Cost allocation analysis

Exclusion Programmes: Pest plants

The following subjects are grouped for cost allocation analysis:

Common name	Species name	Target Area
alligator weed	*Alternanthera philoxeroides*	Great Barrier
Brazilian rattle box	*Sesbania punicea*	Great Barrier
clematis flammula	*Clematis flammula*	Great Barrier
eel grass	*Vallisneria australis*	Great Barrier
egeria	*Egeria densa*	Great Barrier
elodea	*Elodea canadensis*	Great Barrier
hornwort	*Ceratophyllum demersum*	Great Barrier
lagarosiphon, oxygen weed	*Lagarosiphon major*	Great Barrier
Mickey Mouse plant	*Ochna serrulata*	Great Barrier
parrot's feather	*Myriophyllum aquaticum*	Great Barrier
rhamnus	*Rhamnus alaternus*	Great Barrier
sharp rush	*Juncus acutus*	Great Barrier
sweet pittosporum	*Pittosporum undulatum*	Great Barrier
giant hogweed	*Heracleum mantegazzianum*	Whole region

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below.

The subjects are at a similar stage of infestation in the target areas, namely, none are known to be present.

The management objectives are the same for all subjects, namely Exclusion, which means to prevent the establishment of the subject within the target areas.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Prevention of future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$42,300	None	Yes
Great Barrier community	Prevention of future pest impacts on environmental, economic, human health, social, recreational and cultural values in their local environment.	Proportionally through membership of regional community. Foregone opportunity to own and propagate pest species.	None	Yes
Primary industries and tourism	Prevention of future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	None	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations who knowingly sell, distribute or propagate pest plants	Knowingly selling, distributing or propagating pest plants.	Moderate. Propagule pressure from horticultural trade known to be	Foregone opportunity to sell, distribute or propagate pest	None

	e.g. gardeners or nurseries.		associated with increased invasion risk.	plants.	
Passive exacerbators	Individuals or organisations who unintentionally distribute or propagate pest plants e.g. farmers, machinery operators and boaties.	Unintentionally spreading pest plants due to poor machine or boating equipment hygiene, or movement of risk goods such as soil.	Moderate. Boats, nets and other equipment high risk for movement of aquatic pest plants. Soil movement high risk for spread of terrestrial pest plants.	None	None
	Individuals or organisations who unintentionally distribute or propagate pest plants e.g. landowners	Pest plants present on their land due to factors other than their own activity.	Moderate. Species may establish due to wind or bird dispersal and go uncontrolled by landowners.	None	None

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Exacerbators have existing legislative responsibilities for some of these species under the National Pest Plant Accord. No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake exclusion due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the

legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising exclusion success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Exclusion Programmes: Pest animals

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Target Area
bearded dragon	*Amphibolurus barbatus* syn. *Pogona barbata*	Great Barrier
blue-tongued skink	*Tiliqua scincoides & T. nigrolutea*	Great Barrier
brown bullhead catfish	*Ameiurus nebulosus* syn. *Ictalurus nebulosus*	Great Barrier
Canadian geese		Great Barrier
eastern rosella	*Platycercus eximius*	Great Barrier
eastern water dragon	*Physignathus lesueurii lesueurii*	Great Barrier
galah	*Cacatua roseicapilla*	Great Barrier
gambusia	*Gambusia affinis*	Great Barrier
goldfish	*Carassius auratus*	Great Barrier
Indian ring-necked parakeet	*Psittacula krameri*	Great Barrier
koi carp	*Cyprinus carpio*	Great Barrier
monk parrot	*Myiopsitta monachus*	Great Barrier
perch	*Perca fluviatilis*	Great Barrier
red-eared slider turtle		Great Barrier
rudd	*Scardinius erythrophthalmus*	Great Barrier
snake-neck turtle	*Chelodina longicollis*	Great Barrier
sulphur-crested cockatoo	*Cacatua galerita*	Great Barrier
tench	*Tinca tinca*	Great Barrier
feral deer	*Cervus, Axis, Dama, Odocoileus, Elaphurus* spp. including any hybrid	HGCA
rook	*Corvus frugilegus*	Whole region
wallabies	*Macropus*, *Petrogale* and *Wallabia* spp.	Whole region (except Kawau)

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below. The beneficiaries and exacerbators have existing legislative responsibilities and rights, including under the Wild Animal Control Act 1977, Animal Welfare Act 1999, Wildlife Act 1953, Conservation Act 1987, and various fisheries regulations.

The subjects are at a similar stage of infestation in the target areas, namely, none are known to be present.

The management objectives are the same for all subjects, namely Exclusion, which means to prevent the establishment of the subject within the target areas.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Prevention of future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$152,100	None	Yes
Great Barrier and Hauraki Gulf Controlled Area communities (target species)	Prevention of future pest impacts on environmental, economic, human health, social, recreational and cultural values in their local environment.	Proportionally through membership of regional community. Foregone opportunity to own and breed pest species.	None	Yes
Primary industries and tourism	Prevention of future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	None	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations who knowingly sell, distribute or breed pest animals e.g. pet breeders, pet industry, deer farmers.	Knowingly selling, distributing or breeding pest within target areas.	Moderate. Propagule pressure from pet trade known to be associated with increased invasion risk.	Loss of pet trade revenue within target areas (doesn't apply to goldfish). Foregone opportunity to farm deer.	None.
	People or organisations who liberate pest animals into or within the target areas e.g. pet owners, hunters.	Knowingly liberating pest animals into or within the target areas.	Moderate.	Foregone opportunity to release pest animals.	None.
Passive exacerbators	Individuals or organisations who unknowingly support pest animals e.g. land owners.	Pest animals present on their land due to factors other than their own activity.	Low to moderate. Pest birds may be highest risk of unintentionally aided spread and establishment.	None	None

Deer farmers have existing legislative responsibilities under the Wild Animal Control Act. No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake

exclusion due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising exclusion success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Exclusion Programmes: Pest pathogens

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Target Area
Kauri dieback disease	*Phytophthora agathidicida*	Hunua, HGCA

The stage of infestation in the target areas is that none are known to be present.

The management objective is Exclusion, which means to prevent the establishment of the subject within the target areas.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Prevention of future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$ 1,993,700	None	Yes
Hauraki Gulf Controlled Area and Hunua communities	Prevention of future pest impacts on environmental, economic, human health, social, recreational and cultural values in their local environment.	Proportionally through membership of regional community.	None	Yes
Tourism industry	Prevention of future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	None	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Passive exacerbators	Individuals or organisations who transport soil, or plants, animals, or goods contaminated with soil, into the Hunua or Hauraki Gulf kauri dieback exclusion zones e.g. Regional Parks and Watercare operations, trampers.	Transporting potentially contaminated soil into the Hunua kauri dieback exclusion zone.	High. Human mediate movement of soil is the key risk pathway for jump dispersal of kauri dieback to new catchments.	Staff time and other operational costs to comply with enhanced hygiene measures. At an average cost of $10 per vehicle washdown, the total cost to Watercare to comply with vehicle washdown requirements is estimated at $20,000 per annum. Costs sourcing plants from a supplier with kauri dieback-free status approved by council, value of cost data deficient. Small time costs associated with cleaning footwear or other equipment.	None.
	Individuals who	Transporti	Moderate.	Cost	None

transport untreated kauri plant material to or among Hauraki Gulf Controlled Area islands e.g. island garden centres and revegetation/ restoration groups	ng kauri plant material potentially within target areas.		differential of sourcing plants from a supplier with kauri dieback-free status approved by council, relative to ability to source from any supplier.	
Commercial operators moving goods or people to the Hauraki Gulf Controlled Area.	Facilitating movement of high risk goods.	Moderate. Exacerbation risk already moderated through voluntary Pest Free Warrant accreditation by over 40 businesses.	Costs to comply with pest free warrant programme requirements. Costs will vary with size and nature of businesses.	None
Occupiers of commercial passenger transport exit or entry points in the Hauraki Gulf Controlled Area e.g. airports, ferry terminals.	Facilitating movement of high risk goods.	Moderate.	Costs associated record keeping relating to phytosanitory stations.	None.

Exacerbators have similar existing legislative responsibilities to those proposed here, through the Unwanted Organism status of kauri dieback, and Unitary Plan provisions. No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake exclusion due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising exclusion success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries and exacerbators are contributing in proportion to their benefits from the plan.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Eradication Programme: Pest plants

The following subjects are grouped for cost allocation analysis:

Common name	Species name	Target Area
boneseed	*Chrysanthemoides monilifera*	Great Barrier
boxthorn	*Lycium ferocissimum*	Great Barrier
bushy asparagus	*Asparagus. aethiopicus*	Great Barrier
cape pond weed	*Aponogeton distachyos*	Great Barrier
Carex scoparia	*Carex scoparia*	Great Barrier
climbing asparagus	*Asparagus scandens*	Great Barrier
climbing gloxinia	*Lophospermum erubescens*	Great Barrier
giant reed	*Arundo donax*	Great Barrier
grey willow	*Salix cinerea*	Great Barrier
Hydrocotyle umbellatum	*Hydrocotyle umbellatum*	Great Barrier
mile-a-minute	*Dipogon lignosus*	Great Barrier
moth plant	*Araujia sericifera*	Great Barrier
Queensland poplar	*Homalanthus populifolius*	Great Barrier
reed sweet grass	*Glyceria maxima*	Great Barrier
sexton's bride	*Rhaphiolepis umbellata*	Great Barrier
rhus tree	*Toxicodendron succedaneum*	Great Barrier
Spanish broom	*Spartium junceum*	Great Barrier
tree of heaven	*Ailanthus altissima*	Great Barrier
tree privet	*Ligustrum lucidum*	Great Barrier
water plantain	*Alisma plantago-aquatica*	Great Barrier
wild ginger	*Hedychium gardnerianum* & *H. flavescens*	Great Barrier
woolly nightshade	*Solanum mauritianum*	Great Barrier
Akebia trifoliata	*Akebia trifoliata*	Whole region
broomsedge	Andropogon virginicus	Whole region
Chilean needle grass	*Nassella neesiana*	Whole region
devil’s fig	*Solanum torvum*	Whole region
great reedmace	*Typha latifolia*	Whole region
green cestrum	*Cestrum parqui*	Whole region

Common name	Species name	Target Area
marshwort	*Nymphoides geminata*	Whole region
Mexican feather grass	*Nassella tenuissima*	Whole region
nassella tussock	*Nassella trichotoma*	Whole region
phragmites karka	*Phragmites karka*	Whole region
scrambling lily	*Geitonoplesium cymosum*	Whole region
water poppy	*Hydrocleys nymphoides*	Whole region
white-edged nightshade	*Solanum marginatum*	Whole region

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below.

The subjects are at a similar stage of infestation within the target areas, namely the early stage of invasion.

The management objectives are the same for all subjects, namely Eradication, which means to reduce the infestation level of the subject to zero levels in the target areas, in the short to medium term**.**

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council).	Prevention of future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$86,000	None	Yes
Great Barrier community	Prevention of future pest	Proportionally through	None	Yes

(Great Barrier Island group target species)	impacts on environmental, economic, human health, social, recreational and cultural values in their local environment.	membership of regional community.		
Primary industries and tourism	Prevention of future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	None	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations who knowingly sell, distribute or propagate pest plants e.g. gardeners or nurseries.	Knowingly selling, distributing or propagating pest plants.	Moderate. Propagule pressure from horticultural trade known to be associated with increased invasion risk.	Foregone opportunity to sell, distribute or propagate pest plants.	None
Passive exacerbators	Individuals or organisations who unintentionally distribute or propagate pest plants e.g. farmers, machinery operators and	Unintentionally spreading pest plants due to poor machine or boating equipment hygiene, or movement of risk goods	Moderate. Boats, nets and other equipment high risk for movement of aquatic pest plants. Soil movement	None	None

boaties.	such as soil.	high risk for spread of terrestrial pest plants.		
Individuals or organisations who unintentionally distribute or propagate pest plants e.g. landowners	Pest plants present on their land due to factors other than their own activity.	Moderate. Species may establish due to wind or bird dispersal and go uncontrolled by landowners.	Proportionally through membership of regional community.	None

Exacerbators have existing legislative responsibilities for some of these species under the National Pest Plant Accord. No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake eradication due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising eradication success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Eradication Programmes: Pest animals

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Target Area
feral pigs	*Sus scrofa*	Waiheke
rodents (ship rats, norway rats, kiore, mice)	*Rattus rattus, Rattus norvegicus, R. exulans, Mus musculus*	Waiheke, Kawau
mustelids (stoats)	*Mustela erminea*	Waiheke, Kawau
possum	*Trichosurus vulpecula*	Kawau
wallabies	*Macropus*, *Petrogale* and *Wallabia* spp.	Kawau

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below.

The subjects are at a similar stage of infestation within the target areas, namely established.

The management objectives are the same for all subjects, namely Eradication, which means to reduce the infestation level of the subject to zero levels in the target areas, in the short to medium term**.**

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Elimination of future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$775,200	None.	Yes

Waiheke and Kawau communities (target species)	Elimination of future pest impacts on environmental, economic, human health, social, recreational and cultural values in their local environment.	Proportionally through membership of regional community.	Indirect costs relating to eradication methods and increased biosecurity measures to prevent reinvasion.	Yes
Primary industries and tourism	Prevention of future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	Indirect costs relating to increased biosecurity measures to prevent reinvasion.	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations who knowingly sell, distribute or breed pest animals e.g. pig hunters, wallaby enthusiasts.	Knowingly selling, distributing (releasing) or breeding pest within target areas.	Moderate - high.	Loss of availability of target species as cultural resources e.g. for hunting (pigs), or for historic significance (wallabies)	Increased costs associated with biosecurity measures to prevent reinvasion post eradication.

Passive exacerbators	Individuals or organisations who unintentionally distribute or propagate pest animals e.g. house movers, transport operators and boaties.	Unintentionally spreading pest animals due to movement of risk goods.	High. Human activity is likely to be the key risk pathway for reinvasion following eradication.	Cost of compliance with Pest Free Warrant programme and inspections.	Indirect costs relating to increased biosecurity measures to prevent reinvasion
	Individuals or organisations who unintentionally distribute or propagate pest animals e.g. landowners	Pest animals present on their land due to factors other than their own activity.	Moderate – high. All individuals of target species must be put at risk for eradication to be successful.	Proportionally through membership of regional community.	Indirect costs relating to eradication methods and increased biosecurity measures to prevent reinvasion

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No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake eradication due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising eradication success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan and philanthropic investment.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan, and exacerbators are contributing in proportion to the extent of their exacerbation.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

Philanthropic investment, general rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates to provide for Council's contribution. However, costs shown here to be borne by council assume 70% of operational expenditure can be covered by philanthropic investment.

Progressive Containment Programmes: Pest plants

The following subjects are grouped for cost allocation analysis:

Common name	Species name	Target Area
kangaroo acacia	*Acacia paradoxa*	Great Barrier
purple groundsel	*Senecio elegans*	Great Barrier
royal fern	*Osmunda regalis*	Great Barrier
smilax	*Asparagus asparagoides*	Great Barrier
mile-a-minute	*Dipogon lignosus*	HGCA
rhamnus	*Rhamnus alaternus*	HGCA
lantana*	*Lantana camara*	Rural areas
wild broom	*Cytisus scoparius* (excl. cultivated varieties)	Rural areas
Asiatic knotweed	*Reynoutria japonica* syn. *Fallopia japonica, R. sachalinensis* syn. *F. sachalinensis* & hybrids	Whole region
cathedral bells	*Cobaea scandens*	Whole region
climbing spindle berry	*Celastrus orbiculatus*	Whole region
houttuynia	*Houttuynia cordata*	Whole region
needle grass	*Austrostipa rudis*	Whole region
noogoora bur*	*Xanthium occidentale*	Whole region
old man's beard	*Clematis vitalba*	Whole region
Sagittaria species	*Sagittaria* spp. (except *S. teres*)	Whole region
Senegal tea	*Gymnocoronis spilanthoides*	Whole region
wild kiwifruit*	*Actinidia species* (wild varieties only)	Whole region
spartina	*Spartina alterniflora, S. anglica & S. x townsendii*	Whole region except Kaipara Harbour (i.e. programme applies to Manukau, Waitematā and Mahurangi Harbours)

* Landowner rules apply

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below. Identified minor differences in exacerbator rights and responsibilities among subjects are:

i) Only species denoted by asterisk in the table above have rules requiring control by landowners.

The subjects are at a similar stage of infestation within the target areas, namely a restricted range but potential to expand the range and/or intensity of infestation.

The management objectives are the same for all subjects, namely Progressive Containment, which means to contain or reduce the geographic distribution of the subject over time within the target areas.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Reduction in future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$714,200	None	Yes
Great Barrier Island group and Hauraki Gulf Contolled Area communities (target species)	Reduction in future pest impacts on environmental, economic, human health, social, recreational and cultural values in their local	Proportionally through membership of regional community.	None	Yes

	environment.			
Primary industries and tourism	Reduction in future pest impacts on economic wellbeing.	Proportionally through membership of regional community and as landowners subject to rules.	None	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations who knowingly sell, distribute or propagate pest plants e.g. gardeners, nurseries, medicinal plant growers.	Knowingly selling, distributing or propagating pest plants.	Moderate. Propagule pressure from horticultural trade known to be associated with increased invasion risk.	Foregone opportunity to sell, distribute or propagate pest plants.	None
Passive exacerbators	Individuals or organisations who unintentionally distribute or propagate pest plants e.g. farmers, machinery operators and boaties.	Unintentionally spreading pest plants due to poor machine or boating equipment hygiene, or movement of risk goods such as soil.	Moderate. Boats, nets and other equipment high risk for movement of aquatic pest plants. Terrestrial pest plants spread by human-assisted movement of soil,	None.	None

	machinery, boats and other goods. Natural dispersal from uncontrolled populations.

Exacerbators have existing legislative responsibilities for some of these species under the National Pest Plant Accord. No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake progressive containment due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising progressive containment success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan, and exacerbators are contributing in proportion to the extent of their exacerbation.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Progressive Containment Programmes: Pest animals

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Area applied to
feral deer*	*Cervus, Axis, Dama, Odocoileus, Elaphurus* spp. including any hybrid	Whole region
feral goat**	*Capra hircus*	Whole region
sulphur-crested cockatoo	*Cacatua galerita*	Whole region

* With specific rules pertaining to Waitākere and Hunua

** With specific rules pertaining to Waitākere, Hunua and Hauraki Gulf Controlled Area.

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below. The beneficiaries and exacerbators have existing legislative responsibilities and rights, including under the Wild Animal Control Act 1977.

The subjects are at a similar stage of infestation within the target areas, namely a restricted range but potential to expand the range and/or intensity of infestation.

The management objectives are the same for all subjects, namely Progressive Containment, which means to contain or reduce the geographic distribution of the subject over time within the target areas.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Reduction in future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$491,740	None	Yes

Primary industries and tourism	Prevention of future pest impacts on economic wellbeing.	Proportionally through membership of regional community, and as landowners subject to rules.	None	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations who knowingly sell, transport, distribute (release) or breed pest animals e.g. recreational hunters, pet breeders.	Knowingly breeding and selling pests e.g. pet industry. Intentionally liberating pests into the wild e.g. to supplement hunting resource or abandonment of unwanted pets.	Moderate. Deliberate release for hunting is a key risk factor for invasion of Hunua and Waitākere (deer and goats). Propagule pressure from pet trade known to be associated with increased invasion risk (sulphur crested cockatoos).	Loss of pet trade revenue (sulphur crested cockatoos). Value estimated to be insignificant for major retail chains, and are data deficient for online and smaller retailers. Potential economic, physical and mental health costs to iwi and recreational hunters through reductions in existing	Minor loss of revenue from pet accessories and food (sulphur crested cockatoos).

				feral deer herds	
Passive exacerbators	Individuals or organisations who fail to adequately contain captive individuals of target species, leading to unintentional release e.g. farmers, pet owners.	Inadequate fencing (deer and goats) or other methods of containment, leading to unintentional release of pests into the wild.	Moderate. Inadequate containment of farmed deer and goats is key risk factor for invasion of Hunua and Waitākere (deer and goats).	Cost differential to bring existing fencing to acceptable standard.	None.
	Individuals or organisations who unintentionally distribute or propagate pest animals e.g. landowners	Pest animals present on their land due to factors other than their own activity.	Low. All three target species mobile across landscape.	None.	None.

Deer and goat farmers have existing legislative responsibilities under the Wild Animal Control Act. No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agents to undertake the control to meet the objectives of the programmes are Auckland Council and deer/goat farmers. A single agency is best placed to undertake progressive containment due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses. Deer and goat farmers are best placed to ensure their livestock are adequately contained.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately

for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of cost recovery difficulties jeopardising progressive containment success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan, and exacerbators are contributing in proportion to the extent of their exacerbation.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Progressive Containment Programmes: Possums

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Target Area
Possum	*Trichosurus vulpecula*	Rural areas

The stage of infestation in the target areas is established.

The management objective is Progressive Containment, which means to contain or reduce the geographic distribution of the subject over time within the target areas.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Reduction in future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$4,130,900	None	Yes
Primary industries and tourism	Reduction in future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	None	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations	Knowingly selling,	Low. Few cases of	None.	None.

	who knowingly sell, distribute (release) or breed pest animals e.g. pet owners, ecovandals.	distributing (releasing) or breeding pest within target areas.	possum ownership within the region. Deliberate release into wild uncommon.		
Passive exacerbators	Individuals or organisations who unintentionally distribute or propagate pest animals e.g. landowners	Pest animals present on their land due to factors other than their own activity.	Moderate. Control efficacy greatest when undertaken at a landscape scale with all properties participating.	Proportionally through membership of regional community.	None

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No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake progressive containment due to economies of scale, consistency and certainty and the need for appropriate expertise.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties, or inconsistent implementation jeopardising progressive containment success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Sustained Control Programmes: Pest plants

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Target Area
African club moss	*Selaginella kraussiana*	Whole region
African pig's ear	*Cotyledon orbiculata*	Whole region
agapanthus	*Agapanthus praecox*	Whole region
alder	*Alnus glutinosa*	Whole region
alligator weed	*Alternanthera philoxeroides*	Whole region
aristea / African violet	*Aristea ecklonii*	Whole region
artillery plant	*Lamium galeobdolon*	Whole region
arum lily	*Zantedeschia aethiopica*	Whole region
Australian sedge	*Carex longebrachiata*	Whole region
baccharis	*Baccharis halimifolia*	Whole region
bamboo spp.	*Phyllostachys aurea, Phyllostachys nigra, Pleioblastus auricomus, Pleioblastus hindsii, Pseudosasa japonica, Chimonobambusa quadrangularis*	Whole region
banana passionfruit	*Passiflora tripartita var. mollissima, P. mixta & P. tarminiana*	Whole region
bangalow palm	*Archontophoenix cunninghamii*	Whole region
barberry	*Berberis glaucocarpa*	Whole region
bartlettina	*Bartlettina sordida*	Whole region
bbur*	*Xanthium spinosum*	Whole region
berry heath	*Erica baccans*	Whole region
black wattle	*Acacia mearnsii*	Whole region
blackberry (wild aggregates)	*Rubus fruticosus agg.*	Whole region
bladderwort species	*Utricularia arenaria, U. gibba, U. livida & U. sandersonii*	Whole region
blue morning glory	*Ipomoea indica*	Whole region
blue passion flower	*Passiflora caerulea*	Whole region
blue spur flower	*Plectranthus ecklonii & P. grandis*	Whole region

Common name	Latin name	Target Area
Bolivian fuchsia	*Fuchsia boliviana*	Whole region
bomarea	*Bomarea caldasii & B. multiflora*	Whole region
boneseed	*Chrysanthemoides monilifera*	Whole region
boxthorn	*Lycium ferocissimum*	Whole region
Brazilian pepper tree	*Schinus terebinthifolius*	Whole region
Brazilian rattlebox	*Sesbania punicea*	Whole region
brush wattle	*Paraserianthes lophantha*	Whole region
buddleia	*Buddleja davidii*	Whole region
bur daisy	*Calotis lappulacea*	Whole region
burdock	*Arctium minus*	Whole region
bushy asparagus	*Asparagus aethiopicus*	Whole region
buttercup bush	*Senna septemtrionalis*	Whole region
Californian bulrush	*Schoenoplectus californicus*	Whole region
Californian thistle	*Cirsium arvense*	Whole region
Canary Island ivy	*Hedera helix* subsp. *canariensis*	Whole region
Cape honey flower	*Melianthus major*	Whole region
Cape ivy	*Senecio angulatus*	Whole region
Cape sundew	*Drosera capensis*	Whole region
carex	*Carex divulsa*	Whole region
castor oil plant	*Ricinus communis*	Whole region
cat's claw creeper	*Macfadyena unguiscati*	Whole region
Cenchrus species (except kikuyu grass and pearl millet)	*Cenchrus* spp.	Whole region
century plant	*Agave americana*	Whole region
Chilean flame creeper	*Tropaeolum speciosum*	Whole region
Chilean glory creeper	*Eccremocarpus scaber*	Whole region
Chilean rhubarb	*Gunnera tinctoria*	Whole region
Chinese fan palm	*Trachycarpus fortunei*	Whole region
Chinese Hollygrape	*Mahonia lomariifolia*	Whole region
chocolate vine	*Akebia quinata*	Whole region

Common name	Latin name	Target Area
clematis flammula	*Clematis flammula*	Whole region
climbing asparagus	*Asparagus scandens*	Whole region
climbing dock	*Rumex sagittatus*	Whole region
climbing gloxinia	*Lophospermum erubescens*	Whole region
coast banksia	*Banksia integrifolia*	Whole region
coltsfoot	*Tussilago farfara*	Whole region
cotoneaster	*Cotoneaster glaucophyllus & C. franchetii*	Whole region
crack willow	*Salix fragilis*	Whole region
creeping fig	*Ficus pumila*	Whole region
dally pine	*Psoralea pinnata*	Whole region
Darwin's barberry	*Berberis darwinii*	Whole region
devil's tail	*Persicaria perfoliata*	Whole region
divided sedge	*Carex divisa*	Whole region
dragon Tree	*Dracaena draco*	Whole region
drooping prickly pear	*Opuntia* spp.	Whole region
dusky coral pea	*Kennedia rubicunda*	Whole region
eel grass	*Vallisneria australis*	Whole region
egeria	*Egeria densa*	Whole region
elaeagnus	*Elaeagnus x reflexa*	Whole region
elephant's ear	*Alocasia macrorrhiza*	Whole region
elodea	*Elodea canadensis*	Whole region
English ivy	*Hedera helix* subsp. *helix*	Whole region
false tamarisk	*Myricaria germanica*	Whole region
fatsia	*Fatsia japonica*	Whole region
ferny asparagus	*Asparagus plumosus*	Whole region
firethorn	*Pyracantha angustifolia*	Whole region
Formosa lily	*Lilium formosanum*	Whole region
fucraea	*Fucraea* spp.	Whole region
German ivy	*Senecio mikanioides*	Whole region
giant reed	*Arundo donax*	Whole region

Common name	Latin name	Target Area
giant rhubarb	*Gunnera manicata*	Whole region
goat's rue	*Galega officinalis*	Whole region
gorse	*Ulex* spp.	Whole region
grey willow	*Salix cinerea*	Whole region
guava	*Psidium cattleianum*	Whole region
Guinea grass	*Megathyrsus maximus*	Whole region
gypsywort	*Lycopus europaeus*	Whole region
hakea	*Hakea sericea, H. gibbosa & H. salicifolia*	Whole region
hawkweed	*Pilosella* spp.	Whole region
hawthorn	*Crataegus monogyna*	Whole region
heather	*Calluna vulgaris (excluding double flowered cultivars)*	Whole region
hemlock	*Conium maculatum*	Whole region
Himalayan honeysuckle	*Leycesteria formosa*	Whole region
holly-leaved senecio	*Senecio glastifolius*	Whole region
hornwort	*Ceratophyllum demersum*	Whole region
horsetail	*Equisetum* spp.	Whole region
Hydrocotyle umbellatum	*Hydrocotyle umbellatum*	Whole region
iceplant	*Carpobrotus edulis* & hybrids	Whole region
Italian arum	*Arum italicum*	Whole region
Italian jasmine	*Jasminum humile*	Whole region
Japanese cherry	*Prunus serrulata*	Whole region
Japanese honeysuckle	*Lonicera japonica*	Whole region
Japanese spindle tree	*Euonymus japonicus*	Whole region
Japanese walnut	*Juglans ailantifolia*	Whole region
jasmine	*Jasminum polyanthum*	Whole region
kangaroo acacia	*Acacia paradoxa*	Whole region
khasia berry	*Cotoneaster simonsii*	Whole region
kudzu vine	*Pueraria montana*	Whole region
lagarosiphon, oxygen	*Lagarosiphon major*	Whole region

Common name	Latin name	Target Area
weed		
lizard's tail	*Saururus cernuus*	Whole region
lodgepole pine	*Pinus contorta*	Whole region
loquat	*Eriobotrya japonica*	Whole region
Madeira vine	*Anredera cordifolia*	Whole region
male fern	*Dryopteris filixmas*	Whole region
marram grass	*Ammophila arenaria*	Whole region
Mexican daisy	*Erigeron karvinskianus*	Whole region
Mexican devil	*Ageratina adenophora*	Whole region
Mexican water lily	*Nymphaea mexicana*	Whole region
Mickey Mouse plant	*Ochna serrulata*	Whole region
mile-a-minute	*Dipogon lignosus*	Whole region
mist flower	*Ageratina riparia*	Whole region
monkey apple	*Syzygium smithii*	Whole region
montbretia	*Crocosmia x crocosmiiflora*	Whole region
Montpellier broom	*Genista monspessulana*	Whole region
Morton Bay fig	*Ficus macrophylla*	Whole region
moth plant	*Araujia sericifera*	Whole region
nardoo	*Marsilea mutica*	Whole region
nodding thistle*	*Carduus nutans*	Whole region
Norfolk Island hibiscus	*Lagunaria patersonii*	Whole region
nutgrass	*Cyperus rotundus*	Whole region
oxylobium	*Callistachys lanceolata*	Whole region
palm grass	*Setaria palmifolia*	Whole region
pampas grass	*Cortaderia jubata & C. selloana*	Whole region
paperbark poplar	*Melaleuca quinquenervia*	Whole region
parrot's feather	*Myriophyllum aquaticum*	Whole region
perennial nettle	*Urtica dioica*	Whole region
periwinkle	*Vinca major*	Whole region
phoenix palm	*Phoenix canariensis*	Whole region
pitted crassula	*Crassula multicava*	Whole region

Common name	Latin name	Target Area
plectranthus	*Plectranthus ciliatus*	Whole region
plumeless thistle	*Carduus acanthoides*	Whole region
Port Jackson fig	*Ficus rubiginosa*	Whole region
Prickly-leaved wattle	*Acacia verticillata*	Whole region
privet	*Ligustrum lucidum & L. sinense*	Whole region
queen of the night	*Cestrum nocturnum*	Whole region
Queensland poplar	*Homalanthus populifolius*	Whole region
Queensland umbrella tree	*Schefflera actinophylla*	Whole region
ragwort	*Jacobaea vulgaris*	Whole region
red dragon	*Persicaria microcephala*	Whole region
red valerian	*Centranthus ruber*	Whole region
reed sweet grass	*Glyceria maxima*	Whole region
rhamnus	*Rhamnus alaternus*	Whole region
rhaphiolepis / sexton's bride	*Rhaphiolepis umbellata*	Whole region
rhus tree	*Toxicodendron succedaneum*	Whole region
rough tree fern	*Cyathea cooperi*	Whole region
royal fern	*Osmunda regalis*	Whole region
rum cherry	*Prunus serotina*	Whole region
saffron thistle	*Carthamus lanatus*	Whole region
salt-water paspalum	*Paspalum vaginatum*	Whole region
Selaginella spp.	*Selaginella martensii, S. moellendorffii, S. uncinata*	Whole region
sharp rush	*Juncus acutus*	Whole region
sheep’s bur	*Acaena agnipila*	Whole region
skeleton weed	*Chondrilla juncea*	Whole region
smilax	*Asparagus asparagoides*	Whole region
snow poppy	*Eomecon chionantha*	Whole region
Soap aloe	*Aloe maculata*	Whole region
Spanish broom	*Spartium junceum*	Whole region

Common name	Latin name	Target Area
Spanish heath	*Erica lusitanica*	Whole region
spiny broom	*Calicotome spinosa*	Whole region
strangling fig	*Ficus microcarpa*	Whole region
sweet briar	*Rosa rubiginosa*	Whole region
sweet pea shrub	*Polygala myrtifolia* (excl. cv. 'Grandiflora')*	Whole region
sweet pittosporum	*Pittosporum undulatum*	Whole region
Sydney golden wattle	*Acacia longifolia*	Whole region
Taiwan cherry	*Prunus campanulata*	Whole region
Tasmanian ngaio	*Myoporum insulare* and hybrids	Whole region
tradescantia	*Tradescantia fluminensis*	Whole region
tree lupin	*Lupinus arboreus*	Whole region
tree of heaven	*Ailanthus altissima*	Whole region
tuber ladder fern	*Nephrolepis cordifolia*	Whole region
tutsan	*Hypericum androsaemum*	Whole region
variegated thistle*	*Silybum marianum*	Whole region
velvet groundsel	*Roldana petasitis*	Whole region
water primrose	*Ludwigia peploides* subsp. *montevidensis*	Whole region
wild broom	*Cytisus scoparius (excl. cultivated varieties)*	Whole region
wild ginger	*Hedychium gardnerianum & H. flavescens*	Whole region
woolly nightshade	*Solanum mauritianum*	Whole region
yellow bristle grass	*Setaria pumila*	Whole region
yellow flag iris	*Iris pseudacorus*	Whole region
yellow guava	*Psidium guajava*	Whole region
yellow Passionfruit	*Passiflora ligularis*	Whole region
yellow water lily	*Nuphar lutea*	Whole region
	Carex scoparia	Whole region
spartina	*Spartina alterniflora, S. anglica & S. x townsendii*	Kaipara harbour

* Landowner rule applies.

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below. Identified minor differences in exacerbator rights and responsibilities among subjects are:

ii) Only species denoted by an asterisk in the table above have rules requiring control by landowners.

The subjects are at a variety of different stages of invasion, from unknown in the region to widespread and abundantly naturalised.

The management objectives are the same for all subjects, namely to provide for on-going control of the subject, to reduce its impacts on values and spread to other properties by reducing human-mediated spread.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Reduction in future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$884,000	None	Yes
Primary industries and tourism	Reduction in future pest impacts on economic wellbeing.	Proportionally through membership of regional community, and as landowners subject to rules.	None	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators			Ranging from low to high. Propagule pressure from horticultural trade known to be associated with increased invasion risk.	Value to the nursery industry ranges from insignificant up to $500,000 per species per annum. However, net costs of the programme may be considerably lower than the retail value of the species due to customer choice substitution. Gardeners will no longer be able to acquire new pest plants, although they will be able to retain plants already on their property unless there is an associated landowner removal rule. Costs to landowners of	None

				undertaking control to meet rule will vary depending on a range of factors but may be in the order of $15-$1000 per complaint.	
Passive exacerbators	Individuals or organisations who unintentionally distribute or propagate pest plants e.g. farmers, machinery operators and boaties.	Unintentionally spreading pest plants due to poor machine or boating equipment hygiene, or movement of risk goods such as soil.	Moderate. Boats, nets and other equipment high risk for movement of aquatic pest plants. Terrestrial pest plants spread by human-assisted movement of soil, machinery, boats and other goods. Natural dispersal from uncontrolled populations.	None specified, but hygiene required to avoid knowingly distributing pest.	None
	Individuals or organisations who unintentionally distribute or propagate pest plants e.g. landowners.	Pest plants present on their land due to factors other than their own activity.	Moderate. Species may establish due to wind or bird dispersal and go uncontrolled by	Landowners to control target species (those denoted with asterisk in table above)	None

landowners.

Exacerbators have existing legislative responsibilities for some of these species under the National Pest Plant Accord. No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake sustained control due to economies of scale, consistency and certainty and the need for appropriate expertise and inspections.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising sustained control success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan, and exacerbators are contributing in proportion to the extent of their exacerbation.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Sustained Control Programmes: Pest animals

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Target Area
mustelids (weasel, stoat, ferret)	*Mustela furo, M. erminea & M.nivalis*	Whole region (except where other programmes apply)
rodents (ship rats, Norway rats, kiore, mice)	*Rattus rattus, Rattus norvegicus, R. exulans, Mus musculus*	Whole region (except where other programmes apply)
Argentine ant	*Linepithema humile*	Whole region
bearded dragon	*Amphibolurus barbatus*	Whole region
blue-tongued skink	*Tiliqua scincoides & T. nigrolutea*	Whole region
brown bullhead catfish	*Ameiurus nebulosus*	Whole region
Canadian geese	*Branta canadensis*	Whole region
cats (pest)	*Felis catus*	Whole region
Darwin's ant	*Doleromyrma darwiniana*	Whole region
eastern rosella	*Platycercus eximius*	Whole region
eastern water dragon	*Physignathus lesueurii lesueurii*	Whole region
feral pig	*Sus scrofa*	Whole region
galah	*Cacatua roseicapilla*	Whole region
gambusia	*Gambusia affinis*	Whole region
goldfish*	*Carassius auratus*	Whole region
hedgehog	*Erinaceus europaeus*	Whole region
Indian ring-necked parakeet	*Psittacula krameri*	Whole region
koi carp	*Cyprinus carpio*	Whole region
magpie	*Gymnorhina sp.*	Whole region
monk parrot	*Myiopsitta monachus*	Whole region
myna	*Acridotheres tristis*	Whole region
perch	*Perca fluviatilis*	Whole region
plague skink (syn. rainbow skink)	*Lampropholis delicata*	Whole region

Common name	Latin name	Target Area
rabbits and hares**	*Oryctolagus cuniculus, Lepus europaeus*	Whole region
rainbow lorikeet	*Trichoglossus haemotodus* & all hybrids	Whole region
red-eared slider turtle	*Trachemys scripta elegans, T. scripta scripta, T. scripta troostii*	Whole region
rudd	*Scardinius erythrophthalmus*	Whole region
shingleback lizard*	*Trachydosaurus rugosus*	Whole region
snake-neck turtle	*Chelodina longicollis*	Whole region
tench	*Tinca tinca*	Whole region
wasps (German, common, Asian paper, Australian paper)	*Vespula spp.; Polistes spp.*	Whole region

* Outside of secure containment.

** Good neighbour rule applies.

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below. Identified minor differences in exacerbator rights and responsibilities among subjects are:

i) Goldfish are only pests outside of secure containment (programme does not prohibit breeding, sale and distribution).
ii) Only rabbits and hares have rules requiring control by landowners.

The beneficiaries and exacerbators have existing legislative responsibilities and rights, including under the Wild Animal Control Act 1977, Animal Welfare Act 1999, Wildlife Act 1953, Conservation Act 1987, and various fisheries regulations.

The subjects are at a variety of stages of infestation, from not established in the wild to widespread or common within the target areas.

The management objectives are the same for all subjects, namely to provide for on-going control of the subject, to reduce its impacts on values and spread to other properties by reducing human-mediated spread.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary	Nature of	Direct costs	Indirect	Do benefits

group	benefits	to be borne (per annum)	costs to be borne	outweigh costs?
Regional community (delivered through Auckland Council)	Reduction in future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$528,400	None	Yes
Primary industries and tourism	Reduction in future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	None	Yes.

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations who knowingly sell, distribute or breed pest animals e.g. pet breeders or pet trade	Knowingly selling, distributing or breeding pest thereby spreading into or within the region.	Moderate. Propagule pressure from pet trade known to be associated with increased invasion risk.	Loss of pet trade revenue within target areas (doesn't apply to goldfish).	Minor loss of revenue associate with pet food and accessories.
	Individuals or organisations who knowingly release pests into the wild e.g. pet owners, coarse	Knowingly liberating pest animals into the wild e.g. abandonment of unwanted pets, active stocking of	Moderate. Propagule pressure from pet trade or human access to waterbodies known to	Foregone opportunity to replace existing pets or to undertake coarse fishing at new sites	None.

	fishers	waterbodies for coarse fishing.	be associated with increased invasion risk.		
Passive exacerbators	Individuals or organisations who unintentionally distribute or propagate pest animals e.g. landowners	Pest animals present on their land due to factors other than their own activity.	Moderate.	Landowners to undertake control of rabbits along boundary on complaint from affected neighbours. For all other species, no costs.	None
	Individuals or organisations who unintentionally distribute or propagate pest animals	Unintentionally spreading pest animals due to movement of risk goods.	Moderate. Human activity is likely to be the key risk pathway for spread of some species e.g. Argentine ants.	None	None

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No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake sustained control due to economies of scale, consistency and certainty and the need for appropriate expertise and inspections.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017

unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising sustained control success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan, and exacerbators are contributing in proportion to the extent of their exacerbation.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Sustained Control Programmes: Pest pathogens

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Target Area
Dutch elm disease	*Ophiostoma novo-ulmi*	Whole region
Kauri dieback disease	*Phytophthora agathidicida, P. multivora*	Whole region

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below.

The subjects are at a similar stage of infestation, namely widespread or common within the target areas.

The management objectives are the same for all subjects, namely to provide for on-going control of the subject, to reduce its impacts on values and spread to other properties.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Value of benefits (where possible)	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Prevention of future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$3,154,600	None	Yes	Yes
Primary industries and tourism	Prevention of future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	None	Yes	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations undertaking earthworks or tree removal on their property within three times the drip line of any kauri tree.	Knowingly transporting any untreated kauri plant material, soil, or goods contaminated with soil, into our out of an area within three times the drip line of any New Zealand kauri tree, unless the purpose of the transport is to dispose of the material at an approved Auckland Council containment landfill.	High. Human-mediated movement of contaminated soil is main cause of jump-dispersal between infected and uninfected kauri areas.	Landowner costs may be comprised of consent applications and additional contractor operating costs associated with phytosanitary materials and cleaning time and transporting earthworks to approved landfills.	None.
	Individuals or organisations who do not destroy infected elm trees on their property, store elm wood on property for firewood and/or transport	Knowingly allowing infected tree or plant material to remain on property and/or transporting untreated dutch elm plant material within the	Moderate. Risk of illegal dumping of untreated dutch elm plant material. Majority of exacerbators are aware of current movement restrictions	Costs to landowners vary, depending on the size and site of the tree to be removed, but indicatively may be in excess of $1,000 per infected tree.	None.

	untreated dutch elm plant material within the region, unless the purpose of the transport is to dispose of the material at an approved Auckland Council containment landfill. E.g landowners or arborists.	region potentially exacerbating spread by beetle vector.	and are likely to comply.	Foregone opportunity costs of being unable to use Dutch elm wood as firewood.	
Passive exacerbators	Individuals or organisations who unknowingly transport potentially contaminated soil from infected kauri areas to uninfected kauri areas. E.g. trampers, local walkers or tourists.	Unknowingly transporting potentially contaminated from infected kauri areas to uninfected kauri areas.	High. Human-mediated movement of contaminated soil is main cause of jump-dispersal between catchments.	Small time costs associated with cleaning footwear or other equipment.	None.

No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programme(s) is Auckland Council. A single agency is best placed to undertake sustained control due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan

for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising sustained control success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programme(s) will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Site-led Programmes: Pest plants

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Target Area
box thorn	*Lycium ferocissimum*	HGCA
madeira vine	*Anredera cordifolia*	HGCA
moth plant*	*Araujia sericifera*	HGCA
agapanthus**	*Agapanthus praecox*	Priority Parks
alligator weed	*Alternanthera philoxeroides*	Priority Parks
aristea / African violet**	*Aristea ecklonii*	Priority Parks
bangalow palm	*Archontophoenix cunninghamii*	Priority Parks
blue morning glory	*Ipomoea indica*	Priority Parks
boneseed	*Chrysanthemoides monilifera*	Priority Parks
boxthorn	*Lycium ferocissimum*	Priority Parks
bushy asparagus**	*Asparagus aethiopicus*	Priority Parks
Chinese fan palm	*Trachycarpus fortunei*	Priority Parks
Chinese privet	*Ligustrum sinense*	Priority Parks
climbing asparagus**	*Asparagus scandens*	Priority Parks
coast banksia**	*Banksia integrifolia*	Priority Parks
Formosa lily**	*Lilium formosanum*	Priority Parks
giant reed	*Arundo donax*	Priority Parks
Japanese honeysuckle	*Lonicera japonica*	Priority Parks
Jasmine**	*Jasminum polyanthum*	Priority Parks
madeira vine**	*Anredera cordifolia*	Priority Parks
monkey apple	*Syzygium smithii*	Priority Parks
moth plant**	*Araujia sericifera*	Priority Parks
Norfolk Island hibiscus	*Lagunaria patersonii*	Priority Parks
pampas grass	*Cortaderia jubata & C. selloana*	Priority Parks
phoenix palm	*Phoenix canariensis*	Priority Parks
privet	*Ligustrum lucidum*	Priority Parks
rhamnus**	*Rhamnus alaternus*	Priority Parks
royal fern	*Osmunda regalis*	Priority Parks

Common name	Latin name	Target Area
salt water paspalum	*Paspalum vaginatum*	Priority Parks
sharp rush	*Juncus acutus*	Priority Parks
Tasmanian ngaio	*Myoporum insulare including hybrids*	Priority Parks
wild ginger	*Hedychium gardnerianum & H. flavescens*	Priority Parks
woolly nightshade**	*Solanum mauritianum*	Priority Parks
egeria	*Egeria densa*	Priority lakes (Rototoa & Tomarata)
hornwort	*Ceratophyllum demersum*	Priority lakes (Rototoa & Tomarata)

* Landowner rule applies

** Good neighbour rule applies

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below.

i) Only species denoted by asterisks in the table above have rules requiring control by landowners.

The subjects are at a variety of stages of infestation from expanding populations to widespread and abundant.

The management objectives are the same for all subjects, namely site-led, which means that the subject, that is capable of causing damage to the target areas, is controlled within those target areas to an extent that protects the values of those areas.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland	Reduction in future pest impacts on environmental, economic,	$12,315,500	None	Yes

Council)	human health, social, recreational and cultural values.			
Communities in and neighbouring target areas	Reduction in future pest impacts on environmental, economic, human health, social, recreational and cultural values in their local environment.	Proportionally through membership of regional community.	None	Yes
Tourism industry	Reduction in future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	None	Yes

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations who knowingly distribute or propagate pests in or near the target areas e.g. gardeners.	Knowingly distributing or propagating the pest in or near the target areas.	Moderate. Propagule pressure from horticultural trade known to be associated with increased invasion risk.	Landowners to control target species (those denoted with asterisks in table above).	None.
	Individuals or organisations who	Knowingly spreading pest plants	High. Human-mediated	None.	None

	knowingly spread pest plants into target areas e.g. gardeners dumping garden waste, aquarium owners dumping contents.	into target areas.	movement of plant material is a primary cause of jump-dispersal for many pest plants. Aquatic pest plants are often spread through deliberate releases into waterbodies.		
Passive exacerbators	Individuals or organisations who unintentionally distribute or propagate pest plants e.g. landowners, transport corridor operators.	Pest plants present on their land due to factors other than their own activity.	Moderate. Species may establish due to wind or bird dispersal and go uncontrolled by landowners.	Landowners to control target species (those denoted with asterisks in table above).	None
	Individuals or organisations who unintentionally distribute or propagate pest plants e.g. farmers, machinery operators and boaties.	Unintentionally spreading pest plants due to poor machine or boating equipment hygiene, or movement of risk goods such as soil.	Moderate. Boats, nets and other equipment high risk for movement of aquatic pest plants. Terrestrial pest plants spread by human-assisted movement of soil, machinery, boats and other goods. Natural	None.	None

	dispersal from uncontrolled populations.

Exacerbators have existing legislative responsibilities for some of these species under the National Pest Plant Accord. No other relevant legislative responsibilities and rights of beneficiaries and exacerbators have been identified.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake site-led programmes due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses. Nearby landowners including transport corridor operators also have a role to play in ensuring consistent and coordinated control in surrounding areas to reduce reinvasion.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising site-led programme success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan, and exacerbators are contributing in proportion to the extent of their exacerbation.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.

Site-led Programmes: Pest animals

The following subjects are grouped for cost allocation analysis:

Common name	Latin name	Target Area
Argentine ant	*Linepithema humile*	HGCA
cats (pest)	Felis catus	HGCA
Darwin's ant	*Doleromyrma darwiniana*	HGCA
feral pig	*Sus scrofa*	HGCA
hedgehog	*Erinaceus europaeus*	HGCA
mustelids (weasel, stoat, ferret)	*Mustela furo, M. erminea* & *M.nivalis*	HGCA
plague skink (syn. rainbow skink)	*Lampropholis delicata*	HGCA
possum	*Trichosurus vulpecula*	HGCA
rabbits and hares	*Oryctolagus cuniculus, Lepus europaeus*	HGCA
rodents (ship rats, norway rats, kiore, mice)	*Rattus rattus, Rattus norvegicus, R. exulans, Mus musculus*	HGCA
cats (all cats)	*Felis catus*	Threatened species refugia
feral pig	*Sus scrofa*	Priority Parks
mustelids (weasel, stoat, ferret)	*Mustela furo, M. erminea & M.nivalis*	Priority Parks
rodents (ship rats, norway rats, kiore, mice)	*Rattus rattus, Rattus norvegicus, R. exulans, Mus musculus*	Priority Parks
brown bullheaded catfish	*Lampropholis delicata*	Priority lakes (Rototoa & Tomarata)
koi	*Cyprinus carpio*	Priority lakes (Rototoa & Tomarata)
perch	*Perca fluviatilis*	Priority lakes (Rototoa &

Common name	Latin name	Target Area
		Tomarata)
rudd	*Scardinius erythrophthalmus*	Priority lakes (Rototoa & Tomarata)
tench	*Tinca tinca*	Priority lakes (Rototoa & Tomarata)

The subjects have similar groups of beneficiaries and exacerbators as identified below.

The exacerbators have similar existing legislative responsibilities and rights as identified below.

The subjects are at a similar stage of infestation, namely established in the target areas.

The management objectives are the same for all subjects, namely site-led, which means that the subject, that is capable of causing damage to the target areas, is controlled within those target areas to an extent that protects the values of those areas.

Beneficiaries, along with the benefits they are expected to receive, and proposed costs they will bear, include:

Beneficiary group	Nature of benefits	Direct costs to be borne (per annum)	Indirect costs to be borne	Do benefits outweigh costs?
Regional community (delivered through Auckland Council)	Reduction in future pest impacts on environmental, economic, human health, social, recreational and cultural values.	$7,196,500	None	Yes
Communities in and neighbouring target areas	Reduction in future pest impacts on environmental,	Proportionally through membership of regional	None	Yes

	economic, human health, social, recreational and cultural values in their local environment.	community.			
Primary industries and tourism	Reduction in future pest impacts on economic wellbeing.	Proportionally through membership of regional community.	None	Yes	

Exacerbators, along with the proposed costs they will bear, include:

Exacerbator type	Exacerbator group	Nature of exacerbation	Value of exacerbation	Direct costs to be borne	Indirect costs to be borne
Active exacerbators	Individuals or organisations who knowingly allow pest animals to access the target areas e.g. pet owners	Allowing owned cats to wander into target areas.	Moderate. High proportion of households own cats. Unowned cat population subsidised by owned cat population.	Costs (voluntary) to ensure owned cats are identifiable (micro-chipped and registered) or else sufficiently contained to prevent wandering into target areas.	None.
	Individuals or organisations who knowingly	Intentionally liberating pests into the wild e.g. to	Moderate.	None.	None

	distribute (release) pest animals within or near the target areas e.g. pig hunters, coarse fishers	supplement hunting of fishing resources.			
Passive exacerbators	Individuals or organisations who unintentionally distribute or propagate pest animals e.g. landowners	Pest animals present on their land near target areas due to factors other than their own activity.	Moderate.	None	None
	Individuals or organisations who unintentionally distribute or propagate pest animals e.g. house movers, transport operators and boaties.	Unintentionally spreading pest animals due to movement of risk goods.	High. Human activity is likely to be the key risk pathway for reinvasion following eradication.	Cost of compliance with Pest Free Warrant programme and inspections.	Indirect costs relating to increased biosecurity measures to prevent reinvasion

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The beneficiaries and exacerbators have existing legislative responsibilities and rights, including under various fisheries regulations.

The most effective agent to undertake the control to meet the objectives of the programmes is Auckland Council. A single agency is best placed to undertake site-led programmes due to economies of scale, consistency and certainty and the need for appropriate expertise and rapid responses.

The degree of urgency to make the plan is high, as the previous Auckland Regional Pest Management Strategy is still operative but will expire on 17 December 2017 unless a review is initiated by that date through the endorsement of a proposed plan for consultation. The degree of urgency to make the plan is also high because the

legacy Auckland Regional Pest Management Strategy does not provide adequately for pest threats that have emerged within the region since the RPMS was adopted in 2007.

The proposed cost allocation and cost allocation method are considered efficient and effective, and avoid perverse incentives.

The proposed cost allocation and cost allocation method are considered practical. This simple allocation formula avoids the risk of compliance or cost recovery difficulties jeopardising site-led programme success.

The proposed cost allocation and cost allocation method are considered administratively efficient.

Security of funding for the programmes will depend on continuing funding allocations for biosecurity activities under the Long Term Plan.

The proposed cost allocation is considered fair. Beneficiaries are contributing in proportion to their benefits from the plan, and exacerbators are contributing in proportion to the extent of their exacerbation.

The proposed cost allocation is considered reasonable. No significant indirect costs of management have been identified for the programmes. Transitional cost allocation arrangements will not be required.

General rates, targeted rates, charges and rules imposing requirements are all possible mechanisms by which to impose the cost allocation.

After considering the cost allocation method chosen, the most effective control tools and agents to undertake the control to meet the objectives of the plan, practicality, administrative efficiency, security of funding and statutory requirements, the mechanism to be used to impose the cost allocation is general rates.