

Regional Pest Management Strategy 2002-2022

Pest Animals and Pest Plants

Operational Plan Report 2013/14

Biosecurity Department

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1. Introduction

1.1 Biosecurity at the Greater Wellington Regional Council

The Wellington region is under threat from a number of pest animal and plant species. The Greater Wellington Regional Council (GWRC) is involved in the control of unwanted plants and animals for environmental, economic and social reasons:

- Many of New Zealand's native plants and animals cannot co-exist with introduced species. In areas of high biodiversity value, pest plants and pest animals need to be controlled to protect vulnerable ecosystems
- The impact of pest plants and pest animals leads to considerable economic loss in many of New Zealand's primary industries. Pest management is essential to the success of agricultural industries
- Pest plants and pest animals cause a considerable nuisance to many aspects of rural and urban life, inhibiting the ability of people to enjoy their property, lifestyle and wellbeing.

The Regional Pest Management Strategy 2002-2022 (RPMS) provides the strategic and statutory framework for effective pest management in the Wellington region. The central focus of the RPMS is on mitigating pest threats to society, to farming and agriculture in general, and supporting indigenous biodiversity and health of our ecosystems. There are two major objectives:

1. to minimise the actual and potential adverse and unintended effect of pests on the environment and the community; and
2. to maximise the effectiveness of individual pest management programmes through a regionally coordinated response.

GWRC has implemented the RPMS for 12 years and many advances in the effective management of a wide range of pest plants and pest animals have been made in that time. In response, indigenous biodiversity has been enhanced and local economic values protected over large parts of the region. We were able to achieve this due to support from landowners, care groups and Local Authorities.

1.2 Purpose of this Operational Plan Report

This document reports against the achievements and outcomes of GWRC's biosecurity related activities. The work programme was set by the RPMS Operational Plan 2013/14 and is in line with GWRC's Annual Plan, which sets the overall priorities and work programmes for the organisation.

The implementation of the RPMS requires resources. Our obligation to the community is to ensure these resources are used as efficiently and effectively as possible. This report provides some detail of how and where those resources

were applied in 2013/14 year.

The report is structured in two parts:

Part One - Pest animals

Part Two - Pest plants

The content is organised to correspond with the Operational Plan 2013/14. In the Pest animals and Pest plant sections the aim, cost, means of achievement, and the actual performance is reported on for each pest species or activity.

The pest management activities under the RPMS in 2013/14 were delivered at a total operating expenditure of \$4.22million.

Part One

2. Species led programmes

Pest Animals

2.1 Surveillance species

Aim: To prevent the establishment or minimise the impact, and prevent the further spread, of animal surveillance species in the region at a cost of \$30,700.

Annual cost: The cost of surveillance species management (monitoring, investigation, publicity and reporting) for the region was \$3,300.

The species in this category are Argentine ants, Australian subterranean termites, Darwin's ant, rainbow skink and red-eared slider turtle.

Means of achievement

Provide information and publicity to enhance public awareness of the surveillance species.

Actual performance

GWRC worked with the Ministry for Primary Industries (MPI), Department of Conservation (DOC), New Zealand Transport Agency, contractors and nursery owners to address the threat of rainbow skinks being introduced to the region. The pathway of concern was native plants brought into the region for the Mackays to Peka Peka Expressway project. MPI has developed a set of guidelines to be used by nurseries.

GWRC staff attended a national invasive ant workshop to discuss distribution and control methods, and a surveillance and detection workshop, primarily around the use of remote cameras to detect new incursions and monitor pest animals.

Means of achievement

Record and report any incidences of the Surveillance species in the region.

Actual performance

There were no new reports of Argentine ants in the Wellington Region.

MPI informed GWRC of the detection of carpenter ants (*Camponotus* sp.) in household goods within a residential building in Upper Hutt. Carpenter ants are not present in New Zealand and are an unwanted organism. Some species of *Camponotus* can cause damage to wooden buildings and structures and also have the potential to bite. MPI initiated a response in an attempt to eradicate the ants on 27th June 2013. After carrying out surveillance activities, MPI are confident that the ants were contained to the household goods within the

building. The household goods were removed from the site for fumigation and MPI are confident this will eradicate the infestation. MPI will continue surveillance at the site.

2.2 Retailer inspections for pests listed in the Strategy

GWRC staff inspected 23 retailers in 2013 to ensure compliance with the Strategy rules. No breaches were identified. Generally pet retailers have a good understanding of the animals they can legally sell.

3. Total Control – rooks

Aim: To manage rooks as a Total Control category pest to levels that protects production systems at a cost of \$76,700

Annual cost: The cost of rook management (surveys, research, compliance, education) for the region was \$26,700

Means of achievement

Undertake direct control by Service delivery where rooks are known to exist.

Actual performance

During the 2013/14 year staff identified fifteen known breeding rookeries in the region, all in the Wairarapa. Rook nests are hand baited with a poison paste by an operator slung under a helicopter. There were 42 nests baited at these breeding rookeries.

The rook control programme remains on track to achieve total control of rooks in our region by 2025. The number of treated nests has reduced from 150 in 2009/10 to 42 in 2013/14. For a number of years GWRC have not received any reports of damage to crops in the region.

Means of achievement

Survey rook populations annually in areas where they are known to exist, and where new infestations are reported.

Actual performance

GWRC holds records of 110 known rookery sites in the region (historical and current). All of the sites were visited to determine the presence or absence of rooks in the 2013/14 year. Some ground surveys are followed by aerial surveys in spring to establish the state of a rookery (presence/absence of nests, eggs and/or chicks). Knowing the state of a rookery is critical for efficient timing of aerial control.

Beside surveys, staff rely heavily on the public and landowners in the region to help with locating rooks. The control programme is publicised annually on the

radio and in newspapers urging the public to report sightings. As a result we received information about five new rookeries and the reactivation of three old rookeries this year. At the conclusion of surveys, there were 15 rookeries identified (figure 1). All were very small in size. A disruptive season followed, with repeat gale winds that destroyed active rookeries and forced birds to abandon sites to re-group for another attempt to nest. The control programme was aborted early due to these disruptions. Only eight rookeries were baited due to the weather.

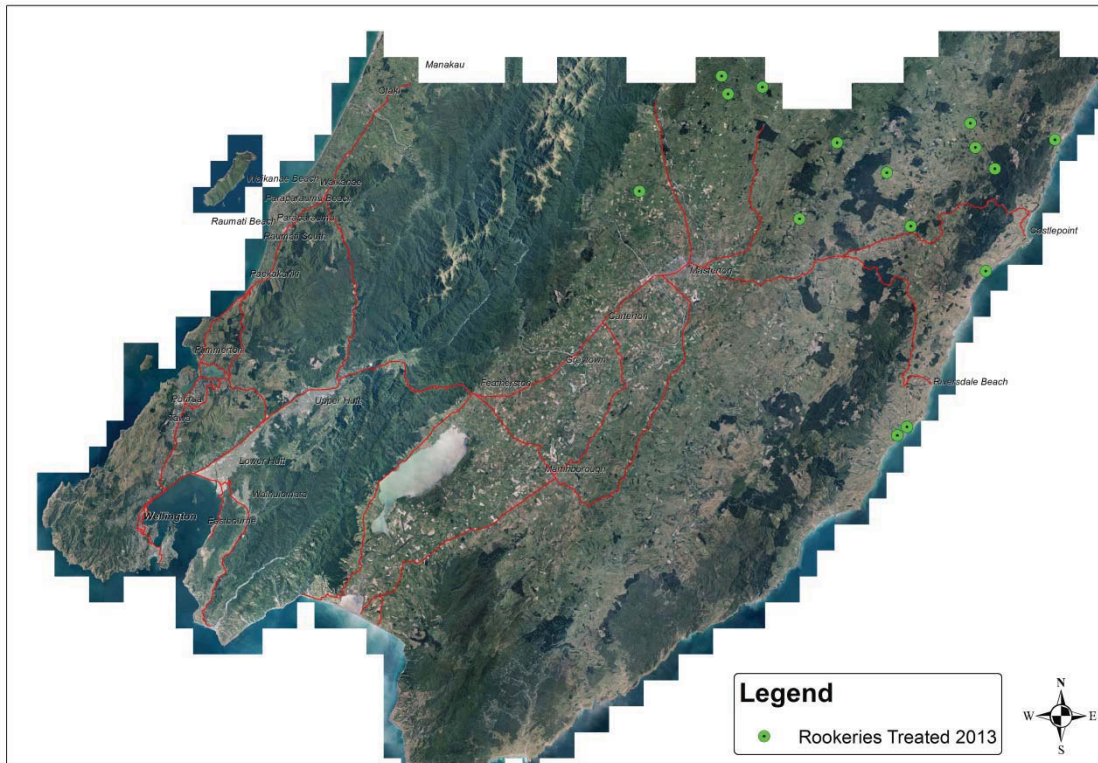


Figure 1. Rookeries treated during the 2013 season

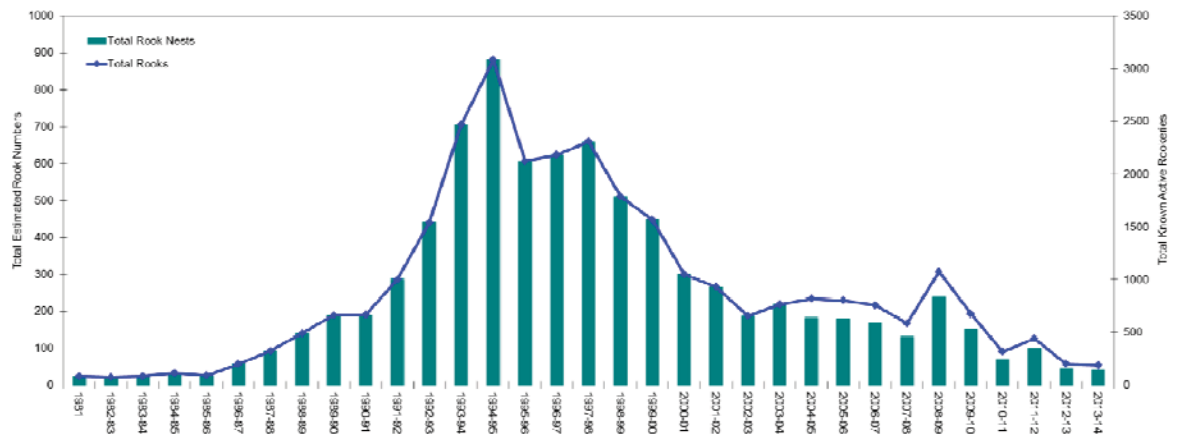


Figure 2. Total number of rookeries and number of rooks (estimated) in the Wellington region

Means of achievement

Ensure compliance with the RPMS rules.

Actual performance

Rooks are both shy and cunning birds, and poorly conducted attempts at control can lead to rookery fragmentation and dispersal over a wider area. Rooks may become bait shy if ground baiting is conducted using inappropriate methods and baits. Public/landowner education is the key to ensure control is managed by GWRC.

Local media and attendances at field days are used to educate the public on the importance of appropriate rook control.

Means of achievement

Encourage Horizons Regional Council to actively pursue management of rooks within their region that complements GWRC's Total Control programme.

Actual performance

Horizons Regional Council was actively involved in aerial nest baiting in the 2013/14 year. Both GWRC and Horizons have cooperated in the annual joint nest baiting programme on both sides of the regional boundary. The programme was designed to prevent the southward migration of rooks into the Wairarapa. Horizons staff are now manufacturing the DRC1339 gel bait for their control programme and for GWRC. Horizons Regional Council recorded a further rook population reduction after the conclusion of its aerial control season.

4. Suppression species – rabbits

Aim: To minimise the adverse impacts of feral rabbits throughout the region at a cost of \$136,300

Annual Cost: The cost of rabbit management (surveys, service delivery, biological control, compliance, education and research) for the region was \$127,000

Means of achievement

Undertake direct control to manage rabbits on riverbeds, esplanades or similar public commons to ensure that rabbits do not exceed Level 5 of the Modified McLean Scale.

Actual performance

There were no situations in the Wairarapa, Wellington, Hutt Valley or Kapiti areas that required regulatory intervention. Rabbits have continued to be an amenity nuisance around Riversdale and Castlepoint beaches but there were no control works carried out. This is a similar trend to the 2012/13 year.

Most rabbit control work during the year was undertaken to protect new plantings in re-vegetation projects by care groups, territorial local authorities (TLAs) and private land owners. Regular night shooting in parks, reserves and cemeteries was undertaken for Wellington City Council, Hutt City Council and Kapiti Coast District Council. Costs for these activities were fully recovered.

Means of achievement

Survey land in high to extreme rabbit prone areas to determine the extent of rabbit infestation.

Actual performance

GWRC staff surveyed the Tauherenikau River and eight adjacent properties. At these sites rabbit densities did not get above level 2-3 on the Modified McLean Scale. Historically, this area supported high numbers of rabbits and is used as an indicator site for the Wairarapa Valley.

Daytime surveys were carried out at four random properties in the Wairarapa that have previously had a history of high rabbit numbers. Property locations range from the Tararua range to the east coast and provide an overview of current rabbit trends for the region. Rabbits appeared to be in similar numbers as in 2012. The same properties as the previous year were surveyed for consistency of data.

The rabbit prone areas of the Kapiti Coast were monitored in late May 2014, with rabbits present throughout the area in low numbers. Hot spots still exist around park areas, lifestyle blocks and smaller private properties with good rabbit cover and overgrazed pasture or large expanses of lawns. No properties were over level 5 on the Modified McLean Scale.

The numbers of rabbits are likely to remain relatively low in the foreseeable future as Rabbit Haemorrhagic Disease (RHD) continues to cycle naturally in most of the Greater Wellington region.

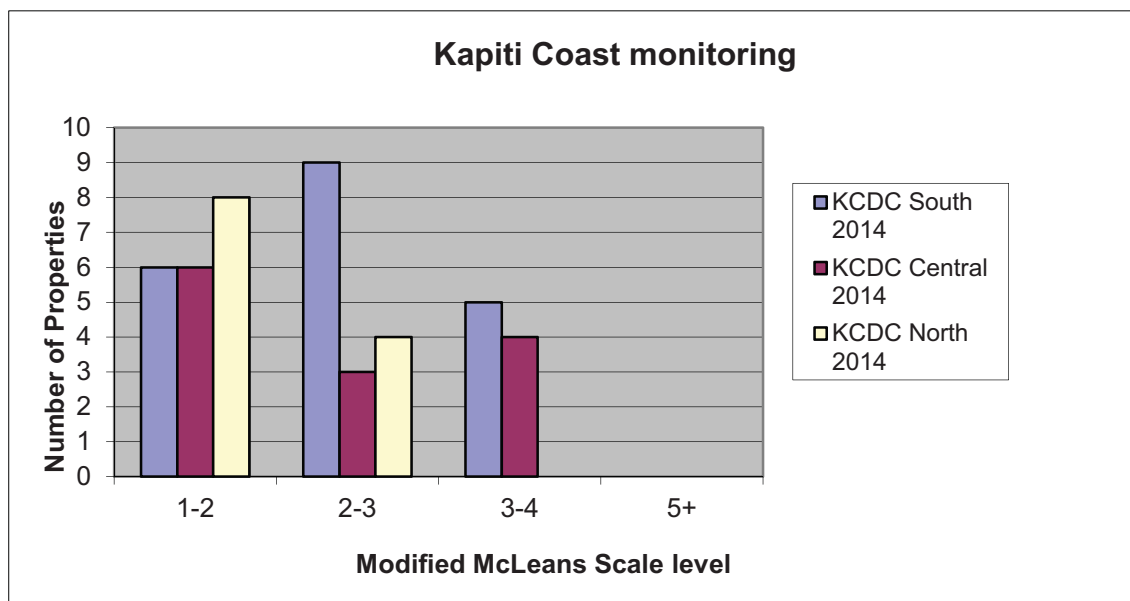


Figure 3. Rabbit monitoring results for the Kapiti coast during 2013/14

Means of achievement

Release biological control agents for the control of feral rabbits when appropriate.

Actual performance

GWRC did not reintroduce the RHD virus in the 2013/14 period.

Means of achievement

Support research initiatives including biological control.

Actual performance

GWRC supported a national effort by a number of regional councils to retain an active permit to import RHD antibodies for release.

4.1 Rabbit trend monitoring

Rabbit and hare night counts are conducted between May and July each year in Queen Elizabeth Park on the Kapiti Coast and on the Tora Coast, in the Wairarapa. Counts are completed over three fine nights. The aim of the monitoring is to determine the trend over time of rabbit and hare activity at these two sites in the absence of formal rabbit and hare control.

The average number of rabbits counted on the Tora coast was further reduced this year, with more feral deer sighted than rabbits. The average number of

rabbits and hares in Queen Elizabeth Park has climbed slightly but remains low.

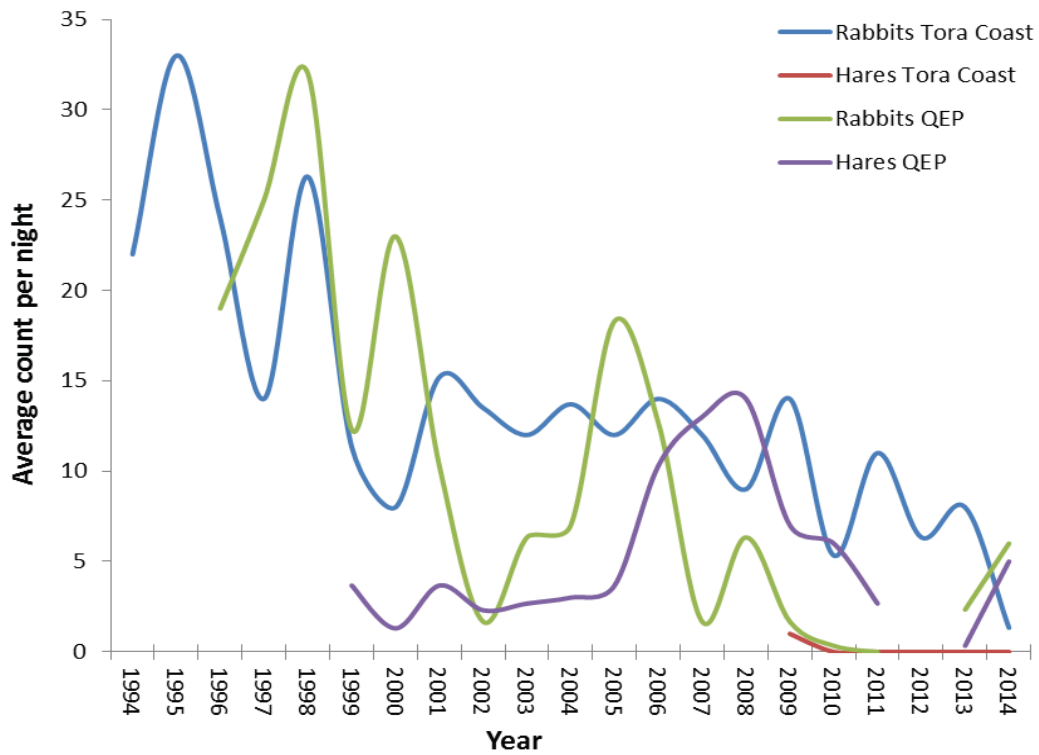


Figure 4. The average count of rabbits and hares on the Tora Coast, Wairapa and Queen Elizabeth Park (QEP), Kapiti over three nights counting at 25 stations

5. Site-Led species – magpies

Aim: To manage magpies to minimise adverse environmental and human health impacts in the Wellington region at a cost of \$42,600

Annual Cost: The cost of magpie management to minimise adverse environmental and health impacts for the region was \$38,500

Means of achievement

Undertake direct control of magpies where there is known to be a threat of injury to members of the public or complaint(s) are made to that effect within 10 working days.

Actual performance

Five complaints were logged in the Wairarapa and six in the Western Zone regarding attacking magpies. All complaints were attended to within 10 working days and all magpies were successfully controlled.

Means of achievement

Respond to landowners wanting to undertake magpie control within 15 working days of receiving a request for information and/or assistance.

Actual performance

We received 76 calls during the 2013-14 year and all calls had response times within 10 working days. All requests for information or assistance are entered onto our database and a phone call or personal visit is made to the complainant within 15 working days. Staff provided advice on best practice trapping techniques to maximise catch results, and had loan traps available.

GWRC brochures on magpie control are also provided to the public or they are referred to the GWRC website.

5.1 Site-Led species – human health – wasps

Aim: To minimise the adverse human health and environmental impacts of wasps at selected sites at a cost of \$3,500

Annual Cost: The cost of wasp management to minimise the adverse human health and environmental impacts for the region was \$6,200

Means of achievement

Provide advice and education to occupiers wanting to undertake wasp control.

Actual performance

Advice on how to treat wasp nests was provided upon request. The public were also encouraged to read information available on the GWRC website.

A national wasp technical group was formed to generate research opportunities and provide a forum to put forward priorities in wasp control in New Zealand

GWRC agreed to contribute to funding to investigate the potential of a mite recently found on vespula wasps in New Zealand to carry biocontrol agents. Landcare Research Ltd will run this project.

5.2 Wasp season 2013/14

Staff from city and district councils, DOC and GWRC are involved in responding to wasp nest nuisance calls within the Wellington region. All calls have been logged in the 'Wasp Nest Register' since 1990/91 and can be used to summarise wasp nest type, location, time of year and frequency of occurrence. This data was supplied to the national wasp research project, and provide a valuable insight into changes in the region over time.

Monitoring seasonal and annual changes across the region provides a valuable record to help understand wasp population dynamics. The number of calls reported remained relatively static, despite the relatively mild winter.

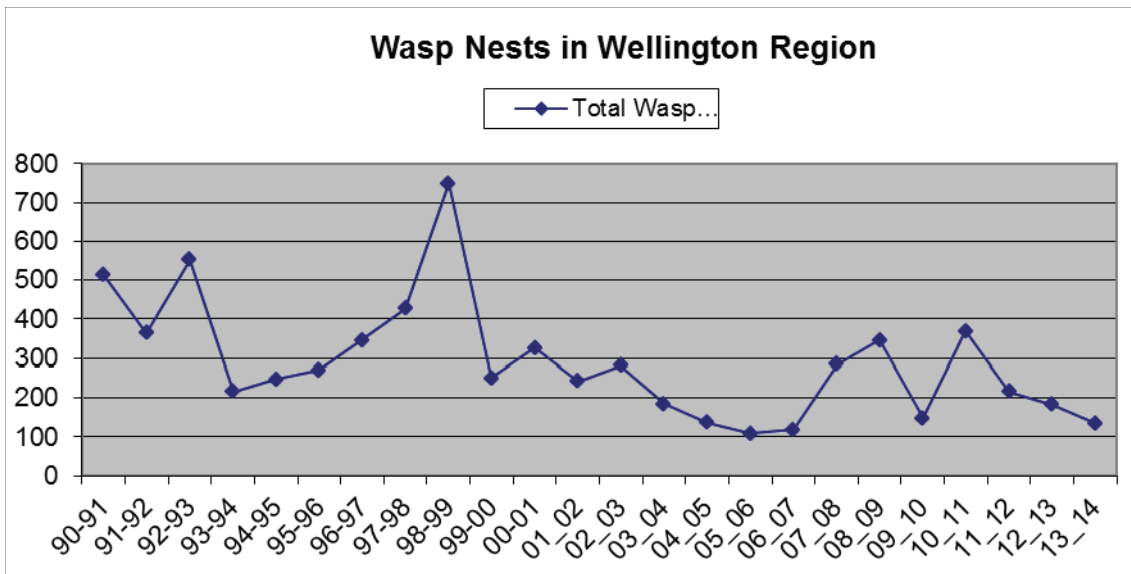


Figure 5. Wasp nuisance nest calls for the Wellington Region

6. Site-Led - Key Native Ecosystems, Reserves and Forest Health

Aim: To protect indigenous biodiversity in a comprehensive selection of Key Native Ecosystems and reserves at a cost of \$1,424,000

Annual Cost: The cost to achieve a measurable improvement in the ecological health and diversity of Key Native Ecosystems and reserves through pest animal control was \$1,546,900

Means of achievement

Ensure KNEs are legally protected into perpetuity.

Actual performance

All of the KNEs treated during 2013/14 were legally protected. They included Territorial Authority Reserves, QEII covenants, or contained legally protected sites within the management area.

Means of achievement

Establish and implement integrated pest management plans for all KNEs and selected Reserves.

Actual performance

Integrated management plans for all KNE areas and Reserves are currently being reviewed and rewritten by GWRC.

Means of achievement

Undertake direct control by service delivery of pests identified in the management plan for each KNE.

Actual performance

During the 2013/14 year, possum and predator work was undertaken over 64,716 ha. This comprised 17 sites in the Wairarapa (7,789 ha) and 100 sites (56,927 ha) in the Western Zone (Figure 7).

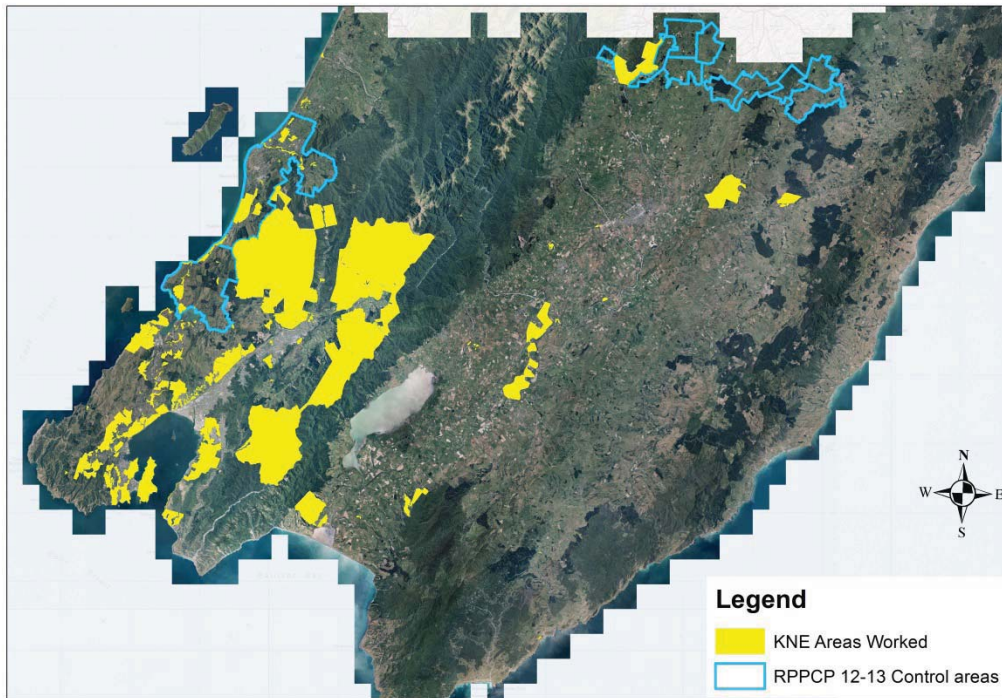


Figure 7. Possum and pest animal control in Wellington Region – KNE and RPPCP

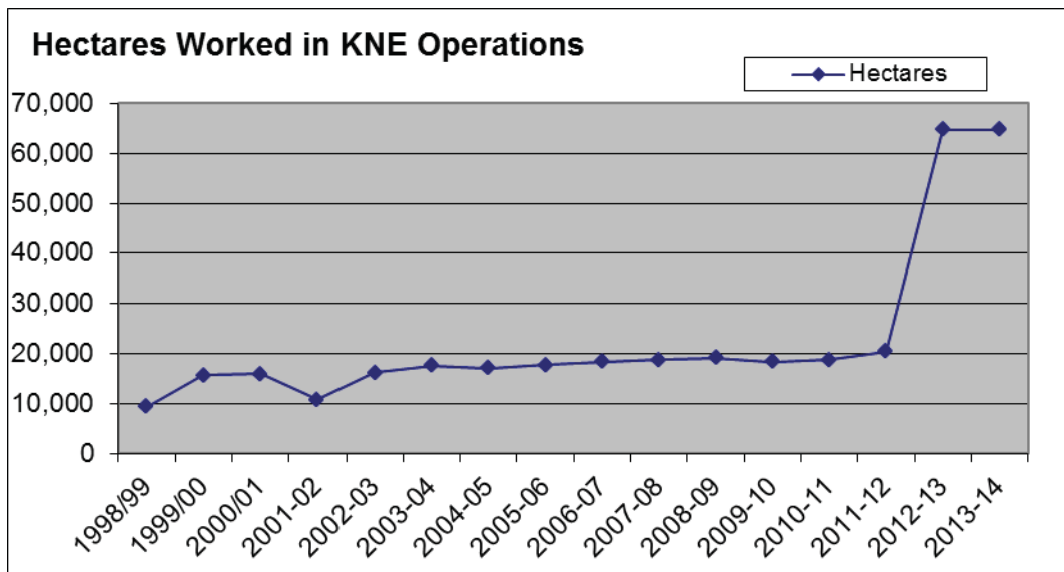


Figure 8. Hectares worked in KNE Operations 1998 – 2014

Means of achievement

Undertake direct control of feral and unwanted cats by service delivery as part of the integrated pest management of Key Native Ecosystems (KNE) and other selected sites.

Actual performance

Feral and unwanted cats are actively managed in 19 KNE sites within the Wellington region (8,527 ha). These sites are predominantly rural as the high number of domestic cats in urban KNE areas may be at risk from current

control methods. GWRC also works in conjunction with TLA's and private landowners to manage feral and unwanted cat populations. Feral cats are the most persistent predator species under ongoing control, with consistent numbers captured in KNE management sites. Abandoned domestic cats continue to be a problem within the region.

Means of achievement

Work with communities to remove populations of stray or unwanted cats.

Actual performance

Individuals who wish to remove feral or stray cats from their own land are given advice on control options or referred to commercial pest management operators.

GWRC is strongly opposed to the practice of private organisations and individuals trying to maintain colonies of de-sexed cats which are fostered while remaining in the wild. 'Managed' populations encourage support for unmanaged cat populations as well. Both continue to threaten the native wildlife of the region. Discussions were held with TLA, Animal control, SPCA and GWRC to find common ground. Key areas were identified where cat colonies should not exist or become established due to ecological programmes currently in place or planned for the future.

6.1 Rodent monitoring in Key Native Ecosystems

Rodent monitoring has been completed in ten Key Native Ecosystems (KNE's) this year (Figure 9). This on-going monitoring is carried out twice a year, in February and August. The monitoring is undertaken to inform pest control managers of the efficacy of the multi-species pest control regime for rats.

The baiting regime in the KNE sites continues to maintain the rat population below 5% in most of the reserves. Three of the reserves did not show any rat activity in the August monitor. The following sites all had tracking rates exceeding 5%; Wi Tako (7%), Keith George Memorial Park (10%), Johnsonville Park (20%) and Otari (6%). Fensham, Wrights Hill and Porirua Scenic had rat tracking at 5% or below.

In the February monitor, rat tracking exceeded 5% at four of the ten sites. These were Johnsonville (20%), Otari (6%), Fensham (10%) and Long Gully (15%).

Long Gully was the only KNE site where possums were detected during monitoring. This is expected due to the large residual possum population outside the control area.

6.2 Site-Led – biodiversity species -Feral deer, feral goats, feral pigs, gambusia and koi carp

Aim: To minimise the adverse environmental impacts of the Site-Led – biodiversity species in sites actively managed for ecological health at a cost of \$34,000

Annual cost: The annual cost for minimising the environmental impacts of the Site-Led – biodiversity species in special sites was \$22,500

Means of achievement

Reduce densities of select Site-Led – biodiversity species (feral deer, feral goats, feral pigs) in KNEs and TA reserves.

Actual performance

GWRC Biosecurity assists KNE landowners, GWRC Parks staff and Territorial Authorities with the management of Site-Led biodiversity species when requested.

GWRC staff have undertaken feral goat control in several urban sites where animals were damaging public and private property adjacent to KNE, Regional Park or reserve areas. Problems often occur where residential properties border on to large tracts of reserve or farmland where feral goats or feral pigs are present.

Pig trapping has worked successfully in areas where hunting with dogs would be too disruptive or potentially hazardous. Several traps were loaned to private landowners in the 2013-14 year.

Feral deer are continuing to be reported in urban areas where properties back on to forested areas.

Means of achievement

Facilitate the involvement of community groups, where appropriate.

Actual performance

GWRC has been involved with community groups undertaking pest control for many years. This involvement continued this year with groups participating at 31 different sites and a further 17 private landowners doing their own control.

Means of achievement

Coordinate site management with other biodiversity initiatives, where possible.

Actual performance

Pest animal and plant control is undertaken with Care and Friends group volunteers to assist them in achieving a range of biodiversity based objectives. This continues in a wide range of TLA reserves and KNEs across the region.

Means of achievement

Monitor site recovery using a range of ecological indicators.

Actual performance

Methods for the effective monitoring of site recovery are the subject of national research efforts. Regional councils, DOC, Ministry for the Environment and science providers are developing a model that will enable nationally consistent and affordable reporting on biodiversity and ecosystem services and condition.

Monitoring will be conducted and reported by the GWRC Environmental Science department in the State of Environment reports.

6.3 Site-Led – biodiversity – possum

Aim: To minimise the adverse impacts of possums in areas of ecological significance (outside of the KNE programme) and maintain accrued biodiversity and economic gains in the Wellington region at a cost of \$93,700

Annual cost: The cost for minimising the adverse impacts of possums in ecologically significant areas and maintaining current biodiversity and economic gains in the Wellington region was \$45,100

Means of achievement

Undertake direct control by service delivery in sites of ecological significance (outside of the KNE programme) in agreement with the landowner/occupier.

Actual performance

GWRC supported landowners who undertake possum control in QEII covenanted sites, these are largely located in the Porirua and Kapiti districts.

GWRC undertakes a range of advice and cost recovery possum and rat control work outside the KNE programme for local TLAs and private landowners.

Means of achievement

Provide a referral or cost recovery service to landowners/occupiers who require possum control.

Actual performance.

GWRC provides assistance and advice on the management of possums to individual property owners, usually in urban or peri-urban situations, with materials at cost price. Assistance is usually with the intent that the occupier can self-manage any future possum problems. Nuisance possums can often be managed in conjunction with or as an extension to our existing possum control areas.

Along with DOC, Wellington City Council and GWRC, the Morgan Foundation has been working to provide Halo Households with cheap and safe predator traps. The GWRC Upper Hutt depot is a collection point for private landowners purchasing subsidised traps and bait stations through the HALO website <http://halo.org.nz/>

Means of achievement

Support research initiatives, including biological control.

Actual performance

Population trend monitoring for possums has been undertaken in Belmont Regional Park since 1994. The aim of the monitoring is to gain an understanding of possum activity at this site in the absence of a control programme. This year the average number of possums active over three fine nights increased. Since the survey began in 1994 possum activity has fluctuated between an average of 8 to 30 possums counted per line over three fine nights, and still appears to be trending slightly upward overall since 2011.

Possums will be controlled in the monitoring area before another count can be done as part of a TBfree control operation. Long term use of this site will have to be discussed in the coming years.

The results of the possum trend monitoring provides clear evidence that possum numbers will bounce back without continued large scale control programmes or remain consistently high in the absence of control.

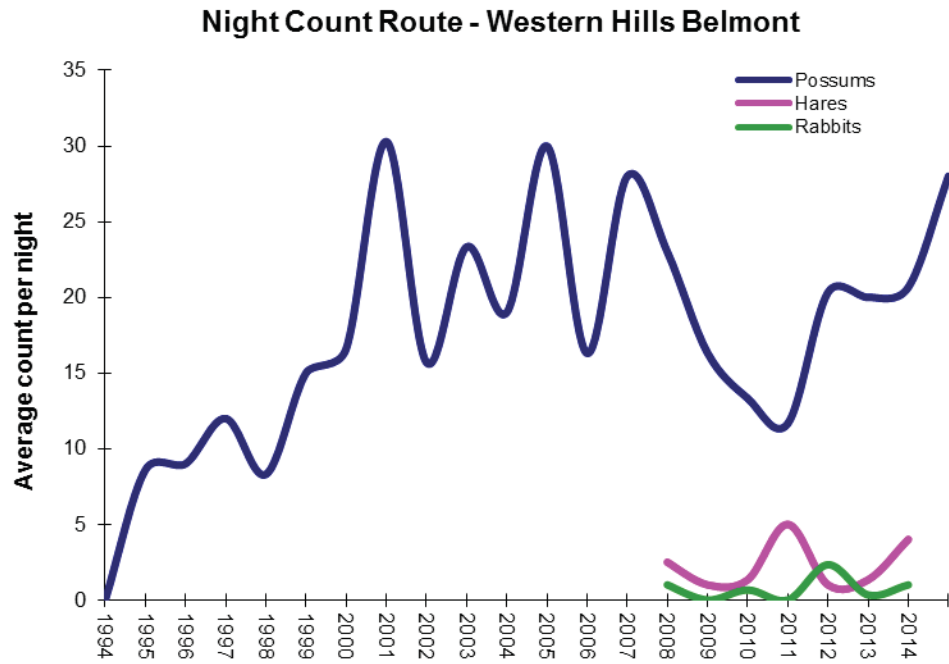


Figure 6. The average count of possums at Belmont Regional Park, Lower Hutt, over three nights counting at 25 stations

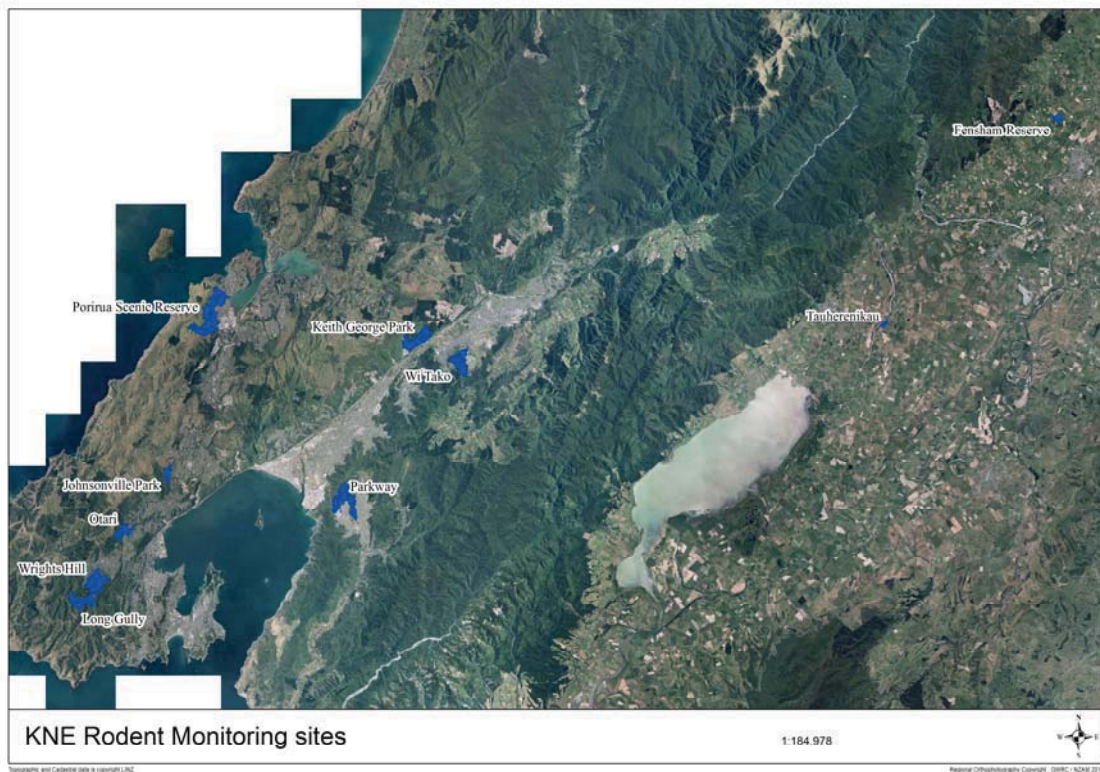


Figure 9. Rodent Monitoring Sites in the Wellington Region

Means of achievement

Maintain holistic management in existing KNE areas.

Actual performance

Integrated pest management targeting possums, rodents and/or other predators were maintained in all KNE sites and some other high biodiversity value areas. Most areas were maintained on a three monthly cycle by GWRC staff or service providers. KNE sites were re-prioritised with a lot of the original TLA sites within Wellington, Hutt City and Wairarapa falling out of the programme, and some new sites added. For 2013-14 priority was given to maintaining existing programmes, with the new sites scheduled for 2014-15.

Means of achievement

Where KNEs are identified on TLA land, seek funding from the relevant authority to form financial partnerships.

Actual performance

GWRC maintains a good working relationship with all of the regional TLAs, including a number of shared funding agreements for pest management. Memorandums of Understanding (MOU) provide a formal platform for this relationship. The MOU is prepared and agreed annually between GWRC and the relevant TLAs. The parties agree to support biodiversity and optimise ecological health within the relevant territories.

The MOU programme is facilitated by the Biodiversity Department. Formal pest management programmes with Wellington, Lower Hutt, Upper Hutt and Porirua City Councils and with the Kapiti Coast District Council continued during the 2013/14 year. The direct costs for work undertaken on their land are generally equally shared between GWRC and the local authority.

7. Site-Led - Mt Bruce (Pukaha) predator buffer

Aim: Complement the native flora and fauna restoration programme undertaken by the Department of Conservation (DOC), Rangitane o Wairarapa and the National Wildlife Trust at the Mount Bruce Scenic Reserve at a cost of \$47,700.

Annual Cost: The cost for the predator control programme within the buffer for the 2012/13 financial year was \$49,300.

The main objective of the Pukaha predator buffer is to maintain all predator numbers at very low levels within the buffer area and to reduce re-infestation by predators of the Mt Bruce Reserve. These control operations benefit a wide range of flora and fauna within the reserve. The focus is particularly on helping

the survival of reintroduced endangered native bird species such as kaka, kokako and kiwi. The predator species targeted for control are possums, cats, ferrets, stoats, weasels, hedgehogs and rats.

Control is undertaken by kill-trapping and laying toxic baits in bait stations. The servicing of all equipment within the 2,200 hectare Pukaha predator control buffer was carried out by GWRC staff. Servicing occurred at monthly intervals. Trapping accounted for 71 feral cats, 25 ferrets (twice last years' number), two stoats, 280 hedgehogs and 190 rats during the 2013/14 servicing year. A further unknown number of possums and rats were controlled.

8. Site-Led – Regional Possum and Predator Control Programme

Aim: To minimise the adverse impacts of possums in three areas declared Bovine Tb free or in areas which are outside of the Tb Free New Zealand programme at a cost of \$601,000

Annual cost: The cost for minimising the adverse impacts of possums in three areas of the Wellington region was \$345,100

Means of achievement

- (i) Address the adverse impacts of possums in bovine Tb free areas for catchment functions, biodiversity and economic prosperity.
- (ii) Maintain a possum residual trap catch (RTC) of 5% or lower across the 15,500 ha of the Wellington region which has been declared bovine Tb free.
- (iii) Commence possum control in areas not included within the Tb Free New Zealand programme.

Actual performance

The Regional Possum and Predator Control Programme (RPPCP) for the Wellington Region commenced in the northern Wairarapa in 2010/11 and moved into the Kapiti District during the 2012/13 year.

Control was undertaken within 15,500 hectares of northern Wairarapa and included maintenance and re-baiting of all permanent bait stations. Eleven of the 12 strata had a monitoring result of RTC 4% or less. One block (1,200 ha) exceeded 5% RTC.

Maintenance control was undertaken over 11,500 hectares of the Kapiti district.

Pre-operation planning and works commenced within the Porirua district covering over 7,700 hectares and in the adjoining Moonshine area to the east which covers a further 1,600 hectares.

The planned programme was delivered with significant operational savings due to the low possum populations in a number of treated strata, reducing the need for repeat servicing. This shows the value of implementing the RPPCP programme before possum numbers recover in bovine Tb free areas.

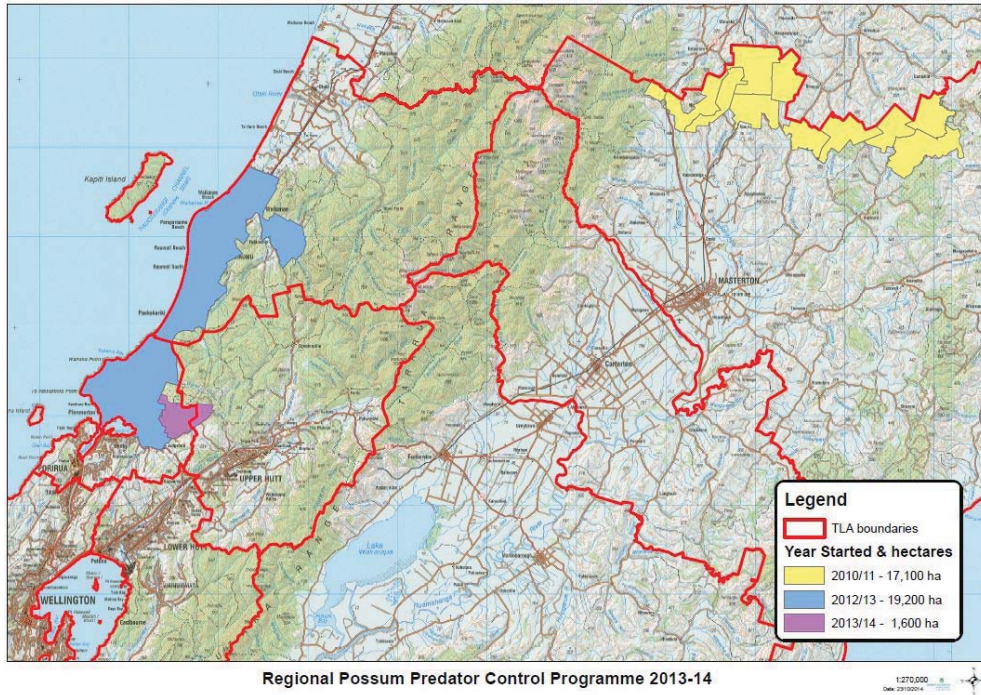
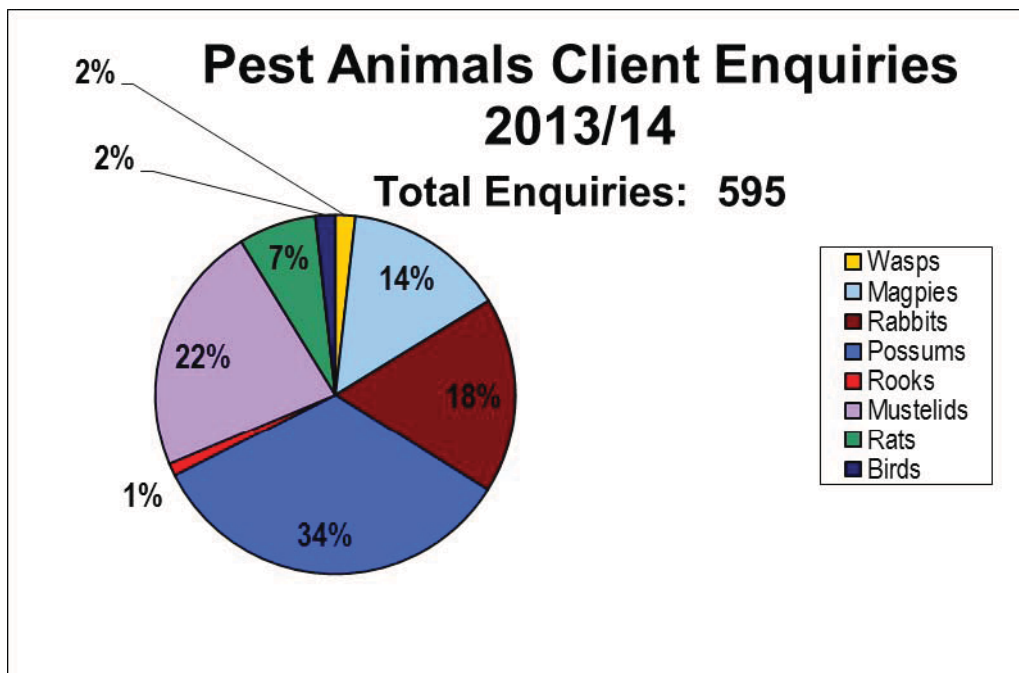


Figure 10. Regional Possum and Predator Control Programme 2013-14

9. Public enquiries

The proficient servicing of public enquiries is a significant focus of the Operational Plan. To ensure effective and timely action a client response database is maintained. The database holds historical information on an area or pest and enables GWRC to manage responses efficiently, to plan the level of control required, and to assess the effectiveness of control methods.

This year we received and processed 595 public pest animal related enquires.



Part Two

Pest Plants

10. Surveillance species

Aim: To determine the distribution and means of control for Regional Surveillance pest plants within the Wellington region at a cost of \$292,100

Annual cost: The cost of managing Surveillance plants throughout the region during 2013/14 was \$221,700

Means of achievement

Identify new sites of Surveillance pest plants by GWRC staff, the public, or through the Surveillance programme.

Actual performance

There are 23 Surveillance species listed in the RPMS. To date only the 11 species below have been discovered in the Wellington region (Table 2).

This year, five new sites of Surveillance species were discovered (one Asiatic knotweed, one bomarea, one chocolate vine and two purple loosestrife). This brings the total number of Surveillance sites to 318. The majority of the sites were found when staff surveyed around known sites of Total Control species. Further survey work is required around these sites to establish the full distribution of these species in the region.

Plant name	Number of sites
African fountain grass	2
Asiatic knotweed	31
Australian sedge	1
Bomarea	52
Chilean flame creeper	7
Chocolate vine	190
Nassella tussock	3
Purple loosestrife	16
Senegal tea	10
Spartina	3
White edged nightshade	3
Total:	318

Table 2. Number of sites of Surveillance species in the Wellington region

Means of achievement

Undertake a control trial programme on selected Regional Surveillance pest plants within the region.

Actual performance

The control trial programme continues on Asiatic knotweed and bomarea. These species are known to be difficult to control and there are enough sites to undertake meaningful trials. Control work continues on sites of gazania, Himalayan balsam, purple loosestrife and Senegal tea to gather information on the best methods of control. The results of these trials will assist with the future management of these species.

Means of achievement

Use biological control agents where appropriate and support relevant biological control research initiatives.

Actual performance

GWRC is part of the National Biological Control Collective along with a number of other Councils, DOC, and Landcare Research Ltd. The collective is currently funding research into biocontrol agents for three Surveillance species: alligator weed, Chilean needle grass and nassella tussock.

Following interest to find a biocontrol agent for the pest plant field horsetail, two sawflies (*Dolerus spp.*) have been imported into containment at Landcare Research Ltd for testing.

Means of achievement

Provide information and publicity to enhance public awareness of the threat posed by Surveillance species to the region.

Actual performance

Factsheets for each Surveillance species can be found on the GWRC website. Biosecurity produces regular media releases and articles in the GWRC publication 'Our Region' and local media on Surveillance species. This year articles were produced on field horsetail and the summer freshwater pest awareness campaign 'Check Clean Dry (CCD)'.

The Ministry for Primary Industries (MPI) continued their funding of the CCD programme for the sixth consecutive year. The aim of the programme is to raise public awareness of didymo and other freshwater pest species. The work is coordinated with DOC to ensure the most efficient use of resources in the region. Staff engage with the public by targeting high use areas of our rivers and attending specialist outdoor events. Information is given to relevant organisations, businesses and clubs. Staff take part in a monthly freshwater

pest networking group coordinated by MPI. This is a great opportunity to share knowledge with other regions.



Image 2. CCD advocate Brendan Veale talks to members of the public at Henley Lake in Masterton

11. Total Control species

Aim: To control all Total Control species within the Wellington region at a cost of \$360,000

Annual cost: The cost of managing Total Control plants throughout the region during 2013/14 was \$361,600

Means of achievement

Identify new sites of Total Control species through incidental reports by GWRC staff, the public, or through the Regional Surveillance programme.

Actual performance

This year, 35 new sites of Total Control species were discovered (25 blue passionflower, two climbing spindleberry, two African feathergrass, three moth plant and three woolly nightshade). This brings the total number of Total Control sites to 1,343 (table 3). The majority were found while staff surveyed around known sites infested with Total Control species.

Plant name	Number of sites
African feathergrass	104
Bathurst bur	10
Blue passionflower	399
Climbing spindleberry	59
Eelgrass	91
Madeira vine	254
Moth plant	199
Perennial nettle	89
Saffron thistle	9
Woolly nightshade	129
Total:	1343

Table 3. Number of sites of Total Control species in the Wellington region

Means of achievement

Undertake direct control by service delivery of all Total Control species at all known sites within the region on an annual basis.

Actual performance

All 1,343 Total Control sites were inspected at least once during the year and any plants found were controlled. Some of the sites are required to be visited multiple times due to the plants reproductive capabilities (e.g. the annual species bathurst bur and saffron thistle).

Good progress is being made with current sites of Total Control species with 240 of the 1,343 determined eradicated and a further 375 being monitored.

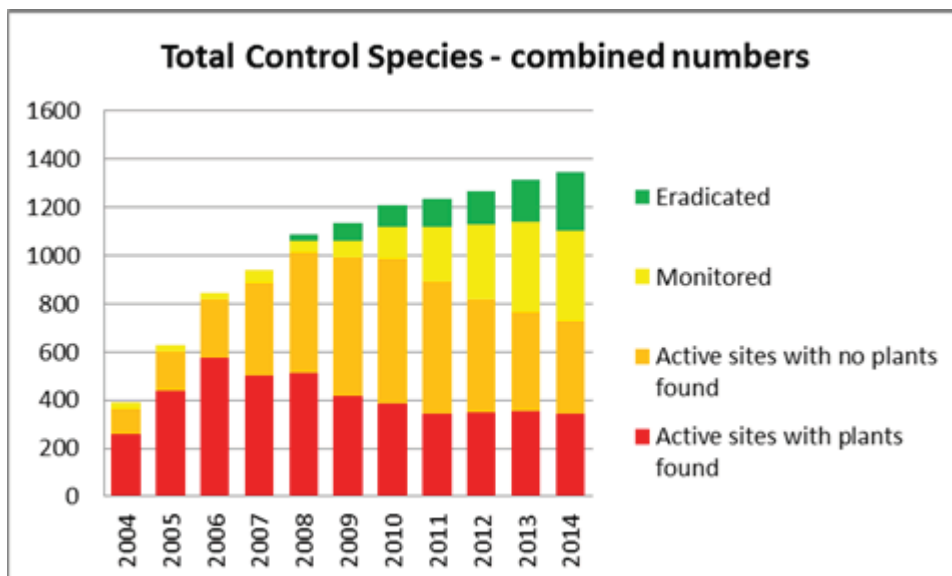


Figure 10. The status of Total Control species in the Wellington region

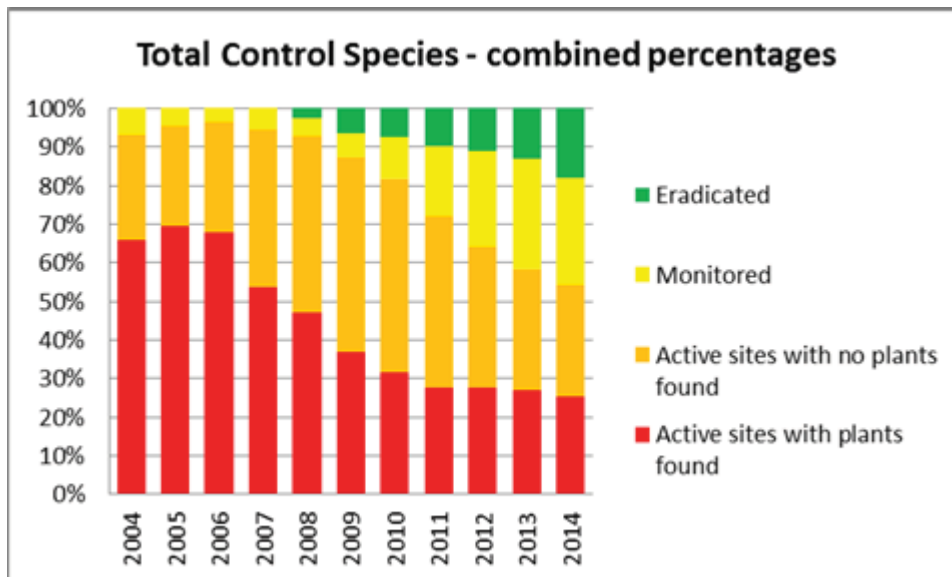


Figure 11. Status of Total Control species (%)

Means of achievement

Annually inspect all plant outlets and markets within the region for the sale and/or propagation of Total Control species.

Actual performance

All plant outlets and markets inspected were clear of Total Control species.

Means of achievement

Use biological control agents where appropriate, and support relevant biological control research initiatives.

Actual performance

GWRC is part of the National Biological Control Collective that is currently funding research into biocontrol agents for two Total Control species; moth plant and woolly nightshade.

The woolly nightshade lace bug (*Gargaphia decoris*) was released in 2010, and research is continuing on other agents. Host testing of two further potential agents is to be undertaken. The moth plant beetle (*Colaspis argentinensis*) and the fruit feeding fly (*Toxotrypana australis*) are being considered for testing.

12. Containment species

Aim: To control all Containment species outside the Containment zones within the Wellington region at a cost of \$175,000

Annual cost: The cost of managing Containment plants throughout the region during 2013/14 was \$204,600

Means of achievement

Undertake direct control by service delivery of Containment species outside the Containment zone within the region on an annual basis.

Actual Performance

Biosecurity staff continue to inspect and control all known boneseed sites outside of the containment zone. Staff have made considerable progress in reducing the number of boneseed plants setting seed, working in difficult terrain and under demanding conditions. Control areas are located in coastal Wairarapa, Titahi Bay and on Wellington's south coast.



Image 3. Aerial boneseed control on the coastal escarpment Ngawi, South Wairarapa

All known sites of sweet pea shrub and evergreen buckthorn outside the containment areas were controlled.

Means of achievement

Provide information and publicity to enhance public awareness of the threat posed by the Containment species to the region.

Actual performance

The GWRC website includes information on all Containment species. Boneseed signage remains in place in areas of coastal Wairarapa.

The publication 'A guide to freshwater pest plants of the Wellington region' was produced this year and includes the Containment aquatic pest plants species such as hornwort.

Means of achievement

- (iii) Identify new sites of Containment species outside the Containment zones through incidental reports by GWRC staff, the public, or through the Regional Surveillance programme.

Actual performance

Evergreen buckthorn and sweet pea shrub were controlled when found outside the containment zones. This mainly occurred on dunes and escarpment ecosystems.

Means of achievement

- (iv) Use biological control agents where appropriate, and support relevant biological control research initiatives.

Actual performance

The boneseed leafroller caterpillar (*Totrix s.l.sp. "chrysanthemoides"*) has been released in previous years within the Wellington and Porirua coastal escarpments, but failed to establish, likely due to predation by ants and wasps. The National Biocontrol Collective continues to search for other biological control agents against boneseed. Seed weevils and rust pathogens are the current focus of the research.

13. Site-Led boundary control, suppression and human health species

Aim: To minimise the adverse impacts of Site-led boundary control species and the risk to human health of species in specific situations throughout the Wellington region at a cost of \$294,000

Annual cost: The cost of managing Site-led boundary control plants throughout the region during 2013/14 was \$274,600

Means of achievement

Action complaints received to comply with the RPMS rules.

Actual performance

Staff responded to all 186 complaints and public requests for inspections this year. Direct compliance action by staff is often the most cost effective way to deal with these complaints.

Means of achievement

Use biological control agents where appropriate, and support relevant biological control research initiatives.

Actual performance

The National Biocontrol Collective is supporting research into finding agents for a number of Site-Led species including banana passionfruit, nodding thistle, old man's beard and wild ginger.

Landcare Research Ltd trials are underway on host specificity of a banana passionfruit foliage-feeding moth (*Pyrausta perelegans*) and a stem-boring moth (*Odonna passiflorae*). Host testing is progressing for the wild ginger weevil (*Tetratopus sp.*) and ginger fruit fly (*Merchlorops dimorphus*) biocontrol agents.

14. Site-Led – Key Native Ecosystems, Reserves and Forest Health

Aim: To protect indigenous biodiversity in a comprehensive selection of Key Native Ecosystems and Reserves at a cost of \$932,900

Annual cost: The cost to GWRC to manage KNE species was \$946,300

Means of achievement

Ensure KNEs are legally protected into perpetuity.

Actual performance

All sites currently receiving restoration activity by Biosecurity are either covenants registered with QEII or are Reserves owned by TLAs.

Means of achievement

Undertake direct control by service delivery of pests identified in the management plan for KNEs and Reserves.

Actual Performance

Control work was undertaken in 71 KNE sites. This consisted of 63 contracts being carried out by external contractors and control by GWRC staff. Work was also carried out collaboratively with DOC as agreed in Memorandum of Understanding agreements.

Means of achievement

Co-ordinate site management with other biodiversity initiatives where possible.

Actual performance

In addition to the work that GWRC completed on KNE and Reserves this year, staff worked on a number of other biodiversity initiatives.

These control operations included working with:

- DOC on alder and willow control at Boggy Pond adjacent to Lake Wairarapa.
- GWRC Land Management At Te Hopai, South Wairarapa with survey work and pre planting weed control on a range of pest plant species on the banks of the river.
- Kapiti Coast District Council (KCDC) on projects on the Waikanae River, Te Harakeke wetland, O Te Pua/Pukehou, and Te Horo Gravel Forest fragments. These were funded using KCDC Heritage Funds.
- Hutt City Council along 6km of coastline between Burdan's gate, Eastbourne and Pencarrow lighthouse.
- GWRC Parks and Whitireia restoration group at 17 sites in Whitireia Park. Work included gorse control, pre planting spraying for lizard habitat protection and revegetation.
- DOC at Porirua's Colonial Reserve controlling wilding pines in the reserve.



Image 4. Aerial control of alders and willows at Boggy Pond

Means of achievement

Monitor site recovery using a range of ecological indicators.

Actual performance

Methods for the effective monitoring of control site recovery are the subject of national research efforts. Regional councils, DOC, Ministry for the Environment and science providers are developing a model that will enable nationally consistent and affordable reporting on biodiversity and ecosystem services and condition.

Means of achievement

Manage external pressures that are inconsistent with KNE and reserve management objectives.

Actual performance

GWRC made all reasonable efforts to mitigate threats to restoration areas such as livestock access, rubbish and garden waste dumping, boundary encroachment and pest animal incursions. Efforts are made to raise awareness on such issues and referrals are made to relevant internal and external partners when necessary.

15. **Biological control**

Staff worked with 13 different species of biocontrol agents during the year. The work included releasing and transferring agents, and monitoring their establishment and spread.

A total of 1,249 biocontrol agent releases have been completed within the Wellington region since the start of the biocontrol programme in 1988. Most of the agents are well established and widespread across the region (see Appendix 1).

A number of transfers of the green thistle beetle (*Cassida rubiginosa*) were made. This agent is establishing very readily in the Wairarapa and appears to be very mobile.

All tradescantia biocontrol agents released in previous years have been monitored this year with very little damage being noted and no beetles being sighted. Similar reports are being made nationally about the impact of these agents. It is universally agreed that sites would need a full complement of agents or populations to build up before any significant damage to plants is seen.

A number of releases of broom gall mite (*Aceria genistae*) were made and a number of previously released sites are showing very obvious 'galls' on broom. Shade houses were erected on two sites in the Wairarapa to house broom leaf beetles (*Gonioctena olivacea*) so that they are protected from the majority of predators while establishing.

A number of transfers of the Buddleia leaf weevil (*Cleopus japonicus*) were made in the region. Results from the monitoring of sites previously released are promising with high levels of defoliation and even death occurring in some plants.

16. **National Interest Pest Response Programme (NIPR)**

GWRC is part of the MPI led national programme to eradicate Manchurian wild rice (MWR) and Cape tulip from New Zealand. GWRC deliver pest plant control management on behalf of MPI. The MWR control program has been underway for 16 years and part of NIPR since 2006. Last year, following good progress for several years, MPI agreed to intensify the eradication effort and increase funding.

There is one site of MWR in the region at Te Harakeke swamp, Waikanae. This year an aerial survey was carried out on the area to determine the location of plants. A number of areas of MWR were discovered that were previously unknown due to inaccessibility. This coming year aerial control will be used for these areas. Existing areas are also proving difficult to control, due to changes in water level, accessibility and plant identification amongst vegetation.



Image 5. Manchurian Wild Rice (green strappy leaves in background) growing through dense patches of mature raupo, carex secta and flax.

There are now only two active Cape tulip sites in the region. GWRC staff inspected these and found and removed plants. This year in addition to these sites a request was made to inspect four historical sites of Cape tulip and another NIPR species, water hyacinth to determine their status. No plants were found at these sites.

17. Other projects

National Capability Network

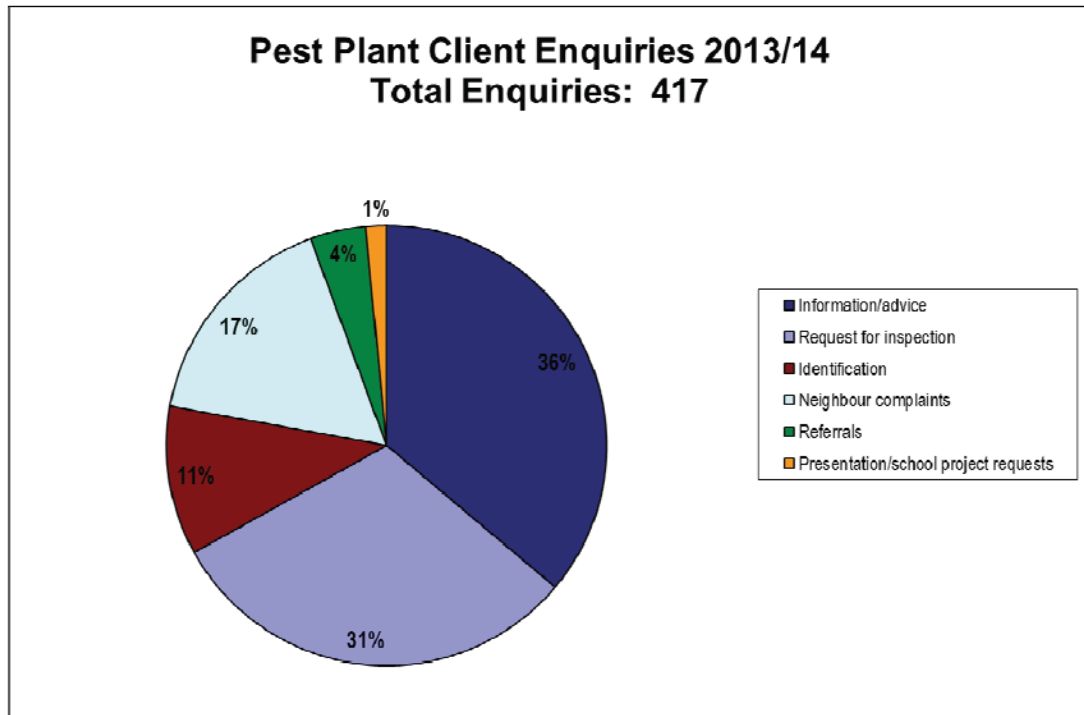
GWRC is part of the national response team that will deal with any incursions of unwanted organisms. This requires GWRC to provide a workforce to be available, at very short notice to deal with a pest incursion response. This required team members to attend training for response management and restricted place control.

Machinery hygiene standards

GWRC staff has been part of the taskforce developing a weed hygiene standard for when machinery is moved between properties. MPI are leading this initiative through the National Biosecurity Working Group. A logbook and guide book has been developed and implementation steps are currently being considered.

18. Public enquiries

This year we received and processed 417 public pest plants related enquiries.



Appendix 1 – Biocontrol agents released in the Wellington Region

Agent species name	First released	Total number of known sites	Overall agent status
Boneseed agents			
Boneseed leaf roller	2007	8	suspect failure
Broom agents			
Broom gall mite	2009	12	established
Broom leaf beetle	2009	3	uncertain (1 beetle has been found 12 months after release)
Broom psyllid	1995	345	widespread
Broom seed beetle	1994	200+	widespread
Broom shoot moth	2008	3	uncertain
Buddleia agents			
Buddleia leaf weevil	2007	42	Established
Gorse agents			
Gorse colonial hard shoot moth	2002	4	failed
Gorse pod moth	1997	11	widespread
Gorse soft shoot moth	2007	4	uncertain
Gorse spider mite	1989	8	widespread
Gorse seed weevil	1930's	?	widespread
Gorse thrips	1990	478	widespread
Mistflower agents			
Mistflower gall fly	2001	2	established
Mistflower fungus	2009	1	established
Old man's beard agents			
Old man's beard leaf fungus	1997	4	failed
Old man's beard leaf miner	1995	5	widespread
Old man's beard sawfly	2002	2	failed
Ragwort agents			
Cinnabar moth	2006	3	widespread
Ragwort plume moth	2012	3	established
Ragwort flea beetle	1988	43	widespread
Thistle agents			
Californian thistle flea beetle	1994	2	suspect failure
Californian thistle gall fly	2006	1	failed
Californian thistle leaf beetle	1993	3	failed
Californian thistle stem miner	2010	2	uncertain
Green thistle beetle	2008	13	established
Nodding thistle receptacle weevil	1972		established
Nodding thistle crown weevil	1990	4	established
Nodding thistle gall fly	2005	2	established
Scotch thistle gall fly	2005	12	established
Tradescantia agents			
Tradescantia leaf beetle	2011	6	established
Tradescantia stem beetle	2012	5	too early to determine
Tradescantia tip beetle	2013	5	too early to determine
TOTALS:		1236	