Quality for Life

greater WELLINGTON REGIONAL COUNCIL | Biosecurity

Wairarapa Key Native Ecosystem Management Areas (KNEMA)

Predator control reports for 2007/08 for:

Fensham Reserve, Lake Nganoke, Lake Pounui, Linkwood Bush, Morisons Bush, Pikes Lagoon, Solway Park Bush, Sulphur Wells, Tauherenikau Bush, Taumata Oxbow, Tora Coast Bush, Waihora and Waingawa Swamp.

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Fensham Reserve

1. Executive summary

Fensham Reserve is approximately 29 hectares of regenerating native bush. It is sited on rolling hill country, running off to low lying wetlands on the western boundary.

This site is administered by the Forest and Bird Society and Friends of Fensham. They have undertaken pest plant and some pest animal control. They have enhanced this site by way of an attractive picnic area and well formed track systems to cope with the increasing number of walkers and groups from schools etc.

The main access points to Fensham Reserve are the Haringa-Cobden Road intersection, and off Upper Belvedere Road.

Possum control commenced in 1998 and has been ongoing. Methods of control in the early days started with trapping and bait stations. To date, Forest and Bird members have continued with monthly refilling of Kilmore bait stations using wax coated brodifacoum possum pellets.

Predator control for mustelids, feral cats, rats and hedgehogs commenced in February 2004. Initially it was thought that the clearing and re-setting of predator traps could be managed by Forest and Bird members. However due to the difficulty they experienced in setting the predator traps, Greater Wellington staff carried out this work.

1.1 For Greater Wellington

- As required, supply the Forest and Bird Society members with bait and materials.
- Keep the Forest and Bird Society informed about existing and new requirements laid down by Choice Health and the Carterton District Council.
- Inform Forest and Bird members of any incidences or interference with bait, bait stations, predator traps or signage.
- Offer Forest and Bird members any assistance or training they may require.

1.2 For Forest and Bird Society

- As required, maintain all bait stations and replace damaged ones.
- Clean out bait stations and replace with fresh bait on a regular basis.
- Check on all warning signs and information posters and replace as required.

- Inform Greater Wellington of any incidences or interference involving toxic bait, bait stations, traps or signage.

2. Objectives

- To maintain the possum population to a level below a 5% Residual Trap Catch (RTC) and encourage native bush regeneration and seed dispersal to outlying areas.

- Possum monitoring was carried out in March 2006. Three trap lines consisting of 10 traps each over three nights resulted in no possums being caught.

- To reduce predator numbers, resulting in a build up of native birds.

3. Operational area

Approximately 29 hectares of regenerating/remnant native bush, sited west of Carterton on Cobden Road.

Altitude ranges from 110 metres around the Upper Belvedere entrance, rising up to the main high point at 170 metres.

On the western boundary of this forest remnant is a wetland area. Mudfish discovered several years ago have added to its importance. Forest and Bird members have carried out pest plant control and this year have completed a major planting and revegetation programme.

The wetlands project has been a learning curve for the Forest and Bird members. Their early plantings of mānuka, kahikatea and some species of coprosma's literally drowned due to high water levels. The water course through the wetland has now been cleaned out, water levels controlled, and carex have been planted right the way along the drain. This has resulted in the area drying out and the plantings are now thriving.

With the exclusion of stock, and the continuing pest animal and pest plant control, the understory is regenerating well. Fensham Reserve is a fine example of remnant lowland forest on a flood plain which contrasts with the regenerating and older areas.

4. History

An assessment of this site was carried out in December 1998 and received a priority score of 6.

Initially Fensham Reserve was worked as part of the Carterton West bovine Tb operation. Past records for this possum control programme were very basic, but records show work commenced in 1992 and various methods of control were used in and around the Reserve.

In 1999 possum work started as part of the KNEMA programme. This included using Timms traps and Brodifacoum possum pellets fed through Kilmore bait stations. Greater Wellington supplied materials and Forest and Bird Society members carried out the control work.

5. Operational procedures

During the 2007/08 financial year, possum and predator control work was carried out much the same as in previous years. Due to weathering and deterioration, information posters and warning signs were replaced.

As in the previous year, 20kg of 20pp waxed Brodifacoum possum pellets were fed through Kilmore bait stations. These bait stations were serviced by Forest and Bird Society members.

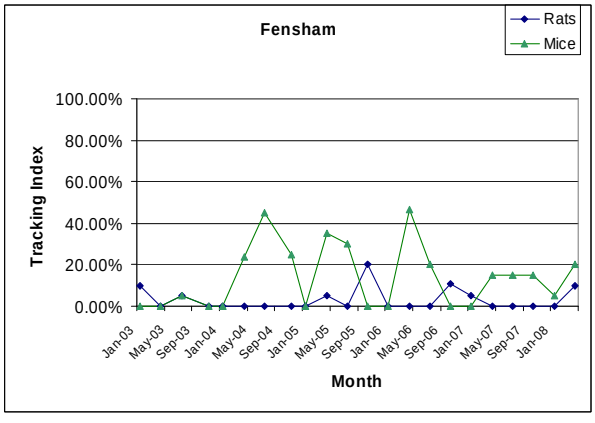
Predator control for 2007/08 was carried out using No. 4 Fenn traps in conjunction with Philproof tunnels. This work was carried out by Greater Wellington staff due to the difficulty Forest and Bird members experienced setting this style of trap. Their volunteer numbers have fallen away, and the remaining group are quite aged.

There has been a problem with trap interference and removal of traps by a member of the public over the past 12 months. Hopefully this has now been sorted by shifting trap sites away from the walking tracks.

No rabbit control was carried out this year due to lack of seedling damage and low rabbit numbers. In previous years while planting was being carried out pindone carrot was laid to prevent damage to new plantings.

6. Operational results

Greater Wellington Monitoring and Investigations (M&I) staff carry out regular monitoring using inkpads and tunnels to determine rat densities.



Greater Wellington BioWorks Unit have just completed possum control work around the perimeter of Fensham Reserve and were happy to report no possums were trapped.

Trapping for predators at this Reserve commenced in February 2004. There are now 15 trap sites scattered throughout the bush and wetlands area. It was reported early in 2008 that feral cats had been sighted near the picnic area. Timms traps were set and baited with offal and these cats were successfully trapped.

Species trapped and results for 2007/08:

Cats	2
Rats	5
Hedgehogs	16
Rabbits	2
Stoat	1

7. Discussion

With ongoing possum control being carried out by the Greater Wellington BioWorks Unit and regular bait station maintenance by Forest and Bird members, possum numbers should be kept to low numbers. Also Fensham Reserve falls within the Carterton West/Holdsworth operation. It is however, recommended that predator control should be ongoing to maintain a healthy balance of birdlife and regeneration of native species within the Reserve. Coupled with an ongoing planting programme by the Forest and Bird members, regeneration is well on the way.

As funding becomes available it would be worthwhile programming some pest plant control to be carried out, as old man's beard will become a problem if left to invade this native remnant.

8. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	145.06
Labour	899.00
Material/supplies	80.36
Total:	**1,124.42**

Lake Nganoke

9. Executive summary

This is a further updated report for Lake Nganoke for the year 2007/08. It is a follow on report from the report prepared in 2006/07.

Predator control was carried out for only six months of the year. Other work activities and the owners request not to service the equipment during the months of May and June were the main reasons for this operation not receiving the full 12 monthly maintenance rounds.

10. Recommendations

- Continue to carry on with integrated predator control at Lake Nganoke and service the sites on a monthly basis or as time permits.

11. Objective

- To reduce predator populations to a level that improves and enhances the management areas biodiversity values.

12. Operational area

The operational area remains unchanged and still covers the same six hectares of Lake Nganoke and the adjacent Turanganui wetland.

12.1 Traps and bait stations

Fenn traps and Sentry bait stations continue to be used at Lake Nganoke, but many were changed during the year as they had exceeded their use-by dates. Prolonged submerged periods at times of high water had rusted some Fenns, making then unsuitable for continued use. Bait stations were breaking down due to over exposure to the suns ultra violet rays.

There are still 16 control sites in place around both wetland areas.

13. Operational results

Operational results are listed on a monthly basis as follows and are valid until the end of June 2008.

Month	Rat	Hedgehog	Cat	Mice
July	0	12	2	0
August	0	4	1	0
November	1	11	0	1
January	2	15	1	0
March	3	8	2	0
April	0	2	1	0
Total	**6**	**52**	**7**	**1**

Total amount of Pestoff used was 4kg.

14. The future

Integrated predator control will go ahead once more during the 2008/09 year with the control methods remaining unchanged.

15. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	596.07
Labour	744.00
Material/supplies	192.64
Total:	**1,532.71**

Lake Pounui

16. Executive summary

This is a further updated report for Lake Pounui for the year 2007/08. It is a follow on report from the report prepared in 2006/07.

Predator control was a bit more intensive during the last financial year, with 10 monthly visits made to service the equipment.

17. Recommendations

- Continue to undertake long term integrated predator control at Lake Pounui with site checks to be carried out on a monthly basis when time is available.

- Should funding be available consider expanding this operation out towards the old original operational boundary to once again include the (Dog Hill) KNE. This extension could possibly be tendered out to a service provider if it was approved to go ahead.

- Continue to monitor rat and invertebrate dynamics in the Lake Pounui catchment as per the recommendations of Greater Wellington.

- Continue to carry out point distance monitoring of native bird species at set times during the year as recommended by Greater Wellington.

18. Objectives

- To maintain possum populations at less than 5% RTC.

- To reduce predator populations to low levels therefore improving the biodiversity values of the Pounui Lake and its surrounding catchment.

19. Operational area

The operational area remains unchanged at approximately 480 hectares with emphasis on protecting the lakeshore margins and the Battery Stream. There are now 66 control sites in place and the control techniques remain unchanged from previous years.

Most feral cats trapped are caught out on the bush/pasture margins.

During the 2005/06 year there was an Animal Health Board funded aerial 1080 possum control maintenance operation carried out through the Rimutaka Range which also extended into the back of the Lake Pounui catchment. The front section of the catchment was treated by hand with bait bags containing 1080 pellets which were stapled to trees.

This operation has further reduced the low possum population that existed within the catchment and it will have reduced rat densities to low levels also.

Formal possum monitoring carried out after the aerial gave a post RTC of 7% over the operational area.

No further Animal Health Board funded work was carried out at Lake Pounui in 2007/08.

20. Operational results

Below are the results of monthly trap checks:

Month	Rat	Hedgehog	Weasel	Cat	Ferret	Possum	Rabbit	Magpie	Stoat
July	12	1	1	4	2	0	0	0	1
August	11	0	1	2	1	0	0	0	1
September	13	0	1	0	0	1	0	0	0
October	15	9	2	0	0	0	1	0	0
November	11	1	0	0	0	0	0	0	0
December	9	4	0	0	0	0	2	0	0
January	11	7	0	3	0	0	0	0	0
March	10	11	0	1	2	0	0	0	1
May	7	15	0	3	1	0	0	1	0
June	12	6	1	3	0	0	0	0	6
Total	**111**	**54**	**6**	**16**	**6**	**1**	**3**	**1**	**9**

Total amount of Pestoff used was 80kg.

20.1 Monitoring

During February and March 2008 M&I carried out bird count monitoring on transect lines within part of Lake Pounui catchment. There was no invertebrate monitoring carried out as this work has been dropped from the monitoring programme.

21. Discussion

As of preparing this report the Pounui farm and lake are still for sale. There has been a lot of fencing improvements carried out over the last year. The presence of feral pigs is still an issue and this will be ongoing.

22. The future

Integrated predator control is planned to continue for the 2008/09 year. The bird count monitoring lines will be recounted next summer also.

23. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	2,763.07
Labour	4,247.00
Material/supplies	2,357.73
Total:	**9,367.80**

Linkwood Bush

24. Executive summary

Linkwood Bush consists of a small bush remnant on a steep sheltered terrace. The dominant plant species are kanuka, kowhai, totara, lacebark, maire and cabbage tree. The size of this native remnant is approximately 10 hectares.

Possum control work started in September 1998 and has been ongoing ever since. Bait stations and brodifacoum pellets have been the only method used by Greater Wellington.

Predator control using No. 6 Fenn traps in conjunction with single Philproof tunnels and Timms traps commenced in September 2003.

25. Recommendations

- As long as funding is made available, filling of the bait stations should continue on a regular basis. Derek Dale, (YMCA Conservation Corp Supervisor), is willing to carry out the work for the 2008/09 year, with Greater Wellington carrying out the predator work.

26. Objectives

- To reduce possum populations to a level of 5% RTC or below. This will allow for regeneration of native bush vital to produce seed for dispersal by native birds.

- To reduce all of the predator species which can have an adverse effect on the native bird population.

27. Operational area

This consists of regenerating bush having been originally logged and cleared. The site is now fully fenced and stock proof, with the original area almost being doubled in size. Several years back grazing of stock, in particular cattle, were damaging mature trees and had bared back the understory. With the new improved fencing, Linkwood Bush is now under a covenant.

Native birds observed during this operation were tui, bellbird, fantail, morepork, whitehead and the New Zealand falcon.

Previous methods of possum control at this site have included cyanide, phosphorus in bait stations, and trapping. Also a limited amount of night shooting as been carried out.

Female morepork

Linkwood Bush is situated between the entrance to Lagoon Hills Station and the Tuturumuri settlement alongside White Rock Road.

Several years back quite a few small mistletoe plants *(Illeostylus micranthas)* were discovered growing on a decaying coprosma. Unfortunately this was broken off at ground level by cattle pushing into the block due to substandard fencing. Hopefully other mistletoe plants exist within the block.

28. History

The Linkwood Bush site was assessed in January 1997and received a regional priority score of 4. At this stage the mistletoe plants had not been discovered. If this site were to be reassessed now, it would probably score much higher. It would have to be assumed there are other plants within this bush remnant.

29. Operational procedures

Kilmore and Sentry bait stations have been the only form of possum control within this site. This work has been carried out by the YMCA Conservation Corp using 50p and 20pp waxed brodifacoum possum pellets.

Predator control within this site has been carried out by Greater Wellington staff as the young adults with the Conservation Corp have difficulty setting the type of predator traps Greater Wellington uses.

Possum numbers should be down to low numbers as control work in the surrounding areas has been carried out by possum contractors.

30. Operational results

No pre-initial monitoring data is available for Linkwood Bush.

Post initial monitoring carried out during May 2001 gave an RTC of 2.2% (95% $^{+}$/- CI 13-8). This sort of result was to be expected considering there was no refilling of bait stations for a period of three months.

A post initial monitor carried out during 1998 gave an RTC of 6.8%. This result was due to constant maintenance of the bait stations.

A pre-maintenance possum monitoring line laid in May 2005 alongside the Linkwood Bush site resulted in no possums being trapped. This would have indicated possum numbers even then were at low levels.

Species trapped and results for 2007/08:

Cats	5
Ferrets	2
Rats	4
Hedgehogs	9
Magpie	1
Rabbits	3

31. Discussion

31.1 Endangered plants

With stock now completely excluded from the Linkwood Bush site, regeneration of many native species is now evident. Cattle had previously damaged much of the understory and destroyed the host species of the mistletoe plants.

31.2 Possum reinvasion

With the continuing possum control being carried out on the adjacent farmland, reinvasion of possums into the Linkwood Bush site should be minimised.

31.3 Predator control

It was initially envisaged that the YMCA Conservation Corp students would carry out this work. However, due to the difficulty with the setting of the Fenn traps and a possible health and safety issue, Greater Wellington staff have completed the work.

Permanent sites consisting of a Sentry bait station, a Timms trap and a No. 4 Fenn trap in conjunction with a Philproof tunnel have been set up around the boundary fence for ease of access. The preferred bait for the predator traps is beef fat.

31.4 Legal protection

As Linkwood Bush is fenced and stock proof, it now has a QEII covenant in place ensuring this has the necessary protection vital for its future.

32. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	233.02
Labour	883.50
Material/supplies	122.37
Total:	**1,238.89**

Morisons Bush

33. Executive summary

This is an updated report for the Morisons Bush section of the Wairarapa KNE operation for 2007/08.

The operational area remains the same as this is a maintenance programme which has permanent bait station and trap sites. These are serviced as time and resources allow.

Morisons Bush Homestead

34. Recommendations

- To reduce and maintain all predator numbers to low levels, allowing native bird life to increase and disperse native plant seed into riparian and wasteland areas.

- Predators for control should include feral cat, ferret, stoat, weasel, possum, hedgehog, Norway rat and ship rat. Control should be continuous as some of these species can increase in numbers very quickly.

- Pest plants should be monitored and controlled in key areas throughout this KNE. Where possible, landowners should be encouraged to enhance natural areas and Greater Wellington supply advice on what species to plant and protect. This should include remnant native bush, wetlands and riparian areas.

- Enhancement could also improve by Greater Wellington providing advice on covenanting more important sites.

35. Objectives

- To enhance existing remnant native bush and bird life and promote growth and population expansion.

- Where possible encourage landowners to implement self help programmes for total pest animal and pest plant control. Greater Wellington should supply equipment and bait.

- To encourage as many landowners as possible to legally protect areas of native bush or wetland by supplying information and advice.

36. Operational area

This area is approximately 2,700 hectares. The land is used for cropping, with sheep, beef and dairy the main types of farming. There is also a large orchard within the operational area. In the last few years there has been a noticeable

change in the type of crops grown here. Tony Phelps, Richard Kershaw and Ian Field have had good success with squash, pumpkin, red beet, onion, peas and various clovers.

37. Operational procedures

The methods used to control the seven predator species are Timms and No. 4 Fenn traps baited with beef fat and offal, and Sentry bait stations filled with brodifacoum pellets.

The three control methods are all placed together which is called a site. A total of 217 sites are placed throughout this job targeting likely habitat. These sites were serviced throughout the year as time and resources would allow.

The total amount of 20pp possum pellets used to service the bait stations in 2007/08 was 70kg. However, one 8kg pail of rodent blocks was given away to landowners for self help work within this operational area.

38. Operational results

Post monitoring was carried out after the Greater Wellington BioWorks Unit treated Morisons Bush as part of the Greytown Flats operation. This operation commenced on 22 August 2005 and was completed on 21 October 2005. No monitoring has been carried out since then. The results were as follows:

Cats	52
Ferrets	12
Rats	137
Hedgehogs	186
Weasels	2
Rabbits	2

Overall tallies since this operation first commenced:

Cats	336
Ferrets	76
Rats	936
Hedgehogs	1,236
Weasels	4
Rabbits	2

39. Discussion

Cat numbers within this operation are still a major problem. For any benefit to the ecosystem, this area must have continued control throughout the year. Any new landowner moving into the area are spoken to by Greater Wellington staff and encouraged to make the environment “cat free”. They are warned that cats are targeted as part of Greater Wellington’s predator control programme. However, it is thought that “cat dumping” is the main problem, with the popular vicinity being the camping/swimming area.

40. Key Native Ecosystem Management Area

This whole KNEMA forms a very valuable wild life corridor and a mosaic of disjointed pieces of native bush/trees that provide a food source for bird life. Some of these fragments are old and are continually damaged by stock and wind, which only increases their value.

Now this operation has been underway for a number of years the most noticeable change is the large increase in waterfowl and high numbers of quail on some sections of the river and pasture boundaries.

Old man's beard control has been carried out in 2006 along the river boundary between Ahikouka north of Greytown to Glen Morven Road at Morisons Bush.

41. Flooding

This whole area was hit by a severe flood in February 2004. Each year since this flood there have been more significant floods, and added to this the loss of gear through machinery and theft, silting up of traps, unavailability of being able to access some sites for weeks afterwards have meant this operation has become high maintenance. Traps in particular require cleaning and de-silting as it only takes a fine coating of river silt to make them useless and the bait spoiled. Where possible, most traps are attached to fencing wires or trees.

42. QEII Covenant

A number of landowners have been approached about placing a QEII covenant over some pieces of remnant bush. This has had some success as two of the landowners have been referred to a QE II representative.

Richard Kershaw has now completed fencing a section of the escarpment on his property at Moiki. This piece of bush has now been granted a covenant.

43. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	4,396.96
Labour	9,935.50
Material/supplies	3,476.75
Total:	**17,809.21**

Pikes Lagoon

44. Executive summary

This is a further updated report for Pikes Lagoon for the year 2007/08. It is a follow on report from the report prepared in 2006/07.

45. Operational area

The Pikes Lagoon predator control operational area remains the same at approximately 152 hectares. This includes all of the wetlands but includes the flat fertile land from the terrace to the margins of the Ruamahanga River. Ownership remains unchanged with the wetlands owned jointly by Bruce McKenzie and John McKinstry and the farmed dairy runoff owned by Alan Renal.

Some of the original predator control sites were removed and new sites established this past year as the property belonging to Alan has undergone a major transformation with areas of crack willow removed and hollows filled in to accommodate a central pivot irrigator that is now in place.

46. Recommendations

- Continue to undertake long term integrated predator control at Pikes Lagoon with site checks to be carried out monthly or as often as time permits.

- Where possible through the Wetlands Incentive Scheme, continue to offer support and advice with any future wetland enhancement projects.

47. Objectives

- To maintain possum populations at less than 5% RTC.

- To reduce predator populations to low levels therefore improving the biodiversity values of Pikes Lagoon and its surrounding habitat.

48. Operational procedures

The operational procedures remain unchanged from 2006/07 with a combination of Sentry bait stations, Pestoff possum pellets, Timms and Fenn traps beneath Philproof tunnels used to target all predators.

49. Operational results

Operational results are listed on a monthly basis as follows and are valid until the end of June 2008.

Month	Rat	Hedgehog	Rabbit	Cat	Ferret
July	5	6	0	0	1
September	3	5	1	0	1
October	3	3	0	2	0
November	4	6	0	0	2
January	1	3	0	1	0
March	7	8	0	1	0
May	1	7	0	2	0
June	3	8	0	2	0
Total	**27**	**46**	**1**	**8**	**4**

50. Crack willow control

During the 2006/07 year, there was a further contract let to undertake a second year of crack willow control at Pikes Lagoon. It doesn't appear that any further progress was made with this control in the 2007/08 year.

51. The future

For 2008/09 there will be another year of predator control carried out at Pikes Lagoon. Once again this work will be carried out by Greater Wellington Biosecurity Pest Animals staff. The owners will continue to service some bait stations and traps above the wetland as they have been doing for the last couple of years.

52. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	537.55
Labour	1,596.50
Total:	**2,134.05**

Solway Park Bush

53. Executive summary

Solway Park Bush is a small 2.5 hectare remnant of lowland native bush situated within the Solway Show Grounds in Masterton. The area is generally between Judds Road, Ngaumutawa Road, High Street South and Fleet/York Streets.

The bush remnant contains a suite of native species that were once wide spread over much of the Wairarapa plains before clear felling commenced with the arrival of the early pioneers. It also includes a small natural wet area at the north eastern corner of the block.

The bush has been covenanted with QEII and has been fully fenced to exclude all grazing animals.

In the 2005/06 year Greater Wellington, through its internal biodiversity condition fund, provided the funding to kick start a small possum/rat control programme. A private contractor has been responsible for controlling the infestation of Tradescantia that had become widespread throughout the area. Funding for pest plant control was provided for by the Lotteries Board for a period of two years. This plant will require some intensive maintenance in order to eradicate it.

Biosecurity Pest Animals staff visited this remnant on 13 February 2006 to prepare a budget and a work programme for possum and rat control.

54. Recommendation

- Greater Wellington Biosecurity Pest Animals staff to carry out monthly servicing of the bait stations ensuring that bait is available for possums and rats to feed on.

55. Objective

- To maintain possum and rat populations to very low densities that will allow the forest ecosystem to thrive.

56. Operational area

Solway Park Bush is part of the Solway Show Grounds and is situated at the southern end of Masterton. The complex is a high public use area which caters for many varied events throughout the year.

Within the fenced off bush area, there are 15 Sentry bait stations set up. Through these, Pestoff 20pp Brodifacoum possum pellets are administered to control the local possum and rat population.

While setting up these stations, evidence of possums was noticed with bite and scratch marks seen on some tree trunks. There was also some evidence of rabbit activity noticed on bare ground where weed spraying had taken place.

57. Operational results

Since the establishment of the 15 control sites back in April 2006, follow up visits have been on a monthly basis where possible. The bait take has waned and there is much less evidence of possum activity within the bush or in the surrounding buildings and stadium.

During the 2007/08 year there was approximately 8kg of Pestoff fed through these bait stations.

58. Discussion

As there is very little forest type of this nature remaining on the Wairarapa plains, it is great to see that this small remnant has been covenanted and fenced for the general public to enjoy.

The overall condition of the bush is excellent so good things should start to happen with pest plant and animal control taking place.

Within the fenced area there is now a replanting programme taking place. Quite a number of native plants have been planted by Ally O'Neil and others.

59. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	26.16
Labour	434.00
Total:	**460.16**

Sulphur Wells

60. Executive summary

This is a further updated report for Sulphur Wells for the year 2007/08. It is a follow on report from the report prepared in 2006/07.

The total number of hectares under control at Sulphur Wells is approximately 1,167 hectares.

The methods of control remain the same being Timms possum and Fenn traps under Philproof tunnels and Sentry bait stations dispensing Pestoff possum pellets. The original 60 control sites that were set up are still serviced by Greater Wellington's contractor.

61. Recommendation

- Continue to undertake sustained integrated predator control at Sulphur Wells and continue with the monthly servicing of the control sites.

62. Objectives

- To maintain predators at low levels thereby enhancing all existing native fauna and flora species to allow them to expand.

- To maintain a positive working relationship with Tundy Petrie which is vital to the success of this operation.

63. Bovine Tb maintenance

During the 2005/06 year all of Sulphur Wells was part of a bovine Tb maintenance operation. Formal trap monitoring lines that were laid on the property following control, caught no possums which would indicate an extremely low residual population. There was no further bovine Tb possum control carried out in 2006/07 or 2007/08.

64. Bird count monitoring

Formal bird count monitoring lines were established at Sulphur Wells during the summer of 2006.

Greater Wellington's M&I staff carried out another season of bird count monitoring in 2007/08.

65. Operational results

Operational results are listed on a monthly basis as follows and are valid until the end of June 2008.

Month	Rat	Hedgehog	Rabbit	Cat	Magpie	Ferret	Stoat
July	2	0	0	4	4	2	0
August	2	1	0	0	4	0	0
September	3	6	1	0	3	0	0
October	5	10	0	0	3	1	0
November	3	9	0	1	0	2	1
December	5	17	2	6	6	0	0
January	0	17	0	2	3	0	0
February	7	29	0	0	5	0	0
March	2	9	0	5	4	3	0
April	4	6	0	4	4	0	0
May	3	2	0	6	2	0	1
Total	**36**	**106**	**3**	**28**	**38**	**8**	**2**

Total Brodifacoum used was 130kg.

66. Reinvasion

This will be an ongoing problem for this type of job when the target species are predators. The trap sites will need to be maintained on a regular basis to retain any gains that are made.

67. Pest plants

There was quite a lot of old man's beard noted in parts of Sulphur Wells when bird count monitoring lines were being counted this year. In many cases plants seen were quite small, indicating that there is some spread occurring from more mature plants within. Some of this pest plant was located inside QEII covenants and should be controlled before it becomes a major issue.

The damage old man's beard does when left untreated

68. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	41.76
Labour	294.50
Material/supplies	385.25
Contractor	3,344.00
Total:	**4,065.51**

Tauherenikau Bush

69. Executive summary

Tauherenikau Bush consists of several small remnants of native bush on river flat terraces to the east of Featherston.

Dominant trees in these sites are kahikatea, titoki, totara, kowhai, karaka and matai. The lower canopy species consist of rangiora, mahoe, lemonwood, kawakawa and many other smaller species.

The total control area is approximately 1,350 hectares, made up of flat open pasture land and river terraces, with several native remnants and numerous shelterbelt plantings.

70. Recommendations

- To maintain the permanent bait stations within the native remnants and continue to carry out the trapping of mustelids, feral cats and other predator species, along the river boundaries, water races, racecourse bush and other scattered blocks of native bush.

- Keep racecourse staff supplied with rat blocks for self help rodent control within the complex and stable areas.

71. Objectives

- To reduce all predator species to allow for regeneration of native bush vital to produce seed for dispersal by native birds.

- To reduce possum populations to 5% RTC or below, to allow a large variety of bird life with the increased availability of seeds and fruit.

72. Operational area

The total operational area was downsized in 2006 from 1,350 hectares to target just the racecourse bush, river boundaries and other scattered remnants. The area treated takes in a large block from the Tin Hutt Hotel along the river boundary to the Martinborough-Featherston Highway, east to Phillips Line and north to Moroa Road (just short of the main highway).

There are seven KNE sites within the operational area. Most of these native remnants are fenced, stock proof and are regenerating well. Some good examples of kahikatea, totara and matai can be found along with kowhai, titoki, cabbage tree and many other small species making up the lower canopy.

The racecourse and Joy Tocker's and Vince Monk's properties on No. 1 Line are all good examples of what covered the plains before clearing for farming took place.

Native birds encountered during this and previous operations included tui, wood pigeon, fantail and morepork. Quail are frequently sighted in river boundary paddocks and within the racecourse complex.

Tauherenikau Racecourse complex with the bush in the background

73. History

All the sites within the Tauherenikau KNE were inspected and assessed between 1996 and 1997. Nearly all of them were fenced and stock proof. Many improvements have been carried out to stock proofing these sites since the operation first commenced.

Greater Wellington bovine Tb staff started control work for possums in 1997 using Timms traps and Kilmore bait stations loaded with 20pp brodifacoum possum pellets. Greater Wellington Pest Animals staff have carried out ongoing possum and predator work since 1998. To obtain a good initial knockdown on the high possum numbers, 50p brodifacoum was loaded into the bait stations and intensive trapping carried out as a backup method.

During 2000 a trapping and bait trial was undertaken throughout the Woodside, Tauherenikau and Featherston operational areas by bovine Tb staff to assess the ferret population. The total number caught was approximately 100. At that time Diederik Meenken, Greater Wellington Senior Biosecurity Officer (Investigations), expressed that the population numbers throughout was very low considering the size of the total area.

On 28 January 2005, Greater Wellington staff met with David Donald and Jenny and Alister Fenwick (Tauherenikau Racecourse Managers). The meeting was arranged to discuss the future of the Donald and the racecourse bush blocks, and to set up a steering group to oversee future protection work. Greater Wellington staff had been concerned for some time that although predator work had been carried out, no obvious pest plant work had. Several attempts to control Tradescantia using a conservation corporation based group and a weed contractor had not achieved the desired results.

The result from this meeting was that several weed control contracts have been set up and large scale work has been undertaken on both the sycamore and Tradescantia problem with Greater Wellington staff overseeing all work carried out.

Enhancement planting of native trees by Greater Wellington staff started in June 2006 with further plantings having been carried out by local school students and care groups under the supervision of Greater Wellington's Pest Plant Section. Hopefully further development of the racecourse complex and the adjoining bush blocks will assist in assuring its future. Already the complex is host to many events and functions. A big plus is the newly built jet sprint course which hopefully will become a major attraction.

Worthy of mention is that the Tauherenikau complex was chosen for the venue of the 'Wellington Region's Restoration Day' in 2008. The day was a great success and well attended by people from throughout the region.

74. Operational procedures

Greater Wellington staff have been carrying out predator control since August 2004. This work has been ongoing and will continue as time and funding permits. Timms and No. 4 Fenn traps used in conjunction with single Philproof tunnels baited with offal and beef fat have been used with great success.

The predator traps have been set up correctly to lessen the likelihood of catching domestic cats around dwellings.

Species trapped and results for 2007/08:

Cats	12
Ferrets	3
Rats	56
Hedgehogs	68
Weasels	2

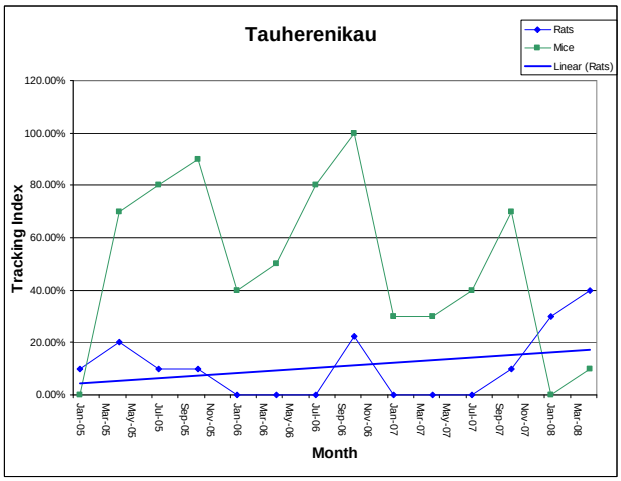
During 2007/08 40kg of 20pp Brodifacoum possum pellets was used on this operation.

Racecourse staff were also supplied with 8kg of Contrac rodent blocks to service their own bait stations.

75. Operational results

No pre or post trap-catch monitoring was carried out for Tauherenikau apart from the earlier mentioned trial work.

Recent rodent monitoring carried out by Greater Wellington's M&I team showed very little evidence of rats or mice within the main bush block, although rats continue to be a problem around the stable area.



Bird monitoring and counts have been carried out by M&I staff over the last three years.

75.1 Condition of this KNE

With ongoing control work, predator numbers will be kept at low levels, enabling bird life within these native remnants to thrive.

All of the KNEs situated in the Tauherenikau operation are now fenced and stock proof allowing for regeneration.

Several of the better native remnants belonging to David Donald, Vince Monk and Joy Tocker now have QE II covenants placed upon them ensuring their future.

75.2 Possum/predator reinvasion

With the permanent bait stations and trap sites in place, this problem should be minimised. These are checked and serviced on a regular basis, however, extra predator traps have been installed to give better overall coverage.

75.3 Endangered native plants

The mistletoe (*Korthalsella lindsayii*) was discovered in the native remnant belonging to Dr Hornabrook at No. 1 Line, Featherston. These species are thriving on several host species, mature healthy coprosmas. These mistletoe are safe as this site is completely stock proof. The mistletoe was found at two other properties on Phillips Line. These blocks belong to lifestyle landowners who unfortunately don't recognise the importance of what they own. By stock grazing these sites means that these plants and their host trees are at risk.

76. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	660.54
Labour	3,131.00
Material/supplies	452.00
Total:	**4,274.79**

Taumata Oxbow

77. Executive summary

This is a further updated report for Taumata Oxbow for the year 2007/08. It is a follow on report from the report prepared in 2006/07.

78. Operational area

The Taumata Oxbow predator control operational area remains the same at 33 hectares. It still covers part of three properties that are in the ownership of Neil Hayes (Gretel Lagoons) and Mike Warren and Jim Lynch (Nutty Farm). There are 10 control sites located within the operational area.

Control methods remain unchanged from last year with Sentry bait stations, Brodifacoum possum pellets, Fenn traps beneath Philproof tunnels and Timms possum and cage traps used to target predator animals.

79. Recommendation

- Continue to undertake sustained integrated predator control at Taumata Oxbow with the monthly servicing of the control sites using a variety of bait types.

80. Objectives

- To maintain possum populations at less than 5% RTC therefore allowing bush regeneration and seed dispersal of native plant species.

- To reduce the population of predator species so as to enhance native bird, lizard and insect species survival rates.

81. Bovine Tb maintenance

There was another round of Animal Health Board funded possum control carried out again in the 2005/06 year at Taumata Oxbow and its surrounding areas. The post RTC data for the strata was very low at 1.8%. The maintenance was carried out by Target Pest Enterprises. There was no possum control undertaken during the 2006/07 or 2007/08 years.

Landowner input has been quite intensive by Neil Hayes since he purchased his Gretel Lagoons property back in 1989/90.

82. Project initiative

Predator control was initiated for reasons that a QEII covenant is established at Taumata Oxbow. The area has high value indigenous biodiversity. Our regions natural wetlands are in a steady state of decline so there has to be commitment to preserving and enhancing those that remain. There is very little lowland forest remaining on the Wairarapa plains and one of the owners has shown a genuine desire to physically enhance the site through re-vegetation and

predator control. It also forms part of the migration corridor for native birds travelling the Ruamahanga River.

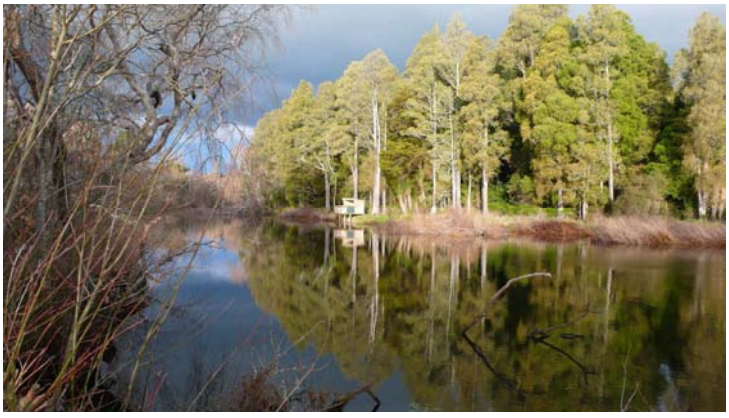
83. Operational results

There were 12 monthly visits made to Taumata Oxbow during the past financial year with the tallies as follows:

Month	Rat	Hedgehog	Weasel	Cat	Ferret	Mice	Starling	Stoat
July	0	0	1	0	1	0	0	0
August	2	0	1	0	1	0	0	0
September	0	1	0	0	1	0	0	0
October	1	0	0	0	0	3	1	0
November	0	0	0	1	0	1	0	0
December	0	2	0	0	0	2	0	0
January	2	0	0	0	0	0	0	0
February	1	4	0	0	0	0	0	0
March	0	1	0	1	0	1	0	1
April	3	0	0	0	0	0	0	0
May	0	1	0	2	0	0	0	0
June	1	1	0	8	1	0	0	0
Total	**10**	**10**	**2**	**12**	**4**	**7**	**1**	**1**

84. Discussion

During the 2005/06 year, Neil Hayes withdrew the grazing lease on part of his property and developed another small wetland lagoon for the benefit of waterfowl. Around this wetland he has been busy planting an assortment of native species that are consistent with species that were once endemic to the area. In the past two years since these plantings went in, there has been some noticeable growth taking place.



Generally speaking the Taumata Oxbow and QEII covenant are in a healthy condition. The bush is flourishing due to the low incidence of possums and the wildlife is prospering as a result of the predator control effort. Neil Hayes' first re-planting programme of approximately 15 years ago, is paying dividends with some remarkable growth happening. To quote the Hayes family's vision "*to create and maintain a wildlife habitat area that accommodates and supports the largest possible number of wildlife species"*. Excluding predators and possums is working well.

The predator control boundary includes the 'house site' where Neil has a small artificial pond and several purpose built breeding aviaries for the rare and endangered New Zealand brown teal. This is a project that Neil has been part of since the early 1970s. The house pond has grey duck, grey teal, scaup, shoveller, North American wood duck and Mandarin duck present.

This year Neil's longstanding battle with a neighbouring landowner over irrigation draw-off finally went to an Environmental hearing. Neil had collected research data that he felt supported his concerns that the irrigation was destroying Taumata Lagoon and its environment. Greater Wellington hydrologists had a series of "test bores" sunk to gather independent evidence in an attempt to qualify the validity of these concerns. After all submissions and scientific data had been analysed there was a ruling in Neil's favour, meaning that the irrigation bores can no longer be used as they have in the past.

Very recently Neil and others carried out some further modifications to the weir at the southern outlet end of the oxbow. The weir was built several years ago to hold back water in an attempt to maintain water levels within the wetland. While this works very well, it also stops water travelling back into the wetland at times when there is a major flood event in the nearby Ruamahanga.

The latest modification saw a small drain dug with a digger that circumnavigates both sides of the weir. After levels were worked out a pipe was laid in the excavation then covered with stones and fill. A one way flap valve will soon be fitted on the lagoon end of the pipe meaning that water back flowing up the outlet drain during floods will be able to bypass the weir to enter and charge the lagoon. As flood levels abate, the flap valve will prevent water from exiting. Within weeks of completing the work the Ruamahanga became swollen following heavy rains and the modification was put to the test. As this photo shows the results were spectacular and very successful.

85. The future

Integrated predator control will once again go ahead during the 2008/09 year with continued assistance from Neil Hayes.

86. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	371.18
Labour	1,240.00
Material/supplies	61.16
Total:	**1,672.34**

Tora Coast Bush

87. Executive summary

Tora Coast Bush consists of a steep escarpment rising from coastal dune type country.

Dominant tree species are karaka, mahoe, flax, kawakawa, rangiora and odd ngaio.

The total size of this coastal remnant is approximately 15 hectares.

Possum control work started in September 1998, and apart from a short break in 2002, has been ongoing ever since. Kilmore bait stations loaded with 20pp and 50p wax possum pellets and Timms traps have been used. The landowner Mike Doyle carried out this work in the early days, taking out a very large possum population before Greater Wellington became involved.

Predator control commenced in August 2003. Traps used were Timms and No. 6 Fenns in conjunction with single Philproof tunnels. These were baited with offal and beef fat.

88. Recommendations

- As long as funding remains it is recommended that the YMCA Conservation Corp carry out the servicing of the bait stations. This should ensure that possum numbers are kept to low numbers. Predator control work should be carried out to compliment the continuing possum work.

89. Objectives

- To keep possum populations to a level of 5% RTC or below. This will allow the bush to regenerate and attract a large variety of bird life.

- To reduce all predator numbers which will further enhance this important site.

90. Operational area

This site consists of approximately 15 hectares of mature karaka. Mike Doyle and the Boyne family share ownership of this site and at one stage there was a fencing issue. However, this has been resolved and repairs were carried out in 2003 and the block was supposedly stock proof.

Native birds sighted during visits to this site included tui, fantail, morepork, bellbird and the New Zealand falcon (karearea). There was also the possible sighting of a whitehead.

91. History

This site was originally assessed in December 1996 and received a regional priority score of 8. This score reflects the importance of this last remaining stand of karakas.

Prior to Greater Wellington's KNE and YMCA possum control programme, Mike Doyle carried out intensive trapping and installed bait stations in the site behind his homestead to protect his gardens and fruit trees. He struggled to stem the invasion of possums from the karaka stand and the nearby Tora Bush. Since the continued servicing of the bait stations, possums have not been a problem for any of the local residents.

92. Operational procedures

In September 1998, 30 Kilmore bait stations were permanently installed around the perimeter. Pestoff 20pp Brodifacoum possum pellets were used for topping up as required.

The YMCA Conservation Corp team as part of their job experience programme, carried out this initial task. These young students involved in this programme were given on the job training to enable them to carry out this work correctly.

Several times during 2007/08 Greater Wellington Pest Animals staff spent the day at this site giving instructions to the YMCA team on the safe handling of toxins, checking and refilling bait stations, and signage. A presentation was given to students on general possum control and the benefits of Greater Wellington's KNE programmes.

Twelve permanent No. 6 Fenn traps and tunnels were installed in August 2003. These are regularly checked and rebaited with beef fat and offal. These tunnels are pinned to prevent accidental trapping of domestic cats.

93. Operational results

A pre initial RTC survey of Tora Coast Bush was carried out in December 1998. The RTC was 65% indicating very high possum densities.

Post initial monitoring was carried out in September 2000 and recorded 1% (95% CI $^{+}$/- 2%), indicating possum densities at low levels.

Species trapped and results for 2007/08:

Ferret	1
Rats	6
Hedgehogs	4

Not a lot to show for our predator traps, but these traps are not checked monthly like most other operations. Predator numbers should be low due to regular refilling of the bait stations by the YMCA students. Almost 30kg of 20pp waxed brodifacoum were fed through these permanent bait stations.

94. Discussion

94.1 Fencing

The situation regarding the fencing issue has deteriorated. More trees have collapsed across the fence allowing stock to wander through unhindered. Tim Park, Biodiversity Policy Advisor (Environment) is trying to get some biodiversity funding to have proper permanent fencing erected. He is currently waiting on a quote to have this work done.

Mike Doyle's block is also being damaged by stock pushing through.

94.2 Legal protection

The northern half of this site which belongs to the Doyle family now has the protection of a QEII covenant.

94.3 Possum reinvasion

With ongoing control work within the Tora Coast Bush and the surrounding farmland, possum numbers should be at low levels. Bait movement from the permanent stations have been minimised since BioWorks conducted an operation in mid 2005. Target Pest Enterprises conducted follow-up work in July 2006. A monitor carried out in the immediate vicinity resulted in no possums being trapped near this site.

94.4 Predator control

As with Linkwood Bush, due to the difficulty in setting of traps and safety and health issues, this was carried out by Greater Wellington Pest Animals staff.

The results from predator trapping within this site were disappointing. This could be attributed to the constant refilling of the bait stations by the YMCA Conservation Corporation students.

Rat blocks and Brodifacoum were given to neighbouring residents on request.

94.5 Condition of this KNE

The Doyle family's section of this site is starting to respond to the possum control and stock exclusion. Even now regeneration is fragile as it only takes a handful of sheep to push through the fence and benefits gained are lost.

This site is no longer part of the Tora walk as Mike Doyle has sold the homestay cottage and several hectares to Neil Bramley (a local fisherman). The Bramley family are keen for Greater Wellington staff and the YMCA to carry on with possum and predator control work and are willing to assist wherever possible.

However, it is quickly being recognised that a decision will need to be made on whether Greater Wellington continue to carry on working this site, or walk away. Unfortunately when Greater Wellington last visited this site in 2007/08 the stock had been into the southern section and almost completely turned the land to mud. There is no chance of any form of regeneration if this situation is permitted to continue.

After discussion with Department of Conservation staff, young karaka seedlings may not come to anything due to lack of light and warmth penetrating through the canopy. There may be also insufficient nutrients to encourage growth.

Rabbit control was scheduled for 2007/08, but at this stage it would be pointless. If the stock can not be kept out of this site, a few rabbits won't contribute much to the damage that's already been done.

Greater Wellington would recommend that if control work did continue in this site then some enhancement planting should be considered. Strong winds have bought down many of the mature ngaios and karakas leaving the lower terraces very open and exposed.

95. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Programming/reporting	15.50
Vehicle/plant	210.52
Labour	573.50
Material/supplies	122.37
Refreshments	22.22
Total:	**944.11**

Waihora

96. Executive summary

This is a further updated report for Waihora for the year 2007/08. It is a follow on report from the report prepared in 2006/07.

Waihora KNEMA is part of the old Parklands property but also takes in part of Matawhero, Yeronga and Paharakeke farms. There are three established nature heritage covenants.

The operational area remains the same at 1,030 hectares. Waihora is located in the Tuhitarata area and is situated at the north western side of the Haurangi State Forest Park. The Waihora catchment stream exits the forest within the KNE area and this is what the operational area is named after.

Topography is mainly moderate to rolling hill country comprised of gullies of mature beech forest, modified native remnants, stands of kanuka and regenerating natives.

Bovine Tb vector control work is ongoing throughout the Pirinoa district with possum populations at very low levels.

97. Recommendations

97.1 For Greater Wellington

- Continue to carry out monthly servicing of all control sites at Waihora and record all details on predators killed and bait usage through the services of an external service provider employed under a prescriptive contract.

- Continue to carry out bird count monitoring as a means of measuring biodiversity changes over time through predator control.

- Bi-annually tender the predator control to a suitable preferred service provider.

- Over time promote community involvement with self help, volunteer and care groups.

98. Objectives

- To maintain possum populations at less than 5% RTC therefore allowing the forest ecosystem to thrive.

- To reduce predator populations to low levels than enhances the areas biodiversity.

99. Operational area

The operational area is 1,030 hectares in total and is situated at the north eastern corner of the Haurangi Forest Park and running west to the Martinborough-Lake Ferry Road generally referred to as Tuhitarata.

Topography is mainly moderate to rolling hill country comprised of gullies of mature beech forest, modified native remnants, stands of kanuka and regenerating native.

Landowners involved are Clive Payton, Donald Wood, Jamie McCluskey, Stuart Barton, David Fairbrother, Scott Donald and Scott MacDonald.

100. History

Past operational history at this KNE has been primarily Bovine Tb focused with years of intensive possum control carried out either annually or bi-annually. There is still a maintenance programme in place throughout this operational area.

101. Operational procedures

Operational procedures remain unchanged from 2006/07. At each site a Sentry bait station was erected above the reach of grazing animals and filled with Pestoff 20pp possum pellets (waxed). Also a Timms possum trap was set using meat baits combined with a Fenn No. 4 under a Philproof tunnel that has meat baits placed under the tunnel and around the trap. There are 197 predator control sites established in the Waihora operation.

102. Operational results

The monthly catch results for 2007/08 are listed below:

Month	Rat	Hedgehog	Magpie	Rabbit	Possum	Weasel	Cat	Ferret
July	1	2	4	0	0	0	0	0
August	5	3	2	0	0	0	0	0
September	9	9	8	4	0	0	0	0
October	12	8	6	5	0	0	0	0
November	6	13	9	2	1	0	0	0
December	9	19	11	0	0	1	2	1
January	7	33	13	2	1	0	0	0
February	19	43	14	0	1	0	3	1
March	13	48	11	0	1	0	7	1
April	11	19	4	0	0	0	6	0
May	8	5	3	0	0	1	6	1
Total	**100**	**202**	**85**	**13**	**4**	**2**	**24**	**4**

103. Discussion

103.1 Waihora Watch Group

During 2006/07 the landowners involved with the Waihora predator operation in conjunction with Greater Wellington formed a "Care Group" that is being steered along by Greater Wellington's Lucy Harper, Greater Wellington Policy Advisor (Environment).

Dawn MacDonald came up with a very appropriate name "Waihora Watch". That is now the name the care group uses when application is made for grants etc to carry out subsidised activities at Waihora. This group still meets periodically to discuss issues and kick about any ideas that may develop from time to time.

103.2 Working relationship

The working relationship between the contractor and affected landowners remains positive. There have been no issues that required redress throughout the contract period.

J G McCaslin Trappers continue to be the service provider for the maintenance of this operation. John McCaslin has an excellent working relationship with all of the landowners involved in the Waihora operation.

103.3 Monitoring

Bird count monitoring lines were established at Waihora in the summer of 2006. There were a total of four lines established within the operational area. One of these was later dropped due to the nature of the habitat where the line was placed. Bird count monitoring was undertaken at Waihora during the 2007/08 year after not being monitored in the 2006/07 year. Nyree Fea, Greater Wellington Biosecurity Officer (Monitoring) undertook the 5 minute surveys and later prepared a report on these outcomes.

104. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	461.06
Labour	1,209.00
Material/supplies	3,374.80
Contractors/consultants	10,500.00
Total:	**15,544.86**

Waingawa Swamp

105. Executive summary

The Waingawa Swamp and wetland consists of a lowland swamp. Dominant plant species are flax, mānuka and some species of coprosma. The total area of the site is approximately 18 hectares.

Possum and predator control work commenced in May 2001 and has been ongoing ever since.

106. Recommendation

- Predator and possum control should continue to be carried out under the KNE programme. This is vital to protect the many species of waterfowl and the native bird population within the Waingawa Swamp.

107. Objective

- To keep predator populations to low levels and possums to a level of 5% RTC or lower, to allow bush regeneration and seed dispersal of native plants.

108. Operational area

The total control area is approximately 18 hectares of swamp surrounded by flax and mānuka with a small area of open grassland. This site is situated immediately behind the Kiwi Lumber Processing Plant, formerly the site of a large freezing works.

If this area is to remain home to the many species of waterfowl and native birds, it is going to require some form of protection. Timber waste, bi-products and toxic waste, rubbish from the former works was dumped as the old works was dismantled and covered over with saw dust and bark. This has been pushed out into the wetlands, thus there is a very real danger of contamination of the wetlands and the water race system. Greater Wellington and the Carterton District Council staff are now monitoring the situation. The site formally Renall Haulage has now been taken over by Kiwi Lumber. There has been some attempt to tidy up the site, but the dumping of timber waste has carried on. There was a court case over this issue and Renall Haulage was fined a substantial amount.

There has been little evidence of possums or damage during visits to this site. This is possibly due to a lack of palatable native tree species favoured by possums. Very little evidence of mustelids were found despite various trapping and bait methods being carried out.

109. History

This site was originally inspected in September 1996 and received a regional priority score of 5. This score reflected on the fact that there were several regionally threatened plants present. Possum control commenced in 2000, and predator control started in 2001 and has been ongoing ever since.

110. Operational procedures

Possum control has continued with 20p brodifacoum fed through Kilmore bait stations permanently installed throughout the site.

Predator control is ongoing using Timms traps and No. 4 Fenns under single Philproof tunnels baited with beef fat and offal. This work has been carried out by Greater Wellington staff as time permits.

Species trapped and results for 2007/08:

Cats	4
Ferret	1
Rats	7
Hedgehogs	5

10kg brodifacoum wax 20p possum pellets were used.

111. Operational results

The Waingawa Swamp KNEMA had no pre initial monitoring carried out prior to this operation commencing.

112. Discussion

112.1 Endangered native plants

Several matagouri shrubs *(Discria toumatou)* were found during the initial KNE survey. However, all but one specimen have been destroyed due to machinery and cattle movement. The remaining specimen remains alongside the main highway just south of Norman Avenue (the entrance to the site).

112.2 Possum/predator reinvasion

Greater Wellington is confident that the number of possums within this site are very low. Judging by the number of mustelids trapped since the operation started, the threat to wildlife should be minimal.

112.3 Feral cat control

It is important that the trapping of feral cats continue as their numbers have the potential to build up quickly if control work were to cease.

112.4 Future control

Due to the site being a small area, apart from the feral cats, most other predator species can easily be controlled by ensuring the bait stations are kept topped up with fresh bait.

There are a number of permanent Timms and Fenn traps set up around the site ensuring ongoing protection for the wild life against most predator species. A suggestion would be some form of pest plant control be carried out as blackberry is thriving unhindered.

113. Costs

Set out below is a breakdown of costs from Greater Wellington's SAP financial system up until the end of the financial year 30 June 2008.

	$
Vehicle/plant	31.00
Labour	248.00
Material/supplies	15.00
Total:	**294.00**

Reports prepared by:	Reports prepared by:	Reports approved by:
Steve Playle	**Murry Clark**	**Ray Clarey**
Biosecurity Officer (Animals)	Biosecurity Officer (Animals)	Senior Biosecurity Officer (Animals)