

Report on the Operational Plan 2006/07

**for the Canterbury Regional Pest
Management Strategy (2005-2015)**



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PREPARED UNDER THE BIOSECURITY ACT 1993

I hereby certify that this is a correct copy of the Report on the Operational Plan 2006/07 for the implementation of the Canterbury Regional Pest Management Strategy (2005-2015).

This Plan has been prepared and adopted by the Canterbury Regional Council in accordance with the requirements **Section 85 (1)(c) of the** Biosecurity Act 1993, on 29th November 2007.



Dr Bryan Jenkins
Chief Executive
Canterbury Regional Council
10 December 2007



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Report on the Operational Plan 2006-07 for the Canterbury Regional Pest Management Strategy (2005-2015)

1 Introduction

This report on the Operational Plan summarises budgets, actual expenditure and outputs (level of service), for each pest programme and gives an indication as to whether or not objectives in the Canterbury Regional Pest Management Strategy (RPMS 2005-2015) will be met. Budgets are reviewed through the annual plan process, and then summarised in the next Operational Plan.

The six pest management programmes outlined in the RPMS are summarised below:

Total control – these pests will be eradicated from the region

Progressive control – these pests that will be restricted in range, with the long-term aim of eradication

Containment control – numbers of these pests will be kept low

Biodiversity – the natural environment will be protected from these pests

Restricted pests – these pests cannot be bought, sold, distributed or propagated

Community initiatives - communities will be supported to undertake pest control

Principal measures in the RPMS correspond with activities in the annual plan as summarised below:

Regulatory inspections

Enforcement

Operations

Investigations

Advice and education

Monitoring

1.1 Regulatory inspections

ECan regulates by inspecting properties to ensure that rules in the Strategy are met. Property inspections are made on a pest by pest basis. Sale and propagation inspections are undertaken for restricted pests, all pest plants listed in the Strategy, and Unwanted Organisms at nurseries.

1.2 Enforcement

ECan enforces rules in the Strategy. The enforcement procedure includes:

- i issue of notice of direction
- ii action on default
- iii recovery of costs of enforcement.

If, after ECan issues a notice of direction, a land occupier does not undertake pest control to meet the rules in the Strategy, ECan will (act on default), then recover from the land occupier for all costs incurred in enforcement.

1.3 Operations

ECan carries out pest control operations for total control pests, when control methods require special expertise (e.g. biological control), when coordinated control gives benefits to the region as a whole, and where costs are recovered from land occupiers. Control is reported on a pest by pest basis.

Operations costs shown in this report are only the costs of specific pest control undertaken by ECan on behalf of formal rating districts. Individual land occupiers also incurred other expenditure to control pests to comply with the RPMS.

1.4 Investigations

ECan supports specific research into the development and application of new pest control tools including biological control.

1.5 Advice and education

ECan provides advice, pamphlets, displays and other educational material to ensure that landoccupiers are informed of their responsibilities under the RPMS.

1.6 Monitoring

ECan monitors animal and plant pest populations to determine regional trends. Long-term trends, based on repeated monitoring at established sites allows the effectiveness and efficiency of the RPMS to be assessed.

Regulatory inspections, control operations, and investigations and are undertaken on a pest-by-pest basis. The level of service provided by ECan for each of the principal measures/activities is described in more detail below. Advice and education, enforcement, and monitoring are generic activities/principal measures, covering a wide range of pests.

A mix of targeted rates, collected from rural land occupiers, general rates collected from all ratepayers in the Canterbury region, and user charges funds the cost of delivering the principal measures (Appendix 1). The budget and actual expenditure by activity/principal measures and pest management programmes is summarised in Table 1.

Table 1: Budget and actual expenditure by activity/principal measure and pest management programmes 2006/07

Activity/ Principal measure	Total Control \$		Progressive Control (\$)		Containment Control (\$)		Biodiversity (\$)		Total (\$)	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Operations										
Pest animals	12 684	6 306			45 568	22 350	209 645	147 063	267 897	175 719
Pest plants	76 498	73 404			0	0	332 881	338 514	409 379	411 918
BioControl	0	0			32 146	15 485			32 146	15 485
Regulatory Inspections										
Pest animals	3 379	1 713			382 675	309 068	0	0	386 054	310 781
Pest plants	49 371	41 485	429 385	411 382	347 653	342 609	238 447	208 647	1 064 856	1 004 123
Monitoring										
Pest animals	5 105	3 762	0	0	100 352	84 779	37 522	17 480	142 979	106 021
Pest plants	793	1 452	44 769	39 832	30 718	35 592	0	0	76 280	76 876
Education										
Pest animals									39 030	30 905
Pest plants									59 805	40 892
Enforcement									101 533	139 896
Investigations										
Pest animals					34 785	26 066			34 785	26 066
Pest plants			33 194	29 814	30 000	30 000			63 194	59 814
TOTAL									2 677 938	2 368 496

2 Total control programme

2.1 Pest animals

Rook

ECan investigates reports of new rook sightings, monitors population trends and undertakes control programmes to eradicate rooks. The programme is currently focused on parts of the Ashburton, Selwyn, Banks Peninsula, Waikari and Kaikoura pest districts.

Objectives of the Strategy	
<i>Eradicate Rooks from the Canterbury Region within the duration of the Strategy.</i>	
Regulatory inspections	
Budget	\$3,379
Actual	\$1,713
Output:	(1) Inspect properties with suspected rook populations. (2) Initiate control programmes where the presence of rooks is confirmed.
Result:	(1) Achieved. (2) Achieved
Monitoring	
Budget	\$5,105
Actual	\$3,762
<p>Rook population trend monitoring follows national standards and takes place during the October breeding period, prior to control each year. The number of nests at each site is multiplied by 3.5 to provide an estimate of total bird numbers.</p> <p>All reported sightings were investigated. Five rooks were found at Staging Bay, Kaikoura, 2 at Greenhills, Kaikoura and 3 rooks at Waikari. Three rooks were found at Waitohi, near Timaru. As all known rooks in Canterbury were accounted for, the Waitohi rooks either originated from outside the region, or were previously unsighted.</p> <p>The estimated rook population in Canterbury as at October 2006 stood at 29. The rook population at Banks Peninsula remained at zero for the 7th consecutive year. Rook population trends are graphed in Figure 1.</p>	
Operations	
Budget	\$12,684
Actual	\$3,762
<p>Kaikoura: Stone jug. Grid ref, 2538535 E, 5865485 N. 15th and 26th of November 5 to 7 birds observed. 27th November toxin laid 29th November one bird observed alive. No the dead birds were found. 30th November no birds encountered dead or alive. 21st December 2006, no reports of any live birds.</p> <p>Waikari: Scargill Valley. Grid ref, 2488737 E, 5805531 N. 8th December 2006 11 birds observed. 15th December 2006 toxin laid 14 birds observed (3 juveniles) Seven dead birds recovered. Three young birds shot and recovered. A number of surveys were undertaken but no other birds encountered dead or alive. An estimated 16 birds were controlled and minimum of 4 rooks remained.</p> <p>10 recovered rooks will be necropsied to indicate age and sex. An estimated 14 rooks remain.</p>	

Figure 1: Rook numbers in Canterbury

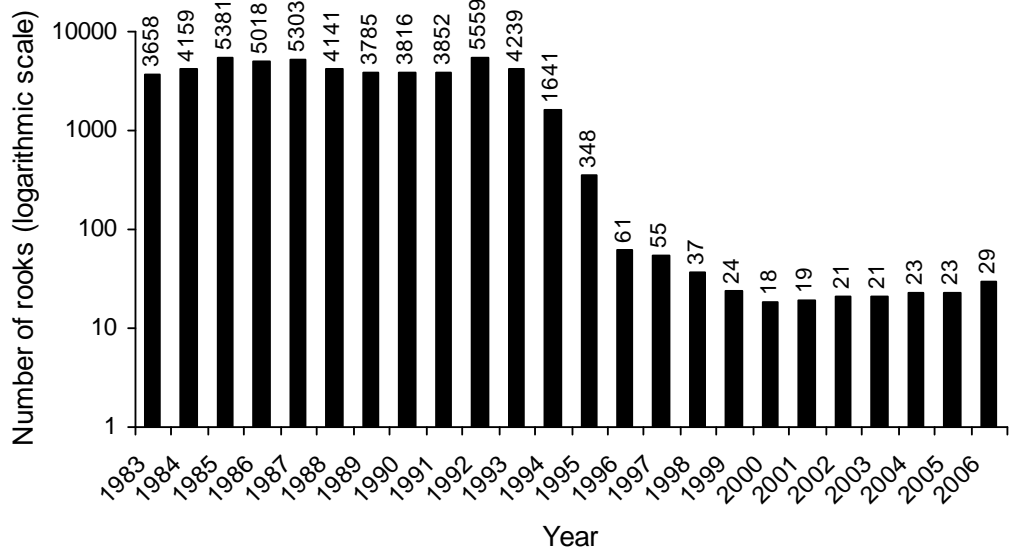
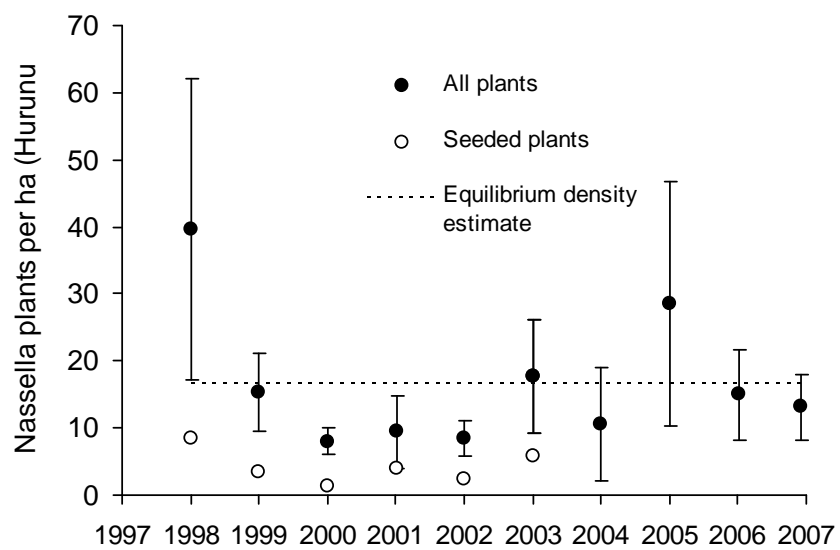


Figure 2: Nassella tussock monitoring data (autumn 1998-2007)



2.2 Pest plants

African Love Grass
Baccharis
Bur Daisy
Coltsfoot
Entire Marshwort
Saffron Thistle
White-Edged Nightshade

ECan undertakes an annual inspection and control programmes to eradicate Total Control plant pests from the region. Land at high risk from infestations of Total Control plants is inspected. All known active and historic Total Control sites are recorded in a data base.

Objectives	
<i>Over the duration of the Strategy, eradicate all Total Control Plant Pests</i>	
Regulatory inspections	
Budget	\$49,371
Actual	\$41,485
Output: Eradicate Total Control plants at all known sites prior to seed set.	
Result: Achieved	
61 of 202 inspected sites contained Total control plants.	
Operations	
Budget	\$76,498
Actual	\$73,404
9297 plants were eradicated at 61 sites in addition to 9.1 hectares of plants too dense to count.	
Monitoring	
Budget	\$793.00
Actual	\$1,452
7 new sites were found (African Love Grass 2 sites in Kaikoura; Baccharis 3 sites in Selwyn and 1 site in Ashburton; Bur Daisy 1 site in Selwyn).	

3 Progressive control programme

3.1 Pest plants

Nassella Tussock

Land occupiers in the Hurunui Pest district with land affected by nassella tussock are required to inform ECan when they have completed their control programme. ECan then inspects a sample of properties. Elsewhere, ECan inspects all properties known to have infestations of nassella tussock.

Objective of the Strategy	
<i>Progressively reduce the population of nassella tussock within the Canterbury region</i>	
Regulatory inspections	
Budget	\$429,385
Actual	\$411,382
Output:	
(1)	Inspect all properties outside of the Hurunui District known to contain infestations of nassella tussock.
(2)	Inspect 40% of properties within the Hurunui District known to contain infestations of nassella tussock.
Result: (1) Achieved. (2) Achieved.	
511 properties (54%) of the 845 properties on the database were inspected.	
Enforcement	
82 properties did not to comply with Regional Pest Management Strategy rules. 68 properties were served Notices of Direction 9 properties were served Notices of Intention to Act on Default. ECan undertook Action on Default on 3 properties.	
Monitoring	
Budget	\$44,769
Actual	\$39,832
Output:	
1) A report on the trends in the status of nassella tussock is prepared by 30 June 07	
Result: Achieved	
A monitoring system for nassella tussock based on randomly located transects was put in place in January 1998. The results of the monitoring programme are illustrated in the Figure 2. After an initial reduction in nassella density monitoring has found that populations have settled at an equilibrium of 17 plants per hectare.	

4 Containment control programme

4.1 Pest animals

Bennett's Wallaby

Inside the containment area, ECan regulates to ensure the control of Bennett's wallaby to below 3 on the Guilford scale. Outside the containment area, ECan investigates sightings of Wallabies and undertakes control as required.

Objectives

1. Ensure Bennett's wallaby densities not exceeding level 3 on the Guilford scale in the Wallaby Containment Area
2. Prevent the establishment of wallaby populations outside the Wallaby Containment Area

Regulatory Inspections

Budget: \$69,431
Actual: \$56,988

Output: (1) Complete a compliance inspection programme annually.
(2) Reports of wallabies outside the containment area are investigated and where their presence is confirmed a programme to eradicate them is implemented where technically feasible.

Result: (1) Achieved
(2) Achieved

38 properties were inspected within the wallaby containment area.
8 had wallaby densities that did not comply with the Strategy as they exceeded level 3 on the Guilford scale.
One report of a wallaby outside the containment zone was received and investigated.
A single wallaby was subsequently controlled in the South Ashburton Gorge.

Enforcement

3 Notices of Direction were served. No further action was required.

Monitoring

Wallaby population trends in the Wallaby Containment Area are monitored January/February by recording presence or absence of faecal pellets within 50x 80cm plots within in 27 fixed 750m long transects within 4 management units. Analysis of the data was undertaken by LandCare Research New Zealand Ltd.

Overall, there has been a significant increasing trend in the wallaby population, with data indicating that it has doubled between 1998 to 2007.

The proportion of plots with faecal pellets since 2004 has remained constant at around 50%. There are two reasons for this. First, the pellet counts relationship with density is not linear, when animal densities are high, and numbers are underestimated. Secondly, wallaby numbers in some areas are at equilibrium, and migration is occurring but not detected due to the sampling design.

Figure 3: Faecal plot data representing the four Bennett’s wallaby management units 1998-2007

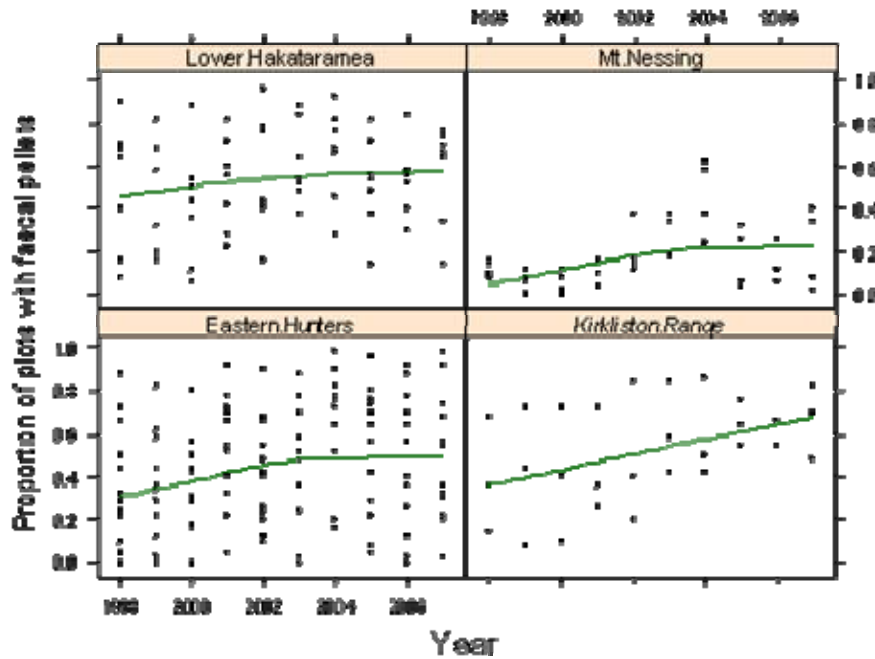
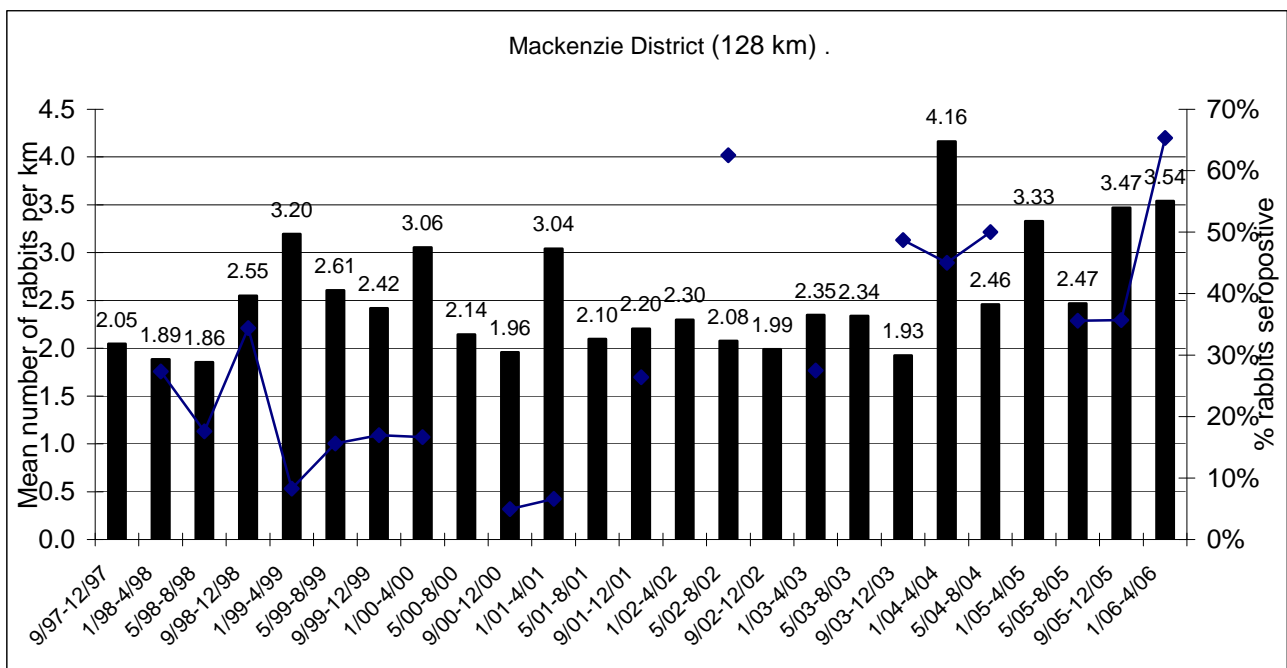


Figure 4: Mean rabbit RHD immunity levels (bars), mean number of rabbits per km and % rabbits seropositive (diamonds and lines).



Rabbits

Land occupiers are responsible for the control of rabbits except in the Banks Peninsula pest district where ECan takes responsibility for control funded by a targeted rate. ECan undertakes inspections, monitoring and enforcement in moderate, high and extremely high rabbit prone areas. ECan also monitors rabbit RHD immunity levels.

Objectives

Achieve rabbit densities not exceeding Level 3 on the Modified McLean Scale in the Canterbury Region.

Regulatory Inspections

Budget: \$313,244

Actual: \$230,154

Output: Properties are inspected for rabbits in accordance with the inspection programme and Council procedures.

Results: Achieved.

492 rabbit prone properties were inspected.

107 did not comply with the Strategy.

Enforcement

69 Notices of Direction were served.

One Notice of Intention to Act on Default was served

Operations

Budget \$45,568

Actual \$22,350

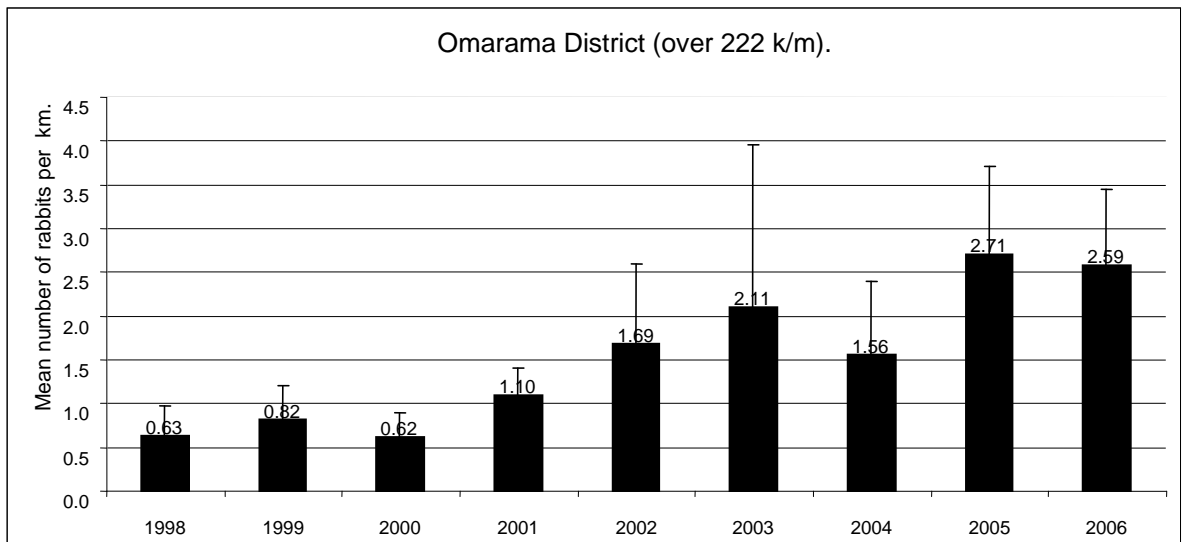
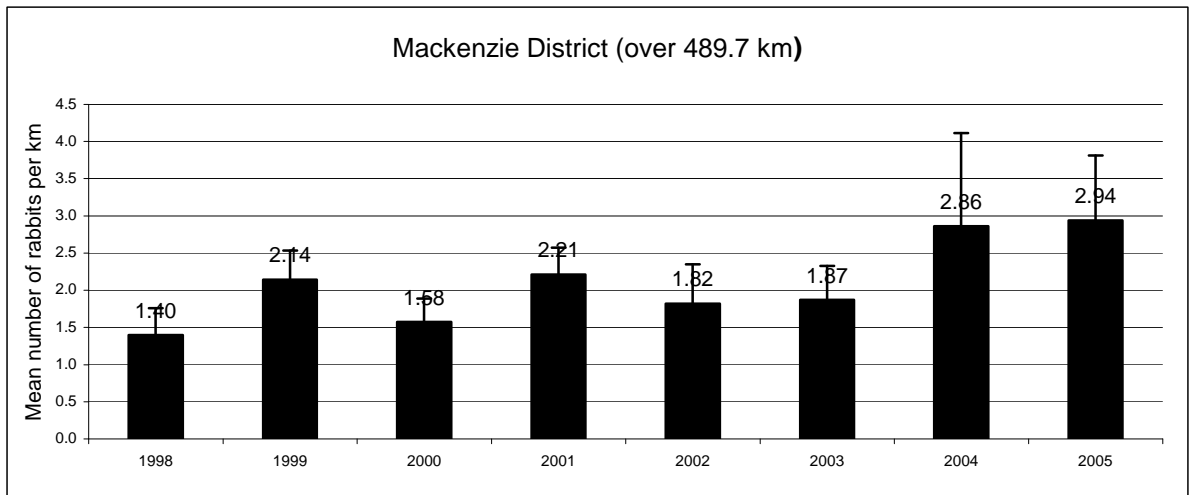
Output: Carry out rabbit control in the Banks Peninsula Pest District

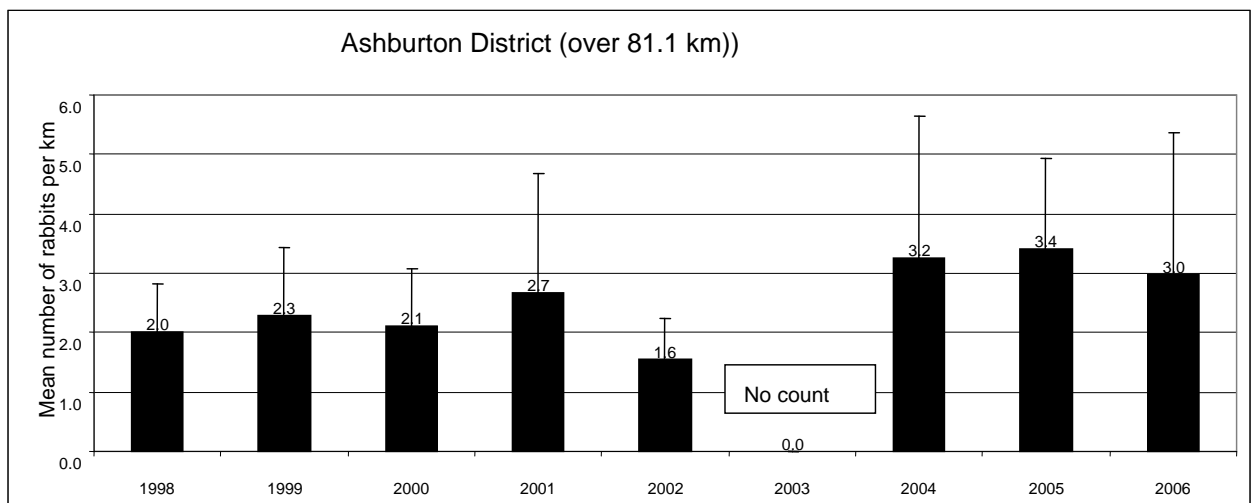
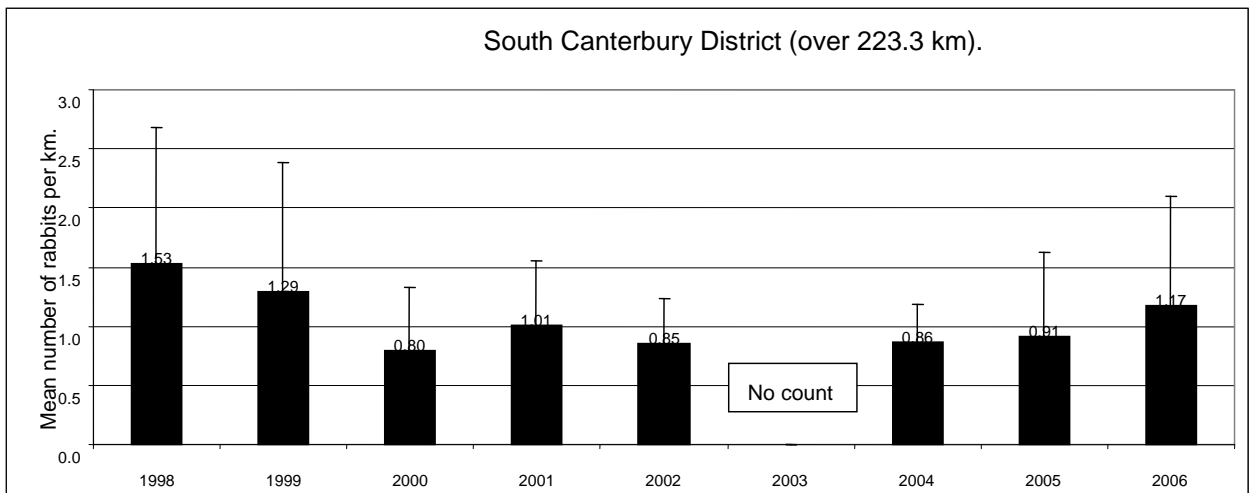
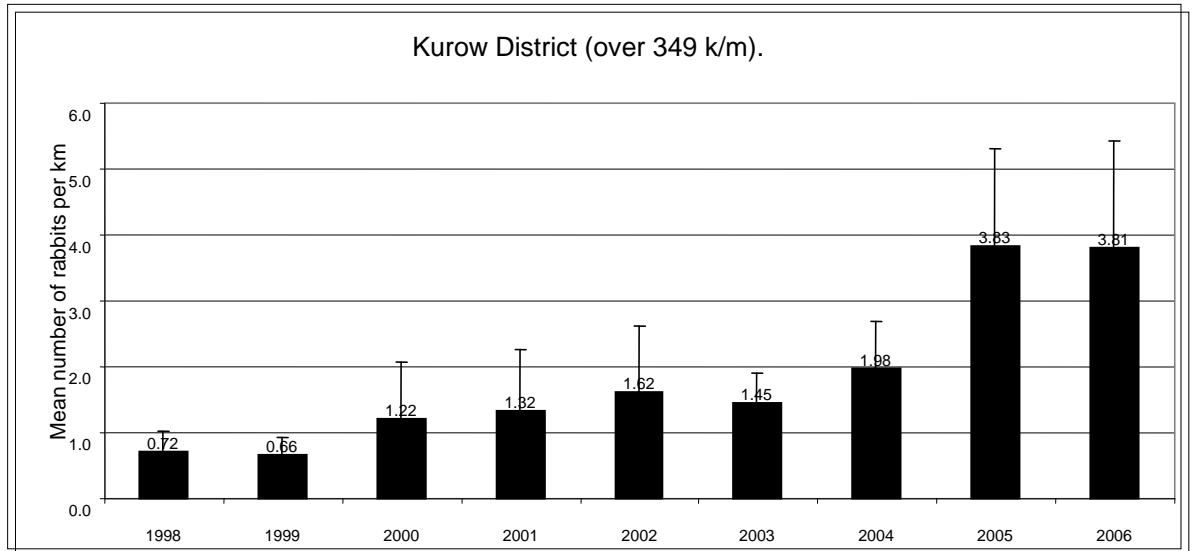
Result: Achieved

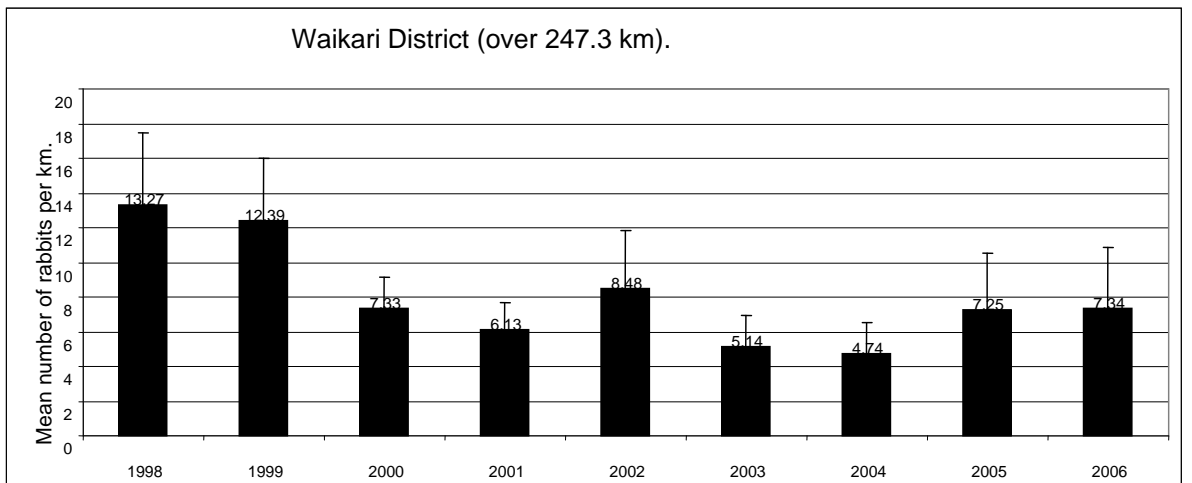
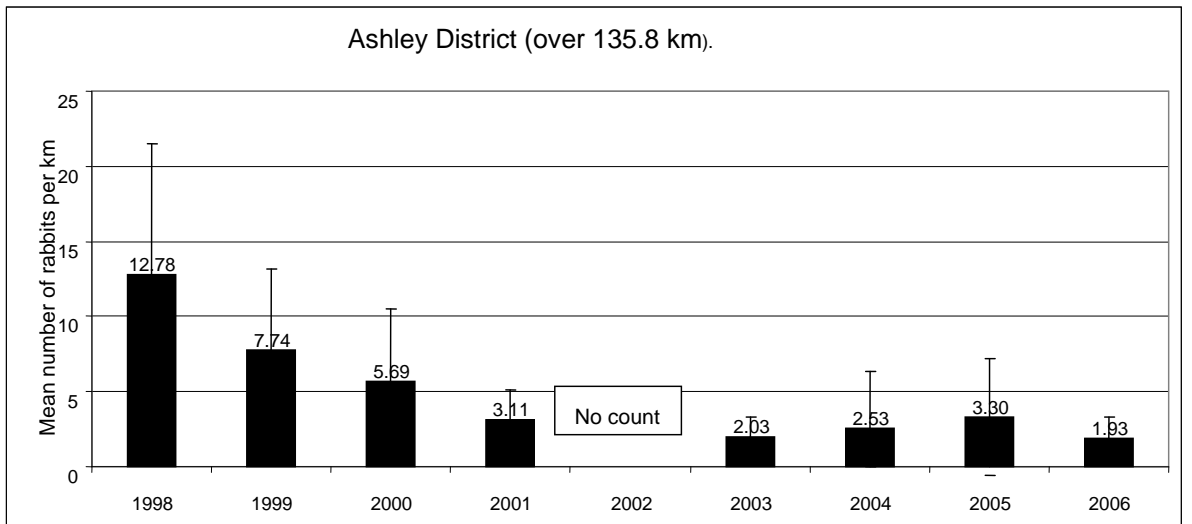
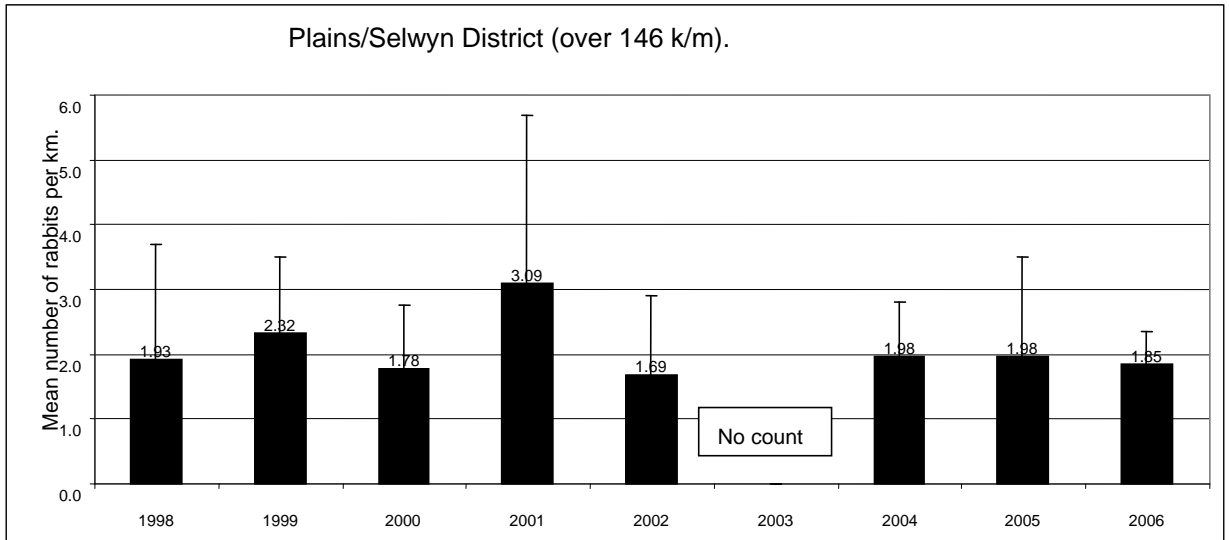
33 rabbit control operations were undertaken over an area totalling approximately 1980 hectares.

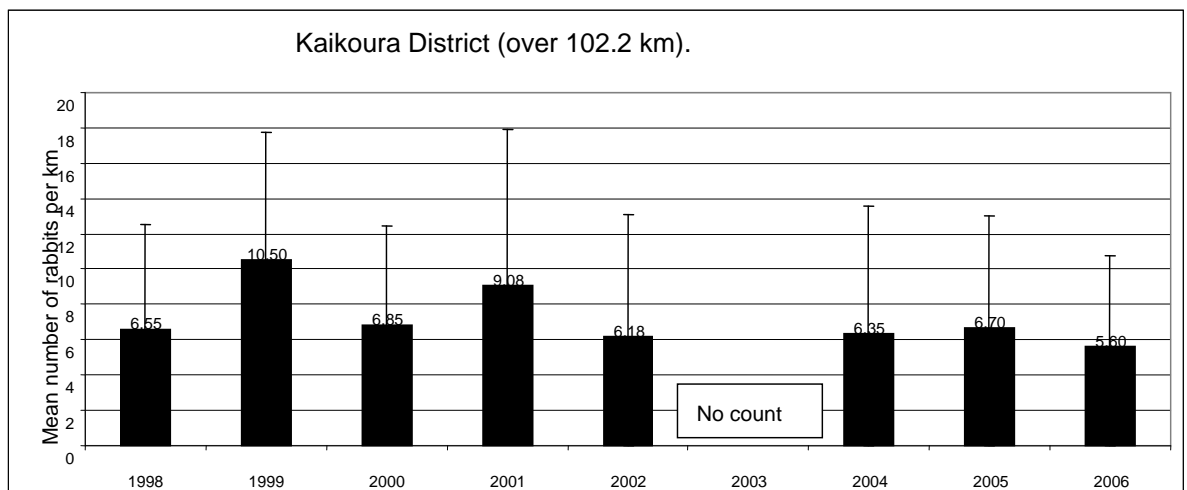
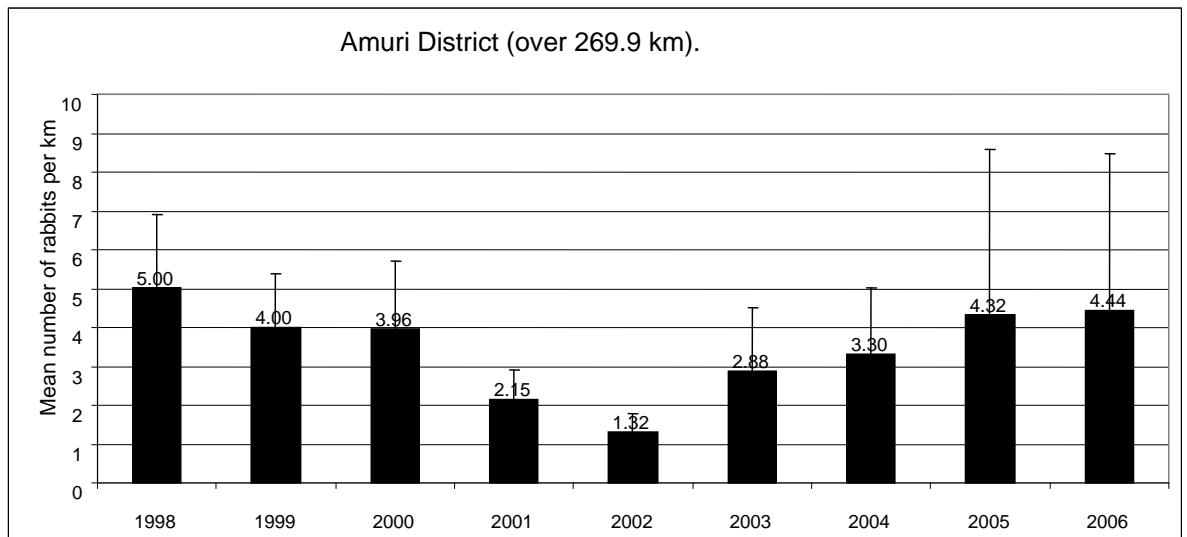
Monitoring	
Budget	\$121,196
Actual	\$98,398
Outputs	
<ol style="list-style-type: none"> 1. A report is prepared on rabbit populations trends by 28 February 2007 2. A report is prepared on RHD impact and the results of a serological survey. 3. 	
Results	
<ol style="list-style-type: none"> 1. Achieved 2. Achieved 	
Summary	
<p>Figure 4 shows mean immunity levels of rabbits to RHD (bars) at four sites, and the average number of rabbits per km (diamonds) in the McKenzie basin over 128km of transects. Rabbit Haemorrhagic Disease (RHD) epidemics occur at different times with different levels of impacts at different locations. Epidemics usually occur in the late summer months in the high country, several months after the spotlight counts. Rabbit numbers show peaks and troughs attributable to breeding and RHD epidemics.</p> <p>Since 2004, immunity levels or the percentage of seropositive rabbits sampled have increased. The population age structure of the seropositive samples shows a higher percentage of immune young rabbits. This is of concern as it implies that there has either been a change in the virility of the virus, or that the rabbit population, after a decade of the disease, is becoming more resistant or a combination of these two factors.</p> <p>Rabbit populations are monitored by spotlight counts that provide an indication of rabbit abundance. Counts are undertaken each spring along 120 routes located in rabbit prone areas within Canterbury covering nearly 3000km on 158 properties. The measure is expressed in rabbits per km, and results are compared over time. The counts give a snapshot at the time of the lowest rabbit population level over a 12 month cycle (Figure 5). Since 2004, rabbit numbers have increased.</p>	

Figure 5: Mean rabbit population indices (rabbits per spot-light km).









4.2 Pest plants

Gorse
Broom
Nodding thistle
Variegated thistle
Ragwort

Land occupiers are responsible for controlling Containment Control pest plants along property boundaries and where infestations are scattered and in the case of ragwort and nodding thistle, along water races as well as boundaries.

The gorse and broom inspection programme focuses on the hill and high country. Nodding thistle and ragwort programmes are largely based on responding to complaints from land occupiers except in the Ashley area where there is an ongoing programme targeting the arable parts of the district.

Objectives of the Strategy

Contain areas infested by Containment Control Plant Pests to prevent their spread in the Canterbury Region within the duration of this strategy.

Regulatory inspections

Budget	\$347,653
Actual	\$342,609

Outputs: Compliance inspections are undertaken on 20% of properties known to have infestations of Containment Control plants.

Result: 26% of properties known to have Containment Control plants were inspected

951 properties were inspected for gorse and broom, nodding thistle and ragwort
819 properties did not comply with the Strategy.

Enforcement

260 Notices of Direction were served
 11 Notice of Intention to Act on Default notices were issued
 ECan undertook Action on Default on 3 properties.

Operations

Budget	\$32,146
Actual	\$15,485

Output: A report on the establishment and management of biological control agents is prepared.

Result: Achieved.

Summary: ECan has released numerous biological control agents throughout Canterbury, including nodding thistle gall flies and crown root weevil, broom psyllids, seed beetle, twig miner; gorse hard shoot moth, pod moth, seed weevil, soft shoot moth. Most biocontrol agents are now well established in Canterbury and the requirement to establish new populations has diminished. Two new agents, crown boring moth and plume moth were released during 06/07 for the control of ragwort. It will be several years before establishment of these organisms can be confirmed.

Monitoring

Budget	\$30,718
Actual	\$35,592

ECan has been working with Landcare Research to develop a monitoring technique using satellite technology to determine changes in the extent of broom and gorse infestations.

The 2005/06 Ecosat report (Cuff, 2006) summarised work undertaken on identifying changes in extent and type of scrub cover. The 2005/06 Ecosat report presented results of scrub cover changes between 1990 and 2002 from an assessment of 2466 discrete clumps of land, each greater than 5ha in size and identified by automated mapping as having a scrub cover change. Each clump was visually assessed in the office to determine whether the predicted change was true and what sort of scrub type was present. Based on this visual assessment, there was a predicted net increase in scrub cover in Canterbury of nearly 6000 ha over this period.

The visual assessment is in the process of being evaluated for accuracy within the hill and high country of Canterbury. The mask used for the % living predictions was also used to create the area of interest for scrub change accuracy assessment. Of the original 2466 clumps of land of possible scrub cover change, 1314 clumps occurred within the hill and high country area. A 10% random sample of these areas was selected for field checking.

The analysis of this field data is currently in progress and the results will be presented in next year's report. It is proposed 2002 imagery will provide bench mark data to allow a comparative analysis to be undertaken.

5 Biodiversity programme

The Biodiversity programmes recognise opportunities to integrate the control of pests and other organisms to be controlled in targeted high value environmental areas (High Value Environmental Areas). These opportunities may occur in partnership with landowners or other agencies, or in places where pest control already occurs.

5.1 Pest animals

Possum
Feral goat
Feral cat
Ferret
Weasel
Stoat
German wasp
European wasp

Objectives of the Strategy

Reduce biodiversity pests to, and maintain at levels sufficient to ensure that biodiversity values are protected in targeted areas of the Canterbury region

Programme summary

Animals

Budget: \$209,645
 Actual: \$147,063

Outputs: (1) Undertake control programmes in 4 areas (Port Hills, Kakahu Forest, Ashburton/ Hakatere Riverbed and Opuha/ Hanging Rock area.)
 (2) Undertake year 2 of a 3 year feral goat eradication programme on Banks Peninsula.

Results: (1) Programmes completed at 6 locations.
 (2) Completed.

Port Hills Animal Pest Control

ECan carries out a pest control programme on private land to complement pest control and tree planting work undertaken by Christchurch City Council park ranger staff on reserve land. The operation area involves the Port Hills from Gebbies pass to Evans Pass and covers approximately 7450 hectares. The programme targets possums, feral cats and mustelids.

Ashburton Riverbed

ECan carries out a pest control programme on private land to complement pest control undertaken by the Department of Conservation (DOC). DOC has identified two sites as being important breeding areas for wrybill and black-fronted tern within the Ashburton catchment. One site involves 920 hectares on the lower Ashburton River from State Highway 1 Bridge to a point 9.5 km downstream. The second site is located at Hakatere on the south branch between Blowing Point and Buicks Bridges. The site involves 7.5 km of riverbed and adjacent farmland totalling 520 hectares.

The population of both wrybill and black-fronted tern is estimated to number c. 5000 birds nationally. Both species are classified as rare endemic. Numbers continue to decline due to

habitat loss, predation by introduced animals and disturbance by humans and stock.

The programme is targeting possums, feral cats, mustelids and rodents. However, an assessment of the upper Ashburton site revealed a colony of c. 500 black-backed gulls, a species known for their predatory habits. On advice from an ornithologist these have been included in the control programme. The programme has the full support from the 40 landholders who farm the land adjacent to the Ashburton River.

Hanging Rock - Opihi Riverbed and Kakahu Forest

A partnership has been formed between ECan, Department of Conservation, Timaru District Council and the South Canterbury Conservation Trust in an attempt to reverse the declining bat population. Hanging rock has been identified as home to possibly the last population of long-tailed bats on the east coast of the South Island. The population is estimated to be between 150-200 individuals and is declining at a rate of 5%-10% per annum. This decline is primarily due to predation and disturbance/loss of roosting and hibernation sites.

The Hanging Rock/Opihi riverbed operational area is 1000 hectares in area and the Kakahu Bush site is 375 hectares. The operation was expanded to include an extra 1770 hectares that now links the two locations forming one large operational area. The project involves pest control targeting possums, mustelids, cats and hedgehogs, native tree planting, artificial bat roosting boxes and raising community awareness. The programme had the full support of the landholders involved.

Burkes Pass

A partnership has been formed between ECan, Lincoln University and the Department of Conservation to recover the Canterbury Knobbled Weevil (*Hadramphus tuberculatus*). ECan undertakes pest control targeting cats, mustelids and hedgehogs.

The weevil was thought to be extinct since the 1920s, but was rediscovered in 2004 by a student sampling Speargrass at the Burkes Pass Conservation reserve alongside State Highway 8. Although little has actually been recorded about *H. tuberculatus* fossil evidence indicates the large 12-18mm weevil was once relatively common in Canterbury grasslands (Kuschel & Worthy 1996). Research, although limited, indicates the weevils are nocturnal and are dependent on native Speargrass (*Aciphylla* spp) as a host plant.

Considerable interest was generated by the rediscovery and the reserve was surveyed to assess how many of these unique weevils persisted. The initial survey in October 2005 - February 2006, found nine additional weevils from 225 trap nights, where there was abundant Speargrass and native tussock cover. This area comprised a mere 2 hectares of the 13.5 hectare reserve (Johns 2006).

Feral Goat Eradication on Banks Peninsula

A programme to eradicate goats from Banks Peninsula in partnership with the Banks Peninsula Conservation Trust (BPCT), Department of Conservation and the local community, commenced in June 2003. Initial control was undertaken from helicopter but with decline in numbers and fragmentation of the herds, has since progressed to professional ground hunters using dogs. In 2006/07 hunters spent 66 man days shooting 408 goats at a cost of \$75.11 per goat shot.

Year	Goats shot
2003	315
2004	614
2005	394
2006	346
2007	62

Further to the eradication programme on Banks Peninsula, in 2005 and 2006 feral goat control

was undertaken on the Port Hills destroying a total 1578 goats and 6 feral pigs.

White Flipped Penguin

The White Flipped penguin is one of six sub species of the little blue penguin and fairy penguins found around New Zealand, Tasmania and southern Australia. White Flipped penguins are endemic to New Zealand and breed only on Banks Peninsula and Moutunau Island. Local landowners commenced a predator trapping programme at Stony Bay in 1988 and at Flea Bay, which holds the largest breeding population of these penguins, in 1991. The Department of Conservation and ECan were requested to assist with this local initiative. Population monitoring shows that over the last 5 years numbers have stabilised at Stony Bay and increased by 24% to 896 breeding pairs at Flea Bay.

Monitoring

A monitoring report (Grove 2005) was prepared.

Grove, P. 2005. Monitoring the effects of Biodiversity Pest Control in High Value Environmental Areas. Report U05/29. Environment Canterbury. 46pp.

5.2 Pest Plants

Phragmites
Wild Thyme
Bell heather
Boneseed
Egeria
Lagarosiphon
Hieracium
Old Man's Beard
Banana Passionfruit
Darwin's barberry
Lodgepole pine

Programme summary

Plants

Budget: \$156,127
 Actual: \$161,545

Phragmites

Outputs:

- 1) All land infested with Phragmites is inspected
- 2) Control programmes are facilitated or undertaken

Results: Not achieved

The objective of the Strategy is to protect biodiversity values by eradicating all phragmites in the Canterbury region. Phragmites is considered a serious potential threat to biodiversity values in New Zealand, specifically wetland ecosystems. It is declared an unwanted organism and is one of 11 pest species listed in Biosecurity New Zealand's (BNZ) National Interests Pest Programme targeted for eradication.

Until recently there were two known sites in Canterbury, one in the Christchurch botanical gardens and the other near Kaiapoi. However, in May 2007 two further sites have been confirmed. One is located near the lower reaches of the Avon River, just above the estuary, and the other on a roadside near Ashburton. BNZ and Ecan are jointly preparing an eradication control strategy with the assistance of a NIWA botanist.

Phragmites was removed from one of the two known sites in Canterbury. The other site is the subject of an exemption application by the land occupier to Biosecurity NZ.

Wild Thyme

Outputs:

- 1) All of land infested with wild thyme, as well as all previously controlled sites of wild thyme, is inspected
- 2) All wild thyme plants, prior to seed set each year, are eradicated within the zones on Map 3 of the Strategy
- 3) Wild thyme is absent outside the zones on Map 3 of the Strategy

Results: Achieved

The Objective of the Strategy is to eradicate all wild thyme within the zones identified on map 5 in Appendix 10, and to prevent the establishment of wild thyme outside these zones.

Wild thyme was controlled at Rangitata and at Lowburn.

Bell heather

Outputs:

- 1) All land infested with Bell heather as well as all previously controlled sites are inspected
- 2) Eradication programmes are initiated

Results: Achieved

The Objective of the Strategy is to reduce the extent of bell heather by 75%. This plant is a small mat forming shrub. It occupies bare, rocky sites and competes successfully with native species. It is confined to one site occupying approximately 370 hectares. This infestation is the only recorded site in the South Island. The area of Bell heather in the Hunters Hills was surveyed and the entire area controlled annually.

Boneseed

Outputs:

1. Boneseed is reduced by 20% of land infested as at 2002, within the Port Hills zone by 2015
2. Boneseed is absent from all land outside the Port Hills zone as a baseline of 2002

Results: Achieved

The Objective in the Strategy is to eradicate all boneseed from land outside the Port Hills zone, and to reduce by 20% the area infested with boneseed within the Port Hills zone as identified on map 3 in Appendix 8.

Boneseed was removed from 80% of the land affected outside the Port Hills zone.

North Canterbury

Follow-up work has been on known on known sites. Abseiling at Kaikoura was undertaken to treat plants on steep cliff faces where helicopter spraying could not be carried out due to proximity to houses.

South Canterbury

Follow-up control on the one known sites at Glenavy was undertaken.

Central Area

Follow-up on most of the sites outside the containment zone has been completed. Control on Banks Peninsula sites have been completed by contractor and staff.

Bishopsworth Street

The contractor removed and mulched about 100 plants on this hillside that is just outside the containment zone.

New Brighton

About 50 plants were removed from outside the containment area at south shore.

Teddington

50-100 plants were removed and mulched at a Protea Nursery. This site is over a kilometre from the nearest infestation.

Within the Port Hills containment zone work has so far been carried out as follows:

Governors Bay to Charteris Bay: Ground spraying and hand treatment.

Lyttelton to Godley Head & Purau: Helicopter spraying and ground treatment.

Bridle Path Rd-Morgans Valley: Ground spraying and hand treatment.
South Shore: Mulching and hand treatment.
Evans Pass: Hand treatment.
Avoca Valley: Hand treatment.
Rapaki Rd: Ground spraying and hand treatment.
Huntsbury; Bowenvale and Cashmere: Hand clearing and mulching in conjunction with community projects.
Barnett Park: St Andrews College students spent a day in December learning about the impacts of Boneseed and assisting with eradication.

There is approximately 2950ha of land within the containment zone. The RPMS objective is to reduce the area of infestation within this zone by 20% or 590ha within the term of the document. This goal is likely to be achieved by the 2007/08 year.

Egeria and Lagarosiphon

Outputs:

- 1) Known sites are searched for the presence of *Egeria* and *Lagarosiphon*
- 2) Where *Egeria* is found, control operations are initiated as required
- 3) Where *Lagarosiphon* is found in those water bodies outlined in Appendix 5 of the Strategy, control operations are initiated as required

Results: Achieved

The Objective of the Strategy is to prevent the establishment of *Egeria* in waterways free from infestations (as at 2005), and to contain *Egeria* present in the Avon River on Map 4 in Appendix 9.

The Objective of the Strategy is also to prevent the establishment of *Lagarosiphon* in those water bodies outlined in Appendix 5, and to contain *Lagarosiphon* in any other water body.

Hieracium

Outputs:

- 1) A control programme is initiated

Results: Achieved

Provision was made by Council in the 2006/07 financial year for a payment of \$10,000 to the Hieracium Control Trust for the purpose of supporting a biocontrol programme. This payment was made in June 2007 on receipt of the Trust's report on the biological programme. Gall Midge has been released at 136 sites. Establishment has been confirmed at 62 of these sites to date. Gall Wasp has been released at 99 sites with establishment confirmed at 32 sites. Plume moth has been released at 4 sites establishment has been unsuccessful to date. Hover flies have been released at 10 sites but none have established.

Old Man's beard

Outputs:

- 1) 40 % of land infested with Old Man's Beard that is a threat to biodiversity is inspected annually
- 2) Areas of Old Man's Beard are mapped
- 3) Old Man's Beard is eradicated within at least one High Value Environmental Areas by 2012

Results: Achieved

The Objective of the Strategy is to reduce Old Man's beard populations to protect biodiversity values in targeted areas of the Canterbury region.

ECan undertook compliance inspections on 560 properties and served 19 Notices of Direction. Known infestations of Old man's beard were recorded on a database and mapped. Control programmes to protect biodiversity values were undertaken at Governors Bay, in the Ashley Gorge and in a reserve at Oaro, near Kaikoura.

Darwin's barberry and Banana passionfruit

Outputs:

- 1) A mapping programme is initiated, starting with all know areas of banana passionfruit and Darwin's barberry

Results: Achieved.

The Objective of the Strategy is to reduce Darwin's barberry and banana passionfruit populations to protect biodiversity values in targeted areas of the Canterbury region

Darwin's barberry produces berries that are eaten and spread by birds and it poses a threat to indigenous scrublands and forests. Banana passionfruit is a tall climbing vine that grows in forest and shrub land margins, along streams coastline cliffs and consolidated sand dunes. The plant produces fruit which is eaten by humans, animals and birds. It is capable of smothering other plants and dominating the canopy. It grows rapidly and its stems will layer. It poses a major threat to biodiversity values in the region.

In discussion with Department of Conservation staff and Christchurch City Council park rangers all known locations of these species has been recorded in a database and mapped. This will provide the basis of a strategic control programme from 2007/08 onwards. Two control programs were undertaken in the 2006/07 year, one near Albury in South Canterbury and the other at Omihi in the Hurunui district.

Lodgepole pine and wilding conifers

Objective of the Strategy	
<i>Over the duration of the strategy, protect biodiversity values in targeted areas of the Canterbury region by eradicating self- sown wilding conifers prior to seed dispersal.</i>	
Principal measure	
Operations	
Budget:	\$ 176,754
Actual:	\$ 176,969
Outputs:	
1) Undertake wilding conifer control in the Opuha and upper Waitaki catchments.	
Result: Achieved	
The Objective of the Strategy is to eradicate Wilding conifers in targeted high value environmental areas.	

6 Community Initiatives programme

Groups of landowners and the wider community often have the enthusiasm and local knowledge to undertake pest control to a higher standard than that prescribed in the RPMS. There may also be situations where there are benefits to the wider community from enhanced pest control. ECan actively supports and encourages local initiatives through Resource Care Groups. Community Initiatives programmes bring similar benefits.

Community initiative programmes facilitate the establishment of community groups and assist in formulating their work programmes. A work programme includes a description of the pest species, landowner obligations, timing of control, method of control, costs and monitoring. Advice is given on control methods, the negative/positive impacts of control, mapping and global positioning system, programme supervision and equipment needed.

The Banks Peninsula Pest Liaison committee initiated a Community Initiative programme to control possums over the entire Banks Peninsula pest district. This programme was adopted by Council and is supported in part through general rates to coordinate the control programme. The contribution made in 2006/07 was \$90,713.00. The output to report on the possum control programme annually to the Banks Peninsula CIP steering group was achieved.

7 Restricted pest programme

A large number of organisms are declared “unwanted organisms”. This means it is an offence under sections 52 and 53 of the Biosecurity Act to sell, propagate or distribute those organisms anywhere in New Zealand. The Regional Pest Management Strategy 2005-2015 lists a further 46 plant species, not currently declared unwanted organisms, as Restricted Pests. These species are restricted in the same way as unwanted organisms in that land occupiers and other persons are not able to sell, propagate or distribute them.

Objective of the Strategy	
(a)	<i>Ensure Restricted Pests known to be present in the Canterbury region are not knowingly spread by sale, propagation or distribution and</i>
(b)	<i>Prevent the establishment of Restricted Pests known not to be present in the Canterbury region.</i>
Budget:	\$15,728
Actual:	\$15,109
Outputs:	
1) Inspect 60% of premises where plants are sold annually including all premises that did not comply at the time of the last inspection.	
Result: Achieved	
Inspections were undertaken at 70% or 91of the premises that are known to sell plants including all premises (one) that did not comply at the time of the last inspection. In the 2006/07 year two premises were found not to not comply with these requirements, both of which voluntarily removed the items from sale.	

8 Enforcement

The costs of enforcement are not managed on a pest category basis. The total budget for all pests in the 2006/07 year was \$101,533 and the actual spent was \$139,896.

418 Notices of Direction were served.
 21 Action on Default notices were issued.
 ECan undertook Action on Default on 7 properties.

9 Advice and education

The costs of education and advice are not managed on a pest basis. The 2006/07 budget for this activity was \$98,835 with actual expenditure being \$71,797.

Static displays were prepared and staffed at:

Go Outdoor Show at Christchurch in partnership with the Department of Conservation

Rangiora A&P Show

Exotic Plant Show, Christchurch

Waitangi Day Okains Bay

Little River A & P Show

Christchurch Boat Show in partnership with the navigational safety section and the

Department of Conservation.

The pamphlet listing all pests in the Regional Pest Management Strategy was reprinted due to high public demand for it.

Pest newsletters were produced for the Kaikoura, Waikariri, Ashley, Selwyn, Ashburton and Banks Peninsula pest districts plus a nassella newsletter for the Hurunui area.

Twelve "Weed of the month" fact sheets were jointly produced with Department of Conservation and Christchurch City Council.

Poster Displays were prepared for:

Christchurch City Council Papanui, Shirley, Redcliffs and Sumner Service Centres

ECan (Weedbusters)

The Weedbusters programme has continued to be strongly supported in the community and has seen new groups continue to be formed.

Assistance has been provided to the Department of Conservation in its project of developing a "Plant me instead" booklet for the region. This booklet identifies 30 introduced plants that are commonly planted in gardens and are spreading in the wild. A number of native plants and non invasive introduced plants are described as alternatives to be planted instead.

For some years a group of field staff from Christchurch City Council, Department of Conservation and ECan have met regularly to strategically manage weed programmes that have objectives common to the three agencies. This group has proved very successful and was the initiator of the coordinated programme on purple loosestrife, the shared internet database, the weed of the month pamphlets and it generally coordinated weed control issues in the greater Christchurch and Banks Peninsula areas.

The Weedbuster liaison group consisting of field staff from ECan, the Department of Conservation, Christchurch City Council and some contractors has continued to meet regularly to increase knowledge of these practitioners. As a consequence of this initiative two new sites of Phragmites, one of Beggars tick and one of Senegal tea have been discovered.

A number of articles have been written for regional and community newspapers, information is provided on request, staff speak to garden and other clubs and organise field days. Biosecurity staff proposed and managed a \$20,000 a Didymo publicity campaign to raise public awareness as well as setting a number of cleaning stations in partnership with DOC, Fish and Game, Meridian Energy and Biosecurity New Zealand. The cost was funded by Biosecurity New Zealand.

Appendix 1: The funding of the Regional Pest Management Strategies

Pest Activity	Funding Source / Rate Type	
	Rural Land Occupier	Regional Community
Rabbits		
Inspection and Advice / Education		
Mackenzie, Omarama, Kurow	33% Pest Management Rate – Works and Services (Pest Rating District)	67% General Rate
Kaikoura, Amuri, Waikari	50% Pest Management Rate – Works and Services (Pest Rating District)	50% General Rate
Other Rabbit Pest Districts	75% Pest Management Rate – Works and Services (Pest Rating District)	25% General Rate
Service Delivery		
Banks Peninsula, South Canterbury	100% Pest Management Rate – Works and Services (Differential)	
Other Districts	100% User Pays	
Monitoring		
All Districts	50% Pest Management Rate – Works and Services (Uniform)	50% General Rate
Wallabies		
Inspection, Advice/Education and Monitoring		100% General Rate
Service Delivery	100% User Pays	
Rooks		
Inspection, Monitoring and Service Delivery	100% Pest Management Rate – Works and Services (Pest Rating District)	
Total Control Plant Pests		
Coltsfoot and Entire Marshwort Inspection and Advice/ Education		100% General Rate
Other Total Control Plant Pests Inspection and Advice/ Education	90% Pest Management Rate – Works and Services (Pest Rating District)	10% General Rate
Service Delivery	100% Pest Management Rate – Works and Services (Uniform)	
Monitoring	50% Pest Management Rate – Works and Services (Uniform)	50% General Rate

Pest Activity	Funding Source / Rate Type	
	Rural Land Occupier	Regional Community
Progressive Control Plants		
Inspection and Advice/ Education	50% Pest Management Rate – Works and Services (Pest Rating District)	50% General Rate
Monitoring	50% Pest Management Rate – Works and Services (Uniform)	50% General Rate
Containment Control Plants		
Gorse and Broom Inspection and Advice/ Education	90% Pest Management Rate – Works and Services (Pest Rating District)	10% General Rate
Nodding Thistle and Ragwort Inspection and Advice/ Education	100% Pest Management Rate – Works and Services (Pest Rating District)	
Old Man's Beard Inspection and Advice/ Education		100% General Rate
Service Delivery	100% Pest Management Rate - Works and Services (Pest Rating District)	
Monitoring	50% Pest Management Rate – Works and Services (Uniform)	50% General Rate
Surveillance Plants		
Inspection, Advice/Education		100% General Rate
Monitoring		100% General Rate
Other Activities		
Enforcement All Pests	User Pays wherever possible	General Rate where it is not possible
Investigation – All Pests	50% Pest Management Rate - Works and Services (Uniform)	50% General Rate

The Regional Pest Management Strategy (Biodiversity Pests) is funded 100% from General Rate.

Appendix 2: Pest Management Liaison Committee areas

