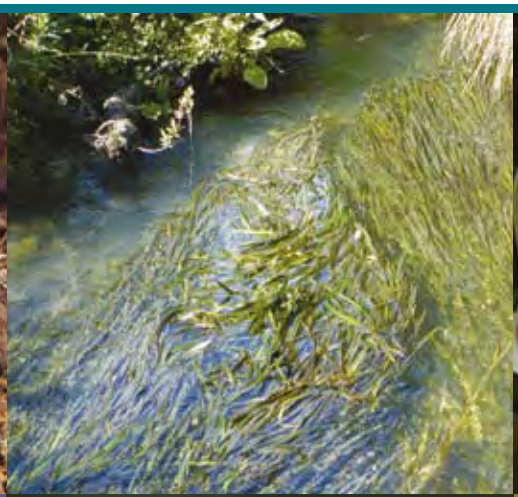
Greater Wellington – Regional Pest Management Strategy

2002 – 2022 Five Year Review 2007

Quality for Life

greater WELLINGTON REGIONAL COUNCIL | Biosecurity





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For help and information

Most pest control is the responsibility of landowners. For detailed information about how to control pest animals and pest plants on your property:

- Contact a Biosecurity Officer through:

  Greater Wellington Regional Council offices:

Masterton	Phone:	(06) 378 2484 or
Upper Hutt	Phone:	(04) 526 4133

- Ask for Greater Wellington's information sheets about specific pests
- Visit the land management section of our website – www.gw.govt.nz
- Ask about Greater Wellington's 'service delivery' options for pest control.

Prepared by:

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Greater Wellington Regional Council
PO Box 41, Masterton 5840
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Biosecurity Act 1993

Adoption of the

Regional Pest Management Strategy

The Wellington Regional Council hereby certifies that it has adopted the Regional Pest Management Strategy for the Wellington Region by resolution on 9 March 2009.

The common seal of the
Wellington Regional Council
was affixed in the presence of

Fran Wilde
Chair

David Benham
Chief Executive

The Regional Pest Management Strategy for the Wellington Region became operative on 12 June 2009.

Foreword

Greater Wellington has a vision of a sustainable region, providing quality for life for all of us. This means ensuring our environment is protected while meeting the economic, social and cultural needs of our community. To do this we all need to make efficient use of our natural resources, reducing our environmental impacts and thus minimising our 'footprint'.

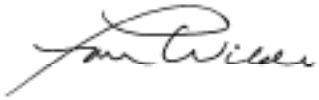
Preserving our natural heritage and ensuring our economic future both depend on us caring for our natural resources, including rejuvenating damaged ecosystems. Introduced plants and animals have already radically changed our environment and, despite our best efforts, as a country we remain susceptible to such threats from new, invasive species.

Whilst the management of new pest species is the responsibility of central government, it is important for Greater Wellington to work closely with Crown agencies to ensure we share information and coordinate activities.

Greater Wellington's main focus is on managing existing invasive species in our region. Our strategy is developed (and our operations are conducted) under the umbrella of the Biosecurity Act 1993. This legislation allows us to develop a strategy then review it every five years to determine whether we are on track to achieve our objectives and whether we need to amend or expand the objectives and the strategy.

The first strategy was developed in 1996 and reviewed in 2001, resulting in the development of our current twenty year Regional Pest Management Strategy. This is the first five-year review of that strategy, a review begun in August 2006 with an initial consultation document. The formal strategy was proposed earlier this year for more public comment and this document is the result of that process. I would like to thank those who took the time to contribute. It is always very satisfying when there is strong community interest in this important work.

The implementation of this Regional Pest Management Strategy will assist all of us with pest management – a task essential to protect and enhance our environmental and economic resources for future generations.



Fran Wilde
Chair

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Introduction and background

1 Introduction

1.1 Title

This document shall be known as the Greater Wellington Regional Pest Management Strategy (RPMS) 2002-2022. The current strategy was approved in September 2002. Under the Biosecurity Act 1993 (the Act) these strategies are required to be reviewed every five years. A Regional Pest Management Strategy must be reviewed every five years following the commencement date, or where it has been five years since the RPMS was reviewed in accordance with Section 88(6) of the Act. The existing strategy remains operable until such time as the strategy review is approved, including the completion of any rights of appeal under Section 88(4) of the Act.

A review is commenced when a regional council publicly notifies a proposed strategy and provides an opportunity for the community to have input into determining the appropriate pest management objectives for the region. Following consideration of public submissions on the proposed strategy, amendments made as a result, and acceptance of Greater Wellington Regional Council's (Greater Wellington's) decisions, the final reviewed strategy is publicly notified under section 79F of the Act. This proposed strategy is the culmination of that five-year review process.

1.2 Purpose and objective of the strategy

The purpose of the strategy is to provide a strategic and statutory framework for effective and proficient management of selected pest animal and pest plant species (pests) in the Wellington region (the region) so as to:

- minimise the actual and potential adverse and unintended effects of pests on the environment, economy, biodiversity and the community; and
- maximise the effectiveness of individual pest management through a regionally co-ordinated response.

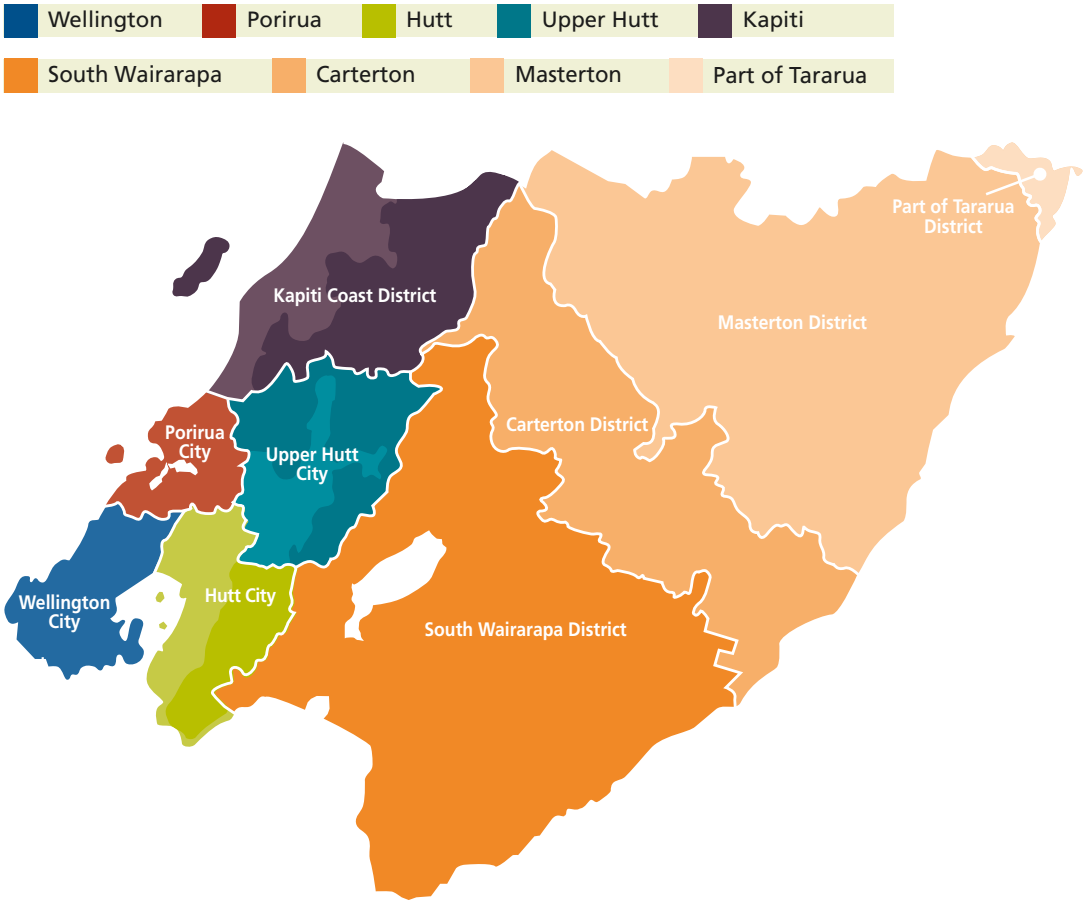
The RPMS, when operative, empowers Greater Wellington to exercise the relevant enforcement and funding provisions available under the Act to accomplish these objectives.

1.3 Commencement and duration

The strategy shall become effective once it is resolved by Council and the Council's Common Seal is affixed. The strategy shall cease to have effect:

- when Greater Wellington publicly declares that the purpose of the strategy has been realised; or
- twenty years after the strategy has been approved by Greater Wellington; or
- if the strategy is revoked following a review carried out under Section 88(3) of the Act.

Territorial Authorities – map 1



1.4 Area of effect

The Wellington region refers to the land, rivers, lakes and coastal marine area that lie within the administrative boundaries of Greater Wellington. It covers a land area of 813,000ha on the southern end of the North Island. The northern boundary is defined by the catchments of the Waitohu Stream and Otaki River on the western side of the Tararua Range, by the Whareama and Mataikona river catchments, and by the headwaters of the Ruamahanga River on the eastern side. Horizons Regional Council (Horizons) borders the northern boundary of the Wellington region for its entire length.

1.5 Structure of the strategy

The strategy has been prepared in accordance with the requirements of Part V of the Biosecurity Act 1993.

Part One of the strategy provides an introduction, including the statutory basis for the preparation, administration and implementation of the strategy, and the management responsibilities of the stakeholders.

Part Two outlines the pest management programmes in place and the rationale behind them. It also details specific programmes for individual pests. For each pest there is a description of the animal or plant, the reason for inclusion, the management objectives, the principal means of achieving those objectives, and the strategy rules.

Part Three of the strategy details Greater Wellington's administrative, monitoring and funding procedures for giving effect to Part Two of the strategy.

2 Effects of the strategy's implementation

Section 76(j) and (k) of the Act requires Greater Wellington to consider the actual and potential effects that implementing the strategy shall have:

2.1 On the relationship with Maori and their culture and traditions with their ancestral lands, waters, sites waahi tapu and taonga

Successful implementation of the strategy is expected to have positive effects on the relationship of Maori and their culture and traditions. Specifically, the strategy shall prevent or reduce pests invading and possibly degrading sites waahi tapu and tikanga Maori. The control of pests in sites of cultural significance shall protect native flora and fauna important to Maori culture and traditions. Maori have a significant investment in land, forestry and fishery assets within the region. Control operations shall take into account the protection of taonga of commercial, as well as cultural, value.

Any adverse effects likely to arise from the strategy on Maori culture and traditions may relate to the use of toxins for pest control and the possibility of contaminants in soil and water. However, most toxins used have isolated short-term and minor adverse effects, and the advantages of using toxins to control pests outweigh the disadvantages. Where possible, Greater Wellington shall continue to address the effects from the use of toxins through the regulatory processes of the Health and Safety in Employment Act 1992 (HSE), the Hazardous Substances and New Organisms Act 1996 (HSNO), the Agricultural Compounds and Veterinary Medicines Act 1997 (ACVM) and other similar legislation. Greater Wellington shall also implement the consultation procedures outlined in the Resource Management Act 1991 (RMA) where appropriate.

2.2 On the environment

Successfully implementing the strategy shall prevent or reduce the adverse effects of certain pests on the environment. Efficient and effective pest management shall protect and enhance agricultural production, indigenous biodiversity, recreation, aesthetic values and public health and safety.

Of the techniques recommended to control pests, the safe and efficient use of toxins is of particular interest to the public. Concerns relating to the environmental effects of toxins, including public health, have been taken into account in developing this strategy. Greater Wellington believes that the risk to public health and the environment from the toxins is low. Their use shall be regulated through the statutory processes noted above (refer 2.1), and Greater Wellington shall undertake all possible precautions to negate risks to the public and the environment.

The RMA outlines many of the functions of Greater Wellington and Territorial Local Authorities, including controls on the use of land for preventing or mitigating any adverse effects of the storage, use, disposal and transport of hazardous substances. Regional and district council plans may contain rules covering pest management activities (eg spraying, burning, vegetation clearance). In some instances, resource consents under the RMA may be required from the relevant authorities to undertake those activities. Where a local authority imposes conditions under the RMA, these conditions may only add to the controls already imposed under HSNO, and cannot be less than the minimum requirements set by the HSNO legislation.

2.3 On the marketing overseas of New Zealand products

In some instances, the successful implementation of the strategy helps facilitate increased production of export products. Similarly, the control of pests in conservation areas should increase the recreational and aesthetic values important for tourism.

The adverse effects of implementing the strategy on the overseas marketing of New Zealand products should be very minimal. The use of toxins, and possibly biological control, may concern some international markets, with concerns being largely about residues in water, soil and non-target animals. Greater Wellington also recognises the growing international concerns surrounding animal welfare. Greater Wellington will follow all statutory processes and take due care to minimise risks of product contamination. Export protocols would help to further guarantee the purity of export products.

2.4 The Biosecurity Act 1993

The Act is the statute under which Greater Wellington can address pest management issues in its region. The guiding principle of the Act is to *'…restate and reform the law relating to the exclusion, eradication, and effective management of pests and unwanted organisms'*. The purpose of the Act in relation to a RPMS is defined in Sections 42 and 54.

In preparing this strategy, Greater Wellington has taken into account the Act's relevant statutory and planning requirements, and is satisfied that the strategy is consistent with any other statutes, regulations or pest management strategies.

Under the wording of the Act there is no legal obligation for a regional council to take on the role of managing pests unless it chooses to do so. Any involvement is at the discretion of Greater Wellington and is undertaken subject to the preparation of a RPMS. The RPMS is planned and funded pursuant to Part V of the Act. When operative, the strategy empowers Greater Wellington to exercise the appropriate enforcement and funding provisions of the Act.

In the preparation of a RPMS, certain requirements of the Act must be satisfied. These include:

- Part V, Sections 55-99 which specify the content of a RPMS, the way in which it is to be prepared, and funding matters
- Part VI which contains administrative provisions.

As the management agency approving the strategy, Greater Wellington must ensure that:

- those affected want to control an organism declared a pest under the strategy, are willing to accept the obligations and limitations on their rights, and accept the costs
- other affected parties have the opportunity to consider the proposed strategy, express their concerns and have confidence that their concerns shall be heard before a decision is made
- the control programmes proposed are technically sound, environmentally acceptable, feasible and have the necessary long-term commitment.

2.5 Prerequisites for a Regional Pest Management Strategy

Any harmful plant or animal can be declared a pest through its inclusion in a RPMS. However, it must first meet the requirements set out in Section 72 of the Act.

Section 72 contains the criteria by which Greater Wellington assesses candidate pest species and determines whether a RPMS is necessary, appropriate, and the most cost-effective means of managing those organisms.

In summary, these criteria say that Greater Wellington must be satisfied that:

- the net benefits (monetary and non-monetary) of the strategy outweigh the costs
- there should be net benefits to parties other than those who would normally be expected to control the pest
- those who pay for the strategy must either receive benefits which exceed their costs or be exacerbators
- the pest is having actual, or potential, environmental effects of regional significance. These effects may be broad in nature, and include economic matters, as well as natural, physical and cultural resources. As well as adverse impacts, Greater Wellington has considered whether the pest's distribution is limited, moderate or widespread with respect to its potentially suitable habitat. Its distribution will have a bearing on the type and level of management considered appropriate by Greater Wellington.

3 Strategy responsibilities and obligations

Obligations and responsibilities under the strategy – table 1

Management agency responsibilities	Implementation responsibility	Capabilities and advantages
Implement principal measures	Biosecurity Department and pest plant and animal contractors	• experienced, qualified and accountable staff • implementation systems and procedures already established • access to technical and legal advice • comprehensive regional coverage.
Administer strategy funding	Catchment Management Division	• transparent rating and cost recovery systems and processes already established • opportunities for public input into funding policy • ensuring compliance with Local Government Act requirements • comprehensive regional coverage.
Strategy monitoring and review	Biosecurity Department	• planning and monitoring systems and procedures already established.
Public accountability	Elected and appointed representatives primarily through the Catchment Management Committee	• community awareness and contact • regional overview and consistency with other Council roles and responsibilities.

Pest animals (kararehe nanakia) included in the RPMS and their management – table 2

Common name	*Scientific name*	Regional Surveillance	Total Control	Containment	Suppression			Site-Led Management				
			Service Delivery	Service Delivery	Service Delivery	Biological Control	Occupier Responsibility	Boundary Control	Human Health	Biodiversity	KNE Service Delivery	Biological Control
Argentine ant	*Linepithema humile*	✓									✓	
Australian subterranean termite	*Coptotermes acinacoformis*	✓									✓	
Brown bullhead catfish	*Ameiurensis nebulosus*										✓	
Darwin's ant	*Doleromyrma darwinia*	✓									✓	
European hedgehog	*Erinacues europaeus occidentalis*										✓	
Feral cat	*Felis catus*									✓	✓	
Feral deer	*Cervus elaphus, C. nippon, Dama dama*									✓	✓	
Feral goat	*Capra hircus*									✓	✓	
Feral pig	*Sus scrofa*									✓	✓	
Feral rabbit	*Oryctolagus cuniculus*				✓	✓	✓				✓	✓
Ferret	*Mustela furo*										✓	
Gambusia	*Gambusia affinis*									✓	✓	
Goldfish	*Carassius auratus*										✓	
Hare	*Lepus europaeus occidentalis*										✓	

Pest animals (kararehe nanakia) included in the RPMS and their management – table 2 (continued)

Common name	*Scientific name*	Regional Surveillance	Total Control	Containment	Suppression			Site-Led Management				
			Service Delivery	Service Delivery	Service Delivery	Biological Control	Occupier Responsibility	Boundary Control	Human Health	Biodiversity	KNE Service Delivery	Biological Control
House mouse	*Mus musculus*										✓	
Koi carp	*Cyprinus carpio*									✓	✓	
Magpie	*Gymnorhina tibicen tibicen, Gymnorhina tibicen hypoleuca*								✓		✓	
Norway rat	*Rattus norvegicus*										✓	
Possum	*Trichosurus vulpecula*									✓	✓	
Rainbow lorikeet	*Trichoglossus haematodus*	✓									✓	
Rainbow skink	*Lampropholis delicata*	✓									✓	
Red-eared slider turtle	*Trachemys scripta elegans*	✓									✓	
Rook	*Corvus frugilegus*		✓								✓	
Rudd	*Scardinius erythropthalmus*										✓	
Ship rat	*Rattus rattus*										✓	
Stoat	*Mustela erminea*										✓	
Sulphur crested cockatoo	*Cacatua galerita*										✓	
Tench	*Tinca tinca*										✓	
Wasp	*Vulpecula germanica; V. vulgaris*								✓		✓	
Weasel	*Mustela nivalis*										✓	

Pest plants (taru) included in the RPMS and their management – table 3

Common Name	Scientific Name	Regional Surveillance	Total Control	Containment				Suppression		Site-Led Management				
			Service Delivery	Service Delivery	Biological Control	Boundary Control	Occupier Responsibility	Biological Control	Occupier Responsibility	Boundary Control	Human Health	Biodiversity	KNE Service Delivery	Biological Control
Alligator weed	*Alternanthera philoxeroides*	✓											✓	
African club moss	*Selaginella kraussiana*												✓	
African feather grass	*Pennisetum macrourum*		✓										✓	
African fountain grass	*Pennisetum setaceum*	✓											✓	
Apple of Sodom	*Solanum linneanum*	✓											✓	
Artemisia	*Artemisia spp.*												✓	
Artillery plant	*Galeobdolon luteum*												✓	
Arum lily	*Zantedeschia aethiopica*												✓	
Asiatic knotweed	*Reynoutria japonica*	✓											✓	
Australian sedge	*Carex longebraciata*	✓											✓	
Banana passionfruit	*Passiflora mixta; P. mollisima, P. tripartita*									✓			✓	
Barberry	*Berberis glaucocarpa*												✓	
Bathurst bur	*Xanthium spinosum*		✓										✓	
Blackberry	*Rubus spp.barbed cultivars*									✓	✓		✓	

Pest plants (taru) included in the RPMS and their management – table 3 (continued)

Common Name	Scientific Name	Regional Surveillance	Total Control	Containment				Suppression		Site-Led Management				
			Service Delivery	Service Delivery	Biological Control	Boundary Control	Occupier Responsibility	Biological Control	Occupier Responsibility	Boundary Control	Human Health	Biodiversity	KNE Service Delivery	Biological Control
Blue morning glory	*Ipomoea indica*												✓	
Blue passion flower	*Passiflora caerulea*		✓										✓	
Boneseed	*Chrysanthemoides monilifera*			✓	✓		✓						✓	
Bomarea	*Bomarea caldasii, B. multiflora*	✓											✓	
Boxthorn	*Lycium ferocissimum*												✓	
Broom	*Cytisus scoparius*												✓	✓
Brush wattle	*Paraserianthes lophantha*												✓	
Buddleia	*Buddleja davidii*												✓	
Californian arrowhead	*Sagittaria montevidensis*	✓											✓	
Californian bulrush	*Schoenoploectus californicus*	✓											✓	
Cape honey flower	*Melianthus major*												✓	
Cape ivy	*Senecio angulatus*												✓	
Cape tulip	*Moraea flaccida (syn.Homeria collina)*	✓											✓	
Cathedral bells	*Cobaea scandens*									✓			✓	
Chilean flame creeper	*Tropaeolum speciosum*	✓											✓	

Pest plants (taru) included in the RPMS and their management – table 3 (continued)

Common Name	Scientific Name	Regional Surveillance	Total Control	Containment				Suppression		Site-Led Management				
			Service Delivery	Service Delivery	Biological Control	Boundary Control	Occupier Responsibility	Biological Control	Occupier Responsibility	Boundary Control	Human Health	Biodiversity	KNE Service Delivery	Biological Control
Chilean needle grass	*Nassella neesiana*	✓											✓	
Chinese pennisetum	*Pennisetum alopecuroides*	✓											✓	
Chocolate vine	*Akebia quinata*	✓											✓	
Climbing dock	*Rumex sagittatus*												✓	
Climbing asparagus	*Asparagus scandens*												✓	
Climbing spindleberry	*Celastrus orbiculatus*		✓										✓	
Cotoneaster	*Cotoneaster franchetti; C. horizontalis*												✓	
Crack and pussy willow	*Salix fragili, S.cinerea*												✓	
Darwin's barberry	*Berberis darwinii*												✓	
Delta arrowhead	*Sagittaria platyphylla*	✓											✓	
Didymo	*Didymosphenia geminata*	✓											✓	
Eelgrass	*Vallisneria spiralis, V. gigantea*		✓										✓	
Elaeagnus	*Elaeagnus x reflexa*												✓	
Evergreen buckthorn	*Rhamnus alaternus*			✓			✓						✓	
German ivy	*Senecio mikanioides*												✓	

Pest plants (taru) included in the RPMS and their management – table 3 (continued)

Common Name	Scientific Name	Regional Surveillance	Total Control	Containment				Suppression		Site-Led Management				
			Service Delivery	Service Delivery	Biological Control	Boundary Control	Occupier Responsibility	Biological Control	Occupier Responsibility	Boundary Control	Human Health	Biodiversity	KNE Service Delivery	Biological Control
Giant knotweed	*Reynoutria sachalinensis and hybrids*	✓											✓	
Gorse	*Ulex europaeus*									✓	✓		✓	✓
Great bindweed	*Calystegia silvatica*												✓	
Gunnera	*Gunnera tinctoria*												✓	
Hawaiian arrowhead	*Sagittaria sagittifolia*	✓											✓	
Hawthorn	*Crataegus monogyna*												✓	
Hemlock	*Conium maculatum*									✓	✓		✓	
Himalayan honeysuckle	*Leycesteria formosa*												✓	
Hornwort	*Ceratophyllum demersum*	✓		✓			✓						✓	
Houttuynia	*Houttuynia cordata*	✓											✓	
Hydrilla	*Hydrilla verticillata*	✓											✓	
Japanese honeysuckle	*Lonicera japonica*												✓	
Japanese spindletree	*Euonymus japonicus*												✓	
Johnson grass	*Sorghum halepense*	✓											✓	
Lagarosiphon	*Lagarosiphon major*												✓	

Hornwort's inclusion is subject to successful control trials using the herbicide Aquathol K ® and Aquathol Super K ®

Pest plants (taru) included in the RPMS and their management – table 3 (continued)

Common Name	Scientific Name	Regional Surveillance	Total Control	Containment				Suppression		Site-Led Management				
			Service Delivery	Service Delivery	Biological Control	Boundary Control	Occupier Responsibility	Biological Control	Occupier Responsibility	Boundary Control	Human Health	Biodiversity	KNE Service Delivery	Biological Control
Madeira vine	*Anredera cordifolia*		✓										✓	
Manchurian wild rice	*Zizania latifolia*	✓	✓										✓	
Marram grass	*Ammophila arenaria*												✓	
Mexican daisy	*Erigeron karvinskianus*												✓	
Mile-a-minute	*Dipogon lignosus*												✓	
Mist flower	*Ageratina riparia*							✓					✓	
Monkey apple	*Acmena smithii*												✓	
Montbretia	*Crocosmia x crocosmifolia*												✓	
Moth plant	*Araujia sericifera*		✓										✓	
Nassella tussock	*Nassella trichotoma*	✓											✓	
Nasturtium	*Nasturtium officinalis*												✓	
Nodding thistle	*Carduus nutans*									✓			✓	✓
Noogoora bur	*Xanthium occidentale*	✓											✓	
Old man's beard	*Clematis vitalba*									✓			✓	
Pampas grass	*Cortaderia jubata; C. selloana*												✓	
Parrot's feather	*Myriophyllum aquaticum*												✓	

Pest plants (taru) included in the RPMS and their management – table 3 (continued)

Common Name	Scientific Name	Regional Surveillance	Total Control	Containment				Suppression		Site-Led Management				
			Service Delivery	Service Delivery	Biological Control	Boundary Control	Occupier Responsibility	Biological Control	Occupier Responsibility	Boundary Control	Human Health	Biodiversity	KNE Service Delivery	Biological Control
Perennial nettle	*Urtica dioica (sub spp)*		✓										✓	
Periwinkle	*Vinca major*												✓	
Phragmites	*Phragmites australis*	✓											✓	
Plectranthus	*Plectranthus ciliatus*												✓	
Polypodium (Common polypody)	*Polypodium vulgare*	✓											✓	
Purple loosestrife	*Lythrum salicaria*	✓											✓	
Purple ragwort	*Senecio glastifolius*												✓	
Pyp grass	*Ehrharta villosa*	✓											✓	
Ragwort	*Senecio jacobaea*									✓			✓	✓
Saffron thistle	*Carthamus lanatus*		✓										✓	
Salvinia	*Salvinia molesta*	✓											✓	
Senegal tea	*Gymnocoronis spilanthoides*	✓											✓	
Silver poplar	*Populus alba*												✓	
Smilax	*Asparagus asparagoides*												✓	✓
Spanish heath	*Erica lusitanica*												✓	
Spartina	*Spartina spp.*	✓											✓	

Pest plants (taru) included in the RPMS and their management – table 3 (continued)

Common Name	Scientific Name	Regional Surveillance	Total Control	Containment				Suppression		Site-Led Management				
			Service Delivery	Service Delivery	Biological Control	Boundary Control	Occupier Responsibility	Biological Control	Occupier Responsibility	Boundary Control	Human Health	Biodiversity	KNE Service Delivery	Biological Control
Stinking iris	*Iris foetidissima*												✓	
Sweet pea shrub	*Polygala myrtifolia*			✓			✓						✓	
Sycamore	*Acer pseudoplatanus*												✓	
Tradescantia	*Tradescantia fluminensis*												✓	
Tuber ladder fern	*Nephrolepis cordifolia*												✓	
Variegated thistle	*Silybum marianum*							✓		✓			✓	
Velvet groundsel	*Senecio petasitis*												✓	
Water Hyacinth	*Eichhornia crassipes*	✓											✓	
Wild ginger	*Hedychium; gardnerianum; H. flavescens*									✓			✓	
Wild onion	*Allium vineale*												✓	
Wilding pines	*Pinus spp*												✓	
White bryony	*Bryonia cretica subsp dioica*	✓											✓	
White edged nightshade	*Solanum marginatum*	✓											✓	
Woolly nightshade	*Solanum mauritianum*		✓										✓	

Bolded plants = MAF Led Surveilliance.

3.2 Management agency

Greater Wellington is the management agency responsible for implementing the strategy. This entails preparing and administering systems to ensure the objectives of the strategy are being achieved. It also includes developing and managing systems that ensure research, monitoring and review processes are consistent with the Act and any other statutory obligations.

Greater Wellington, in determining that it shall be the management agency, is satisfied that it meets the requirements of Section 84(3) of the Act in that:

- it is answerable to the ratepayers, through representation and the annual reporting process
- it is acceptable to ratepayers and those persons subject to the management conditions
- it has the ability and expertise to administer the strategy.

The management agency shall conduct its functions in the manner described in Part Two of this document, including:

3.2.1 Regional Surveillance

Historically, pest management has predominately focused on pests that are already present within a region. While in many cases such policies have clear merit, from an economic and commonsense point of view it is timely to also focus towards an additional policy of prevention and precaution. Surveillance is a simple and comparatively inexpensive way to ensure new threats are discovered and acted on before Total Control becomes unachievable.

Regional Surveillance shall take place as either active or passive surveillance.

Survey work in the initial five-year period of the strategy has taken place in many of the region's main centres. Significant knowledge of limited distribution species' biological characteristics, their distribution and most effective means of control has been obtained during this time. Surveys have occurred around known sites of infestations to determine the extent of spread, if any. Further survey work shall be needed to gain an even greater knowledge of infestations outside known areas and beyond main town centres.

Surveys shall continue to be undertaken to determine the presence or absence of strategy pests in areas where pests are most likely to be. If infestations of Regional Surveillance, Total Control or Containment pests are located, Greater Wellington may carry out and fund control.

If a new pest becomes established before the next strategy review, and it has the potential to cause serious adverse and unintended effects to the region, Greater Wellington may elect to undertake small-scale management under Section 100 of the Act. Section 100 allows Greater Wellington to undertake management of unwanted organisms outside the RPMS if the pest:

- is limited in distribution; and
- can be eradicated within three years; and
- the cost of the programme will not exceed $100,000.

Greater Wellington may make a request to the appropriate Crown agency for an unwanted organism status for any new arrivals that have not yet been declared as unwanted organisms, that Greater Wellington wishes to eradicate under Section 100 of the Act.

3.2.2 Service delivery

Greater Wellington fully funds control for limited distribution pests that have the potential to cause serious adverse affects. This is to ensure that all known infestations in the region are totally controlled on an annual basis. This is seen as the most cost-effective and efficient method of controlling these pests. Many pests included in the strategy are very difficult to identify and require a trained eye to locate. Therefore, trained and qualified staff or contractors are used for control work or surveying.

Control trials may be utilised to determine the best method of control for certain species. Greater Wellington may seek and engage the cooperation of other agencies for this.

Greater Wellington also funds control work on some species that may be widespread over a part of the region but limited in other areas (Containment and KNE species) to prevent further infestation.

Control work in the initial five-year period of the strategy has seen considerable changes in control techniques that better suit individual pest species. These control techniques have been altered so that the objectives of the strategy are met most efficiently and cost-effectively.

The success of individual pest management programmes shall be monitored and evaluated regularly. If control techniques do not return a satisfactory success rate, or continued surveillance realises a higher level of infestation, the management regime for a particular pest will be adjusted. This could result in the incorporation of new control techniques, a reconsideration of the management objective or the pest being moved to a different management category.

3.2.3 Regulation

Greater Wellington believes that pests are everyone's responsibility and as such landowners/occupiers need to take responsibility for land they own or manage. Where pests are widespread throughout the region or can spread rapidly over long distances, Greater Wellington's policy is to enforce control of these pests to minimise adverse impacts to adjoining landowners. The strategy rules require landowners/occupiers to control these pest species. Greater Wellington can provide advice on control options and arrange for contractors.

3.2.4 Biological control

Biological control refers to the use of living organisms (insects, rusts or other living organisms) to minimise the effects of certain pests without harming other species.

Greater Wellington contributes to research into biological control and uses biological control agents for some selected pests. These programmes are run in collaboration with regional councils, Landcare Research, the Department of Conservation (DoC), AgResearch and other agencies.

For more information **refer section 15.3**

3.2.5 Species banned from sale

Pests identified in the RPMS and the National Pest Plant Accord 2006 (NPPA) are banned from sale or distribution, unless specifically exempt by a strategy rule. This is to prevent the further spread of these pest species. All pet shops, plant nurseries and other sale outlets are inspected on an annual basis to ensure compliance. In addition to this, internet trading sites may be checked regularly to ensure that pests are not being traded on this forum.

For more information **refer section 3.5**

3.2.6 Education, information and advice

Educating the public about common pest issues and developments within the field of Biosecurity is of utmost importance for the Wellington region. The work done by Greater Wellington on specific species and areas is only part of protecting the region from invasive pests. The region is too large to work in isolation and working with other agencies and the public is paramount if there is to be protection of our unique environments and local economy.

Greater Wellington is aware that the public will not be familiar with many of the plants and animals contained in this document. Therefore Greater Wellington will provide information on these pests at a variety of sources (see below).

Many common pest species within the Wellington region are too widespread to warrant intervention from Greater Wellington. However this does not make them any less of an issue to the general public. Greater Wellington realises that the public can make a difference to the populations of these pests and therefore provides information and advice in a number of ways.

- Holding interactive stalls at selected agricultural and lifestyle field days
- Static displays at events such as shows and field days
- Working in conjunction with other agencies and groups on educational initiatives (eg weedswap days)
- Presentations on specific subjects to interested groups on request. These may include educational institutions, probus groups, farmers, forest and bird, schools, or pest contractors. Greater Wellington has an Environmental Education Department which specialises in providing interactive information to a wide range of audiences. Our Take Care programme staff also provide information on restriction operating and regular publications to rate payers
- Feature articles and advertisements in regional news media
- Providing the public with information brochures on specific pests listed in the RPMS at strategic locations around the region (eg libraries, Greater Wellington offices, garden centres)
- Working with other agencies and groups on educational programmes
- Practical demonstrations of management techniques on specific pests

- The provision of information on biosecurity issues on the Greater Wellington website **www.gw.govt.nz** and links to other relevant sites
- Free consultations from Biosecurity officers on pest issues for the public and other interested parties (eg care groups).

3.2.7 Community group programmes

Greater Wellington encourages and supports the formation of community groups to undertake various pest control projects in their local areas. Group projects may include pest control programmes. Greater Wellington supports these groups by providing information, advice and some materials for pest control.

3.2.8 Private land programmes

Greater Wellington supports landowners who want to protect biodiversity values on their properties. Covenanted private land parcels are eligible to receive certain pest control materials. Greater Wellington may also assist with labour for pest control on properties that have a high biodiversity value.

For more information **refer section 13**

3.2.9 Monitoring

Greater Wellington actively monitors ecosystem health and pest control programme outcomes within the region. Information collected is used to develop new management regimes and assess the effectiveness of the objectives of the existing RPMS.

For more information **refer section 15.2**

3.3 Stakeholders

Stakeholders shall be bound by the provisions of the strategy and shall be required to contribute to the funding of this strategy. The following parties are identified as stakeholders within the region for the purposes of this strategy.

3.3.1 Private landowners/occupiers

Landowners/occupiers of private land are often the exacerbators of a pest problem on the land and in many instances the beneficiaries of any control action. Accordingly the strategy will place the onus on the landowners/occupiers where appropriate, to undertake the control and management of pests on land for which they are responsible. Landowners/occupiers of private land are required to control pests as set out in the strategy rules prescribed in Part Two of this document.

3.3.2 Territorial Local Authorities

There are nine TLAs in the region (**refer map 1**). TLAs are both beneficiaries and exacerbators, and therefore each TLA is required to control pests on land that it owns or occupies (including roadside verges for which that TLA is responsible) in accordance with the strategy rules prescribed in Part Two of this document.

3.3.3 Crown land occupiers

Under Section 87 of the Act, the Crown cannot be bound to, or be required to fund, any strategy unless it agrees to be bound. Crown land accounts for approximately 156,364ha, or 19% of the total land area in the region. Six Crown agencies are recognised as being major landowners/occupiers within the region:

- Department of Conservation (DoC)
- Land Information New Zealand (LINZ)
- New Zealand Railways Corporation (Ontrack Ltd)
- New Zealand Defence Force
- Ministry of Education
- Department of Corrections.

In addition, NZ Transport Agency (NZTA) occupies Crown land, but does not constitute a Crown agency – **refer section 3.3.3(f)**.

In respect of the strategy, Greater Wellington views Crown landowners/occupiers as both exacerbators and beneficiaries. Greater Wellington proposes that the aforementioned Crown agencies agree to be bound to the strategy, and control pests on land that they administer as set out in the strategy rules prescribed in Part Two of this document. By being bound to the Regional Pest Management Strategy, Crown landowners/occupiers shall gain public support for recognising their responsibilities as exacerbators, and ensuring their good neighbour policy is maintained. This will also ensure that a consistent approach to pest control is applied throughout the region.

Greater Wellington also proposes that relevant Crown agencies contribute to funding the strategy's implementation and administration.

(a) Department of Conservation (DoC)

The Department of Conservation (DoC) is responsible for the management of approximately 138,234ha within the region. It is the occupier of Crown land under the Reserves Act 1977, National Parks Act 1980 and the Conservation Act 1987. DoC has particular interest and expertise in environmental pests and its Conservation Management Strategy for the Wellington Conservancy 1996-2005 addresses pest management issues. As the strategy places an emphasis on the control of environmental pests, DoC shall undoubtedly be a significant beneficiary. With a large expanse of DoC bush reserve, there is significant potential for pest infestations to develop and pose control costs on adjoining landowners/occupiers.

Where DoC is an exacerbator or a beneficiary of pest management, it may contribute towards funding the implementation and administration of the RPMS. As many of the pests have been included in the strategy to enhance protection of indigenous biodiversity, DoC may contribute in non-financial ways eg coordinating awareness programmes, combining educational material with Greater Wellington and coordinating operational programmes to complement Greater Wellington's initiatives.

(b) Land Information New Zealand (LINZ)

Land Information New Zealand (LINZ) administers vacant land, non-rateable land and unalienated Crown land. This includes Crown riverbeds and portions of New Zealand Railways Corporation (Ontrack Ltd) land available for disposal. In total, LINZ is responsible for the management of approximately 15,600ha in the region, of which 15,304ha is occupied under lease or licence and 296ha is unoccupied land. Where land is under lease or licence, the occupier is responsible for pest management on that land. Where it is not under lease or licence, LINZ is responsible for pest control.

(c) New Zealand Railways Corporation (Ontrack Ltd)

Ontrack Ltd is responsible for approximately 800ha in the region, with rail trunk lines extending through the eastern and western areas of the region. These corridors have the potential to impose impacts upon adjoining landowners/occupiers, as well as transferring pests from other areas.

Ontrack Ltd repurchased the rail network from Toll Holdings in 2004. Ontrack Ltd is not bound to the strategy except to the extent that it might agree. To date, pest control has been achieved to a satisfactory level working in liaison with Ontrack Ltd.

(d) Other Crown agencies

Within the region, the New Zealand Defence Force is responsible for 408ha of land, the Ministry of Education for approximately 862ha, and the Department of Corrections for approximately 230ha.

(e) Crown agency management plans

The strategy provides for agreed management plans for the control of pests on Crown land. This shall provide certainty for the planning and operational functions of the affected organisations to the standards prescribed in the RPMS. Greater Wellington will annually meet with the relevant Crown agencies to discuss pest management in the region.

(f) NZ Transport Agency (NZTA)

There are over 230km of state highways in the region. NZTA is the occupier of Crown land on which the road lies, together with the verge or road reserve extending to the adjoining landowners/occupiers' property boundaries. NZTA is legally recognised as a separate body corporate and as such is an occupier of Crown land. NZTA is specifically excluded as a Crown agency under the Fourth Schedule of the Public Finance Act 1989. Accordingly, land under NZTA's jurisdiction is subject to the rules for landowners/occupiers as defined in the RPMS.

3.4 Road reserve responsibilities

Road reserves include the land on which the road lies and the verge area that extends to adjoining property boundaries. Road reserves have the potential to be a source of pest infestations and can act as corridors allowing pests to spread throughout the region. Prior to amendments of the Biosecurity Act 1993 (the Act) in 1997, the Act stated that 'land' included the adjoining road reserves, and the adjoining landowner was responsible for pest management on those reserves. Following amendments made to Sections 6, 76(1)(i) and 80A(g) of the Act, adjoining road reserves are now not included as 'land' unless an RPMS states that is the case.

If not stated, the Act places default responsibility for pest management on roadside verges with the road controlling authority (eg TLAs and NZTA).

For road reserves, the strategy places responsibility for the management of all pests with the roading authority occupying that land.

NZTA and TLAs are both exacerbators and beneficiaries because they occupy road reserves where pests are present, and they will benefit from pest control on this land. It is therefore consistent with the principles of the Act that all roading authorities are responsible for pest control on land which they are landowners/occupiers. Historically, NZTA and the nine TLAs controlled pests on road reserves to satisfactory levels, although the legal onus for pest control was on adjoining landowners/occupiers. For example, NZTA agreed voluntarily to control some pest species within road reserves in the following situations:

- rest areas
- motorway reserves
- weigh pits and stockpile areas
- within reserves where adjoining land is administered by DoC (this may vary as some control in national park reserves is undertaken by DoC)
- on state highway reserves where road works have contributed to the establishment of pest plants
- other isolated areas of road reserves, mainly for safety reasons
- any other area where it is unreasonable to expect adjoining landowners to control pests on state highway reserves due to topography, remoteness etc.

The control of Containment pest plants may be impractical to fully implement in some roadside situations, eg where the reserve contains threatened native species, soil stabilisation concerns, access difficulties or risks to adjoining properties. The level of control or the distance to be cleared back from a complainant's boundary may be subject to waiver provisions and significantly reduced.

Greater Wellington shall meet annually and seek formal arrangements with roading authorities to form road reserve management plans that take into account the above situations. Management plans may also prioritise pest plant control requirements on road reserves.

3.5 Plant and animal sale outlets

Pursuant to Section 52 and 53 of the Biosecurity Act 1993 (the Act) all organisms identified as an unwanted organism in the National Pest Plant Accord (NPPA) or listed as a pest in an RPMS (species are detailed in Part 2) are banned from distribution, propagation and sale, unless specifically exempt by a strategy rule. A breach of these provisions is an offence under Section 154(m) of the Act.

3.6 Marine biosecurity

The region is surrounded by coastline on all but the northern boundary. This coastline is made up of rocky shoreline, beaches, harbours and estuaries, providing a vast range of habitat for marine organisms. Commercial and recreational activity is common on all coasts, in particular national and international shipping activity from Wellington and Porirua harbours. There is a constant risk of a biosecurity incursion in the region from this type of activity.

Marine biosecurity is a relatively new area of surveillance for New Zealand, both at a national and a regional level. Historically, the level of marine biosecurity capability for the region has been low. For this reason, as national marine biosecurity surveillance capability increases, Greater Wellington will work with central and local government to clarify roles and responsibilities and ensure the protection of the marine biodiversity of the region.

3.7 Animal welfare

Greater Wellington uses a range of methods and tools to control pest animals within the region. Whenever pest animal control operations are taking place, animal welfare is a priority. Staff endeavour to destroy animals quickly and humanely whenever possible. All control operations are undertaken by trained staff or contractors, using the most effective, practical and humane control methods available. Effective monitoring and follow-up control work ensure that pest numbers remain low, avoiding the need to kill large numbers of animals in the future.

3.8 Pathway management

Present pathway management consists of the following:

- regular inspections of plant and animal outlets and markets for unwanted organisms
- the Regional Surveillance pest plant programme, which includes a programme of inspections of various land types including rural and urban land, native bush, road ends and streams
- the responsibility of stakeholders with obligations under the strategy as outlined earlier.

This process is to be refined in the future to make better use of resource and target species in vulnerable areas. Greater Wellington recognises that by identifying and inspecting pathways, there is an increased chance of controlling pests at points of entry, and identifying infestations before they become established within the region. These include but are not restricted to:

3.8.1 Livestock saleyards, showgrounds and clubs

Pest species can attach to livestock or be transported in supplementary feed that is brought into the region in times of drought.

3.8.2 Transport

Pests can harbour in containers and trailers, and be transported on or in vehicles. Airports, marine ports, recreational areas such as parks and reserves, main roads and rail corridors are all high-use areas.

3.8.3 Water

Waterbodies such as lakes, rivers and streams used for water-based activities are at risk of invasion by aquatic pests. Any activity that involves moving equipment such as kayaks, jet boats or fishing gear between waterways can be a potential source of aquatic pests.

3.8.4 Movement of soil, fill or any other substrate

The movement of fill both within and into the region has the potential to introduce unwanted organisms. Greater Wellington will work to raise awareness of these potential pathways, focusing on high risk sites such as quarries and new subdivisions.

3.8.5 Humans

Humans are often the source of new pest infestations into the region, through the accidental or intentional movement of materials and organisms. At present Greater Wellington relies on surveillance by Greater Wellington staff and other agencies, organisations and public observations to identify new infestations of pests within the region. Greater Wellington awareness campaigns aim to increase public awareness of the various pathways that pest species use.

3.8.6 Weedbusters programme

Greater Wellington supports and participates in Weedbusters, the national weeds awareness and education programme. Greater Wellington's actions include promotion of the Weedbusters programme and general pest plant awareness. Greater Wellington provides advice and education to Weedbusters groups and works with other agencies involved in the Weedbusters progamme, including other regional councils, TLAs and DoC.

For further information visit the Weedbusters website, **www.weedbusters.co.nz**

Part Two

Pest management programmes

Regional Surveillance

Total Control

Containment

Site-Led

Suppression

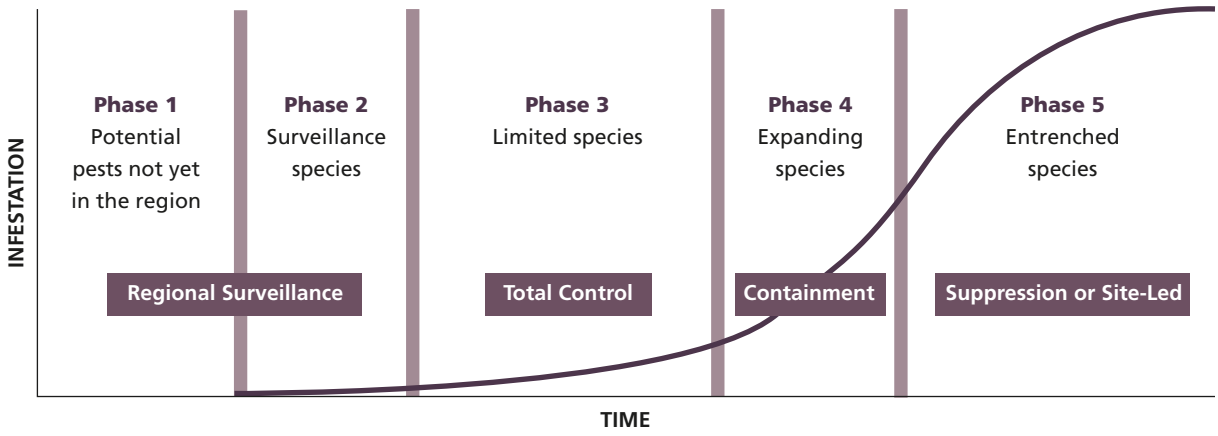
4 Pest management rationale

This section provides the rationale for applying various management policies to different pest species in the proposed Regional Pest Management Strategy.

4.1 Infestation curve

The invasion pattern of many species tends to follow an 'S-shaped' pattern – **refer table below**. The important characteristics of the curve are a long tail at the beginning of a species' invasion as the pest establishes itself, a steep rise as the pest finds suitable habitats, and then a flattening off as these habitats reach carrying capacity.

Infestation curve – table 4



Where a particular pest species sits on the infestation curve, has been derived from distribution maps and field knowledge regarding geographical spread and population densities. As well as considering impacts, costs and benefits, the location of a pest on the curve helps determine its appropriate management. The curve is divided into five phases. These phases, and the preferred management policies associated with them, are summarised below. Further detailed information follows in section 4.2.

Phases of infestation – table 5

Infestation phase	Phase characteristics	Management policies
Phase 1	Potential pest not currently in the region	Regional Surveillance
Phase 2	Recent arrival limited in distribution	Regional Surveillance
Phase 3	Limited in distribution and density	Total Control
Phase 4	Established but have not reached full distribution	Containment
Phase 5	Widespread or entrenched in most or all available habitat	Suppression or Site-Led

4.2 Pest management policies for phases of infestation

This section describes the preferred management approach for the infestation phase of a species. The different management policies give rise to the pest management categories by which all pests listed in Part Two are grouped. All of these pests are banned from sale, distribution and propagation.

4.2.1 Phases 1-2: Regional Surveillance pest species

These pest species encompass Phases 1-2 of the infestation curve. Regional Surveillance pest species shall remain in the strategy for a period of five years until the next review, when they shall be assessed for future inclusion in the strategy. If they become an obvious problem or threat before the review period, they can be moved to another category earlier. The exception to this is the Biosecurity New Zealand (MAF BNZ) led species which are under the jurisdiction of MAF BNZ. Greater Wellington's capacity will be to report the locations of sites of these pest species. To date, many of these species have been found in the region and further surveillance through the Regional Surveillance pest programmes will benefit both agencies.

Greater Wellington works with other agencies such as regional and district councils, DoC, The Queen Elizabeth II National Trust, The Royal Forest and Bird Society, Federated Farmers of New Zealand Inc, botanical societies, research organisations and other groups who can help to detect new incursions. We encourage interagency partnerships that will enable us to increase our ability to detect new pests before they establish in the region. The sharing of knowledge, technical skills and focusing on combined benefit will lead to more cost-effective pest management.

4.2.2 Phase 1: Potential pest species not yet known to be in the region

There are a large number of pests present in New Zealand, and to date, Greater Wellington is unaware of the presence of some of these species within the region. Through the Regional Surveillance pest programmes, a better insight will be gained into the region's potential and current pests, and action can be taken if it is assessed to be cost-effective.

Greater Wellington cannot predict exactly which species might reach our region over the term of the strategy. However, Greater Wellington can see the benefit of regional consistency when choosing pests which go into the Regional Surveillance category of the strategy. Therefore, some of the pest species that have been chosen for Phase 1 are unwanted organisms that are not found, or are limited in distribution, in our neighbouring regions – Manawatu, Hawkes Bay and Marlborough.

There is also a National Pest Plant Accord (NPPA) developed jointly between regional councils, MAF BNZ, DoC, and the New Zealand Nursery and Garden Industry Association. Plants listed in the NPPA are classified as unwanted organisms, and their sale, propagation and distribution is prohibited by the Biosecurity Act 1993 (the Act) throughout New Zealand. The NPPA list was reviewed and amended in 2006 and is included in the proposed strategy in Appendix 1 (Part Two).

If a new pest becomes established before the next strategy review, and it has the potential to cause serious adverse and unintended effects in the region, Greater Wellington may elect to undertake small-scale management under Section 100 of the Act. Section 100 allows Greater Wellington to undertake management of unwanted organisms outside the strategy if the pest:

- is limited in distribution; and
- can be eradicated within three years; and
- the cost of the programme will not exceed $100,000.

Greater Wellington may make a request to the appropriate Crown agency for an unwanted organism status for any new arrivals that have not yet been declared as unwanted organisms, and that Greater Wellington wishes to eradicate under Section 100 of the Act.

4.2.3 Phase 2: Pest species known to be in the region and more research is needed

During this phase, data will be collected to understand how the species became established in the area, what the area of infestation is through delimit survey and what resources and period of time would be needed to achieve control. This information is for inclusion in CBA and species management reporting.

Not all surveillance species will be classified as Total Control. Species in the NPPA selection of plants may have previously been sold and are already established and spread throughout the region. Some species may have been established for a long period of time prior to discovery and the infestation size too large to gain Total Control.

4.2.4 Phase 3: Total Control pest species

Phase 3 pests are of limited distribution within the region, but could potentially have serious adverse effects on significant regional values. Greater Wellington has a precautionary policy for these pest species, and every attempt shall be made to control them. They have been classified as Total Control pests.

Greater Wellington believes that service delivery is the most effective means of managing Total Control pests. Greater Wellington shall undertake the control of all Total Control pests at no direct cost to the landowner/occupier, with the exception of Crown land.

4.2.5 Phase 4: Containment pest species

Phase 4 pests are of moderate distribution within the region. Greater Wellington shall be responsible for the control of these species outside designated Containment zones.

Greater Wellington believes that service delivery for pests of moderate distribution is the most effective method for the management of Containment pests but only outside of the zone. Outside the Containment zone, a Surveillance/Total Control policy shall apply. Greater Wellington will undertake the control of pests outside the Containment zones at no direct cost to the landowner/occupier, with the exception of Crown land.

4.2.6 Phase 5: Boundary Control pest species

Phase 5 pests are of widespread distribution within the region. They comprise some of the most problematic pest species. Greater Wellington recognises that neither Total Control nor Containment of the pest is achievable.

These pests are too widespread to be considered cost-effective for region-wide control. Boundary control by landowners is considered the most practical management for these pest species to prevent costs on adjoining landowners who are free of the pests.

4.2.7 Phase 5: Suppression and Site-Led pest species in Key Native Ecosystems (KNEs)

Suppression pest species are widespread pests that can, and have, spread rapidly over long distances and therefore Boundary Control management is not effective. The adverse impacts of Suppression pests are severe, and Total Control or Containment is not achievable. Greater Wellington has a policy of suppressing pest density throughout the region to minimise impacts. All control work shall be the responsibility of the occupier.

The main impact of many of the Site-Led pests included in the strategy is on the region's native biodiversity. Unfortunately, many of these pests are widespread throughout the region, and it is not cost-effective to control them region-wide. For these species, Greater Wellington believes the most sensible option is to manage pests of our native flora and fauna in special natural places. Greater Wellington is committed to improving the quality of native ecosystems and protecting the region's indigenous biodiversity. This commitment led to the establishment of the KNE programme in 1996. To date, more than 20,000ha of native habitat have received pest control under the programme. To restore indigenous ecosystems to a healthy state requires intensive, long-term, multi-pest (integrated) management.

The strategy includes an extensive list of pests that may need to be controlled in some KNEs – **refer section 13.1**. These KNE management areas shall be prioritised based on ecological principles. Pest management shall vary depending on the site's priority.

It is important to note that Greater Wellington does not propose widespread control of the pests listed in the KNE management category. In many instances, control of these pests over the region is not possible. Some pest species are considered a valued resource elsewhere, and Greater Wellington will only control these in priority KNEs when adverse impacts have been identified.

4.2.8 Pest management in reserve and forest health areas

There are a number of high biodiversity value reserve areas within the region. Greater Wellington undertakes pest control within these reserves to protect biodiversity and improve forest health.

The strategy includes an extensive list of pest species that may need to be controlled in some reserve and forest health areas – **refer section 13.2**. These areas shall be prioritised based on ecological principles. Pest management shall vary from possum control only, through to intensive multi-pest control, depending on the site's priority.

Regional Surveillance

5 Regional Surveillance pest plant (taru) category

The Greater Wellington Regional Surveillance programme shall include the MAF BNZ led national programme species below (in order of priority):

MAF BNZ led national programme plant species – table 6

Rank	Species		Management goal
1	Salvinia	*Salvinia molesta*	Total Control
2	Water hyacinth	*Eichhornia crassipes*	Total Control
3	Johnson grass	*Sorghum halepense*	Total Control
4	Cape tulip	*Moraea flaccida*	Total Control
5	Pyp grass	*Ehrharta villosa*	Total Control
6	Phragmites	*Phragmites australis*	Total Control
7	Hydrilla	*Hydrilla verticillata*	Total Control
8	Hornwort	*Ceratophyllum demersum*	Total Control in the South Island
9	White bryony	*Bryonia cretica spp dioica*	Total Control
10	Manchurian wild rice	*Zizania latifolia*	Total Control of outlier populations Containment of large populations

Note: This Surveillance list is not exhaustive. The listed plants are those considered to pose a significant risk to the region. During Surveillance work samples of any unknown plant species are collected and identified.

5.1 African fountain grass *Pennisetum setaceum*

Description and reason for inclusion

Clumping perennial grass with purple bristly seedheads. Reduces pasture production. Unwanted organism.

5.2 Alligator weed *Alternanthera philoxeroides*

Description and reason for inclusion

Sprawling, perennial aquatic herb that forms mats. Unpalatable to livestock and reduces pasture production. Under control programmes in neighbouring regions.

5.3 Apple of Sodom *Solanum linnaeanum*

Description and reason for inclusion

Woody perennial shrub up to 1m tall. Large yellow berries contain many seeds. Toxic to livestock and reduces pasture production. Under control programmes in neighbouring regions.

5.4 Asiatic knotweed *Reynoutria japonica and hybrids*

Description and reason for inclusion

Herb that grows to a height of 2 to 3m with a rhizome root system. Creates monocultures that restrict the growth of native species. Under control programmes in neighbouring regions.

5.5 Australian sedge *Carex longebrachiata*

Description and reason for inclusion

Compact tussock that grows up to 90cm high. Leaves are Y-shaped in cross-section. Unpalatable to livestock and reduces pasture production. Under control programmes in neighbouring regions.

5.6 Bomarea *Bomarea caldasii, B. multiflora*

Description and reason for inclusion

Evergreen vine with large orange or yellow trumpet-like flowers. Smothers and strangles native species. Unwanted organism.

5.7 Californian arrowhead *Sagittaria montevidensis*

Description and reason for inclusion

Upright, perennial aquatic herb up to 1m tall with large glossy leaves and white flowers with purple blotches. Invades waterbodies and restricts water flow. Under surveillance in neighbouring regions.

5.8 Californian bulrush *Schoenoplectus californicus*

Description and reason for inclusion

Wetland rush that grows up to 2m tall with brown pendulous seedheads. Invades waterbodies and restricts waterflow. Under control programmes in neighbouring regions.

5.9 Chilean flame creeper *Tropaeolum speciosum*

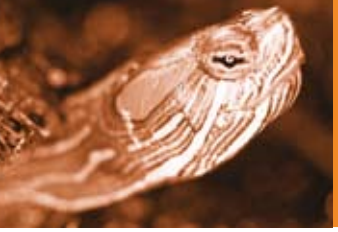
Description and reason for inclusion

Perennial vine with delicate five-fingered leaves. Scarlet flowers are followed by blue berries. Smothers and strangles native species. Unwanted organism.

5.10 Chilean needlegrass *Nassella neesiana*

Description and reason for inclusion

Perennial tussock with needle-like seeds. Unpalatable to livestock and reduces pasture production. Under surveillance and control programmes in neighbouring regions.



5.11 Chinese pennisetum *Pennisetum alopecuroides*

Description and reason for inclusion

Tufted perennial tussock up to 1m high with purplish bristly seedheads. Generally unpalatable to stock and reduces pasture production. Under control programmes in neighbouring regions.

Chocolate vine

5.12 Chocolate vine *Akebia quinata*

Description and reason for inclusion

Vigorous evergreen or deciduous climber that has green five-fingered leaflets. Flowers are maroon and usually 'chocolate' scented. Smothers and strangles native species. Unwanted organism.

5.13 Delta arrowhead *Sagittaria platyphylla*

Description and reason for inclusion

Emergent aquatic herb up to 80cm tall with large lance-shaped leaves and white flowers. Invades waterbodies and restricts water flow. Under surveillance in neighbouring regions.

5.14 Didymo *Didymosphenia geminata*

Description and reason for inclusion

Fresh water alga which can form massive blooms on the bottom of streams, rivers and lakes. It attaches itself to the stream bed by stalks and can form a thick brown layer that smothers rocks and submerged plants. Unwanted organism MAF BNZ NIPR species currently contained to the South Island.

5.15 Giant knotweed *Reynoutria sachalinensis and hybrids*

Description and reason for inclusion

Rhizomateous herb that grows up to 1.5m high. Creates monocultures that restrict the growth of native species. Under control programmes in neighbouring regions.

5.16 Hawaiian arrowhead *Sagittaria sagittifolia*

Description and reason for inclusion

Perennial aquatic herb that has rhizomes and tubers. Invades waterbodies and restricts water flow. Under surveillance in neighbouring regions.

5.17 Houttuynia *Houttuynia cordata*

Description and reason for inclusion

Perennial groundcover that has an aggressive rhizome root system. Restricts the growth of native species. Under control programmes in other regions.

5.18 Nassella tussock *Nassella trichotoma*

Description and reason for inclusion

Vigorous perennial grass that grows up to 1m high. Reduces pasture production. Under control programmes in neighbouring regions.

5.19 Noogoora bur *Xanthium occidentale*

Description and reason for inclusion

Erect summer annual 1.5 to 3m high with grape-like leaves. Egg-shaped spiky burs that contain seeds. Toxic to livestock and reduces pasture production. Under surveillance and control programmes in neighbouring regions.

5.20 Polypodium (Common polypody) *Polypodium vulgare*

Description and reason for inclusion

Fern with a creeping rhizome root system. Creates monocultures that restrict the growth of native species. Currently known to be very limited in distribution within New Zealand.

5.21 Purple loosestrife *Lythrum salicaria*

Description and reason for inclusion

Herbaceous perennial that grows up to 2m tall with purple flower spikes. Wetland invader. Under control programmes in neighbouring regions.

Purple loosestrife

5.22 Senegal tea *Gymnocoronis spilanthoides*

Description and reason for inclusion

Perennial aquatic herb that grows up to 1m tall. Serrated lance-shaped leaves and white flowerheads. Restricts water flow. Under surveillance in neighbouring regions.

Senegal tea

5.23 Spartina *Spartina spp*

Description and reason for inclusion

Emergent, aquatic, perennial grass that grows up to 80cm tall. Dense rhizome mats invade estuaries and other coastal areas. Under surveillance in neighbouring regions.

5.24 White-edged nightshade *Solanum marginatum*

Description and reason for inclusion

Perennial shrub or small tree up to 5m tall that is covered in spikes. Tomato-like fruits contain many seeds. Toxic to stock and reduces pasture production. Unwanted organism.

All Regional Surveillance pest plant species

Aim

To determine the distribution and means of control for Regional Surveillance pest plants within the Wellington region.

Objectives

To carry out a Regional Surveillance pest plant programme to determine the status of these species within the region.

To carry out a control trial programme to ascertain the best method(s) for controlling selected Regional Surveillance pest plants within the region.

Means of achievement

Greater Wellington shall:

- identify new sites of Regional Surveillance pest plants through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- undertake a control trial programme on selected Regional Surveillance pest plants within the region
- undertake training and research to be conversant with the identification and biological characteristics of all Regional Surveillance pest plants
- provide information and publicity to enhance public awareness of the threat posed by Regional Surveillance pest plants to the region
- annually inspect all plant, animal outlets and markets within the region for the sale and/or propagation of Regional Surveillance pest plants
- report outcomes of investigations into new incursions or species known to already be established in the region, to allow decisions on appropriate management response to be authorised.

Strategy rules

a) Pursuant to Section 109(1)(b) and 109(2)(a and b) of the Act, an authorised person may at any reasonable time or times enter and inspect any place in the region for the purpose of:

(a) Confirming the presence, former presence, or absence of Regional Surveillance pest plants; or

(b) Managing or controlling Regional Surveillance pest plants.

An authorised person shall not enter and inspect a dwelling house, a marae, or a building associated with a marae, except with:

- The consent of an occupier; or
- A warrant issued under Section 110 of the Act

b) Landowners/occupiers shall notify Greater Wellington of the presence of Regional Surveillance pest plants on any land they own or occupy within the Wellington region.

A breach of this rule will create an offence under Section 154(r) of the Act.

c) Pursuant to sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread Regional Surveillance pest plants within the Wellington region.

A breach of this provision is an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) allows an authorised person to enter any place at any reasonable time (except a dwelling house, a marae, or a building associated with a marae), to confirm the presence or absence, to manage or control Regional Surveillance pest plants.

Rule b) requires landowners/occupiers to notify Greater Wellington of Regional Surveillance pest plants on any land they own or occupy within the region.

Rule c) prevents the sale or propagation of Regional Surveillance pest plants within the region.

Monitoring the objectives

Greater Wellington shall:

- annually report the number of known sites of Regional Surveillance pest plants within the region and the plant numbers within them, including MAF BNZ led plant species
- the discovery of MAF BNZ led plant species will be reported to MAF BNZ .

6 Regional Surveillance pest animal (kararehe nanakia) category

The Greater Wellington Regional Surveillance programme shall include the MAF BNZ led national programme species below:

MAF BNZ led national programme animal species – table 7

Rank	Species		Management goal
1	Rainbow lorikeet	*Trichoglossus haematodus*	Total control of feral population

Argentine ant
Photo: Jack Kelly Clark, University of California

6.1 Argentine ant *Linepithema humile*

Description

Small honey brown ant, 2 to 3mm long. They form large nests, which can expand to super colonies. Queens do not have wings, and there can be multiple queens in a nest. Argentine ants travel in distinctive large trails, often five or more ants wide. Unlike native species, Argentine ants give off no odour when crushed.

Argentine ants were first identified in New Zealand in 1990. There are three known populations in the Wellington region, located at Kelburn, Kapiti and Petone. The natural dispersion rate of Argentine ants is slow, but they are readily transported and distributed by humans. In New Zealand the nests usually occur in industrial and residential urban areas.

Reason for inclusion

Argentine ants pose both a biosecurity and human health risk to the Wellington region. They are extremely invasive, with a high rate of reproduction. Argentine ants are aggressive towards native ant and invertebrate species and will dominate an area through population numbers. Because of their large populations, Argentine ants are highly competitive for resources. They will eat nectar, insects, seeds, carrion and honeydew from aphids.

A cost benefit analysis has shown that inclusion in the Regional Surveillance category is the most appropriate for the Argentine ant. Since the population present in the region is small, and the natural distribution rate slow, monitoring the population is most appropriate for the Wellington region. Within this category any change in population can be noted and an appropriate response undertaken by Greater Wellington.

Aim

To determine the distribution and minimise the impact and prevent the further spread of Argentine ants in the Wellington region.

Objectives

To monitor the presence of Argentine ants in the Wellington region.

Means of achievement

Greater Wellington shall:

- provide information and publicity to enhance public awareness of the threat Argentine ants pose to the region
- record any incidences of Argentine ants in the region.

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of Argentine ants *Linepithema humile*; or

   ii. Managing or eradicating Argentine ants *Linepithema humile* other than in accordance with the direction or under the supervision of an authorised person.

A breach of this rule will create an offence under section 154(r) of the Act.

Explanation of strategy rules

Rule a) allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling Argentine ants in the region.

Monitoring the objectives

Greater Wellington shall:

- annually report on any control or research operations for Argentine ants undertaken by Greater Wellington, MAF BNZ or Territorial Local Authorities in the Wellington region
- annually record and report on any new infestations of Argentine ants in the region.

6.2 Australian subterranean termites *Coptotermes acinacoformis*

Description

The Australian subterranean termite is a small insect, similar in appearance to an ant, with a white body and two sets of brownish wings. Adults can reach a body length of 11.5mm. The Australian subterranean termite was first discovered in New Zealand in 1938. The termites were accidentally introduced inside wooden telephone poles, railway sleepers and packaging material. The Australian subterranean termite inhabits both live and dead wood, including trees, fallen logs, stumps, houses, furniture and any other suitable substrate.

Reason for inclusion

Australian subterranean termites will inhabit any suitable wooden material. They develop large colonies, which can number up to two million individuals and survive for up to 50 years. At such a size they pose a threat to forest biodiversity, destroying standing timber and competing with native insects. Australian subterranean termites have a limited natural dispersal rate, but are readily transported in timber. Australian subterranean termites are not present in the Wellington region, but have been recently eradicated from sites in Nelson and Otorohanga.

A cost benefit analysis has shown that inclusion in the Regional Surveillance pest category is the most appropriate for the Australian subterranean termite in the Wellington region. Australian subterranean termites are not currently present within the region, but given their ability to travel in wooden materials, there is a constant threat of accidental introduction. Within this category any incursion can be noted, and an appropriate response undertaken by Greater Wellington. This species is a MAF BNZ notifiable organism.

Aim

To prevent the establishment of Australian subterranean termites in the Wellington region.

Objectives

To work with MAF BNZ and Territorial Local Authorities to monitor the presence of Australian subterranean termites in the Wellington region.

Means of achievement

Greater Wellington shall:

- provide information and publicity to enhance public awareness of the threat Australian subterranean termites pose to the region
- record and report any incidences of Australian subterranean termites in the region.

Australian subterranean termite
Photo: Landcare Research

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of Australian subterranean termites *Coptotermes acinacoformis*; or

   ii. Managing or eradicating Australian subterranean termites *Coptotermes acinacoformis* other than in accordance with the direction or under the supervision of an authorised person.

A breach of this rule will create an offence under section 154(r) of the Act.

Explanation of strategy rules

Rule a) allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling Australian subterranean termites in the region.

Monitoring the objectives

Greater Wellington shall:

- annually report on any control or research operations for Australian subterranean termites undertaken by Greater Wellington, MAF BNZ or Territorial Local Authorities in the Wellington region
- annually record any new infestations of Australian subterranean termites in the region.

6.3 Darwin's ant *Doleromyrma darwinia*

Description

Darwin's ant
Photo: Landcare Research

Darwin's ants are small and brown and 2 to 3mm long. Queens have wings, but are poor flyers. Darwin's ants nest in small colonies, with a slow rate of natural dispersion. The ants give off a strong odour when crushed. Darwin's ants were first identified in New Zealand in the 1950s, and found in the Wellington region at Plimmerton in 2006. The natural dispersion rate of Darwin's ants is slow, but they are easily accidentally transported and distributed by humans. Their natural habitat is open country but in New Zealand the nests usually occur in industrial and residential urban areas.

Reason for inclusion

The potential impact of Darwin's ants on the Wellington region is largely unknown, but there are both biodiversity and human nuisance concerns with an infestation. Darwin's ants may compete with native species for habitat and food sources, and predate on native invertebrates. The nests can attain large densities in urban areas, becoming a nuisance in homes and gardens. If widely established Darwin's ants would be difficult to control.

A cost benefit analysis has shown that inclusion in the Regional Surveillance category is the most appropriate for the Darwin's ant. Since the population present in the region is small, and the natural distribution rate slow, monitoring the population is most appropriate for the Wellington region. Within this category any change in population can be noted, and an appropriate response undertaken by Greater Wellington. This species is a MAF BNZ notifiable organism.

Aim

To minimise the impact and prevent the further spread of Darwin's ants in the Wellington region.

Objectives

To monitor the presence of Darwin's ants in the Wellington region.

Means of achievement

Greater Wellington shall:

- provide information and publicity to enhance public awareness of the threat Darwin's ants pose to the region
- record and report any incidences of Darwin's ants in the region.

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of Darwin's ants *Doleromyrma darwinia*; or

   ii. Managing or eradicating Darwin's ants *Doleromyrma darwinia* other than in accordance with the direction or under the supervision of an authorised person.

A breach of this rule will create an offence under section 154(r) of the Act.

Explanation of strategy rules

This strategy rule allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling Darwin's ants in the region.

Monitoring the objectives

Greater Wellington shall:

- annually report on any control or research operations for Darwin's ants undertaken by Greater Wellington or Local Territorial Authorities in the Wellington region
- annually record and report on any new infestations of Darwin's ants in the region.

6.4 Rainbow skink *Lampropholis delicata*

Description

Small brown lizard, with a dark band running down each side of the body, sometimes bordered by lighter colours. Plain, light coloured undersides. Adults grow up to 5.5cm in length. Indigenous to Australia, the rainbow skink was introduced accidentally into Auckland in the 1960s. Now well established in Northland, Auckland and Waikato. The rainbow skink is not currently known to be present in the lower North Island, but given the vegetation and climate of the region, a successful incursion is likely.

Reason for inclusion

The natural distribution rate of rainbow skinks in unknown, but the greatest incursion threat to the Wellington region is an accidental introduction by humans. Rainbow skinks present a potential biodiversity threat to the Wellington region. Given the number of

indigenous lizards present in the region, the rainbow skink presents a threat through both direct and indirect competition. Rainbow skinks are known to be generalist feeders and can live in a broad range of habitats, with the potential to out-compete indigenous species. As there are a number of pest-free islands in the Wellington region, the rainbow skink would pose a new threat to the biodiversity of these sanctuaries. Any vertebrate poison for rainbow skinks would also target native species, making control difficult.

A cost benefit analysis has shown that inclusion in the Regional Surveillance category is the most appropriate for the rainbow skink in the Wellington region. Rainbow skinks are not currently known to be present within the region, but given their ability to travel in transported goods, there is a constant threat of accidental introduction from the far north. Within this category any incursion in the region can be noted, and an appropriate response undertaken by Greater Wellington.

Aim

To prevent the establishment of rainbow skinks in the Wellington region.

Objectives

To work with Department of Conservation and Territorial Local Authorities to monitor for the presence of rainbow skinks in the Wellington region.

Means of achievement

Greater Wellington shall:

- provide information and publicity to enhance public awareness of the threat rainbow skinks pose to the region
- record and report any incidences of rainbow skinks in the region
- investigate the feasibility of eradication of rainbow skinks should an incursion be detected.

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of rainbow skinks *Lampropholis delicata*; or

   ii. Managing or eradicating rainbow skinks *Lampropholis delicata* other than in accordance with the direction or under the supervision of an authorised person.

A breach of this rule will create an offence under section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Biosecurity Act 1993, no person shall release, or cause to be released, breed, or sell or offer for sale, or hold in premises where animals are offered for sale, or otherwise spread rainbow skinks *Lampropholis delicata*.

A breach of this will create an offence under Section 154(m) of the Act.

Rainbow skink specimen
Photo: Crown copyright, DoC

Explanation of strategy rules

Rule a) allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling rainbow skinks in the region.

Rule b) imposes a ban on the sale, breeding or distribution of rainbow skinks in the Wellington region.

Monitoring the objectives

Greater Wellington shall:

- annually report on any control or research operations for rainbow skinks undertaken by Greater Wellington, the Department of Conservation or Territorial Local Authorities in the Wellington region
- record and report any new infestations of rainbow skinks in the region.

6.5 Red-eared slider turtle *Trachemys scripta elegans*

Red-eared slider turtle
Photo: Crown copyright, DoC

Description

Small dark green and brown turtle, with a distinctive red stripe on each side of the head. Females have larger bodies, while males are smaller with a longer tail and well developed claws. They can reach an adult length of 28cm. Red-eared slider turtles are opportunistic omnivores, eating a range of vegetation and predating on small fish, insects and birds' eggs and young.

Reason for inclusion

The impact of red-eared slider turtles in the wild is largely unknown in New Zealand, but given their omnivorous diet they could adversely impact aquatic plants, insects, small fish species and ground nesting birds. Red-eared slider turtles can survive in the wild in the Wellington region, but the current climate is considered unsuitable for their reproduction.

A cost benefit analysis has shown that inclusion in the Regional Surveillance pest category is the most appropriate for the red-eared slider turtle. Since the number present in the region is small, and the apparent inability to reproduce in the wild, monitoring the population is most appropriate for the Wellington region. Within this category any change in population can be noted, and an appropriate response undertaken by Greater Wellington.

Aim

To minimise the impact, and prevent the further spread, of red-eared slider turtles in the Wellington region.

Objectives

To work with the Department of Conservation and Territorial Local Authorities to monitor and manage red-eared slider turtles in the Wellington region.

Means of achievement

Greater Wellington shall:

- provide information and publicity to enhance public awareness of the threat red-eared slider turtles pose to the region
- record all incidences of red-eared slider turtles in the region.

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of red-eared slider turtles *Trachemys scripta elegans*; or

   ii. Managing red-eared slider turtles *Trachemys scripta elegans* other than in accordance with the direction or under the supervision of an authorised person.

A breach of this rule will create an offence under section 154(r) of the Act.

b) No person shall:

   i. Convey or have in their possession any red-eared slider turtles *Trachemys scripta elegans*, for the purpose of or turning it at large; or

   ii. Liberate any red-eared slider turtles *Trachemys scripta elegans* or turn it at large or allow it to go at large in the Wellington region.

Explanation of strategy rules

Rule a) allows Greater Wellington to undertake the necessary action(s) for monitoring red-eared slider turtles in the region.

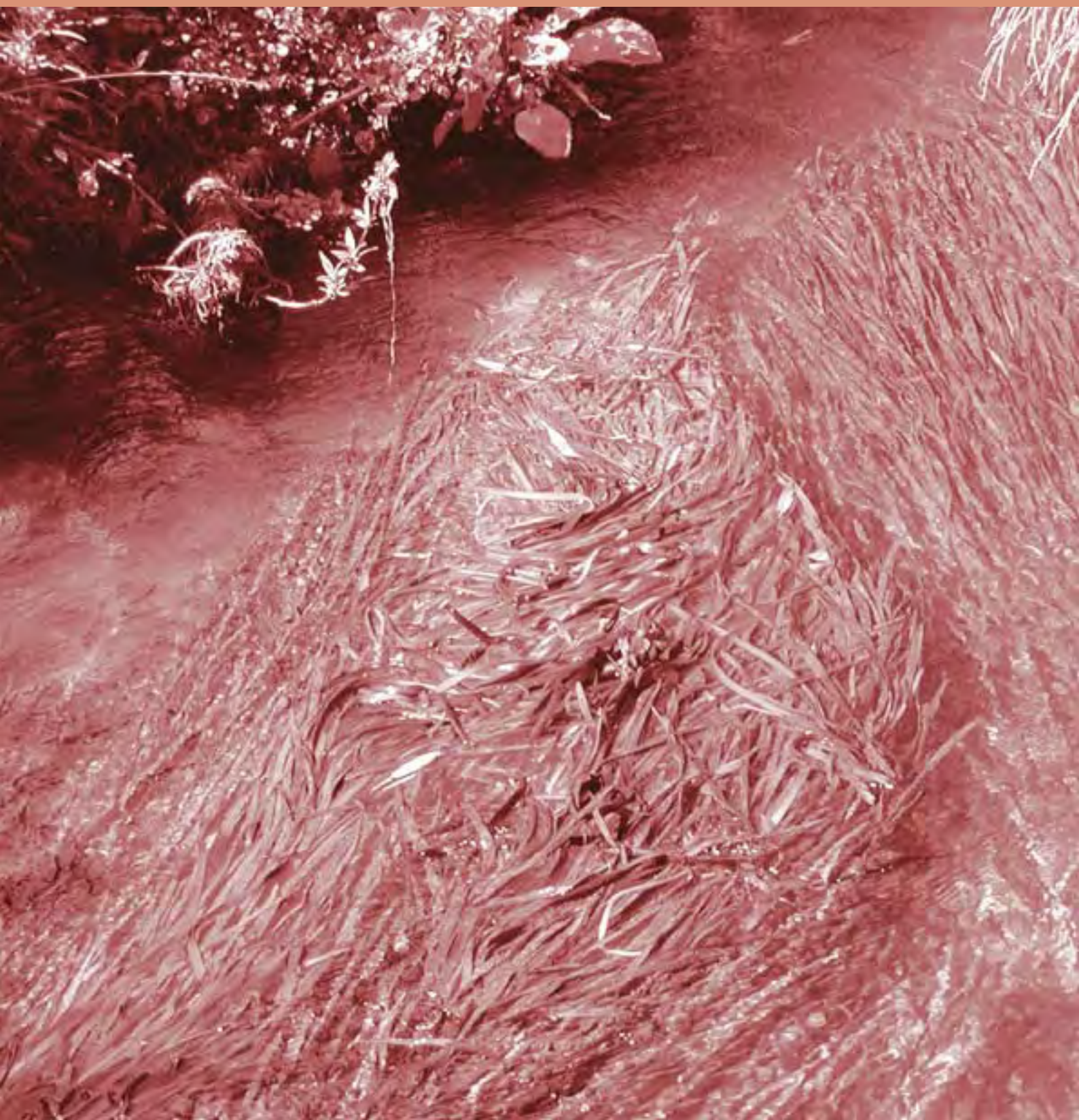
Rule b) imposes a ban on the liberation of red-eared slider turtles in the Wellington region.

Monitoring the objectives

Greater Wellington shall:

- annually report on any control or research operations for red-eared slider turtles undertaken by Greater Wellington, the Department of Conservation or Territorial Local Authorities in the Wellington region
- annually update and review records of any new or existing infestations of red-eared slider turtles in the region.

Total Control



7 Total Control pest category

7.1 Strategy rules for all total control pest plants

a) Pursuant to Section 109(1)(b) and 109(2)(a and b) of the Act, an authorised person may at any reasonable time, or times, enter and inspect any place in the region for the purpose of:

   i. Confirming the presence, former presence, or absence of *the species*; or

   ii. Managing or controlling *the species*.

An inspector or authorised person shall not enter and inspect a dwelling house, a marae, or a building associated with a marae, except with:

   – the consent of an occupier; or

   – a warrant issued under Section 110 of the Act.

b) Landowners/occupiers shall notify Greater Wellington of the presence of *the species* on any land they own or occupy within the Wellington region.

c) Greater Wellington will choose the appropriate method of control for *the species* based on best industry practices. Where landowners/occupiers do not consider this applicable to their situation they shall pay all additional expenses for alternative control methods used. The outcomes of any alternative control methods used shall be to a standard acceptable to Greater Wellington.

A breach of rules b) and c) will create an offence under Section 154(r) of the Act.

d) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale or otherwise spread *the species* within the Wellington region.

A breach of this provision is an offence under Section 154(m) of the Act.

7.1.2 Explanation of strategy rules

Rule a) allows an authorised person to enter any place at any reasonable time (except a dwelling house, a marae, or a building associated with a marae), to confirm the presence or absence, or to manage or control *the species*.

Rule b) requires landowners/occupiers to notify Greater Wellington of *the species* on any land they own or occupy within the region.

Rule c) allows Greater Wellington to choose the most appropriate method of control for *the species* and that the cost of all additional expenses for alternative control will be paid by the landowner/occupier. Alternative control methods must achieve a standard of control acceptable to Greater Wellington.

Rule d) prevents the sale or propagation of *the species* within the region.

7.2 African feathergrass *Pennisetum macrourum*

Description

African feathergrass is a robust, perennial grass that grows up to 2m. It has extensive fibrous roots that grow from stout rhizomes. Leaves are light green and strongly ribbed on the upper surface, darker green underneath and sometimes purple on the edges and tips. Numerous bristle-like flowerheads are produced in spring and summer. African feathergrass can be distinguished from pampas grass by its smaller and more compact flowerhead.

African feathergrass

Reason for inclusion

African feathergrass is a very invasive species that is spread by seed and rhizomes. It is a serious threat to pastoral land by marginalising pasture species thereby reducing livestock production. Due to the limited number of known sites at present and the potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of African feathergrass is warranted.

Aim

Total Control of African feathergrass within the Wellington region.

Objective

Control African feathergrass at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of African feathergrass at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by African feathergrass to the region
- identify new sites of African feathergrass through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of African feathergrass.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of African feathergrass within the region and the plant numbers within them.

7.3 Bathurst bur *Xanthium spinosum*

Bathurst bur

Description

Bathurst bur is an erect and multi-branched annual herb that grows up to 1m tall. The leaves are three-lobed, narrow, sharply pointed and up to 7cm long. The upper surface is dark green and shiny, with a white mid-vein and the underside is pale green and downy. At the base of each leaf stalk and stem node there are one or two three-pronged yellow spines. Its flowers are creamy green and small and eventually grow into small, oval burs over the summer and autumn. These cling to clothing and livestock.

Reason for inclusion

Bathurst bur is a very invasive species that is spread by seed. It has the potential to become a serious agricultural threat. The burs contaminate fleece and crops, are poisonous to livestock, and can irritate agricultural workers' skin. Bathurst bur spines can cause mouth infections in livestock. Due to the limited number of known sites at present and potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of Bathurst bur is warranted.

Aim

Total Control of Bathurst bur within the Wellington region.

Objective

Control Bathurst bur at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of Bathurst bur at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by Bathurst bur to the region
- identify new sites of Bathurst bur through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of Bathurst bur.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of Bathurst bur within the region and the plant numbers within them.

7.4 Blue passionflower *Passiflora caerulea*

Description

Blue passionflower is a fast growing evergreen or semi-deciduous climber that grows up to 10m high. It has green five-fingered leaves and modified stems (tendrils) that allow it to cling to host trees or supporting structures. The flowers are round and white with a ring of purple and a prominent stamen. It produces round orange fruit up to 5cm in diameter.

Blue passionflower

Reason for inclusion

Blue passionflower is a very invasive species spread by seed. It grows quickly to form a canopy which smothers and prevents the growth of regenerating plants in native ecosystems. Due to the limited number of known sites at present and its potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of blue passionflower is warranted.

Aim

Total Control of blue passionflower within the Wellington region.

Objective

Control blue passionflower at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of blue passionflower at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by blue passionflower to the region
- identify new sites of blue passionflower through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of blue passionflower.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of blue passionflower within the region and the plant numbers within them.

7.5 Climbing spindleberry *Celastrus orbiculatus*

Climbing spindleberry

Description

Climbing spindleberry is a deciduous climber with woody vines that grows up to 12m high. The leaves of climbing spindleberry are alternate, finely serrated and 5 to 10cm long with rounded sides and pointed tips. Young twigs are green and often produce 1 to 2mm long sharp spines. Small, pale green flowers are followed by yellow and red berries.

Reason for inclusion

Climbing spindleberry is a very invasive species spread by seed and stem fragments. Layering stems become very dense and form impenetrable thickets. Climbing spindleberry is tolerant of warm and cold temperatures and will invade bush, scrubland and forest margins. Due to the limited number of known sites at present and its potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of climbing spindleberry is warranted.

Aim

Total Control of climbing spindleberry within the Wellington region.

Objective

Control climbing spindleberry at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of climbing spindleberry at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by climbing spindleberry to the region
- identify new sites of climbing spindleberry through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of climbing spindleberry.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of climbing spindleberry within the region and the plant numbers within them.

7.6 Eelgrass *Vallisneria spiralis, V. gigantea*

Description

Eelgrass is a submerged aquatic species with strap-like leaves growing from stout rhizomes. Eelgrass grows to a depth of 9m in waterbodies which have a sediment bottom. Eelgrass leaves can create dense stands in still or flowing water which can block waterways and smother native species.

Eelgrass

Reason for inclusion

Eelgrass is a very invasive species spread by rhizomes that form a dense mass through the entire water column in standing or flowing water. Due to the limited number of known sites at present and its potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of eelgrass is warranted.

Aim

Total Control of eelgrass within the Wellington region.

Objective

Control eelgrass at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of eelgrass at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by eelgrass to the region
- identify new sites of eelgrass through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant, animal outlets and markets within the region for the sale and/or propagation of eelgrass.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of eelgrass within the region and the plant numbers within them.

7.7 Madeira vine *Anredera cordifolia*

Madeira vine

Description

Madeira vine is a perennial vine with reddish stems and alternate, bright green, fleshy, heart-shaped leaves. Madeira vine produces tubers on the stems as well as under the ground. Small tube-shaped, creamy-white fragrant flowers hang in clusters on flower spikes up to 18cm in length.

Reason for inclusion

Madeira vine is a very invasive species spread by tubers and stem fragments. Madeira vine is a serious threat to native ecosystems as it forms a dense canopy which smothers and prevents the regeneration of native species. Due to the limited number of known sites at present and its potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of Madeira vine is warranted.

Aim

Total Control of Madeira vine within the Wellington region.

Objective

Control Madeira vine at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of Madeira vine at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by Madeira vine to the region
- identify new sites of Madeira vine through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of Madeira vine.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of Madeira vine within the region and the plant numbers within them.

7.8 Manchurian wild rice *Zizania latifolia*

Description

Manchurian wild rice is a fresh water or salt water perennial grass that grows to 3m tall, with an aggressive rhizome root system. It looks very similar to raupo but can be distinguished from raupo by its straight leaf tip. The leaves of Manchurian wild rice are usually erect, 2 to 3cm wide with a very stout midrib. Manchurian wild rice grows in swamps, on farmland, estuaries and in the margins of water courses.

Manchurian wild rice

Reason for inclusion

Manchurian wild rice is a very invasive species spread by rhizomes. It causes significant changes to wetlands by dominating and suppressing the growth of native wetland plants. Thick clumps of Manchurian wild rice block water courses and drains, preventing drainage and causing land to become waterlogged. Due to the limited number of known sites at present and the potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of Manchurian wild rice is warranted.

Aim

Total Control of Manchurian wild rice within the Wellington region.

Objective

Control Manchurian wild rice at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of Manchurian wild rice at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by Manchurian wild rice to the region
- identify new sites of Manchurian wild rice through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of Manchurian wild rice
- work with MAF BNZ to achieve their objectives for this species within the region.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of Manchurian wild rice within the region and the plant numbers within them.

7.9 Moth plant *Araujia sericifera*

Moth plant

Description

Moth plant is a vine that grows up to 6m high. The leaves of moth plant are arrow-shaped and in opposite pairs. Clusters of creamy coloured flowers are followed by large green fist-sized pods which split open upon ripening to release hundreds of seeds. The stems and pods produce a toxic milky latex sap when broken, which may cause skin irritation.

Reason for inclusion

Moth plant is a very invasive species spread by seed. It infests forests, scrubland, coastal areas and offshore islands. Moth plant smothers and replaces native species, preventing regeneration. Due to the limited number of known sites at present and potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of moth plant is warranted.

Aim

Total Control of moth plant within the Wellington region.

Objective

Control moth plant at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of moth plant at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by moth plant to the region
- identify new sites of moth plant through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of moth plant.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of moth plant within the region and the plant numbers within them.

7.10 Perennial nettle *Urtica dioica and sub spp*

Description

Perennial nettle forms dense stands up to 1.5m tall. Perennial nettle produces rhizomes that spread up to 2.5m in a season. The erect stems that grow from this rootstock are ridged with bristly stinging hairs. Leaves are heart-shaped with sharply toothed edges and are covered with stinging hairs. The seed is 1 to 1.5mm long, flattened and oval.

Perennial nettle

Reason for inclusion

Perennial nettle is a very invasive species spread by seed and rhizomes. It is a serious threat to pastoral land by marginalising pasture species thereby reducing livestock production. Due to the limited number of known sites at present and potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of perennial nettle is warranted.

Aim

Total Control of perennial nettle within the Wellington region.

Objective

Control perennial nettle at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of perennial nettle at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by perennial nettle to the region
- identify new sites of perennial nettle through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of perennial nettle.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of perennial nettle within the region and the plant numbers within them.

7.11 Saffron thistle *Carthamus lanatus*

Saffron thistle

Description

Saffron thistle is an erect, woody stemmed, annual thistle which can grow up to 1m tall. Saffron thistle leaves are pale green, stalkless and have sharp spiny lobes at right angles to the leaf margin. Saffron thistle generally only has a single stem that is multi-branched in the upper half. There is a solitary flower at the tip of each of these branches and it is the only true thistle with yellow flowers.

Reason for inclusion

Saffron thistle is a very invasive species spread by seed. It grows in dense thickets which restrict grazing livestock, reduce carrying capacity and its spines can injure livestock. Due to the limited number of known sites at present and the potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of saffron thistle is warranted.

Aim

Total Control of saffron thistle within the Wellington region.

Objective

Control saffron thistle at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of saffron thistle at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by saffron thistle to the region
- identify new sites of saffron thistle through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of saffron thistle.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of saffron thistle within the region and the plant numbers within them.

7.12 Woolly nightshade *Solanum mauritianum*

Description

Woolly nightshade is a tree that grows to 10m tall, with a trunk up to 30cm in diameter. Leaves are covered in thousands of very fine hairs and are greyish green on the upper surface and yellowish green on the lower surface. When crushed, the leaves have a strong pungent smell, similar to that of turpentine. Flowers have five purple lobes with a yellow centre, these grow into round green berries that ripen to yellow.

Woolly nightshade

Reason for inclusion

Woolly nightshade is a very invasive species spread by seed. It will invade productive land and environmental areas and prevents the regeneration of native species. The leaves are poisonous to livestock, and some people may have an allergic reaction to the fine dust from the leaves. Due to the limited number of known sites at present and potential to infest large areas of the region in the future, Greater Wellington believes that Total Control of woolly nightshade is warranted.

Aim

Total Control of woolly nightshade within the Wellington region.

Objective

Control woolly nightshade at all known sites on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of woolly nightshade at all known sites within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by woolly nightshade to the region
- identify new sites of woolly nightshade through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of woolly nightshade.

Strategy rules

See section 7.1

Explanation of strategy rules

See section 7.1.2

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of woolly nightshade within the region and the plant numbers within them.

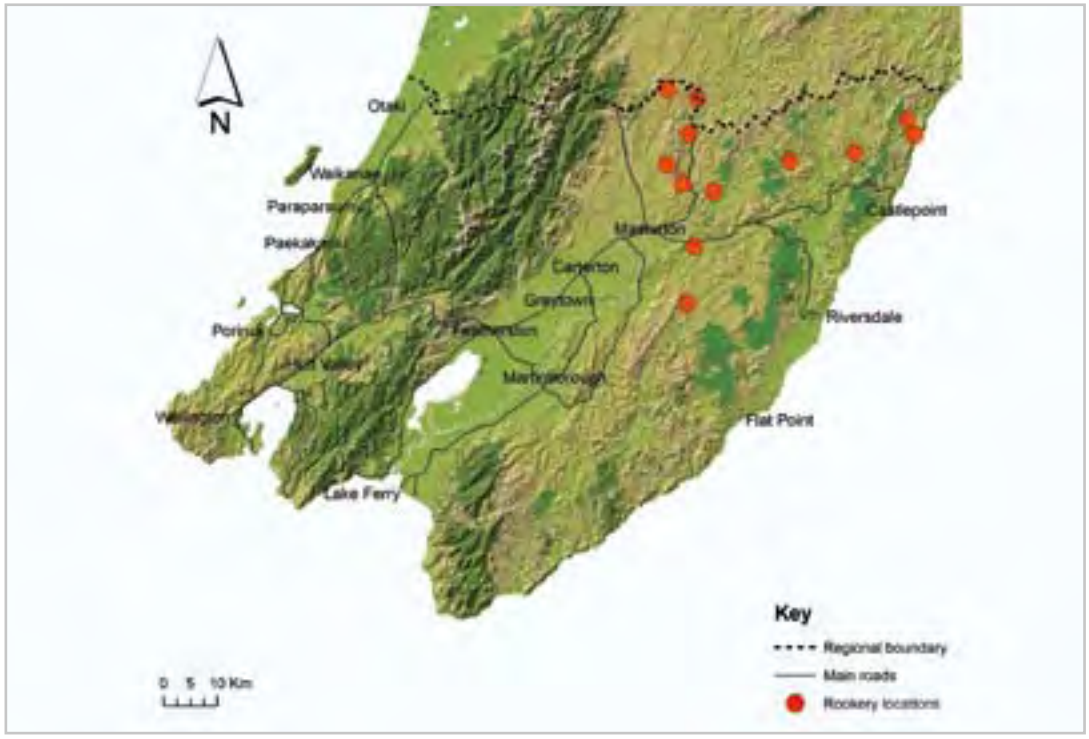
7.13 Rooks *Corvus frugilegus*

Description

Rooks are large black birds which are active during the day. They can be identified by their harsh 'KAAH' call. Rooks nest in colonies of 20 to 100 pairs, and up to 900 pairs in heavily infested areas. Rookeries in the Wellington region typically contain up to 20 nests.

During summer, when soil becomes hard and difficult to extract insects, rooks assemble into large groups and target easy food supplies. These include walnut stands, acorns, freshly ploughed soil (for unearthed insects), newly germinating crop seedlings and mature grains such as wheat and lentils. Precision planted crops such as maize, peas and beans are especially at risk.

Rookery locations in the region – map 2



Reason for inclusion

Introduced into New Zealand from Britain in the early 1800s, the initial spread of rooks was slow. The first colonies to establish in the Wellington region were in southern Wairarapa in the 1930s. From 1985 to 1994 rook numbers in the Wairarapa increased tenfold until Greater Wellington recommenced control in 1995. Currently, rooks are mostly confined to northern Wairarapa. In the absence of control, rooks are expected to increase their numbers and extend their range into the remainder of the region.

Occupier attempts to control rooks are likely to result in scattered rookeries and an increase in rook numbers. Greater Wellington believes direct control by service delivery for rooks is the best option. Eradication through Total Control is long-term, and we expect it to take up to 25 years. Achieving Total Control depends on our neighbouring councils continuing their current control efforts at the same intensity.

Rook
Photo: Rob Suisted

Rook nests in pine tree

Aim

Total Control of rooks in the Wellington region.

Objectives

To manage rooks to levels that protect economic values in the region.

Total Control of rooks within 25 years in the Wellington region.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery where rooks are known to exist
- survey rook populations annually in areas where they are known to exist, and where new infestations are reported
- support appropriate research initiatives, including biological control should it become available
- ensure compliance with the strategy rules in order to achieve the strategy objectives
- encourage Horizons Regional Council to actively pursue management of rooks within their region that complements Greater Wellington's Total Control programme
- annually inspect pet shops and rook keepers for the sale and/or breeding of rooks.

Strategy rules

a) Occupiers in the Wellington region shall notify Greater Wellington of the presence of rookeries on land that they occupy.

b) Other than in accordance with the direction or under the supervision of an authorised person pursuant to this strategy, no person shall:

   i. Discharge a firearm at any rookery.

   ii. Lay any poison bait that is acceptable to rooks *Corvus frugilegus* where rooks are known to be present from time to time.

   iii. Damage, disturb or interfere in any way with a rookery.

c) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of rooks *Corvus frugilegus*; or

   ii. Managing or eradicating rooks *Corvus frugilegus*; - other than in accordance with the direction or under the supervision of an authorised person.

A breach of rules a), b) and c) will create an offence under section 154(r) of the Act.

Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, breed, or sell or offer for sale, or hold in premises where animals are offered for sale, or otherwise spread rooks *Corvus frugilegus*.

A breach of this provision is an offence under Section 154(m) of the Act.

d) Upon application, Greater Wellington will consider issuing an exemption under Section 80D (3) of the Act to provide for the keeping of a rook *Corvus frugilegus*, or rooks, for zoological purposes.

Explanation of strategy rules

Rule a) will assist Greater Wellington in monitoring new infestations of rooks and implementing control before they become well established at the new location. Rooks are very shy and cunning, making them difficult to poison and trap.

Rule b) prevents mismanaged control attempts by occupiers that may result in dispersal of the birds and further spread of the problem, and allows Greater Wellington to undertake the necessary action for control.

Rule c) imposes a ban on the sale, breeding or distribution of rooks in the Wellington region.

Rule d) allows the keeping of a rook or rooks in captivity for zoological purposes, if holding a current permit issued by Greater Wellington.

Monitoring the objective

Greater Wellington shall:

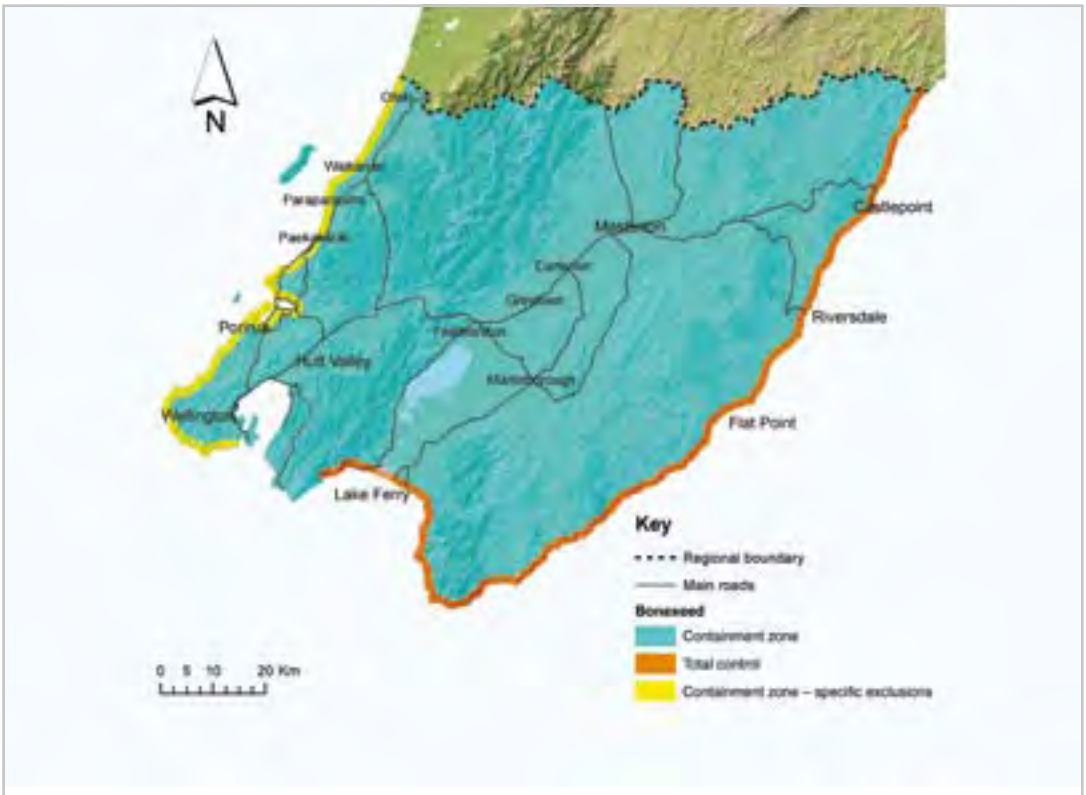
- annually report the locations of known rookeries and number of active nests
- annually report the density of rooks at known sites.

Containment

8 Containment pest category

8.1 Boneseed *Chrysanthemoides monilifera*

Boneseed Containment zone – map 3



Containment zone – all land further than 1.5 km from the high water mark of the coastline, including the area of coastline from Ocean Beach to Owhiro Bay.

Total control – Greater Wellington will undertake control by service delivery on all land outside the Containment zones.

Containment zone – specific exclusions – are unmodified coastal areas with high ecological values between Lyall Bay and the north western regional boundary, 1.5km from the high water mark.

Description

Boneseed is a bushy shrub that grows up to 3m tall. Leaves are light green, leathery and are covered in fine hairs giving them a whitish appearance. Flowers are bright yellow, daisy-like and grow in clusters at the end of the branches. These are capable of producing up to 500,000 hard seeds annually.

Reason for inclusion

Boneseed rapidly invades coastal areas displacing low-growing native vegetation. Boneseed forms dense colonies in open areas preventing the regeneration of native species. Due to the limited distribution of boneseed outside the Containment zone and the future potential for boneseed to cause adverse impacts, Greater Wellington believes that Total Control of boneseed outside the Containment zone is warranted.

Aim

Total Control of boneseed outside the Containment zones within the Wellington region.

Objectives

Annually control 10% of all boneseed in the Ngawi area and annually monitor and control areas where boneseed has been controlled previously. (*Ngawi area - a radius of 1.5km to the rear of the Ngawi township, Palliser Bay*).

Control boneseed at all known sites outside the Containment zones on an annual basis (*Ngawi area excluded*).

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of boneseed at all known sites outside the Containment zone within the region on an annual basis, with the exception of the Ngawi area, where progressive control will be undertaken
- provide information and publicity to enhance public awareness of the threat posed by boneseed to the region
- release biological control agents to assist with the control of boneseed in specific areas of the region
- identify new sites of boneseed outside the Containment zone through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets in the region for the sale and/or propagation of boneseed.

Boneseed

Strategy rules

a) Pursuant to Section 109(1)(b) and 109(2)(a and b) of the Act, an authorised person may at any reasonable time or times enter and inspect any place in the region for the purpose of:

   i. Confirming the presence, former presence, or absence of boneseed *Chrysanthemoides monilifera*; or

   ii. Managing or controlling boneseed *Chrysanthemoides monilifera*.

An inspector or authorised person shall not enter and inspect a dwelling house, a marae, or a building associated with a marae, except with:

   – the consent of an occupier; or

   – a warrant issued under Section 110 of the Act.

b) Landowners/occupiers outside the Containment zone shall notify Greater Wellington of the presence of boneseed *Chrysanthemoides monilifera* on any land they own or occupy within the Wellington region.

c) Greater Wellington will choose the appropriate method of control for boneseed *Chrysanthemoides monilifera* based on best industry practices. Where landowners/occupiers do not consider this applicable to their situation they shall pay all additional expenses for alternative control methods used. The outcomes of any alternative control methods used shall be to a standard acceptable to Greater Wellington.

d) Where infestations of boneseed *Chrysanthemoides monilifera* within the Containment zone are having a detrimental impact on adjoining control sites outside the Containment zone, Greater Wellington may elect to undertake control of these infestations.

A breach of rules b), c) and d) will create an offence under Section 154(r) of the Act.

e) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale or otherwise spread boneseed *Chrysanthemoides monilifera* within the Wellington region.

A breach of this provision is an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) allows an authorised person to enter any place at any reasonable time (except a dwelling house, a marae, or a building associated with a marae), to confirm the presence or absence, or to manage or control boneseed.

Rule b) requires landowners/occupiers to notify Greater Wellington of boneseed on any land they own or occupy outside the Containment zone within the region.

Rule c) allows Greater Wellington to choose the most appropriate method of control for boneseed and the cost of all additional expenses for alternative control will be paid by the landowner/occupier. Alternative control methods must achieve a standard of control acceptable to Greater Wellington.

Rule d) allows Greater Wellington to control boneseed on properties inside the Containment zone to protect work already completed outside the Containment zone.

Rule e) prevents the sale or propagation of boneseed within the region.

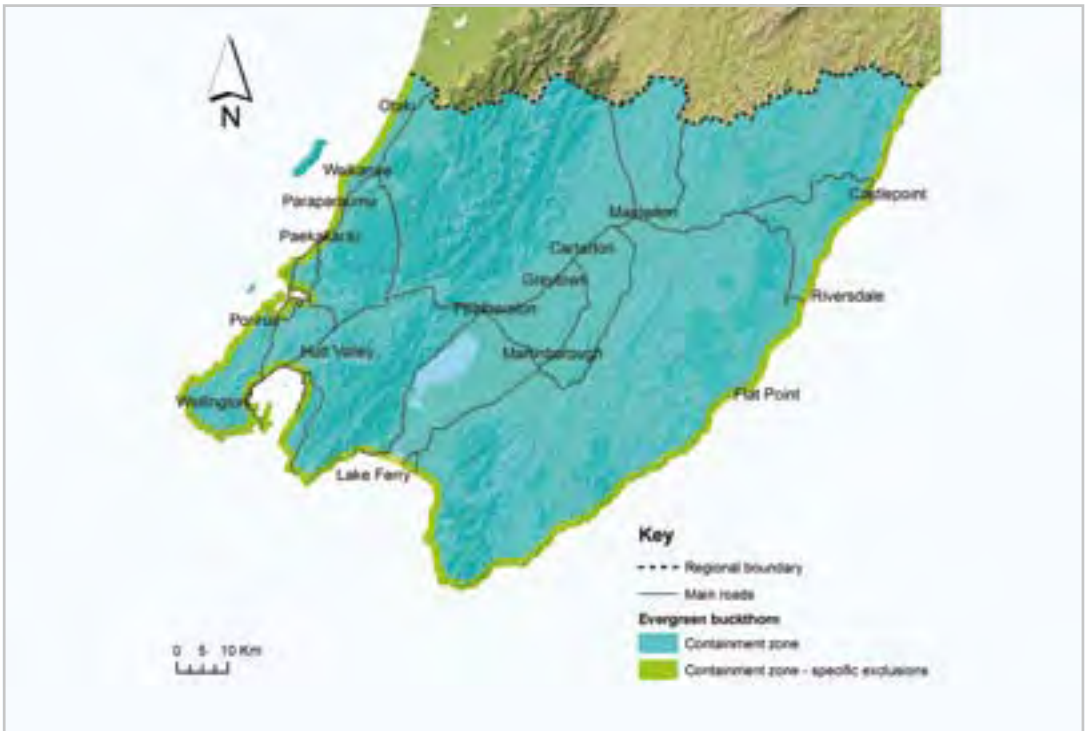
Monitoring the objectives

Greater Wellington shall:

- annually report the number of known sites of boneseed outside the Containment zone within the region and the plant numbers within them.

8.2 Evergreen buckthorn *Rhamnus alaternus*

Evergreen buckthorn Containment zone – map 4



Containment zone – all land further than 1.5km from the high water mark.

Containment zone – specific exclusions – are unmodified coastal areas with high ecological values. This will also include all land within 1.5km of the high water mark.

Description

Evergreen buckthorn is a tree that grows up to 10m tall. The leaves are glossy green on top and lighter green on the underside, leathery and often have serrated edges. Fragrant small pale green flowers are followed by red berries that are dispersed by birds. Evergreen buckthorn can easily be confused with some native plant species.

Evergreen buckthorn

Reason for inclusion

Evergreen buckthorn is an aggressive species that grows extremely well on coastal dunes and bare rock escarpments where it displaces native species. It causes significant change to plant communities in these areas and suppresses native plant regeneration. Due to the limited distribution of evergreen buckthorn outside the Containment zone and the future potential for evergreen buckthorn to cause adverse impacts at selected sites, Greater Wellington believes that Total Control outside the Containment zone is warranted.

Aim

Total Control of evergreen buckthorn outside the Containment zone within the Wellington region.

Objectives

Control evergreen buckthorn at selected sites outside the Containment zone on an annual basis.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of evergreen buckthorn at selected sites outside the Containment zone within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by evergreen buckthorn to the region
- identify new sites of evergreen buckthorn outside the Containment zone through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets in the region for the sale and/or propagation of evergreen buckthorn.

Strategy rules

a) Pursuant to Section 109(1)(b) and 109(2)(a and b) of the Act, an authorised person may at any reasonable time or times enter and inspect any place in the region for the purpose of:

   i. Confirming the presence, former presence, or absence of evergreen buckthorn *Rhamnus alaternus*; or

   ii. Managing or controlling evergreen buckthorn *Rhamnus alaternus*.

An inspector or authorised person shall not enter and inspect a dwelling house, a marae, or a building associated with a marae, except with:

- the consent of an occupier; or
- a warrant issued under Section 110 of the Act.

b) Landowners/occupiers outside the Containment zone shall notify Greater Wellington of the presence of evergreen buckthorn *Rhamnus alaternus* on any land they own or occupy within the Wellington region.

c) Greater Wellington will choose the appropriate method of control for evergreen buckthorn *Rhamnus alaternus* based on best industry practices. Where landowners/occupiers do not consider this applicable to their situation they shall pay all additional expenses for alternative control methods used. The outcomes of any alternative control methods used shall be to a standard acceptable to Greater Wellington.

d) Where infestations of evergreen buckthorn *Rhamnus alaternus* within the Containment zone are having a detrimental impact on adjoining control sites outside the Containment zone, Greater Wellington may elect to undertake control of these infestations.

A breach of rules b), c) and d) will create an offence under Section 154(r) of the Act.

e) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale or otherwise spread evergreen buckthorn *Rhamnus alaternus* within the Wellington region.

A breach of this provision is an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) allows an authorised person to enter any place at any reasonable time (except a dwelling house, a marae, or a building associated with a marae), to confirm the presence or absence, or to manage or control evergreen buckthorn.

Rule b) requires landowners/occupiers to notify Greater Wellington of evergreen buckthorn on any land they own or occupy outside the Containment zone within the region.

Rule c) allows Greater Wellington to choose the most appropriate method of control for evergreen buckthorn and the cost of all additional expenses for alternative control will be paid by the landowner/occupier. Alternative control methods must achieve a standard of control acceptable to Greater Wellington.

Rule d) allows Greater Wellington to control evergreen buckthorn on properties inside the Containment zone to protect work already completed outside the Containment zone.

Rule e) prevents the sale or propagation of evergreen buckthorn within the region.

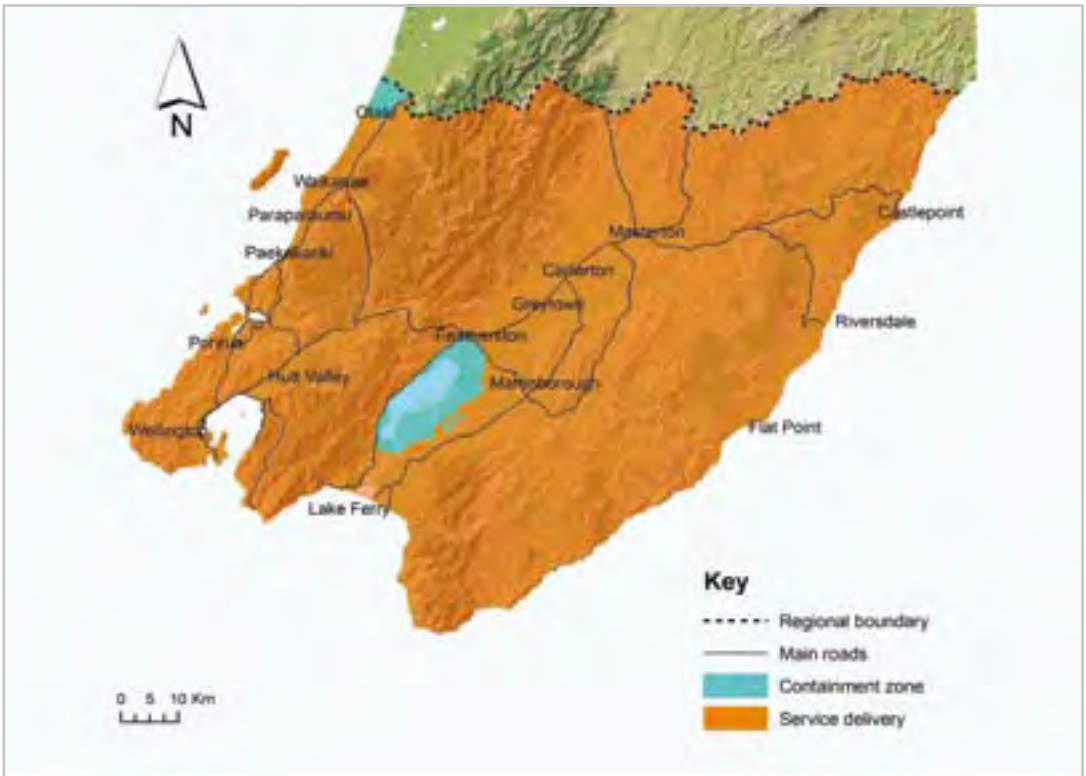
Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of evergreen buckthorn outside the Containment zone within the region and the plant numbers within them.

8.3 Hornwort *Ceratophyllum demersum*

Hornwort Containment zone – map 5



Containment zone – all land within the South Wairarapa district enclosed by Moore Street, Western Lake Road, East West Access Road, State Highway 53 and Fitzherbert Street, also including the Whakawiriwiri Stream from the confluence of the Ruamahanga River to a distance of 3km upstream, including the Oporua spillway.

All land north of the Otaki River to the north western regional boundary, from the high water mark to State Highway 1.

Service delivery – Greater Wellington will undertake direct control by service delivery on all land outside the Containment zone, subject to successful control trials.

Description

Hornwort is a vigorous submerged aquatic species that has the ability to invade still or flowing water. It can form very dense infestations to depths of 10m. The leaves are in whorls of 7 to 12 and are needle-like in appearance. Although hornwort does not set seed in New Zealand, a small plant fragment is sufficient to create a new plant and subsequent invasion.

Reason for inclusion

Hornwort is limited outside the Containment zones. If not restricted to the current Containment zones, hornwort has the ability to create serious adverse impacts in many of the region's waterbodies including irrigation channels, lakes and lagoons. It also has the ability to displace and modify the habitat of indigenous species.

Aim

Total Control of hornwort outside the Containment zones within the Wellington region.

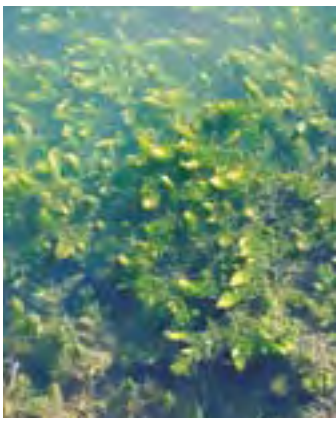
Objective

Control hornwort at known sites outside the Containment zones on an annual basis subject to successful control trials.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of hornwort at selected sites outside the Containment zone within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by hornwort to the region
- identify new sites of hornwort outside the Containment zones through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant, animal outlets and markets in the region for the sale and/or propagation of hornwort.



Hornwort

Strategy rules

a) Pursuant to Section 109(1)(b) and 109(2)(a and b) of the Act, an authorised person may at any reasonable time or times enter and inspect any place in the region for the purpose of:

   i. Confirming the presence, former presence, or absence of hornwort *Ceratophyllum demersum*; or

   ii. Managing or controlling hornwort *Ceratophyllum demersum*.

An inspector or authorised person shall not enter and inspect a dwelling house, a marae, or a building associated with a marae, except with:

   – the consent of an occupier; or

   – a warrant issued under Section 110 of the Act.

b) Landowners/occupiers outside the Containment zone shall notify Greater Wellington of the presence of hornwort *Ceratophyllum demersum* on any land they own or occupy within the Wellington region.

c) Greater Wellington will choose the appropriate method of control for hornwort *Ceratophyllum demersum* based on best industry practices. Where landowners/occupiers do not consider this applicable to their situation they shall pay all additional expenses for alternative control methods used. The outcomes of any alternative control methods used shall be to a standard acceptable to Greater Wellington.

d) Where infestations of hornwort *Ceratophyllum demersum* within the Containment zone are having a detrimental impact on adjoining control sites outside the Containment zone, Greater Wellington may elect to undertake control of these infestations.

A breach of rules b), c) and d) will create an offence under Section 154(r) of the Act.

e) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale or otherwise spread hornwort *Ceratophyllum demersum* within the Wellington region.

A breach of this provision is an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) allows an authorised person to enter any place at any reasonable time (except a dwelling house, a marae, or a building associated with a marae), to confirm the presence or absence; or to manage or control hornwort.

Rule b) requires landowners/occupiers to notify Greater Wellington of hornwort on any land they own or occupy outside the Containment zone within the region.

Rule c) allows Greater Wellington to choose the most appropriate method of control for hornwort and the cost of all additional expenses for alternative control will be paid by the landowner/occupier. Alternative control methods must achieve a standard of control acceptable to Greater Wellington.

Rule d) allows Greater Wellington to control hornwort on properties inside the Containment zone to protect work already completed outside the Containment zone.

Rule e) prevents the sale or propagation of hornwort within the region.

Monitoring the objective

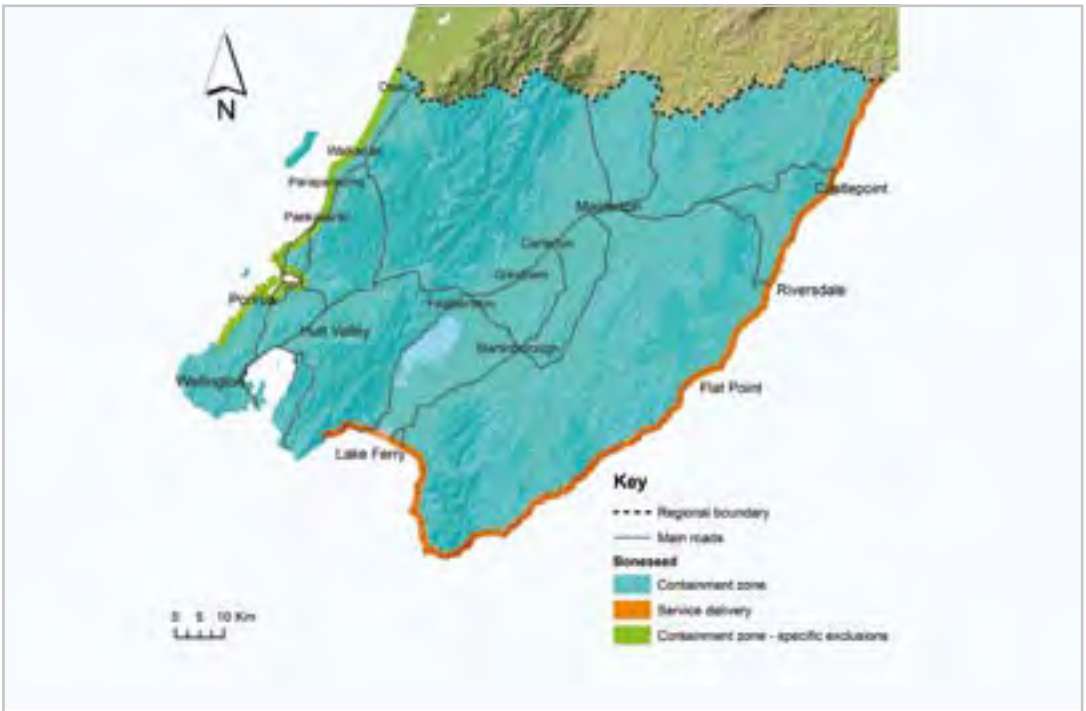
Greater Wellington shall:

- annually report the number of known sites of hornwort outside the Containment zones within the region.

8.4 Sweet pea shrub *Polygala myrtifolia*

Excludes Polygala myrtifolia var. grandifolia and *Polygala x dalmasiana*

Sweet pea shrub Containment zone – map 6



Containment zone – all land further than 1.5km from the high water mark and includes the entire coastline from Ocean Beach to the north western regional boundary.

Service delivery – Greater Wellington will undertake direct control by service delivery on all land outside the Containment zone.

Containment zone – specific exclusions – are unmodified coastal areas with high ecological values between Makara River and the north western regional boundary, 1.5km from the high water mark.

Description

Sweet pea shrub is a perennial shrub that can grow into a small tree up to 4m tall. The oval-shaped leaves are light green, 25 to 50mm long and up to 13mm wide. The pea-like flowers grow in clusters at the end of branches. The petals are usually in shades of mauve, purple or pink with white streaks. Seeds are flat, heart-shaped and 10mm long. Sweet pea shrub has blooms throughout the year and peaks in spring when the plant flowers profusely.

Reason for inclusion

Sweet pea shrub rapidly invades coastal areas displacing low growing native vegetation. Sweet pea shrub forms dense colonies in open areas preventing the regeneration of native species. Seeds are readily dispersed by birds and water. Due to the limited distribution of sweet pea shrub outside the Containment zone and the future potential for sweet pea shrub to cause adverse impacts, Greater Wellington believes that Total Control of sweet pea shrub outside the Containment zone is warranted.

Aim

Total Control of sweet pea shrub outside the Containment zone within the Wellington region.

Objectives

Control sweet pea shrub at all known sites outside the Containment zone on an annual basis.

Sweet pea shrub

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of sweet pea shrub at all known sites outside the Containment zone within the region on an annual basis
- provide information and publicity to enhance public awareness of the threat posed by sweet pea shrub to the region
- identify new sites of sweet pea shrub outside the Containment zone through incidental reports by Greater Wellington biosecurity officers, the public, or through the Regional Surveillance pest plant programme
- annually inspect all plant outlets and markets in the region for the sale and/or propagation of sweet pea shrub.

Strategy rules

a) Pursuant to Section 109(1)(b) and 109(2)(a and b) of the Act, an authorised person may at any reasonable time or times enter and inspect any place in the region for the purpose of:

   i. Confirming the presence, former presence, or absence of sweet pea shrub *Polygala myrtifolia*; or

   ii. Managing or controlling sweet pea shrub *Polygala myrtifolia*.

An inspector or authorised person shall not enter and inspect a dwelling house, a marae, or a building associated with a marae, except with:

- the consent of an occupier; or
- a warrant issued under Section 110 of the Act.

b) Landowners/occupiers outside the Containment zone shall notify Greater Wellington of the presence of sweet pea shrub *Polygala myrtifolia* on any land they own or occupy within the Wellington region.

c) Greater Wellington will choose the appropriate method of control for sweet pea shrub *Polygala myrtifolia* based on best industry practices. Where landowners/occupiers do not consider this applicable to their situation they shall pay all additional expenses for alternative control methods used. The outcomes of any alternative control methods used shall be to a standard acceptable to Greater Wellington.

d) Where infestations of sweet pea shrub *Polygala myrtifolia* within the Containment zone are having a detrimental impact on adjoining control sites outside the Containment zone, Greater Wellington may elect to undertake control of these infestations.

A breach of rules b), c) and d) will create an offence under Section 154(r) of the Act.

e) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale or otherwise spread sweet pea shrub *Polygala myrtifolia* within the Wellington region.

A breach of this provision is an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) allows an authorised person to enter any place at any reasonable time (except a dwelling house, a marae, or a building associated with a marae), to confirm the presence or absence, or to manage or control sweet pea shrub.

Rule b) requires landowners/occupiers to notify Greater Wellington of sweet pea shrub on any land they own or occupy outside the Containment zone within the region.

Rule c) allows Greater Wellington to choose the most appropriate method of control for sweet pea shrub and the cost of all additional expenses for alternative control will be paid by the landowner/occupier. Alternative control methods must achieve a standard of control acceptable to Greater Wellington.

Rule d) allows Greater Wellington to control sweet pea shrub on properties inside the Containment zone to protect work already completed outside the Containment zone.

Rule e) prevents the sale or propagation of sweet pea shrub within the region.

Monitoring the objective

Greater Wellington shall:

- annually report the number of known sites of sweet pea shrub outside the Containment zone within the region and the plant numbers within them.

Suppression

9 Suppression pest category

9.1 Feral rabbit *Oryctolagus cuniculus cuniculus*

Feral rabbit
Photo: Crown copyright, DoC

Description

Most feral rabbits are grey-brown in colour and are easily distinguished from domesticated species. Rabbits eat a wide range of food including native grasses and seedlings. In combination with grazing stock, rabbits can increase the risk of soil erosion. They directly compete with grazing stock for food, and contribute to the increase of unpalatable weed species. Rabbit grazing also impacts on amenity plantings, commercial gardens and forestry seedlings. Grazing and burrowing can lead to the loss of vegetation cover and soil erosion in native flora and fauna habitats.

Reason for inclusion

Rabbits were introduced into New Zealand from Europe in the 1840s and 1850s to establish a meat and fur industry. They quickly became abundant and destructive to pastoral farming. Since the 1950s, modern farming practices and control programmes have kept rabbit numbers relatively stable. Since the introduction of rabbit haemorrhagic disease (RHD), rabbit numbers have decreased. It is not known how long the disease will continue to suppress populations.

Due to the widespread distribution of rabbits and their rapid rate of spread, eradicating or containing them to parts of the region is not possible at present. Greater Wellington's opinion is that suppressing rabbit infestations to below level 5 on the Modified McLean Scale is the best option. Generally the people that benefit most from rabbit control are those who are directly affected. They should therefore pay for the cost of control.

Aim

Minimise the adverse impacts of feral rabbits.

Objective

Ensure that no area in the region exceeds level 5 on the Modified McLean Scale at any one time.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery to control rabbits on riverbeds, esplanades or similar public commons to ensure that rabbits do not exceed level 5 of the Modified McLean Scale
- ensure compliance with the strategy rules in order to achieve the strategy's objectives
- survey land in high to extreme rabbit prone areas to determine the extent of rabbit infestation

- make occupiers aware of their responsibilities for rabbit control
- provide information and publicity to enhance public awareness of the threat rabbits pose to the region
- provide a referral or cost recovery service to landowners/occupiers who request rabbit control
- release biological control agents for the control of feral rabbits when appropriate
- support research initiatives including biological control
- annually inspect pet shops for the sale of feral rabbits.

Strategy rules

a) Occupiers shall maintain feral rabbit *Oryctolagus cuniculus cuniculus* populations on land they occupy at, or below level 5 of the Modified McLean Scale.

b) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to the strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of feral rabbits *Oryctolagus cuniculus cuniculus*; or

   ii. Managing or eradicating feral rabbits *Oryctolagus cuniculus cuniculus* other than in accordance with the direction, or under the supervision of an authorised person.

A breach of rules a) and b) will create an offence under Section 154(r) of the Act.

c) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, breed, or sell, or offer for sale, or hold in premises where animals are offered for sale, or otherwise spread feral rabbits. Note: Domestic species of rabbit in proper confinement are excluded from this rule.

A breach of this rule will create an offence under Section 154(m) of the Act.

d) Greater Wellington will choose the appropriate method for control of rabbits, based on the best industry practices. Where landowners/occupiers do not consider this applicable to their situation they shall pay all additional expenses for alternative control methods. Any alternative control methods shall be to a standard acceptable to Greater Wellington.

Juvenile feral rabbit

Explanation of strategy rules

Rule a) requires occupiers to control rabbits on their land to prevent numbers reaching high to extreme infestations.

Rule b) allows Greater Wellington to undertake the necessary actions for monitoring and controlling rabbits on riverbeds, esplanades or similar public commons.

Rule c) imposes a ban on the sale, breeding or distribution of feral rabbits in the Wellington region.

Rule d) allows Greater Wellington to select the rabbit control method used, and requires the landowner/occupier to pay additional expenses for alternative control methods.

Monitoring the objectives

Greater Wellington shall:

- annually determine and report rabbit densities using the Modified McLean Scale for properties in high to extreme rabbit prone areas
- monitor the effectiveness and rate of spread of biological control agents.

Modified McLean scale – table 8

Scale	Rabbit Infestation
1	No sign seen. No rabbits seen.
2	Very infrequent sign seen. Unlikely to see rabbits.
3	Sign infrequent with faecal heaps more than 10m apart. Odd rabbit may be seen.
4	Sign frequent with some faecal heaps more than 5m apart, but less than 10m apart. Groups of rabbits may be seen.
5	Sign very frequent with faecal heaps less than 5m apart in pockets. Rabbits spreading.
6	Sign very frequent with faecal heaps less than 5m apart over the whole area. Rabbits may be seen over whole area.
7	Sign very frequent with 2-3 faecal heaps often less than 5m apart over the whole area. Rabbits may be seen in large numbers over the whole area.
8	Sign very frequent with 3 or more faecal heaps less than 5m apart over the whole area. Rabbits likely to be seen in large numbers over the whole area.

Site-Led

10 Site-Led pest category management programmes – Boundary Control

10.1 Banana passionfruit
Passiflora mixta, P. mollisima, P. tripartite

Banana passionfruit

Description

Banana passionfruit is a fast-growing evergreen climber that grows up to 20m high. It has green three-fingered leaves and modified stems (tendrils) that allow it to cling to host trees or supporting structures. The flowers of banana passionfruit are a large hanging star shape and pink in colour. Oblong fruits up to 10cm long, which follow flowering, ripen from green to yellow.

Reason for inclusion

Banana passionfruit has a rapid rate of spread and the ability to cause irreversible damage to native ecosystems. Banana passionfruit is widespread throughout the Wellington region and therefore Total Control or Containment to specific areas, is considered unachievable. Greater Wellington believes that managing banana passionfruit in certain situations will assist in minimising the spread of banana passionfruit onto land that is clear, or being cleared, of banana passionfruit. Boundary Control is considered the most appropriate management regime for banana passionfruit in the Wellington region.

Aim

To minimise the adverse impacts of banana passionfruit in specific situations throughout the Wellington region.

Objective

Prevent the spread of banana passionfruit onto properties that are clear, or being cleared, of banana passionfruit within the region.

Means of achievement

Greater Wellington shall:

- action complaints received to ensure banana passionfruit is controlled to a distance of not less than 10m from the boundary, where the adjoining property is clear, or being cleared, of banana passionfruit within the region, **excluding land within the Hutt City TLA boundary**
- provide information and publicity to enhance public awareness of the threat posed by banana passionfruit to the region
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of banana passionfruit.

Hutt City Council shall:

- undertake direct control by service delivery of banana passionfruit at all known sites within the Hutt City TLA boundary on an annual basis.

Strategy rules

a) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread banana passionfruit *Passiflora mixta*, *P. mollisima*, *P.tripartite* within the Wellington region.

Strategy rules (excluding land within the Hutt City TLA boundary)

b) Landowners/occupiers shall destroy all banana passionfruit *Passiflora mixta*, *p. mollisima*, *p.tripartite* within 10m of their boundary following a complaint to Greater Wellington by an adjoining landowner/occupier whose land is clear, or being cleared, of banana passionfruit *Passiflora mixta*, *P. mollisima*, *P.tripartite* within the Wellington region except for land within the Hutt City TLA boundary.

A breach of this rule will create an offence under Section 154(r) of the Act.

Strategy rules for landowners/occupiers of land within the Hutt City TLA boundary only

c) Hutt City Council shall destroy by way of service delivery all banana passionfruit *Passiflora mixta*, *P. mollisima*, *P.tripartite* on land within the Hutt City TLA boundary.

d) Hutt City Council will choose the appropriate method of control for banana passionfruit *Passiflora mixta*, *P. mollisima*, *P.tripartite* based on best industry practices. Where landowners/occupiers do not consider this applicable to their situation they shall pay all additional expenses for alternative control methods used. The alternative control methods used shall be to a standard acceptable to Hutt City Council.

e) Landowners/occupiers who do not comply with rules c) or d) shall destroy all banana passionfruit *Passiflora mixta*, *P. mollisima*, *P.tripartite* on any land they own or occupy following a complaint to Greater Wellington by Hutt City Council.

A breach of this rules will create an offence under Section 154(r) of the Act.

Explanation of strategy rules

Rule a) prevents the sale or propagation of banana passionfruit within the region.

Rule b) requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region excluding land within the Hutt City TLA boundary.

Rule c) requires Hutt City Council to control all banana passionfruit on land within the Hutt City TLA boundary.

Rule d) allows Hutt City Council to choose the most appropriate method of control for banana passionfruit and the cost of all additional expenses for alternative control will be paid by the landowner/occupier. Alternative control methods must achieve a standard of control acceptable to Hutt City Council.

Rule e) requires landowners/occupiers within the Hutt City TLA boundary who do not allow Hutt City Council to undertake direct control of all banana passionfruit on any land they own or occupy. Requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the Hutt City TLA boundary.

Monitoring the objective

Greater Wellington shall:

- annually report the number of complaints for banana passionfruit within the region.

10.2 Cathedral bells *Cobaea scandens*

Cathedral bells

Description

Cathedral bells is a fast-growing perennial climber that grows up to 20m high. Cathedral bells has corkscrew-like tendrils that cling to supporting plants and structures. The oval leaves are arranged in opposite pairs and are light green with prominent purplish veins. Large white or purple cup and saucer-shaped flowers are produced over the summer months, followed by green oval seed pods 6 to 10cm long which split on ripening to release winged seeds.

Reason for inclusion

Cathedral bells has a rapid spread rate and the ability to cause irreversible damage to native ecosystems. Cathedral bells is widespread throughout the Wellington region and therefore Total Control or Containment to specific areas is considered unachievable. Greater Wellington believes that managing cathedral bells in certain situations will assist in minimising its spread onto land that is clear, or being cleared, of the pest. Boundary Control is considered the most appropriate management regime for cathedral bells in the Wellington region.

Aim

To minimise the adverse impacts of cathedral bells in specific situations throughout the Wellington region.

Objective

Prevent the spread of cathedral bells onto properties that are clear, or being cleared, of cathedral bells within the region.

Means of achievement

Greater Wellington shall:

- action complaints received to ensure cathedral bells is controlled to a distance of not less than 10m from the boundary, where the adjoining property is clear, or being cleared, of cathedral bells within the region, **excluding land within the Hutt City TLA boundary**

- provide information and publicity to enhance public awareness of the threat posed by cathedral bells to the region
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of cathedral bells.

Hutt City Council shall:

- undertake direct control by service delivery of cathedral bells at all known sites within the Hutt City TLA boundary on an annual basis.

Strategy rules

a) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread cathedral bells *Cobaea scandens* within the Wellington region.

Strategy rules (excluding land within the Hutt City TLA boundary)

b) Landowners/occupiers shall destroy all cathedral bells *Cobaea scandens* within 10m of their boundary following a complaint to Greater Wellington by an adjoining landowner/occupier whose land is clear, or being cleared, of cathedral bells *Cobaea scandens* within the Wellington region except for land within the Hutt City TLA boundary.

A breach of this rule will create an offence under Section 154(r) of the Act.

Strategy rules for landowners/occupiers of land within the Hutt City TLA boundary only

c) Hutt City Council shall destroy by way of service delivery all cathedral bells *Cobaea scandens* on land within the Hutt City TLA boundary.

d) Hutt City Council will choose the appropriate method of control for cathedral bells *Cobaea scandens* based on best industry practices. Where landowners/occupiers do not consider this applicable to their situation they shall pay all additional expenses for alternative control methods used. The alternative control methods used shall be to a standard acceptable to Hutt City Council.

e) Landowners/occupiers who do not comply with rules c) or d) shall destroy all cathedral bells *Cobaea scandens* on any land they own or occupy following a complaint to Greater Wellington by Hutt City Council.

A breach of this rules will create an offence under Section 154(r) of the Act.

Explanation of strategy rules

Rule a) prevents the sale or propagation of cathedral bells within the region.

Rule b) requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region excluding land within the Hutt City TLA boundary.

Rule c) requires Hutt City Council to control all cathedral bells on land within the Hutt City TLA boundary.

Rule d) allows Hutt City Council to choose the most appropriate method of control for cathedral bells and the cost of all additional expenses for alternative control will be paid by the landowner/occupier. Alternative control methods must achieve a standard of control acceptable to Hutt City Council.

Rule e) requires landowners/occupiers within the Hutt City TLA boundary who do not allow Hutt City Council to undertake direct control all cathedral bells on any land they own or occupy. Requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the Hutt City TLA boundary.

Monitoring the objective

Greater Wellington shall:

- annually report the number of complaints for cathedral bells within the region.

10.3 Gorse *Ulex europaeus*

Gorse

Description

Gorse is a spiny, woody shrub that can grow up to 2m tall. For much of the year gorse is covered in yellow pea-like flowers. These flowers produce a large number of seed pods, which burst and eject seeds when ripe. Seeds can also be spread further by water, animals, gravel, soil movement and machinery.

Reasons for inclusion

Due to its spiny form and fast growth rate, gorse is considered a serious agricultural pest. Gorse can harbour pest animals, reduces areas that can be utilised for grazing and is a fire hazard in dry conditions. In urban situations, gorse can create adverse human health issues due to its spiny nature. Gorse is widespread throughout the Wellington region and therefore Total Control, or Containment to specific areas of the region, is considered unachievable. Greater Wellington believes that managing gorse in certain situations will assist in minimising the spread of gorse onto land that is clear, or being cleared, of gorse. Boundary Control is considered the most appropriate management regime for gorse in the Wellington region.

Aim

To minimise the adverse impacts of gorse in specific situations throughout the Wellington region.

Objective

Prevent the spread of gorse onto properties that are clear, or being cleared, of gorse within the region.

Means of achievement

Greater Wellington shall:

- in a productive land situation, action complaints received to ensure gorse is controlled to a distance of not less than 10m from the boundary, where the adjoining property is clear, or being cleared, of gorse.
- in a non-productive land situation, action complaints received to ensure gorse is controlled to a distance of not less than 2m from the boundary, where the adjoining property is clear, or being cleared, of gorse.
- provide information and publicity to enhance public awareness of the threat posed by gorse to the region
- release approved biological control agents to assist with the control of gorse throughout the region

NB – biological control agents do not meet the requirements as an accepted form of control for strategy rules a) and b) below.

- annually inspect all plant outlets and markets within the region for the sale and/or propagation of gorse.

Strategy rules

a) Where productive land is affected by the spread of gorse *Ulex europaeus*, adjoining landowners/occupiers shall destroy all gorse *Ulex europaeus* within 10m of their boundary following a complaint to Greater Wellington by adjoining landowners/occupiers whose land is clear, or being cleared, of gorse *Ulex europaeus* within the Wellington region.

b) In situations where gorse *Ulex europaeus* is considered to be a health risk and where productive land is not affected, landowners/occupiers shall destroy all gorse *Ulex europaeus* within 2m of their boundary following a complaint to Greater Wellington by adjoining landowners/occupiers whose land is clear, or being cleared, of gorse *Ulex europaeus* within the Wellington region.

Boundary complaints can only be accepted from genuinely affected parties whose own land is clear, or actively being cleared, of gorse *Ulex europaeus*.

This rule does not override Territorial Local Authority fire clearance regulations.

A breach of rules a) and b) will create an offence under Section 154(r) of the Act.

c) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread gorse *Ulex europaeus* within the Wellington region.

A breach of this rule will create an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rules a) and b) require Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region.

Rule c) prevents the sale or propagation of gorse within the region.

Monitoring the objective

Greater Wellington shall:

- annually report the number of complaints for gorse within the region.

10.4 Nodding thistle *Carduus nutans*

Nodding thistle

Description

Nodding thistle is a spiny, robust annual or biennual thistle with flower stalks up to 1m or more. Stems have spiny wings but are leafless just below the flower head. Leaves are dark green, narrow, spiny along the margins and up to 18cm long. Flowers are solitary, 'nodding' and scarlet in colour.

Reason for inclusion

Nodding thistle is a highly aggressive agriculture pest plant affecting pasture production. Nodding thistle is widespread throughout the Wellington region and therefore Total Control or Containment to specific areas, is considered unachievable. Greater Wellington believes that managing nodding thistle in certain situations will assist in minimising the spread of nodding thistle onto land that is clear, or being cleared, of nodding thistle. Boundary Control is considered the most appropriate management regime for nodding thistle in the Wellington region.

Aim

To minimise the adverse impacts of nodding thistle in specific situations throughout the Wellington region.

Objectives

Prevent the spread of nodding thistle onto properties that are clear, or being cleared, of nodding thistle within the region.

Means of achievement

Greater Wellington shall:

- in a productive land situation, action complaints received to ensure nodding thistle is controlled to a distance of not less than 50m from the boundary, where the adjoining property is clear, or being cleared, of nodding thistle
- provide information and publicity to enhance public awareness of the threat posed by nodding thistle to the region

- release approved biological control agents to assist with the control of nodding thistle throughout the region

NB – biological control agents do not meet the requirements as an accepted form of control for strategy rules a) and b) below.

- annually inspect all plant outlets and markets within the region for the sale and/or propagation of nodding thistle.

Strategy rules

a) Where productive land is affected by the spread of nodding thistle *Carduus nutans*, adjoining landowners/occupiers shall destroy all nodding thistle *Carduus nutans* within 50m of their boundary following a complaint to Greater Wellington by adjoining landowners/occupiers whose land is clear, or being cleared, of nodding thistle *Carduus nutans* within the Wellington region.

A breach of this rule will create an offence under Section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread nodding thistle *Carduus nutans* within the Wellington region.

A breach of this rule will create an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region.

Rule b) prevents the sale or propagation of nodding thistle within the region.

Monitoring the objectives

Greater Wellington shall:

- annually report the number of complaints for nodding thistle within the region.

10.5 Old man's beard *Clematis vitalba*

Description

Old man's beard is a deciduous, woody, climbing vine that grows up to 20m high. Leaves are arranged in groups of 5. Young vines have 6 longitudinal ribs and mature vines have stringy, pale brown bark. Flowers are 2cm in diameter, greenish white and appear from December through to February. Old man's beard produces masses of fluffy seedheads from autumn through to winter.

Old man's beard

Reason for inclusion

Old man's beard is a highly invasive climbing vine. It invades disturbed forest, scrubland, urban and rural areas. Old man's beard is widespread throughout the Wellington region and therefore Total Control, or Containment to specific areas, is considered unachievable. Greater Wellington believes that managing old man's beard in certain situations will assist in minimising its spread onto land that is clear, or being cleared, of the pest. Boundary Control is considered the most appropriate management regime for old man's beard in the Wellington region.

Aim

To minimise the adverse impacts of old man's beard in specific situations throughout the Wellington region.

Objective

Prevent the spread of old man's beard onto properties that are clear, or being cleared, of old man's beard within the region.

Means of achievement

Greater Wellington shall:

- action complaints received to ensure old man's beard is controlled to a distance of not less than 10m from the boundary, where the adjoining property is clear, or being cleared, of old man's beard within the region, **excluding land within the Hutt City TLA boundary**
- provide information and publicity to enhance public awareness of the threat posed by old man's beard to the region
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of old man's beard.

Hutt City Council shall:

- undertake direct control by service delivery of old man's beard at all known sites within the Hutt City TLA boundary on an annual basis.

Strategy rules

a) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread old man's beard *Clematis vitalba* within the Wellington region.

Strategy rules (excluding land within the Hutt City TLA boundary)

b) Landowners/occupiers shall destroy all old man's beard *Clematis vitalba* within 10m of their boundary following a complaint to Greater Wellington by an adjoining landowner/occupier whose land is clear, or being cleared, of old man's beard *Clematis vitalba* within the Wellington region except for land within the Hutt City TLA boundary.

A breach of this rule will create an offence under Section 154(r) of the Act.

Strategy rules for landowners/occupiers of land within the Hutt City TLA boundary only

c) Hutt City Council shall destroy by way of service delivery all old man's beard *Clematis vitalba* on land within the Hutt City TLA boundary.

d) Hutt City Council will choose the appropriate method of control for old man's beard *Clematis vitalba* based on best industry practices. Where landowners/occupiers do not consider this applicable to their situation they shall pay all additional expenses for alternative control methods used. The alternative control methods used shall be to a standard acceptable to Hutt City Council.

e) Landowners/occupiers who do not comply with rules c) or d) shall destroy all old man's beard *Clematis vitalba* on any land they own or occupy following a complaint to Greater Wellington by Hutt City Council.

A breach of this rules will create an offence under Section 154(r) of the Act.

Explanation of strategy rules

Rule a) prevents the sale or propagation of old man's beard within the region.

Rule b) requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region excluding land within the Hutt City TLA boundary.

Rule c) requires Hutt City Council to control all old man's beard on land within the Hutt City TLA boundary.

Rule d) allows Hutt City Council to choose the most appropriate method of control for old man's beard and the cost of all additional expenses for alternative control will be paid by the landowner/occupier. Alternative control methods must achieve a standard of control acceptable to Hutt City Council.

Rule e) requires landowners/occupiers within the Hutt City TLA boundary who do not allow Hutt City Council to undertake direct control all old man's beard on any land they own or occupy. Requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the Hutt City TLA boundary.

Monitoring the objective

Greater Wellington shall:

- annually report the number of complaints for old man's beard within the region.

10.6 Ragwort *Senecio jacobaea*

Ragwort

Description

Ragwort is a robust, branched biennial or perennial plant that grows up to 1.2m tall and produces clusters of daisy-like yellow flowers. Leaves are deeply divided and wrinkled, dark green on top and pale green with a downy lining underneath. The leaves produce an unpleasant smell when crushed. Stems have a red and purple tinge at the base.

Reason for inclusion

Ragwort is a serious agricultural pest that competes with pasture species and reduces grazing potential. Ragwort is poisonous to cattle, deer, and horses and to a lesser extent, sheep. Ragwort is widespread throughout the Wellington region and therefore Total Control or Containment to specific areas of the region is considered unachievable. Greater Wellington believes that managing ragwort in certain situations will assist in minimising the spread of ragwort onto land that is clear, or being cleared, of ragwort. Boundary Control is considered the most appropriate management regime for ragwort in the Wellington region.

Aim

To minimise the adverse impacts of ragwort in specific situations throughout the Wellington region.

Objective

Prevent the spread of ragwort onto properties that are clear, or being cleared, of ragwort within the region.

Means of achievement

Greater Wellington shall:

- in a productive land situation, action complaints received to ensure ragwort is controlled to a distance of not less than 50m from the boundary, where the adjoining property is clear, or being cleared, of ragwort
- provide information and publicity to enhance public awareness of the threat posed by ragwort to the region
- release approved biological control agents to assist with the control of ragwort throughout the region

NB – biological control agents do not meet the requirements as an accepted form of control for strategy rules a) and b) below.

- annually inspect all plant outlets and markets within the region for the sale and/or propagation of ragwort.

Strategy rules

a) Where productive land is affected by the spread of ragwort *Senecio jacobaea*, adjoining landowners/occupiers shall destroy all ragwort *Senecio jacobaea* within 50m of their boundary following a complaint to Greater Wellington by adjoining landowners/occupiers whose land is clear, or being cleared, of ragwort *Senecio jacobaea* within the Wellington region.

A breach of this rule will create an offence under Section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread ragwort Senecio jacobaea within the Wellington region.

A breach of this rule will create an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region.

Rule b) prevents the sale or propagation of ragwort within the region.

Monitoring the objective

Greater Wellington shall:

- annually report the number of complaints for ragwort within the region.

10.7 Variegated thistle *Silybum marianum*

Description

Variegated thistle is an annual or biennial thistle that can grow up to 2m tall. It has a stout taproot and a hollow stem. Shiny, lobed, mottled green leaves grow to 60cm long with white marbled veins and blotches. The leaf lobes are tipped with strong yellow spines. Variegated thistle has single large purple flower heads at the ends of branches. The flower heads are surrounded by many spines.

Variegated thistle

Reason for inclusion

Due to its large rosette, variegated thistle strongly competes with pasture species and therefore reduces pasture production. Large plants and dense infestations can restrict livestock movement and eliminate other vegetation through shading, which leaves large bare patches where other weeds will establish. Variegated thistle is widespread throughout the Wellington region and therefore Total Control or Containment to specific areas, is considered unachievable. Greater Wellington believes that managing variegated thistle in certain situations will assist in minimising its spread onto land that is clear, or being cleared of the pest. Boundary Control is considered the most appropriate management regime for variegated thistle in the Wellington region.

Aim

To minimise the adverse impacts of variegated thistle in specific situations throughout the Wellington region.

Objective

Prevent the spread of variegated thistle onto properties that are clear, or being cleared, of variegated thistle within the region.

Means of achievement

Greater Wellington shall:

- in a productive land situation, action complaints received to ensure variegated thistle is controlled to a distance of not less than 20m from the boundary, where the adjoining property is clear, or being cleared, of variegated thistle
- provide information and publicity to enhance public awareness of the threat posed by variegated thistle to the region
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of variegated thistle.

Strategy rules

a) Where productive land is affected by the spread of variegated thistle *Silybum marianum*, adjoining landowners/occupiers shall destroy all variegated thistle *Silybum marianum* within 20m of their boundary following a complaint to Greater Wellington by adjoining landowners/occupiers whose land is clear, or being cleared, of variegated thistle *Silybum marianum* within the Wellington region.

A breach of this rule will create an offence under Section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread variegated thistle *Silybum marianum* within the Wellington region.

A breach of this rule will create an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region.

Rule b) prevents the sale or propagation of variegated thistle within the region.

Monitoring the objective

Greater Wellington shall:

- annually report the number of complaints for variegated thistle within the region.

10.8 Wild ginger *Hedychium gardnerianum, H. flavescens*

Description

Wild ginger

Wild ginger is an herbaceous perennial. Both species, kahili and yellow ginger, produce thick beds of rhizomes forming a dense ground cover. Adult plants can reach 2m. Leaves are lance-shaped, 20 to 45cm long. Kahili ginger flowers are yellow with conspicuous red stamens and can produce over 100 seeds per flower head. Yellow ginger flowers are cream and do not produce seeds.

Reason for inclusion

Wild ginger has a rapid rate of spread, the ability to cause significant change to the structure of natural areas and suppress the regeneration of native species. The dense mats of rhizomes exclude other species in areas where wild ginger is established. It is widespread throughout the Wellington region and therefore Total Control or Containment to specific areas, is considered unachievable. Greater Wellington believes that managing wild ginger in certain situations will assist in minimising the spread of wild ginger onto land that is clear, or being cleared, of the pest. Boundary Control is considered the most appropriate management regime for wild ginger in the Wellington region.

Aim

To minimise the adverse impacts of wild ginger in specific situations throughout the Wellington region.

Objective

Prevent the spread of wild ginger onto properties that are clear, or being cleared, of wild ginger within the region.

Means of achievement

Greater Wellington shall:

- action complaints received to ensure wild ginger is controlled to a distance of not less than 10m from the boundary, where the adjoining property is clear, or being cleared, of wild ginger
- provide information and publicity to enhance public awareness of the threat posed by wild ginger to the region
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of wild ginger.

Strategy rules

a) Landowners/occupiers shall destroy all wild ginger *Hedychium gardnerianum, H. flavescens* within 10m of their boundary following a complaint to Greater Wellington by an adjoining landowner/occupier whose land is clear, or being cleared, of wild ginger *Hedychium gardnerianum, H. flavescens* within the Wellington region.

A breach of this rule will create an offence under Section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread wild ginger *Hedychium gardnerianum*, *H. flavescens* within the Wellington region.

A breach of this provision is an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region.

Rule b) prevents the sale or propagation of wild ginger within the region.

Monitoring the objective

Greater Wellington shall:

- annually report the number of complaints for wild ginger within the region.

11 Site-Led pest category management programmes – Human Health

11.1 Blackberry *Rubus spp barbed cultivars*

Blackberry

Description

Blackberry is a prickly, scrambling perennial shrub that can grow up to 2m or more. Leaves are oval, toothed and arranged in groups of 3 to 5. It produces clusters of white or pink flowers in spring followed by black edible berries.

Reason for inclusion

Blackberry is a health hazard to humans due to its sharp clinging barbs which can cause puncture and scratch wounds. Blackberry is widespread throughout the Wellington region and therefore Total Control or Containment to specific areas of the region is considered unachievable. However, Greater Wellington believes that where blackberry poses a risk to human health managing blackberry is warranted. Boundary Control is considered the most appropriate management regime for blackberry in the Wellington region.

Aim

To minimise the risk to human health of blackberry in specific situations throughout the Wellington region.

Objective

Prevent the spread of blackberry onto properties that are clear, or being cleared, of blackberry within the region.

Means of achievement

Greater Wellington shall:

- action complaints received to ensure blackberry is controlled to a distance of not less than 2m from the boundary, where the adjoining property is clear, or being cleared, of blackberry
- provide information and publicity to enhance public awareness of the threat posed by blackberry to the region
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of blackberry.

Strategy rules

a) Landowners/occupiers shall destroy all blackberry *Rubus spp barbed cultivars* within 2m of their boundary following a complaint to Greater Wellington by an adjoining landowner/occupier whose land is clear, or being cleared, of blackberry *Rubus spp barbed cultivars* within the Wellington region.

A breach of this rule will create an offence under Section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread blackberry *Rubus spp barbed cultivars* within the Wellington region.

A breach of this provision is an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region.

Rule b) prevents the sale or propagation of blackberry within the region.

Monitoring the objective

Greater Wellington shall:

- annually report the number of complaints for blackberry within the region.

11.2 Hemlock *Conium maculatum*

Hemlock

Description

Hemlock grows up to 2m tall and produces small white flowers in clusters on the ends of branches. Stems are smooth, hollow and have purple blotches. Leaves are dark green on the upper surface, grey underneath and are ferny in appearance. Hemlock is foul smelling when crushed or damaged and all parts of the plant are very poisonous, even when dry.

Reason for inclusion

Hemlock is very toxic to humans and poses a health risk if ingested. Where these threats are identified landowners/occupiers will be required to control hemlock. Hemlock is widespread throughout the Wellington region and therefore Total Control or Containment to specific areas of the region is considered unachievable. However, Greater Wellington believes that where hemlock poses a risk to human health, managing hemlock is warranted. Boundary Control is considered the most appropriate management regime for hemlock in the Wellington region.

Aim

To minimise the risk to human health of hemlock in specific situations throughout the Wellington region.

Objective

Prevent the spread of hemlock onto properties that are clear, or being cleared, of hemlock within the region.

Means of achievement

Greater Wellington shall:

- action complaints received to ensure hemlock is controlled to a distance of not less than 2m from the boundary, where the adjoining property is clear, or being cleared, of hemlock
- provide information and publicity to enhance public awareness of the threat posed by hemlock to the region
- annually inspect all plant outlets and markets within the region for the sale and/or propagation of hemlock.

Strategy rules

a) Landowners/occupiers shall destroy all hemlock *Conium maculatum* within 2m of their boundary following a complaint to Greater Wellington by an adjoining landowner/occupier whose land is clear, or being cleared, of hemlock *Conium maculatum* within the Wellington region.

A breach of this rule will create an offence under Section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Act, no person shall release, or cause to be released, propagate, or sell, or offer for sale, or hold on premises where plants are offered for sale, or otherwise spread hemlock *Conium maculatum* within the Wellington region.

A breach of this provision is an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) requires Greater Wellington to act on complaints to ensure landowner/occupier compliance on any land they own or occupy within the region.

Rule b) prevents the sale or propagation of hemlock within the region.

Monitoring the objective

Greater Wellington shall:

- annually report the number of complaints for hemlock within the region.

11.3 Magpie *Gymnorhina tibicen tibicen, G. tibicen hypoleuca*

Description

Magpies are a large black and white bird, with a distinctive warbling call. The black-backed magpie *Gymnorhina tibicen tibicen* and the more predominant white-backed magpie *Gymnorhina tibicen hypoleuca* commonly interbreed, producing birds with intermediate markings. Both sub-species of the Australian magpie were introduced into New Zealand with the aim of controlling invertebrate soil pests. Magpies were widely distributed throughout the Wellington region by the 1970s. Their preferred habitat is open grassland and cultivated paddocks with tall trees nearby for shelter. They are frequently found in paddocks, city parks and playing fields, on the edges of native and exotic forest and occasionally on mountains up to 1700m.

Pair of magpies
Photo: Crown copyright, DoC

Reason for inclusion

During the breeding season magpies can become very aggressive and attempt to drive off animals and humans. Small children in particular can be subject to intimidating and hazardous attacks. Magpies are also known to harass, attack and kill a wide variety of native and exotic birds. There is anecdotal evidence that magpies cause native bird species to become less conspicuous in an area.

A cost benefit analysis has identified that the greatest net benefit to the region comes from preventing human injury and stress where magpies have become a serious pest in public areas, and providing assistance to landowners/occupiers wishing to undertake magpie control on their properties to reduce adverse environmental impacts. Due to the prevalence of magpies in the region, Total Control is not possible at present.

Aim

Manage magpies to minimise the adverse human health and environmental impacts in the Wellington region.

Objectives

Respond to reports of magpies attacking members of the public within 10 working days.

Supply traps to occupiers wishing to undertake their own magpie control.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of magpies within 10 working days where there is known to be a threat of injury to members of the public, or complaints made to that effect
- respond to landowners/occupiers wanting to undertake magpie control within 15 working days of receiving a request for information and/or assistance
- provide advice, education and assistance to occupiers wanting to undertake magpie control
- support appropriate research initiatives into magpie impacts
- annually inspect pet shops for the sale of magpies.

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of magpies *Gymnorhina tibicen tibicen* and *Gymnorhina tibicen hypoleuca*; or

   ii. Managing or eradicating magpies *Gymnorhina tibicen tibicen* and *Gymnorhina tibicen hypoleuca*, other than in accordance with the direction or under the supervision of an authorised person.

b) No person shall release, or cause to be released, breed, or sell or offer for sale, or hold in premises where animals are offered for sale, or otherwise spread magpies *Gymnorhina tibicen tibicen* and *Gymnorhina tibicen hypoleuca*.

A breach of rules a) and b) will create an offence under Section 154(r) of the Act.

Explanation of strategy rules

Rule a) allows Greater Wellington to undertake the necessary actions for monitoring and controlling magpies where they are impacting human health and environmental values.

Rule b) imposes a ban on the sale, breeding or distribution of magpies in the Wellington region.

Monitoring the objectives

Greater Wellington shall:

- report the time of magpie complaints, location and number of birds disposed of and time of disposal
- regularly assess numbers of magpies at specific sites as part of ongoing research initiatives.

11.4 Common or German wasp *Vespula vulgaris, V. germanica*

Description

Common wasps were first noted in the 1920s, but did not become well established in the Wellington region until 1978. German wasps have been present in New Zealand since the 1940s. Australian and Asian paper wasps are also present in the region.

Both common and German wasps live in large colonies, about the size of a soccer ball. The nest can become larger if the colony survives the winter. Common and German wasps have distinctive yellow and black striped bodies. The common wasp nest is yellowish to reddish brown, while the German wasp nest is grey. Both species can use their sting repeatedly.

Common wasp
Photo: Landcare Research

Reason for inclusion

The New Zealand environment provides a favourable habitat for wasps because of mild winters, a lack of natural wasp predators and plentiful food supply. Consequently, New Zealand has some of the highest densities of common and German wasps in the world. Wasps are a serious threat in homes, schools and recreational areas such as parks, forests or beaches. Wasps pose a real risk to people who are allergic to the sting. Those working in industries such as viticulture, agriculture and forestry are particularly at risk. Wasps reduce honey bees' productivity by raiding beehives and reducing the food supply, and they predate on native insects and honey dew, which are important food sources for many native species.

A cost benefit analysis has identified that preventing human injury and the adverse environmental impacts of wasps by placing responsibility for control on the occupier has the greatest net benefit for the region. Due to the widespread distribution of wasps in the region, Total Control of wasps, or Containment to parts of the region, is not possible at present. Generally the people that benefit most from wasp control are those who are directly affected and therefore they should be the ones to meet the cost of control.

Aim

Minimise the adverse human health and environmental impacts of wasps at selected sites.

Objective

To reduce the anti-social and adverse environmental impacts of common and German wasps in the Wellington region.

Means of achievement

Greater Wellington shall:

- provide advice and education to occupiers wanting to undertake wasp control
- provide a referral service to landowners/occupiers who require wasp control
- provide information and publicity to enhance public awareness of the threat wasps pose to the region
- undertake surveys to determine the extent and density of wasp populations
- release biological control agents for the control of wasps when appropriate
- support research initiatives into the human health impact of wasps in the Wellington region
- ensure public compliance with strategy rules.

Strategy rules

a) Occupiers shall destroy all wasp nests on their property which are deemed to be creating a health hazard to other affected parties.

b) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of wasps *Vespula vulgaris* and *Vespula germanica*; or

   ii. Managing or eradicating wasps *Vespula vulgaris* and *Vespula germanica*, other than in accordance with the direction or under the supervision of an authorised person.

A breach of rule b) will create an offence under section 154(r) of the Act.

Explanation of strategy rules

Rule a) requires land occupiers to destroy all wasp nests within their boundaries that are creating a human health hazard to other affected parties.

Rule b) allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling wasps in the region.

Monitoring the objectives

Greater Wellington shall:

- report the time and general location of common and German wasp complaints in the region.

12 Site-Led pest category management programmes – Biodiversity

12.1 Feral and unwanted cats *Felis catus*

Description

Cats were first introduced to New Zealand in 1770, and were well established in the North Island by the 1860s. Feral and unwanted cats are present throughout the Wellington region. They can be found in most terrestrial habitats from sea level to the snowline. All feral and unwanted cats originate from domesticated species. They are usually short haired, slightly built, with a large head and sharp features. Feral cats are always timid around humans. They do not meow or purr, and are usually aggressive when cornered or captured. Feral cats tend to avoid human contact, although some unwanted cats may continue to rely on humans for food or shelter.

Feral cat
Photo: Rex Williams

Reason for inclusion

New Zealand's unique native wildlife is particularly vulnerable to predation by cats. Cats kill and eat young and adult birds, eggs, lizards, fish, frogs and large invertebrates. Cats will kill without hunger if the opportunity arises, storing any surplus prey for future use.

A cost benefit analysis has identified that suppressing the adverse environmental impacts of feral and unwanted cats by placing responsibility for control on the occupier has the greatest net benefit for the region. Due to the widespread distribution of feral and unwanted cats, and the prevalence of domestic cats in the Wellington region, Total Control or Containment is not possible at present.

Aim

Minimise the biodiversity impact of feral and unwanted cats in the region.

Objectives

Reduce the adverse environmental impacts of feral and unwanted cats on the native fauna of the Wellington region.

Prevent the establishment of unwanted cat colonies in areas of ecological significance.

Means of achievement

Greater Wellington shall:

- provide information and publicity to enhance public awareness of the threat feral and unwanted cats pose to the native fauna of the region
- undertake direct control of feral and unwanted cats by service delivery as part of the integrated pest management of Key Native Ecosystems and other selected sites

- provide financial assistance to domestic cat desexing programmes in partnership with select organisations and businesses
- work with communities to remove populations of stray or unwanted cats
- support the establishment of 'cat free' areas within the region, where there is clear support to do so.

Feral cat predating on tui
Photo: Rob Suisted

Strategy rules

a) No person shall abandon any cat from domestic care in the Wellington region. It is an offence under section 14(2) of the Animal Welfare Act 1999, which states:

"A person commits an offence who, being the owner of, or person in charge of, an animal, without reasonable excuse, deserts the animal in circumstances in which no provision is made to meet its physical, health and behavioural needs."

b) No person shall support or encourage feral and/or unwanted cat colonies on private land without the landowners/occupier's express permission.

c) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to the strategy for the purposes of:

i. Confirming the presence, former presence, or absence of feral or unwanted cats *Felis catus*; or

ii. Managing or eradicating feral or unwanted cats *Felis catus*; – other than in accordance with the direction, or under the supervision of an authorised person.

A breach of rule c) will create an offence under Section 154(r) of the Act.

Explanation of strategy rules

Rule a) imposes a ban on the abandonment of cats in the Wellington region.

Rule b) prevents members of the public encouraging or supporting unwanted cat colonies on private land without express permission from the landowner/occupier.

Rule c) allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling feral and unwanted cats in the region.

Monitoring the objectives

Greater Wellington shall:

- record and annually report the number and nature of client enquiries in regards to feral and unwanted cats
- monitor known and new feral and unwanted cat colonies that pose a biodiversity threat in the Greater Wellington region
- record number of feral cats controlled for biodiversity enhancement purposes.

12.2 Feral red, fallow and sika deer *Cervus elaphus scoticus, Dama dama, C. nippon*

Description

Feral red deer hind and yearling
Photo: Rob Suisted

Red deer are a medium-sized deer with a reddish-brown coat and a creamy coloured rump patch. Adults weigh between 80 to 200kg. They are the largest and most common deer in the region.

Fallow are a small deer, with a coat that is either black, brown with spots, or occasionally white. Adults weigh between 30 to 85kg.

Sika are a small deer, chestnut coloured in summer with spots, and dark brown in the winter. When alarmed, sika display a white rump patch, and may make a piercing whistle. Adults weigh between 45 to 85kg.

Red deer were liberated in Wairarapa in the 1800s and became well established by the early 1900s. Fallow and sika deer have been illegally released in the Wellington region in recent times for recreational hunting. Red deer remain the most common species in the region. Feral deer frequent native bush, regenerating scrubland, exotic forestry and rough grasslands in the region.

Any deer which is not held behind effective fences or otherwise constrained, and identified in accordance with a recognised identification system, is considered to be feral by Greater Wellington.

Reason for inclusion

Feral fallow buck
Photo: Crown copyright, DoC

Feral deer are of concern to Greater Wellington in actively managed Key Native Ecosystems or reserves where considerable investment has been previously made by Greater Wellington and/or the landowner/occupier.

Deer are highly adaptable feeders that both browse and graze. Although deer can live entirely on grass, studies show that for red deer living in heavily forested regions, trees, shrubs and herbs make up to 80% of their diet. This has a high impact on forest regeneration and biodiversity. Intensive browsing can devastate the forest under-storey and strip bark from trees, severely impacting plant biodiversity. Stags thrashing and rubbing with their antlers also damage vegetation. Feral deer contribute to soil erosion through intensive browsing, soil trampling, compaction and wallowing.

A cost benefit analysis has identified that suppressing the adverse environmental impacts of feral deer by placing the responsibility for control on the occupier has the greatest net benefit for the region. Due to the nature of the terrain that feral deer inhabit, and their varying livestock, game animal and pest status, Containment of feral deer is not possible. Generally the people that benefit most from feral deer control are those who are directly affected, and therefore they should pay the largest share towards the cost of control.

Aim

Minimise the adverse impacts of feral deer on biodiversity values in sites actively managed for ecological health.

Objectives

Minimise the impact of feral deer in actively managed Key Native Ecosystems or on Territorial Local Authority reserves with the owner's consent.

Support the Department of Conservation and other agencies in preventing the illegal release of feral deer within the Wellington region.

Means of achievement

Greater Wellington shall:

- provide a referral or cost recovery service to landowners/occupiers who require deer control. Given their status as a game animal, this will be an uncommon event
- reduce feral deer densities in selected Key Native Ecosystems and Territorial Local Authority reserves with the owners consent where damage to native flora justifies this course of action
- provide information and publicity to enhance public awareness of the threat feral deer pose to the region
- make the public aware of their responsibilities associated with feral deer. Greater Wellington considers any deer to be feral that is not:
  - held behind effective fences or otherwise constrained; and
  - identified in accordance with a recognised identification system.

Feral sika stag
Photo: Crown copyright, DoC

Strategy rules

No person shall:

a) Convey or have in their possession red, fallow and sika deer *Cervus elaphus scoticus, Dama dama* and *Cervus nippon*, for the purpose of liberating or turning it at large.

b) Liberate any red, fallow and sika deer *Cervus elaphus scoticus, Dama dama* and *Cervus nippon* or turn it at large or allow it to go at large in the Wellington region.

Releasing any deer is an offence under the Wild Animal Control Act 1977.

Explanation of strategy rules

Strategy rules a) and b) imposes a ban on the liberation of red, fallow and sika deer in the Wellington region.

Monitoring the objectives

Greater Wellington shall:

- record the number and location of feral deer removed during control operations under the auspices of Greater Wellington.

12.3 Feral goat *Capra hircus*

Description

Feral goats, females (front) male (rear)

Feral goats all originate from domestic species. Both sexes generally have horns and are short-haired and bearded. Adults weigh between 25 to 70 kg. Feral goats within the Wellington region have a wide range of colours and markings.

Goats, first released in New Zealand in the 1770s, were propagated as a hardy stock animal and a form of weed control. The impact of goat browsing on native biodiversity was recognised as early as the 1890s, but official goat control operations did not begin until the 1930s. Despite extensive control operations and recreational hunting, feral goats remain in much of the Wellington region. Feral goats frequent native bush, regenerating scrubland, exotic forestry and farmland in the region.

Any goat which is not held behind effective fences or otherwise constrained, or identified in accordance with a recognised identification system, is considered to be feral by Greater Wellington.

Reason for inclusion

Feral goat browsing can devastate the forest under-storey, and severely impact on plant biodiversity. Goats can also contribute to soil erosion. Feral goats are not averse to living near human habitation, and can damage commercial gardens, forestry seedlings, amenity plantings and lawns and property.

A cost benefit analysis has identified that suppressing the adverse environmental impacts of feral goats by placing responsibility for control on the occupier has the greatest net benefit for the region. Due to the nature of the terrain that feral goats inhabit, and their dual identity as both stock animal and pest species, Total Control or Containment of feral goats is not possible. Generally the people that benefit the most from feral goat control are those who are directly affected, and therefore they should pay the largest share towards the cost of control.

Aim

Minimise the adverse impacts of feral goats in the Wellington region.

Objective

Minimise the impact of feral goats in Key Native Ecosystems or on Territorial Local Authority reserves with the owners consent.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery of feral goats in actively managed Key Native Ecosystems and Territorial Local Authority reserves with the owners consent
- provide information and publicity to enhance public awareness of the threat goats pose to the region

- make the public aware of their responsibilities when housing domestic goats. Greater Wellington considers any goat as feral that is not:
  - held behind effective fences or otherwise constrained, or
  - identified in accordance with a recognised identification system.
- provide a referral or cost recovery service to landowners/occupiers who require goat control.

Male feral goat
Photo: Rob Suisted

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to the strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of feral goats *Capra hircus*; or

   ii. Managing or eradicating feral goats *Capra hircus*, other than in accordance with the direction, or under the supervision of an authorised person.

A breach of rule a) will create an offence under Section 154(r) of the Act.

b) No person shall:

   i. Convey or have in their possession feral goat(s) *Capra hircus*, for the purpose of liberating or turning it at large; or

   ii. Liberate any feral goat(s) *Capra hircus* or turn at large or allow to go at large in the Wellington region.

Releasing goats *Capra hircus* is an offence under the Wild Animal Control Act 1977.

Explanation of strategy rules

Rule a) allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling feral goats in the region.

Rule b) imposes a ban on the sale, breeding or distribution of feral goats in the Wellington region.

Monitoring the objectives

Greater Wellington shall:

- record the number and location of feral goats removed during control operations.

12.4 Feral pig *Sus scrofa*

Description

Feral pig sow
Photo: Rob Suisted

All feral pigs in New Zealand are the descendents of domestic pigs. Feral pigs are distinctively shaped with large shoulders, small rear quarters and a straight hairy tail. Often black in colour, they are also grey, brown, ginger, white, or any combination of these colours. Adults can weigh anything between 40 to 180kg. Feral pigs are omnivorous, opportunistic feeders with a wide ranging diet. They will eat grasses, roots, herbs, seeds, insects and small animals, and will scavenge decomposing carcasses. Pigs are highly destructive when feeding, often living in groups and overturning large areas in search of food.

Any pig which is not held behind effective fences or otherwise constrained, or identified in accordance with a recognised identification system, is considered to be feral by Greater Wellington.

Reason for inclusion

Pigs were first released in New Zealand in the 1770s as a food source. A wild population soon established from escaped and released domestic pigs. Control operations and recreational hunting continue to the present day. Feral pigs have been illegally released for recreational hunting within the region. They frequent native and exotic forests, scrubland, and marginal farmland with areas of cover. They pose a serious threat to biodiversity by eating seedlings and root systems, native insects and ground nesting birds and their young. Feral pigs contribute to erosion through rooting, trampling, compaction and wallowing. Pigs often form large and distinctive game trails through areas of regenerating flora.

A cost benefit analysis has identified that suppressing the adverse environmental impacts of feral pigs by placing the responsibility for control on the occupier has the greatest net benefit for the region. Due to the nature of the terrain that feral pigs inhabit, and their varying livestock, game animal and pest status, Containment of feral pigs is not possible. Generally the people that benefit most from feral pig control are those who are directly affected, and therefore they should pay the largest share towards the cost of control.

Aim

Minimise the adverse environmental impacts of feral pigs in sites actively managed for ecological health.

Objectives

Minimise the impact of feral pigs in actively managed Key Native Ecosystems or on Territorial Local Authority reserves with the owners consent.

Support the Department of Conservation and other agencies in preventing the illegal release of feral pigs within the Wellington region.

Means of achievement

Greater Wellington shall:

- provide a referral or cost recovery service to landowners/occupiers who require feral pig control. Given their status as a game animal, this will be an uncommon event
- reduce feral pig densities in selected Key Native Ecosystems and Territorial Local Authority reserves with the owners consent where damage to native flora and fauna justifies this course of action
- provide information and publicity to enhance public awareness of the threat feral pigs pose to the region
- make the public aware of their responsibilities associated with feral pigs. Greater Wellington considers any pig to be feral that is not:
  - held behind effective fences or otherwise constrained, and
  - identified in accordance with a recognised identification system.

Strategy rules

No person shall:

a) Convey or have in their possession any pig *Sus scrofa*, for the purpose of liberating or turning it at large.

b) Liberate any pig *Sus scrofa* or turn it at large or allow it to go at large in the Wellington region.

Releasing pigs is an offence under the Wild Animal Control Act 1977.

Explanation of strategy rules

Strategy rules a) and b) impose a ban on the liberation of pigs in the Wellington region.

Monitoring the objectives

Greater Wellington shall:

- record the number and location of feral pigs removed during control operations under the auspices of Greater Wellington.

12.5 Gambusia *Gambusia affinis*

Male gambusia
Photo: Barry O'Brien

Description

Small, dull-grey fish, with a rounded tail and upwards-pointing mouth. Females grow to 6cm, males up to 3.5cm. Gambusia can survive in a wide variety of waterways, including areas with low oxygen saturation, high salinity and high water temperature. Due to this level of adaptability, gambusia have the potential to inhabit streams, rivers, lakes and wetlands throughout the Wellington region.

Gambusia are aggressive feeders, and will eat native insects, larvae, immature native fish and their fry, and native frogs and their young. Gambusia are known to attack adult native fish.

Reason for inclusion

Gambusia were introduced to New Zealand to control mosquito larvae in 1930. Well established in the Auckland region, they are now spread throughout much of the North Island, largely as a result of illegal introductions. Gambusia compete directly with native fish species for food and habitat, and once established in a waterway, are virtually impossible to control.

A cost benefit analysis shows that working with the Department of Conservation and Territorial Local Authorities to minimise the impact of gambusia has the greatest net benefit for the Wellington region. Due to the nature of the waterways that gambusia inhabit, their high breeding rates and co-existence with native species, Total Control of gambusia is difficult. Containment and prevention of further infestations is most practical for the Greater Wellington region.

Aim

To minimise the impact, and prevent the further spread, of gambusia in the Wellington region.

Objectives

To work with the Department of Conservation and Territorial Local Authorities to control and monitor gambusia in the Wellington region.

To prevent the spread of gambusia into rivers, streams, lakes and wetlands which are currently clear of this pest fish species.

Means of achievement

Greater Wellington shall:

- provide information and publicity to enhance public awareness of the threat gambusia pose to the region
- record all incidences of gambusia in the DoC Fresh Water Fish database
- work with relevant agencies to control gambusia in the Wellington region.

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to the strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of gambusia *Gambusia affinis*; or

   ii. Managing or eradicating gambusia *Gambusia affinis*; – other than in accordance with the direction, or under the supervision of an authorised person.

Female gambusia
Photo: Barry O'Brien

A breach of this rule will create an offence under Section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Biosecurity Act 1993, no person shall release, or cause to be released, breed, or sell or offer for sale, or hold in premises where animals are offered for sale, or otherwise spread gambusia *Gambusia affinis*.

A breach of this will create an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling gambusia in the region.

Rule b) imposes a ban on the sale, breeding or distribution of gambusia in the Wellington region.

Monitoring the objectives

Greater Wellington shall:

- annually report on any control or research operations for gambusia undertaken by Greater Wellington, the Department of Conservation or Territorial Local Authorities in the Wellington region
- annually update and review the pest fish database for any new or existing infestations of gambusia in the region.

12.6 Koi carp *Cyprinus carpio*

Koi carp
Photo: Crown copyright, DoC

Description

Koi carp are a large fish which resemble goldfish, growing up to 75cm in length. Koi carp have two pairs of barbels (feelers) at the corners of their mouth. Highly variable in colour, they often have irregular patterns of black, red, gold, orange or white.

Koi carp prefer still waters, such as lakes, streams, irrigation ditches and the slow backwaters of rivers. They can tolerate very poor water quality with high levels of turbidity. Koi carp are opportunistic feeders, eating insects, fish spawn, juvenile fish and a broad range of plants and organic matter.

Reason for inclusion

Koi carp were accidentally introduced into New Zealand in the 1960s with a consignment of common goldfish. Koi carp are widespread in the Auckland and Waikato regions, and can be found as far south as Wellington. These new infestations are the result of accidental or intentional releases by humans. Koi carp are highly destructive when they feed, filtering through the bottom of ponds, lakes and rivers. This increases the turbidity of the waterway, and destroys the habitat of a range of native flora and fauna.

A cost benefit analysis shows that working with the Department of Conservation and Territorial Local Authorities to minimise the impact of koi carp has the greatest net benefit for the Wellington region. Due to the nature of the waterways that koi carp inhabit and their co-existence with native species, Total Control of koi carp is usually not possible. Containment and prevention of further infestations is most practical for the Greater Wellington region.

Aim

To minimise the impact, and prevent the further spread, of koi carp in the Wellington region.

Objectives

To work with the Department of Conservation and Territorial Local Authorities to control and monitor koi carp in the Wellington region.

To prevent the spread of koi carp into rivers, streams, lakes and wetlands which are currently clear of this pest fish species.

Means of achievement

Greater Wellington shall:

- provide information and publicity to enhance public awareness of the threat koi carp pose to the region
- record all incidences of koi carp in the Fresh Water Fish database
- Work with relevant agencies to control koi carp in the Wellington region.

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to the strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of koi carp *Cyprinus carpio*; or

   ii. Managing or eradicating koi carp *Cyprinus carpio* - other than in accordance with the direction, or under the supervision of an authorised person.

A breach of this rule will create an offence under Section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Biosecurity Act 1993, no person shall release, or cause to be released, breed, or sell or offer for sale, or hold in premises where animals are offered for sale, or otherwise spread koi carp *Cyprinus carpio*.

A breach of this rule will create an offence under Section 154(m) of the Act.

Explanation of strategy rules

Rule a) allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling koi carp in the region.

Rule b) imposes a ban on the sale, breeding or distribution of koi carp in the Wellington region.

Monitoring the objectives

Greater Wellington shall:

- annually report on any control or research operations for koi carp undertaken by Greater Wellington, the Department of Conservation or Territorial Local Authorities in the Wellington region
- annually update and review the pest fish database for any new or existing infestations of koi carp in the region.

12.7 Possum *Trichosurus vulpecula*

Possum
Photo: Crown copyright DoC

Description

Possums are a small nocturnal marsupial with a sharp face, pointed ears and a distinctive bushy tail. Colouration is typically grey, black or brown with a light under-belly. Possums make a loud rasping call at night. They are omnivorous feeders, both browsing vegetation and predating on wildlife. Possums eat a diet largely consisting of leaves, fruit, seeds, buds and bark, but will also eat birds' eggs, chicks and insects. Possums can eat large quantities of vegetation in a night, often systematically stripping a mature tree. They compete with native birds by eating berries and flowers, and predate on their eggs and young.

Possums were first released in New Zealand in the 1830s to establish a fur industry. The first release in the Wellington region was at Featherston in 1872. By the 1900s possums were well established throughout much of New Zealand, including the Wellington region. Possums inhabit a range of areas including forest, farmland, parks, gardens and buildings.

Reason for inclusion

Because of their feeding habits, possums pose a serious threat to the biodiversity of the Wellington region. Possums also pose a threat to agriculture by grazing pasture and crops and serving as a vector for bovine Tb.

Greater Wellington, the Animal Health Board and the Department of Conservation undertake extensive possum control operations for bovine Tb and biodiversity purposes in the Wellington region. Approximately 650,000ha (80%) of the region currently receives possum control through the:

- Animal Health Board's National Pest Management Strategy for Bovine Tuberculosis
- Department of Conservation's possum control programmes
- Greater Wellington's control programmes on its own estate, eg regional parks
- Greater Wellington's Key Native Ecosystem and Reserves Management programmes
- individual occupier possum control programmes for ecological health, production, or land sustainability.

The bovine Tb vector control programme has had a major influence on reducing and maintaining low possum densities throughout Wairarapa, the Hutt Valley and north of the Otaki River. However, this Regional Pest Management Strategy **does not** relate to possum control for reasons of bovine Tb management. This is addressed by the National Pest Management Strategy for Bovine Tuberculosis managed by the Animal Health Board.

A cost benefit analysis has identified that for areas of low ecological significance, placing the responsibility for control on the occupier has the greatest net benefit for the region. Due to the nature of the terrain that possums inhabit, and the cost of intensive control operations, Total Control or Containment of possums throughout the whole of the region is not possible at present.

In conjunction with the Department of Conservation and Animal Health Board, Greater Wellington has made a considerable investment in possum control. With the roll-back of Animal Health Board operations due to commence in the northern Masterton District in 2008/09, subsidised Tb control operations will cease. This roll-back will eventually include other parts of the region within the life of the Regional Pest Management Strategy. In these areas possum populations will have been reduced to 5% residual trap catch (RTC) or less. Without continued control, the population will return to previous high levels. This situation will need to be addressed to maintain gains in protecting catchment functions and economic opportunities, including reducing opportunities for re-emergence of bovine Tb.

Aim

To minimise the adverse impacts of possums in areas of ecological significance and maintain accrued biodiversity and economic gains in the Wellington region.

Objectives

To minimise the adverse environmental impact of possums in Key Native Ecosystems and other areas of ecological significance in the region.

To address the adverse impacts of possums in selected areas for catchment functions, biodiversity and economic prosperity.

Means of achievement

Greater Wellington shall:

- undertake direct control by service delivery in Key Native Ecosystems and other sites of ecological significance in agreement with the landowner / occupier
- provide information and publicity to enhance public awareness of the threat possums pose to the region
- provide advice, education and assistance to occupiers wanting to undertake possum control
- support the establishment of new possum control programmes, in collaboration with landowners, in areas which have historically received bovine Tb vector control and now meet the Animal Health Board criteria to be declared Tb free
- provide a referral or cost recovery service to landowners / occupiers who require possum control
- support research initiatives including biological control
- annually inspect pet shops and other outlets for the sale of possums.

Possum damage on punga

Juvenile possum

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to the strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of possums *Trichosurus vulpecula*; or

   ii. Managing or eradicating possums *Trichosurus vulpecula* – other than in accordance with the direction, or under the supervision of an authorised person.

A breach of this rule will create an offence under Section 154(r) of the Act.

b) Pursuant to Sections 52 and 53 of the Biosecurity Act 1993, no person shall release, or cause to be released, breed, or sell or offer for sale, or hold in premises where animals are offered for sale, or otherwise spread possums *Trichosurus vulpecula*.

A breach of this rule will create an offence under Section 154(m) of the Act.

c) Greater Wellington will consider the establishment of new possum control programmes within the Wellington region. The following criteria must be met:

   i. New possum control programmes will be formed at the discretion of Greater Wellington.

   ii. All control operations will be undertaken by Greater Wellington staff or approved contractors unless otherwise agreed.

   iii. The landowners / occupiers within the proposed possum control programmes agree to contribute funding by way of a specific rate (applied on a land area (per ha) basis, or by equivalent capital value, or a combination of both).

   iv. Landowners / occupiers agree that possum densities will need to be maintained by the control agency to a mean level no greater than 5% residual trap catch index on land occupied within the control zone.

   v. Landowners / occupiers agree to allow Greater Wellington or its agents to carry out random pre-control and post-control monitoring across selected properties to determine residual trap catch indices.

Explanation of strategy rules

Rule a) allows Greater Wellington to undertake the necessary action(s) for monitoring and controlling possums in the region.

Rule b) imposes a ban on the sale, breeding or distribution of possums in the Wellington region.

Rule c) allows the formation of new possum control programmes at Greater Wellington's discretion within the region.

Monitoring the objectives:

Greater Wellington shall:

- undertake annual trend monitoring of possum numbers at selected sites(s) within the region
- undertake residual trap catch and wax tag monitoring of possums in selected pre and post operational sites.

13 Site-Led pest category management programmes – Key Native Ecosystems, Reserves and Forest Health

Description and reason for inclusion

The Key Native Ecosystem (KNE) programme is a Greater Wellington initiative to protect and enhance native flora and fauna in selected sites on private land throughout the Wellington region. The programme contributes to New Zealand's commitments made under the International Convention of Biological Diversity as outlined in the New Zealand Biodiversity Strategy 2000. The programme also contributes meeting objectives in the Regional Policy Statement for the Wellington region relating to indigenous ecosystems. Sustaining New Zealand's biodiversity will benefit the whole community through the enjoyment and identity we derive from our natural world, and the pride and profit from our distinctive 'green' branding.

Controlling introduced pests is one of several management techniques required to protect and enhance indigenous biodiversity. Greater Wellington will undertake pest control in a representative range of Key Native Ecosystems. Areas are selected to represent a range of indigenous biodiversity in the region and are prioritised primarily on ecological criteria and legal protection. The allocation of resources will follow the principle of giving priority to the least modified indigenous habitats, where critical ecological processes can continue to function. The number of sites will depend on the priority process, available funding and community involvement.

Management methods

Management will apply only to those sites identified in the Key Native Ecosystem programme and will focus on the site, rather than on individual species within it. The adverse impact that an individual pest has on native flora and fauna is difficult to separate from the adverse impacts of other pests and habitat degradation.

Many of the management techniques that will be used by Greater Wellington will be applicable to more than one pest, and not every pest listed will be present in each of the sites selected. Therefore, focusing pest management on individual pests within a native

ecosystem is generally inappropriate, although in some situations single species control may be undertaken. For this reason, the aim, objectives and means of achievements for all pests included in the programme are presented collectively. The Key Native Ecosystem programme also includes pest species from previously described categories.

Unless Crown Agencies agree to be bound to, and contribute to the strategy through an Order in Council, the Key Native Ecosystem programme will not apply to Crown land.

Aim

To protect indigenous biodiversity in a comprehensive range of Key Native Ecosystems throughout the Wellington region.

Objectives

Achieve a measurable improvement in the ecological health and diversity of Key Native Ecosystems using a range of suitable management techniques.

Means of achievement

Greater Wellington shall:

- ensure Key Native Ecosystems are legally protected into perpetuity
- establish and implement integrated pest management plans for all Key Native Ecosystems
- undertake direct control by service delivery of pests identified in the management plan for each Key Native Ecosystem
- facilitate the involvement of community groups where appropriate
- co-ordinate site management with other biodiversity initiatives where possible
- use biological control agents where appropriate, and support relevant biological control research initiatives
- monitor site recovery using a range of ecological indicators
- manage external pressures that are inconsistent with Key Native Ecosystem management objectives
- provide public education and advice to foster awareness of the need for biodiversity management
- undertake holistic management in existing Key Native Ecosystem areas
- prioritise and select additional Key Native Ecosystems
- through consultation with Department of Conservation attempt to re-establish locally extinct native species
- where Key Native Ecosystems are identified on Territorial Local Authority land, seek funding from the relevant authority to form financial partnerships
- liaise with the Department of Conservation to determine the distribution of, and appropriate control methods for invasive aquatic species.

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of pests identified in the Key Native Ecosystem management category; or

   ii. Managing or eradicating pests identified in the Key Native Ecosystem management category – other than in accordance with the direction or under the supervision of an authorised person.

b) No person shall cause or permit the disposal of green waste plant material in a Key Native Ecosystem. Note: Authorised vegetation clearance is exempt.

c) No person shall cause or permit access of livestock into a Key Native Ecosystem.

d) No person shall cause or permit any fire(s) in a Key Native Ecosystem.

A breach of rules a), b), c) or d) will create an offence under Section 154(r) of the Act.

Explanation of strategy rules

Rule a) will allow Greater Wellington to implement the necessary actions required for integrated pest management in sites included in the Key Native Ecosystem programme, as well as monitoring the sites to determine pest impacts and ecosystem recovery.

Rule b) prohibits any person from dumping green waste from external sources into any site included in the Key Native Ecosystem programme. Authorised vegetation clearance is exempt, although all viable pest plant material must be removed.

Rule c) prohibits any person from letting stock into an area where that has undergone pest management as part of the Key Native Ecosystem programme.

Rule d) prohibits the lighting of fires within a Key Native Ecosystem in order to protect indigenous species.

Monitoring the objectives

Greater Wellington shall at selected sites:

- undertake surveys of pest animal populations immediately after control to determine its effectiveness
- periodically assess pest animal population status when control is not taking place
- undertake surveys of pest plant extent and density after control to determine its effectiveness
- monitor the recovery of indigenous vegetation and/or animals at a selected sites where pests have been controlled.

13.1 Species identified by Key Native Ecosystem management

In addition to those species included in the Surveillance, Total Control, Containment, Suppression and Site-Led pest management categories, the species identified for inclusion in the Key Native Ecosystem management programme are:

KNE management species – table 9

Brown bullhead catfish	*Ameiurensis nebulosis*
European hedgehog	*Erinaceus europaeus occidentalis*
Ferret	*Mustela furo*
Goldfish	*Carassius auratus*
Hare	*Lepus europaeus occidentalis*
House mouse	*Mus musculus*
Norway rat	*Rattus norvegicus*
Rudd	*Scardinius erythropthalmus*
Ship rat	*Rattus rattus*
Stoat	*Mustela erminea*
Sulphur crested cockatoo	*Cacatua galerita*
Tench[1]	*Tinca tinca*
Weasel	*Mustela nivalis*
African club moss	*Selaginella kraussiana*
Artemesia	*Artemesia spp*
Artillery plant	*Galeobdolon luteum*
Arum lily	*Zantedeschia aethiopica*
Barberry	*Berberis glaucocarpa*
Blue morning glory	*Ipomoea indica*
Boxthorn	*Lycium ferocissimum*
Broom	*Cytisus scoparius*
Brush wattle	*Paraserianthes lophantha*
Buddleia	*Buddleja davidii*
Cape honey flower	*Melianthus major*
Cape ivy	*Senecio angulatus*
Chilean flame creeper	*Tropaeolum speciosum*
Climbing asparagus	*Asparagus scandens*
Climbing dock	*Rumex sagittatus*
Cotoneaster	*Cotoneaster franchetii, C. horizontalis*

[1] Tench are identified as Sports Fish in the First Schedule of the Freshwater Fisheries Regulations 1983. As such, approval from Wellington Fish and Game Council must be obtained prior to the control of tench.

KNE management species – table 9 (continued)

Crack and pussy willow	*Salix fragili, S. cinerea*
Darwin's barberry	*Berberis darwinii*
Egeria	*Egeria densa*
Elaeagnus	*Elaeagnus x reflexa*
German ivy	*Senecio mikanioides*
Great bindweed	*Calystegia silvatica*
Gunnera	*Gunnera tinctoria*
Hawthorn	*Crataegus monogyna*
Himalayan honeysuckle	*Leycesteria formosa*
Japanese honeysuckle	*Lonicera japonica*
Japanese spindletree	*Eunoymus japonicus*
Lagarosiphon	*Lagarosiphon major*
Marram grass	*Ammophila arenaria*
Mexican daisy	*Erigeron karvinskianus*
Mile-a-minute	*Dipogon lignosus*
Mistflower	*Ageratina riparia*
Monkey apple	*Acmena smithii*
Montbretia	*Crocosmia x crocosmifolia*
Pampas grass	*Cortaderia jubata; C. selloana*
Parrot's feather	*Myriophyllum aquaticum*
Periwinkle	*Vinca major*
Plectranthus	*Plectranthus ciliatus*
Purple ragwort	*Senecio glastifolius*
Silver poplar	*Populus alba*
Smilax	*Asparagus asparagoides*
Spanish heath	*Erica lusitanica*
Stinking iris	*Iris foetidissima*
Sycamore	*Acer pseudoplatanus*
Tradescantia	*Tradescantia fluminensis*
Tuber ladder fern	*Nephrolepis cordifolia*
Velvet groundsel	*Senecio petasitis*
Wild onion	*Allium triquetrum*
Wilding pines	*Pinus spp*

13.2 Reserves and forest health management

Description and reason for inclusion

Greater Wellington may undertake control of pest species on behalf of Territorial Local Authorities in the region. Controlling introduced pests is one of several management techniques required to protect and enhance indigenous biodiversity in native reserves. Greater Wellington will undertake pest control in a range of reserves within the life of the strategy. The allocation of resources will follow the principle of giving priority to the least modified indigenous habitats. The number of sites and frequency of control operations will depend on the priority process and available funding for the reserve areas.

Management methods

Management will focus on the site, rather than on individual species within it. The adverse impact that an individual pest has on native flora and fauna is difficult to separate from the adverse impacts of other pests and habitat degradation. Many of the management techniques that will be used by Greater Wellington will be applicable to more than one pest, and not every pest listed will be present in each of the sites selected. Therefore, focusing pest management on individual pests within a reserve or forest area is inappropriate. For this reason, the aim, objectives and means of achievements for all pests included in the programme are presented collectively. Species within the reserves and forest health management areas also include species from previously described categories.

Aim

To protect indigenous biodiversity and forest health within selected reserve areas.

Objectives

Achieve a measurable improvement in the ecological health and diversity of reserve areas using a range of suitable indicators.

Means of achievement

- establish and implement integrated pest management plans for selected reserves
- undertake control of pests identified in the management plan for each reserve
- co-ordinate site management with other biodiversity initiatives where possible
- use biological control agents where appropriate, and support relevant biological control research initiatives
- monitor site recovery using a range of ecological indicators
- manage external pressures that are inconsistent with reserve management objectives
- provide public education and advice to foster biodiversity management
- maintain holistic management in existing actively managed reserve areas
- attempt to re-establish locally extinct native species
- seek funding from the relevant authority to form financial partnerships
- liaise with the Department of Conservation to determine the distribution of, and appropriate control methods for, invasive aquatic species.

Strategy rules

a) No person shall move or interfere with any article or substance left at a place by an authorised person pursuant to this strategy for the purposes of:

   i. Confirming the presence, former presence, or absence of pests identified in the Reserves category; or

   ii. Managing or eradicating pests identified in the Reserves Management category - other than in accordance with the direction or under the supervision of an authorised person.

b) No person shall cause or permit the disposal of green waste plant material in a Reserve. Note: authorised vegetation clearance is exempt.

c) No person shall cause or permit access of livestock into a Reserve.

d) No person shall cause or permit any fire(s) in a Reserve.

A breach of rules a), b), c) or d) will create an offence under Section 154(r) of the Act.

Explanation of strategy rules

Rule a) will allow Greater Wellington to implement the necessary actions required for integrated pest management in reserve sites, as well as monitoring the sites to determine pest impacts and ecosystem recovery.

Rule b) prohibits any person from dumping green waste into any reserve. Authorised vegetation clearance is exempt, although all viable pest plant material must be removed.

Rule c) prohibits any person from letting stock into a reserve area where that has undergone pest management.

Rule d) prohibits the lighting of fires within a reserve area in order to protect indigenous species.

Note: These rules should not be interpreted to affect or derogate from other relevant legislation.

Monitoring the objectives

Greater Wellington shall:

- undertake surveys of pest animal populations immediately after control to determine its effectiveness
- periodically assess pest animal population status when control is not taking place
- undertake surveys of pest plant extent and density after control to determine its effectiveness
- monitor the recovery of indigenous vegetation and/or animals at selected sites where pests have been controlled.

13.2.1 Species identified for reserves and forest health management

In addition to those species included in the Surveillance, Total Control, Containment, Suppression and Site-led management categories, the species identified for inclusion in the Reserves and Forest Health management programme are found in **section 13.1**.

Appendix 1

National Pest Plant Accord list

Scientific name:	
Acmena smithii	Monkey apple
Ailanthus altissima	Tree of heaven
Akebia quinata	Akebia, chocolate vine
Alternanthera philoxeroides	Alligator weed
Anredera cordifolia	Madeira vine
Araujia sericifera	Moth plant
Aristea ecklonii	Aristea
Arundo donax	Giant reed
Asparagus asparagoides	Smilax
Asparagus densiflorus	Bushy asparagus
Asparagus scandens	Climbing asparagus
Berberis darwinii	Darwin's barberry
Bomarea caldasii	–
Bomarea multifolia	Bomarea
Bryonia cretica	White bryony
Calluna vulgaris (excluding double flowered cultivars)	Heather
Cardiospermum grandiflorum	Balloon vine
Cardiospermum halicacabum	Balloon vine
Carpobrotus edulis and hybrids	Iceplant
Celastrus orbiculatus	Climbing spindleberry
Ceratophyllum demersum	Hornwort
Cestrum parqui	Green cestrum
Chrysanthemoides moniliferia	Boneseed
Clematis flammula	Plume clematis
Clematis vitalba	Old man's beard
Cobaea scandens	Cathedral bells
Cortaderia jubata	Purple pampas grass
Cortaderia selloana	Pampas grass
Cotoneaster simonsii	Khasia berry
Cotyledon orbiculata	African pig's ear
Crassula multicava	Fairy crassula
Cyathea cooperii	Lacy tree fern
Dipogon lignosus	Mile-a-minute
Drosera capensis	Cape sundew
Eccremocarpus scaber	Chilean glory creeper
Egeria densa	Egeria
Ehrharta villosa	Pyp grass
Eichhornia crassipes	Water hyacinth
Eomecon chionantha	Snow poppy
All species in Equisetum genus	Horsetail
Eragrostis curvula	African love grass

National Pest Plant Accord list (continued)

Scientific name:	
Erigeron karvinskianus	Mexican daisy
Euonymus japonicus	Japanese spindle tree
Ficus rubiginosa	–
Fuchsia boliviana	–
Galeobdolon luteum	Aluminium plant
Gunnera tinctoria	Chilean rhubarb
Gymnocoronis spilanthoides	Senegal tea
Hedychium flavescens	Yellow ginger
Hedychium gardnerianum	Kahili ginger
Heracleum mantegazzianum	Giant hogweed
All species in Hieracium genus	Hawkweed
Homalanthus populifolius	Queensland poplar
Homeria collina	Cape tulip
Houttuynia cordata	Chameleon plant
Hydrilla verticillata	Hydrilla
Hydrocleys nymphoides	Water poppy
Hypericum androsaemum	Tutsan
Ipomoea indica	Blue morning glory
Iris pseudacorus	Yellow flag
Jasminium humile	Italian jasmine
Lagarosiphon major	Lagarosiphon
Lantana camara	Lantana
Ligustrum lucidum	Tree privet
Lilium formosanum	Formosa lily, trumpet lily
Lonicera japonica	Japanese honeysuckle
Ludwigia peploides	Primrose willow
Lythrum salicaria	Purple loosestrife
Macfadyena unguis-cati	Cat's claw creeper
Menyanthes trifoliata	Bogbean
Myoporum insulare and hybrids	Tasmanian ngaio
Myrica faya	Fire tree
Myricaria germanica	False tamarisk
Myriophyllum aquaticum	Parrot's feather
All species in Nassella genus	–
Nephrolepis cordifolia	Tuber ladder fern
Nuphar lutea	Yellow water lily
Nymphaea mexicana	Mexican waterlily
Nymphoides geminata	Marshwort
Nymphoides peltata	Fringed water lily
Ochna serrulata	Mickey mouse plant
Osmunda regalis	Royal fern
Panicum maximum	Guinea grass
Passiflora caerulea	Blue passionflower
Passiflora tarminiana	Northern banana passionfruit

National Pest Plant Accord list (continued)

Scientific name:	
Passiflora tripartita	Banana passionfruit
All species in Pennisetum genus (excluding P. clandestinum and P. glaucum)	(excluding kikuyu grass and pearl millet)
Phragmites australis	Phragmites
Pinus contorta	Lodgepole pine
Pistia stratiotes	Water lettuce
Pittosporum undulatum	Australian cheesewood
Plectranthus ciliatus	Plectranthus
Polygala myrtifolia (excluding Grandiflora)	Sweet pea shrub
Potamogeton perfoliatus	Clasped pondweed
Prunus serotina	Rum cherry
Pyracantha angustifolia	Firethorn
Reynoutria japonica	Asiatic knotweed
Reynoutria japonica x sachalinensis	–
Reynoutria sachalinensis	Giant knotweed
Rhamnus alaternus	Evergreen buckthorn
Rhododendron ponticum	Wild Rhododendron
Sagittaria montevidensis	Arrowhead
Sagittaria platyphylla	Sagittaria
Sagittaria sagittifolia	Arrowhead
Salix cinerea	Grey willow
Salix fragilis	Crack willow
Salvinia molesta	Salvinia
Schinus terebinthifolius	Christmas berry
Schoenoplectus californicus	Californian bulrush
Selaginella kraussiana	Selaginella
Solanum marginatum	White-edged nightshade
Solanum mauritianum	Woolly nightshade
Tradescantia fluminensis	Wandering willy
Tropaeolum speciosum	Chilean flame creeper
Tussilago farfara	Coltsfoot
Typha latifolia	Great reedmace
Utricularia arenaria	–
Utricularia gibba	Bladderwort
Utricularia livida	–
Utricularia sandersonii	–
Vallisneria gigantea	Eelgrass
Vallisneria spiralis	Eelgrass
Zantedeschia green goddess	–
Zizania latifolia	Manchurian wild rice

(Note: cross breeders will be able to apply for permission to use this species for cross breeding purposes).

Part Three

Administrative provisions

14 Powers conferred

The powers conferred on Greater Wellington Regional Council (Greater Wellington) by the Biosecurity Act 1993 (the Act) for the purposes of implementing the Greater Wellington Pest Management Strategy 2002-2022 are outlined below. Authorised persons will exercise many of these powers on behalf of Greater Wellington. The principal officer of Greater Wellington will appoint authorised persons and may delegate powers to any authorised person, subject to Sections 103 and 105 of the Act. When carrying out their duties, an authorised person shall be limited to using those powers specified in their instrument of appointment, based on the powers listed below.

Administrative powers available under the Act – table 10

Administrative powers	Level of delegation
Section 80D Power to exempt land occupiers from strategy rules	Greater Wellington (as the management agency)
Section 128 Power to act on default	Greater Wellington (as the management agency)
Section 129 Liens	Greater Wellington (as the management agency)
Section 131 Declaration of a controlled area	Greater Wellington (as the management agency)
Section 133 Duration of place and area declarations	Greater Wellington (as the management agency)
Section 135 Options for cost recovery	Greater Wellington (as the management agency)
Section 136 Failure to pay	Greater Wellington (as the management agency)
Section 154 Offences	Greater Wellington (as the management agency)
Section 100 Undertake small-scale management of unwanted organisms	Principal officer
Section 103(3) and (7) Appointment of authorised and accredited persons	Principal officer
Section 103(7) Accredit persons for particular functions	Principal officer
Section 104 Authorised persons to comply with instructions	Principal officer
Section 105 Delegation to authorised persons	Principal officer
Section 114A Application of articles or substances from aircraft	Principal officer
Section 128 Powers to act on default	Principal officer
Section 129 Liens	Principal officer
Section 43 Duty to provide information	Authorised person
Section 106 Power to require assistance	Authorised person
Section 109 Power of inspection	Authorised person
Section 110 Power of inspection (entry to land)	Authorised person
Section 111 Entry in respect of offences	Authorised person
Section 112 Duties on exercising power of entry	Authorised person

Administrative powers available under the Act – table 10 (continued)

Administrative powers	Level of delegation
Section 113 Power to record information	Authorised person
Section 114 General powers	Authorised person
Section 115 Use of dogs and devices	Authorised person
Section 118 Power to seize evidence	Authorised person
Section 119 Power to seize abandoned goods	Authorised person
Section 120 Power to intercept baggage etc	Authorised person
Section 121 Power to examine organisms	Authorised person
Section 121A Power to apply article or substance to a place	Authorised person
Section 122 Power to give directions	Authorised person
Section 123 Power to vaccinate	Authorised person
Section 130 Declaration of restricted place	Authorised person
Section 134 Enforcement of controlled areas	Authorised person

15 Implementation

15.1 Education and information

Greater Wellington, acting as the management agency for the strategy, will conduct ongoing educational programmes to enhance public awareness of pest animals and pest plants in the Wellington region.

These educational programmes may include:

- practical on-location demonstrations of management techniques with Biosecurity staff, Take Care Co-ordinators, Environmental Educators and Parks staff
- feature articles and advertisements in the news media, and rate payer delivered newsletters
- presentations to interested groups
- educational programmes for schools, by staff from all departments in Greater Wellington
- displays at shows and field days
- producing and distributing information leaflets and pamphlets
- joint educational programmes with recognised authorities (eg DoC Weedswaps/Weedbusters/MAF BNZ)
- Information on strategy activities, status, results and pest species is available at **www.gw.govt.nz**

15.2 Monitoring and review

15.2.1 Monitoring and achievement of strategy objectives

Strategy monitoring is required to determine its effectiveness. Monitoring will provide answers to questions such as: 'Have we achieved our targets?' and 'Should we start/continue to manage this pest?' Monitoring results are reported annually in Greater Wellington's Operational Plan Report - **refer section 15.2.2**.

Strategy monitoring is mainly pest-led, with programmes to determine the extent and/or density of pest infestations. The Key Native Ecosystems (KNE) programme involves Site-Led monitoring of ecosystem integrity and biological diversity, in addition to monitoring pest numbers.

Monitoring the density of an infestation will, where possible, involve counting the number of pests in an area. This works well for most plants on the Total Control list. Where pest infestations cannot be directly monitored, estimates of density are made based on random samples. In some cases it is the extent of the pest, rather than the density, that is most important. For these pests, the area it occupies is monitored. When this area is vast, an estimate of the area occupied is made, based on random samples for the presence of the pest species.

By monitoring pest impacts such as foliar browse, dieback of plants and ecosystem recovery indicators such as forest floor regeneration, we can determine the effectiveness of integrated pest management in Site-Led programmes. Greater Wellington can measure a range of vegetative, invertebrate, and vertebrate indicators of biological diversity. Current methods include direct field measurements, fixed photo-points and aerial photography. Collected data is recorded annually in databases and linked to a geographical information system (G.I.S.).

15.2.2 Performance monitoring

As the management agency, Greater Wellington is required to prepare an operational plan within three months of the strategy being approved. This plan details the activities Greater Wellington intends to undertake to implement the strategy. The plan must be reviewed annually and a report prepared assessing Greater Wellington's performance in implementing the strategy. This report is available online at **www.gw.govt.nz** or from Greater Wellington on request.

15.2.3 Strategy review

A strategy review will be carried out in the following circumstances:

a) When new issues arise concerning other harmful pests, or if monitoring shows a significant change in an existing issue, or shows that a review would be appropriate.

b) As required by the Act, a full review will be carried out no later than five years after the date upon which this strategy was approved. This will involve re-notification of a proposed Regional Pest Management Strategy in accordance with Section 78 of the Act.

15.3 Biological control

Biological control agents provide assistance in the control of pests that are widespread. Although there are high initial establishment costs, when biological control is used in conjunction with other technical methods, it can assist in effective long-term pest control.

The Environmental Risk Management Authority (ERMA) regulates the deliberate importation, development or release of new organisms into New Zealand under the Hazardous Substances and New Organisms Act 1996 (HSNO). The Ministry of Agriculture and Forestry (MAF) ensures that the controls placed by ERMA on experiments and restricted field trials are complied with. The HSNO Act is designed so that the legal importation and release of new organisms can be examined in advance to assess the effects on people and the environment.

All biological agents are exhaustively researched in their country of origin. Following safety testing, small colonies of the agents are imported into New Zealand and quarantined. They are then tested to ensure they are free of parasites and diseases before rearing programmes commence. Biological agents are reared in containment in preparation for field release, and then distributed to regional councils and other organisations participating in the biological control programme.

Since November 1989, Greater Wellington has contributed financially and practically to a cooperative programme with Landcare Research NZ to investigate, rear and release specific biological control agents for specific pests.

Greater Wellington biosecurity officers monitor the release sites. When agent populations are self sustaining, they distribute them on to new sites.

Greater Wellington shall continue to promote research and development of biological control agents where deemed appropriate for designated pest species.

Biological control agents that have been released within the region – table 11

Broom	Gorse	Nodding thistle	Ragwort	Scotch thistle	Mist flower	Rabbits	Buddleia	Boneseed	Tradescantia	All Thistle
Seed beetle	Spider mite	Gall fly	Cinnabar moth	Gall fly	Rust	Rabbit Calicivirus Disease	Leaf weevil (2007)	Leaf roller (2007)	Leaf beetle (2008)	Green thistle beetle (2008)
Twig miner	Pod moth	Receptacle weevil	Flea beetle		Gall					
Psyllid	Seed weevil	Crown weevil								
Leaf beetle (2007)	Colonial hard shoot moth									
Shoot moth (2008)	Soft shoot moth									
	Thrip									

Biological control agents that have arrived in the region by other means (wind, flight, human's etc) – table 12

Smilax	Blackberry
Rust	Rust

16 Regulatory management

16.1 Compliance with the strategy

A landowner/occupier has a legal obligation to comply with all lawful directions, requirements and notices for implementing the strategy, as outlined in this section.

For each specified pest, a landowner/occupier must carry out his/her obligations in the manner and to the standards prescribed in this section.

If a landowner/occupier fails to comply with any rules under Part Two of the Regional Pest Management Strategy, Greater Wellington will initiate the regulatory procedures set out below.

16.2 Issue of direction to a landowner/occupier

If a landowner/occupier fails to comply with any strategy rule in Part Two of the Regional Pest Management Strategy, an authorised person may issue a direction to the landowner/occupier under Section 122 of the Biosecurity Act 1993 specifying the following matters:

- a legal description of the land in respect of which works or measures are required to be undertaken
- the pest for which the works or measures are required
- works or measures to be undertaken to meet the landowner's/occupier's obligations
- the time within which the works or measures are to be undertaken
- action that may be undertaken by the management agency if the landowner/occupier fail to comply with any part of the direction
- the name of the authorised person issuing the direction
- the contact address, telephone and fax numbers of the issuer.

In accordance with Sections 128(2) and 164A of the Act, a direction to a landowner/occupier must be served in the following ways:

1. Where a landowner/occupier is a person (other than Crown, corporate body, or a body of persons) by:
   a) Delivering it personally to the landowner/occupier; or
   b) Delivering it (including by fax) to the last known place of residence or business of the person; or
   c) Posting it to the person at the last known place or residence or business of the person; or
   d) Where it is not practicable to give it in accordance with a), b) or c), by placing it in some conspicuous part of the land in a way that will remain visible for a reasonable time.

2. Where the landowner/occupier is a Minister of the Crown, by giving it to the chief executive of the appropriate department of the Public Service in accordance with subsections (1)(a) to (1)(c).
3. Where the landowner/occupier is a body (incorporated or not) a direction shall be given by:
    a) Giving it to an officer of the body in accordance with subclauses (1)(a) to (1)(c); or
    b) Delivering it to the registered office of the body in accordance with subclauses (1)(a) to (1)(c); or
    c) In the case of a partnership, a direction shall be given to any one of the partners in accordance with subclauses (1)(a) to (1)(c).
4. Where a direction must be issued to owners of Maori land the issuing of such directions will be in accordance with Section 181 of the Te Ture Whenua Maori Act 1993.

16.3 Extension or variation of directions

Upon written request from a landowner/occupier, Greater Wellington may extend the time specified in the direction for a further period, or vary the requirements of the direction as considered appropriate.

Greater Wellington must first be satisfied that:

- steps have been taken to comply with the direction and further compliance is unnecessary
- the action taken or provision made is as effective or more effective than actual compliance with the direction
- the landowner/occupier had been prevented by reasonable cause from completing the necessary works and measures.

16.4 Cancellation of directions

Greater Wellington may cancel a direction if it is satisfied that:

- works or measures have been undertaken to meet the landowner's/occupier's obligations
- for some other reason it is no longer appropriate to enforce the direction.

16.5 Failure to comply

When a landowner/occupier has not complied with the requirements of the direction within the time specified, then the management agency may:

- prosecute for offences under Section 154 of the Biosecurity Act 1993 (the Act)
- enter the land and carry out, or cause to be carried out, the works or measures specified, or such other works or measures necessary or appropriate to meet the requirements of the direction.

16.6 Recovery of costs incurred

Under Section 128 of the Act, the management agency may recover from the landowner/occupier the costs reasonably incurred by it in carrying out the works and measures specified in the direction.

If these costs are not paid, then in accordance with Section 129 of the Act, all recoverable costs will be charged against the land concerned. Recovery costs shall have priority over all existing or later mortgages, charges and encumbrances.

16.7 Compensation

No compensation shall be payable by Greater Wellington for any claims resulting from the implementation of the Regional Pest Management Strategy, except where the pest is recognised as legal property. The owner of any property damaged or destroyed in the course of implementing the strategy shall be entitled to receive the net proceeds (if any) arising from the disposal of that property. Any dispute concerning eligibility for, or the amount of, net proceeds will be assigned to independent arbitrators for resolution. Where any person has incurred losses due to an authorised person's negligence or unreasonable action, Greater Wellington will consider all means for resolving any disagreement.

16.8 Exemption power

Under appropriate circumstances, Greater Wellington has the power to exempt any person from any requirements of the strategy under Section 80D. This exemption can occur if compliance is considered unnecessary, unreasonable, inappropriate or has been superseded by a more appropriate activity. The power of exemption is at the discretion of Greater Wellington.

17 Cross-boundary issues and integrated management

17.1 Introduction

Cross-boundary issues can occur between regions as pest distributions are seldom constrained by regional council boundaries. The aim of integrated management is to minimise cross-boundary issues and implement complementary, efficient and effective pest management.

17.2 Other pest management strategies

Under Section 76(4) of the Act, the strategy shall not be inconsistent with any other Regional Pest Management Strategy by another organisation, whether within the same region or any other region, or any national pest management strategy.

This strategy, as far as practicable, is consistent with the RPMS of our only adjoining regional council, Manawatu-Wanganui Regional Council (Horizons). Where appropriate, Greater Wellington will liaise with Horizons on cross-boundary issues about pest

management, and other regional councils on pest management matters relevant to more than one region.

In addition, Greater Wellington will, where appropriate, liaise with New Zealand government biosecurity departments (Ministry of Agriculture and Forestry, MAF BNZ, Ministry of Fisheries, Ministry of Health and the Department of Conservation) over pest management issues which are best handled nationally.
Greater Wellington works closely with MAF BNZ to ensure national biosecurity issues are addressed at a local level within the region.

17.3 Regional policy statements and regional plans

The strategy shall not be inconsistent with the Wellington Regional Policy Statement or any Greater Wellington plan prepared under the Resource Management Act (RMA)1991.

17.4 Other legislation

The provisions of the strategy shall be construed so as to not affect or derogate in any way from the provisions of:

- Soil Conservation and Rivers Control Act 1941
- Forests Act 1949
- Wildlife Act 1953
- Health Act 1956
- Wild Animal Control Act 1977
- Reserves Act 1977
- National Parks Act 1980
- Fisheries Acts 1983 and 1996
- Conservation Act 1987
- Trade in Endangered Species Act 1989
- Resource Management Act 1991 (RMA)
- Customs and Excise Act 1996
- Animal Welfare Act 1999.

Other legislation that may influence the RPMS includes:

- Native Plants Protection Act 1934
- Local Government Act 2002
- Health and Safety in Employment Act 1992 (HSE)
- Privacy Act 1993
- Te Ture Whenua Maori/Maori Land Act 1993
- Hazardous Substances and New Organisms Act 1996 (HSNO)
- Agricultural Compounds and Veterinary Medicines Act 1997 (ACVM)
- Local Government Act 2002 (Rating Act)

and regulations promulgated under those Acts.

18 Funding provisions

18.1 Principles for the allocation of costs

Pests are included in the strategy where they could potentially have, or do have, regionally significant impacts, and regional intervention is considered necessary.

Where regional intervention provides regional benefit, the costs for this intervention are fairly sourced from the regional ratepayer. Regional funding will therefore be applied to the administration, monitoring and inspection functions of the Regional Pest Management Strategy. Some pest control will also be regionally funded if it is prioritised as being for the public good of the region. This includes environmental management, detection and possible control of new arrivals, and management of pests that are technically difficult to control and range over multiple properties (refer to section 6 Regional Surveillance and Total Control pest species). However, many pests can be managed on individual properties where the landowner/occupier is both the principal beneficiary of pest control and the exacerbator of the pest problem. In these cases, the landowner/occupier may be responsible for control costs. Greater Wellington may provide a service delivery option but the full costs can be recovered from the landowner/occupier (**refer to section 10** Site-Led and Boundary Control pest species).

18.2 Greater Wellington funding policy

Regional Pest Management Strategies can be funded through various means, including rates, direct charges and contributions. In addition, the rationale for strategy funding must be consistent with Greater Wellington's overall funding policy as required under Part 6 Section 102 of the Local Government Act 2002 (Rating Act).

Overall this strategy reinforces the significant environmental management benefits that have been initiated through the Key Native Ecosystem programme. It maintains the Suppression, Containment and eventual Total Control of some of the economic pest species present within the region.

Greater Wellington believes that this strategy will add significantly to the ecological, social and production benefits gained under the initial pest strategies. It is therefore considered appropriate to maintain the status quo for funding. Further details are provided in the following subsections.

18.3 Cost benefit analysis

The Biosecurity Act 1993 (the Act) requires that the benefits and costs of the strategy have been analysed, and show why having a strategy is more appropriate than relying on the voluntary actions of individuals to manage each pest species. These requirements have been addressed in a cost benefit analysis (CBA) and a summary is provided within the description for each pest species in this strategy.

18.4 Who should pay?

The strategy is funded by those persons or parties likely to benefit from its implementation (beneficiaries) and whose action or inaction contribute to the pest problem (exacerbators). The main beneficiaries and exacerbators are landowners/occupiers and those parties who utilise and enjoy the conservation and amenity values maintained and enhanced by pest management. These include:

- those with land at risk from pests, or those affected by pests through impacts on their production and/or livelihood, including those who contribute to the pest problems (exacerbators)
- groups of individuals or properties (urban communities, conservation groups, and farming and forestry interests) by keeping land pest-free, protecting the environment and improving production
- The Crown (DoC, LINZ, New Zealand Railways Corporation (Ontrack Ltd), Department of Corrections, Ministry of Education, New Zealand Defence Force and NZ Transport Agency)
- The regional community by protecting primary production, catchments, drainage and soil conservation to preserve the economy, biodiversity and environment of the region.

The strategy contains five pest management programmes:

More detailed information on these programmes is provided in **Part Two** of the strategy (section 6). The five programmes reflect the aims and objectives for the management of each pest species.

18.4.1 Regional Surveillance (new arrivals or potential threats)

The Regional Surveillance category allows infestations of new pest species to be monitored and assessed as to what control action should be taken, if any. Due to the unpredictable nature of Regional Surveillance pest species, and the potential savings on future control, activities under the Regional Surveillance category are funded via the general rate.

18.4.2 Total Control (pest species that are limited in distribution)

Costs associated with Total Control pests will be borne by all rateable properties via the general rate. These species are a mix of environmental and economic pest species. Preventing the establishment of these pest species will reduce potential long-term costs. It is considered that more effective management will result from the service delivery policy for these pests of limited distribution.

18.4.3 Containment (pest species that are moderate in distribution)

Containment pests are managed under a policy of keeping areas outside designated Containment zones under Total Control. Outside Containment zones all costs for control will be funded via the general rate. Costs related to inspection and administration of the strategy will be funded via the general rate.

18.4.4 Suppression (pest species that are in most available habitat)

Suppression pests are widely distributed throughout the region and have serious adverse effects. Their distribution and rapid rate of spread makes them difficult to manage. However, Greater Wellington intends to minimise their impact throughout the region. Greater Wellington believes that service delivery by Greater Wellington would be prohibitively expensive. Therefore, responsibility for pest control and associated costs will be met by the landowner/occupier. Costs related to inspection and administration of the strategy will be funded via the general rate.

18.4.5 Site-Led

Boundary Control (pest species that are widespread in distribution)

Boundary Control pests are managed for a variety of reasons. The benefit of managing these pests accrues to the landowner/occupier so regional intervention is not required in principle. However, these pests can cross property boundaries. Greater Wellington believes that management of pests on property boundaries sometimes requires regional intervention. Control costs still lie with the landowner/occupier, whilst administration of the strategy and inspection costs will be funded via the general rate.

Human Health (pest species that are controlled in the interests of public health and safety)

It is the responsibility of the landowner/occupier to control human health pest species for the well-being of the region. Regional intervention may be required to ensure public safety.

Biodiversity (pest species which threaten the ecological values of the region's native ecosystems)

Biodiversity pests are often widespread within the region, within both native and modified landscapes. Control benefits both the landowner/occupier and the region as a whole, and therefore responsibility for pest control and associated costs will be met by the landowner/occupier.

Key Native Ecosystems (a programme to protect and enhance native biodiversity in selected areas (KNEs) throughout the Wellington region through integrated pest management)

The KNE programme manages environmental pests in high priority regional ecosystems. There is little direct financial benefit to a landowner/occupier from this programme as the benefits are predominantly to the regional environment and are therefore considered to be for the good of the public. General rates will therefore fund the regional KNE programme with control works managed by Greater Wellington. Where appropriate, Greater Wellington will seek to share the costs with the landowner/occupier.

18.5 How the strategy is funded

Rates will be set as described under Section 23 of the Local Government Act 2002 (Rating Act).

The rating years are:

2008/2009 (1 July 2008 to 30 June 2009)

2009/2010 (1 July 2009 to 30 June 2010)

2010/2011 (1 July 2010 to 30 June 2011)

2011/2012 (1 July 2011 to 30 June 2012)

2012/2013 (1 July 2012 to 30 June 2013)

18.5.1 Private land landowner/occupiers

Private landowner/occupiers will contribute to the strategy's funding via the general rate levied on every rateable property within the boundaries of the region, pursuant to Section 13 of the Rating Act. The rating system to be used shall be on the basis of equalised capital value.

18.5.2 Territorial Local Authorities

Territorial Local Authorities contribute to the strategy's funding via the general rate levied on every separately rateable property occupied by the TLA within the boundaries of the nine TLAs listed below. The rating system to be used shall be on the basis of equalised capital value.

- Kapiti Coast District Council
- Porirua City Council
- Wellington City Council
- Hutt City Council
- Upper Hutt City Council
- South Wairarapa District Council
- Carterton District Council
- Masterton District Council
- Tararua District Council

18.5.3 Crown stakeholders

This strategy earlier referred (**section 3.3.3**) to the possibility of the six major Crown land occupiers being bound to the strategy. The Crown is a significant landowner and is responsible for administering over 17% of the region's land. Section 87 of the Biosecurity Act exempts the Crown and Crown agencies from being legally bound by the funding provisions or rules in an RPMS.

However, these agencies may seek funding from the Crown under an Order in Council or agree to make voluntary contributions towards the strategy. Greater Wellington will seek binding commitments from Crown agencies to fund strategy obligations.

Regional councils are collectively negotiating with the relevant Crown agencies and organisations occupying Crown land to develop a nationally coordinated policy for Crown funding of an RPMS. Crown land contributions are likely to be based on the length of boundary, the land's proneness to pests and the likely impact on adjoining private landowner/occupier's of uncontrolled pests.

Greater Wellington will meet with each Crown agency annually to seek collaborative pest control opportunities and limitations. Where feasable a MOU will be established to formally agree on jointly funded programmes on pest organisms.

18.6 Strategy costs

The costs of administering and implementing the strategy are mainly incurred through the following activities. It should be noted that management costs are spread across all activities and include administration, auditing and reporting:

- inspections
- monitoring
- service delivery
- information and advice
- enforcement
- community initiatives
- biological control
- research.

It is anticipated that the implementation costs for the second five-year term of the Regional Pest Management Strategy will be as follows:

Strategy implementation funding – table 13

Year	08/09 $	09/10 $	10/11 $	11/12 $	12/13 $
External revenue	120,500	142,800	142,800	142,800	142,800
General rate contribution	2,322,000	2,437,000	2,333,400	2,335,200	2,510,400
Total expenditure	**2,442,500**	**2,579,800**	**2,476,200**	**2,478,000**	**2,857,200**

18.7 Recovery of direct costs

Section 135 of the Biosecurity Act 1993 enables Greater Wellington to recover the costs of administering the Act and performing the functions, powers and duties under a RPMS. These include user charges and cost recovery from landowner/occupiers in the event of non-compliance with legal directions. In addition, Greater Wellington may supply specific pest management services requested by a landowner/occupier, in which case full cost recovery from the landowner/occupier would apply. The amount of money recovered from direct charges will vary from year to year depending on the size and number of cost recovery operations undertaken.

18.8 Landowner/occupier costs

In most cases, landowners/occupiers will bear the costs of managing pests on land they own or occupy to meet the objectives, means of achievement and rules of the strategy.

18.9 Other funding provisions

Under Section 100 of the Act, additional funding may be required to manage potential pests not included in the strategy, but where there is a defined need for intervention. This may be provided via the general rate (based on equalised capital value) through Greater Wellington's Annual Plan process.

18.10 Local Government Act 2002 (Rating Act)

The Rating Act has been effective in the region since 1 July 2003.

18.11 Remission and postponement of rates

Rate remissions and postponements of rates will be considered upon application, under Section 85 and 87 of the Rating Act.

18.12 Penalties on unpaid rates

Any penalties on unpaid rates will be made in accordance with any resolution made by Greater Wellington in a given rating year, in accordance with Sections 57 and 58 of the Rating Act.

18.13 Administrative problems or costs

No unusual administrative problems or costs are expected in recovering the costs from any of the persons who are required to pay.

19 Definition of terms

The definitions of terms used in this strategy are divided into three sections:

- General terms
- Botanical terms
- Abbreviations.

19.1 General terms – table 14

Unless the context states otherwise, the terms used in this Regional Pest Management Strategy and the Biosecurity Act 1993 mean:

Active surveillance	Systematic searching for existing or potential pest species, focused on vulnerable areas within the region when the species is most likely to exist.
Animal	Any living organism except a plant or human being.
Affected parties	A party or parties likely to be affected or involved in an activity or event.
Authorised person	A person appointed an authorised person under Section 103 of the Act.
Beneficiary	The receiver of benefits accruing from the implementation of a pest management measure of the strategy.
Biodiversity	The variety of life and its processes. It includes the variety of living organisms, the genetic differences among them, the communities and ecosystems in which they occur, and the ecological and evolutionary processes that keep them functioning, changing and adapting.
Biological control	The use of living organisms (insects, rusts or other organisms) to minimise the effects of certain pests without harming other species.
Biosecurity	Protection within the region from the risks posed by organisms to the environment, public health and the economy, through exclusion, eradication and control.

19.1 General terms – table 14 (continued)

Boundary Control	The enforced control of specific pests within a specified distance from a property boundary, where the adjoining property is clear, or being cleared, of the pest species. Generally activated by a complaint from the adjoining landowner/occupier whose boundary is clear, or being cleared, of the pest.
Chief technical officer	A person appointed as chief technical officer under Section 101 of the Act.
Conservation pests	Organisms in respect of the strategy which are capable of causing at some time a serious adverse and unintended effect in relation to the survival and distribution of indigenous plants or animals, or the sustainability of natural and developed ecosystems.
Containment	The zoning of pests into areas of the region. Outside these areas (zones) Greater Wellington shall undertake service delivery.
Containment zone	An area or areas within the region where Total Control by service delivery has not been deemed to be cost-effective.
Cost benefit analysis	Analysis undertaken to determine whether the benefits of intervention by Greater Wellington outweigh the costs.
Dwelling/house	A building used as a residence, not as an office or workplace.
Ecosystem	A defined community of all plants, animals and micro-organisms, the physical and climatic environment, and the interactions and processes between them.
Environment	Includes: a. ecosystems and their constituent parts, including people and their communities; and b. all natural and physical resources; and c. amenity values; and d. the aesthetic, cultural, economic and social conditions that affect or are affected by any matter referred to in parts (a) to (c) of this definition.

19.1 General terms – table 14 (continued)

Equalised capital value	The outcome of an equalisation formula supplied by Quotable Values New Zealand (QVS), applied annually to keep pace with the real changes of a Territorial Local Authority's (TLAs) capital worth compared to other TLAs within the same region. Each TLA is valued on a three-yearly rotational basis.
Exacerbator	A person, who by their actions or inaction, contributes to the creation or continuance of a particular pest management problem.
Externality impacts	Adverse and unintended effects imposed on others. Such impacts are often called 'third party effects'.
Feral	Existing in a wild state and does not rely directly on human activities for survival.
General rate	General rate levied on every separately rateable property within the boundaries of the Wellington region, pursuant to Section 13 of the Local Government Act 2002 (Rating Act). The rating system to be used shall be on the basis of equalised capital value.
Green waste	Unwanted pest plant material remaining following a control operation. Also refers to general garden material that may establish new pest plant infestations if not destroyed or disposed of appropriately.
Habitat	The place or type of site where an organism or population normally occurs.
Hapu	A division of a regional Maori iwi.
Indigenous	Produced by, or naturally occurring in the region.
Instrument of appointment	The administrative powers that authorised persons are limited to in order to carry out their functions, powers and duties under the Biosecurity Act 1993 (the Act).
Iwi	A Maori tribal grouping.
Kararehe nanakia	Kararehe is the generic word for animals. Nanakia refers to being cunning, fierce and resourceful.

19.1 General terms – table 14 (continued)

Key Native Ecosystems	Areas selected to represent a comprehensive range of indigenous biodiversity in the Wellington region. Sites are prioritised depending on ecological criteria.
Key Native Ecosystem Programme	Greater Wellington initiative to protect and enhance native biodiversity in Key Native Ecosystems throughout the Wellington region through integrated pest management programmes.
Landowner/ occupier	Includes: • in relation to any place physically occupied by any person, means that person • in relation to any other place, means the owner of the place • in relation to any place, includes any agent, employee, or other person acting in the general management or control of the place.
Limited in distribution	Pest species that pose an environmental, economic or public health threat to the region and have been determined by Greater Wellington to be able to be managed cost-effectively by service delivery.
Management agency	For the purposes of this strategy this refers to Greater Wellington.
Marae	A meeting place registered as a reserve under the Te Ture Whenua Maori Act 1993 (The Maori Land Act).
Means of achievement	The general management options, tactics or technical methods by which Greater Wellington shall achieve an objective or objectives.
Moderate in distribution	Pest species that pose an environmental, economic or public health threat to the region and have been determined by Greater Wellington to be able to be managed cost-effectively by service delivery outside designated Containment zones.
Modified land	Land that has undergone alteration that has not occurred naturally.

19.1 General terms – table 14 (continued)

Monitor	To gather information, either actively or passively, about pests known to occur in the region to determine the: • presence or absence of pests; or • distribution and/or density of pests; or • effects of pests on social, economic or environmental factors; or • effects of the strategy on the distribution and/or density of pests, or on social, economic or environmental factors; or • extent to which objectives of the strategy are being achieved.
Non-productive land	Any land which does not provide primary income from production based activities.
Passive surveillance	Opportunistic findings by members of the public, other agencies, organisations, voluntary groups and other Greater Wellington staff.
Pathways	Means by which unwanted organisms can travel from one area to another within a geographical range, with or without the use of their natural dispersal mechanisms.
Pest	Any unwanted organism specified as a pest in this strategy.
Phase	A stage in a process of change or development.
Plant	Any plant, tree, shrub, herb, flower, nursery stock, culture, vegetable or other vegetation. Includes the fruit, seed, spore, and any portion or product of any plant. Also includes all aquatic plants.
Principal officer	The chief executive officer of a regional council, including an acting chief executive.
Productive land	Any land that provides the landowner/occupier with primary income from production based activities and requires protection from pests to retain ongoing production values.
Promulgated	Officially declared under an act that has been passed through the New Zealand government.
Regional Surveillance pest plant programme	Inspections undertaken by Greater Wellington to determine whether infestations of new plant species are developing within the region.

19.1 General terms – table 14 (continued)

Regional significance	In relation to a pest, the widespread public concern or interest throughout the region about the pest's actual, unintended or potential effects on the environment.
Regional Surveillance	To gather information, either actively or passively, to determine new incursions of pests or the distribution of pests within the region.
Sale	Includes bartering, offering for sale, exposing, or attempting to sell, or having in possession for sale, or sending or delivering for sale, causing or allowing to be sold, offered or displayed for sale.
Sell	Has a corresponding meaning to 'sale'.
Service delivery	Pest control work undertaken by Greater Wellington at no direct cost to the landowner/occupier.
Site-Led	The management of pest species with in specific area where the impacts are most serious and/or benefits of control will be greatest.
Stakeholders	Landowners/occupiers identified as beneficiaries of regional intervention, or exacerbators of the pest problem.
Suppression	The control of pests that are widely distributed throughout the region with the aim of minimising their adverse impacts within the region.
Taonga	Treasure or property prized and protected by the tribe. The term carries a spiritual meaning and may be things that cannot be seen or touched.
Taru	Generic word for the weeds that have to be removed from the garden.
Territorial Local Authority	A city council or a district council.
The Act	The Biosecurity Act 1993.
The Strategy	The Regional Pest Management Strategy 2002-2022, notified by Greater Wellington.
Tikanga Maori	Maori customary values and practices.

19.1 General terms – table 14 (continued)

Total Control	To control a pest at a rate that exceeds the survival rate of new recruits. Control measures shall continue until all individuals (including the seedbank for pest plants) have been exhausted.
Unalienated land	Land that has not been subject to limited disposal by lease or licence or by absolute disposal by sale or otherwise.
Unmodified land	An area of land that is determined by Greater Wellington to be a naturally occurring indigenous habitat.
Unwanted organism	Any organism that a chief technical officer believes is capable or potentially capable of causing unwanted harm to any natural and physical resources or to human health; and a. Includes: Any new organism, if the Environmental Risk Management Authority (ERMA) has declined approval to import that organism. Any organism specified in the Second Schedule of the Hazardous Substances and New Organisms Act 1996 (HSNO). b. But does not include: any organism approved for importation under the HSNO Act, unless: The organism is an organism which has escaped from a containment facility; or A chief technical officer, after consulting ERMA and taken into account any comments made by ERMA concerning the organism, believes the organism is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health.
Waahi tapu	Places or things which are sacred or spiritually endowed. These are defined locally by the hapu and iwi.
Widespread distribution pests	Pest species that are deemed by Greater Wellington to be too widely distributed to be cost-effectively managed by service delivery. Boundary Control is considered to be the best option to protect landowners/occupiers from the threat posed by these species.
Zoological purposes	Keeping animals in captivity for study or exhibition to the public.

19.2 Botanical terms – table 15

Annual	A species completing its life cycle within one year
Biennial	Living usually for two years, dying in the second
Deciduous	Shedding leaves at the end of the growing season
Erect	Vertical or upright
Evergreen	Retains leaves throughout the year
Perennial	A species with a life span of greater than two years
Prostrate	Growing flat along the ground
Rhizome	An underground stem bearing scale-like leaves usually spreading horizontally and often extensively
Rhizomatous	A plant with rhizomes
Seedbank	Seed accumulated in the soil
Shrub	A woody plant with many stems and lacking a distinct trunk
Solitary	Borne singly
Tendril	A modified stem that is used by climbing plants
Tubercle	A small wart-like swelling
Whorl	An arrangement of three or more parts or organs, at the same level around an axis

19.3 Abbreviations used in the strategy – table 16

ACVM	Agricultural Compounds and Veterinary Medicines Act 1997
CBA	Cost Benefit Analysis
DoC	Department of Conservation
ERMA	Environmental Risk Management Authority
HSE	Health and Safety in Employment Act 1992
HSNO	Hazardous Substances and New Organisms Act 1996
KNE	Key Native Ecosystem
LINZ	Land Information New Zealand
MAF	Ministry of Agriculture and Forestry
MAF BNZ	Biosecurity New Zealand
NIPP	National Interest Pest Program
NIPR	National Interest Pest Response
NPPA	National Pest Plant Accord
QVS	Quotable Values New Zealand
RMA	Resource Management Act 1991
RPMS	Regional Pest Management Strategy
TLA	Territorial Local Authority

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Water, air, earth and energy – elements in Greater Wellington's logo that combine to create and sustain life. Greater Wellington promotes **Quality for Life** by ensuring our environment is protected while meeting the economic, cultural and social needs of the community

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Feral cat, photo: Rex Williams
Eelgrass
Blue passion flower
Saffron thistle
Rook, photo: Rob Suisted
Purple loosestrife
Feral goat, photo: Rob Suisted
Possum
SECTION PHOTOGRAPHS
Tui, photo: Rob Suisted
Red-eared slider turtle, photo: DoC
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