

SEPTEMBER 2004

Regional Pest Management Strategy 2002 - 2022

Operational Report 2003 - 2004

Biosecurity Department

FOR FURTHER INFORMATION

Greater Wellington –
The Regional Council
Masterton
PO Box 41
T 06 378 2484
F 06 378 7994
W www.gw.govt.nz

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PEST PLANTS

1. Purpose

To report on the performance of implementing the 2003 - 2004 Operational Plan for the Regional Pest Management Strategy 2002 – 2022.

The 2003/04 year is the second of the new twenty year Strategy. Substantial changes were introduced in the Strategy, including the adoption of four management categories for pest plants, and termination of the long running Wellington City Pest Plant Eradication Programme. These changes have revitalised the management focus on key pest plants, providing an opportunity to review resource allocation and commitment.

2. Highlights

- 1.** The implementation of a joint publicity programme involving Greater Wellington, Department of Conservation, Ministry of Agriculture and Fisheries, and Fish and Game to raise awareness of invasive aquatic species in the Wellington region.
- 2.** The continued boneseed control programmes in Kapiti and throughout the Wairarapa coastal settlements of Riversdale, Lake Ferry, Whatarangi, Ngawi and Mangatoetoe.
- 3.** Increased involvement at a number of different publicity programmes, including staffed displays at various shows and field days and presentations to several groups. A number of identification pamphlets were also developed of which one “Bad Berries” was a joint publication between Greater Wellington, several Territorial Local Authorities (TLA’s) and the Department of Conservation (DoC).
- 4.** Initial control of evergreen buckthorn at Kenepuru Hospital, Porirua, was undertaken in April/May and involved the basal treatment of several hundred trees.
- 5.** The completion of the pest plant buffer zone along the southern perimeter of the East Harbour Regional Park.
- 6.** The distribution of 70,000 garden dumping pamphlets throughout the region.

3. Major Issues

3.1 Contracts

The continued wet weather during the year proved to be extremely frustrating for both staff and contractors. Contractors struggled to achieve completion dates and in the case of the Manchurian wild rice control at Waikanae, the contract had to be deferred until 2004/05.

3.2 Registration of Endothall

It was envisaged that the registration of the herbicide Endothall for use in New Zealand waterways would be approved before the 2003/04 summer so control of the aquatic plant hornwort could begin.

The process has taken much longer than anticipated. ERMA approval may occur in October/November 2004. All work on hornwort by Greater Wellington has ceased until Endothall becomes registered for use.

3.3 Biological Control

Greater Wellington has continued to support the biological control programme managed by Landcare Research. Greater Wellington's contribution to the programme was \$33,000, which included \$2,500 for plant identification services. The programme is divided into two, with an individual programme factored to suit the requirements of Greater Wellington, and a collective programme to which various Regional Councils and DoC agree to contribute funds to research programmes for various species.

3.3.1 Individual Programme (\$6,500)

Funding was budgeted for a consignment of boneseed leaf roller that was to be released around coastal Wellington, where there are no requirements for landowners to control boneseed. However, due to Landcare being unable to obtain approval from ERMA for the release of this agent, the project was deferred in favour of further releases of gorse thrips and new releases for the region of Scotch thistle gallfly.

3.3.2 Collective Programme (\$24,000)

This involved research programmes for:

(a) Banana Passionfruit

- (i) Safety testing of leaf fungus.
- (ii) Host testing at least one insect agent.

(b) Barberry

- (i) Survey Darwin's barberry and European barberry to determine if any pathogens and invertebrates already occur on these species in New Zealand.

- (c) **Boneseed**
 - (i) Obtain ERMA permission to release boneseed leaf roller.
- (d) **Chilean Needlegrass and Nassella Tussock**
 - (i) Liaise with Australian researchers regarding progress toward agents for Chilean needlegrass and nassella tussock.
 - (ii) Provide practical assistance to a researcher based in Argentina.
- (e) **Gorse**
 - (i) International survey in Europe and North Africa for additional agents.
- (f) **Moth Plant**
 - (i) Complete survey for pathogens and invertebrates that may already occur on moth plant in New Zealand.
- (g) **Wandering Jew**
 - (i) Survey for pathogens and invertebrates that may already occur on wandering jew in its native range.

3.4 Plant Outlets

All 176 plant outlets in the region were inspected and with the exception of one outlet in Kapiti, all complied with the requirements of 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.

The outlet in Kapiti was found to be selling lagarosiphon which is banned from sale and distribution. All remaining plants were confiscated.

After the discovery a letter was sent to all plants outlets through the region advising the owner/operators of their responsibilities and to reinforce Greater Wellington's position in regard to the NPPA.

3.5 Hornwort

All hornwort sites, outside of the Lake Wairarapa containment zone are the responsibility of Greater Wellington.

In the summer of 2002/03, a control programme to eradicate the submerged pest plant hornwort was undertaken in Forest Lake at Otaki, using the chemical Diquat. While initial surveys immediately after the spray programme indicated good control had been achieved, it was found that in areas of the lake where raupo was present, or water quality was poor, control had been very limited. This led to gradual reinfestation of the lake. It was decided that any further work on hornwort should be withheld until the herbicide Endothall was registered for use in New Zealand.

3.6 Aquatic Species

A large number of invasive species have been located in a number of ornamental ponds in the region, particularly the Kapiti area. Many of the infestations were a direct result of a pond care operator selling the plants to unsuspecting property owners, several years earlier.

Since the initial discovery, inspections of various waterbodies have been undertaken by Greater Wellington and DoC staff. This has led to the discovery of:

- thirty-three new infestations of eelgrass;
- two new infestations of hornwort;
- ten infestations of egeria. This species was thought to be absent from the Wellington Region; and
- two new infestations of possibly the worlds worst aquatic weed, water hyacinth. As this is a notifiable (Class A) plant, the Ministry of Agriculture and Forestry (MAF) were called in to remove plants from the larger site with Greater Wellington staff clearing the minor site.

3.7 Old Man's Beard – Wellington City

The new strategy for old man's beard in Wellington City has been accepted by landowners without much dissension. Occupiers appear generally comfortable with the boundary rule. Staff have found that there are very few problems with occupiers meeting the requirements.

Only six Notices of Direction were served in Wellington City requiring the control of old man's beard. None of these resulted in default actions having to be taken. This compares with approximately 200 Notices of Direction that were served annually prior to the Strategy change.

3.8 Garden Dumping Campaign

This programme was initiated in 2002 with the first stakeholder meeting comprising DoC, Kapiti Coast District Council, Hutt City Council, QE II Trust and Greater Wellington.

Since the initial meeting all eight TLA's in the Wellington Region have agreed to take part in the discussions. It was decided to produce a joint pamphlet "**Don't dump garden waste and weeds**". All TLA's, DoC and Greater Wellington bought into the concept with 70,000 pamphlets being distributed by the various TLA's. Some TLA's adopted a blanket approach – through a rates mailout, whilst others chose to target garden dumping hotspots.

A follow-up to this has been the development of a joint letter between Greater Wellington and Kapiti Coast District Council, which will be used to target occupiers adjoining reserves.

3.9 Boneseed Control

Boneseed is a Containment pest in the RPMS. All Wairarapa sites are the responsibility of Greater Wellington.

The 2003/04 season was the second year of boneseed control throughout the South Wairarapa settlements of Lake Ferry, Whatarangi, Whangamona, Ngawi and Mangatoetoe and also areas of Kapiti. Although the response to mailouts offering free control has been lukewarm in some areas, steady progress is being made in eradicating this species from these areas.

Initial work began at Riversdale Beach with a focus on removing plants from reserve land, sand dunes and properties on Blue Pacific Parade.

Contractors have been engaged in the initial stages to remove large infestations, which are then stockpiled and chipped. To date an estimated 40 tonnes of boneseed has been removed from the coastal settlements in the Wairarapa. The contracted price for this work was \$7,500.

3.10 Key Native Ecosystems

Pest plant control was undertaken in a range of habitats as part of the Biosecurity Department's commitment to the Key Native Ecosystems (KNE) programme.

3.10.1 East Harbour

The last four kilometre section of a twelve kilometre long access track from Muratai Road, Eastbourne to Puriri Street, Wainuiomata has now been completed.

The majority of the track borders private property and was cut to help buffer the park against the invasion of environmental weeds from adjoining properties. A contract was let for the four kilometre section to control any environmental weeds within thirty metres of the track. The contracted price for this work was \$4,000.

3.10.2 Raroa Reserve (Pukarua Bay)

This was the fourth year that work has been undertaken in the Reserve to control both pest plants and environmental weeds. Sweet pea shrub and boneseed were controlled on the escarpment, while wattle, wandering jew and German and cape ivy along with other various weeds have been controlled. The contract price for this work was \$2,000.

3.10.3 Otari/Wilton Reserve

In a joint programme with Wellington City Council, spraying contracts were organised for the control of various species. The purposes of the contracts were to prepare sites for revegetation along the Kaiwharawhara valley floor. The replanting programme was carried out by the Otari/Wilton's Bush Trust and was completed at a cost of \$2,760.

3.10.4 South Headland Scenic Reserve

A contract for the control of buckthorn at South Headland was let in July. This programme is in its second year.

All plants were basal treated. This process involves spraying the trunk to a height of approximately 600mm while leaving the tree standing. The work was completed at a cost of \$1,600.

3.10.5 Te Harakeke Wetland

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

However, we have decided to increase the eradication programme in future, opting for six monthly controls compared to the current annual works.

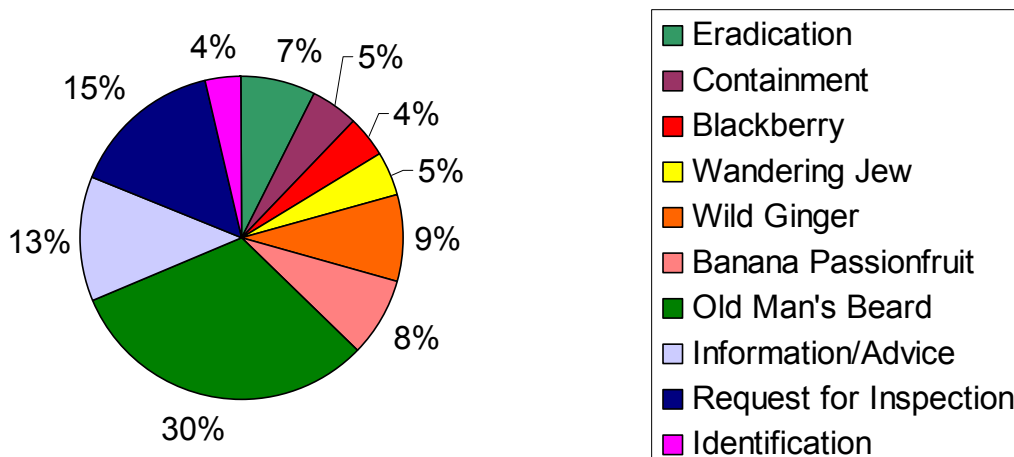
4. Client Response

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

A significant component of the RPMS is Greater Wellington’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 Greater Wellington’s aim to respond to all queries within 10 working days. Whilst this is not always achievable, 90% of queries were responded to within the specific time.

Five hundred and thirty-three queries 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.

Pest plant client enquiries 2003/04
Total enquiries: 533



5. Publicity

Public education was again a major component of pest plant staff 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:

- Presentations to various groups and set up of static displays at more than 20 venues. The focus of the displays at many of the events was on eradication, containment and vigilance species. Special attention was given to aquatic species following the recent infestations located on the Kapiti Coast.
- Regular fortnightly articles have been produced for the Wairarapa Midweek, alternating between pest plant and pest animal topics.
- Several pamphlets were produced, including upgrades to the evergreen buckthorn, creepers and climbers, boneseed, Darwin's barberry and old man's beard pamphlets.
- In conjunction with DoC, Carterton District Council, Hutt City Council, Wellington City Council, Kapiti Coast District Council and Upper Hutt City Council a "bad berries" pamphlet was produced. This pamphlet focused on encouraging awareness of aggressive garden plants and attracted a lot of interest from the public.



6. Performance Targets and Measures

6.1 Eradication

Aim: *To eradicate specific pest plants from the Wellington region at a cost of \$96,000.*

Annual cost: The cost of managing Eradication plants throughout the region during 2003/04 was \$121,419.

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 being identified by the public, contractors and staff.

6.1.1 Means of Achievement

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

Actual Performance

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

6.1.2 Means of Achievement

All active sites of perennial nettle, African feathergrass, bathurst bur, eelgrass and saffron thistle will be inspected and controlled a minimum of two times per annum to prevent any seeding or further spread.

Actual Performance

All sites were regularly inspected and any plants destroyed. A total of 119 inspections were undertaken.

6.1.3 Means of Achievement

All active sites of Manchurian wild rice in the Te Harakeke Wetland at Waikanae will be controlled by 30 April 2004.

Actual Performance

Due to high water tables throughout the year control was unachievable (**refer 3.10.5**).

6.1.4 Means of Achievement

Other Eradication plant sites notified or located will be controlled where it is practical to do so.

Actual Performance

Eradication pest plant inspections for the year totalled 535. Control work was carried out either by staff or contractors.

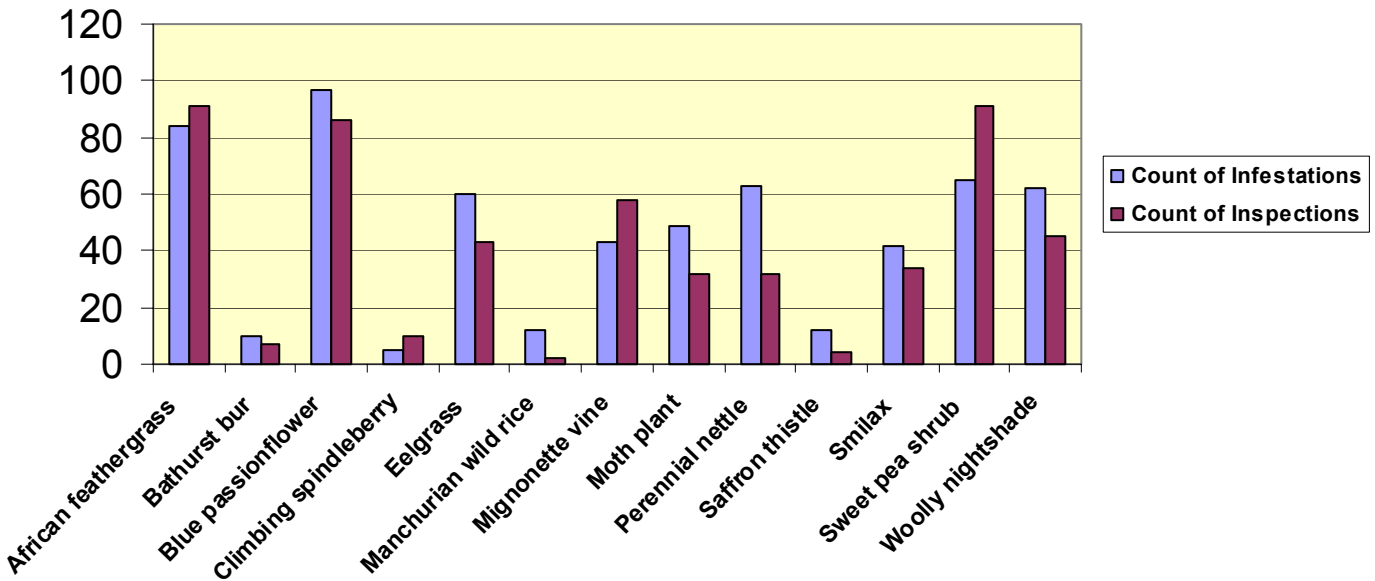
6.1.5 Means of Achievement

Annually inspect all plant outlets in the region

Actual Performance

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

Total Inspections/Infestations - Eradication Plants



6.2 Containment

Aim: To reduce the adverse environmental impacts of specific pest plants within defined areas of the Wellington region at a cost of \$82,000

Annual cost: The cost to manage Containment plants throughout the region during 2003/04 was \$118,098.

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).

6.2.1 Means of Achievement

Provide information to enhance public awareness of all Containment species.

Actual Performance

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

6.2.2 Means of Achievement

Continue control programmes on recorded sites outside the containment zones.

Actual Performance

- a) The third year of boneseed clearance from the South Wairarapa coastal settlements was completed under contract.*
- b) Initial control was undertaken on boneseed at Riversdale.*
- c) Further boneseed and evergreen buckthorn control was completed in the control zone north of Waikanae.*
- d) Evergreen buckthorn was also cleared from other control areas in the Western Zone.*
- e) Initial control was undertaken on evergreen buckthorn at Kenepuru Hospital, Porirua.*
- f) Contracts were also let for climbing asparagus and Darwin's barberry outside of the containment zone.*

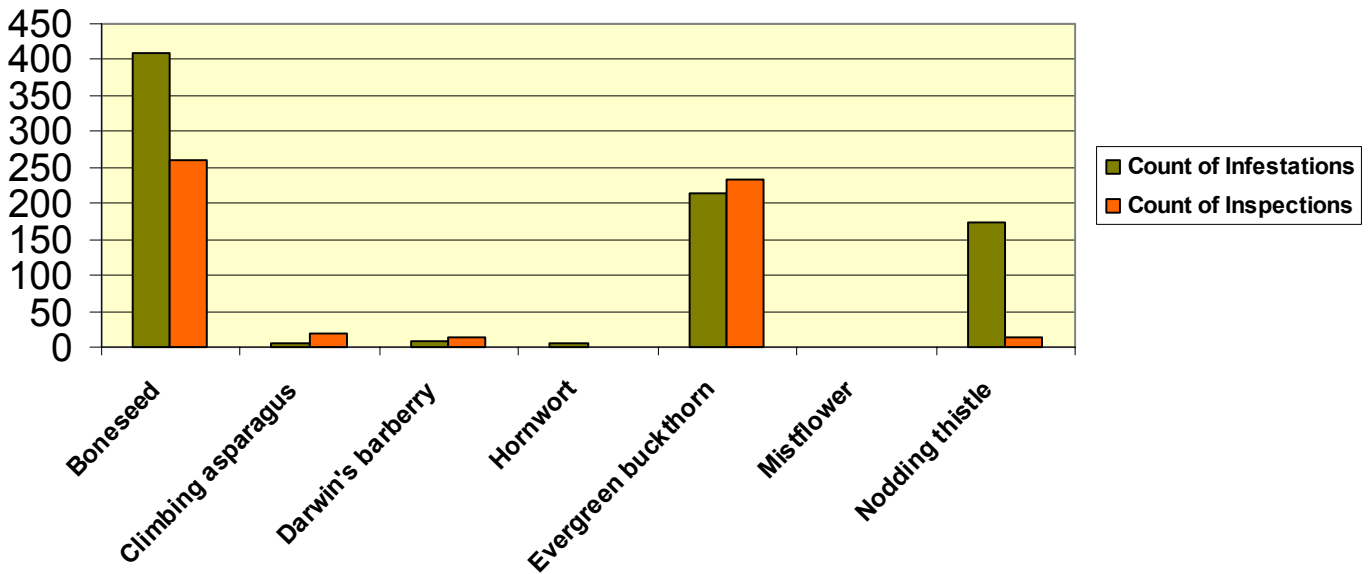
6.2.3 Means of Achievement

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 Inspections/Infestations - Containment Plants



6.3 Suppression

Aim: *To minimise the adverse impacts of these specific pest plants throughout the Wellington region at a cost of \$294,000*

Annual cost: The cost to manage Suppression plants throughout the region during 2003/04 was \$174,054.

There are four Suppression plants in the region.

6.3.1 Means of Achievement

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

Actual Performance

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

6.3.2 Means of Achievement

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

Actual Performance

The total number of inspections carried out regionally for banana passionfruit, wild ginger, old man’s beard and cathedral bells was 1,475. Landowners received notification of their control responsibilities.

6.3.3 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 six contracts for the control of old man’s beard on Wairarapa river reserves were arranged at a total cost of \$33,650. 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 \$5,500.

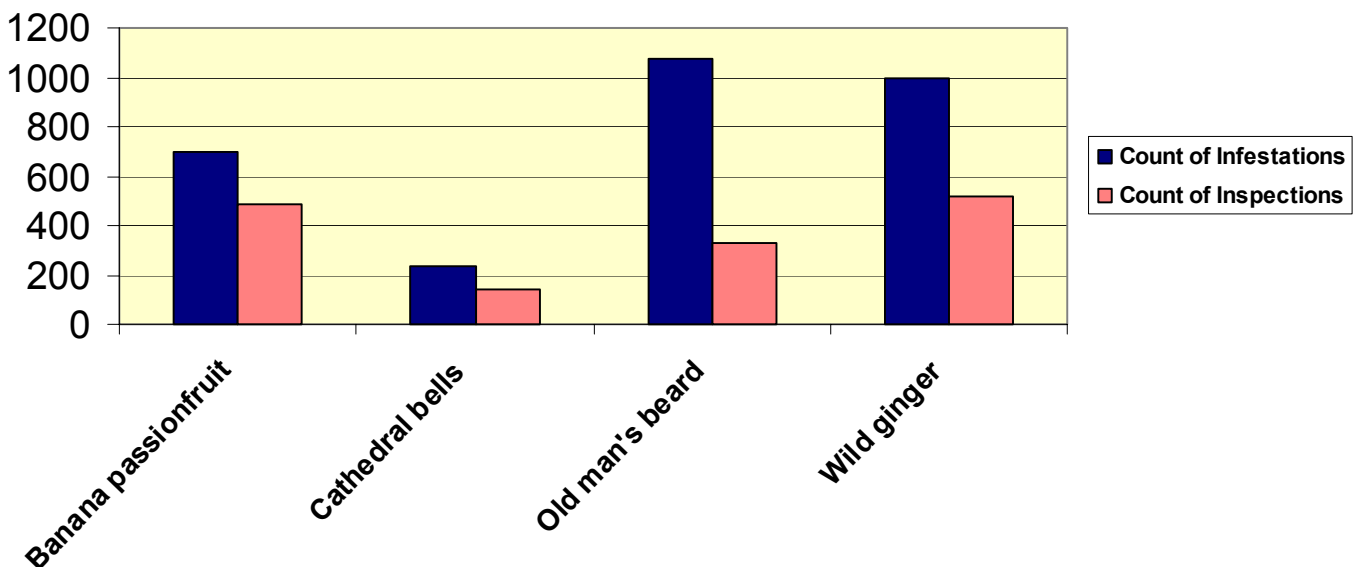
6.3.4 Means of Achievement

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.

Total Inspections/Infestations - Suppression Plants



6.4 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 \$135,000*

Annual cost: The cost to manage Site-Led pest plants throughout the region during 2003/04 totalled \$48,823.

6.4.1 Means of Achievement

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

Actual Performance

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

6.4.2 Means of Achievement

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

Actual Performance

- a) *During the year 34 combined complaints for gorse, ragwort and variegated thistle were actioned.*
- b) *160 complaints relating to old man's beard in Wellington City were actioned.*

6.4.3 Means of Achievement

KNE pest plant control contracts covering work at the East Harbour Reserve, Otari/Wilton Reserve and Trelissick Park will be completed by 30 June 2004.

Actual Performance

Contracts were arranged for work at each site and the work completed (refer to Section 3.10 for further detail).

6.4.4 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.

7. Financial Summary

	\$ (000's)
Rates and Levies	1005.9
External Revenue	1.8
	<hr/>
Total Operating Revenue	1,007.7
Total Direct Expenditure	788.7
Divisional / Corporate Overheads	217.2
	<hr/>
Total Operating Expenditure	895.1
Operating surplus	112.6
	<hr/>

8. Conclusion

The 2003/04 year was the second of the new Regional Pest Management Strategy 2002 – 2022. With increased surveillance and publicity, new sites of eradication and containment species have been recorded. As these species are Greater Wellington's top priority, every effort is being made to control them with both Greater Wellington staff and contractors being utilised. However, it is possible that the large increase in some plant infestations may delay achieving some of the Strategy objectives.

Also of concern has been the discovery of numerous sites of aquatic species, including the eradication species eelgrass and the Class A plant water hyacinth. A joint campaign comprising Greater Wellington, Department of Conservation, Ministry of Agriculture and Forestry, and Fish and Game was launched to raise public awareness of the threat aquatic species pose. This has been a very successful exercise.

A wet summer was responsible for delays to various contracts and the abandonment of the Manchurian wild rice control contract.

Publicity remains an important tool with staff having attended a number of events, organised static displays, wrote various newspaper articles, created brochures and posters, and dealt with numerous queries. Staff are confident that public awareness and understanding of their roles and responsibilities is advancing.

PEST ANIMALS

9. Purpose

To report on the performance of the Operational Plan 2003 - 2004 for the Greater Wellington Regional Pest Management Strategy (RPMS). Under Section 85 of the Biosecurity Act 1993, the Greater Wellington 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.

10. Highlights

A sample of highlights for the 2003/04 financial year includes:

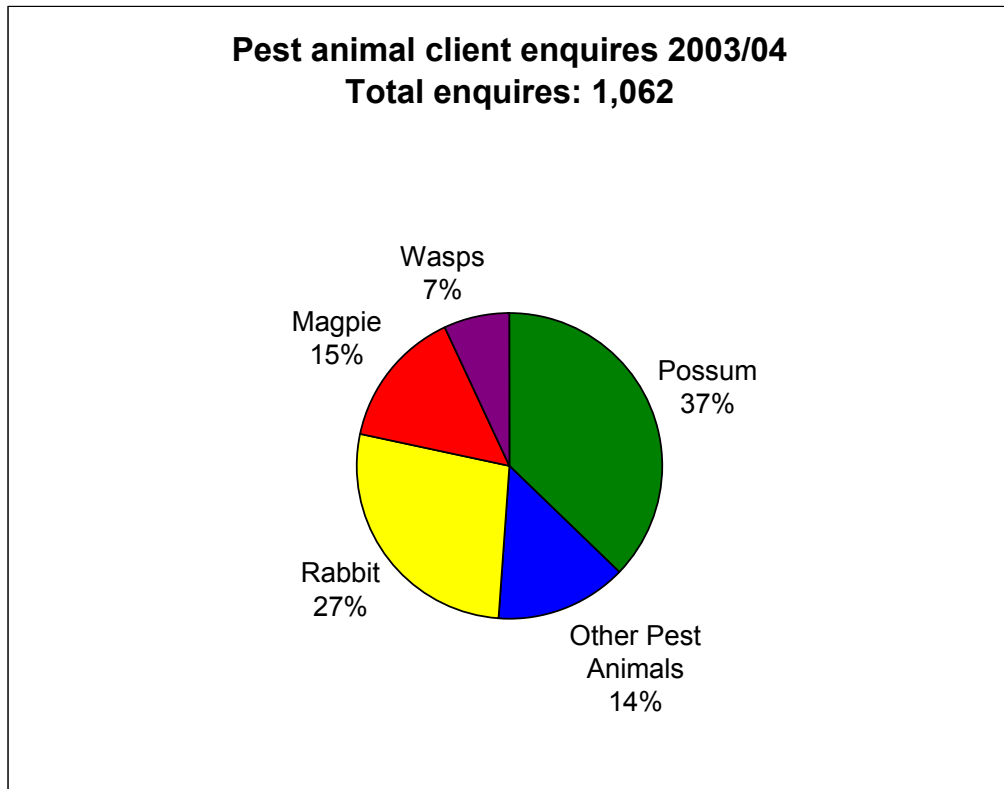
1. Successful possum eradication from the Mirimar Peninsula (616 hectares).
2. Undertook intensive possum and predator control in 61 sites (17,664 hectares) under the Key Native Ecosystem Management programme.
3. Continued liaison with Horizon and Hawkes Bay Regional Councils with regard to proficient rook control to prevent re-infestation from these regions into Greater Wellington.
4. Consolidation of the Mt Bruce (Pukaha) predator control buffer project to allow the reintroduction of kiwi and kokako into the wild.
5. Prepared comprehensive post operational reports for prominent Key Native Ecosystem projects.
6. Continued involvement with the Upper Hutt Forest and Bird Society, the Fensham Reserve Group, Wairarapa YMCA Conservation Corps and others for voluntary possum control.
7. Attendance at 11 major venues and other forums throughout the region for public education purposes.
8. Successful conduct of the 1080 aerial baiting possum control operation for the 8,600 hectare Hutt River water supply catchment with a post operational residual trap catch index of 0.5%.
9. The successful feral cat operation in an urban area of Crofton Downs, Wellington City.
10. The development of a suite of subsidised biodiversity programmes for private landowners.
11. Completion of the wetland surveys as a key component of the Wetland Action Plan for Greater Wellington.

11. 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 1,062 enquiries, 300 less than last year.

The number of rabbit enquiries has increased by over 10%. This may be a result of the trend towards people moving from urban to more rural areas. Practises associated with the establishment of lifestyle blocks can also contribute to an increase in rabbit complaints. There were 150 fewer calls relating to possums than last year. This decrease could be due to the success of the regions significant possum control programme.



12. Rabbit Management

12.1 Rabbit Densities

Concern was expressed in last years Operational Report 2002 - 2003 that rabbit densities were expected to increase. This did not eventuate in spite of a favourable breeding season followed by a lengthy spell of hot dry weather during the summer. 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.

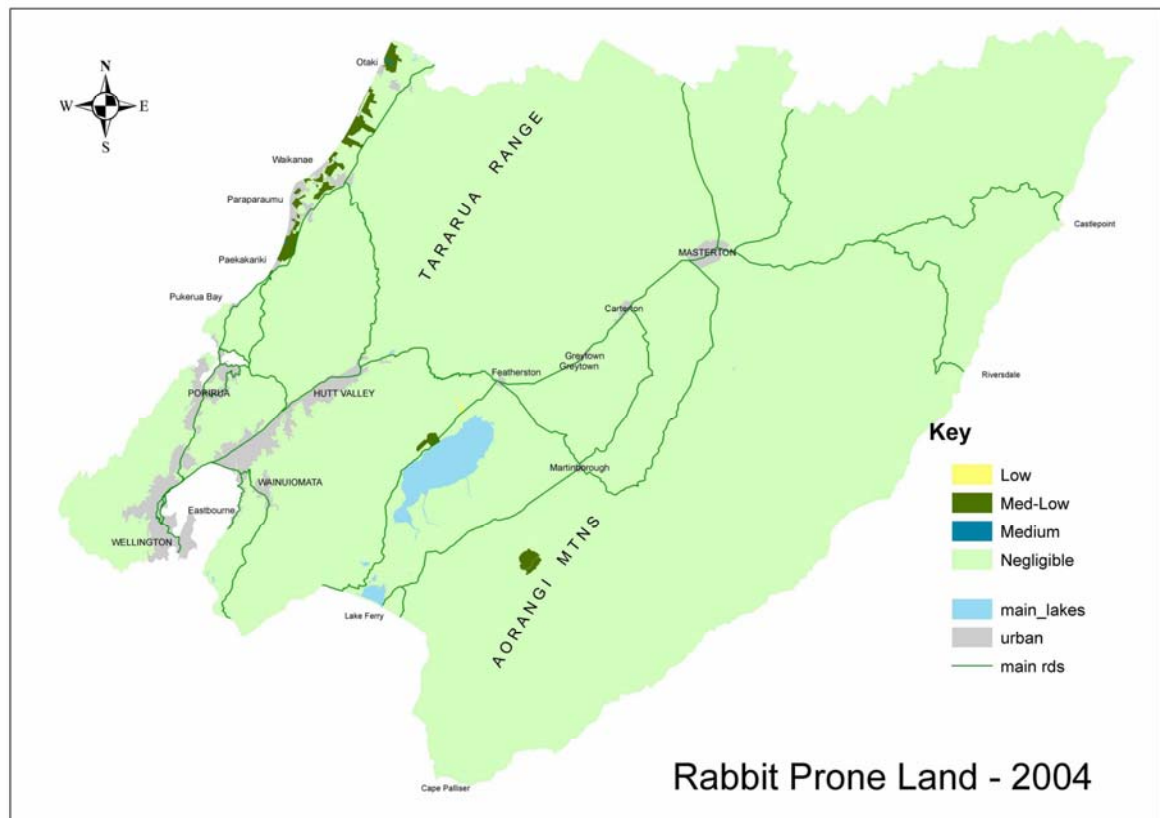
The annual inspections of the Waingawa and Tauherenikau Riverbeds in the Wairarapa disclosed rabbit densities were slightly up on last years assessments but the levels were not of concern. These types of braided riverbeds provide an early useful indication of probable regional rabbit population trends.

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 17 properties only. These are regarded as high risk. Four of these properties had small pockets assessed as level four on the Modified McLean Scale (**see Page 48**).

The situation was similar on the Kapiti Coast and other environs around the metropolitan areas. The properties inspected were reduced to 49 with only three properties having small pockets assessed at level four on the Modified McLean Scale. Ames Street Reserve at Paekakariki, a traditional problem area, only recorded level three.

There were no situations that required occupiers being warned about their rabbit densities or having enforcement proceedings invoked.

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.



12.2 Rabbit Calicivirus Disease (RCD)

It is probable that the rabbit calicivirus disease (RCD) continues to cycle but Greater Wellington officers have no firm evidence of this. RCD can be difficult to discern when it is cycling in low rabbit densities.

An application to import RCD from Australia (on behalf of a consortium of ten Regional Councils and two unitary authorities led by Environment Southland) has been approved by the Environmental Risk Management Authority (ERMA) Approval from the Agricultural Compounds and Veterinary Medicines Group is yet to be granted. Iwi were consulted nationally.

ERMA have imposed controls on the use of the rabbit calicivirus suspension, namely:

- the suspension shall only be used as a pest control agent for the management of rabbit populations within the biosecurity responsibilities of Regional Councils or unitary authorities; and
- any use of rabbit calicivirus suspension shall only take place after the appropriate Conservator of the Department of Conservation (or nominee) for the area, in which the application of the bait is to take place, has been notified.

It is intended that the RCV-Suspension be used specifically as a biocide to target small, isolated populations of rabbits. Use will focus on peri-urban and/or high public use areas where conventional rabbit control methods such as poisoning or shooting are unsafe.

There is no intention for the RCV-Suspension to be used for biocontrol purposes. There is already strong operational and scientific evidence to show that attempts to artificially start epidemics by introducing the virus on a wide scale have the effect of stimulating induced immunity in rabbit populations. This fact severely limits the use of RCD as a biocontrol method.

The RCV Users Group is developing a protocol that includes:

- the import contractor and distributor will only be authorised to supply RCV-Suspension to members of the RCV Users Group and to users authorised by those pest management agencies;
- each member of the Users Group will have to develop Standard Operating Procedures (SOP's) consistent with the RCV-Suspension being used as a biocide only;
- SOP's must include procedures for consultation with the public and affected stakeholders at and around the treatment sites; and
- limiting the use of the biocide to the late winter months of June and July when rabbits are normally at their lowest levels, when breeding is least likely to be occurring and when the maximum consumption of bait can be expected.

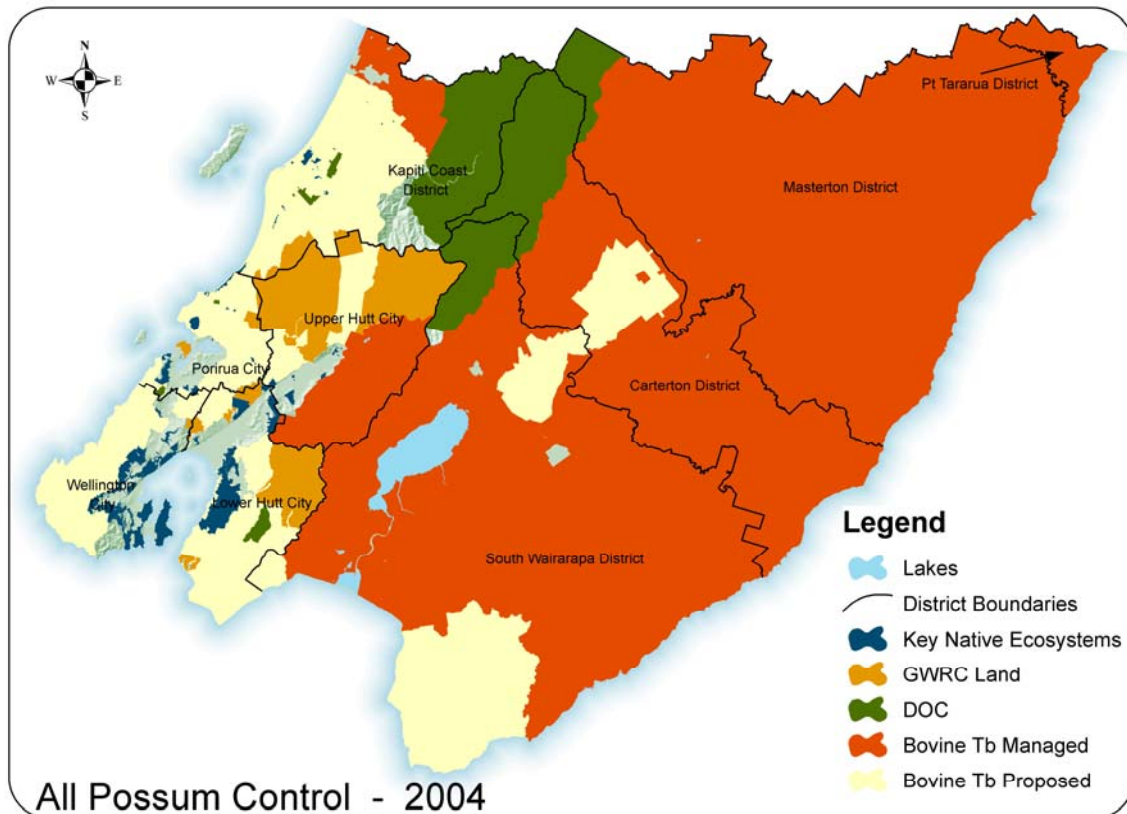
13. Key Native Ecosystem Programme

13.1 Key Native Ecosystems (KNE)

KNE's include native forest, wetlands, dunelands, coastal escarpments or other sites with regionally significant conservation value, but excludes areas administered by the Department of Conservation.

A large portion of the Region is the subject of ongoing possum control, principally for Bovine Tb purposes. The Parks and Forests Department of the Greater Wellington Regional Council and Department of Conservation (DoC) have also been proactive in carrying out possum control in a significant portion of their estates and have established cyclic maintenance programs.

Many of the known KNE sites subject to threat from possums are located within current Bovine Tb vector control areas. As such, possum densities are maintained to low levels. KNE sites within Bovine Tb control areas have not been prioritised for special works at this stage. If the situation arises that the intensity of Bovine Tb vector control is markedly reduced, then that will present an opportunity to increase biodiversity protection through the KNE programme. Bovine Tb vector control is expected to decrease with the ongoing decline in Tb infection in cattle and farmed deer.



14. Biodiversity Assistance for Private Landowners

In February 2000, DoC and the Ministry for the Environment published the New Zealand Biodiversity Strategy in response to the state of decline of New Zealand's indigenous biodiversity. The New Zealand Biodiversity Strategy outlined the fact that one of the challenges for the future is for improved and co-ordinated control of key pest species over wide areas.

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.

With increasing knowledge of biodiversity and conservation awareness, Biosecurity staff have had a number of private owners requesting help with pest control on their land.

Biosecurity has developed three programmes to assist private landowners with pest plant and animal control. These programmes build on the successful KNE programme already implemented to protect and enhance native flora and fauna.

To assist all landowners with pest control, the following three programmes are now offered:

1. **Advisory programme**
2. **Covenant programme**
3. **KNE programme**

These programmes 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 flow chart has been developed to assist staff in identifying the level of help a landowner is entitled to (**see Figure 1 on Page 27**).

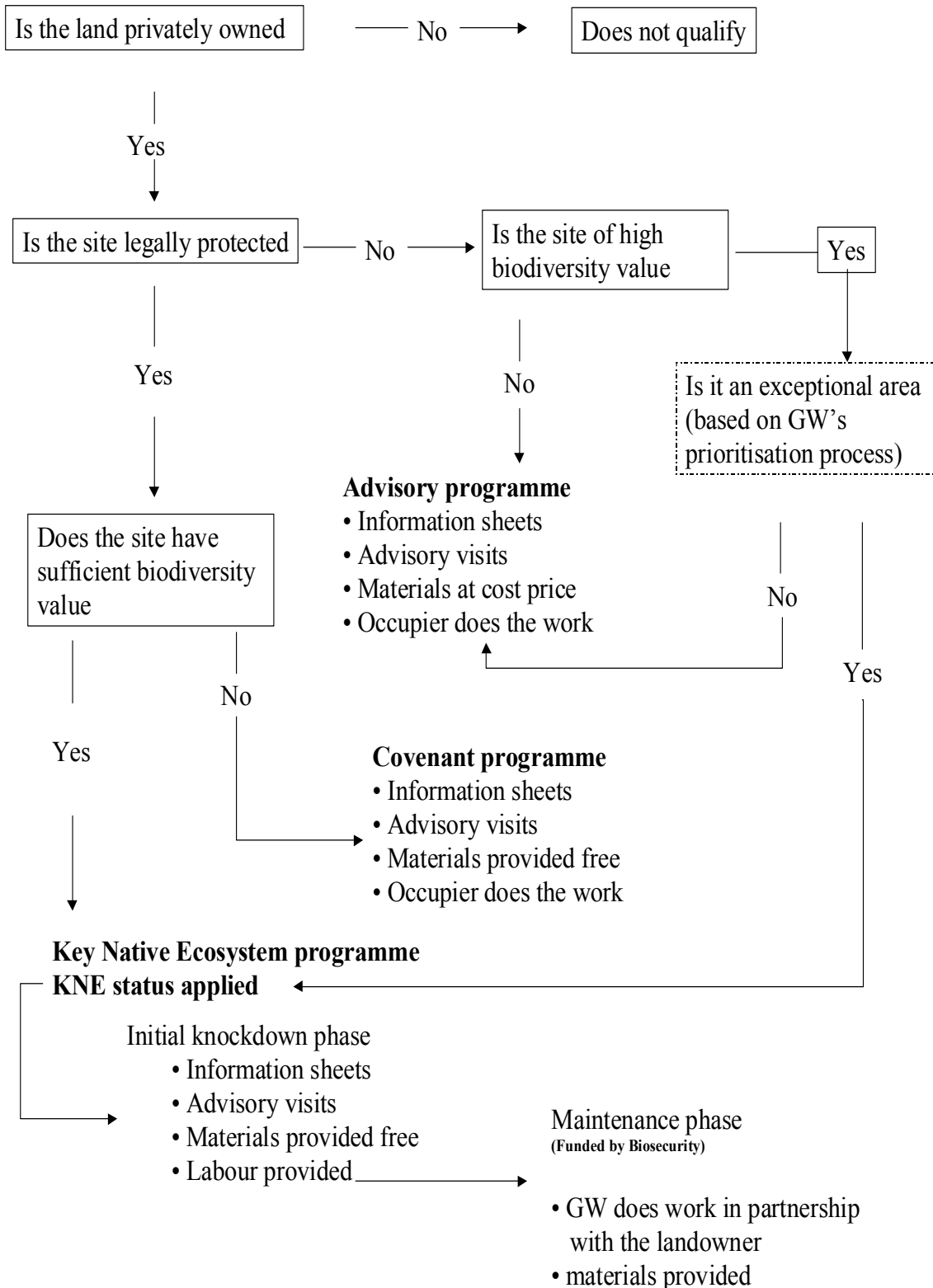
Providing support for low ranking sites fits in well with our regional responsibilities and Long Term Council Community Plan (LTCCP). Many occupiers lack biodiversity management knowledge and need to be shown exactly how to do things on the ground. This type of education is a sound investment in empowering the community in the long term.

Most areas covenanted are small and over represented already. However it is appropriate for Greater Wellington to provide positive support and encouragement to enhance biodiversity.

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. The sites ranked highly in the prioritisation model will be field checked and assessed for KNE status over the coming years.

The promotion of private land protection will primarily be by non-statutory means and may involve a range of awareness-raising techniques such as field days, demonstration areas, provision of information and examples of best practice, financial incentives and targeted advertising.

Figure 1.
Protecting Native Habitats on Private Land
 A Qualifying Process for Pest Management



14.1 Advocacy Role

Greater Wellington acts in an advocacy role to bring together the QE II National Trust and the landowner. Greater Wellington provides funding assistance to private landowners wishing to legally protect areas of indigenous vegetation in association with the QE II National Trust.

The indigenous vegetation has to be of a standard that meets QE II National Trust status. If the area qualifies for assistance, then Greater Wellington can fund up to 33.3% of fencing costs. Greater Wellington can also fund survey costs on a 50/50 share basis with the Trust. On the Kapiti Coast, costs are shared three ways as the Kapiti Coast District Council contributes to legal protection of indigenous vegetation.

14.2 Land Protection Groups

Greater Wellington 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.

14.3 Operations

During the 2003/04 year, 17,664 hectares of either possum and/or predator control was undertaken. This comprised 14 sites in the Wairarapa (8,773 hectares), and 47 sites (6,547 hectares) in the Western Zone.

14.3.1 Maintenance Operations

Western Zone	Hectares
Kapiti	122
Porirua	979
Wellington	2,404
Lower Hutt	2,657
Upper Hutt	385
Total	6,547
Wairarapa	Hectares
Masterton	3,780
Carterton	38
South Wairarapa	4,955
Total	8,773

14.3.2 Initial Operations

Western Zone	Hectares
Kapiti	294
Porirua	208
Wellington	741
Lower Hutt	1,024
Upper Hutt	0
Total	2,267
Wairarapa	Hectares
Masterton	0
Carterton	33
South Wairarapa	491
Total	524
Grand Total	18,111

Past years operational hectares are:

<u>Years</u>		<u>Hectares</u>
2002/2003	-	16,274
2001/2002	-	10,840
2000/2001	-	16,012
1999/2000	-	15,681
1998/1999	-	9,390
1997/1998	-	18,000

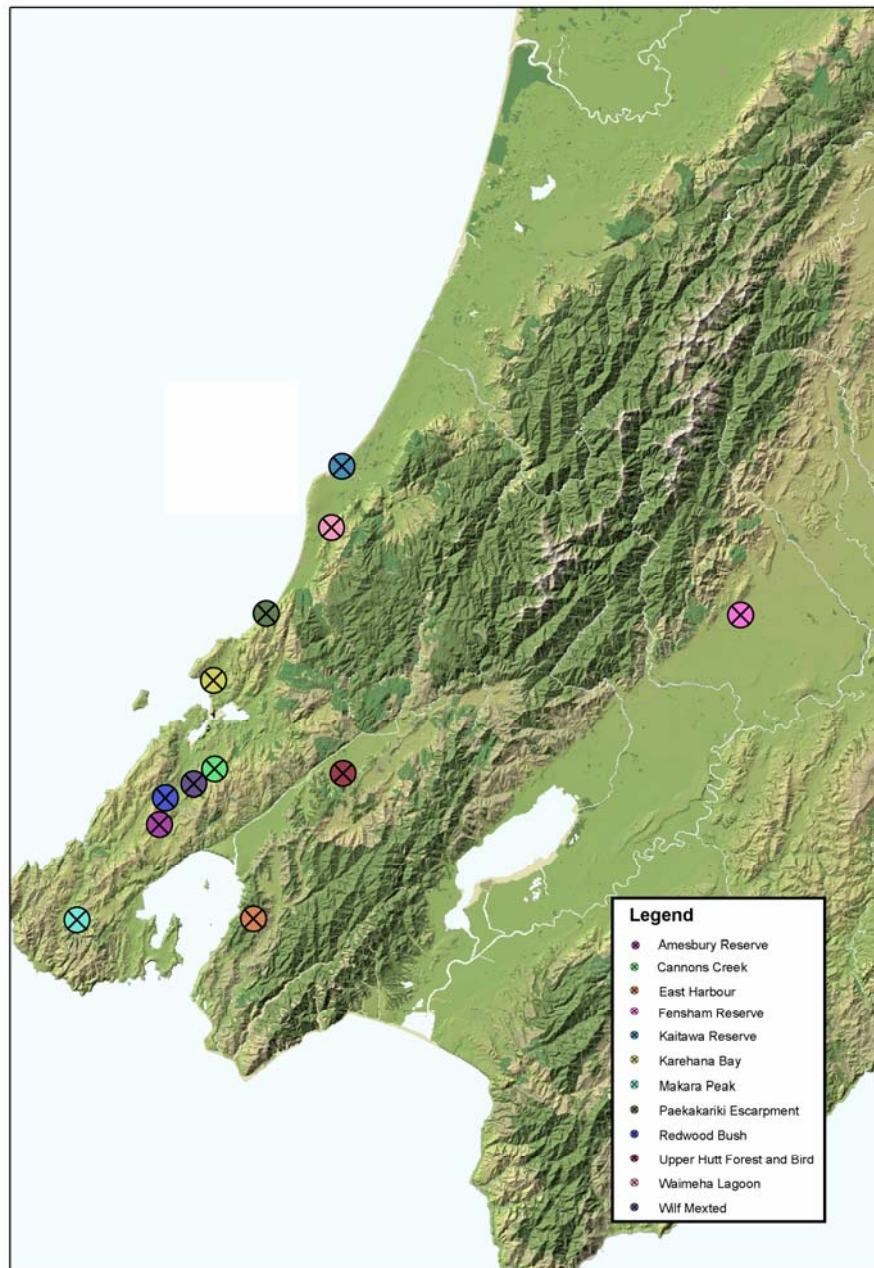
15. Volunteer and Care Groups

The Pest Animal's Section has been involved with community groups for many years. During the 2003/04 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 volunteer groups like the Upper Hutt Branch of Forest and Bird or the Mainland Island Restoration Organisation (MIRO), based at Eastbourne.

Figure 2: Table of Volunteer Groups and Map

Caregroup	KNE	Hectares	Control
Waimeha Group	Waimeha Lagoon	7.6	15 Predator control
Forest and Bird (Kapiti)	Kaitawa	12	12 Possum bait stations
Forest and Bird (Upper Hutt)	Maidstone Park, Witako, Keith	376	218 Possum bait stations
Forest and Bird (Upper Hutt)	George, Emerald Hill		
Forest and Bird (Wairarapa)	Fensham Reserve	29	20 Predator control
Nga Uruora	Paekakariki Escarpment	117	47 Possum bait stations
Plimmerton Residents Ass.	Karehana Bay	170	130 Possum bait stations
Maara Roa	Cannons Creek	95	61 Possum bait stations
Friends of Tawa	Redwood Bush	81	70 Possum bait stations
Amesbury Reserve	Amesbury Reserve	4	5 Possum bait stations
MIRO	East Harbour	2,375	350 Predator control
Makara Peak Mountain Bikers	Makara Peak	252	90 Possum bait stations



There is a steady increase in the number of individuals and volunteer groups keen to preserve or regenerate areas of native bush or wetland. People want to work towards providing better care for our native plants and animals, and the places they live. Greater Wellington is currently working on a policy to be able to assist, involve and reward landowners and has a number of incentive programmes to assist volunteers. Funds are also available from the Crown via the Biodiversity Condition Fund.

16. Feral Pigs at Karori, Wellington City

In early March 2004, feral pigs were noticed in Wrights Hill Reserve, Karori. Biosecurity staff attempted to cull the pigs but could not locate them. The wild pigs showed up again in late April when they were observed rooting up the backyards of residential properties. During May the media showed a keen interest nationally and internationally following newspaper reports about children observing and being afraid of the marauding pigs.

Eventually five pigs were culled although there is still a problem of pigs randomly visiting the same areas of suburbia. A dog cage trap was trialed to capture some of the pigs, but was not successful. It is thought that the pigs were originally released on the south coast of the Wellington Peninsula and have spread from there.



Pig trap baited with rabbit meat

17. Wasps

Staff from the City and District Councils, DoC and Regional Council, who are involved in responding to wasp nest nuisance calls within the Greater Wellington 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 1990-1991 season to summarise wasp nest type, location, time of year and frequency of occurrence.

Table 1 below compares total wasp nests per season for each area, over the last 14 wasp years.

By monitoring wasps on a regional basis we hope to monitor the effectiveness of the wasp biological control programme and understand the seasonal influences on wasp population dynamics. Interesting points from the 2003/04 season are:

- 73% of the Greater Wellington Western Zone calls were from residents in the Wellington City area, compared with 70% last season.
- Only one German wasp nest was reported and that was at Hutt City.
- Hutt City recorded areas of extreme wasp frequencies in two locations. One very large nest was discovered opposite Marine Drive, Eastbourne and 17 nests were encountered in 200 metres at Witcher Grove, Wainuiomata.
- This was the first year that Porirua City recorded a single figure wasp nest count.
- The peak month for wasps in the Greater Wellington region was March.

Overall the wasp season for 2003/04 was the lowest ever for the Greater Wellington region. The prediction was for a low wasp season for most of the region but a high one for Wellington and Kapiti. The predication was made by considering the mean minimum air temperatures for November 2003 and the resulting effect on the initiation of hibernating queen wasps. It is worth noting that Wellington City and Kapiti Coast had relatively few wasp nuisance calls.

Table 1

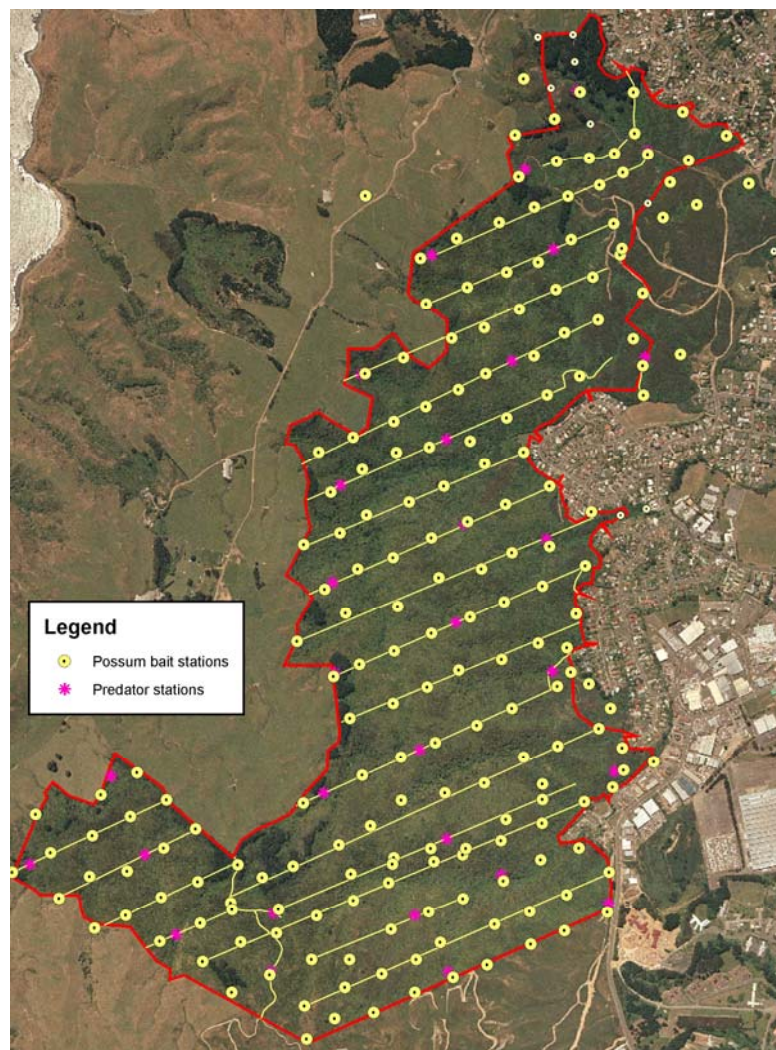
	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	00-01	99-00	01-02	02-03	03-04
KCDC	55	20	41	23	9	22	14	18	22	2	12	5	6	7
PCC	37	80	107	61	27	50	24	41	19	17	12	15	28	6
WCC	42	18	42	19	5	16	15	18	5	33	23	21	68	15
HCC	319	167	270		131	110	102	169	505	142	53	72	66	66
UHCC	3	3	5	23	13	5	12	15	10	6	6	8	5	9
GW West Zone	9	28	27	18	50	62	138	134	168	88	116	92	76	37
GW Wairarapa	28	27	12	55			19	4	8	22	20	25	22	38
DoC Catchpool	16	17	19	5	10	5	16	14	10	15	5	4	10	6
DoC Masterton	4	2	1	5		NIL	2		NIL	NIL	NIL	NIL	NIL	1
DoC Waikanae		3	28	6	2	1	5	14	3	NIL	3	NIL	NIL	NIL
Total	513	365	552	215	247	271	347	428	750	327	250	242	281	185

18. Porirua Scenic Reserve KNEMA Predator Programme

In December 2003, 30 predator traps were installed in Porirua Scenic Reserve. This 318 hectare Reserve has 180 possum bait stations that are replenished with brodifacoum on a three monthly cycle. This keeps possums at negligible levels but unfortunately there is not enough dead possums to control predators such as stoats and cats through secondary poisoning.

With the recent arrival of kakariki and bellbirds it was decided to set up predator traps and service these at the same time as the possum bait stations were serviced. The predator traps were placed to cover the area randomly with stream sites being favoured. They were baited with salted rabbit meat cubes. The predator stations were checked on the 4 March, 8 June and 4 August 2004. Weasels, stoats, ferrets, hedgehogs and cats have been caught.

Experience has shown that there are complex feeding guilds amongst introduced predators and prey. Removing predators could create an imbalance and thus cause an explosion in rodent numbers. Monitoring regularly will identify if a problem arises. Initial indications suggest that the brodifacoum bait dispensed for possums is controlling rats.



19. Public Relations

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

Table 2: Public Relation and Education Events

Group or Event	Number of attendants	Topic
Biosecurity Institute Conference Nelson	100	Urban pest control
Otari/Wilton's Bush sale day	2,000	Pest Animal display
Home and Garden Show	9,000	Combined Pest Plant and Animal display
Miramar Probus Club	40	Miramar Possum eradication programme slide talk
Rimutaka Forest Park Trust AGM	26	Pest Animal Control slide talk
Carterton AMP Show	3,500	Pest Plant and Animal display
Wellington South Rotary Club	40	Wellington City possum control slide talk
Pauatahanui Food and Farm Festival	3,000	Pest Animal display
Naturally Ngaio	25	Pest Animal display
Restoration Day Wallaceville	100	Pest Animal display and talk
Otaki Rural Field Day	5,000	Pest Plant and Animal display
YMCA Conservation Corp Masterton	10	Certificate of completion of Biosecurity work

20. Contracting

The amount of possum and general predator control has been steadily increasing. As a principle, more commitment is given to maintaining previously controlled areas before starting new works. Over the past six years more and more of the maintenance has been carried out by contractors.

The establishment of high risk operational areas and the initial baiting regimes have traditionally been carried out by Pest Animals staff. However, the increased demand for KNE and similar type works dictates that much more of the operational work will need to be contracted externally. This will be by way of both performance and prescriptive contracts. Many of the contract areas are territorial authority reserves and are often urban based.

21. Wetland Surveys

Greater Wellington has recognised the need to halt the continued loss of remnant species and ecosystems. Wetlands are one of the ecosystem types that are depleted and under threat in the region.

Greater Wellington's Environment Division contracted Biosecurity to assist with achieving the goals set out in the Wetland Action Plan.

Wetland surveys were completed in the Wairarapa at the end of October 2003 with 133 entries recorded on the Wetlands database. There was a very good response from most property owners after explaining the reasons for wishing to gather information.

There was a poor response from owners of privately owned wetlands in the Wellington-Kapiti Coast area, with just one wetland inspection carried out. Biosecurity staff made phone contact with these owners to provide some background to the purpose of undertaking the proposed surveys. In most instances permission was refused to gain entry and gather information on the condition of wetlands. A subsequent letter was sent out from Greater Wellington's Wetlands Policy Advisor in an attempt to better inform wetland owners of the reasons for wanting to gather information but this made little difference. There were some concerns from occupiers about how the information gathered might be used in a detrimental way under revised District Plans.

With the Wairarapa surveys now completed, a benchmark can be established to monitor the state of wetlands over time. Data gathered will identify high priority wetlands in need of protection. Greater Wellington is committed to assisting owners with the protection and restoration of their wetlands.

Some key wetlands will achieve KNE status. Therefore, pest control work will be undertaken to protect and enhance these valuable areas.

22. Coastal Surveys

Biosecurity staff were contracted to the Planning and Resources Department (Wairarapa) of Greater Wellington from 3 February to 22 March 2004, mapping and ground truthing sections of the Wairarapa coastline. This was carried out from Mataikona down to Windy Point at Palliser Bay as part of information gathering for the Wairarapa Coastal Ecological Strategy document.

23. 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, have a high public profile. Aside from race meetings, the land is used for horse sport eventing, rural field days and corporate picnics, as a conference venue and is available for weddings and other functions. Being centrally located, Tauherenikau is ideally suited for future use as an educational facility for the promotion of biodiversity to local school groups or various other interest groups

This work would enhance the biodiversity values and long-term sustainability of these covenanted areas. Planning is under way with physical protection work scheduled to commence in December 2004.

24. Pet Shop Inspections

An authorised Biosecurity staff member conducted these inspections pursuant to Sections 52 and 53 of the Biosecurity Act 1993. The officer visited 26 pet shops and veterinary clinics throughout the region. Most vet clinics in the metropolitan areas also trade in pets and pet supplies, as do some in the Wairarapa.

All establishments except one, were well presented and professionally run. The officer found managers and staff alike most courteous and more than helpful. He was able to undertake thorough inspections to see what fish, birds or mammals were for sale. Nothing illegal or untoward was disclosed. The officer concluded that all the people he had spoken to have a responsible attitude towards the illegal sale, distribution and breeding of pest animals. An information brochure was left at each of the premises, 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; and
- how the traders can help with minimising the risk of unwanted organisms invading ecosystems.

25. Enhanced Training Opportunities for Biosecurity Staff

Seven Biosecurity Department staff have had the benefit of being able to take part in the Ecological Skills Programme administered by DoC. This series of training programmes had previously only been available to DoC staff who had responsibilities in ecological management but was offered last year to selected nominees from territorial authorities, iwi, non-Government organisations and private individuals.

The opportunity to take part in such a training programme filled a specialist training niche for some Biosecurity staff of Greater Wellington that was not available elsewhere. The range of training modules includes ecological principles and processes, ecological inventory and monitoring, animal conservation management, pest animal management, plant conservation management and weed management. The opportunity to register and take part was greatly appreciated.

Although many Biosecurity staff have science degrees and practical field skills, it is important that they have the opportunity to further up-skill in specialist areas. Attendance at these courses with DoC tutors and staff further reinforces the links and bonds in the common goal of supporting biodiversity and optimising ecological health.

Of note is that three Biosecurity staff have thus far passed the course with distinction and received personal recognition from Hugh Logan, Director General of Conservation.

26. Ecological Outcomes

26.1 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.

During 2003/04, after a critical evaluation of the validity of the programme design and changes to KNEMA monitoring priorities, the native bird monitoring programme was redesigned. The redesigned programme is to be implemented over the 2004/05 financial year.

The ground dwelling invertebrate programme was established during 2001 and was continued over 2003/04. Last year was dedicated to sorting a backlog of samples. The sheer volume of invertebrate samples has led to further delays in formal analysis of the data.

Table 3 highlights the KNE sites with bird and invertebrate monitoring programmes.

	Bird monitoring	Invert monitoring	Rat monitoring
East Harbour	(MIRO)	(MIRO)	(Parks and Forests)
Fensham Reserve	(Forest and Bird)	•	•
Haywards Reserve	(Removed from programme)	•	•
Johnsonville Park	(Removed from programme)	•	•
Keith George	• (Revised)	•	•
Mapuia Park	(Wellington City Council)		
Pounui	• (Revised)	•	•
Porirua Scenic Reserve	• (Revised)	•	•
Sulphur Wells	• (Proposed)		
Tinakori Park	• (Revised)		
Tauherenikau	• (Proposed)	• (Proposed)	• (Proposed)
Waihora	• (Proposed)		
Witako	(Removed from programme)	•	•
Wrights Hill	(Removed from programme)	•	•

- **Work completed by Monitoring & Investigation Section**

The foliar browse programme was reviewed in 2002/03 and it was decided to scale back the frequency of revisits to every four to five years instead of every three to four, as the degree of canopy recovery is slowing down now possums are at low numbers in the monitored KNE's. No new foliar browse plots have been established and no plots were monitored over the 2003/04 year.

The Foliar Browse data from every monitoring site has been aggregated regionally to get a general picture of the trends. **Figures 3 and 4 (Page 39)** compare the most recent data from and the first (pre-possum control) survey. The results show how much possum control improves the condition of the bush.

Figure 3: Degree of Damage to Trees Before Possum Control

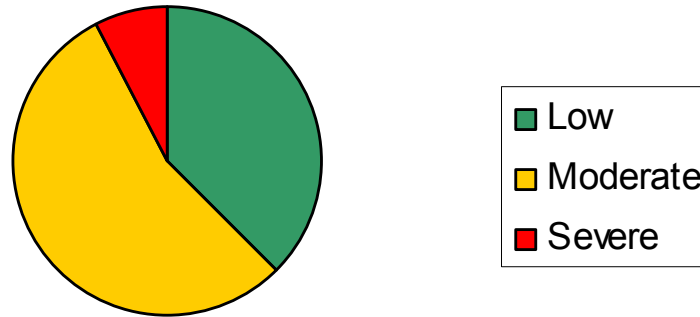
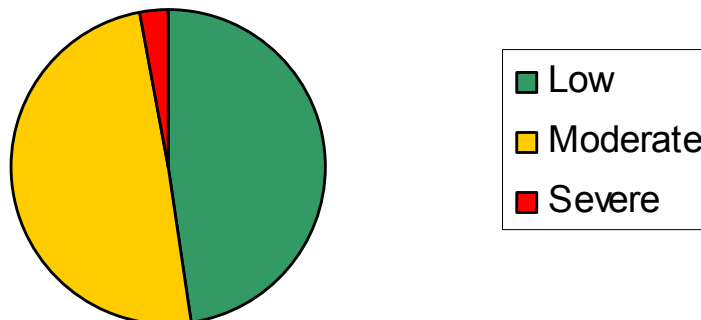


Figure 4: Present Degree of Possum Damage to Trees



26.2 Performance Monitoring

The performance monitoring programme evaluates predator levels within the KNEMA's. The rat/mustelid monitoring study was added to the programme 2001/02 and a pilot study was completed in October 2003. The programme was established in nine KNE's where invertebrate monitoring is also being undertaken. Tracking tunnels are used and are monitored four times per year.

The programme has yielded some interesting results. In KNEs with rats present, the rats are more frequent in winter, suggesting they are spending time on the ground to feed (because of a lack of food in the forest canopy). The rat number can be considered moderately high in some reserves and it is likely they are having a negative effect on the forest ecosystems by depredating fruit, seed and invertebrates.

Where brodifacoum poison is regularly applied for possum control, rat numbers are also suppressed.

26.3 Possum Populations

Knowledge of the possum density is essential for deciding control techniques and programme timing.

One index of possum density is the Residual Trap Catch index (RTC). Monitoring results are reported as a percentage, which equates approximately to the number of possums caught per 100 trap nights. A trap night refers to one leghold trap set for one night. Possum RTC monitoring was performed in four operations during 2003/04 (refer to Table 4 below) including Stokes Valley, Haywards Scenic Reserve and East Harbour. The Hutt Water Catchment area was monitored at the request of the Parks & Forests Department. Figures followed by a single asterisk (*) are pre-control statistics.

Table 4: RTC Monitoring Outcomes for Pest Animal Programmes

Operation	Previous RTC	Date	Current RTC	Date
Stokes Valley	12.1% ($\pm 4.0\%$)*	Dec 2002	3.3% ($\pm 2.0\%$)	Sep 2003
Hutt WCA	23% ($\pm 6.6\%$)*	Jan 2001	0.5% ($\pm 0.5\%$)	Nov 2003
Haywards Reserve	7.8% ($+7.7\%$)*	Nov 2002	8.0% ($\pm 3.5\%$)*	Jun 2004
East Harbour	5.7% ($\pm 1.7\%$)*	Sep 2002	1.5 ($\pm 1.0\%$)	Aug 2004

During 2003/04, an alternative method using wax tags to detect possums was initiated on a trial basis. The method looks promising, so will be used as an alternative to RTC monitoring where it is untenable to use leghold traps (e.g. in the vicinity of urban areas). Wax tag results can be expressed as a Tag Station Index (TSI) or a Possum Activity Index (PAI). In our analysis the TSI is expressed as the percentage of wax tag stations interfered by possums, over a line of four stations. The PAI is expressed as the number of tags within stations affected by possums divided over all stations affected, so does not have a confidence level with it. A high TSI and low PAI shows a high prevalence of possums. Figures with an Asterisk (*) are RTC statistics.

Table 5: Wax Tag Monitoring Outcomes for Pest Animal Programmes

Operation	Previous TSI / PAI (or RTC)	Date	Current TSI / PAI	Date
Miramar Peninsula	32.8% ($\pm 7.4\%$) *	Jan 2001	No possums detected (150 stations)	Feb 2004
Houghton Bay	10.0% ($\pm 27.8\%$) / 1	Sept 2003	No possum detected (5 lines of 4 stations)	Nov 2003
Happy Valley	15.0% ($\pm 27.8\%$) / 1	Sept 2003	15.0% ($\pm 27.8\%$)/2	Jun 2004
Mt Victoria	22.7% ($\pm 21.2\%$) *	May 2002	No possum detected (4 lines 4 wax stations) (4 lines RTC method)	Aug 2004

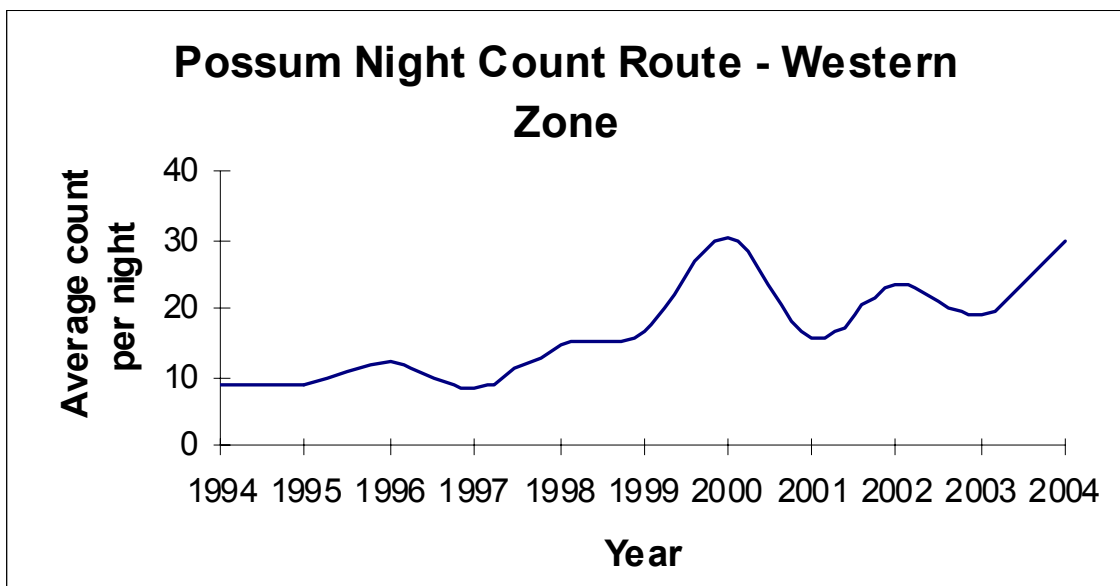
27. Trend Monitoring of Rabbits and Possums

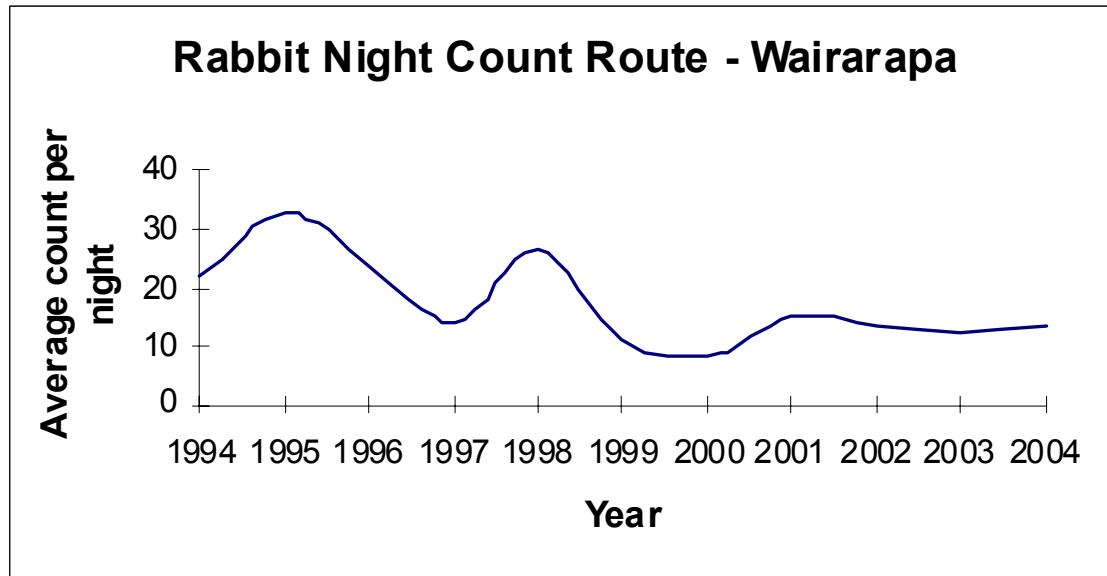
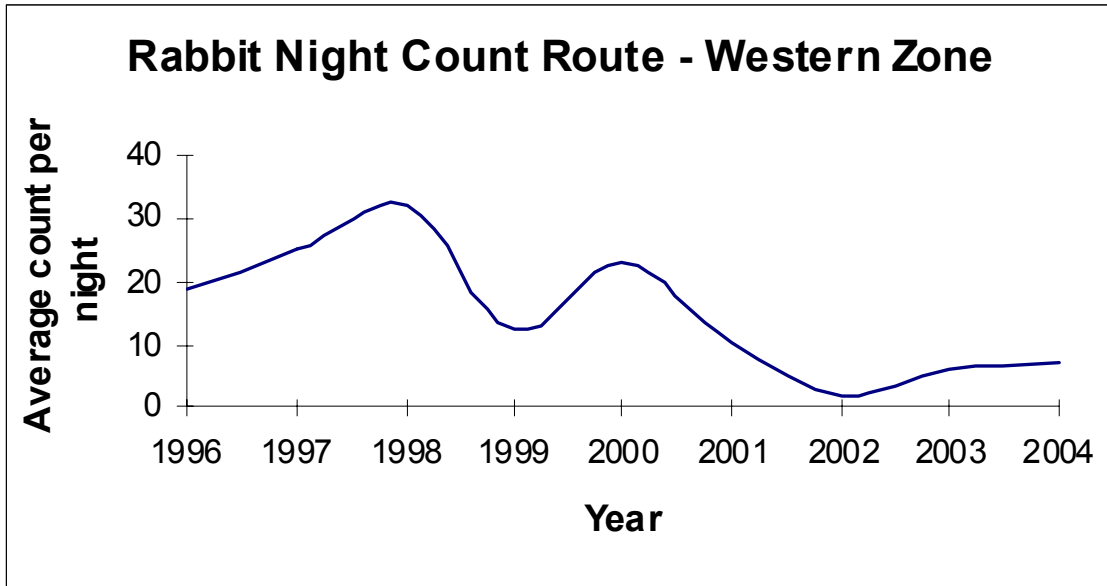
27.1 Introduction

Permanent night count lines for rabbits and possums were introduced in 1994 to monitor the fluctuations of these feral animals 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.

27.2 Results to 2004

Graphs of the night count trends are shown below. The possum counts have climbed to previous record heights. Rabbit counts continue to be low, and seem to be stable.





28. Feral Cats

Staff are facing an ongoing battle with the control of feral cats at various KNEMA's around the region. The feral cat situation is far worse than first thought. Feral cats are a major contributor to declining biodiversity values.

The following are samples from three operations where feral cat trapping has been established and checked on a monthly basis.

1. **Morisons Bush** had 217 permanent trap sites established over 2,700 hectares in February 2003. To date there has been 155 cats trapped. Prior to this, short trapping operations were carried out annually. In 2000/01 81 cats were trapped. In 2002/03 there were 77 cats trapped, making a combined total of 313.
2. **Sulphur Wells** had 60 permanent trap sites established over 1,580 hectares 12 months ago. Over that period, 23 feral cats have been trapped.
3. **Mt Bruce (Pukaha Buffer)** had 243 permanent trap sites established over 2,223 hectares in September 2002. To date there has been 82 feral cats trapped.

Staff are in no doubt that the cat problem is exacerbated by the practice of cat dumping. The practice increases the stray cat population, which in turn increases the threat to native wildlife.

Feral cats live in a wide range of habitats, including sand dunes, pasture, scrub, exotic and native forests. Of all the introduced predators, the feral cat is probably second only to the stoat in terms of threat levels to native wildlife.

In January 2004, local Crofton Downs (Wellington City) residents, contacted Greater Wellington about a growing population of malnourished and diseased feral cats. The cats were found to be on the edge of an urban settlement that borders onto Huntleigh Park KNE. Possums and rodents have been controlled in this KNE over the last three years.

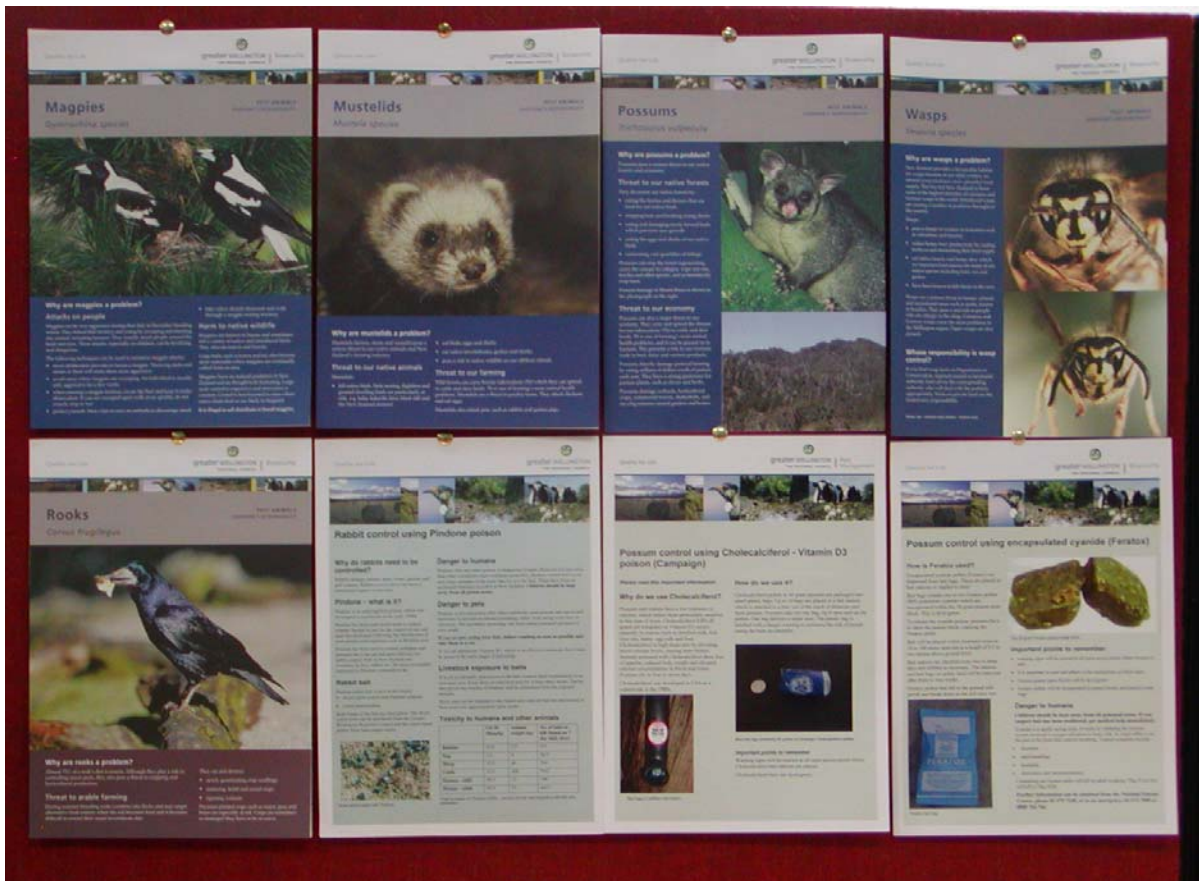
Greater Wellington carried out a feral cat control operation using cage traps. This operation was a success with 54 cats removed over a nine day period. It also brought together a number of organisations including Wellington City Council, the Cats Protection League, SPCA, DoC and Forest and Bird. Local residents were involved in the capture of the cats and were kept informed throughout the operation.

This information was released to the media in an effort to raise awareness of the damage feral cats do to the environment. It was also used to assist with determining the extent of the feral cat problem in the Wellington region.

It is the intention of the Biosecurity Department to develop a strategy in conjunction with participating branches of the SPCA, selected TLA's and private veterinarians, to better manage the adverse affects of feral and unwanted cats on native fauna.

29. Publications

The Biosecurity publication material is currently being updated in response to Greater Wellington's re-branding process. There is a range of pest animal brochures, toxin fact sheets and display material available for use by the public. This process will be completed over the next 12 months.



30. Performance Targets and Measures

30.1 Containment Pest – Rooks

Aim: *To manage rooks as a Containment Category pest to levels that protect economic levels at a cost of \$45,000.*

Annual cost: The cost of rook management (surveys, research, compliance, education) for the region was \$33,100.

30.1.1 Means of Achievement

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

Actual Performance

In the 2003/04 year, aerial nest baiting was carried out at 22 breeding rookeries within the region, one of which was in the Western Zone. The 22 rookeries represented all known breeding rookeries that were on our database. A total of 213 nests were baited in the region. Fresh, but unused nests were baited as a trial. These nests were poisoned with spare bait as it was hoped to find a way to target the non-breeding birds in the population. Post poisoning inspections confirmed the presence of some dead juvenile birds. The number of nests treated this year is up on last year. This is not due to an increase in the population but a change towards targeting non-breeding nests.

There were no ground baiting operations required. This is the first time in many years that there was no need to respond to calls about rooks damaging crops. The nest baiting programme appears to be achieving the desired results.

30.1.2 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 2003/04 year, the annual nest count census was carried out at all known locations in the region, including old or historical sites and in areas of potential habitat. Only aerial surveys were utilised. The ground surveying of breeding rookeries has now been stopped. Ground surveys cannot tell the status of a rookery (state of incubation). This state of incubation is important as it assists with planning the time to carry out control.

The survey identified one new rookery and five that have been reactivated. The number of nests treated are used to estimate the regions total rook population. With this calculation, one nest is equivalent to three and a half rooks.

Staff contacted landowners in areas where rooks had previously been sighted.

A comprehensive rook awareness article was published in the Wairarapa Midweek newspaper to raise the profile of rooks as a pest. A plea was made for all rookeries or sightings of rooks to be reported to Greater Wellington. There were six calls received from the public notifying us of new rookeries.

30.1.3 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.

30.1.4 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 and at libraries throughout the region. Information about rooks was freely available to the public.

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

Landowners with rookeries are constantly reminded that rooks are both shy and cunning and that poorly conducted attempts 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.

30.1.5 Means of Achievement

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

Actual Performance

Horizons Regional Council was actively involved with aerial nest baiting in the 2003/04 year. Both Greater Wellington 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.

Greater Wellington staff met with Horizons staff to discuss the forthcoming season's control. The purpose of the meeting was to co-ordinate the control work along the boundary

30.1.6 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.

30.2 Suppression Pest – Rabbits

Aim: *To minimise the adverse impacts of feral rabbits throughout the region at a cost of \$75,000.*

Annual cost: The cost of rabbit management (surveys, research, compliance, education) for the region was \$55,000.

30.2.1 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. Four 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 Greater Wellington intervention is required. Intervention is required when levels are assessed at Level 5 and over.

Surveillance on both rivers was carried out with the highest recorded level being Level 3, therefore no Greater Wellington intervention was deemed necessary.

Sixty-six rabbit prone properties were also surveyed, 17 in the Wairarapa and 49 in the Kapiti Coast District.

As with the previous year small rabbit poisoning operations were carried out at Riversdale, Castlepoint and Whangaimoana beaches. These operations were carried out at no direct cost to the occupier.

30.2.2 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.

30.2.3 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.

30.2.4 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.

Greater Wellington 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. The Rural Services Newsletter also provided information on rabbit issues.

30.3 Site Led Pest – Magpies

Aim: *To manage magpies to minimise adverse environmental and human health impacts in the Wellington region at a cost of \$50,000.*

Annual cost: The cost of magpie management to minimise adverse environmental and health impacts for the region was \$24,700.

30.3.1 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 Greater Wellington 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 seven urgent complaints logged regarding attacking magpies with one attended to after the 10 day deadline.

30.3.2 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 seventy magpie nuisance calls were received. Ninety-eight of these were to Wairarapa staff and seventy-two to the Upper Hutt office. Nine percent of calls in the Wairarapa and sixty-five percent of calls in the Western Zone had response times of over 10 days. All requests for information or assistance from the public is entered onto Greater Wellington'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.

30.4 Site Led – Key Native Ecosystem Management

Aim: To protect indigenous biodiversity in a comprehensive selection of Key Native Ecosystems at a cost of \$428,000.

Annual cost: The cost to achieve a measurable improvement in the ecological health and diversity of Key Native Ecosystems was \$382,000.

30.4.1 Means of Achievement

Maintain holistic management in existing KNE areas.

Actual Performance

All Key Native Ecosystem Management Areas (KNEMA's) that have had possum control undertaken by Greater Wellington are being maintained. Most are maintained on a three monthly cycle by Greater Wellington staff or service providers. A few areas in the Wellington City town belt are maintained on a two to three year cycle, as possum numbers are very low with minimal sign of reinvasion. Three service providers have been contracted to maintain KNEMAs in Wellington, Porirua and the Kapiti Coast on three monthly bait station fills. An external contractor provides the service delivery for the Waihora KNE in southern Wairarapa.

30.4.2 Means of Achievement

Prioritise and select additional Key Native Ecosystems by July 2004.

Actual Performance

Whilst a prioritisation process has been carried out, some sites need to be 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 expected to be remnant areas of native bush or wetlands that have been proposed or accepted for legal protection by covenant. Greater Wellington is working with dune and coastal escarpment care groups as part of the Take Care programme. It is envisaged a number of these will attain KNE status.

30.4.3 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 this year. Over the next five years further top priority sites in the Western Zone will be selected for integrated management (plant and animal pests).

30.4.4 Means of Achievement

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

Actual Performance

All of the KNEMA's treated during 2003/04 were legally protected (Territorial Authority Reserves, QE II Covenants, or at the very least, contained legally protected sites within the management area).

30.4.5 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 37, Section 26 'Ecological Outcomes'**. This section covers both outcome and performance monitoring.*

30.4.6 Means of Achievement

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 29, Section 15 'Volunteer and Care Groups'**.*

30.4.7 Means of Achievement

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

Actual Performance

Greater Wellington has sought to develop 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 Greater Wellington 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) was prepared and agreed 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 they own minimal KNE land.

30.4.8 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 the various ecological based objectives of a number of care groups. This has been implemented at several sites for example:

- *East Harbour KNEMA* - *MIRO group*
- *Waimeha Lagoon KNEMA* - *Waimeha Restoration Trust*
- *Fensham Reserve KNEMA* - *Forest and Bird*

30.4.9 Means of Achievement

Manage **external pressures** that are inconsistent with Key Native Ecosystem Management objectives.

Actual Performance

This is an area that relies to a large extent on awareness, advice and education. Some examples are ensuring that livestock do not have an opportunity to enter special sites, that the sites do not become a repository for rubbish, that the likelihood of fire is nullified, and that the sampling of rare or threatened native species (without permission) does not occur.

30.4.10 Means of Achievement

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

Actual Performance

Some positive progress has been made towards this means of achievement. Greater Wellington staff have developed a good understanding of the distribution of pest fish from literature sourced from the Department of Conservation, 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 Department of Conservation, NZ Fish and Game Council and Greater Wellington 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 noxious fish and plants. The pest fish of concern to Greater Wellington are koi carp, gambusia, rudd, brown bullhead catfish and goldfish.

30.4.11 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. Greater Wellington 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 Greater Wellington divisions involved in biodiversity management are being produced.

30.5 Site Led – Mt Bruce (Pukaha) Predator Buffer

Aim: *Complement the native flora and fauna restoration programme undertaken by the Department of Conservation, Rangitaane o Wairarapa and the National Wildlife Trust at the Mt Bruce Scenic Reserve at a cost of \$25,000.*

Annual cost: The cost for the predator control programme within the buffer for the 2003/04 financial year was \$27,900.

The main objective of this project is to reduce and maintain all predator numbers to very low levels and to then restrict or negate completely any reinfestation into the Mt Bruce Reserve. These predators include possums, cats, ferrets, stoats, weasels, hedgehogs, ship rats and Norway rats. For the period 1 July 2003 to 30 June 2004 a total of 34 cats, 17 ferrets, 4 stoats, 1 weasel, 167 rats and 308 hedgehogs were destroyed. Possums, rats and mice were also destroyed, but not physically counted, through the use of 222 kilograms of brodifacoum pellet bait and 384 bromadiolone rodent blocks.

A secondary objective is to encourage as many landowners as possible to carry out predator control themselves or at least some part of it. Approximately 20% of the 2,223 hectare buffer is controlled by occupiers.

31. Future Pressures

Greater Wellington Regional Council has continued to accept the long term responsibility to manage pest animals in the region and has established a robust infrastructure to manage that responsibility. The responsibility is wider than just controlling pests and includes helping landowners and care groups to deliver their goals in their quest to safeguard and improve the environment. It includes working in close liaison with eight territorial authorities, Department of Conservation, Queen Elizabeth II Trust, iwi and many others, all sharing the same vision of collectively protecting and enhancing our region.

However, more may be expected of Regional Councils in maintaining internal biosecurity under the recently released national Biosecurity Strategy (August 2003). Greater Wellington has not yet been requested to assist with the urgent mitigation of an unwanted organism in the region.

However, this involvement may well be required in the future as attested by the incursion of Southern Salt Marsh mosquitoes that occurred in Marlborough in May 2004. This resulted in a significant amount of enhanced surveillance at identified high-risk sites within the Wairarapa. Thankfully, the specimens of mosquito larvae and adults from the Wairarapa were found to be common in New Zealand and presented no biosecurity threat.

32. Financial Summary

The year end result for the Pest Animals Section was a favourable variance of \$15,100 (1.3%).

Revenue was up by \$23,900 (2.0%) and expenditure up by \$8,700 (0.7%).

Income from TLA's for joint venture KNEMA was \$65,170 against a budget of \$65,000.

Internal revenue of \$191,900 was received against a budget of \$173,000. Most of the internal revenue was for possum control works contracted to the Greater Wellington Parks & Forests Department with \$26,000 accruing from specialist surveying services to the Environment Co-ordination and Planning and Resources Departments.

Financial Summary	
	\$ (000's)
Rates and Levies	918.3
External Revenue	82.0
Internal Revenue	191.9

Total Operating Revenue	1,192.2
Total Direct Expenditure	1,001.3
Divisional / Corporate Overheads	200.8

Total Operating Expenditure	1,202.1
Operating deficit (budget deficit 25.0)	9.9

33. Conclusion

The 2003 – 2004 Operational Plan was successfully implemented.

The end of year financial outcome was pleasing, given the extra costs incurred through the rebranding process of the new Greater Wellington Regional Council. There was significant unbudgeted financial burden for the Pest Animals Section requiring the updating of promotional, advice and risk management publications and signage.

The budget balance was achieved by restricting operational field costs to 84% of target and by an increase in income through Pest Animals staff doing ecological surveys for other departments.

The major thrust of the work plan is now directed to environmental projects. Less than 15% of costs are allocated to agricultural projects. This is a direct result of the large scale Bovine Tb control programmes that cover most of the region, the continuing low rabbit densities through the rabbit calicivirus and low rook numbers. Possums, rabbits and rooks are only having a minimal adverse impact on the agricultural industry.

The major swing to the use of external contracting will be challenging. The contracting industry has to respond to sensitive environmental projects and will have to provide and develop staff to be able to do this work proficiently. Much of this work is required in high use public areas within or close to metropolitan and other urban areas. This demands a high degree of risk management and the retention of public confidence.

The now common sightings of tui and kereru in increasing numbers throughout the region has been a major talking point. The public are enthusiastic about seeing and experiencing native wildlife. The ongoing control of pest species has proved to be an invaluable investment in the future of the Wellington ecological region.

Continued focus on the performance targets and measures of the Regional Pest Management Strategy will help turn the tide of degradation by pest animals and plants. Supporting biodiversity and ecological health is a major component of achieving Greater Wellington's objective of quality for life.