

Regional Pest Management Strategy 2002 - 2022

Pest Animals and Pest Plants

Operational Report 2004 - 2005

Biosecurity Department

FOR FURTHER INFORMATION

Greater Wellington
Regional Council
Masterton
P O Box 41

Greater Wellington
Regional Council
Upper Hutt
P O Box 40847

T 06 378 2484
F 06 378 7994
W www.gw.govt.nz

T 04 526 4133
F 04 526 4171
W www.gw.govt.nz

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Part One

PEST ANIMALS

1. Purpose

To report on the performance of the Operational Plan 2004 – 2005 for the Greater Wellington Regional Pest Management Strategy (RPMS). Under Section 85 of the Biosecurity Act 1993, Greater Wellington (GW) is required to prepare and implement an Operational Plan for the Strategy and report on the performance of the Plan no later than five months after the close of each financial year.

2. Highlights

A sample of highlights for the 2004/05 financial year includes:

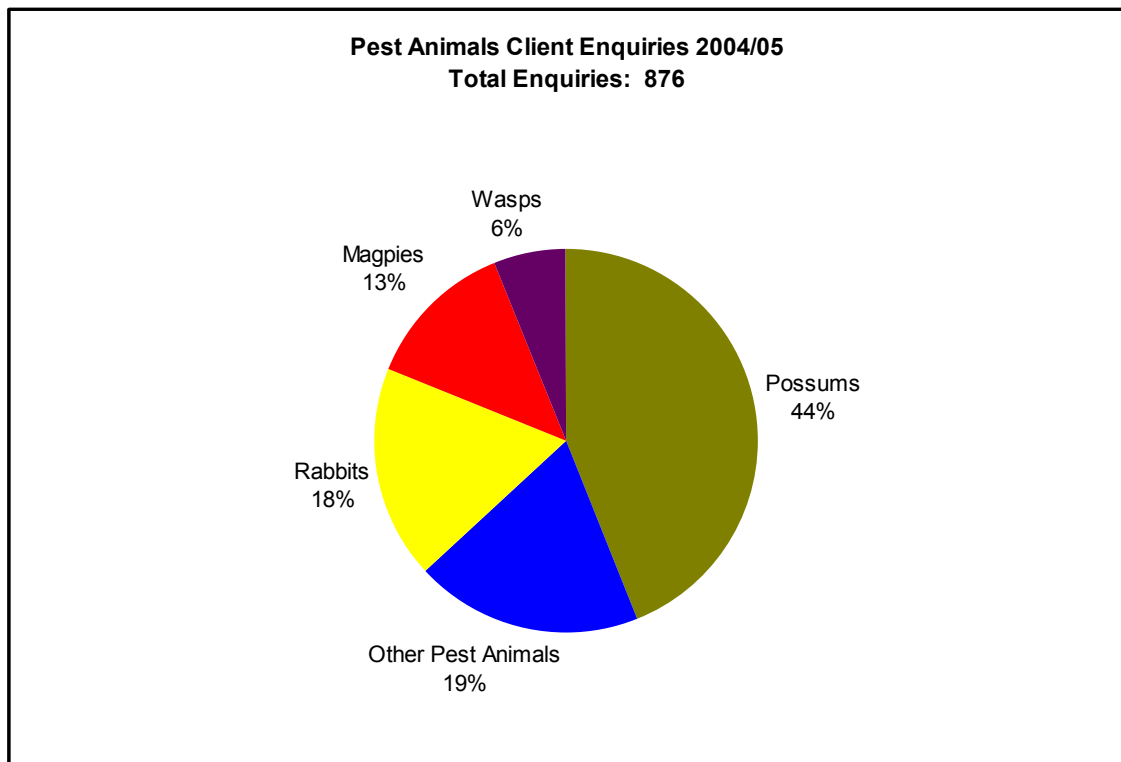
1. Undertaking possum and other predator control at 76 private and/or territorial authority sites comprising some 17,089 hectares, as part of the Key Native Ecosystem (KNE) management, programme at a cost of \$522,200.
2. The establishment of prescriptive contracts for predator control in high public use urban and peri-urban areas to enable the utilisation of external contractors and GW's BioWorks business unit.
3. Maintaining a high profile publicity campaign through the regular features of topical newspaper articles, attendance and presentations at a wide range of forums (approximately 25) and the provision of updated information brochures and newsletters.
4. Kick-starting a programme of awareness in relation to the national problem of unwanted domestic cats and their adverse impacts on native wildlife.
5. Promoting internal relationships and joint ventures with biodiversity/biosecurity projects between the Biosecurity Department, Parks & Forests Department, and the Wellington and Wairarapa Land Protection Forums.
6. Production of the booklet 'Restoring our Natural Heritage' and the bedding in of the corresponding policy for protecting native habitats on private land (the qualifying process flowchart).
7. Progressing field surveys and database establishment in relation to the "Top 100 Ecological Sites" on private land.
8. Consolidating relationships with the Department of Conservation (DoC) throughout the region through varied initiatives including the wetlands, coastal strategy and "Top 100 Sites" ecological assessment surveys, the Pukaha Buffer project, the Waihora KNE project, the pest fish and aquatic plants issues on the Kapiti Coast and a scientific publication and ensuing poster in regard to the re-colonisation of native birds in Wellington City.

9. The drafting and offer to DoC of a Memorandum of Understanding (MOU) in regard to GW's and DoC's joint responsibilities for supporting biodiversity in the Wellington region.
10. Continued satisfactory working relationship through MOU's with the Western Zone territorial authorities who are funding partners for ecological health projects.
11. Continued involvement with a wide range of care group or volunteers in the preservation and enhancement of our natural heritage.
12. Continued involvement and liaison with both Horizons and Hawkes Bay Regional Councils to ensure proficient rook control programmes. Completed a second consecutive year where no rook control for crop damage has been required in the Wellington region.
13. Considerable input into the short and long-term management as well as the more direct field management issues with the establishment of the GW Wainuiomata Mainland Island project.
14. Continued development and regional trend monitoring initiatives for native birds, rodents, invertebrates, possums, rabbits, magpies and native bush health.
15. Continued to undertake research and development opportunities and to strive for improved efficiency as resources allowed. Some examples are the trial of 200 metre spacing of bait stations for possum and rat control, the trialling and adaptation of novel bait feeders, gaining consent to apply 1080 bait over 'open' water during the Orongorongo aerial operation and the use of new bait matrixes for both possums and rats.
16. The input through attendance at workshops, meetings and especially through submissions, to the direction and outcomes of the control and use of vertebrate toxic agents during the transfer process to the HSNO and ACVM legislation.

3. Client Response

The proficient servicing of clients is a significant theme throughout the Plan. To enable this to be measured a client response database is maintained. The database supplies historical information on an area or pest. It enables us to manage efficiently, plan the level of control required and assess effectiveness of current control methods.

Overall there were 876 enquiries, 186 less than the 2003/04 year.



The number of mustelid enquiries has increased by over 500%. This may be a result of people becoming more aware of environmental pests in New Zealand and the damage they inflict on our flora and fauna.

Over the last two years there has been a decrease in the number of calls relating to possums. This decrease could be due to the success of the regions significant possum control programme.

4. Rabbit Management

4.1 Rabbit Densities

Rabbit densities remained at low levels throughout most of the region during the year ending 30 June 2005. There is still a nuisance factor in most coastal communities, on lighter soil types adjacent to the coastal belts and on newly developed lifestyle blocks with new lawn, garden and shelter plantings.

The annual inspections of the Waingawa and Tauherenikau riverbeds in the Wairarapa were conducted in January 2005. The inspections disclosed rabbit densities were similar to last year's assessments but the levels were not of concern. There were three small pockets of rabbits at level four on the modified McLean Scale on the Tauherenikau and one at level four on the Waingawa River. Neighbouring properties are also included in these inspections. These types of braided riverbeds provide an early useful indication of probable regional rabbit population trends.

Once again the Wairarapa rabbit proneness monitoring on farm properties was undertaken on a reduced scale to the previous year due to the trend of low rabbit numbers over recent years. Monitoring was concentrated on five properties only. These are regarded as being the most consistently rabbit prone properties in the Wairarapa.

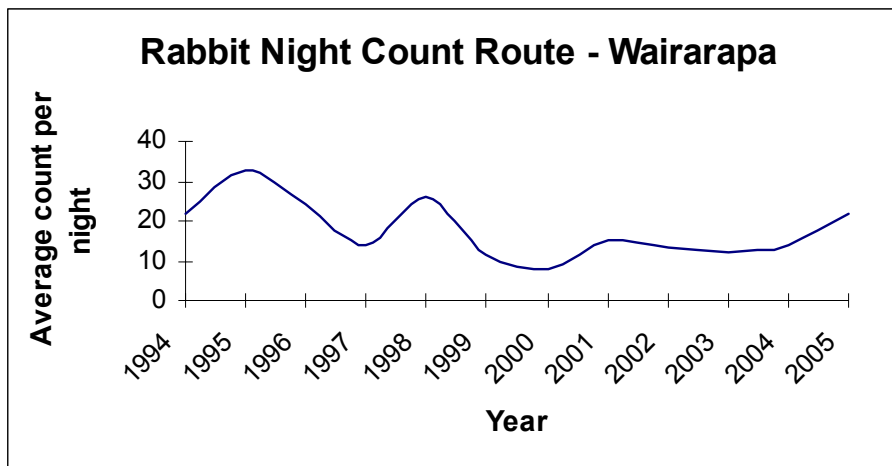
The situation was similar on the Kapiti Coast and other environs around the metropolitan areas. The properties inspected were reduced to 38 (49 for 2003/04), with again only three properties having small pockets assessed at level four on the Modified McLean Scale.

There were no situations that required occupiers being warned about their rabbit densities or having enforcement proceedings invoked. The likelihood of this situation arising within the next year or two seems remote.

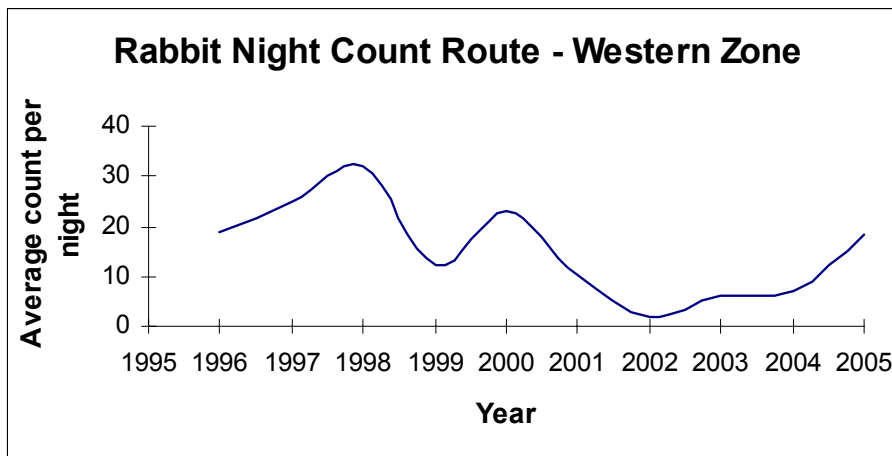
The anticoagulant rabbit bait 'Pindone Carrot' remains a popular tool for control of nuisance rabbits responsible for damage to gardens in both urban and rural situations. These 'nuisance' events arise more frequently during the breeding season and the drier months of summer.

4.2 Results of Rabbit Trend Monitoring to 2005

Graphs of rabbit night count trends are shown below.



There is a slight increase in the rabbit counts in Wairarapa.



A continuing influx of rabbits in the Western Zone. The current count level is significantly higher than our lowest recorded count in 2002, but is not significantly higher than last year's count.

The combination of significant increases in rabbits in the Western Zone since 2002 and slight increase in the Wairarapa could indicate an overall increasing regional trend in rabbit numbers. However the trends are not unusually different from historical treatments.

4.3 Rabbit Calicivirus Disease (RCD)

The rabbit calicivirus disease (RCD) continues to cycle sporadically throughout the region but GW officers have no firm evidence of this other than reports from occupiers saying they have noticed a few dead rabbits where to their knowledge no shooting or poisoning has occurred. RCD can be difficult to discern without a freshly dead rabbit for post mortem purposes, and when it is cycling in low rabbit populations.

An application to import RCD from Australia (on behalf of a consortium of 10 Regional Councils and two unitary authorities led by Environment Southland), was approved by the Environmental Risk Management Authority (ERMA) and the Agricultural Compounds and Veterinary Medicines Group.

GW staff considered that the controls for its use as a biocide outweighed the benefits and made a considered decision not to use the RCD-Suspension until it could be used in a proficient manner. In any event, the RCD-Suspension was not imported in time for use during the stipulated June/July time span.

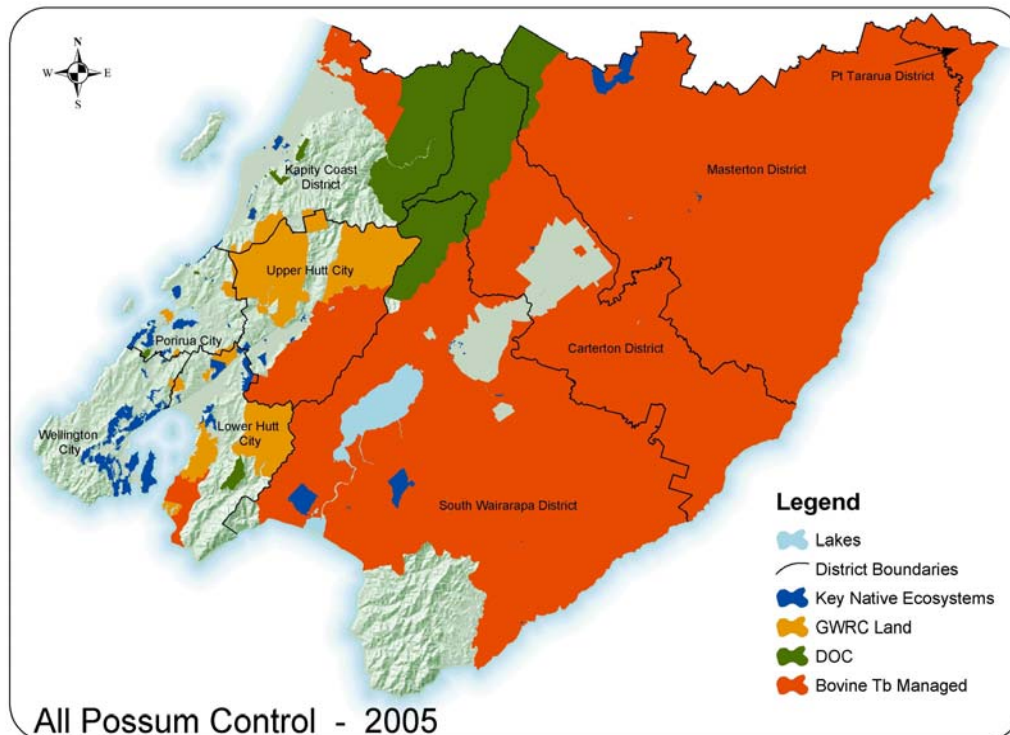
5. Biodiversity Support Programmes

5.1 Predator Control

The biodiversity support programmes include native forest, wetlands, dunelands, coastal escarpments or other sites with regionally significant conservation value, but excludes areas administered by DoC.

A large portion of the region is the subject of ongoing possum control, principally for Bovine Tb purposes. The Parks and Forests Department of GW and DoC have also been proactive in carrying out possum control in a significant portion of their estates and have established cyclic maintenance programmes.

Many of the prioritised sites subject to threat from possums and other predators are located within current Bovine Tb vector control areas. As such, possum densities in particular are maintained to low levels. Therefore, any sites within Bovine Tb control areas have not been prioritised for more intensive predator works at this stage. Bovine Tb vector control is expected to decrease quite significantly over the next five years as a result of the ongoing decline in Tb infection in cattle and farmed deer. GW will then need to consider funding increased biodiversity protection in these areas, if it wishes to maintain current environmental gains.



5.2 Operations

During the 2004/05 year, 17,089 hectares of either possum and/or predator control was undertaken. This comprised 14 sites in the Wairarapa (10,047 hectares), and 62 sites (7,042 hectares) in the Western Zone. In addition five sites (comprising 4,430 hectares) of GW Parks & Forests were treated for possums as part of an ongoing forest health programme.

5.2.1 Maintenance Operations

Western Zone		Hectares
Kapiti		416
Porirua		944
Wellington		3453
Lower Hutt		872
Upper Hutt		385
Total		6,070
Wairarapa		Hectares
Masterton		3,780
Carterton		71
South Wairarapa		6044
Total		9,895

5.2.2 Initial Operations

Western Zone		Hectares
Kapiti		6
Porirua		53
Wellington		625
Lower Hutt		288
Upper Hutt		0
Total		972
Wairarapa		Hectares
Masterton		0
Carterton		152
South Wairarapa		0
Total		152
Grand Total		17,089

Past years operational hectares are:

Years		Hectares
2003/2004	-	17,664
2002/2003	-	16,274
2001/2002	-	10,840
2000/2001	-	16,012
1999/2000	-	15,681
1998/1999	-	9,390
1997/1998	-	18,000

6. Land Protection Groups

GW facilitates regular land protection group meetings with City and District Councils, DoC, Federated Farmers, Queen Elizabeth II Trust and iwi as partners with the vision to:

- promote a co-operative and collaborative approach to the management and protection of ecologically significant areas;
- bring about an awareness of ecologically significant areas;
- encourage the legal protection of such areas; and
- encourage appropriate management of such areas.

Two Land Protection Fora have been established, one for the Wairarapa and the other representing Wellington – Kapiti Coast. They meet approximately four times each year.

7. Volunteer and Care Groups

The Biosecurity Department has been involved with community groups for many years. During the 2004/05 year, care group volunteers and private landowners treated 3,489 hectares.

There are presently 11 groups involved with the KNE programme, ranging from small groups of two to three volunteers, to dedicated and well organised groups like the Upper Hutt Branch of Forest and Bird or the Mainland Island Restoration Organisation (MIRO), based at Eastbourne.

8. Public Relations

The following events were attended and the opportunity taken to promote the aims and objectives of GW in relation to pest plants and animals.

Public relations and education events:

Group or Event	Number of attendants	Topic
Otari/Wilton's Bush sale day	2,000	Pest Animal display
Home and Garden Show	9,000	Combined Pest Plant and Animal display
Taranaki Regional Council Road Show	30	Presentation on how we carry out biodiversity works
Kapiti Probus Club	60	Possum control programme slide talk
Rimutaka Forest Park Open Day	200	Combined Pest Plant and Animal display
Hutt City Possum trappers	8	Possum control in the Hutt Valley
Miro Meeting	15	Possum control in East Harbour Regional Park
National Possum Control Agencies	200	Urban pest control
Kuranui College	60	Pest Plant and Animal control
Group or Event	Number of attendants	Topic
Masterton Primary School	60	'Survival and Extinction'
Take Care organisers	12	KNE field operation programme
Upper Hutt Forest and Bird Talk	30	Animal pest programme and feedback on volunteer programme
Otaki Rural Field Day	5,000	Pest Plant and Animal display
Hongaeka Bay Community Development	10	Introducing landowners to KNE programme
Carterton A&P Show	3,500	Pest Plant and Animal display

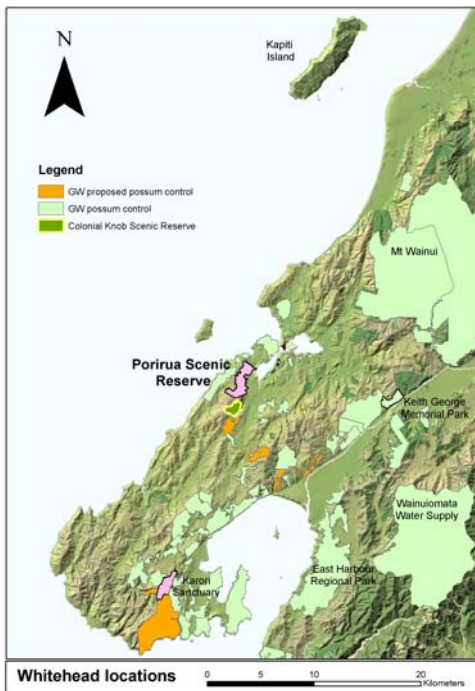
The publication material is continually being updated to keep up with the public's needs. The apparent increase in conservation awareness and lifestyle block owners keeps up the interest in both agricultural and conservation pests. Two new brochures were added into the series; rodents and rabbits/hares. Two banners were also completed on pest birds and rabbits/hares. The banners were developed to support each of the pest animal brochures and are used at all shows attended. They are also used for long term displays in libraries and school events around the region. Other divisions within GW are adding to this series.

A second set of stuffed pest animals were made for the Upper Hutt depot, following an increased demand.

9. Porirua Scenic Reserve – Native Bird Self Introduction

This 318 hectare Scenic Reserve is a major backdrop for the Porirua City centre. Possums and predators are kept at very low levels with 30 predator traps and 180 possum bait stations. The bait stations are replenished with brodifacoum baits on a three monthly cycle. Recent self arrivals of red-crowned kākāriki and bellbirds have provided an unexpected bonus to the biodiversity recovery.

During December 2004 an ornithologist observed up to five whiteheads in Porirua Scenic Reserve. One of the birds was newly fledged and an adult female had been banded and released at Karori Wildlife Sanctuary, two years previously. The closest populations of whitehead to the reserve are at Keith George Memorial Park, Mt Wainui, Wainuiomata Water Supply catchments, East Harbour Regional Park and Karori Wildlife Sanctuary. These locations range from 14 - 20km away (**refer to map below**). Whiteheads also occur on Kapiti Island and the Karori Wildlife Sanctuary population was sourced from there.



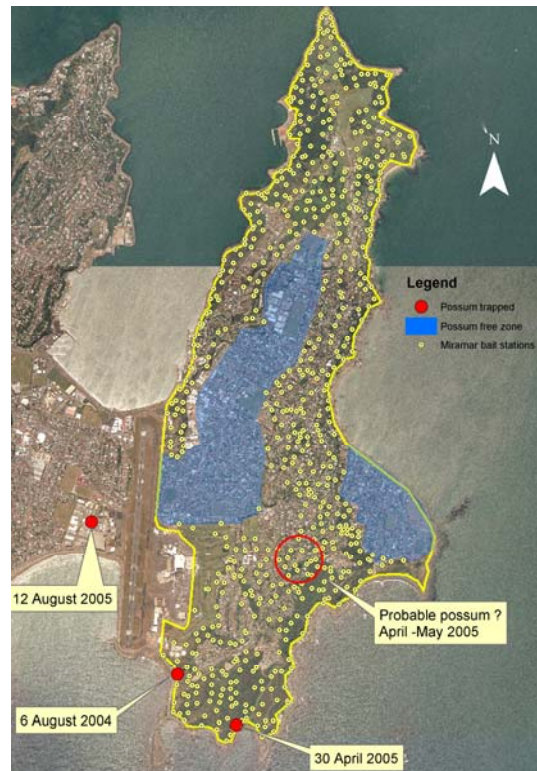
This self introduction of whiteheads surpassed our expectations in terms of time and resulting biodiversity recovery. In essence, Porirua Scenic Reserve (which was first treated in 1996), is now considered an unofficial Mainland Island.

Porirua Scenic Reserve and adjoining whitehead population locations

10. Miramar Peninsula Possum Eradication

In February 2003, the Miramar possum eradication programme commenced. The 600 hectares, of predominantly residential land, was treated with brodifacoum bait dispensed from bait stations at 100m spacings. Kill traps were used in areas where the bait could not be used. After three cycles of brodifacoum bait application, sign of possum activity was extremely scarce.

Signage at key access points to the peninsula plus the use of a media release have prompted the public to notify GW if they see, hear or observe sign of a possum. This has led to GW receiving 37 phone calls since 2004. Of these 30 were confirmed as hedgehog droppings and a further three were confirmed (by capture), as possums. The map below shows where the possums were caught. It possibly indicates that possums are capable of travelling through the Rongatai isthmus to Miramar. It is worth noting that the entire inner town belt i.e. Mt Victoria, Haitaitai, Melrose and Lyall Bay suburbs are all under possum control so eventually there should be no possums left to cross the isthmus.



Miramar Peninsula - remnant possum locations

Miramar residents have reported that they are now seeing tuis regularly, after years of making only brief seasonal appearances.

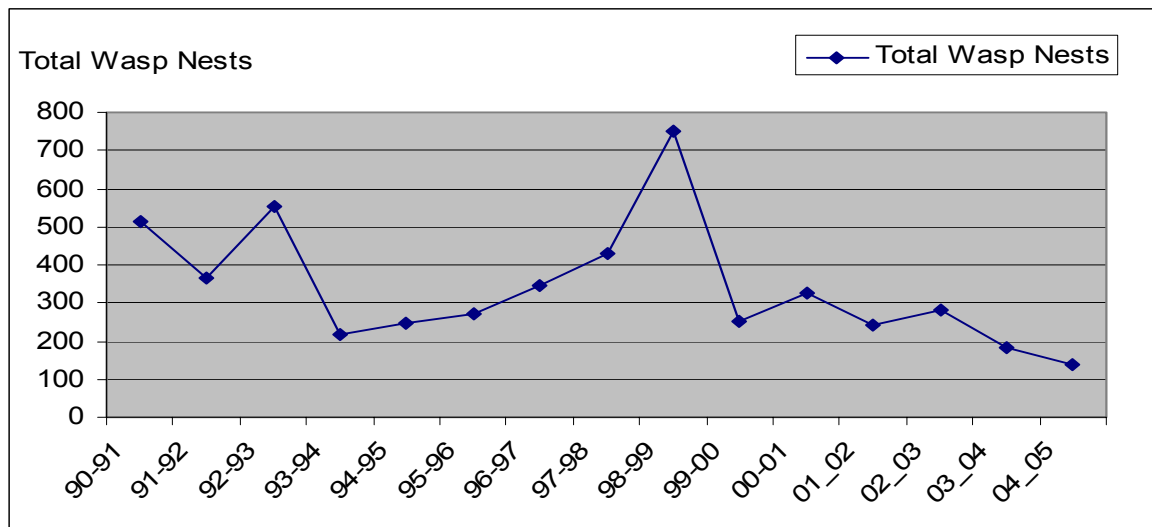
11. Wasps

Staff from the City and District Councils, DoC and Regional Council, who are involved in responding to wasp nest nuisance calls within the GW region, have been supplying an annual 'Wasp Nest Register' covering the 12 month period to the end of June. These registers have been used since the 1990/91 season to summarise wasp nest type, location, time of year and frequency of occurrence.

By monitoring wasps on a regional basis we hope to monitor the effectiveness of any wasp biological control programme and understand the seasonal influences on wasp population dynamics. Interesting points from the 2004/05 season are:

- 72% of the GW Western Zone calls were from residents in the Wellington City area, compared with 73% last season.
- The peak month for wasps in the GW region was March.

- Overall the wasp season for 2004/05 was the lowest ever for the GW region. The prediction was for a low wasp season for most of the region but a high one for Carterton District. The prediction was made by considering the mean minimum air temperatures for November 2004 and the resulting effect on the initiation of hibernating queen wasps.
- The overall trend for the last 15 years is a progressive decrease in wasp nest incidences. Scientists confirm that the peak periods in the early 90s were due to initial wasp plagues colonising fresh ecosystems. The Landcare Research scientists do, however, warn that if climatic and food source conditions are suitable, a boom year could occur at any time.



Wasp nuisance trend for the Wellington Region

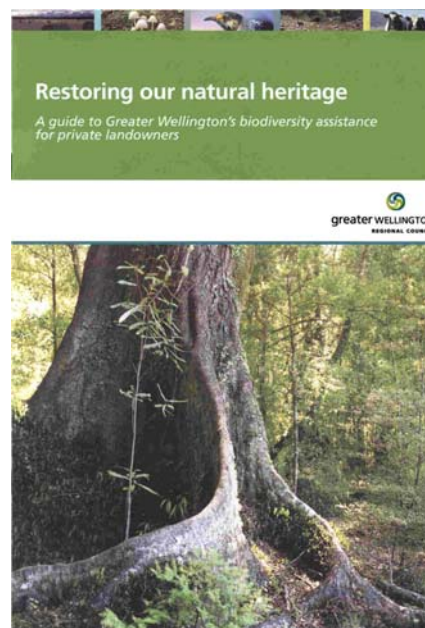
12. Restoring our Natural Heritage

Many types of habitats are only found on private land (e.g. lowland and coastal forest remnants, wetlands and lowland grasslands). Some of these areas are legally protected, while others are sustained through landowner initiatives or not protected at all. It is recognised that many remnants currently exist because of nurturing by private landowners.

Over the last two years there has been a noticeable increase in the public's interest in biodiversity and conservation awareness especially protection of flora and fauna. This interest has led to an increase in the number of private owners requesting help with pest control on their land.

Biosecurity, Environment and Land Management Departments all have programmes to assist private landowners with biodiversity protection work. These programmes build on the successful Key Native Ecosystem programme already implemented to protect and enhance native flora and fauna. They aim to raise awareness, encourage biodiversity conservation and to provide practical advice. The level of assistance varies based on legal protection and the biodiversity value of the land.

A new brochure encompassing all of GW's biodiversity assistance programmes was developed. This brochure is entitled 'Restoring our Natural Heritage'.



13. Feral and Stray/Unwanted Cats – Feline Spaying and Neutering Pilot Programme

Feral and free-roaming cats have long been recognised as a significant threat to New Zealand's native wildlife and rank second only to stoats in this regard. Feral cats are targeted as one of the main pests within KNE and other similar predator control areas. It is an ongoing battle as cat numbers tend to remain constant while other predator populations decrease. There is no doubt that cat dumping is a major factor in increasing the feral and stray cat populations and the problem has been getting worse.

Controlling reproduction and humanely euthanasing unwanted cats is a means of keeping the population at manageable levels. This is supported by the draft Animal Welfare (Companion Cats) Code of Welfare 2005 which states that unplanned breeding of cats is not recommended and that owned cats (and where possible) stray/unowned cats in managed colonies should be desexed. It recommends the best practice for owned cats not kept by a registered breeder for breeding should be desexing at or before puberty. Further it states that veterinarians, pet shops, cat breeders, local Councils and animal welfare organisations should continually encourage the cat-owning public to have their cats desexed.

In April 2005, the Biosecurity Department entered into agreements via Memorandums of Understanding with the Wellington and Wairarapa SPCAs and Wairarapa veterinarians to subsidise the cost of three independent feline spaying and neutering pilot programmes to reduce the number of felines being born in the Wellington region. The support for each programme had a financial limit with the actual sum calculated on an agreed cost for each feline desexed plus agreed costs associated with the promotion and administration of the campaigns. Books were also provided for prizes to cat owners chosen by the service providers.

The programmes were targeted towards feline owners who would provide the most benefit to the campaign objectives. The campaign was fully subscribed with an estimated 320 cats being registered for treatment. The number of cats that could have been desexed was only limited by the amount of funds and goodwill available.

Now that a workable programme has been established it is intended to repeat an enlarged programme in the period March to June 2006. A plea will be made for funding assistance from Territorial Authorities, DoC and others.

Whilst recognising the positive benefits to people owning and caring for companion animals, there is a need to help and encourage cat owners to act responsibly and help avoid adverse pressures on native wildlife.

14. “Top 100” Ecological Sites Survey/Database

The sites ranked highly in the “Top 100” prioritisation model, have been field checked (ground-truthed). The surveys were completed throughout the region by the end of June 2005. There was a very good response from most property owners once they understood the reasons for gathering the information.

There was a poor response from owners in the Lower Hutt area. Biosecurity staff made phone contact with these owners to provide some background to the purpose of undertaking the proposed surveys. Owners either did not reply to letters or messages, or refused permission to gain entry and gather information on the condition of forest. There were some concerns from occupiers about how the information gathered might be used in a detrimental way under revised District Plans.

Data gathered will identify high priority forest remnants in need of protection and assess them for KNE status. GW is committed to assisting owners with the protection and restoration of their bush blocks. Some of these sites will achieve KNE status, and pest control work may be undertaken to protect and enhance these valuable areas, where funds allow.

A database is in the process of being built. This will enable us to prioritise sites for management and keep a permanent record of the site. The database structure is similar to GW’s wetland database to keep consistency across Council.

Proposals for any new sites to be added to the regional KNE programme must be highly ranked and have some form of long term legal protection (e.g. QE II covenant). The allocation of resources will follow the principle of giving priority to the least modified indigenous habitats, where critical ecological processes can continue to function.

15. Biosecurity Incursions

Harmful organisms can hitch a ride to New Zealand in a number of different ways - on boats or aircraft, in shipping containers, second hand cars, produce, mail or on passengers! Despite New Zealand’s physical isolation, we are at constant risk from incursions by exotic pests and diseases.

Central Government agencies take the lead in controlling new incursions. GW's role is to provide advice and logistical support when required. This role is likely to increase over the coming years. Recently, we have been involved in surveys for Didymo in our river systems and co-operating with MAF Biosecurity New Zealand over sea squirt investigations.

Over the last year we have responded to reports of red-eared slider turtles and new infestations of koi carp. The red-eared slider, also known as the red-eared terrapin, can carry the disease salmonella and adult specimens can inflict a painful bite. Koi carp cause habitat loss for plants, native fish and waterfowl. They stir up the bottom of waterways destroying native plant and fish habitat.

Both these species have been nominated amongst 100 of the world's worst invaders and have been banned from importation into many countries. DoC is currently conducting risk assessments for the 19 or so exotic reptiles and amphibians known to be present in New Zealand.

Management of koi infestations and red-eared sliders has been co-ordinated with DoC. Education is a key role as these species are released by humans, usually when they outgrow their appeal as pets. Joint aquatic pests publications and media releases were completed.

Biosecurity staff at Biosecurity New Zealand, DoC and GW will continue to liaise over new biosecurity incursions and will manage them collaboratively in the future.

16. Native Birds Returning to the Greater Wellington Region

Colin Miskelly (DoC) and co-authors Ken Wright (GW) and Raewyn Epton (Karori Wildlife Sanctuary) published a report about native birds returning to the capital city. The scientific report attributes the successful re-establishments of bellbird, whitehead, tomtit and red-crowned parakeet in forest reserves in Wellington to the effective possum and rat control undertaken by GW and DoC.

Kaka, red-crowned parakeet, whitehead, tomtit and bellbird have all recently been reintroduced to sites in or near Wellington City. Prior to or concurrent with these translocations, unbanded individuals of all five species were detected in forested reserves on Wellington peninsula. Based on the number of birds seen, and frequency of sightings, red-crowned parakeets, whiteheads and bellbirds have established resident populations in some reserves independent of translocations.

Wellington City Council bird monitoring data supports this precept.

17. Retailer Inspections

An authorised Biosecurity staff member conducted inspections pursuant to Sections 52 and 53 of the Biosecurity Act 1993. Staff visited 60 pet shops, SPCA centres, stock and station/farm supply outlets and veterinary clinics throughout the region during October 2004. Most vet clinics in the metropolitan areas also trade in pets and pet supplies, as do some in the Wairarapa. Twenty-three retailers received a second impromptu visit during April 2005. There were no incidences of non compliance to report.

Staff concluded that all retailers have a responsible attitude towards the illegal sale, distribution and breeding of pest animals. An information brochure was left at each retail outlet, which denotes:

- why it is illegal to sell pest animals
- what pest animals are banned from sale
- which pest animals are not recommended for sale
- the possible penalties for illegal trading
- how traders can help with minimising the risk of unwanted organisms invading ecosystems.

18. Tauherenikau Integrated Management

Biosecurity staff (Pest Animals and Pest Plants) are currently working collaboratively to undertake a long-term control programme to rid the Tauherenikau Racecourse Bush and adjoining Donald's Bush of invasive plants and predator pests. Staff have met with the landowner and Wairarapa Racing Club representatives to seek support and approval to undertake the work. All were most supportive and keen to see enhancement work go ahead as the racecourse, together with the native bush, has a high public profile. The area is a multi-use facility and being centrally located in the Wairarapa it is ideally suited for future use as an educational venue for the promotion of biodiversity values to local school groups or various other interest groups.

Integrated pest animal control has been carried out annually since 1998 with pest numbers now at quite low densities. Some rabbit control will be required prior to any replanting taking place. Plans are being prepared to eco-source seeds for propagation. These will then be transplanted back into weed free areas to kick start the regeneration process. It is hoped to encourage various schools to participate in this project.



Photo point showing tradescantia and 'the battle ahead'. This is the treatment plot

19. Predator Control Contracting

The control of possums and other predators in the Wellington region is getting more and more reliant on the use of external pest management contractors. Of concern is that there is a limited pool of contractors who are willing or capable of undertaking operations in the metropolitan areas. Pest animal control in these urban and peri-urban high public use areas demands a high degree of risk management. The new and high risk works have almost exclusively been previously undertaken by permanent staff from the Pest Animals Section but this cannot continue because of limited capacity.

The BioWorks Business Unit of GW has been accorded a preferred supplier status and has been awarded many of these metropolitan contracts. They offer competitive pricing with operational capacity and experienced staff able to adapt to the metropolitan environment.

A conscious effort is being made to up-skill new entrant contractors and current service providers to provide for expanding opportunities within the metropolitan areas. There is an adequate pool of companies to manage the rural based contracts.

20. Ecological Outcomes

20.1 Monitoring

Monitoring the ecological outcomes of browser and predator control under the KNE programme is required to determine if pest control is successfully protecting the Wellington region's biological diversity. Presently, monitoring KNE pest animal management outcomes includes foliar browse assessments, invertebrate monitoring and native bird monitoring. The bird and invertebrate monitoring programmes were conceived in 2001/02 and were designed to detect changes in the native species that fall victim to introduced predators. The foliar browse assessments started in 1993 and look at the damage possums cause to the forest canopy.

Foliar browse monitoring was not undertaken in 2004/05. This project has been down-scaled after review in 2002/03. Collection of samples from invertebrate monitoring sites continued but sample sorting and scoring hindered analysis of the data, so reports are delayed.

The native bird monitoring project is being re-evaluated. There is strong public interest in native bird monitoring as a tool for measuring the ecological outcomes of the KNE programme. However, bird monitoring is proving to be difficult to implement cost effectively.

Five minute bird counts were conducted in four Key Native Ecosystems, Pounui, Keith George, Porirua Scenic Reserve and Tauherenikau in February and March 2005. Overall the most prevalent native species recorded in all reserves were fantails, silvereyes, grey warblers, kereru and tui. Rare species such as kākāriki were only found in Porirua and whiteheads in both Porirua and Keith George, although both were found in low numbers (i.e. recorded once or twice during the survey). Tomtits were only recorded in Keith George. Bellbirds, however, were recorded in three reserves, Pounui, Porirua and Keith George. Statistically there were no differences in the relative

abundance of the bird species in the different reserves. Approximately 50% of the species recorded in Tauherenikau were native, this compares with 77% in Keith George.

There are two main points from the Tauherenikau bird monitoring results. The first is the large number of non – native species recorded (50%) and the second is the over abundance of kereru in comparison with the other reserves. This is attributed to both the small size of the reserve and the close proximity of the reserve to the main range. The reserve has a large proportion of edge habitat which favours the non-natives. It is thought the numbers of kereru in Tauherenikau may be artificially high. Tawa trees were in fruit during the survey and this may have attracted birds from the main range. Other native species recorded in Tauherenikau include, fantails, grey warblers, tui and silvereyes.

20.2 Rodent Populations

A rodent tunnel tracking programme was initiated in October 2003. This programme has been invaluable to adding to our understanding of the ecology and control of rats and mice.

Chart 1 depicts rat tracking undertaken during 2004/05. It is apparent that possum control that includes intensive use of brodifacoum has the added advantage of lowering rat-tracking indices (and by inference, brodifacoum lowers the rat population).

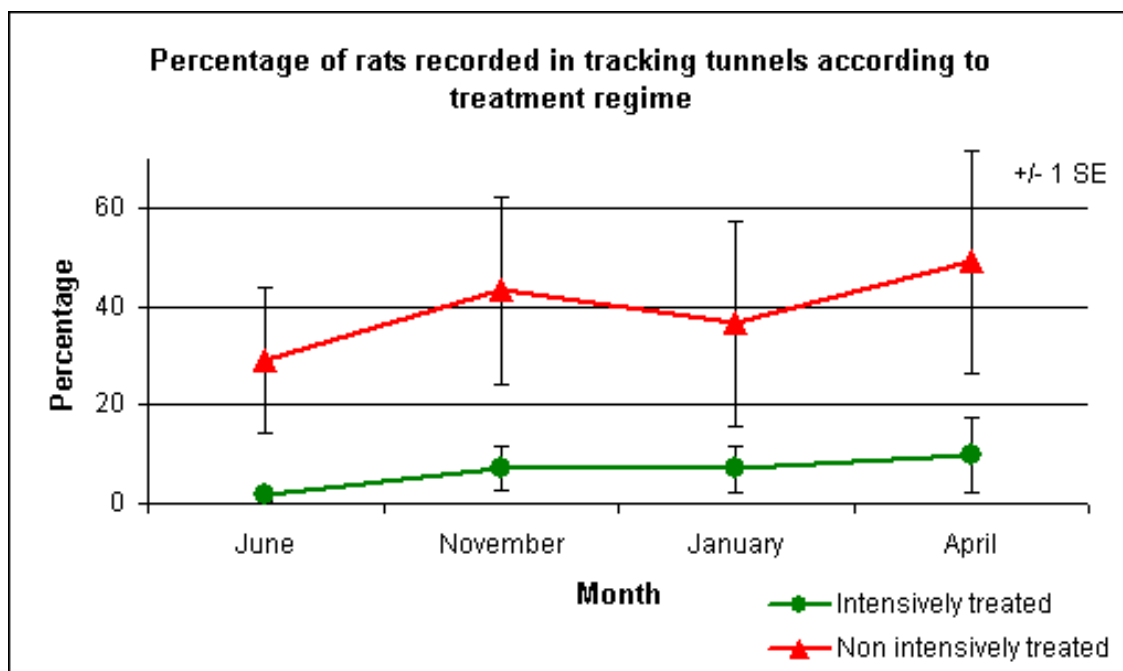
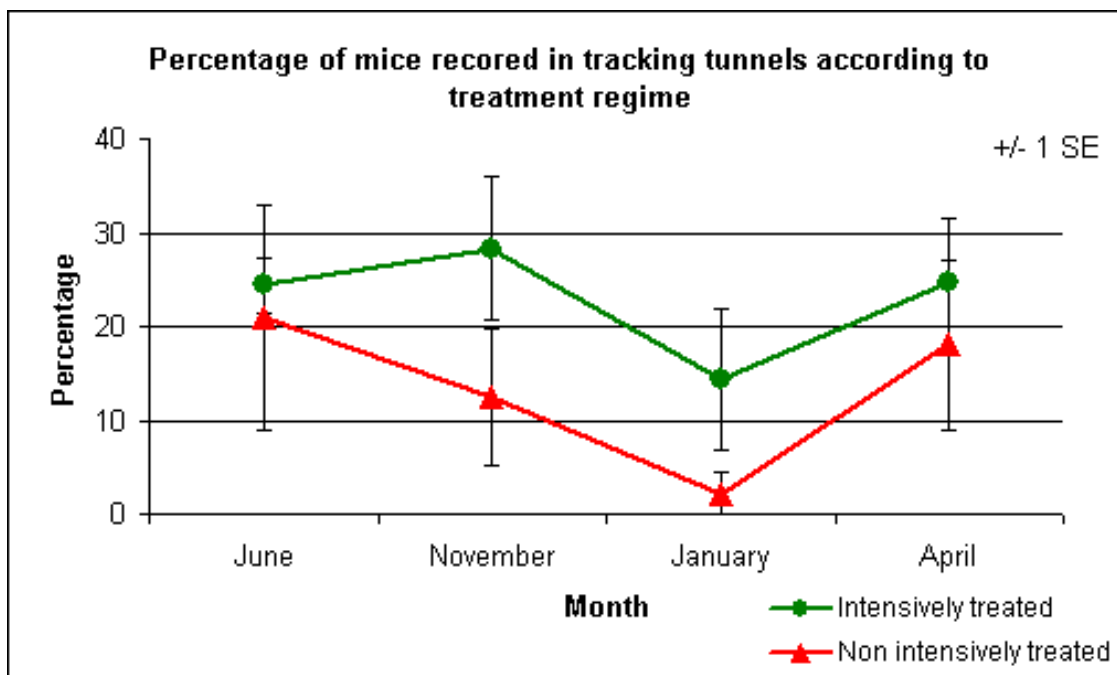


Chart 2 shows that the disadvantage of lowering rats is that mouse-tracking indices increase, perhaps due to the decreased competition for resources.



20.3 Possum Populations

Monitoring possum population densities is vital for deciding when possum control is needed, and for measuring how effective possum control has been. The most widespread tool for possum monitoring is the Residual Trap Catch (RTC) index. Post-control or maintenance trend RTC monitoring was performed in eight operations where the control work was under the jurisdiction of Pest Animals staff during 2004/05.

Operation	Previous RTC% (95% CI)	04/05 RTC% (95% CI)	Date
Porirua Scenic Reserve	2.8 (± 1.9)	0.7 (± 0.9)	Oct 2004
East Harbour Regional Park	5.7 (± 1.7)	2.9 (± 2.5)	Nov 2004
Otari – Wiltons	0.5 (± 0.1)	0.7 (± 1.3)	Nov 2004
Wrights Hill	2.0 (± 1.4)	0.5 (± 1.0)	Nov 2004
Makara Peak	6.0 (± 6.4) (post control 2000)	8.7 (± 6.6) (trend)	Nov 2004
Khandallah / Huntleigh Park (adjacent farmed land)	N/A	2.7 (± 2.9) (trend)	Nov 2004
Tinakori Hill	0.0 (± 0.0)	2.7 (± 2.6)	Jan 2005
Speedy's Reserve	16.6 (± 9.2)	1.1 (± 1.4)	Feb 2005

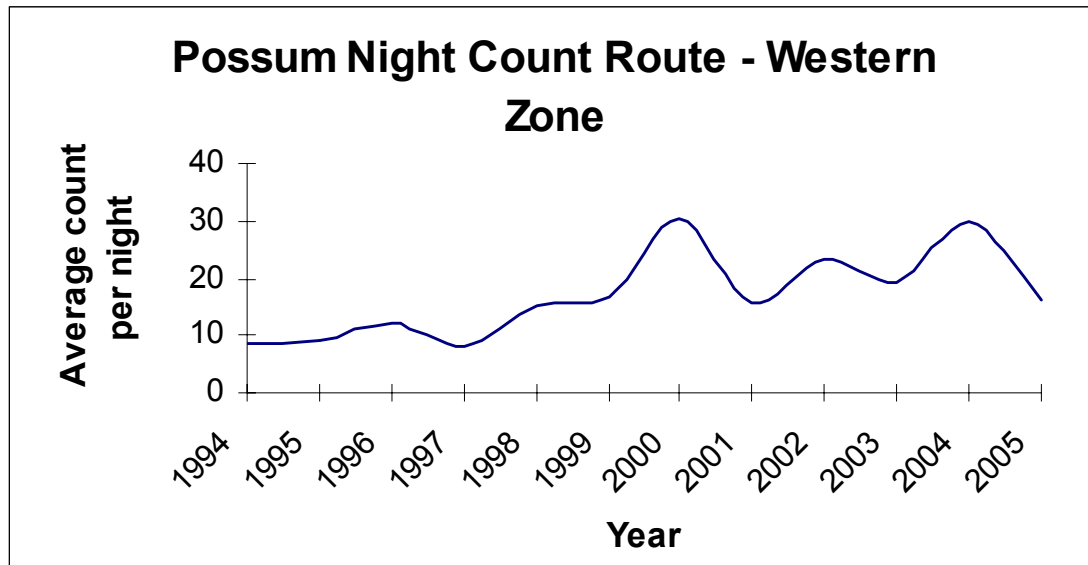
Pre-initial RTC monitoring was performed in five areas proposed for control. These results are consistent with average RTCs from other areas where the possum population has yet to receive formal control.

Operation	Previous Average #RTC% (95% CI) or *Wax tag (95% CI)	04/05 Average #RTC% (95% CI) or *Wax tag (95% CI)	Date
Hutt Escarpment	N/A	20.0 (±10.1)	Oct 2004
Careys Gully	N/A	18.9 (±6.6)	Nov 2004
Seton Nossiter	N/A	25.4 (±18.5)	Oct 2004
Parkway	N/A	26.3 (±5.7)	Sep 2004
Wainuiomata Hill North	N/A	29.5 (±12.1)	Sep 2004

21. Trend Monitoring of Possums and Rooks

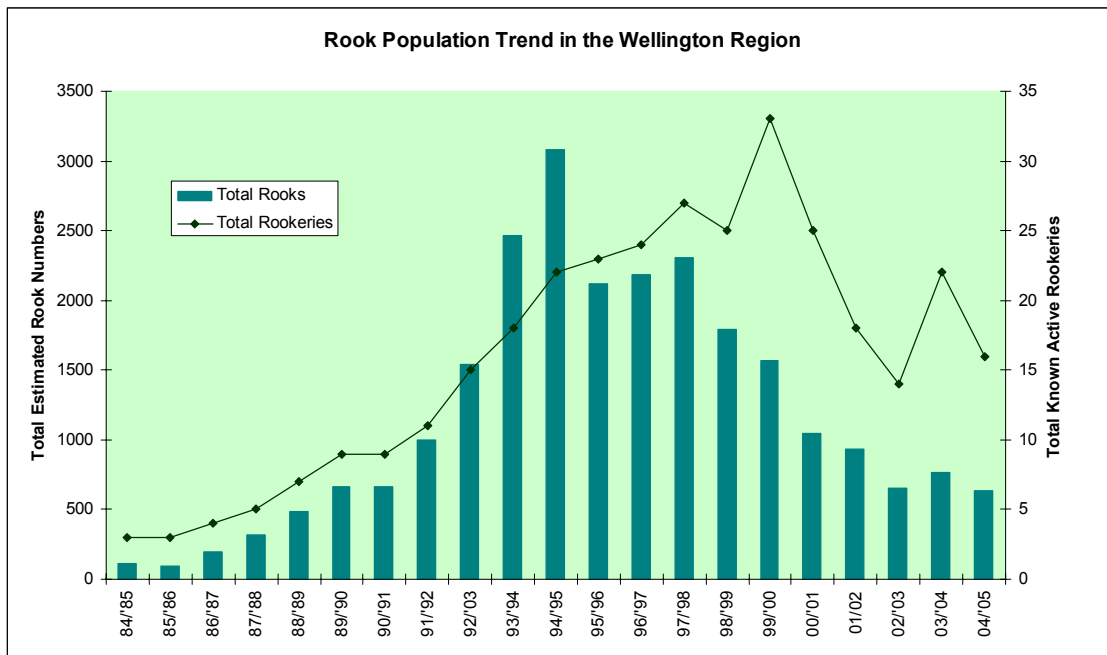
21.1 Trend Monitoring of Possums

Permanent night count lines for possums were introduced in 1994 to monitor the fluctuations of possums in the absence of control. Each count line consists of 25 individual and permanently marked sites, which is accessed by motorcycle and spotlight counted for two to three consecutive nights annually in May/June.



Possum numbers at Belmont are trending downward, but do not deviate unexpectedly from previous trend results.

21.2 Rooks



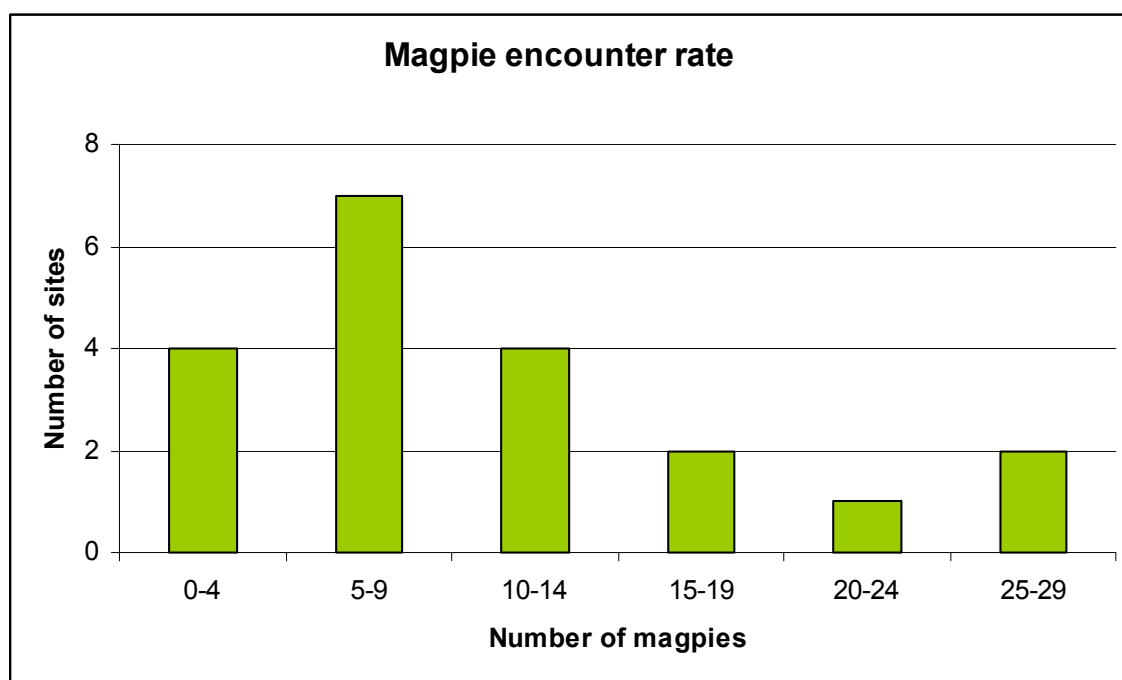
Rook numbers are trending downward. The number of known active rookeries in the GW Region is below 20, although the last three years show a fluctuation at about 20 rookeries. It is speculated that driving rook numbers down further will get increasingly difficult, using current control techniques. We are researching new control methods.

22. Magpie Survey 2005

In May 2005, a magpie trend monitoring programme was initiated with the aim of understanding the dynamics of magpie (*Gymnorhina hypoleuca* and *Gymnorhina tibicen*) populations in the Wairarapa zone, in the absence of formal control. Twenty sites were visited. A total of 205 magpies were recorded, at an average of 10 birds per site.

Magpie density is estimated at 0.1 birds per hectare. Magpies appear to be widespread over the Wairarapa. As this is a baseline survey, we are unable to determine whether magpie population is on the increase or spreading. A magpie pair requires at least two to three hectares to breed in ideal habitat and may need up to 25 hectares in poorer habitat. Our survey indicates there are two magpies for every 20 hectares in the Wairarapa 'savannah', indicating that either Wairarapa 'savannah' is not ideal habitat or that magpies have not yet reached their full population potential.

Figure 1: The frequency of sites compared to the number of magpies found in that site.



23. Performance Targets and Measures

23.1 Containment Pest – Rooks

Aim: To manage rooks as a Containment Category pest to levels that protect production systems at a cost of \$42,350

Annual Cost: The cost of rook management (surveys, research, compliance, education) for the region was \$36,130.

Means of Achievement

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

Actual Performance

In the 2004/05 year, aerial nest baiting was carried out at 16 breeding rookeries within the region. There was no nest baiting carried out in the Western Zone this year. One rookery was located in the Ohariu Valley with two nests sighted and eight rooks observed. A later aerial inspection of the rookery revealed that the birds had abandoned the rookery. We were unsuccessful at tracking their movements after that time.

The 16 rookeries represented all known breeding rookeries that were on our database. A total of 182 nests were baited in the region. Fresh but unused nests were baited also and these were factored into the 182 nest total. The number of nests treated this year is down on last year by about 15%.

There was no ground baiting operations required. It has now been two years in a row that we have not had to respond to calls about rooks damaging crops. It has been many years since that was previously the case. The nest baiting programme appears to be achieving the desired results.

Means of Achievement

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

Actual Performance

In the 2004/05 year, the annual nest count census was abandoned with the emphasis on locating actual breeding rookeries. All new, old or historical sites were visited to determine the presence or otherwise of rooks. Only aerial surveys were utilised. The ground surveying of breeding rookeries has now been stopped. Ground surveys cannot tell us the state of a rookery (state of incubation). This state of incubation is important as it assists with planning the right time to carry out control.

A record is kept of all nests baited at each breeding rookery. The total number of nests baited is used to estimate the regions total rook population. With this calculation, one nest is equivalent to three and a half rooks.

Since aerial surveys and control commenced in 1998, there is now strong evidence to suggest that the three and a half rooks per nest average is incorrect. It has become apparent that the number of chicks per nest is higher and survival rates are higher also. We estimate that the average is more likely to be around four and a half rooks per nest. Other Regional Councils report similar findings.

The aerial survey, combined with calls for rook sightings from the public, identified the presence of four new breeding rookeries and the re activation of five other breeding rookeries.

A comprehensive rook awareness article was published in the Wairarapa Midweek newspaper, the Kapiti News and the Rural Services Newsletter to raise the profile of rooks as a pest. A plea was made for all rookeries or sightings of rooks to be reported to GW. There were 21 calls received from the public notifying us of the presence of rooks or new rookeries.

Means of Achievement

Support appropriate research initiatives, including biological control should it become available.

Actual Performance

There were no opportunities to be involved in meaningful research initiatives or biological control, nor does there seem much likelihood of this occurring in the near future.

Means of Achievement

Ensure compliance with the Strategy rules in order to achieve the Strategy objectives.

Actual Performance

A display about rooks was presented at the Clareville agricultural field days, the Otaki field days and at libraries throughout the region. Information about rooks was freely available to the public.

The feature articles in the Rural Services Newsletter, Wairarapa Midweek newspaper and the Kapiti News made it plain that it is an offence under the Regional Pest Management Strategy for landowners to attempt any form of rook control, or disturb rookeries in any way.

Landowners with rookeries are constantly reminded that rooks are both shy and cunning and that poorly conducted attempts at control can lead to rookery fragmentation and dispersal over a wider area. Rooks may become bait shy as well. When gaining landowner permission to treat rook nests, landowners were reminded of the dangers of shooting or scaring rooks.

Means of Achievement

Encourage Horizons Regional Council to actively pursue management of rooks within their region that complements GW's Rook Containment programme.

Actual Performance

Horizons Regional Council was actively involved with aerial nest baiting in the 2004/05 year. Both GW and Horizons were involved in a joint nest baiting programme on either side of the regional boundary that was designed to stem the southward migration of rooks to the Wairarapa.

GW staff met with Horizons and Hawkes Bay Regional Council staff to discuss the forthcoming season's control. The purpose of the meeting was to co-ordinate the control work along each Council's boundary and to share our results from work completed last season. There was also unanimous support for holding a national workshop on rooks with others around the country that have experience at controlling this pest. The aim is to identify areas for research and development that may assist us to achieve our Strategy objectives.

Means of Achievement

Annually inspect pet shops and rook keepers for the sale of rooks.

Actual Performance

Inspections of pet shops and veterinarians were undertaken in conjunction with visits to plant nurseries. There were no reports of rooks being available for sale.

23.2 Suppression Pests – Rabbits

Aim: To minimise the adverse impacts of feral rabbits throughout the region at a cost of \$66,500.

Annual Cost: The cost of rabbit management (surveys, research, compliance, education) for the region was \$33,500.

Means of Achievement

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

Actual Performance

The Wairarapa monitoring did not disclose any areas at Level 5 or over. Five Wairarapa properties only had pockets of rabbits assessed at Level 4. In the Western Zone there were three properties that had small pockets of rabbits at Level 4.

Annual monitoring was carried out on a reduced scale to that of previous years. The Tauherenikau and the Waingawa rivers were surveyed to assess rabbit densities and to help make recommendations as to whether GW intervention is required. Intervention is required when levels are assessed at Level 5 and over.

Surveillance on both rivers was carried out with four small pockets of rabbits at Level 4 on the Tauherenikau River and one at Level 4 on the Waingawa River, therefore no GW intervention was deemed necessary.

Forty-three rabbit prone properties were also surveyed of which five were in the Wairarapa and 38 in the Kapiti Coast District.

Means of Achievement

Ensure compliance with the Strategy rules in order to achieve the Strategy objectives.

Actual Performance

There were no rabbit infestation areas recorded over Level 5 on the Modified McLean Scale. There were no investigations required for breaches of other Strategy Rules for rabbits.

Means of Achievement

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

Actual Performance

Detailed surveys were carried out on High Risk properties over the region this year to assess rabbit densities and 'hot spots'. A large proportion of these properties were on the Kapiti Coast. The results were similar to previous years with Level 4 being the highest infestation level.

Modified McLean Scale

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

Means of Achievement

Make occupiers **aware** of their responsibilities for rabbit control.

Actual Performance

Due to the low overall rabbit densities recorded during surveillance of rabbit prone land in the region, there were no reminder letters forwarded.

GW has publications available to assist occupiers with self-help rabbit control. They are freely available from Biosecurity office display stands and other promotional forums.

Several public forums were attended during the year. These forums had displays with advice and educational material freely available on rabbit management techniques. Staff were present to provide technical support.

23.3 Site-Led Pests – Magpies

Aim: To manage magpies to minimise adverse environmental and human health impacts in the Wellington region at a cost of \$42,000

Annual Cost: The cost of magpie management to minimise adverse environmental and health impacts for the region was \$15,480.

Means of Achievement

Undertake **direct control by service delivery** 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

When calls from the public are logged with GW about aggressive magpies, every endeavour is made to attend to the complaint(s) promptly. There are times when shooting of aggressive magpies is a difficult issue and alternative control options such as trapping need to be explored.

There were eight urgent complaints logged regarding attacking magpies with all attended to before the 10 day deadline.

Means of Achievement

Respond to landowners wanting to undertake magpie control within 10 working days of receiving a request for information and/or assistance.

Actual Performance

One hundred and eighteen magpie nuisance calls were received. Sixty-six of these were to Wairarapa staff and fifty-two to the Upper Hutt office. Twelve percent of calls in the Wairarapa and forty-eight percent of calls in the Western Zone had response times over 10 days. All requests for information or assistance from the public is entered onto GW's database and every effort is made to attend to these within 10 working days. A phone call or personal visit is made to clients wanting information or assistance. When there are no traps in stock the client is entered onto a waiting list until a trap becomes available. There are regular trap shortages, as more and more people become concerned about the negative impacts of magpies. As traps become available staff deliver these and demonstrate best practice trapping techniques to maximise results.

23.4 Site-Led Mt Bruce (Pukaha) Predator Buffer

Aim: Complement the native flora and fauna restoration programme undertaken by the Department of Conservation, Rangitane o Wairarapa and the National Wildlife Trust at the Mount Bruce Scenic Reserve at a cost of \$30,000

Annual Cost: The cost for the predator control programme within the buffer for the 2004/05 financial year was \$25,987.

The main objective of this project is to reduce and maintain all predator numbers to very low levels and to restrict or negate completely any re-infestation into the Mt Bruce Reserve. These predators include possums, cats, ferrets, stoats, weasels, hedgehogs, ship rats and Norway rats. For the period 1 July 2004 to 30 June 2005 a total of 20 cats, 173 rats, 330 hedgehogs, 13 ferrets and two stoats were destroyed. Possums, rats and mice were also destroyed, but not physically counted, through the use of 218.8 kilograms of brodifacoum pellet bait.

The Pukaha predator programme was carried out by a prescriptive Service Provision Contract during the 2004/05 year.

23.5 Feral and Unwanted Cats as a Threat to Biodiversity

Aim: Raise public awareness of feral and unwanted cats as a threat to biodiversity at a cost of \$18,000

Annual Cost: The cost for the public awareness programme in relation to feral and unwanted cats as a threat to biodiversity for the 2004/05 year was \$18,800.

Agreements via Memorandums of Understanding were established with the Wellington and Wairarapa SPCA and Wairarapa veterinarians to subsidise the cost of three independent feline spaying and neutering pilot programmes to reduce the number of felines being born in the Wellington region. The support for each programme had a financial limit with the actual sum calculated on an agreed cost for each feline desexed plus agreed costs associated with the promotion and administration of the campaigns. The campaign ran for eight weeks with more than 320 cats being registered for treatment.

23.6 Site-Led – Key Native Ecosystem Management

Aim: To protect indigenous biodiversity in a comprehensive selection of Key Native Ecosystems at a cost of \$505,800

Annual Cost: The cost to achieve a measurable improvement in the ecological health and diversity of Key Native Ecosystems through pest animal control was \$522,200.

Means of Achievement

Maintain holistic management in existing KNE areas.

Actual Performance

All Key Native Ecosystem Management Areas (KNEMA's) and other biodiversity support programmes that have had possum control undertaken by GW are being maintained. More commitment is given to maintaining existing programmes than taking on new works. Most areas are maintained on a three monthly cycle by GW staff or service providers. Service providers have been contracted to maintain most of the KNEMAs in Wellington, Porirua and the Kapiti Coast on three monthly bait station fills. In the Wairarapa, contractors service the Waihora, Sulphur Wells and Mount Bruce/Pukaha Buffer KNEMA's on a monthly basis as predators in addition to possums and rats are being targeted. GW staff provide the balance of the servicing requirements.

Means of Achievement

Prioritise and select additional Key Native Ecosystems by July 2004.

Actual Performance

A prioritisation process has been carried out, with sites ground truthed to better ascertain the intrinsic values such as the presence of rare or threatened species, community value or ecological benefits of linkage to other such sites.

The majority of new sites that will be accepted annually are remnant areas of native bush or wetlands that have been proposed or accepted for legal protection by covenant. GW is working with dune and coastal escarpment care groups as part of the Take Care programme. It is envisaged that a number of these will attain KNE status in due course.

Means of Achievement

Establish and implement integrated pest management plans for all Key Native Ecosystems.

Actual Performance

This is a long-term process. Fully integrated pest management is expensive.

All Wairarapa sites have integrated management regimes. All sites in the Western Zone are currently focused on possum control, with the exception of Porirua Scenic Reserve KNEMA, which had a predator programme started last year. Further top priority sites in the Western Zone will be selected for integrated management (plant and animal pests) as funding allows.

Means of Achievement

Ensure Key Native Ecosystems are **legally protected** into perpetuity.

Actual Performance

All of the KNEMA's treated during 2004/05 were legally protected (Territorial Authority Reserves, QE II Covenants, or at the very least, contained legally protected sites within the management area).

Means of Achievement

Monitor site recovery using a range of ecological indicators.

Actual Performance

*A wide range of ecological indicators are used to monitor the health of various sites. This is described in detail on **page 16, section 20 'Ecological Outcomes'**. This section covers both outcome and performance monitoring.*

*Facilitate the involvement of **community groups** where appropriate.*

Actual Performance

*The Pest Animals Section has been involved with community groups for many years. This is described in details on **page 8, section 7 'Volunteer and Care Groups'**.*

Where Key Native Ecosystems are identified on Territorial Local Authority land, seek funding from the relevant authority to form **financial partnerships**.

Actual Performance

GW has sought to maintain an excellent rapport with all of the regional Territorial Authorities on matters concerning pest management.

A formal pest management programme has been agreed with Wellington, Lower Hutt, Upper Hutt and Porirua City Councils and with the Kapiti Coast District Council. The direct costs for works undertaken on their land are equally shared between GW and the local authority

The work programmes are agreed between the parties and regular liaison is maintained. The territorial authorities are invoiced monthly for their share of costs.

A Memorandum of Understanding (MOU) is prepared and agreed annually between Greater Wellington and the western territorial authorities. The parties agree to support biodiversity and optimise ecological health within the relevant territories.

Formal programmes have not been agreed with the Wairarapa District Councils, mainly due to the fact that they own a minimal amount of land prioritised for biodiversity support.

Means of Achievement

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

Actual Performance

Pest animal and plant control is being undertaken concurrently with various ecological based objectives of a number of care groups. This has been implemented at several sites including Waimeha Lagoon (Waikanae), Fensham Reserve (Carterton) and Otari-Wiltons Bush (Wellington City Council).

*The Tauherenikau KNEMA is the subject of a range of biodiversity initiatives see **page 15, section 18 'Tauherenikau Integrated Management'**.*

Means of Achievement

Liaise with **DoC** to determine the distribution of, and appropriate control methods for, coarse fish, catfish and mosquito fish.

Actual Performance

Some positive progress has been made. GW staff have developed a good understanding of the distribution of pest fish from literature sourced from the DoC, National Institute of Water and Atmospheric Research (NIWA), Landcare Research NZ and from the internet.

Following the discovery of koi carp in at least 10 private ornamental ponds on the Kapiti Coast during March and April 2004, together with a host of aquatic pest plants, an agreement was reached between the DoC, NZ Fish and Game Council and GW to launch a publicity campaign to stop the aquatic alien invasion. The first news release occurred in July 2004 with a message of encouragement for people to come forward

with information that would help with finding affected ponds or people selling or introducing pest species and prevent further spread of aquatic pest fish and plants.

This has been further consolidated with a successful programme to remove pest fish and pest plants from several private ponds on the Kapiti Coast. There is also a programme underway between Porirua City Council, DoC, the Fish and Game Council and GW to remove pest fish from the Whitby Lakes.

The pest fish of most concern to GW are koi carp, gambusia, rudd, brown bullhead catfish and goldfish.

Means of Achievement

Provide public **education and advice** to foster biodiversity management outside formal KNE programme areas.

Actual Performance

Landowners, both large and small, are often keen to preserve or regenerate areas of native bush or wetland on their properties. GW provides a list of information literature, attends forums with ecological themes and meets with groups or individuals to convey information. New and updated brochures from all GW divisions involved in biodiversity management are being produced.

24. Future Pressures

Public and partner expectations to keep on top of pest threats to productivity and biodiversity values run very high. These high expectations not only relate to new incursions, but also to GW's stated goals and aspirations under the RPMS and biodiversity portfolios. Failure to meet the community expectations will lead to a loss of credibility for Greater Wellington. With that potentially comes loss of public and partner support for current programmes.

An area the public have a strong influence is animal welfare. Concerns regarding potential animal cruelty severely restricts many of the available trap patterns, as well as some of the new tools such as bio-control. Coupled with this is the public's general distrust of genetic engineering and distaste for the use of toxins. There is a very real possibility GW will have a more restricted 'tool bag' in the future.

The pressures on biosecurity at regional and national scales relate mainly to the availability of funds. All agencies are forced to prioritise their spending to maximise potential benefits. If national and/or Crown agencies decide to reduce input into managing new exotic incursions then, potentially, the region may be forced (by ratepayer demand) into a more active management role. GW does not operate a contingency fund for such eventualities.

A critical future issue is the reduction of possum control under the National Pest Management Strategy for Bovine Tb. This programme has provided very positive gains for biodiversity protection across the region, but particularly in the Wairarapa, by reducing possum populations to levels where they cease to impact on the region's

indigenous flora and fauna. These gains are at risk of being lost if insufficient investment is made to maintain possum numbers at low densities.

25. Financial Summary

The year end result for the Pest Animals Section was an unfavourable variance of \$164,400 (13.6%). Reasons for the deficit are:

- The cost of the move to the use of external contractors with operational capacity compared to the previous reliance on individual service providers with low overheads but limited capacity.
- The increased cost of risk management in regard to health and safety, Public Health expectations, signage, advertising and promotions.
- Increased costs in bait and hardware.
- A number of KNE predator control projects went over budget. This was a combination of insufficient initial budgets and increased contractor costs.
- Critical ecological health monitoring projects went over budget.
- Limited opportunities for alternative funding. Applications to the Biodiversity Condition and Advice Funds were unsuccessful.

Revenue was up by \$26,800 (2.0%) and expenditure up by \$191,200 (15.8%). Income from TLA's for joint venture works was \$89,704 against a budget of \$70,250. Internal revenue of \$151,400 was received against a budget of \$160,000. Most of the internal revenue was for possum control works contracted to the GW Parks & Forests Department.

	\$ (000's)
Rates and Levies	957.6
External Revenue	122.6
Internal Revenue	151.4

Total Operating Revenue	1,231.6
Total Direct Expenditure	1,141.3
Divisional / Corporate Overheads	254.8

Total Operating Expenditure	1,396.1
Operating deficit	164.4

The operating deficit (\$164,400) was offset by the operating surplus of \$149,700 in pest plant activities.

Part Two

PEST PLANTS

26. Purpose

To report on the performance of implementing the 2004 – 2005 Operational Plan for the Regional Pest Management Strategy 2002 – 2022.

The 2004/05 year was the third of the new twenty year Strategy. Substantial changes were introduced in the Strategy, including the adoption of four management categories for pest plants. These changes have revitalised the management focus on key pest plants, providing an opportunity to regularly review resource allocation and commitment.

27. Highlights

1. A joint programme between the Biosecurity Department (the Department) and the Department of Conservation (DoC) to control perennial nettle on Matua/Somes Island.
2. Boneseed control programmes in Kapiti and the Wairarapa coastal settlements of Riversdale, Lake Ferry, Whatarangi, Whangaimoana, Ngawi and Mangatoetoe.
3. A joint eradication programme involving the Department and DoC to control eelgrass, egeria and koi carp on the Kapiti Coast.
4. An integrated pest management programme involving the Department and occupiers to enhance the Tauherenikau Bush Reserve.
5. The registration of the chemical Endothall with ERMA for use in New Zealand to control various submerged aquatic weeds. A consortium of Regional Councils, DoC and power generation companies supported the registration application.
6. Production of eight new pest plant brochures and a new booklet titled ‘Controlling Problem Weeds in Riparian Zones’.
7. A joint publication between GW, DoC, Fish and Game and Biosecurity New Zealand entitled “STOP the Spread of Aquatic Pests”, was produced.
8. A considerable number of new infestations of eradication and containment species were located following urban surveys.

28. Major Issues

28.1 Contracts

Several contracts were let during the season for the control of a variety of eradication and containment pest plants. This work included a mix of initial control on newly identified sites, expansion of areas for previously worked contracts and continued follow-up on other contract sites.

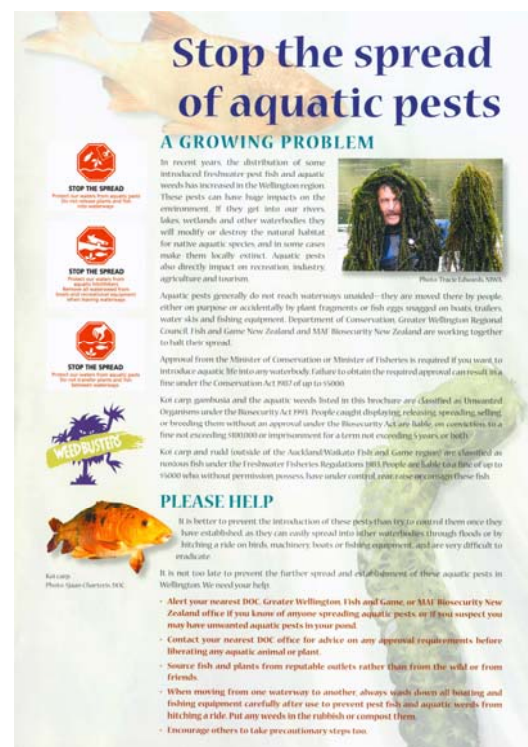
However due to a lack of skilled and qualified operators, several contracts could not be completed. This included old man's beard control on the rivers where only minor works were completed and contracts in Key Native Ecosystems.

28.2 Aquatic Species

A co-ordinated surveillance programme was undertaken throughout the region between the Department and DoC after information was received of sites populated with unwanted and banned species. The information received led to a considerable rise in the number of eelgrass sites, particularly around Wellington and Kapiti. Another submerged species, egeria (thought to have been cleared from the region) was also located along with three infestations of water hyacinth. The latter were reported to MAF. Most of the eelgrass sites were confined to small backyard ornamental ponds. The infestations were removed by staff. However, two large infestations were located on the Kapiti coast that covered 500 and 800 square metres respectively. A number of ponds in the area also contained koi carp. As a result of the inspections a co-ordinated control programme between DoC and the Department was undertaken during April/May. This programme involved the pumping of the ponds to lower the water level so the koi carp could be removed and the eelgrass could be controlled. Due to physical difficulties removing the eelgrass, it was decided that weed-matting would be trialed.

The eelgrass infestations in the Makoura Stream, Masterton were controlled under contract. Smaller infestations throughout the region have been dealt with by staff.

There are now 74 recorded infestations of eelgrass throughout the region. Many of these are minor sites and include small ornamental ponds.



28.2.1 Water Hyacinth

An outcome of the focus on aquatic weeds was the discovery of three infestations of the Class A weed water hyacinth. The responsibility for the control of this species lies with MAF. The larger site was controlled by MAF and the smaller infestations were cleared by the Department staff. Staff will continue to monitor these sites to ensure eradication has been achieved.

28.2.2 Hornwort

It was expected that the herbicide Endothall would be registered for use in New Zealand at an early date during the year. However, approval to use this chemical in New Zealand was not given by ERMA until late November. As the use of chemicals in water bodies is not a permitted activity in the Wellington Region, a Resource Consent is necessary before any applications can be made. This process is now under way.

28.3 Perennial Nettle

In December 2003, significant infestations of perennial nettle (an eradication plant) were identified on Matua/Somes Island. In August 2004, an inspection of the island was undertaken in conjunction with DoC, where approximately 45 sites were identified. A joint control programme with DoC was implemented at all sites in November 2004 over a two day period. Follow-up work was again undertaken by both parties in February 2005.

A number of new sites of this species have also been recorded over the past 12 months in the Masterton and Carterton Districts. New sites have been identified on the Makoura, Kuripuni Streams and Kopuaranga River, Masterton and on the Mangatarere Stream, Carterton.

28.4 Key Native Ecosystems

Pest plant control was undertaken at a small number of sites as part of the Biosecurity Department's commitment to the Key Native Ecosystems (KNE) programme.

28.4.1 Tauherenikau Bush Reserve

A joint initiative between the Department and landowners has begun to control various pest plants and pest animals within the reserve. The long term vision for the reserve is to enhance the area through a progressive replanting programme and eventually eradicate the targeted pest plants and animals. As this reserve is also central to the region with all weather access, it is also seen as an opportunity for community involvement by way of replanting programmes and its utilisation as an education centre where biodiversity values can be promoted.

Initial work to control the pest plants wandering jew, sycamore and old man's beard began in December/January with follow-up work being undertaken in March. Several minor sites of old man's beard were controlled along with 1,200 sycamore trees and five hectares of wandering jew.

The Department was able to secure funding to the value of \$16,000 for this project from DoCs' Biodiversity Condition Fund. This allowed us to undertake more work than initially planned.

28.5 Joint Local Authority Works

28.5.1 Raroa Reserve

Work has continued in this reserve with the majority of control focusing on wandering jew, wattle, German and cape ivy. This reserve has now become a joint initiative between GW and Porirua City Council.

28.5.2 Waikanae Reserves (Motuiti, Russell and Wi Parata)

Control at these sites has been undertaken on ivy, banana passionfruit, jasmine, wandering jew, tuber ladder fern and climbing asparagus.

In May a joint letter between GW and Kapiti Coast District Council was sent to residents explaining the weed control programme and highlighted the problem of garden dumping encroachment into the reserve. The letter was to encourage people to take a more responsible attitude toward preservation of these areas. The results of the campaign have been fruitful with very few properties continuing the practice of dumping garden waste into the reserves.

28.5.3 Raumati Escarpment

This contract was to aerial spray infestations of blackberry and Japanese honeysuckle by helicopter. The operation was a highly charged and publicised affair due to its proximity to housing. As a result of the residents concerns a meeting was called between GW, Kapiti Coast District Council and local residents to outline the programme and to allay fears about the operation. A number of conditions were agreed between the parties.

The work was eventually completed in an accurate and professional manner with no adverse impacts or public complaints.

28.5.4 Otari-Wiltons Reserve

A joint project with Wellington City Council. Wandering jew control was undertaken among the plantings on the valley floor as a final contribution by GW to the ongoing protection of the plantings.

28.5.5 Ian Galloway Park

The second stage of control at the old tip face below Ian Galloway Park involved spraying to prepare the area for plantings. The entire tip face has now been planted.

28.5.6 Trelissick Park

A joint programme with Wellington City Council. GW have funded initial weed control work at two sites within Trelissick Park. This work required the removal of various trees from both sites allowing for a planting programme to be completed.

28.5.7 Te Harakeke Wetland

Due to extremely high rainfall in early 2004 and a subsequent wet autumn, control of Manchurian wild rice was unable to proceed as the area was constantly under water and access to the site was not possible.

In past seasons a single spray programme has been undertaken. This season it was decided to alter the control regime. The control was changed to two applications with a 50% reduction in the chemical application rate. The results so far are very encouraging. This method is set to continue in future years, weather permitting.

28.6 Survey Work

In the latter stages of the year staff focus was switched from suppression plant inspections to undertaking survey work throughout the region on eradication and containment species. Initial inspections focused on properties surrounding known infestations and radiated out as new infestations were located. As a result there has been a considerable increase in the number of new sites, particularly of blue passion flower, moth plant and smilax.

28.7 Boneseed

Contracts for the control of boneseed have been undertaken at Riversdale, Castlepoint, Whangaimoana, Whatarangi, Ngawi and Lake Ferry. This work also included the escarpment to the rear of Ngawi where abseilers were used due to the difficult and dangerous terrain.

The occupier response to this work has been very favourable with access being granted to most properties. Consequently, this has resulted in considerably more properties being inspected than previously. In turn this has seen a considerable increase in the number of infestations recorded.

28.8 Darwin's Barberry

Initially it was thought that this species was confined to the Stronvar and Dorset Road areas of the Masterton District, and that infestations were limited. However, surveys of other areas has identified that this species is considerably more widespread throughout the Wairarapa. This new information will be considered during the review process commencing in 2006.

28.9 Evergreen Buckthorn

This species is classified as a containment plant in the RPMS. It is required to be controlled by GW outside of the containment zones. The area that GW is responsible for includes within a 10km radius of the coastline, with the exception of the Kapiti Coast District.

When this species was initially included in the RPMS, it was thought that infestations in Wellington City were limited. Subsequent surveys have determined that the species is far more widespread.

Due to the significant number of new infestations, eradication of this species in Wellington City is not a feasible option.

28.10 Plant Outlet Inspections

Inspections of plant outlets are undertaken on an annual basis to ensure operators are in compliance with the National Pest Plant Accord (NPPA). The NPPA is an agreement between various organisations and

Regional Councils banning the sale and distribution of over 90 plant species nationally.



All 178 plant outlets across the region were initially inspected during August and September. No banned species were found at any of the outlets inspected.

A number of follow-up and complaint inspections were carried out after the initial inspections. Only one of these complaints was valid. An outlet was found to be selling African fountain grass. The plants were removed from sale and the supplier who operates outside the region was contacted and advised to cease supply.

28.11 Vigilant Inspections

Department staff have identified 13 species that have the potential to become major problem plants in the future. They are not currently included in the RPMS but will be considered in the next review. These species currently exist within the region but their distribution and density was unknown at the time the current RPMS was approved. Data has been collected on these species over the past few years. This will enable staff to make informed decisions as to their future potential as pest plants.

28.12 Biological Control

GW has continued to support the biological control programme managed by Landcare Research. GW's contribution to the programme was \$34,000, which included \$2,500 for plant identification services. The programme is divided into two, with an individual programme factored to suit the requirements of GW and a collective programme to which various Regional Councils and DoC agree to contribute funds to research programmes for various species.

28.12.1 Individual Programme (\$7,500)

Funding was budgeted for a consignment of gorse thrips (new Portuguese strain) \$3,500 and Scotch thistle gall fly \$4,000.

28.12.2 Collective Programme (\$25,000)

This involved research programmes for:

- (a) Alligator weed**
 - (i) Contribution to an Australian programme to ensure that plants of relevance to New Zealand are included in upcoming host testing for new agents.
 - (ii) Collaborative work with AgResearch to evaluate the potential of a naturally occurring fungal plant pathogen *Sclerotinia sclerotiorum* against alligator weed by testing whether this fungus can attack this plant in the laboratory.

- (b) Banana passionfruit**
 - (i) Complete safety testing of leaf fungus
 - (ii) Host testing on two foliage feeding moths.

- (c) Boneseed**
 - (i) Liaise with Australian researchers about progress towards developing new biological control agents for boneseed.

- (d) Chilean needle grass / nassella tussock**
 - (i) Contribute to the Australian programme by providing practical assistance to a researcher based in Argentina.

- (e) Japanese honeysuckle**
 - (i) Conduct a survey to see what pathogens and invertebrates already occur on Japanese honeysuckle in New Zealand.

- (f) Moth plant**
 - (i) Continue surveys for other potential agents in South America.

- (g) Old man's beard**
 - (i) Set up a field trial in Europe to assess the host specificity of the old man's beard bark beetles *Xylocleptes bispinus* against New Zealand native *Clematis*.

- (h) Wandering Jew**
 - (i) Continue surveys for agents in Brazil, explore their potential efficacy, investigate life cycles and begin host-range testing. Carry out genetic studies of the target weed in order to find agents that would provide the best possible match for New Zealand material.

(i) **Woolly nightshade**

- (i) Begin host-testing a flower bud-feeding weevil *Anthonomus santacruzi* to see if it would pose any danger to our native *Solanum* species.

(j) **Plant identification services**

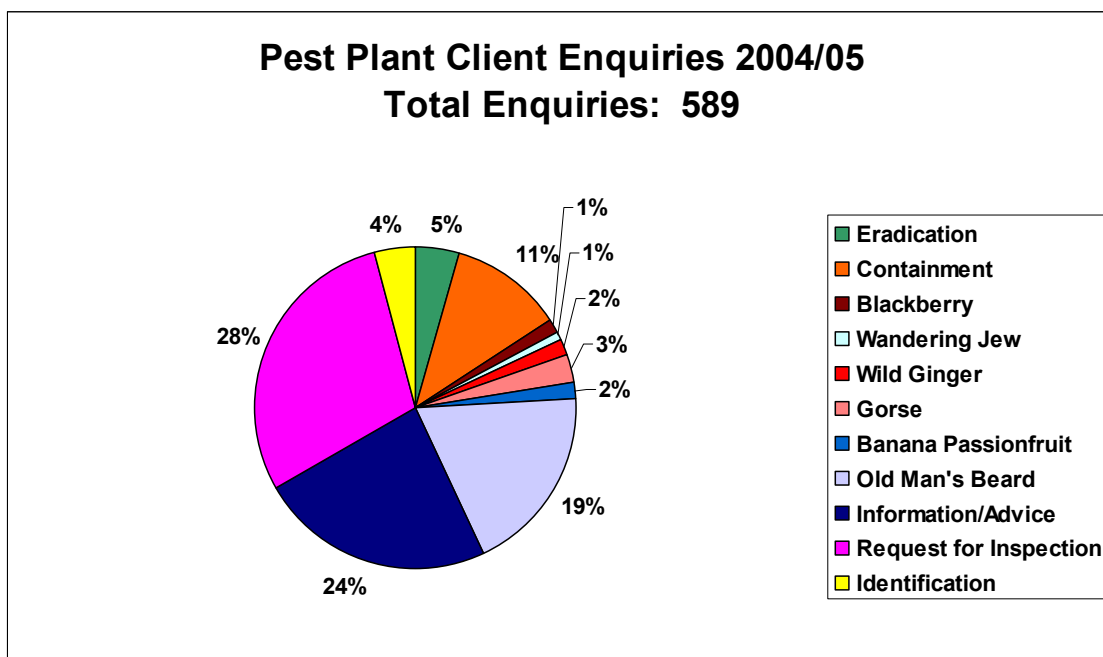
- (i) The Department contributes to this service as there are a number of samples received from the public throughout the year that we are unable to identify ourselves. These are forwarded to the herbarium at Landcare Research, Christchurch for positive identification. The public is not directly charged for this service.

29. Client Response

We have maintained our service to clients with our database continuing to grow through the recording of enquiries, trends and public observations.

A significant component of the RPMS is GW's responsibility to provide information and publicity to enhance public awareness. This has a direct link to the Client Response database where all enquiries from the public are recorded. It is GW's aim to respond to all queries within 10 working days. However, this is not always achievable and during 2004/05, 75% of queries were responded to within the specific time.

Five hundred and eighty-nine enquiries were recorded. These ranged from requests for presentations, information for student projects, plant identification, control measures, complaints and information relating to infestations of specific pest plants.



30. Publicity

Public education was again a major component of Department operations during the year. The requirements of the Strategy, plant identification and pest plant control techniques were brought to public attention at a range of events and venues:

- The Plants Section staffed seven displays at various events throughout the year including:
 - Catchpool open day
 - Home and Garden show
 - Carterton A&P Show
 - Otaki Small Farmers Field Day
- Talks or presentations were given at 16 events to various groups including:
 - garden circle days
 - restoration days
 - care groups
 - horticultural students
 - vigilance workshops

The vigilance workshops were designed for Territorial Local Authorities (TLA) and DoC staff to assist with the identification of the various vigilance species. These workshops were very well attended and were held at four different venues to accommodate TLA and DoC staff.

- Thirty-four newspaper articles were written, including regular fortnightly articles for the Wairarapa Midweek, alternating between pest plant and pest animal topics.

30.1 Internal Designed Publications

- Eighteen internally designed publications were produced. This included updates to several pamphlets and the publication of several different handouts on “How to Control” several species including German ivy, wild ginger and pampas grass.
- Several A5 pamphlets for various species were designed to complement the survey work being undertaken. These were designed for letterbox drops.



31. Performance Targets and Measures

31.1 Vigilance Species

Aim: To determine the extent of specific plant species within the Wellington region at a cost of \$135,000.

Annual cost: The cost of managing Vigilance plants throughout the region during 2004/05 was \$66,500.

Means of Achievement

Undertake inspections of all random sample points to determine the presence of these species.

Document all actual and reported sightings outside of the random sample points.

Actual performance

A total of 953 inspections were recorded for the region.

Four training workshops were held throughout the region for TLA and DoC staff to upskill them in the identification of vigilance species.

31.2 Eradication

Aim: To eradicate specific pest plants from the Wellington region at a cost of \$213,000.

Annual cost: The cost of managing Eradication plants throughout the region during 2004/05 was \$296,750.

There are 13 Eradication pest plants in the Wellington region. Each plant has a specific percentage reduction target by June 2006. This interim objective is unlikely to be achieved for some species as new sites are regularly being identified by the public, contractors and staff.

Means of Achievement

Undertake direct control by service delivery.

Identify new sites of eradication species through incidental reports by Biosecurity staff, the public and through the Vigilance Surveillance Programme.

Provide information and publicity to enhance public awareness of eradication species.

Ensure all known infestations of African feathergrass, Bathurst bur, blue passion flower, eelgrass, maderia vine, perennial nettle and saffron thistle are inspected on a bi-annual basis. Initial inspections of all species are to be undertaken prior to December 2004.

Ensure all sites of climbing spindleberry, manchurian rice grass, moth plant, smilax, sweet pea shrub and woolly nightshade are inspected on an annual basis. Inspections on all species are to be undertaken prior to December 2004.

Where new infestations are reported, inspections of these infestations will be undertaken as soon as practicable.

All known sites of eradication species will be controlled on an annual basis prior to seeding to prevent further spread.

Actual Performance

Provided identification brochures and enhanced awareness through shows, displays, presentations and articles.

Responded to all enquiries from the public.

Four training workshops were held throughout the region for TLA and DoC staff to upskill them in the identification of eradication species.

In the latter stages of this year the focus for staff was to undertake survey work throughout the region on eradication and containment species. This coupled with other infestations detected during the year has resulted in 131 new eradication species sites.

Eradication pest plant inspections for the year totalled 1,174. Control work was carried out at most sites by either staff or contractors.

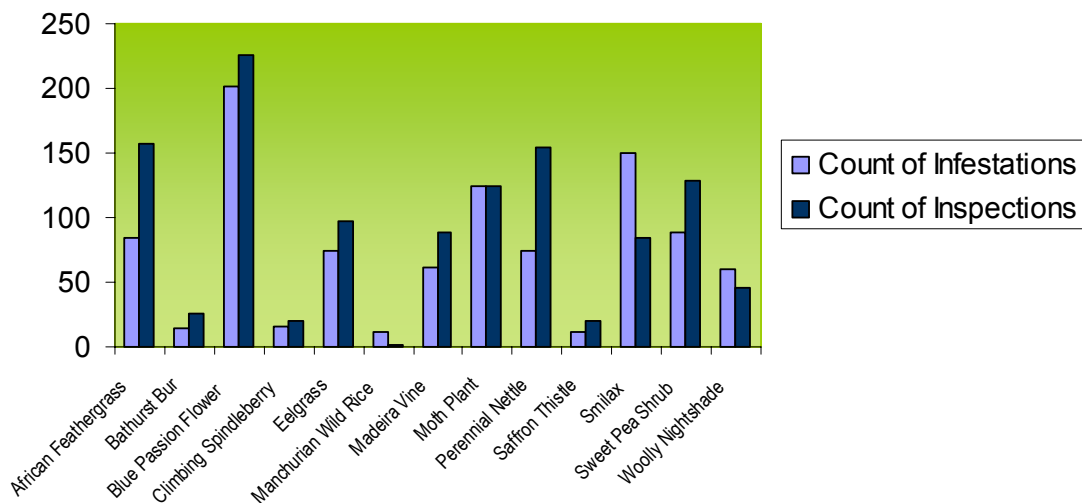
Means of Achievement

Annually inspect all plant outlets in the region.

Actual Performance

One hundred and seventy-eight nurseries were inspected to ensure no Eradication species were being sold.

Total Infestations/Inspections - Eradication Plants



31.3 Containment

Aim: To reduce the adverse impacts of specific pest plants within defined areas of the Wellington region at a cost of \$199,000

Annual cost: The cost to manage Containment plants throughout the region during 2003/04 was \$233,028.

There are seven Containment pest plants in the Wellington region. An interim objective is to eradicate all plants outside of specified Containment zones by 2006 (boneseed by 2011).

Means of Achievement

Undertake direct control by service delivery.

Undertake inspections within containment zones to ensure occupier control of specific species.

Provide information and publicity to enhance public awareness of containment species.

Control all sites of climbing asparagus, Darwin's barberry, evergreen buckthorn, mistflower, nodding thistle outside of the containment zones on an annual basis.

Reduce the densities of boneseed outside of the containment zones.

Ensure specific species within the containment zones are controlled by occupiers on an annual basis.

Subject to the availability of Endothall, initiate control of hornwort outside of the containment zone.

Continue control programmes on recorded sites outside the containment zones.

Actual Performance

Provided identification brochures and enhanced awareness through shows, displays, presentations and articles. Responded to all enquiries from the public.

Containment species inspections totalled 579 for the year.

The fourth year of boneseed clearance from the South Wairarapa coastal settlements was completed under contract.

The second year of boneseed clearance was undertaken at Riversdale.

Initial control of boneseed clearance was undertaken at Castlepoint.

Further boneseed control was completed in the control zone north of Waikanae.

Contracts were also let for climbing asparagus, smilax and Darwin's barberry outside of the containment zone.

Endothall was registered for use in New Zealand in November 2004. No control was undertaken on hornwort as a Resource Consent is required before work can commence.

Nodding thistle inspections were incomplete due to resource limitations.

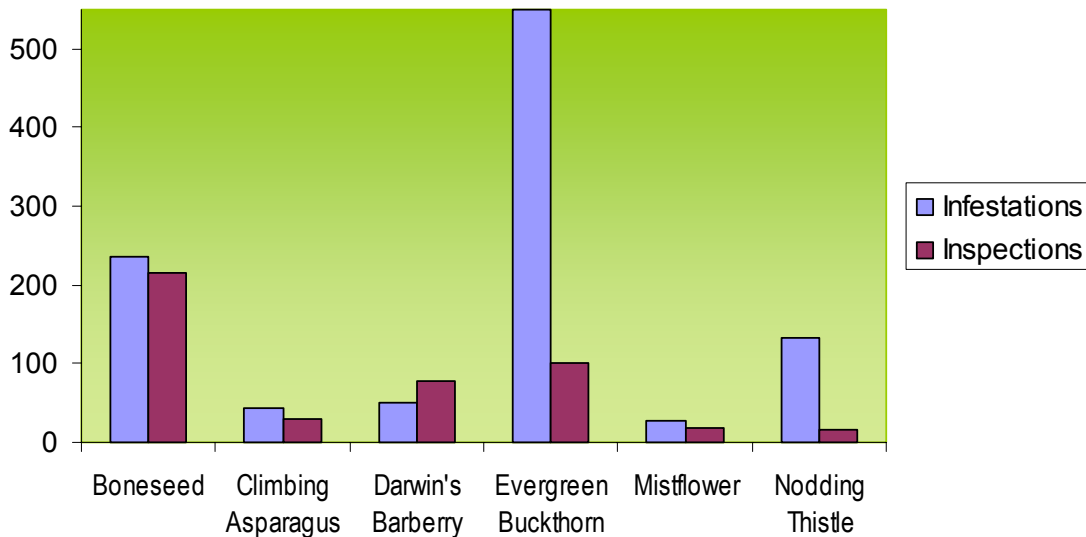
Means of Achievement

Annually inspect all plant outlets in the region.

Actual Performance

One hundred and seventy-six nurseries were inspected to ensure no Containment species were being sold.

Total Infestations/Inspections - Containment Plants



31.4 Suppression

Aim: To minimise the adverse impacts of these specific pest plants throughout the Wellington region at a cost of \$189,000

Annual cost: The cost to manage Suppression plants throughout the region during 2004/05 was \$104,000.

There are four Suppression plants in the region.

Means of Achievement

Annually inspect a selection of known infestations throughout the region to determine levels of control by landowners.

Respond to all queries and complaints relating to these species.

Where required, ensure occupier control is undertaken.

Provide information and publicity to enhance public awareness of suppression species.

Where it is considered practical, use biological control agents to assist with the management of these species.

Provide information and publicity to enhance public awareness of the threat suppression species pose.

Where practical, require occupier control of sites of banana passionfruit, wild ginger, old man's beard and cathedral bells.

Actual Performance

Provided identification brochures and enhanced awareness through shows, displays, presentations and articles. Responded to all enquiries from the public.

Respond to all queries and complaints relating to these species.

The total number of inspections carried out regionally for banana passionfruit, wild ginger, old man's beard and cathedral bells was 913.

Means of Achievement

Ensure the completion of a range of contracts for the control of old man's beard and banana passionfruit on river reserve.

Actual Performance

A total of three contracts for the control of old man's beard on Wairarapa river reserves were arranged at a total cost of \$25,800. Contracts were arranged for the control of banana passionfruit and old man's beard, on the banks of two rivers in the Kapiti District. The total cost was \$6,000.

Old man's beard control work was not completed in the Wairarapa rivers due to the unavailability of skilled contractors

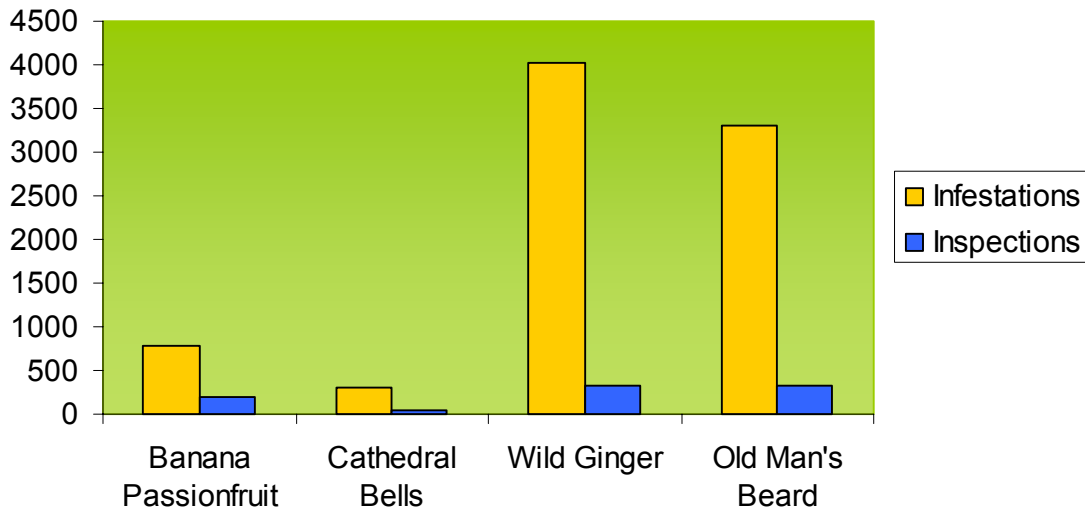
Means of Achievement

Annually inspect all plant outlets in the region.

Actual Performance

One hundred and seventy-eight nurseries were inspected to ensure no Suppression species were being sold.

Total Infestations/Inspections - Suppression Plants



31.5 Site-Led

Aim: To minimise the externality impacts of specific pest plants on land that is clear or being cleared of the pest plant and to protect indigenous biodiversity in a comprehensive selection of Key Native Ecosystems at a cost of \$101,000

Annual cost: The cost to manage Site-Led pest plants throughout the region during 2004/05 totalled \$40,700.

Means of Achievement

Where a complaint has been received from an adjoining occupier, that complaint shall be investigated in accordance with RPMS rules.

Where it is considered practical use biological control agents to assist with the management of site-led species.

Provide information and publicity to enhance public awareness of the threat Site led species pose.

Actual Performance

Provided identification brochures and enhanced awareness through shows, displays, presentations and articles. Responded to all enquiries and complaints from the public.

Ragwort flea beetles were harvested from established sites within the region for release in other areas.

Means of Achievement

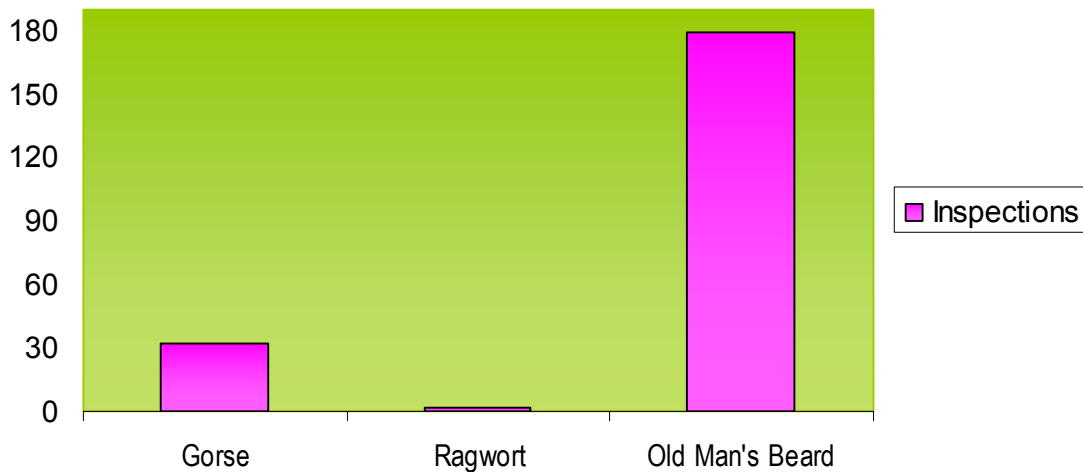
Respond to boundary complaints involving gorse, ragwort, variegated thistle and old man's beard.

Actual Performance

During the year 33 queries relating to gorse, ragwort and variegated thistle throughout the region were actioned.

521 queries relating to old man's beard throughout the region were actioned.

Total Inspections - Site Led Plants



31.6 Key Native Ecosystems

Means of Achievement

- Maintain holistic management in existing KNE areas.
- Establish and implement integrated pest management plans for specific Key Native Ecosystems.
- Undertake **direct control by service delivery** of pests identified in integrated pest management plans.
- **Monitor** site recovery using a range of ecological indicators.
- Facilitate the involvement of **community groups** where appropriate.

Actual Performance

Contracts were arranged for the control of various pest plants at Tauherenikau bush reserve.

Initial work was undertaken on wandering jew, sycamore and old man's beard in December/January with follow-up work in March. Several minor sites of old man's beard were controlled along with 1,200 sycamore trees and five hectares of wandering jew at a cost of \$8,800.

Means of Achievement

Annually inspect all plant outlets in the region.

Actual Performance

One hundred and seventy-six nurseries were inspected to ensure no Suppression species were being sold.

32. Financial Summary

	\$ (000's)
Rates and Levies	1096.0
External Revenue	10.2
	<hr/>
Total Operating Revenue	1,106.2
Total Direct Expenditure	707.7
Divisional / Corporate Overheads	297.3
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Total Operating Expenditure	1,005.0
Budget	-48.5
Operating Surplus	149.7
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The main reasons for the surplus included:

- lack of competent contractors to complete all scheduled work;
- delays in replacing Department staff; and a
- delay in upgrading the Plants database.

Part Three

Conclusion

The 2004/05 year was the third of the Regional Pest Management Strategy 2002 – 2022.

GW is committed to achieving **Quality for Life** by ensuring our environment is protected while meeting the economic, cultural and social needs of the community. The thrust of the Regional Pest Management Strategy is about supporting biodiversity and ecological health through a range of environmental projects, and mitigating pest threats to farming and agriculture.

Continuing commitment to the performance targets and measures of the Strategy is allowing GW to improve our natural heritage and to add security and economic value to agriculture. This is achieved through durable relationships with affected parties through innovation and up-skilled staff, and by delivering on commitments.

There is an expectation from constituents that the current effort in pest management should at least continue at the same resource levels. However, enhanced surveillance and publicity has led to an increase in the number of sites of eradication and containment pest plant species. As these are GW's top priority, resources will need to be re-allocated to ensure we meet our commitments. Unfortunately, it now appears inevitable that the identification of new infestations will delay our ability to meet a number of the Strategy objectives.

The five-year review of the Strategy will commence in 2006. This will give GW an opportunity to re-assess priorities and objectives.