10 ANIMAL PEST MANAGEMENT PROGRAMMES

10.1. Introduction

The following sections of the Strategy detail the management programmes to be applied as part of the control of individual or groups of animal pests within the Auckland region. The animal species declared as pests in this Strategy are summarised in Table 10.1a below.

Table 10.1a Summary of Pest Animals

Note: Species marked with an asterisk (*) are declared pests only when not held in secure containment.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentine ant</td>
<td>Linepithema humile</td>
<td>10.3.1</td>
</tr>
<tr>
<td>brushtail possum</td>
<td>Trichosurus vulpecula</td>
<td>10.3.2</td>
</tr>
<tr>
<td>exotic freshwater fauna:</td>
<td></td>
<td>10.3.3</td>
</tr>
<tr>
<td>brown bullhead catfish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gambusia</td>
<td>Ameiurus nebulosus syn. Ictalurus nebulosus</td>
<td></td>
</tr>
<tr>
<td>gudgeon</td>
<td>Gambusia affinis</td>
<td></td>
</tr>
<tr>
<td>koi carp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>marron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>orfe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>perch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rudd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tench</td>
<td></td>
<td></td>
</tr>
<tr>
<td>exotic reptile species:</td>
<td></td>
<td>10.3.4</td>
</tr>
<tr>
<td>blue-tongued skink</td>
<td>Tiliqua scincoides &amp; T. nigrolutea</td>
<td></td>
</tr>
<tr>
<td>bearded dragon*</td>
<td>Amphibolurus barbatus syn. Pogona barbata</td>
<td></td>
</tr>
<tr>
<td>eastern water dragon*</td>
<td>Physignathus lesueurii lesueurii</td>
<td></td>
</tr>
<tr>
<td>red-eared slider turtle*</td>
<td>Trachemys scripta elegans</td>
<td></td>
</tr>
<tr>
<td>shingleback lizard*</td>
<td>Trachydosaurus rugosus syn. Tiliqua rugosa</td>
<td></td>
</tr>
<tr>
<td>feral cat</td>
<td>Felis catus</td>
<td>10.3.5</td>
</tr>
<tr>
<td>feral deer*</td>
<td>Cervus, Axis, Dama, Odocoileus, or Elaphurus spp. including any hybrid</td>
<td>10.3.6</td>
</tr>
<tr>
<td>feral goat*</td>
<td>Capra hircus</td>
<td>10.3.7</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Reference</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>feral pig*</td>
<td><em>Sus scrofa</em></td>
<td>10.3.8</td>
</tr>
<tr>
<td>hedgehog</td>
<td><em>Erinaceus europaeus occidentalis</em></td>
<td>10.3.9</td>
</tr>
<tr>
<td>magpie</td>
<td><em>Gymnorhina spp.</em></td>
<td>10.3.10</td>
</tr>
<tr>
<td>mouse</td>
<td><em>Mus musculus</em></td>
<td>10.3.11</td>
</tr>
<tr>
<td>mustelids</td>
<td></td>
<td>10.3.12</td>
</tr>
<tr>
<td>ferret</td>
<td><em>Mustela furo</em></td>
<td></td>
</tr>
<tr>
<td>stoat</td>
<td><em>Mustela erminea</em></td>
<td></td>
</tr>
<tr>
<td>weasel</td>
<td><em>Mustela nivalis vulgaris</em></td>
<td></td>
</tr>
<tr>
<td>myna</td>
<td><em>Acridotheres tristis</em></td>
<td>10.3.13</td>
</tr>
<tr>
<td>rabbit</td>
<td><em>Oryctolagus cuniculus cuniculus</em></td>
<td>10.3.14</td>
</tr>
<tr>
<td>rats:</td>
<td></td>
<td>10.3.15</td>
</tr>
<tr>
<td>ship rat</td>
<td><em>Rattus rattus</em></td>
<td></td>
</tr>
<tr>
<td>Norway rat</td>
<td><em>Rattus norvegicus</em></td>
<td></td>
</tr>
<tr>
<td>kiore(^\text{26})</td>
<td><em>Rattus exulans</em></td>
<td></td>
</tr>
<tr>
<td>rook</td>
<td><em>Corvus frugilegus</em></td>
<td>10.3.16</td>
</tr>
<tr>
<td>sulphur-crested cockatoo*</td>
<td><em>Cacatua galerita</em></td>
<td>10.3.17</td>
</tr>
<tr>
<td>wallabies</td>
<td><em>Macropus, Petrogale or Wallabia spp.</em></td>
<td>10.3.18</td>
</tr>
<tr>
<td>wasps:</td>
<td></td>
<td>10.3.19</td>
</tr>
<tr>
<td>common wasp</td>
<td><em>Vespula vulgaris</em></td>
<td></td>
</tr>
<tr>
<td>German wasp</td>
<td><em>Vespula germanica</em></td>
<td></td>
</tr>
<tr>
<td>Asian paper wasp</td>
<td><em>Polistes chinensis</em></td>
<td></td>
</tr>
<tr>
<td>Australian paper wasp</td>
<td><em>Polistes humilis</em></td>
<td></td>
</tr>
</tbody>
</table>

With respect to individual or groups of animal pests, the ARC has determined that different pests warrant different types and levels of regional intervention. The level of intervention adopted for one or a group of pest animals takes into account the most appropriate means for addressing the present and potential adverse impacts of the animal(s). It also recognises that the desired end results of pest management may take longer than the duration of the Strategy.

Due to the complexity of management options for animal pests in the Strategy, the designation categories used for plants (total control, containment, surveillance) have not been used to categorise pest animals.

Each management programme is specific to each pest animal, and includes:

- A Description of the Problem
- The Animal Pest Designation
- The Reasons for the Strategy
- Objectives
- Principal measures of achievement
- Rules

Pest animal control in the Auckland region will be undertaken in a prioritised manner with the majority of funding targeted to prevent ecological damage. Support will be given to the DoC Wild Deer Control Programme and pests such as mustelids and rats will be controlled.

\(^{26}\) Representatives of Ngati Wai have stated that they regard Kiore as taonga. The ARC recommends consultation with Ngati Wai before any rat control that may impact on Kiore is undertaken. Kiore are present on several outer off-shore islands in the Hauraki Gulf.
at specific mainland island sites. Where communities are undertaking animal pest control, support will be given to assist them to achieve their goals. Advice and information on all pest animals in the Strategy will be provided to individuals and groups who request it.

Priorities for pest animal control have, in part, been determined by assessing the vulnerability of “indicator” species preferred by introduced browsing mammals. The Council has focused resources on vulnerable areas of High Conservation Value (HCV), and surrounding buffer areas, to slow pest reinvasion. Examples of HCV areas include the Waitakere and Hunua Ranges.

The pest animals listed in Table 10.1a above may also be controlled under the Council’s site-led pest initiatives (refer section 17 of this document).

10.2. Additional Controls on Animal Species

In addition to the provisions contained within this Strategy, there are further controls that may apply to some animal species (either declared pests within this Strategy or not). While these additional controls do not form part of the Strategy provisions, they are briefly outlined here for information and clarity.

10.2.1 Provisions of the Wild Animal Control Act

The conveyance and liberation of any wild animal is prohibited under section 11 of the Wild Animal Control Act 1977, which is administered by DoC. ‘Wild animal’ is defined in section 2 of that Act as:

"Wild animal -

(a) Means –
(ii) Any deer (including wapiti or moose);
(iii) Any chamois, thar, wallaby, or possum (Trichosurus vulpecula);

(ii) Any goat that is not—
(A) Held behind effective fences or otherwise constrained; and
(B) Identified in accordance with an identification system registered under section 3 of the Animal Identification Act 1993 or, in accordance with an identification system approved under section 50 of the Biosecurity Act 1993 and approved by the Director-General for the purposes of this Act;
(iv) Any pig that is living in a wild state and is not being herded or handled as a domestic animal or kept within an effective fence or enclosure for farming purposes;
(v) Any member of any species or class of land mammals that the Governor-General may from time to time, by Order in Council, declare to be wild animals for the purposes of this Act; and

(b) Includes the whole or any part of the carcass of any such animal;

c) Except for deer lawfully kept in captivity for the purposes of farming, does not include any animal kept in captivity pursuant to a permit or licence that is effective for the purposes of section 12 of this Act during the currency of the permit or licence and the observance of all conditions under which the permit or licence has been issued."

10.2.2 Other introduced organisms that may be present in the Auckland region

There are a number of additional introduced organisms present in the region that are not described specifically in the Strategy. These include newly arrived insects such as the painted apple moth (Teia anartoides) and southern saltmarsh mosquito (Ochlerotatus camptorhynchus), and amphibians such as the banjo frog (Limnodynastes dumerilii). Many of these new incursions are managed by Biosecurity New Zealand, some with support from other agencies.

The following table lists some of the additional introduced organisms in the Auckland region and the key management agency or contact points for them. The Council is able to provide information and advice on these species. As part of its wider biosecurity and biodiversity functions, ARC undertakes surveillance for these [and other] species, and liaises with the relevant management agencies.
Table 10.2.2a  Additional Introduced Organisms in the Auckland Region

<table>
<thead>
<tr>
<th>Common name</th>
<th>Scientific Name</th>
<th>Management agency*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amphibians</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banjo frog (UO)</td>
<td><em>Limnodynastes dumerilii</em></td>
<td>Biosecurity NZ, ARC &amp; DoC</td>
</tr>
<tr>
<td><strong>Insects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gypsy moth (NO)</td>
<td><em>Lymantria dispar</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Black crazy ant (NO)</td>
<td><em>Paratrechina longicornis</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Fall webworm (UO)</td>
<td><em>Hyphantria cunea</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Gum leaf skeletoniser (NO)</td>
<td><em>Uraba lugens</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Painted apple moth (NO)</td>
<td><em>Teia anartoides</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Red imported fire ant (NO)</td>
<td><em>Solenopsis invicta</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Southern salt marsh mosquito (NO)</td>
<td><em>Ochlerotatus camptorhynchus</em></td>
<td>Biosecurity NZ &amp; MoH</td>
</tr>
<tr>
<td>Varroa bee mite (NO)</td>
<td><em>Varroa destructor</em></td>
<td>Biosecurity NZ &amp; National Beekeepers Association of NZ</td>
</tr>
<tr>
<td>Yellow crazy ant (UO)</td>
<td><em>Anoplolepis gracilipes</em></td>
<td>Biosecurity NZ &amp; DoC</td>
</tr>
<tr>
<td><strong>Freshwater</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Didymo (UO)</td>
<td><em>Didymosphenia geminata</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Freshwater ghost shrimp</td>
<td><em>Callianassa</em> species</td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td><strong>Marine</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colonial tunicate</td>
<td><em>Didemnum vexillum</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Exotic seaweed (UO)</td>
<td><em>Undaria pinnatifida</em></td>
<td>Biosecurity NZ &amp; MFish</td>
</tr>
<tr>
<td>Sea squirt (UO)</td>
<td><em>Styela clava</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td><strong>Birds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian ring-necked parakeet</td>
<td><em>Psittacula krameri mallinensis</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Rainbow lorikeet (UO)</td>
<td><em>Trichoglossus haematodus</em></td>
<td>DoC</td>
</tr>
<tr>
<td>Red vented bulbul (UO)</td>
<td><em>Pycnonotus cafer</em></td>
<td>Biosecurity NZ &amp; ARC</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avian influenza (NO)</td>
<td><em>Orthomyxoviridae family</em></td>
<td>Biosecurity NZ &amp; MoH</td>
</tr>
<tr>
<td>Dieback fungi</td>
<td><em>Phytophthora</em> spp.</td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Dutch elm disease (NO)</td>
<td><em>Ophiostoma ulmi</em></td>
<td>Biosecurity NZ</td>
</tr>
<tr>
<td>Pig post weaning mortality &amp; wasting syndrome</td>
<td><em>Porcine circovirus</em></td>
<td>Biosecurity NZ</td>
</tr>
</tbody>
</table>

*Contact details:*
Auckland Regional Council 0800 806040 or 09 3662000
Department of Conservation 0800 362468 (0800 DOC HOT)
Biosecurity New Zealand 0800 809966
Ministry of Health 04 4962000
National Beekeepers’ Association of NZ 04 4737269

Phone

Web site

www.arc.govt.nz

www.doc.govt.nz

www.biosecurity.govt.nz

www.moh.govt.nz

www.nba.org.nz
10.3. Animal Pest Species

10.3.1 Argentine ant

*(Linepithema humile)*

**(i) Description of the problem**

Argentine ants are a pest in temperate and Mediterranean climates around the world, and are considered by the World Conservation Union as one of 100 of the world’s worst invasive alien species^27^. Impacts to native invertebrate fauna, birds and plants in many countries have contributed to severe population declines and even local extinctions. In the United States, this ant has locally eliminated lizard, honeybee and many insect species.

Argentine ants were first recorded in New Zealand in 1990 and are now well established on the mainland of the Auckland region. They have also spread to several outlying islands including Tiritiri Matangi, Waiheke and Kawau. In February 2006, Argentine ants were recorded on Great Barrier Island.

**(ii) Animal pest designation**

Argentine ant *(Linepithema humile)* is declared a pest in the Auckland region.

**(iii) Reason for strategy**

The ARC considers that regional intervention is necessary to prevent and reduce the spread of Argentine ants to new locations in the Hauraki Gulf. This will reduce overall impacts and delay the point at which all islands would be infested. Emphasis could also be placed on protecting areas of greatest conservation or other values.

Community support and engagement remains a vital component of such programmes. Movement controls normally rely more on community support, as resources are optimised away from regulatory activities to community engagement activities.

**(iv) Objectives**

a) To prevent the spread of Argentine ants to Hauraki Gulf islands so that environmental impacts are minimised.

b) To assist community groups with Argentine ant control through the provision of coordination, advice and information regarding funding sources.

c) To prevent or slow the spread of Argentine ants into uninfested areas of the Auckland region.

**(v) Principal measures of achievement**

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC may at its discretion, carry out Argentine ant control in areas of High Conservation Value, as a component of integrated site-led pest management programmes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Advice</td>
<td>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</td>
</tr>
<tr>
<td>Research</td>
<td>The ARC will support research and monitoring or other activities associated with finding suitable control measures.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>The ARC may undertake monitoring to determine the extent, spread and likely potential extent of Argentine ants within the Hauraki Gulf and greater Auckland region.</td>
</tr>
</tbody>
</table>

(vi) Rules

Rule 10.3.1.1

No person shall:

a) Knowingly transfer, cause to be transferred, release, or cause to be spread, Argentine ant to any uninfected area within Auckland region; or

b) Knowingly transfer, cause to be transferred, or move any object contaminated with Argentine ant within the Auckland region.

Rule 10.3.1.2

Hauraki Gulf Controlled Area restrictions are also applicable (refer section 17.2.2 of this Strategy).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

10.3.2 Brushtail possum

(Trichosurus vulpecula)

(i) Description of the problem

The impacts of possums on native flora and fauna are well documented. Not only do possums affect indigenous fauna by competing for limited food resources, they also directly prey on native birds and invertebrates, including kereru, North Island kokako and kākā. Possums are also the main vector for bovine tuberculosis. Possums are therefore one of the most damaging pests in New Zealand.

It should be noted that this RPMS is separate from the National Bovine Tuberculosis Pest Management Strategy. The ARC has for many years had an Agency Contract with the Animal Health Board (Inc) to control animal vectors under the National Bovine Tuberculosis Pest Management Strategy.

(ii) Animal pest designation

The brushtail possum (Trichosurus vulpecula) is declared a pest in the Auckland region.

(iii) Reason for strategy

The ARC considers that regional intervention and co-ordination is necessary to limit environmental and economic damage caused by possums. The ARC will encourage landowners/occupiers to take responsibility for controlling possums and advise them on appropriate techniques. The ARC possum control operations will primarily target areas of significant environmental and conservation value (e.g. large tracts of native forest, coastal forest, peninsulas, and large buffer areas around them). The principal reason for such targeting is the potential regional benefit. Community groups and individuals will be given advice and assistance with possum control operations throughout the region, with priority placed on those within the targeted areas.

The ARC has been carrying out possum control in a number of significant areas for many years, e.g. Waitakere and Hunua Ranges. It is essential that there is a mechanism in place to ensure that the possum populations in these areas do not rise to damaging levels following control. For this reason, the ARC, through the term of this Strategy, will implement a Rule placing obligation on landowners/occupiers to maintain possum control at post-management levels through the creation of possum control areas.

Possum Control Areas

Possum Control Areas will be set up at the ARC’s discretion in areas where the following criteria are met:

a) Previous ARC funded control work has achieved a possum Residual Trap Catch level below 5%; and

b) A majority of land occupiers (75% based on area, or a lesser percentage at ARC’s discretion) agree to either:

(i) maintain low possum densities (to an agreed level) over their land (refer to section 11); or
(iii) pay an additional rate*, from which ARC will maintain low possum densities (to an agreed level) over their land.

* Imposition of an additional rate for Possum Control Areas will be subject to the ARC Annual Plan and Long Term Council Community Plan, and may include subsidisation of possum control costs by ARC.

The ARC will assist landowners/occupiers committed to controlling possums, to establish Possum Control Areas. Information about the need to control possums, appropriate methods of possum control, and the responsibilities of the ARC and landowners/occupiers, as set out in this Strategy, will be provided to all landowners/occupiers within each proposed Possum Control Area.

Following the cessation of ARC funded possum control, all landowners/occupiers within a Possum Control Area will be responsible for the ongoing maintenance of possum densities at or below 5% residual trap catch. The ARC will provide resources and expertise to facilitate landowner/occupier control programmes, on a case-by-case basis.

The ARC will establish the boundaries for each Possum Control Area. Landowners/occupiers within the Possum Control Area will be required to allow access over their land so that monitoring of possum numbers may be undertaken.

The first monitoring will be at ARC expense. Where monitoring shows the agreed level has not been met, Council may either:

a) undertake control works and subsequent monitoring, and recover the cost from the landowner/occupier (either through direct cost-recovery, or through a subsidised rate imposed on landowners within the Possum Control Area, depending on the approach agreed to by landowners/occupiers); or

b) require the landowner/occupier to control to the agreed level, at their expense. The ARC will carry out subsequent monitoring at the landowner/occupier’s expense.

(iv) Objectives

a) To manage possum population levels in areas of significant environmental or High Conservation Value to minimise impacts on these values;

b) To assist community groups and individual landowners/occupiers in areas of significant environmental and conservation value, with possum control through the provision of materials and advice;

c) To progressively reduce and control possum infestation levels in the region through an integrated control programme; and

d) To ensure that within selected areas of the region where possum numbers have been reduced to low levels through ARC funded control programmes, these levels are maintained through establishment of Possum Control Areas.

(v) Principal measures of achievement

| Service Delivery | The ARC will carry out possum control operations in areas of high conservation value, and surrounding buffer areas, and begin a programme of control on key peninsulas in conjunction with community input. The ARC will actively assist people that have areas of significant environmental and conservation value (including areas of privately covenanted bush), and surrounding buffer areas, to undertake ongoing possum control measures which complement work undertaken by the ARC. |
| Community Assistance | The ARC will actively assist community groups that are controlling possums to ensure an integrated approach. |
| Education & Advice | The ARC will provide information, education and advice as set out in section 19 of this RPMS. |
| Research | The ARC will encourage continuing research into possum control methods. |
| Monitoring | The ARC shall undertake inspections, monitoring and surveillance. |
(vi) Rules

Rule 10.3.2.1

No person shall:

a) Cause or permit brushtail possums (*Trichosurus vulpecula*) to be in a place where they are offered for sale, or exhibited (without a permit); or

b) Sell or offer brushtail possums (*Trichosurus vulpecula*) for sale; or

c) Breed, or multiply brushtail possums (*Trichosurus vulpecula*) or otherwise act in such a manner as is likely to encourage or cause the breeding or multiplication of brushtail possums (*Trichosurus vulpecula*).

Rule 10.3.2.2

Where a Possum Control Area has been created, landowners/occupiers shall control brushtail possums (*Trichosurus vulpecula*) to the agreed residual trap catch density.

Rule 10.3.2.3

Hauraki Gulf Controlled Area restrictions are also applicable (refer section 17.2.2 of this Strategy).

Rule 10.3.2.2 is not applicable for Possum Control Areas that are funded through an additional rate on landowners within the Possum Control Area, as described in Section 10.3.2(iii)(b)(ii) above.

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

10.3.3 Exotic freshwater fauna:

- **Brown bullhead** (*Ameiurus nebulosus* syn. *Ictalurus nebulosus*)
- **Gambusia** (*Gambusia affinis*)
- **Gudgeon** (*Gobio gobio*)
- **Koi** (*Cyprinus carpio*)
- **Marron** (*Cherax tenuimanus & C. quadacarinatus*)
- **Orfe** (*Leuciscus idus*)
- **Perch** (*Perca fluviatilis*)
- **Rudd** (*Scardinius erythrophthalmus*)
- **Tench** (*Tinca tinca*)
(i) Description of the problem

There are few freshwater ecosystems within the Auckland region that do not have established exotic freshwater fauna populations; many have more than 5 species present. Some exotic freshwater fauna have been in the Auckland region for over a century (rainbow and brown trout, brown bullhead catfish), others are more recent arrivals (gudgeon and orfe). The impacts of exotic freshwater fauna, on indigenous biodiversity, water quality, recreation, tourism, amenity values and the rural economy, are suspected or implied, but not well quantified.

Studies conducted by the ARC, the National Institute of Water and Atmospheric Research (NIWA) and other organisations have found that some exotic freshwater fauna may pose a significant threat to native fauna, water quality, and to recreational and commercial use of some freshwater environments.

Environmental impacts caused by exotic freshwater fauna may include:

- Decline in native fish abundance and diversity through competition and abundance;
- Changes in the distribution of native fish due to interactive segregation;
- Changes to submerged aquatic plant community structure;
- Hybridisation;
- Parasites and diseases;
- Food web impacts through changes to plankton community composition;
- Water quality impacts and habitat degradation from de-vegetation or bio-perturbation.

Note: Perch, tench and rudd are identified as sports fish in the First Schedule of the Freshwater Fisheries Regulations 1983. Fish and Game councils are responsible for the management of sports fish under the Conservation Act 1987. Therefore ARC will consult with the NZ Fish and Game Council on all matters concerning the management of perch, tench and rudd in the Region.

(ii) Animal pest designation

a) The following species are declared pests throughout the Auckland region:

- brown bullhead catfish (Ameiurus nebulosus syn. Ictalurus nebulosus)
- gambusia (Gambusia affinis)
- gudgeon (Gobio gobio)
- koi (Cyprinus carpio)
- marron (Cherax tenuimanus & C. quadracarinatus)
- orfe (Leuciscus idus)

b) The following species are declared pests within the High Conservation Value waterbodies and their catchments (as defined in Maps 6 and 7 of Appendix 3) and within the Hauraki Gulf Controlled Area (refer section 17.2):

- perch (Perca fluviatilis)
- rudd (Scardinius erythrophthalmus)
- tench (Tinca tinca)

(iii) Reason for strategy

Exotic freshwater fauna exert a number of impacts on water bodies within the Auckland region. Exotic freshwater fauna feed on native species and also compete for food. The feeding habits of some exotic freshwater fauna have a serious effect on water quality through disturbance of the waterbed, and in extreme cases may increase the risk of bank erosion. Active illegal distribution continues largely unimpeded by existing regulations, therefore a regionally coordinated approach is required to manage existing populations and to protect high conservation value waterbodies.
There is no intention in this Strategy of restricting or in any way affecting the traditional and/or commercial harvest of eels and other native fish.

**Note:** In addition to these provisions of the RPMS, the following other legislation should also be considered in relation to the management of exotic freshwater fauna:

**Conservation Act 1987 & Freshwater Fisheries Regulations 1983**

The provisions of the Conservation Act 1987 are applicable in relation to perch, tench and rudd, which are classified as ‘sports fish’ under the Freshwater Fisheries Regulations.

**Fisheries Act 1996**

The Fisheries Act 1996, and various regulations promulgated under that Act, may also be applicable with respect to some exotic freshwater fauna, particularly brown bullhead catfish.

**(iv) Objectives**

a) Contain, and where practicable, reduce or eradicate pest exotic freshwater fauna populations; and

b) Raise public and sector group awareness of the effects of exotic freshwater fauna on high value freshwater ecosystems, water quality, recreation and tourism, amenity values and the rural economy; and

c) Gather information on effective means to control pest freshwater fauna populations.

**(v) Principal measures of achievement**

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC will undertake species-specific management of pest exotic freshwater fauna. In particular:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Koi, catfish, gambusia, gudgeon, marron and orfe: – Contain and control where appropriate at the discretion of the ARC.</td>
</tr>
<tr>
<td></td>
<td>Perch, tench and rudd: – Prevent establishment in designated High Conservation Value waterbodies (as defined in Maps 6 and 7 of Appendix 3) and in the Hauraki Gulf Controlled Area. Where established, identify methods to reduce adverse impacts.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education &amp; Advice</th>
<th>The ARC will provide advice and information on the threat of exotic pest freshwater fauna on highly valued freshwater ecosystems, including freshwater fishing sector liaison, contributions to signage and production of educational materials.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The ARC will establish an inter-regional exotic freshwater fauna co-ordination group comprising representatives from the ARC, Fish and Game NZ, DoC, MFish, NIWA, tangata whenua, neighbouring regional councils and other interested parties.</td>
</tr>
</tbody>
</table>

| Monitoring | The ARC, in conjunction with Fish and Game NZ, neighbouring regional councils, Biosecurity New Zealand, MFish, DoC, tangata whenua and other interested parties, will undertake monitoring and surveillance of priority exotic freshwater fauna to determine the extent of populations. |
(v) Rules

Rule 10.3.3.1

No person shall, unless authorised to do so under the Conservation Act 1987, the Freshwater Fisheries Regulations 1983 or any regulation promulgated under the Fisheries Act 1996:

a) Sell or offer for sale, (or cause or permit to be in a place where they are offered for sale or exhibited), any live gambusia (Gambusia affinis), gudgeon (Gobio gobio), koi (Cyprinus carpio), marron (Cherax tenuimanus & C. quadracarinatus), or orfe (Leuciscus idus); or

b) Breed, or multiply or otherwise act in such a manner as is likely to encourage or cause the breeding or multiplication of brown bullhead catfish (Ameiurus nebulosus syn. Ictalurus nebulosus), gambusia (Gambusia affinis), gudgeon (Gobio gobio), koi (Cyprinus carpio), marron (Cherax tenuimanus & C. quadracarinatus), or orfe (Leuciscus idus); or

c) Release, or cause to be released, brown bullhead catfish (Ameiurus nebulosus syn. Ictalurus nebulosus), gambusia (Gambusia affinis), gudgeon (Gobio gobio), koi (Cyprinus carpio), marron (Cherax tenuimanus, C. quadracarinatus), or orfe (Leuciscus idus) into any waterbody within the Auckland region; or

d) Release, or cause to be released, perch (Perca fluviatilis), rudd (Scardinius erythrophthalmus) or tench (Tinca tinca) into any of the High Conservation Value waterbodies and their catchments, as defined in Maps 6 and 7 of Appendix 3; or

e) Conduct any pest, coarse, sport or marron fishing activities whatsoever (unless exempted by the Auckland Regional Council under section 80D of the Biosecurity Act) in or on the High Conservation Value waterbodies and their catchments, as defined in Maps 6 and 7 of Appendix 3; or

f) Conduct any pest, coarse, sport or marron fishing activities (unless exempted by the Auckland Regional Council under section 80D of the Biosecurity Act), in or on the High Conservation Value waterbodies and their catchments, as defined in Map 7 of Appendix 3; other than for brown trout (Salmo trutta) or rainbow trout (Onchorhynchus mykiss) using only artificial fly or spinner methods, and holding a valid fishing licence pursuant to the Conservation Act 1987 or the Freshwater Fisheries Regulations 1983.

Rule 10.3.3.2

Hauraki Gulf Controlled Area restrictions are also applicable to perch, rudd and tench (refer section 17.2.2 of this Strategy).

Rule 10.3.3.3

With respect to perch (Perca fluviatilis), rudd (Scardinius erythrophthalmus) and tench (Tinca tinca), Rules 10.3.3.1 d), e) and f) above are not applicable until such time as the High Conservation Value waterbodies and catchments (defined in Maps 6 and 7 of Appendix 3 of this Strategy) are declared as restricted fishing areas by the Director General of Conservation, under Section 26ZL(1) of the Conservation Act 1987.

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

Please note that the possession and sale of live brown bullhead catfish (Ameiurus nebulosus syn. Ictalurus nebulosus) is regulated by the Ministry of Fisheries under the Fisheries (Commercial Fishing) Amendment Regulations 2007 and Fisheries (Amateur Fishing) Amendment Regulations 2007. Therefore this species is not included within Rule 10.3.3.1(a) above.

It is noted that the Department of Conservation has agreed in principle to declaring the High Conservation Value waterbodies (defined in Maps 6 and 7 of Appendix 3 of this Strategy) as ‘no fishing zones’ under 26ZL(1) of the Conservation Act 1987, but that a number of matters need to be resolved before such a declaration can be made, including consultation with the Auckland/Waikato Fish and Game Council. ARC will work with the Department of Conservation and other agencies to resolve these matters as quickly as possible.
10.3.4 Exotic reptile species:

- **blue-tongued skink** *(Tiliqua scincoides & Tiliqua nigrolutea)*
- and, when not held in secure containment:
  - **bearded dragon** *(Amphibolurus barbatus syn. Pogona barbata)*
  - **eastern water dragon** *(Physignathus lesueurii lesueurii)*
  - **red-eared slider turtle** *(Trachemys scripta elegans)*
  - **shingleback lizard** *(Trachydosaurus rugosus syn. Tiliqua rugosa)*

(i) Description of the problem

The sale of exotic reptile species for the pet trade has grown in popularity over recent years. New Zealand has very few reptiles and there is the potential for some exotic reptiles to impact on New Zealand ecology. In many cases however there is little information on the likelihood of these exotic reptiles establishing in the wild.

Several exotic reptile species have been identified in the pet trade that may potentially have adverse impacts on the ecology of the region if they escape from containment. These impacts may include:

- May carry endoparasites and diseases, which pose a risk to native lizard populations (blue-tongued skink, shingleback lizard)

- Predation on eggs and chicks of ground nesting birds and other smaller lizards (blue-tongued skink)

- Direct and indirect competition with native species for food and other resources (bearded dragon)

- Adverse impacts on indigenous lowland aquatic plant and aquatic invertebrate (insects and molluscs) species (red-eared slider turtle)

(ii) Animal pest designation

a) Blue-tongued skinks *(Tiliqua scincoides & Tiliqua nigrolutea)* are declared Surveillance pest species throughout the entire Auckland region.

b) The following species are declared pests within the Auckland region, only where they are not held within secure containment:

- bearded dragon *(Amphibolurus barbatus syn. Pogona barbata)*
- eastern water dragon *(Physignathus lesueurii lesueurii)*
- red-eared slider turtle *(Trachemys scripta elegans)*
- shingleback lizard *(Trachydosaurus rugosus syn. Tiliqua rugosa)*

It is noted that the four species listed above are also listed as species to be researched (refer section 22.3.2).

(iii) Reason for strategy

Of the five exotic reptile species above, there is sufficient information relating to blue-tongued skink to place restrictions on the sale or breeding. Additional research is required on the other four species to establish their potential impacts and the likelihood of establishment in the wild. It is considered prudent to take a precautionary approach to prevent the release of these species from containment into the Auckland environment. It is noted that additional research is also required with respect to rainbow skink *(Lampropholis delicata)* as discussed in section 22.3.2 below, however this species is not declared a pest under the Strategy.
(iv) Objectives

a) To prevent the escape, release, spread, and establishment in the wild of blue-tongued skink; and

b) To prevent the escape or release of bearded dragon (*Amphibolurus barbatus* syn. *Pogona barbata*), blue-tongued skink (*Tiliqua scincoides* & *Tiliqua nigrolutea*), eastern water dragon (*Physignathus lesueurii lesueurii*), red-eared slider turtle (*Trachemys scripta elegans*) and shingleback lizard (*Trachydosaurus rugosus* syn. *Tiliqua rugosa*) into the wild in the Auckland region; and

c) To carry out further research on the potential impacts of bearded dragon (*Amphibolurus barbatus* syn. *Pogona barbata*), eastern water dragon (*Physignathus lesueurii lesueurii*), red-eared slider turtle (*Trachemys scripta elegans*) and shingleback lizard (*Trachydosaurus rugosus* syn. *Tiliqua rugosa*).

(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC may at its discretion carry out control of blue-tongued skink.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The ARC may carry out control of bearded dragon, eastern water dragon, red-eared slider turtle and shingleback lizard, where animals are found in the wild.</td>
</tr>
</tbody>
</table>

| Education & Advice | The ARC will provide education and advice regarding possible environmental threats posed, and provision of a recovery service for unwanted pet reptiles. |

| Research | The ARC will carry out research into the potential impacts and likelihood of establishment of bearded dragon, eastern water dragon, red-eared slider turtle and shingleback lizard (refer to section 22.3.2 for more information). |

| Monitoring | ARC will liaise with DoC, Biosecurity NZ and other agencies to allow for coordinated record keeping in relation to exotic reptile species. |

(vi) Rules

Rule 10.3.4.1

No person shall:

a) Cause or permit blue-tongued skinks (*Tiliqua scincoides* & *Tiliqua nigrolutea*) to be in a place where they are offered for sale or exhibited; or

b) Sell or offer blue-tongued skinks (*Tiliqua scincoides* & *Tiliqua nigrolutea*) for sale; or

c) Breed, or multiply, or otherwise act in such a manner as is likely to encourage or cause the breeding or multiplication of blue-tongued skinks (*Tiliqua scincoides* & *Tiliqua nigrolutea*); or


Rule 10.3.4.2

Hauraki Gulf Controlled Area restrictions are also applicable to blue-tongued skinks only (refer section 17.2.2 of this Strategy).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

Rules 10.3.4.1 and 10.3.4.2 do not affect the keeping of existing blue-tongued skinks as pets for the term of their natural life.

Containment in the context of Rule 10.3.4.1 and Section 10.3.4 (ii) is defined as held within a cage or suitable facility sufficient to prevent escape or involuntary release into the wild.
10.3.5 Feral cat

(Felis catus)

(i) Description of the problem

Feral cats are widely distributed throughout the three main islands of New Zealand, and on a number of offshore islands. They live in most terrestrial habitats in New Zealand including sand dunes, pasture, tussock, scrub, exotic plantations and native forest. Feral cats eat a range of animals including rabbits, rats and mustelids, as well as native birds, lizards and invertebrates. Their impacts on native ecosystems are complex, as their removal of rabbits and rats can have beneficial effects, while predation of native birds and insects is deleterious. Their negative impacts have been well documented on offshore islands, where there are records of native species disappearing from islands after the arrival of cats (e.g. saddlebacks from Little Barrier, Cuvier and Stephens Islands), and marked native species recovery after cats have been eradicated.

Feral cats are defined as cats that have none of their needs provided by humans, and their population size fluctuates largely independently of humans. Feral cats generally do not live around centres of human habitation. The feral cat population is self-sustaining and requires no input from the domestic cat population. Cats that are not given regular preventative treatments can pose a public health risk through the spread of zoonotic diseases (e.g. toxocariasis or toxoplasmosis). Feral cats may also carry and suffer from feline enteritis or conjunctivitis.

(ii) Animal pest designation

Feral cat (Felis catus) is declared a pest in the Auckland region.

(iii) Reason for strategy

Feral cats are known to have significant impacts on native bird species, and also native lizards and invertebrates. They may be subject to site-led control in High Conservation Value areas in the region. ‘Cat free’ areas may also be established where there is clear support from a community and there is an existing pest management programme (refer section 11 of this Strategy).

Note: The abandonment of any cat is also an offence under section 14(2) of the Animal Welfare Act 1999, which states:

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

(iv) Objectives

a) To reduce the negative impacts of feral cats in selected High Conservation Value areas and Hauraki Gulf Islands, where programmes for managing other animal pests have been implemented.

(v) Principal measures of achievement

| Service Delivery | The ARC may at its discretion carry out feral cat control in areas of high conservation value, including Hauraki Gulf Islands, as a component of integrated site-led pest management programmes. The ARC will work with central and local government and other agencies to investigate and advocate ‘cat free’ areas, islands or subdivisions as a component of integrated site-led pest management programmes. |


Ibid.
Education & Advice

The ARC will provide information, education and advice as set out in section 19 of this RPMS.

The ARC will also work with local and central government and other agencies to promote awareness of the ecological risks of cats, and to encourage owners and the community to take appropriate measures to reduce these risks.

Research

The ARC will support research on feral cat impacts in high conservation value areas.

Integrated Programme

The ARC will support the Royal Society for Prevention of Cruelty to Animals efforts in developing effective solutions to the problem of cat abandonment.

(vi) Rules

Rule 10.3.5.1

No person shall:

a) Knowingly transfer or cause to be transferred, any feral cat into or within any area in the Auckland region; or

b) Knowingly abandon, or cause to be abandoned, any cat within the Auckland region.

Rule 10.3.5.2

Hauraki Gulf Controlled Area restrictions are also applicable (refer section 17.2.2 of this Strategy).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

10.3.6 Feral deer species

(Cervus, Axis, Dama, Odocoileus or Elaphurus spp. including any hybrid)

(i) Description of the problem

There are currently three species of feral deer known to be present in the Auckland region. Fallow and red deer are the most common species, wapiti are less common and sika deer are believed to be absent. Deer are selective browsers, tending to target particular forest species over others. This can result in a significant change in the forest make-up and subsequent effects on fauna that rely on these plants. Deer destroy the understorey of native forest by overbrowsing, grazing, bark stripping and trampling, which in turn may increase soil erosion. Conventional farm fences do not contain deer, and they roam at will once they have escaped deer-proof fences.

Note: Deer are defined as “wild animals” under the Wild Animal Control (WAC) Act 1977, administered by DoC, which has a number of responsibilities under that Act. Farming of deer and other wild animals is controlled by DoC under section 12A of the WAC Act. There are three Exclusion Zones set up under the WAC Act in the Auckland region where the farming of deer is prohibited:

- Waitakere Ranges and buffer;
- Hunua Ranges and buffer;
- All outlying Islands.

DoC is also responsible for ensuring that deer fences are adequate to contain deer, and DoC can act to destroy deer on private land where they pose a threat to the natural environment.
(ii) Animal pest designation

Feral deer (Cervus, Axis, Dama, Odocoileus, or Elaphurus spp. including any hybrid) are declared pests in the Auckland region. Deer are considered feral wherever they are not:

a) held behind fencing that meets the requirements of the Deer Farming Regulations; and

b) identified as required by those Regulations.

(iii) Reason for strategy

While feral deer are considered a recreational resource by deer hunters there is low public awareness of the potential impacts feral deer have on the ecology of High Conservation Value areas in the region. The ARC considers a regionally coordinated approach is necessary, to prevent the establishment of feral deer in areas currently free of them, and to reduce populations in areas where feral deer threaten High Conservation Value sites.

(iv) Objectives

a) Progressively work to eradicate feral deer from all areas of the region over the five year period of this Strategy, except within that area of the South Kaipara Peninsula which is subject to an ARC approved deer management plan; and

b) Minimise the adverse effects of feral deer in areas of High Conservation Value areas; and

c) Promote community awareness of the impacts of feral deer on native species and habitats; and

d) Assist DoC with its feral deer removal programme under the Wild Animal Control Act 1977.

(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC will carry out feral deer control operations in areas of High Conservation Value, and in a 5km buffer zone around the areas of High Conservation Value, where priority for feral deer control exceeds the priority for control of other pests. ARC may also, at its discretion, control feral deer in other areas of the region.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Programme</td>
<td>The ARC will work with DoC in the implementation of its Feral Deer Control Programme for the Auckland region.</td>
</tr>
<tr>
<td>Education &amp; Advice</td>
<td>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Feral deer numbers and impacts will be monitored through reports of deer sightings, ground sign, and vegetation assessments.</td>
</tr>
<tr>
<td>Research</td>
<td>The ARC will continue to support research on the impacts of feral deer in High Conservation Value areas.</td>
</tr>
</tbody>
</table>

(vi) Rules

Rule 10.3.6.1

No person shall release from containment any deer (Cervus, Axis, Dama, Odocoileus, or Elaphurus spp. including any hybrid) in any part of the Auckland region.

Rule 10.3.6.2

Hauraki Gulf Controlled Area restrictions are also applicable (refer section 17.2.2 of this Strategy).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.
10.3.7 Feral goat

(Capra hircus)

(i) Description of the problem

Feral goats are widespread throughout the region. Populations are generally highest in exotic and indigenous forest areas, however goats are also found in poor pasture and scrubland. They prefer rocky substrate where, being very agile, they can exploit places that deer and sheep cannot reach. Feral goats (along with possums and feral deer) are the most destructive animals found in native and plantation forests. Being opportunist browsers, goats destroy the understorey of vegetation (up to 2m above ground) and, when combined with possum damage in the upper canopy, cause severe deterioration of native forests. Feral goats also damage vegetation planted on land retired for soil conservation purposes and in newly planted or young trees in exotic forests. They are hardy survivors with the ability to exist in areas that other animals would abandon.

DoC also has responsibility for feral goat management under the Wild Animal Control Act 1977.

(ii) Animal pest designation

The feral goat (Capra hircus) is declared a pest in the Auckland region. A goat is declared feral wherever it is not:

a) held behind effective fences or otherwise constrained; and

b) identified in accordance with an identification system registered under section 3 of the Animal Identification Act 1993 or, if no such system is, for the time being, in force, in accordance with any provisions having effect by virtue of section 11 of that Act.

(iii) Reason for strategy

Despite the fluctuating value of goats as a farming resource, the feral goat pest potential is undiminished. Goats are notoriously hard to fence in and, on hill country farms and lifestyle blocks bordering forests, they are a constant source of reinfestation. Because of the serious impacts goats can have on natural areas, control of feral goats in areas of significant ecological and conservation value, and their buffers is necessary.

(iv) Objectives

a) To manage feral goat population levels in areas of High Conservation Value and buffer areas; and

b) To prevent establishment of feral goats in areas of ecological significance within the Auckland region; and

c) To assist community groups with feral goat control, through the provision of materials, labour and advice.

(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>In areas of High Conservation Value, where priority for feral goat control exceeds or equals the priority for other animal pest control, and in buffer areas beyond the High Conservation Value, the ARC will carry out feral goat control operations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Programme</td>
<td>The ARC will initiate programmes to eradicate feral goats from Waiheke Island and the Hunua Ranges.</td>
</tr>
<tr>
<td>Education &amp; Advice</td>
<td>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</td>
</tr>
<tr>
<td>Research</td>
<td>The ARC will assess the effectiveness of its Sentinel goat programme within the Hunua Ranges, and investigate improved techniques for feral goat management.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Damage caused by feral goats is assessed by Council staff. Performance assessments for contractors are based on feral goat population in randomly sampled blocks.</td>
</tr>
</tbody>
</table>
(vi) Rules

Rule 10.3.7.1
No person shall farm or keep feral goats on any island within the Hauraki Gulf.

Dairy goat breeds (e.g. Alpine, British alpine, Nubian, Nubian/Anglo, Saanen, Sable, Toggenburg) are exempt from Rule 10.3.7.1, as long as they are contained or tethered (to prevent escape or involuntary release into the wild), and clearly identified in accordance with section 3 of the Animal Identification Act 1993.

Rule 10.3.7.2
No person shall release from containment any goat (Capra hircus) in any part of the Auckland region.

Rule 10.3.7.3
Hauraki Gulf Controlled Area restrictions are also applicable (refer section 17.2.2 of this Strategy).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

Council will use cost recovery powers under the Biosecurity Act 1993 where breaches of these Rules occur, providing ownership of the goat(s) can be determined.

10.3.8 Feral pig
(Sus scrofa)

(i) Description of the problem
Feral pigs were among the first feral animals to become well established in New Zealand. Currently, in the Auckland region, they occur in larger areas of native forest (e.g. Hunua Ranges) and in exotic plantations. Feral pigs are very destructive in native bush areas, rooting up the ground, eating the fruits, seeds, roots, stems or leaf-bases of native plants; plus native insects, snails, earthworms, frogs, lizards, and ground nesting birds and their eggs. Feral pigs can also adversely affect primary production, causing damage to fences, pastures and livestock.

Pig hunters consider feral pigs to be a recreational resource, and there have been many releases of pigs into forested areas of the region. There is low public awareness of the potential impacts feral pigs have on the ecology of High Conservation Value forest areas in the region. Feral pigs are known to be carriers of bovine tuberculosis and leptospirosis and thus could act as a vector of these diseases into the region.

(ii) Animal pest designation
Feral pig (Sus scrofa) is declared a pest in the Auckland region.

(iii) Reason for strategy
The ARC considers it necessary to carry out a regionally co-ordinated programme to eradicate feral pigs from designated High Conservation Value areas and to prevent the release of feral pigs into other parts of the Auckland region.

(iv) Objectives
a) Minimise the adverse effects of feral pigs in areas of High Conservation Value; and

b) Promote community awareness of the impacts of feral pigs on native species and habitats;
c) Prevent the spread of feral pigs into areas of the region that are currently free of the species.

(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC will carry out enhanced control of feral pigs in the Waitakere Ranges, selected parts of the Hunua Ranges and other High Conservation Value sites. The ARC will lead a programme to eradicate feral pigs from Waiheke Island and any new releases on the mainland of the Auckland region.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Advice</td>
<td>The ARC will provide information, education and advice as set out in section 19 of this Strategy, and will identify areas more appropriate for pig hunting, to discourage the release of pigs into more sensitive areas.</td>
</tr>
<tr>
<td>Research</td>
<td>The ARC will investigate a range of feral pig control methods.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Feral pig numbers and impacts will be monitored through reports of pig sightings and ground sign.</td>
</tr>
</tbody>
</table>

(vi) Rules

**Rule 10.3.8.1**

No person shall release, or cause to be released, any pig (*Sus scrofa*) into the wild in any part of the Auckland region.

**Rule 10.3.8.2**

Hauraki Gulf Controlled Area restrictions are also applicable (refer section 17.2.2 of this Strategy).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

10.3.9 **Hedgehog**

(*Erinaceus europaeus occidentalis*)

(i) Description of the problem

Hedgehogs are mainly insectivorous, but their varied diet includes plant material (e.g. fruit, grass roots, and leaves). They also prey on mice, birds, lizards, frogs and the chicks and eggs of ground nesting birds. They live in a range of habitats in New Zealand, including pasture, sand dunes, riparian areas, urban and suburban areas. Dry nesting sites, sufficient food and cooler temperatures are the main limiting factors to their distribution.

(ii) Animal pest designation

Hedgehog (*Erinaceus europaeus occidentalis*) is a declared pest in the Auckland region.

(iii) Reason for strategy

Hedgehogs are a potentially significant threat to native invertebrates (e.g. snails, weta, slugs, moths), skinks, geckos, and ground nesting birds in some parts of the region. They may also compete with kiwi for food and nesting sites. Therefore, site-led management of hedgehogs, as part of an integrated pest management control programme, may be appropriate. Preventing hedgehogs from establishing on off-shore islands where they are currently absent is also recognised as a priority.

(iv) Objectives

To reduce the impacts of hedgehogs in natural areas with significant ecological/conservation values, and the chance of hedgehogs establishing on offshore islands where they are currently absent.
## (v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Education &amp; Advice</th>
<th>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>The Council will support research on the impacts of hedgehogs in high conservation value areas.</td>
</tr>
</tbody>
</table>

## (vi) Rules

### Rule 10.3.9.1

Hauraki Gulf Controlled Area restrictions are applicable (refer section 17.2.2 of this Strategy).

A breach of this Rule will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

## (v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Education &amp; Advice</th>
<th>The ARC will provide and make available information on control and avoidance of magpies as set out in section 19 of this RPMS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>Scientific data on magpie impacts and distribution will be collated.</td>
</tr>
<tr>
<td>Community Assistance</td>
<td>The ARC will provide traps on a hire basis for magpie control.</td>
</tr>
</tbody>
</table>

## (vi) Rules

### Rule 10.3.10.1

No person shall:

a) Cause or permit magpies (*Gymnorhina* spp.) to be in a place where they are offered for sale or exhibited; or

b) Sell or offer magpies (*Gymnorhina* spp.) for sale; or

c) Breed, or multiply magpies (*Gymnorhina* spp.) or otherwise act in such a manner as is likely to encourage or cause the breeding or multiplication of magpies (*Gymnorhina* spp.).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

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**Magpie**

(*Gymnorhina* spp.)

### (i) Description of the problem

There are two species of magpie present in New Zealand. Magpies are widespread throughout the region and both species have interbred. They prefer grassland farming areas associated with tall shelterbelts of pines and gums, but also live on forest edges, gardens and in urban areas.

Magpies are territorial birds and show aggression to anything that may pose a threat to their territory. They can be a nuisance during the breeding season, swooping on and occasionally attacking humans, especially children. There is anecdotal evidence that magpies affect native birds by excluding them from breeding territories and by predating native bird chicks and eggs to feed to their own young.
10.3.11 Mouse

(Mus musculus)

(i) Description of the problem

Mice are omnivorous, eating both plant and animal matter. They will feed on almost anything, including grains, seeds, fruit, meat, insects and rubbish. Mice are prolific breeders, reaching sexual maturity at five weeks, and having up to 5 to 10 litters of 5 to 6 young per year. Mice compete with native species for food sources and also prey on native insects (such as weta), lizards, eggs, bird chicks and other fauna.

(ii) Animal pest designation

Mouse (Mus musculus) is declared a pest within the Hauraki Gulf Controlled Area (refer section 17.2.2 of this Strategy).

(iii) Reason for strategy

The ARC considers that regional intervention is necessary to prevent and reduce the spread of mice to new locations in the Hauraki Gulf area. This will reduce overall impacts of pests particularly in areas where other mammalian pests have or are being controlled.

(iv) Objective

To prevent the spread of mice to selected areas within the Hauraki Gulf where they are not known to be present.

(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC may at its discretion carry out mouse control in areas of High Conservation Value, as a component of integrated site-led pest management programmes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Advice</td>
<td>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>The ARC may at its discretion, monitor for presence of mice on and around docks, ferry terminals and other risk areas.</td>
</tr>
<tr>
<td>Research</td>
<td>ARC will support research on the impacts of mice in High Conservation Value areas.</td>
</tr>
</tbody>
</table>

(vi) Rules

Rule 10.3.11.1

Hauraki Gulf Controlled Area restrictions are applicable (refer section 17.2.2 of this Strategy).

A breach of this Rule will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.
10.3.12 Mustelid species:

(i) Description of the problem

Ferrets, stoats and weasels belong to a group of animals known as mustelids. All have the characteristics of long bodies, short legs and sharp pointed faces. They are considered together in this RPMS as their effects on the environment are very similar.

The impacts of these species can be devastating to native bird life and other fauna. Recorded effects of the pests show that some native bird species, lizards, frogs and large native insects (e.g. weta) are particularly susceptible to mustelid attack.

(ii) Animal pest designation

Mustelids (ferrets (Mustela furo), stoats (Mustela erminea) and weasels (Mustela nivalis vulgaris)) are declared pests in the Auckland region.

(iii) Reason for strategy

Mustelids are known to attack native birds and a range of other fauna and have been included in this Strategy to allow for their control under site-led programmes. Ferrets are also carriers of bovine tuberculosis.

Note: Ferrets are Unwanted Organisms under the Biosecurity Act 1993. Following the enactment of the Biosecurity Amendment Bill 2001, it is now illegal to farm and/or sell ferrets in New Zealand without an exemption from a Central Government Chief Technical Officer. However, people who currently have pet ferrets will be allowed to keep them until the ferrets die naturally.

(iv) Objectives

a) Minimise the adverse effects of mustelids on the environment and primary production; and

b) Prevent the spread of mustelids to Hauraki Gulf Islands.

(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC will provide a user pays service where mustelids are a problem for landowners/occupiers due to predation on poultry or livestock. The ARC will carry out mustelid control in areas of High Conservation Value, as a component of integrated site-led pest management programmes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Assistance</td>
<td>The ARC will actively assist community groups throughout the region that are actively controlling mustelids.</td>
</tr>
<tr>
<td>Education &amp; Advice</td>
<td>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</td>
</tr>
<tr>
<td>Research</td>
<td>The ARC will continue to contribute to mustelid research and will disseminate findings to the community.</td>
</tr>
</tbody>
</table>
(vi) Rules

Rule 10.3.12.1

No person shall:

a) Cause or permit a ferret (Mustela furo) to be in a place where it is offered for sale or exhibited; or

b) Sell or offer a ferret (Mustela furo) for sale; or

c) Breed, or multiply, or otherwise act in such a manner as is likely to encourage or cause the breeding or multiplication of ferrets (Mustela furo); or

d) Release a ferret (Mustela furo) from containment into any area within the Auckland region.

Rule 10.3.12.2

Hauraki Gulf Controlled Area restrictions are applicable to ferrets, stoats and weasels (refer section 17.2.2 of this Strategy).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

10.3.13 Myna

(Acridotheres tristis)

(i) Description of the problem

Mynas are widespread throughout the Auckland region. They roost communally throughout the year with the largest flocks seen in winter. They feed mainly from the ground, often at roadsides. Preferred habitats include parks, gardens, orchards, farmland, and forest margins.

Mynas have a varied diet, including invertebrates, fruit and scraps found at rubbish tips and on roads. They also eat eggs, chicks and lizards. One study has shown that some native bird species (e.g. fantails, grey warblers and tui) increase in abundance following myna control.

(ii) Animal pest designation

Myna (Acridotheres tristis) is declared a pest in the Auckland region.

(iii) Reason for strategy

Mynas are territorial birds but shows aggression only to other birds within their territory. They are also known to evict other birds from their nests and eat eggs, chicks, invertebrates and lizards.

(iv) Objective

To minimise the adverse effects of mynas by promoting community awareness of their impacts and control methods available.

(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Education &amp; Advice</th>
<th>The ARC will provide and make available information on control and avoidance of mynas as set out in section 19 of this RPMS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Assistance</td>
<td>The ARC will provide traps on a hire basis for myna control.</td>
</tr>
</tbody>
</table>

(vi) Rules

Rule 10.3.13.1

No person shall:

a) Cause or permit any myna (Acridotheres tristis) to be in a place where it is offered for sale or exhibited; or

b) Sell or offer any myna (Acridotheres tristis) for sale; or

c) Breed, or multiply mynas (Acridotheres tristis) or otherwise act in such a manner as is likely to encourage or cause the breeding or multiplication of mynas (Acridotheres tristis).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

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10.3.14 Rabbit

*(Oryctolagus cuniculus cuniculus)*

(i) Description of the problem

Rabbit densities in the Auckland region range from less than one per hectare to five per hectare. The average rabbit density across the whole region has been estimated at three per hectare. Rabbits can tolerate a wide range of climatic conditions, however, high rainfall can greatly reduce the ability of rabbit populations to thrive and such seasonal variations in rabbit populations make the long-term management of rabbits difficult to plan for.

Throughout New Zealand, rabbits can cause considerable physical and economic damage. Commercial gardens are particularly vulnerable to rabbit attack, as nibbled or chewed crops are unsaleable. On farms, rabbits compete with stock for pasture, as ten rabbits can eat as much pasture as one sheep. Also, in places such as the Awhitu Peninsula where there are large rabbit populations and sandy, barren soils, there is often an increase in soil erosion.

In late winter and early spring, rabbits target plantation and forestry tree seedlings for the roughage and sugar they need during the winter months.

(ii) Animal pest designation

Rabbit (*Oryctolagus cuniculus cuniculus*) is declared a pest in the Auckland region.

The following domestic varieties, when in proper confinement, are excluded from the RPMS: New Zealand white, angora, Flemish giant, rex, chinchilla, Californian, Netherland dwarf, Dutch, tan, and silver fox.

(iii) Reason for strategy

The release of rabbit calicivirus disease (RCV) in 1997 has had a significant effect on rabbit management in New Zealand. It was released at several sites throughout the Auckland region in 2000. In 2006, as part of a nationwide collective of regional councils, the ARC released RCV at twenty peri-urban sites across the region.

A cost benefit analysis of the cost of rabbit control and the damage caused by rabbits has shown that rabbits are an economic problem only on some land types. Generally the people that benefit most from rabbit control are those who are directly affected and therefore they should be the ones to pay for the cost of rabbit control.

Nevertheless it is considered necessary to prevent the spread of rabbits from already infested areas into those areas that are currently free of rabbits, such as some Hauraki Gulf Islands.

(iv) Objectives

Minimise the adverse effects of rabbits by:

a) Supplying advice and information on rabbit control to landowners/occupiers; and

b) Provide a referral service to landowners/occupiers who wish to pay for rabbit control; and

c) Where specific values are compromised by rabbit infestations, enter into partnerships with communities to control them;

d) Preventing the movement of rabbits into and within the Hauraki Gulf Controlled Area (refer Chapter 17.2 of this Strategy).
(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Education &amp; Advice</th>
<th>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The ARC will provide a referral service for rabbit control at the landowners/occupiers cost.</td>
</tr>
<tr>
<td>Community Assistance</td>
<td>The ARC will enter into partnerships with community groups in areas where rabbit infestations are compromising ecological values.</td>
</tr>
</tbody>
</table>

(vi) Rules

Rule 10.3.14.1

Hauraki Gulf Controlled Area restrictions are applicable (refer section 17.2.2 of this Strategy).

A breach of this Rule will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

10.3.15 Rat Species:

- **Ship Rat** (*Rattus rattus*)
- **Norway Rat** (*Rattus norvegicus*)
- **Kiore** (*Rattus exulans*)

(i) Description of the problem

All three species of rat are mainly nocturnal. They have a varied diet that includes large quantities of native seeds (e.g. of nikau, hinau, miro, matai, karaka, supplejack, kohia), either from the ground or straight from the tree (in the case of ship rats and kiore). Kiore also eat the flowers, stems, and leaves of some plants. This has significant consequences for species diversity and regeneration in natural areas. Rats also eat native bird eggs, nestlings, invertebrates, native snails, frogs, and lizards.

Since their arrival in New Zealand, kiore, ship and Norway rats have all had a significant impact on the native flora and fauna. They have been implicated in the decline of many native species including the bellbird, robin, stitchbird, saddleback, native thrush and red and yellow parakeets, flightless weevil, and giant weta.

The potential impacts of ship and Norway rats on the remaining kokako, tomtit, bellbird and kereru populations are now well documented.

**Note:** Representatives of Ngati Wai have stated that they regard kiore as a taonga. The ARC recommends consultation with Ngati Wai before any rat control is undertaken that may impact on kiore. Kiore are present on several outer offshore islands in the Hauraki Gulf.

(ii) Animal pest designation

Ship rats (*Rattus rattus*), Norway rats (*Rattus norvegicus*) and kiore (*Rattus exulans*) are declared pests in the Auckland region.

(iii) Reason for strategy

Ship, Norway, and kiore rats are known to have significant impacts on our native flora and fauna, in particular native bird species, native lizards and invertebrates. They may be subject to site-led control in High Conservation Value areas of the region. Several islands in the Hauraki Gulf (e.g. Great Barrier Island and Kawau Island) are currently free of Norway rats; while others (e.g. Tiritiri Matangi, Motuora, Motuihe, Rakino and Browns Islands) are free of all rats.
(iv) Objective

To reduce the negative impacts of rats in selected areas, where other pest numbers have already been significantly reduced.

(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC may, at its discretion, carry out rat control in areas of High Conservation Value, as a component of integrated site-led pest management programmes. Council will support eradication of rats from islands in private ownership where there are ecological or other strategic values at risk and there is a high chance of success of the control measures, providing support and commitment is gained from all parties, including the community, Iwi, and DoC.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Advice</td>
<td>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>ARC may, at its discretion, assist in the monitoring of islands for rat reinvasion, in partnership with DoC and the community.</td>
</tr>
<tr>
<td>Research</td>
<td>The Council will support research on the impacts of rats in High Conservation Value areas, and the relationship between feral cats and rats in natural areas.</td>
</tr>
</tbody>
</table>

(vi) Rules

Rule 10.3.15.1

Hauraki Gulf Controlled Area restrictions are applicable (refer section 17.2.2 of this Strategy).

A breach of this Rule will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

10.3.16 Rook

(Corvus frugilegus)

(i) Description of the problem

Rooks have established in a number of areas of New Zealand, where they cause serious damage to farms and market gardens by eating and destroying newly sown cereals, ripening lentils, walnuts, acorns, pumpkin seeds, and occasionally potatoes and fruit. They sometimes pull young pumpkins and maize plants from the ground in an attempt to obtain the seeds. Rooks can also tear up large areas of pasture in their search for grass grub and other invertebrates.

Insects and grubs make up to 75% of a rook’s diet, and rooks can impact on native insectivorous species through direct and indirect competition as well as through aggressive territorial behaviours. Rooks congregate in large flocks or “rookeries”, which may contain hundreds to thousands of birds. If disturbed the birds can scatter, setting up rookeries in other sites that may be many kilometres from the original site.

(ii) Animal pest designation

Rook (Corvus frugilegus) is declared a pest within the Auckland region.

(iii) Reason for strategy

Rooks are extremely wary birds. Rook control is a specialised field and unsuccessful control attempts can cause them to disperse and set up more rookeries. Also, poorly laid poisons can make these intelligent birds wary and poison shy. Difficulties in control make it appropriate for the ARC to carry out control work through a regionally co-ordinated programme.
(iv) Objective

Eradicate all infestations of rooks from the Auckland region.

(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC will carry out control work of any rook infestation found within the Auckland region.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Advice</td>
<td>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Rook numbers and impacts will be monitored through reported sightings and complaints.</td>
</tr>
</tbody>
</table>

(vi) Rules

Rule 10.3.16.1

No person shall:

a) Cause or permit any rook (Corvus frugilegus) to be in a place where it is offered for sale or exhibited; or

b) Sell or offer any rook, (Corvus frugilegus) for sale; or

c) Breed, or multiply, or otherwise act in such a manner as is likely to encourage or cause the breeding or multiplication of rooks (Corvus frugilegus).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

10.3.17 Sulphur-crested cockatoo

(Cacatua galerita)

(i) Description of the problem

Sulphur-crested cockatoos inhabit several known sites within the Auckland region, and have naturalised following escape or release from captivity. They feed on a wide range of seeds, fruit and insects. Sulphur-crested cockatoos breed in hollow limbs and trunks of old podocarp trees and may compete with native bird species such as kākā and kereru for breeding places or food.

(ii) Animal pest designation

Sulphur-crested cockatoo (Cacatua galerita) is declared a pest in the Auckland region wherever it is not held within secure containment.

(iii) Reason for strategy

Sulphur-crested cockatoos form large aggressive flocks in the wild. They are destructive feeders and compete directly with several native bird species. Wild sulphur-crested cockatoos are also potential vectors of avian diseases. Control of wild flocks can be difficult and the ARC considers it prudent to control wild flocks in ecologically significant areas and to restrict the further release of these birds.

(iv) Objectives

a) Undertake selective control of wild sulphur-crested cockatoo populations; and

b) Restrict the release of further sulphur-crested cockatoos into the wild.
(v) Principal measures of achievement

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>The ARC will carry out selective control of wild sulphur-crested cockatoo populations, where they are threatening ecologically sensitive areas.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Advice</td>
<td>The ARC will provide information, education and advice as set out in section 19 of this RPMS.</td>
</tr>
<tr>
<td>Research</td>
<td>The ARC will continue to research the extent and impacts of wild sulphur-crested cockatoos in the region.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Sulphur crested cockatoo numbers and impacts will be monitored through reported sightings and complaints.</td>
</tr>
</tbody>
</table>

(vi) Rules

Rule 10.3.17.1

No person shall release any sulphur-crested cockatoo from containment in any part of the Auckland region.

A breach of this Rule will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.

Containment in the context of Rule 10.3.17.1 and Section 10.3.17(ii) is defined as being held within a cage or suitable facility sufficient to prevent escape or involuntary release into the wild.

10.3.18 Wallaby species

(Macropus, Petrogale or Wallabia species)

(i) Description of the problem

There are currently four species of wallaby (dama, parma, brush tailed rock, and swamp) in the Auckland region and all four are found on Kawau Island. No other populations of wallabies exist in the Auckland region although occasional sightings have been reported.

Wallabies eat grasses, native shrubs and trees. They live in scrub and coastal forest margins where their browsing of native plants changes the forest ecology with subsequent negative impacts on the indigenous flora and fauna.

(ii) Animal pest designation

Wallabies (Macropus, Petrogale or Wallabia species) are declared pests in the Auckland region.

(iii) Reason for strategy

There is a low public awareness of the problems caused by wallabies, and their potential future impact. Although wallabies prefer pasture and are selective in the species they feed upon, experience on Kawau Island has found that most native species are palatable and almost all emerging native seedlings can be destroyed. Wallabies therefore have the potential to prevent regeneration and significantly reduce the diversity of natural areas and cause serious economic damage to pastoral, horticultural and forestry activities.
(iv) Objectives

a) To prevent the spread of wallabies from Kawau Island; and

b) To promote community awareness of the impacts of wallabies on native ecosystems; and

c) To ensure the eradication of wallabies from the region within the life of the Strategy.

(v) Principal measures of achievement

| Service Delivery | The ARC will follow up all sightings of wallabies (except on Kawau Island) and carry out such control work as is necessary to eradicate them from these parts of the region. The ARC will work co-operatively with all other agencies and the Kawau Island community with the objective of eradicating wallabies from Kawau Island. The level of ARC support will reflect the level of landowner/occupier support for the eradication and demonstrable community efforts.

| Education & Advice | The ARC will provide and make freely available, information on wallabies as set out in section 19 of this RPMS.

| Research | The ARC will collect scientific data on the interaction of wallabies and other animal species and on the ecology of Kawau Island following wallaby removal.

| Monitoring | The ARC will monitor wallaby sightings in areas outside of Kawau Island, with the objective of eradicating any wallabies reported; and also monitor the progress of wallaby eradication on Kawau Island.

(vi) Rules

Rule 10.3.18.1

No person shall:

a) Cause or permit wallabies (Macropus, Petrogale or Wallabia species) to be in a place where they are offered for sale or exhibited; or

b) Sell or offer any wallaby (Macropus, Petrogale or Wallabia species) for sale; or

c) Breed, or multiply, or otherwise act in such a manner as is likely to encourage or cause the breeding or multiplication of wallabies (Macropus, Petrogale or Wallabia species).

d) Release, distribute, or cause to be released or distributed, any wallaby (Macropus, Petrogale or Wallabia species).

Rule 10.3.18.2

Hauraki Gulf Controlled Area restrictions are also applicable (refer section 17.2.2 of this Strategy).

A breach of these Rules will create an offence under section 154(r) of the Act, or may result in default work under section 128 of the Act, or both.
10.3.19 Wasp species:

- **German Wasp** *Vespula germanica*
- **Common Wasp** *Vespula vulgaris*
- **Asian Paper Wasp** *Polistes chinensis*
- **Australian Paper Wasp** *Polistes hummulis*

(ii) **Description of the problem**

These four wasp species, accidentally introduced into New Zealand, can all inflict painful toxic stings on people and animals. Wasps will usually attack and sting if their nests are disturbed or when they are provoked\(^{31}\).

In a survey by Landcare Research, 89% of respondents rated wasps as a pest. Also a preliminary survey, in 1991 to 1993 of 50 family physicians from 18 medical centres, indicated that wasps were a significant problem in the Auckland region. Extrapolation of the figures suggested that at least 850 individuals would have sought medical attention for wasp stings annually. This is probably a substantial under-estimation of the total problems caused by these insects.

Wasps compete for sugar resources with nectar-feeding birds and insects. Wasps are major predators of invertebrates and they may compete for the invertebrate prey with insectivorous birds and other predacious invertebrates\(^ {32}\).

(iii) **Animal pest designation**

The German wasp (*Vespula germanica*), common wasp (*Vespula vulgaris*), Asian paper wasp (*Polistes chinensis*), and Australian paper wasp (*Polistes hummulis*) are all declared pests in the Auckland region.

(iv) **Reason for strategy**

Wasps can create recreational and health problems which tend to be seasonal.

(v) **Objectives**

- **Service Delivery**
  - To supply advice and information on currently available techniques for wasp control; and

- **Education & Advice**
  - To facilitate the development of improved methods of wasp control that can be used by the public of the Auckland region.

(vi) **Rules**

There are no rules for wasps in this RPMS.

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\(^{31}\) Notman, P.R.; Beggs, J.R. 1993: Are wasps more likely to sting men than woman? *NZ Entomologist* 16 (49-51).

11 COMMUNITY INITIATIVES PROGRAMMES (ANIMALS)

11.1. Introduction

Community Initiative Programmes have been introduced to allow groups of landowners/occupiers to control nominated animal pests collaboratively. Communities with particular animal pest problems often have the enthusiasm and local knowledge to undertake control to provide benefits to the community. Active community participation in animal pest problems is supported and strongly encouraged by the Council. This approach is consistent with other areas of Council, where the establishment of ‘Care’ groups is promoted.

Community Groups will be encouraged, through the provision of information and advice, to undertake control programmes for animal pests, using humane methods in accordance with ARC’s standard operating procedures. These may be species led, targeting a particular animal pest, or site-led, targeting a suite of animal pests at a particular site. The Council will consider financial support to “seed” such initiatives through the Environmental Initiatives Fund programme. Any animal pest identified as a pest in this Strategy may be considered under the Community Initiatives Programme.

The Community Initiative Programmes process may also be used to establish Possum Control Areas, where previous ARC funded control work has achieved a possum residual trap catch of 5% or lower (refer section 10.3.2 above). The Community Initiative Programme can also be used to develop an integrated site-led pest control programme within a specified area (refer section 17.1).

When proposed Community Initiatives Programme areas include roadsides, agreement from roading authorities will need to be negotiated by all Community Groups, facilitated by the ARC. In situations where Community Initiatives Programmes are established and there is an agreed Management Plan between the ARC and the roading authority, the Community Group must abide by Rule 18.2.1.1 (refer section 18 of this Strategy).

11.2. Process

There are five steps that need to be followed in order to undertake a Community Initiative Programme for animal pests:

1. Landowners/occupiers join or establish a Community Group.
2. Community Group approaches the ARC outlining the nominated pest animal and the proposed area of the region to which the programme will apply.
3. The ARC evaluates the proposal taking into account a range of factors including:
   - The attributes of the pest (e.g. dispersal, control options, likelihood of reinfection, potential impacts);
   - The distribution of the pest in the proposed area, and in the area immediately surrounding it;
   - How the programme integrates with other initiatives, i.e. proximity to other areas being controlled or proximity to Council’s or other organisations’ site-led programmes;
   - The willingness of the community to accept responsibility for the problem.
4. The ARC approves Community Group proposal with/without amendments, and recommendations on follow-up management.
5. The ARC and Community Group establish a Scoping Plan – defining control area, desired outcomes, removal criteria, publicity required and the dissemination of information.
The first step is publicity to gauge the level of community support in the proposed area. For the programme to proceed, support must be gained from:

- The occupiers of >75% of the land area and 50% of all occupants within the area; or
- 75% of all occupants of the control area; or
- a lesser percentage, at ARC’s discretion.

If the required support criteria cannot be met the group will have six months to canvas further support for the proposal. The ARC will assist by providing publicity material, information and provision of landowner/occupier contacts.

To achieve the required support necessary to ensure ARC intervention, members of the Group must be implementing control programmes over a majority of the nominated area and also encouraging others in the control area to do the same.