

7.5 Whenua Papa Rēhia me ōna Rohe Hauropi Hiranga / Parkland with Significant Ecological Areas

Ko Tāmaki Makaurau te tāone nui pokea rawa e te tarutaru. Ina tirohia te rārangi roa o te tupu orotā kei konei, e tūpono noa mai rānei ki te rohe, he pai kē atu pea te aukati i te rahi o te tipu orotā i ngā wāhi kanorau-koiora uara nui i te aro ki te rārangi momo poto nei puta noa i te rohe. Kua whakarite te Kaunihera o Tāmaki Makaurau kia “hīkoitia e ia tana kupu”, mā te tauira whakahaere tōtika rawa hei aukati mate orotā i ngā whenua o te kaunihera. Ko ngā hōtaka e whai ake nei ka tuitui i ngā mahi a te kaunihera, te hunga mahi kawekawe, (pērā i a NZTA me Auckland Transport) me ngā kaupupuri whenua kia hua ai ngā painga kanorau-koiora mai i te mahi tahi a te katoa ki te tiaki i ngā whenua papa rēhia me ōna Rohe Hauropi Hiranga. Ka tohu hoki aua hōtaka i te take tiaki kararehe orotā i ngā whenua papa rēhia marihi kia tūturu ai ō rātou whiwhi ki ngā hua o te kotahi o ngā mahi whakahaere.

Tāmaki Makaurau / Auckland is the weediest city in the country. Given the long list of existing and emerging pest plant species in the region, controlling a whole suite of pest plants at sites of high biodiversity value can be a more effective approach than targeting a smaller list of species for region-wide control. Tāmaki Makaurau / Auckland has an extensive network of regional and local parks which include some of the region’s most important areas of native vegetation (e.g. Te Wao Nui a Tiriwa me Kohukohunui / Waitākere and Hunua Ranges Regional Parks) as well as fenced sanctuaries (Tāwharanui and Shakespear) that have enabled extensive reintroductions of threatened species. Auckland Council is committed to “walking the talk”, role-modelling best-practice pest management on Council lands to protect these special areas for all Aucklanders, now and into the future. The following programmes will coordinate the efforts of the Council, transport corridor operators (such as NZTA and Auckland Transport) and private land owners to ensure maximum biodiversity benefits are achieved through collective action to protect parkland containing Significant Ecological Areas (SEAs)¹. Rule enforcement will be implemented following systematic community engagement to facilitate voluntary pest plant management, rather than on a reactive complaints basis.

The following programmes also provide for pest animal control on high value parkland, to ensure these areas receive comprehensive integrated management. There are no requirements for nearby land occupiers to control pest animals in the manner required for pest plants (although see Section 7.7.2 for rules relating to deer and goat farming in the Waitākere and Hunua Ranges). While there are no statutory rules for pest animal control by surrounding land occupiers, Council will prioritise such areas for support of voluntary action by individuals and community groups. See also sections **Error! Reference source not found.** and **Error! Reference source not found.**

¹ SEAs are areas of significant indigenous vegetation and significant habitats of indigenous fauna, which must be protected as a matter of national importance in line with Section 6(c) of the RMA. See Definitions section for further detail.

7.5.1 Wāhi whai kararehe orotā / Site-led pest animals

The pest animals in the following section are all capable of causing extensive damage to native ecosystems and the native plants and animals that call those ecosystems home. The following programmes provide for management of pest animals on high ecological value parkland, particularly in Te Wao Nui a Tiriwa / the Waitākere Ranges and Kohukohunui / Hunua Ranges, to levels that will protect the ecological integrity of that parkland. Other pest animals (such as possums, deer and goats) may also be controlled on parkland, under region-wide programmes in section **Error! Reference source not found.**



Te Rau Puriri Regional Park, South Head

7.5.1.1 Feral pigs (*Sus scrofa*)

Feral pigs are large (sometimes over 300kg), black to brown, stoutly built mammals with large heads and well-developed canine teeth. They actively scavenge during the day and will overturn large areas of soil to consume soil invertebrates, especially earthworms. In invaded ecosystems, they prey on and compete with native species, alter nutrient cycles, damage vegetation and soil, and facilitate the spread of weeds and plant diseases, including kauri dieback disease. They are of high risk to the primary production industry as vectors of bovine tuberculosis. International trading options may be reduced if the Aotearoa / New Zealand feral pig population became a reservoir for swine fever or foot and mouth disease. Feral pig attacks on humans are rare but could be potentially fatal.



Manaaki Whenua Landcare Research

Objective: over the duration of the plan Auckland Council will manage feral pigs² (*Sus scrofa*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Feral pigs maintained below ecological damage thresholds in Te Wao Nui a Tiriwa / Waitākere, Kohukohunui / Hunua and other Significant Ecological Areas on parkland to enhance ecosystem function and resilience, and protect the values of that parkland. Zero or near zero density will be aimed for to reduce the spread of kauri dieback in the Waitākere Ranges, if feasible.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.

² A feral pig includes any pig that is not:

- a) held behind effective fences or otherwise constrained; and
- b) identified by ear tag

Education and advice

Provide information and advice on pest animal identification, impacts and control, and responsible hunting practices.

7.5.1.2 Mustelids: ferrets (*Mustela furo*), stoats (*Mustela erminea*), and weasels (*Mustela nivalis*)

Ferrets, stoats and weasels belong to a group of animals known as mustelids. Ferrets are the largest of the mustelids (600-1,300g) and can be distinguished by a dark 'mask' across their eyes. Stoats are smaller (200–350g) with orange-brown coats and a black tip at end of the tail. Weasels are the smallest (60–120g), with orange-brown coats and a uniformly brown tail.

Mustelids are bold generalist predators and can have devastating impacts on native birds, amphibians, reptiles, molluscs, and insects. Ferrets mostly threaten ground nesting birds while stoats and weasels have contributed to the decline and extinction of many forest birds, particularly cavity nesting species. Mustelids are also a vector of a wide range of agricultural diseases including canine distemper and bovine tuberculosis (TB).



Department of Conservation

Objective: over the duration of the plan Auckland Council will manage Mustelids (*Mustela furo*, *Mustela erminea*, *Mustela nivalis*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest animal in or around Significant Ecological Areas on parkland to levels that enhance ecosystem function and resilience, and protect the values of the parkland. Priority given to protection of Te Wao Nui a Tiriwa / the Waitākere Ranges and Kohukohunui / Hunua Ranges, provided kauri dieback spread risk can be managed adequately.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.

Education and advice	Provide information and advice on pest animal identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around Te Wao Nui a Tiriwa / the Waitākere Ranges and Kohukohunui / Hunua Ranges and other biodiversity focus areas.
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7.5.1.3 Rats (*Rattus rattus*, *Rattus norvegicus*, *Rattus exulans*³)

Rats are small black, grey or brown mammals with naked tails. Rats occupy a wide range of terrestrial habitats throughout Aotearoa / New Zealand. Rodents are generalist omnivores, their diet includes seed predation, and preying on small animals such as invertebrates, reptiles, amphibians and juvenile birds. They compete with native birds for nests and burrows, and have been implicated in the decline of a number of threatened birds, particularly seabirds. Excessive consumption of seeds by rodents can greatly reduce native seedling recruitment and ultimately modify plant communities in invaded ecosystems. Rats are particularly damaging to cereal production, stored products and the food services industry, and are a potential disease vector to humans.



Manaaki Whenua Landcare Research

Objective: over the duration of the plan Auckland Council will manage rats (*Rattus rattus*, *Rattus norvegicus*, *Rattus exulans*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest animal in or around Significant Ecological Areas on parkland to levels that enhance ecosystem function and resilience, and protect the values of the parkland. Priority given to protection of Te Wao Nui a Tiriwa / the Waitākere Ranges and Kohukohunui / Hunua Ranges, provided kauri dieback spread risk can be managed adequately.
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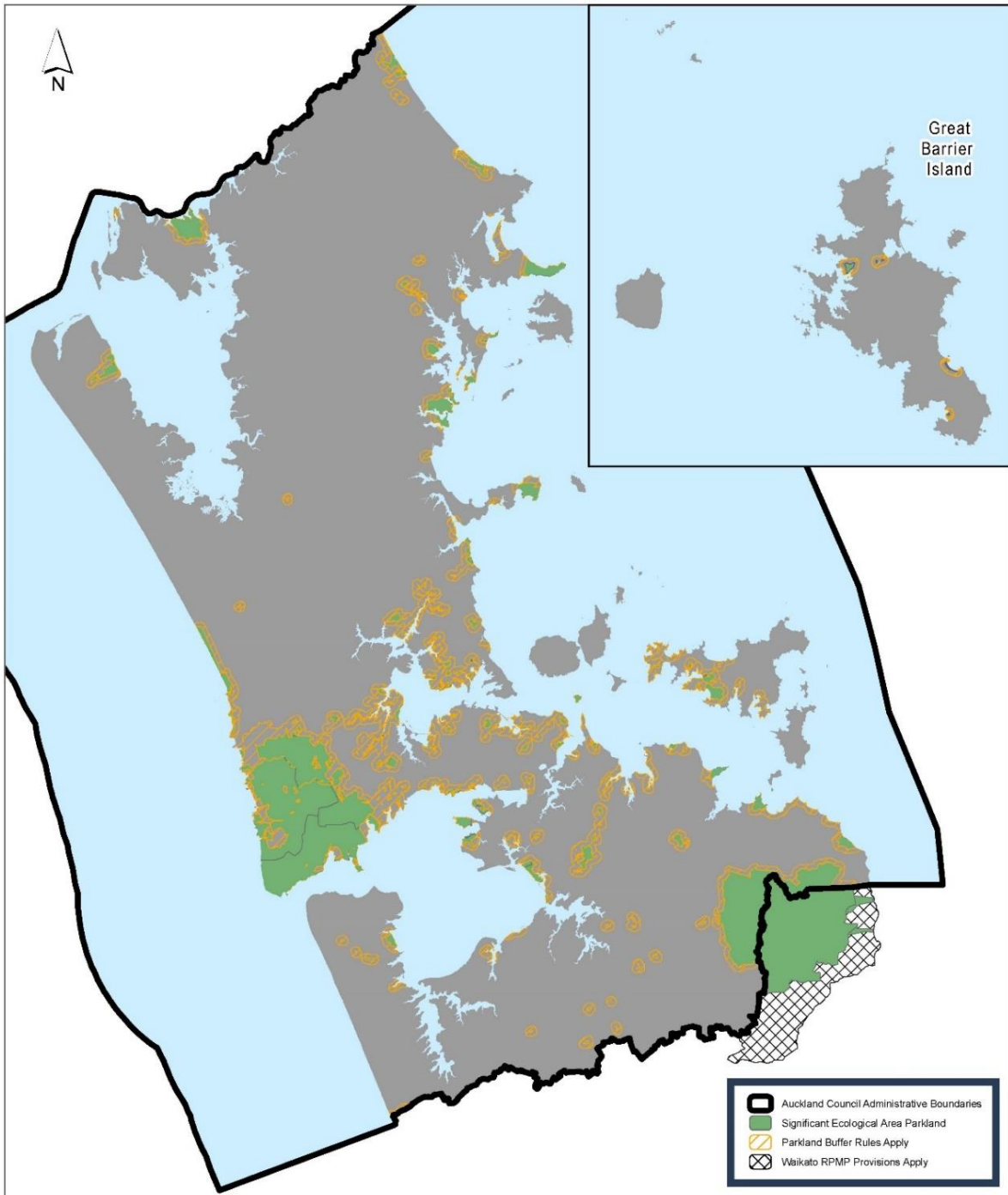
³ Council acknowledges that kiore are culturally significant for mana whenua and the need for operational engagement with mana whenua where relevant.

Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Education and advice	Provide information and advice on pest animal identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around Te Wao Nui a Tiriwa / the Waitākere Ranges and Kohukohunui / Hunua Ranges and other biodiversity focus areas.

7.5.2 Wāhi whai tupu orotā /Site-led pest plants managed on-park and in surrounding buffer areas

The pest plants in the following section are all capable of damaging native ecosystems, in some cases having the potential to lead to wide-scale canopy collapse and ecosystem loss on our region’s parkland if not adequately managed. The species in this section are subject to management programmes both on-park and in a c.500m buffer around parkland, focusing on Te Wao Nui a Tiriwa / the Waitākere Ranges and Kohukohunui / Hunua Ranges and other high ecological value parkland in the region (see Map 6 and Appendix 2). Land occupier obligations within the buffer area apply across all land tenures, including transport corridors and Crown land as well as private property. For some species, Auckland Council will undertake pest plant management in the buffer areas as well as on-park, while for other species rules require pest plants to be managed in buffer areas by the land occupiers in those buffer areas.

Operational implementation of buffer rules will involve a substantial community engagement and education component to encourage land occupiers to recognise and voluntarily remove pest plants, where possible delivered in collaboration with community conservation volunteers. This will be supported by rule enforcement when required. In contrast with the legacy approach of enforcement on receipt of complaint, enforcement in park buffers will be delivered in a systematic, planned manner, with sites phased in over the lifetime of the plan. If the buffer programme proves successful, and budget allows, similar buffer rules may be introduced to buffer more parks and/or priority Significant Ecological Areas on other land tenure, or to address further pest plant species, either in the RPMP 2029-2039, or sooner by partial plan review of the current RPMP. An operational review of the buffer programme will be conducted within five years of the plan becoming operative, to assess progress. Council will also annually assess progress in buffer implementation and provide updates to interested community groups. Council will actively seek opportunities to accelerate buffer implementation through collaboration with community groups and other interested parties.



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Regional Pest Management Plan
Significant Ecological Area Parkland

0 2.5 5 7.5
 Kilometers

Scale @ A4
 = 1:600,000

Date Printed:
 1/16/2020



Map 6 Areas⁴ where Parkland with Significant Ecological Areas site-led pest plant programmes apply.

7.5.2.1 Agapanthus⁵

Agapanthus is a perennial evergreen herb with leathery leaves and erect stems that terminate in many white, blue or purple flowered umbels. Plant height ranges from 100-500mm for dwarf forms and up to 1.2m for tall forms. It forms almost monocultural infestations which exclude native vegetation, especially in coastal areas including cliffs and rocky outcrops. It ranks in the top ten plants resulting in calls to the National Poisons Centre. Rhizomes and other plant parts are toxic if ingested, resulting in vomiting and diarrhoea. Contact allergens are capable of causing rashes, burning sensations and mouth ulcerations, especially in children.



Objective: over the duration of the plan Auckland Council will manage agapanthus (all *Agapanthus* cultivars) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Rules:

7.5.2.1.1 All occupiers of any transport corridor land that is located within the buffer area, as defined in Map 6, of any park which is managed for agapanthus, must destroy all agapanthus on that land prior to seed set.

Rule 7.5.2.1.1 is a good neighbour rule.

The purpose of rule 7.5.2.1.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

⁴ Note, see Appendix 2 for more detailed local maps. These parks and Good Neighbour Rule buffer areas can also be viewed at higher resolution online at <https://geomapspublic.aucklandcouncil.govt.nz/viewer/index.html>

⁵ For the purpose of this plan, agapanthus means:

- a) Prior to 1 April 2022, all *Agapanthus praecox* tall form cultivars (those exceeding 600mm height); and
- b) From 1 April 2022, all *Agapanthus praecox* cultivars, except for any low fertility cultivar which is determined by Auckland Council to produce less than 2% viable seeds compared to high fertility cultivars that were evaluated under the same conditions and location. Cultivars already meeting this test will be listed on the Auckland Botanic Gardens website <http://www.aucklandbotanicgardens.co.nz/>

A breach of this rule is an offence under s154N(19) of the Biosecurity Act.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce land occupier responsibility to control the pest plant pursuant to the rules in this section.
Education and advice	Provide information and advice on pest plant identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.
Requirement to act	Land occupiers of transport corridor land to control plants when instructed to prevent seed set.

7.5.2.2 Blue morning glory (*Ipomoea indica*)

Blue morning glory is a high-climbing, perennial plant with twining stems, three-lobed hairy leaves and blue to purple tubular flowers borne in clusters from January to December. It can completely smother and suppress other plant species on the ground or in the canopy, in forest and scrub margins, around gardens and plantations.



Objective: over the duration of the plan Auckland Council will manage blue morning glory (*Ipomoea indica*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control.

7.5.2.3 Bushy asparagus (*Asparagus aethiopicus* syn. *A. densiflorus*)

Bushy asparagus is a scrambling perennial herb with a thick mat of tuberous roots, white flowers borne between October and March and red berries. Stems are hairy and bear 10mm long spines. Dense infestations are capable of excluding native vegetation particularly in coastal and forest ecosystems, and may impede recreational access to natural areas. Other impacts may be similar to climbing asparagus.



Objective: over the duration of the plan Auckland Council will manage bushy asparagus (*Asparagus aethiopicus*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Rules:

7.5.2.3.1 All occupiers of any land that is located within the buffer area, as defined in Map 6, of any park which is managed for bushy asparagus and where Auckland Council has undertaken initial destruction of bushy asparagus on that land, must undertake follow up destruction of all bushy asparagus on that land.

Rule 7.5.2.3.1 is a good neighbour rule.

The purpose of rule 7.5.2.3.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

A breach of this rule is an offence under s154N(19) of the Biosecurity Act.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce occupier responsibility to control the pest plant pursuant to the rules in this section.
Education and advice	<p>Provide information and advice on pest plant identification, impacts and control.</p> <p>Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.</p>
Requirement to act	Land occupiers to destroy plants when instructed.

7.5.2.4 Climbing asparagus (*Asparagus scandens*)

Climbing asparagus is a scrambling or climbing perennial, with tuberous fleshy roots, thin scale-like leaves, red berries and long, usually white, solitary flowers. It smothers forest floor and understorey up to 4m, causing reductions in native plant abundance and species richness, and promoting further invasion by other pest plant species via raised light levels. In the long-term there is the potential for increased erosion through catastrophic loss of canopy and an overall transformative loss of forest ecosystems throughout the region.



Objective: over the duration of the plan Auckland Council will manage climbing asparagus (*Asparagus scandens*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Rules:

7.5.2.4.1 All occupiers of any land that is located within the buffer area, as defined in Map 6, of a park which is managed for climbing asparagus and where Auckland Council has undertaken initial destruction of climbing asparagus on that land, must undertake follow up destruction of all climbing asparagus on that land.

Rule 7.5.2.4.1 is a good neighbour rule.

The purpose of rule 7.5.2.4.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

A breach of rule is an offence under s154N(19) of the Biosecurity Act.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant with Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce occupier responsibility to control the pest plant pursuant to the rules in this section.
Education and advice	<p>Provide information and advice on pest plant identification, impacts and control.</p> <p>Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.</p>
Requirement to act	Land occupiers to destroy plants when instructed.

7.5.2.5 Coast banksia (*Banksia integrifolia*)

Also known as: Coastal banksia

Coast banksia is a large shrub or tree up to 15m high with rough bark, narrowly elliptical leaves, cylindrical inflorescences bearing numerous pale yellow to green flowers and woody fruiting cones. It grows in coastal and lowland sites, often on sand dunes, along roadsides, forest margins, and other open habitats; shading out existing vegetation and transforming the habitat.



Objective: over the duration of the plan Auckland Council will manage coast banksia (*Banksia integrifolia*) to protect values in place to prevent adverse effects on the sustainability and recreational values of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.

7.5.2.6 English ivy (*Hedera helix* subsp. *helix*)

English ivy is an evergreen perennial root-climbing plant with lobed leaves, numerous yellow-green flowered umbels from August to December and deep purple or black berries. It forms dense monocultural groundcover, substantially lowering ground-level light availability and preventing regeneration of other vegetation in roadsides, native forest and riparian ecosystems. Dense mats combined with rapidly decomposing litter have potential to alter decomposition dynamics and nutrient cycling within invaded ecosystems. Contact with the plant can cause contact dermatitis.



Objective: over the duration of the plan Auckland Council will manage English ivy (*Hedera helix* subsp. *helix*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control.

7.5.2.7 Formosa lily (*Lilium formosanum*)

Formosa lily is a perennial herb with erect unbranched stems up to 1m tall and large, white tinged with purple, trumpet-like flowers, mainly borne January-March but sometimes year round. It is most invasive in disturbed or open coastal ecosystems including sand dunes, cliff faces and forest canopy gaps where it forms dense stands. Coastal species potentially at risk from competition may include culturally significant species such harakeke.



Objective: over the duration of the plan Auckland Council will manage Formosa lily (*Lilium formosanum*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Rules:

7.5.2.7.1 All occupiers of any transport corridor land that is located within the buffer area, as defined in Map 6, of a park which is managed for Formosa lily, must destroy all Formosa lily on that land prior to seed set.

Rule 7.5.2.7.1 is a good neighbour rule.

The purpose of rule 7.5.2.7.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

A breach of this rule is an offence under s154N(19) of the Biosecurity Act.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on Parkland to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce occupier responsibility to control the pest plant pursuant to the rules in this section. Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.
Requirement to act	Land occupiers of transport corridor land to destroy plants when instructed.

7.5.2.8 Giant reed (*Arundo donax*)

Also known as: bamboo reed, donax cane, arundo grass, cow cane, river cane, reed grass.

Giant reed is a sturdy perennial grass with large, spreading clumps of thick culms up to 6m tall, maize-like leaves and large fluffy purplish to silver inflorescences standing above the foliage. It invades riparian areas, wetlands and saltmarshes, altering hydrology by blocking water flow and displacing native plants by creating vast monocultures. Dense stands can impede drainage and exacerbate flooding in agricultural systems.



Objective: over the duration of the plan Auckland Council will manage giant reed (*Arundo donax*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control.

7.5.2.9 Gorse (*Ulex* spp.)

Gorse is a spiny perennial shrub up to 4m tall with yellow pea-like flowers produced from May to November and explosive seed pods. It is a serious pest of the primary production industry where it will readily invade forestry plantations and pasture, reducing food for livestock. It also forms dense stands and out-competes native vegetation in shrubland, forest margins and coastal habitats. Native forest succession through gorse can result in a different vegetation composition and lower diversity than succession through native early succession plants. Its nitrogen-fixing capacity can increase soil nitrogen in invaded areas, to the detriment of specialised plants including herbs and orchids. Dense prickly stands can impede access to recreational and culturally important sites.



Objective: over the duration of the plan Auckland Council will manage gorse (*Ulex* spp.) to protect values in place to prevent adverse effects on the sustainability of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

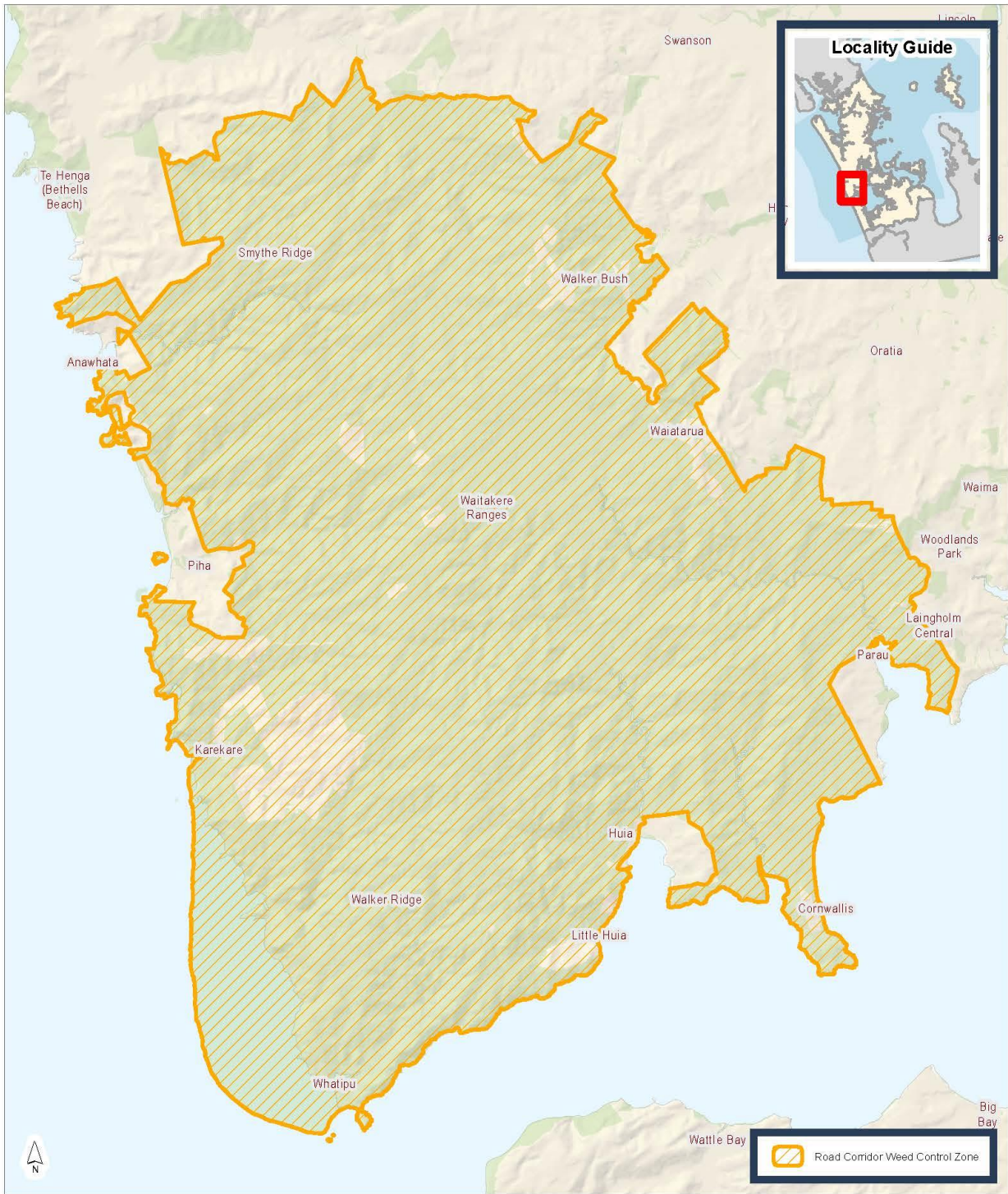
Rules:

7.5.2.9.1 All occupiers of any transport corridor land that is located within the Waitākere Ranges road corridor weed control zone, as defined in Map 7, must destroy all gorse on that transport corridor land.

The purpose of rule 7.5.2.9.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

Principal measures of achievement:

Service delivery (control)	Manage gorse in priority low stature ecosystems such as dunes and wetlands, and where gorse may pose a significant fire risk to the ecology of the site, within the Waitākere Ranges and other Significant Ecological Areas on parkland, to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce occupier responsibility to control the pest plant pursuant to the rules in this section. Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.
Requirement to act	Land occupiers of transport corridor land to destroy plants when instructed.



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Waitākere Ranges Road Corridor Weed Control Zone

0 0.5 1 1.5
kilometers
Scale @ A4
= 1:93,246
Date Printed:
5/18/2020



Map 7 Gorse and pampas rules apply to transport corridor land within the mapped area of Waitākere Ranges regional parkland.

7.5.2.10 Japanese honeysuckle (*Lonicera japonica*)

Japanese honeysuckle is an evergreen climber with dark green leaves and paired fragrant white flowers with yellow corollas. The vine can grow up to 15m/year and will quickly form dense monospecific mats which smother and suppress native vegetation, harbour mice and facilitate other invasive plants in disturbed sites, river banks, bare ground, scrubland, forest margins, fragments or gaps. In orchards it is a host of several pathogens, and in forestry plantations it will overgrow young plants and chemically inhibit plant growth of some pine species.



Objective: over the duration of the plan Auckland Council will manage Japanese honeysuckle (*Lonicera japonica*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control.

7.5.2.11 Jasmine (*Jasminum polyanthum*)

Also known as: pink jasmine, white jasmine

Jasmine is a wiry evergreen climber up to 12m tall which produces an abundance of reddish-pink flower buds in late winter and early spring, followed by fragrant star-like white flowers. It is a rapid and vigorous climber, able to invade dense forest and smother all vegetation in the subcanopy. It is also capable of forming dense groundcover, preventing native seedling establishment in forest and disturbed ecosystems.



Objective: over the duration of the plan Auckland Council will manage jasmine (*Jasminum polyanthum*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control.

7.5.2.12 Madeira vine (*Anredera cordifolia*)

Also known as: Madeira, mignonette vine, potato vine, lamb's tail.

Madeira vine is a perennial climbing vine up to 40m long with heart-shaped or oval fleshy leaves and drooping inflorescences of small fragrant cream flowers from January to April. It can rapidly invade disturbed forest and margins, plantations, gullies, scrublands, coastline, dunes and riparian margins by smothering and sometimes crushing understorey plants.



Objective: over the duration of the plan Auckland Council will manage Madeira vine (*Anredera cordifolia*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.

7.5.2.13 Moth plant (*Araujia hortorum*)

Moth plant is a perennial climber with scrambling stems, glossy leaves, white or pale pink flowers borne in clusters or singly, and fleshy pear-shaped fruit. It smothers and kills plants up to medium-high canopy, preventing recruitment in forest, coastline, cliffs, shrublands, mānawa/mangroves, inshore and offshore islands, orchards and disturbed habitats. Based on its life-form, there can be long-term potential for catastrophic impacts on forest structure. Milky latex in stems, leaves and roots are poisonous and cause dermatitis.



Objective: over the duration of the plan Auckland Council will manage moth plant (*Araujia hortorum*) to protect values in places to prevent adverse effects on the sustainability of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Rules:

7.5.2.13.1 All occupiers of any land that is located within the buffer area, as defined in Map 6, of a park which is managed for moth plant, must destroy all moth plant on that land.

Rule 7.5.2.13.1 is a good neighbour rule.

The purpose of rule 7.5.2.13.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

A breach of this rule is an offence under s154N(19) of the Biosecurity Act.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant within Significant Ecological Areas on parkland to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce occupier responsibility to control the pest plant pursuant to the rules in this section, to enhance ecosystem function and resilience, and protect the values of nearby parkland. Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.
Requirement to act	Land occupiers to destroy plants when instructed.

7.5.2.14 Pampas grass (*Cortaderia jubata* and *C.selloana*)

Pampas grass is a clump-forming grass up to 4m tall, with sharp leaves, erect dense fluffy white to purple flower heads that fade to dirty white or brown in cooler months. It readily colonises burnt or disturbed sites and quickly becomes very dense, replacing native plants in coastal ecosystems and other open or disturbed habitats. It also provides habitat for possums, rats, and mustelids. In forestry plantations it can quickly become very dense, smothering young trees and being a nuisance during harvesting. Build-up of dead leaves, leaf bases and flowering stalks can create a significant fire hazard in invaded areas.



Objective: over the duration of the plan Auckland Council will manage pampas (*Cortaderia jubata* and *C. selloana*) to protect values in place to prevent adverse effects on the sustainability and recreational values of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Rules:

7.5.2.14.1 All occupiers of any transport corridor land that is located within the Waitākere Ranges road corridor weed control zone, as defined in Map 7, must destroy all pampas on that transport corridor land.

The purpose of rule 7.5.2.14.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

Principal measures of achievement:

Service delivery (control)	Manage pampas in priority coastal and wetland ecosystems and where pampas may pose a fire risk to the ecology of the site, within the Waitākere Ranges and other Significant Ecological Areas on parkland, to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce occupier responsibility to control the pest plant pursuant to the rules in this section. Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.
Requirement to act	Land occupiers of transport corridor land to destroy plants when instructed.

7.5.2.15 Periwinkle (*Vinca major*)

Also known as: bigleaf periwinkle, large periwinkle, greater periwinkle and blue periwinkle.

Periwinkle is a scrambling perennial herbaceous groundcover plant or vine with solitary blue-violet flowers. It is a vector of Pierce's disease which infects grapes and would greatly impact vineyards. It smothers the ground, especially on stream banks, preventing native seedling regeneration and altering erosion and flow regimes.



Objective: over the duration of the plan Auckland Council will manage periwinkle (*Vinca major*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland and in surrounding buffer land to levels that enhance ecosystem function and resilience and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce restrictions on the sale, propagation, distribution and exhibition of the pest plant.
Education and advice	Provide information and advice on pest plant identification, impacts and control.

7.5.2.16 *Rhamnus* (*Rhamnus alaternus*)

Also known as: evergreen buckthorn

Rhamnus is an evergreen shrub up to about 5m high with glossy serrated leaves, small green flowers and dark glossy red or black fruit. It forms dense stands, preventing the recruitment of native plants in scrublands, forest margins and plantations. It will also act as low scrub on coastal cliffs, inshore and offshore islands and rocky outcrops.



Objective: over the duration of the plan Auckland Council will manage *rhamnus* (*Rhamnus alaternus*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on Parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Rules:

7.5.2.16.1 All occupiers of any land that is located within the buffer area, as defined in Map 6, of a park which is managed for *rhamnus*, must destroy all *rhamnus* on that land.

Rule 7.5.2.16.1 is a good neighbour rule.

The purpose of rule 7.5.2.16.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

A breach of this rule is an offence under s154N(19) of the Biosecurity Act.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce occupier responsibility to control the pest plant pursuant to the rules in this section.
Education and advice	<p>Provide information and advice on pest plant identification, impacts and control.</p> <p>Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.</p>
Requirement to act	Land occupiers to destroy plants when instructed.

7.5.2.17 Wild ginger (*Hedychium gardnerianum* and *H. flavescens*)

Also known as: kahili ginger (*H. gardnerianum*), yellow ginger (*H. flavescens*)

Both wild ginger species are herbaceous perennial plants that can grow up to 3m tall with large green leaves and orange berries. Kahili ginger has yellow flowers with red stamens and yellow ginger has creamy flowers. They form dense stands preventing recruitment and suppressing up to 90% of native vegetation in forest ecosystems, potentially resulting in long-term impacts on forest composition. Invasion may alter decomposition and nutrient cycling patterns, and increase erosion in the long-term through loss of canopy.



Objective: over the duration of the plan Auckland Council will manage wild ginger (*Hedychium gardnerianum* and *H. flavescens*) to protect values in place to prevent adverse effects on the sustainability and recreational enjoyment of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Rules:

7.5.2.17.1 All occupiers of any land that is located within the buffer area, as defined in Map 6, of a park which is managed for wild ginger, must destroy all wild ginger on that land.

Rule 7.5.2.17.1 is a good neighbour rule.

The purpose of rule 7.5.2.17.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

A breach of this rule is an offence under s154N(19) of the Biosecurity Act.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce occupier responsibility to control the pest plant pursuant to the rules in this section.
Education and advice	<p>Provide information and advice on pest plant identification, impacts and control.</p> <p>Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.</p>
Requirement to act	Land occupiers to destroy plants when instructed.

7.5.2.18 Woolly nightshade (*Solanum mauritianum*)

Woolly nightshade is a perennial shrub or small tree, up to 4m high with grey-green furry leaves, violet flowers and dull yellow berries. It forms dense stands in disturbed scrub or forest, roadsides, pasture margins, urban areas and riparian margins, inhibiting the regeneration of native plant species in invaded sites. It can displace pasture grasses and clover, reducing food availability for stock, and will colonise clear-felled areas in forestry plantations. Direct or indirect contact with the plant may cause skin irritation and respiratory problems.



Objective: over the duration of the plan Auckland Council will manage woolly nightshade (*Solanum mauritianum*) to protect values in places to prevent adverse effects on the sustainability of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: “protecting values in places” which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within and around that parkland to an extent that protects the values of that parkland.

Rules:

7.5.2.18.1 All occupiers of any land that is located within the buffer area, as defined in Map 6, of a park which is managed for woolly nightshade, must destroy all woolly nightshade on that land.

Rule 7.5.2.18.1 is a good neighbour rule.

The purpose of rule 7.5.2.18.1 is to require the occupier of a place to take specified actions to eradicate or manage the pest or a specified pest agent on the place.

A breach of this rule is an offence under s154N(19) of the Biosecurity Act.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant within Significant Ecological Areas on parkland to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Enforcement	Enforce occupier responsibility to control the pest plant pursuant to the rules in this section, to enhance ecosystem function and resilience, and protect the values of nearby parkland.
Education and advice	<p>Provide information and advice on pest plant identification, impacts and control.</p> <p>Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.</p>
Requirement to act	Land occupiers to destroy plants when instructed.

7.5.3 Wāhi whai tupu orotā / Site-led pest plants managed on-park only

The pest plants in the following section are all capable of damaging native ecosystems, in some cases having the potential to lead to wide-scale loss of native biodiversity in our region's parkland if not adequately managed. The pest plants in the following section are subject to management programmes on parkland but unlike the species in the preceding section, the following programmes do not provide for management in buffer areas around parkland. These species have been included in recognition of their particularly problematic nature across the park network, but this Regional Pest Management Plan programme does not preclude Council undertaking control of other plant species, or on parkland not included within this statutory programme, under Council's general role as a land manager.

Objective: over the duration of the plan Auckland Council will manage the pest plants specified below to protect values in places to prevent adverse effects on the sustainability of natural ecosystems on public parkland, and the ecological processes and biological diversity therein.

Intermediate outcome: "protecting values in places" which means that the subject, that is capable of causing damage to Significant Ecological Areas on parkland, is controlled within that parkland to an extent that protects the values of that parkland.

Principal measures of achievement:

Service delivery (control)	Manage the pest plant on Significant Ecological Areas on parkland to levels that enhance ecosystem function and resilience, and protect the values of the parkland.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance of key risk areas to determine the presence of new infestations and status of existing or historical sites.
Education and advice	Provide information and advice on pest plant identification, impacts and control. Provide advice and support to community groups undertaking pest plant control, with priority given to activity in or around biodiversity focus areas.

Aristea (*Aristea ecklonii*)

Aristea is an evergreen perennial, with woody rhizomes, leaves up to 40cm long and numerous blue flowers in 5 to 7-flowered clusters. It is prevalent on roadsides but forest, scrubland, coastlines, herbfields, rocky and bare lands are also suitable habitats. It forms dense, long-lived stands in open sites and moderate shade, preventing seedlings of native species from establishing. In forest ecosystems, it may open canopy, leading to succession by introduced shrubs, vines and grasses.



Alligator weed (*Alternanthera philoxeroides*)

Alligator weed is a perennial emergent aquatic bottom-rooted herb forming extensive floating mats on water's surface but can also grow terrestrially, preferring damp ground. The dense mats can alter aquatic habitat structure (e.g. water flow, light penetration), alter invertebrate community composition and reduce native plant cover and diversity in wetlands and margins of water bodies.

It will also displace valuable pasture species and block drainage channels, exacerbating flooding on farmland.



Bangalow palm (*Archontophoenix cunninghamiana*)

Bangalow palm is a tall palm, with an undivided trunk, pinnate leaves, hanging inflorescences and globose scarlet fruit, growing up to 14m in Tāmaki Makaurau / Auckland (25m in native range). It seeds prolifically and can be very long-lived; some Aotearoa / New Zealand specimens known to have been planted prior to 1840s. It is highly invasive in South America, dominating forests and out-competing native South American palms. In Aotearoa / New Zealand it has the potential to displace native species, especially culturally significant nikau palms which occupy similar niches but have been shown to be poorer competitors under controlled conditions. Because it is shade tolerant and bird dispersed, it has potential to invade intact native forest, especially through seedling bank exploitation of light gaps.



Boneseed (*Chrysanthemoides monilifera*)

Boneseed is an evergreen shrub or small tree up to 3m in height with leathery irregularly serrated leaves, bright yellow flowers produced from September to February and hard oval green fruit which ripen to black. It is likely to crowd out native plants in open coastal areas or disturbed habitats, including freshly cleared forestry plantations. It may also alter plant community composition through allelopathy and competition, alter patterns of nutrient cycling, and facilitate other weeds. The plant is highly flammable and therefore a fire risk in invaded ecosystems.



Boxthorn (*Lycium ferocissimum*)

Boxthorn is a densely branched and spiny evergreen shrub up to 6m tall with creamy purple flowers and fleshy red fruit. It is a pest plant in coastal habitats; inhibiting the regeneration of native plants, invading coastal pastures, ensnaring seabirds and impeding access to nesting sites. Spines can become imbedded in bone or soft tissue, resulting in infection and pseudo-tumours.



Brush wattle (*Paraserianthes lophantha*)

Brush wattle is a small tree or shrub with frond like leaves and green-yellow flowers, grouped in cylindrical inflorescences borne May-August, followed by flat seed pods up to 15cm long. It is a pest plant in open disturbed sites including riverbanks, sand dunes and other coastal habitats, out-competing native plants and potentially facilitating other exotic pest plants via nitrogen fixation.



Chinese fan palm (*Trachycarpus fortunei*)

Also known as: Chinese windmill palm, Chusan palm
Chinese fan palm is a 4-12m tall palm with an unbranched trunk, fan shaped leaves and sharp marginal teeth on the petioles. Fruit are yellow but turn blue-black with age. The large leaves cast deep shade, reducing native seedling recruitment and growth. Urban reserves are most at risk of invasion due to human cultivation of the plant in surrounding areas. Intact forests in remote areas are also at risk long-term due to bird-mediated seed dispersal and shade tolerance, potentially resulting in dominance of the forest understorey. Invasion may also result in the modification of soil biota communities and nutrient cycling impacts in these ecosystems. There is the potential for direct competition with taonga species such as nikau.



Chinese privet (*Ligustrum sinense*)

Chinese privet is an evergreen or semi-deciduous shrub to small tree up to 5m tall with white, fragrant flowers borne in clusters during spring-summer and purple-black fruit. It displaces native shrubs and trees and can form dense stands which dominate the canopy layer and prevent recruitment of native species, thereby altering vegetation structure and diversity in forest and shrubland ecosystems. Root intrusions can damage archaeological features on maunga and other significant wāhi. Some people may have a reaction to privet, often as a cross-reactivity to their main allergens.



Monkey apple (*Syzygium smithii* syn. *Acmena smithii*)

Also known as: lilly pilly

Monkey apple is a tree up to 15m tall with glossy leaves, creamy coloured flowers borne October-January and white or pale pink/mauve fleshy fruit. It colonises native forest, especially exposed ridges, edges and regenerating secondary scrub. It is also capable of recruiting below closed canopy due to high shade tolerance, therefore intact forests are at risk of invasion. In the long-term, invasion may lead to transformative change to forest composition and structure.



Norfolk Island hibiscus (*Lagunaria patersonii*)

Norfolk Island hibiscus is a long-lived evergreen tree up to 15m tall with white to pink flowers borne predominantly between September-April. It is tolerant to harsh conditions and has the potential to compete with co-occurring native plants. Coastal ecosystems currently appear to be most at risk from invasion, but wetlands are probably also at risk due to occupancy of swamps in native range.



Pampas grass (*Cortaderia jubata* and *C. selloana*)

Pampas grass is a clump-forming grass up to 4m tall, with sharp leaves, erect dense fluffy white to purple flower heads that fade to dirty white or brown in cooler months. It readily colonises burnt or disturbed sites and quickly becomes very dense, replacing native plants in coastal ecosystems and other open or disturbed habitats. It also provides habitat for possums, rats, and mustelids. In forestry plantations it can quickly become very dense, smothering young trees and being a nuisance during harvesting. Build-up of dead leaves, leaf bases and flowering stalks can create a significant fire hazard in invaded areas.



Phoenix palm (*Phoenix canariensis*)

Phoenix palm is a stocky palm tree with a trunk reaching up to 6m tall, large segmented leaves and orange-yellow berries. Sharp spines on the leaves are capable of causing severe injury requiring hospitalisation, with children especially at risk. It competitively excludes native vegetation due to its large size and spines, which are unpalatable to grazers. Numerous threatened species are potentially at risk in coastal ecosystems including dunes, saline wetlands, cliffs and coastal forest. It also has the potential to facilitate other invasive plants as epiphytes (e.g. climbing asparagus, ladder fern and Morton Bay fig) and provides habitat for a variety of invasive exotic birds.



Tree privet (*Ligustrum lucidum*)

Tree privet is a medium sized evergreen tree growing up to 10m tall with white, fragrant flowers borne in clusters during spring-summer and poisonous purple-black berries. It displaces native shrubs and trees and can form dense stands which dominate the canopy layer and prevent recruitment of native species, thereby altering vegetation structure and diversity in forest and shrubland ecosystems. Root intrusions can damage archaeological features on maunga and other significant wāhi. Some people may have a reaction to privet, often as a cross-reactivity to their main allergens.



Royal fern (*Osmunda regalis*)

Royal fern is a tall deciduous perennial fern with fronds up to 3m long. It forms dense stands in wetlands and freshwater ecosystems, which are likely to impact on native fauna and flora through mechanisms such as competition or habitat restructuring. It has the potential for obstructing access and reducing enjoyment of the natural freshwater environment, and may impact on the mauri of wai māori.



Salt water paspalum (*Paspalum vaginatum*)

Salt water paspalum is a perennial grass with long creeping stolons and leathery, grey-green leaf blades, up to 8cm long. It can dominate high priority ecosystems including tidal flat margins and coastal habitats, forming near monocultures which exclude native plants and alter plant community composition. Burrowing fauna such as crabs may be excluded in invaded habitats, and invertebrate communities shifted towards more terrestrial assemblages. Monocultures can also alter foraging habitat and food availability for shore birds, leading to avoidance of invaded areas by some bird species overseas, and can alter spawning and feeding grounds of culturally important fish such as pātiki / flounder.



Sharp rush (*Juncus acutus*)

Sharp rush is a perennial spiny rush up to 1m tall with sharp tips and clumped green to brown flower heads borne in summer followed by red, orange or brown fruit. It forms dense stands which can displace native salt marsh vegetation, impair plant recruitment, reduce native plant richness and alter invertebrate communities.



Tasmanian ngaio (*Myoporum insulare* incl. hybrids)

Tasmanian ngaio is a large shrub to small tree with oval leaves, white flowers with purple dots borne between September and June and long, purple fruit. It competes with native coastal plants and hybridises readily with closely related and culturally important native ngaio (*M. laetum*), potentially affecting the gene pool of the native species. It is toxic to humans and livestock.



7.5.4 Te noho wātea o te kitakita orotā / Exclusion pest pathogens: kauri dieback disease (*Phytophthora agathidicida*)

At the time of writing⁶, kauri dieback is not known from Kohukohunui / Hunua. There is no known cure for kauri dieback disease, and once present in a catchment it is difficult to contain spread of the disease. For these reasons, keeping kauri dieback out of this large tract of high value kauri forest, much of which is council parkland, is a top regional priority. See also Tīkapa Moana / Hauraki Gulf section for Tīkapa Moana o Hauraki / Hauraki Gulf exclusion zone (section **Error! Reference source not found.**) and Sustained Control programme for the remainder of the region (section **Error! Reference source not found.**).

Symptomatic kauri trees infected with kauri dieback disease exhibit root and collar rot, resin-exuding lesions, yellowing of leaf tissue, canopy thinning and mortality. Human-mediated movement of contaminated soil is the main cause of jump-dispersal between kauri forests but it can be spread locally by feral pigs. The disease can be incurably fatal to kauri trees of all ages and, in the absence of effective treatment, has mid- to long-term potential to cause functional extinction of kauri as a canopy species. Kauri are ecosystem engineers, with profound effects on soil chemistry, and associated plant and animal communities. Consequently there is a potential for catastrophic loss of associated unique ecosystems.



Objective: over the duration of the plan Auckland Council will exclude kauri dieback (*Phytophthora agathidicida*) from establishing within kauri dieback exclusion zones (as identified in Map 8) to prevent adverse effects on economic well-being, the environment, enjoyment of the natural environment and the relationship between Māori, their culture, their traditions and their ancestral lands, waters, sites, wāhi tapu, and taonga.

Intermediate outcome: “exclusion” which means to prevent the establishment of kauri dieback within kauri dieback exclusion zones.

Rules:

7.5.4.1.1 No person shall distribute, move or release kauri dieback disease in Auckland.

⁶ 9 October 2017

7.5.4.1.2 No person shall move soil, or plants, or animals contaminated with soil, or goods contaminated with soil, into the Hunua kauri dieback exclusion zone (as identified in Map 8), unless sourced from an Auckland Council approved supplier⁷.

A breach of these rules is an offence under s154N(19) of the Biosecurity Act.

The purpose of rule 7.5.4.1.1 is to specify the circumstances in which the pest may be communicated, released, or otherwise spread.

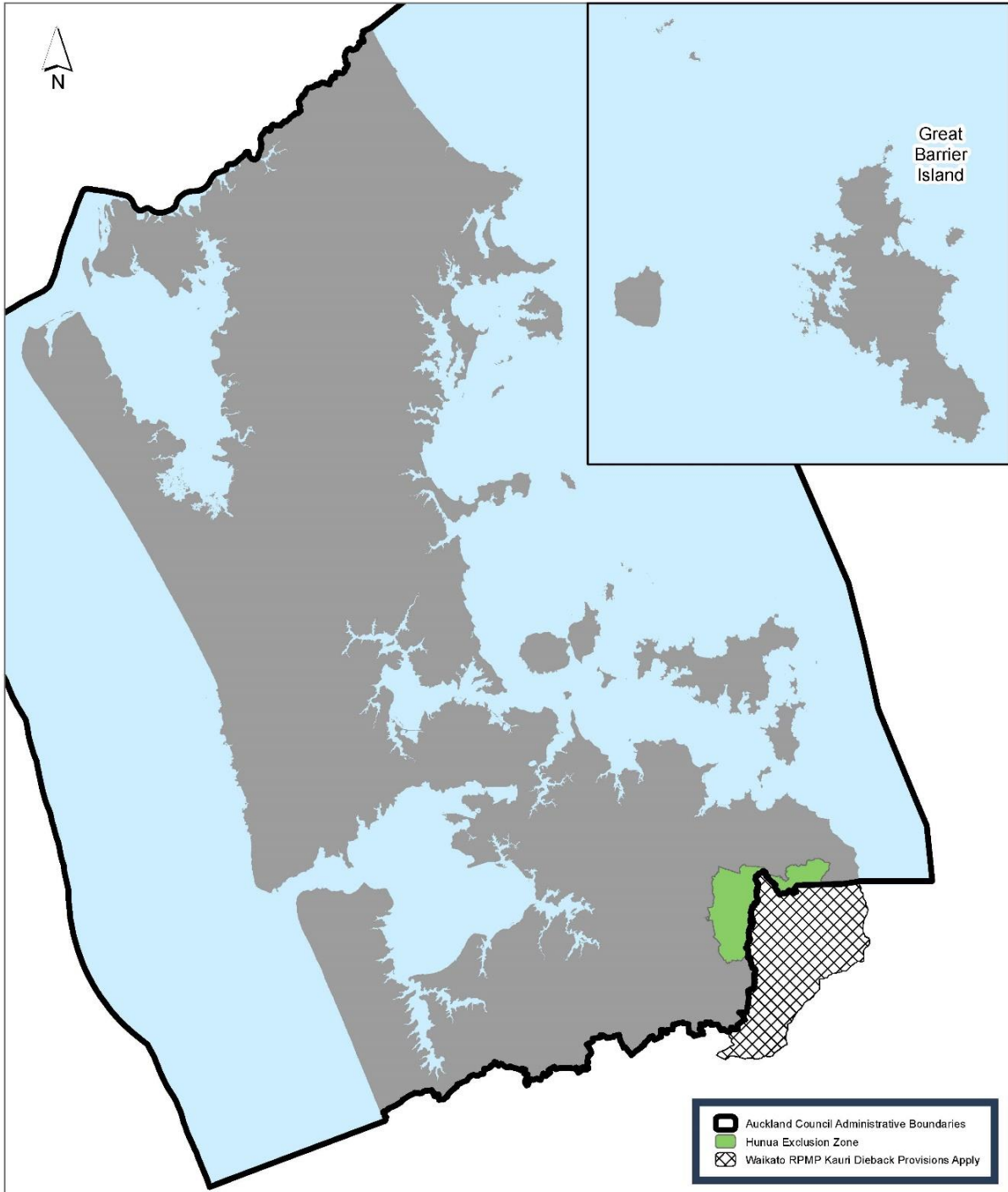
The purpose of rule 7.5.4.1.2 is to regulate the movement of goods that may contain or harbour the pest or otherwise pose a risk of spreading the pest.

Rule 7.5.4.1.2 comes into force on 1 April 2020.

Principal measures of achievement:

Service delivery (control)	Enter any property within the specified geographic area of the programme and carry out management of this species.
Monitoring and surveillance	Undertake inspections, monitoring and surveillance, to determine the presence of new incursions and status of existing or historical sites. Specifically, improve understanding of disease absence (or presence) in non-symptomatic areas. Collaborate with other agencies in design of data collection and storage to ensure effective, integrated monitoring and surveillance across kauri lands.
Enforcement	Enforce restrictions on the movement of the pest and risk goods.
Education and advice	Provide information and advice on identification and impacts of kauri dieback, and how to avoid spreading the pest.
Requirement to act	All persons to take practicable steps to avoid transport and distribution of kauri dieback e.g. ensure all footwear and other equipment are free of soil when exiting areas known to be infected with kauri dieback disease. Persons moving goods into Kohukohunui / Hunua Regional Park kauri dieback exclusion zone to ensure all goods are free of soil. All persons in possession of risk goods to comply with inspections and hygiene measures when directed by Auckland Council.
Research and development	Contribute to multi-agency facilitation of research, including mātauranga Māori, and development in detection and control tools, understanding pathways of spread, and ecological impacts of kauri dieback disease on kauri and its ecosystem.

⁷ An approved supplier is any supplier certified under the New Zealand Plant Production Biosecurity Scheme core standard and kauri dieback schedule <https://nzppi.co.nz/advocacy/107-696/protecting-our-nurseries-and-industry-from-biosecurity-hazards>



DISCLAIMER:
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Kauri Dieback
Hunua Exclusion Zone

0 2.5 5 7.5
 Kilometers
 Scale @ A4
 = 1:600,000
 Date Printed:
 1/16/2020



Map 8. Kohukohunui / Hunua Ranges Regional Park kauri dieback exclusion zone⁸.

⁸ Note: the Hunua exclusion area can also be viewed at higher resolution online at <https://geomapspublic.aucklandcouncil.govt.nz/viewer/index.html>