under section 100G, then a full review would be required that would entail the six steps of making the RPMP.
- 14.4. As per Section 1.4 of the Plan and section 100D(1) of the Act, a review of each section of the RPMP must begin within 10 years of this plan being affixed with the common seal of the Manawatu-Wanganui Regional Council. The next planned review will begin in 2027. Such a review may extend, amend or revoke the Plan; or leave it unchanged. Horizons or the minister may initiate a review or amend it under particular circumstances.
- 14.5. Under section 100D(2) of the Act, Horizons also has the ability to initiate a review of the whole or part of a plan at any other time if it has reason to believe that the plan or part of the plan is failing to achieve its objectives or that relevant circumstances have changed since the plan or part of the plan commenced. There is also the ability for Horizons to make minor changes to the Plan without a review under section 100D of the Act. However, the Council must be satisfied that the amendment does not have a significant effect on any person's rights and obligations and is not inconsistent with the national policy direction.



- 14.6. Monitoring the progress of the Plan provides information on how the RPMP is tracking in relation to its objectives to achieve its purpose and if relevant circumstances have changed to an extent that a full or partial review of the Plan is required outside of the statutory timeframes. Particular circumstances where a review of the Plan may be needed include where:
- a. There are changes to the Act and a review is needed to ensure that the Plan is not inconsistent with it;
  - b. Other harmful organisms create problems, or have the potential to create problems;
  - c. Monitoring shows a significant change in the problems posed by pests or other organisms;
  - d. Circumstances change to such a significant extent that Horizons assesses that a review would be appropriate.
  - e. There has been changes with national policy direction that require changes/review.
- 14.7. Failing the need to review the Plan or part of the Plan under any of the above circumstances, the Plan will be reviewed under the normal statutory timeframes in accordance with Section 100D of the Act.
- 14.8. As noted earlier in the document, some of the Plan's objectives may not be met, and as such the Plan could be considered for review prior to the scheduled review in 2027 (10- year review). While the review could focus on those parts of the plan needing change (i.e. a review of part of the plan), the review would still be a considerable undertaking, requiring all of the six steps followed in the making of the RPMP 2017-37 to be completed to the extent they are relevant to the part of the plan being reviewed, and reading in any necessary modifications, and likely to compete with other internal policy work.
- 14.9. The NPD test would be equivalent to the previous tests for inclusion into the RPMP:
1. Setting objectives and use of the programmes.
  2. Analysing benefits and costs.
  3. Funding rationale/Allocation of costs.
  4. Good neighbour rules are described.
- 14.10. It is unlikely that the changes would be considered minor under section 100G of the Act, as they would be likely to have a significant effect on any person's rights and obligations. However this is difficult to assess until the specifics of the proposed changes are known.

## **15. SIGNIFICANCE**

- 15.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

Craig Davey  
**PEST PLANT COORDINATOR**

Rod Smillie  
**BIODIVERSITY, BIOSECURITY & PARTNERSHIPS MANAGER**

Jon Roygard  
**GROUP MANAGER NATURAL RESOURCES & PARTNERSHIPS**

## **ANNEXES**

There are no attachments to this report.