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Committee Environmental Wellbeing Committee  
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## Regional Possum Predator Control Programme Review

### 1. Purpose

The purpose of this report is to:

- Provide the Committee with an update of the activities undertaken as part of the Regional Possum Predator Control Programme (RPPCP) which commenced in the North Wairarapa during the 2010/11 year.
- Identify the key points for Greater Wellington within the Animal Health Board's (AHB) new National Pest Management Strategy for Bovine Tb.
- Outline the benefits of continuing the RPPCP.
- Recommend a long term approach for RPPCP operations.

### 2. The decision-making process and significance

The matter requiring decision in this report has been considered by officers against the requirements of Part 6 of the Local Government Act 2002 (the Act).

#### 2.1 Significance of the decision

Officers have considered the significance of the matter, taking into account the Council's significance policy and decision-making guidelines. Officers recommend that the matter be considered to have low significance.

Officers do not consider that a formal record outlining consideration of the decision-making process is required in this instance.

### 3. Background

Prior to the implementation of the Animal Health Board (AHB) programme in the early 1990s, the Wellington Region generally experienced high possum numbers, with a Residual Trap Catch (RTC – percentage of possums caught per 100 trap nights) index of 25-30% in any given area. AHB funded research determined that, to break the bovine Tb cycle, possum populations must be

reduced to and maintained below an RTC of 2.0%. Conservation research has determined that possum populations should be reduced to RTC of 5.0% or less to achieve biodiversity benefits.

The former Catchment Management Committee (CMC) and Council have previously been informed regarding the RPPCP in reports 08.137, 08.518, 08.607 and 10.393.

In 2008 the CMC supported the introduction of the RPPCP (report 08.973) and resolved that annual expenditure of \$1.296m (2009/10) rising to \$1.93m (2015/16) be included within the proposed 2009-19 Long Term Council Community Plan (LTCCP). This resolution was subsequently revised in Council's response to the 2009 financial crisis. Implementation of the RPPCP was delayed and funding significantly reduced. The LTCCP was allocated \$30,000 in 2010/11 increasing to \$765,000 per annum by 2020/21.

Implementation of the current RPPCP is triggered by the declaration of Tb freedom by the AHB. The current eradication focus of the AHB is the northern parts of Wairarapa and the Otaki area. Landowner surveys have indicated that the local communities strongly support ongoing possum control in the absence of the bovine tb programme.

#### **4. RPPCP Activities – 2010/11**

For the 2010/11 year, Council had approved \$30,000 to undertake monitoring of the areas declared bovine Tb free. To minimise the anticipated increase of possum numbers in the Tb free zone a further \$100,000 from Council Bovine Tb reserves was made available to commence control activities.

The North Wairarapa RPPCP management area (19,229ha) was split into 13 strata, 11 of which were to be treated as RPPCP. Pre-control possum number trend monitors have been undertaken to inform management of the control programme (Table 1).

The two strata not included as RPPCP have already had control work completed by GW and DoC in association with the Pukaha-Mt Bruce Mainland Island and GW buffer programmes.

In all RPPCP areas the public readily accepted and welcomed the programme. Only three properties remain outside the RPPCP for the following reasons.

- One property (8 ha) opposed the method (use of bait stations and brodifacoum bait), but would accept trapping.
- JNL forest (992 ha) could not consent to the project because they do not have derogation under the Forest Stewardship Council to use brodifacoum within the forest.
- One landowner (607 ha) was aggressively opposed to allowing GW access to undertake control activity. This negativity did cause a change to the strata boundary and correspondence was provided to the landowner outlining Councils options.

An external contractor was engaged to undertake a trend monitor before control commenced and BioWorks were contracted to undertake input control works.

Control included two service rounds applying brodifacoum to bait stations.

**Service round 1:** Included the purchase and installation of 1,917 Kilmore bait stations, each filled with brodifacoum. This work was completed between 7 February and 16 March 2011.

**Service round 2:** Involved the replenishment of all bait stations with brodifacoum. The work was undertaken between 1 and 24 June 2011. In all areas bait acceptance has been recorded and this information will be used to assist in preparing future work plans.

A further trend monitor will be undertaken during late winter to gauge the effectiveness of the control implemented to date. These results will guide the control plan for the 2011/12 year. In addition a newsletter will be provided to all land owners involved to keep them up to date with control activities.

### Costs

	<b>Budget</b>	<b>Actual / Estimate</b>
Monitoring	30,000	13,460
Control	100,000	88,398
<b>Totals</b>	<b>130,000</b>	<b>101,858</b>

**Table 1: Trend monitoring and control results**

<b>Strata Name</b>	<b>Area (ha)</b>	<b>RTC trend monitor results</b>	<b>Bait stations installed</b>	<b>Brodifacoum used, 1<sup>st</sup> service (kgs)</b>	<b>Brodifacoum used, 2<sup>nd</sup> service (kgs)</b>
McLavs	352	9.5%	91	45.5	43.5
Pukaha	471		0	0	0
Pukaha Buffer	1688	1.3%	0	0	0
West Rd – North Rd	1286	16.6%	142	70.5	54.5
Hastwell	2308	14.3%	239	119	108
Mangamahoe Central	1500	4.1%	151	76.5	65
Drvers Rock	1711	9.9%	184	106	61
Drvers Rock exclusion	607	9.9%	0	0	0
Clelands Rd	1233	2.8%	128	53.5	56.5
Wairiri	1717	6.9%	185	92.5	79.5
Waimapu	1359	3.5%	284	142.5	115
Te Awa	2483	3.4%	352	176	54
Castlehill MR 1	1522	0.7%	161	81	70
Castlehill JNL	992	4.4%	0	0	0

<b>Totals</b>	<b>19,229</b>		<b>1,917</b>	<b>963</b>	<b>707</b>
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## 5. Revised AHB National Pest Management Strategy for Bovine Tb

The AHB has recently completed a review of their National Pest Management Strategy (NPMS) and a new strategy will be in place from 1 July 2011 onwards.

The AHB's new strategy has adopted a policy of containment as it considered there is insufficient funding to pursue an eradication strategy within New Zealand at this time.

The new strategy focuses on the following key points:

- By 30 June 2025 to have eradicated Tb from wild animal populations over 2.5 million hectares. Provide proof of freedom concept that Tb can be eradicated from a full range of Tb wildlife habitats in New Zealand.
- Prevent the establishment of Tb in possum populations in vector free areas during the term of the strategy.
- Maintain the national annual Tb infected herd period prevalence at the lowest rate possible, while achieving the above objectives and at no greater than 0.4% during the term of the strategy.

Within the new strategy the Wellington Region is divided into three classifications (see Maps 1 and 2).

1. **Eradication** – includes 319,000ha, which is proposed to be progressively declared bovine Tb free by June 2025.
2. **Buffer** – includes 144,000ha which will not be declared bovine Tb free before 2025. This area will receive regular possum control every two to three years to maintain possum levels below 2.0% RTC. Control will be allocated regularly with minimal trend monitoring to occur.
3. **Suppression** – includes 335,000ha and will receive less frequent possum control, likely to occur on four to six year rotations with a target of 2.0% required. The area is also proposed to receive some trend monitoring.

### 5.1 Proposed AHB strategy milestones

In 2008 the AHB ceased bovine Tb vector control over approximately 19,000ha of the region. The intent of the new AHB strategy is to declare larger areas bovine Tb free over the next 15 years (Table 2). Most of these areas are within rural Wairarapa and are farmed.

**Table 2: Summary of AHB Strategy milestone land areas**

	<b>AHB Tb free area (ha)</b>	<b>Potential RPPCP area (ha)</b>
June 2008	19,229	18,758
June 2012	3,849	3,849
June 2013	48,026	37,922
June 2016	97,606	68,004
June 2019	50,521	50,521
June 2022	52,140	52,140
June 2025	47,569	47,569
<b>Totals</b>	<b>318,940</b>	<b>278,763</b>

Note: the areas suitable for the RPPCP exclude Crown land and urban landscapes.

## **5.2 AHB NPMS effects on ‘Suppression Area’**

It is likely that possum abundance will increase in “suppression areas” which may also cause bovine Tb infected cattle and deer herd numbers to increase. Much of the suppression area is situated within the South Wairarapa District, an area where considerable effort and funding has been made to successfully reduce bovine Tb infection rates in cattle and deer herds.

The new AHB strategy will jeopardise many of the gains that have been made in this area, which may lead to a loss of confidence by those farmers who have seen GW leading the way for possum control over number of years.

Much of the South Wairarapa has higher levels of possum habitat than elsewhere in the Region and has the ability to support increased possum numbers. Under the new Tb strategy most of these areas will only be treated every four to six years, therefore possum population expansion is inevitable. For example, projected increases from relevant strata are provided in Table 3. If the AHB leaves control for a further two years possum populations will almost double again from the estimates listed below.

**Table 3: Projected possum population expansion by strata**

Strata Name	2006/07	2007/08	2008/09	2009/10	2010/11	Next Control	Estimate pop @ 40% increase / yr
Akatarawa HR 1			2.91*	1.67*		2014/15	>14 %
Akatarawa HR 6			1.97*	0.96*		2014/15	>11 %
Hutt Valley HR 1			4.07*	6.13		2013/14	>23 %
Hutt Valley HR 2	2.7*	1.21	2.64		1.21	2014/15	> 9 %
Sth East Wai S.1 HR 1	0.2*	0.62*	2.75	1.27	1.88*	2015/16	>15 %
Sth East Wai S.1 HR 6	1.2*	2.76	0.31	3.09	0.61*	2015/16	>10 %
Sth East Wai S.1 HMR 5	1.8	0.3*		5.11	0.3*	2015/16	>9 %
Sth East Wai S.2 HMR 4	2.0*	0.67	2.8	5.25	0.67*	2014/15	>7 %
Sth East Wai S.2 HMR 6	0.7*			6.77	2.0*	2014/15	>11 %
Sth East Wai S.3 HR 4	1.5*	0.9*	2.64	10.63	1.3*	2012/13	>5 %

*\* denotes performance monitor following possum control.*

## 6. Options for non AHB control areas

Within the Region there is approximately 100,000 ha of land not owned by the Crown and not under any AHB programme. All of these areas are west of the Rimutaka and Tararua Ranges. These areas were considered for inclusion within the RPPCP proposal in 2008 but were rejected due to resource constraints.

Initially, 50,000ha on the western side of the region could be included within the RPPCP. These areas exclude urban and KNE areas, GW forests and parks, Crown land and other major forested areas.

Suitable areas that could be included within the RPPCP include:

- Makara, Ohariu, Belmont and Haywards 27,500 ha\*
- Porirua Harbour to Kapiti 19,000 ha
- Orongorongo 3,000 ha

A further 7,000 ha could be included within the programme at a later date, which includes heavy bush cover in the Kapiti Coast area.

\*The Makara Ohariu Belmont area currently does not receive bovine Tb control, but is likely to gain a Tb freedom status based on the absence of the disease in wildlife by surveying possum and pig populations.

## **7. Reasons for implementing a Regional Programme**

Over the last 20 years there has been a high financial input from the AHB and GW to control possums and other pests with the goal of eradicating Bovine Tb from cattle and deer herds. Future possum control programmes should aim maintain and build on this legacy, capitalising on the lower cost that maintenance work offers compared to controlling high possum densities.

Possum control offers protection to a range of values which provide environmental, social, and economic benefits to both rural and urban communities alike. These values include:

- Ecosystem health and biodiversity
- Land management and soil erosion control (catchment plantings)
- Riparian plantings
- Crop and pasture protection
- Prevention of possum nuisance effects
  - Farm building, implement sheds and haystacks
  - Amenity values
- Bovine Tb disease insurance and prevention
- General public dislike of possums and predators
- Threat to economic values

### **7.1 Ecosystem health and biodiversity values**

GW delivers a considerable Key Native Ecosystem (KNE) programme throughout the Region. These KNE areas are continually under reinvasion pressure by possums from areas that do not receive possum control. If RPPCP effort was applied to adjoining blocks it is expected that possum and predator control costs within the KNE programme would reduce.

An expanded RPPCP would be able to support and increase the bird and native plant regeneration corridors which are provided by the KNE projects. For example, Wellington City have advised they are due to commence a goat eradication project through the Makara Ohariu area and Wellington peninsula. Funding for three years has been obtained from the Department of Conservation (\$185.6k) and Wellington City (\$116.8k). Local landowners and Meridian Energy have offered their support for the goat eradication project. Biosecurity staff also report that landowners would be receptive to possum control if it was introduced in the area. Local community boards have shown great interest in supporting possum control in the area. Some positive informal

discussions have been conducted with Wellington City regarding the introduction of possum control throughout the south-west of the peninsula and some funding may become available if a RPPCP project can be established in the area.

The removal of the major pest browsers (goats & possums) from the area would provide significant enhancement to the local biodiversity. Introducing the RPPCP to this area would provide additional support to the KNE programme.

## 7.2 The economic cost of possum grazing to the Wellington Region

No studies have been conducted regarding the economic losses which occur by possums grazing within the Wellington Region. However, some studies have occurred within the Hawkes Bay and this information is comparable to the Wellington Region. Hawkes Bay instigated research considered that one possum eats the equivalent pasture to 0.009556 stock units. Therefore 105 possums consume the same amount of pasture as one sheep. Possums also eat weeds, indigenous and exotic tree species along with invertebrates and birds, and damage crop and catchment protection plantings. These costs have not been calculated for this report.

The possum carrying capacity of the eradication zone needs to be measured to determine potential grazing losses. By performing a Residual Trap Catch (RTC) index of an area we can roughly establish the possum carrying capacity by relating the index to possum densities per hectare. In the Hawkes Bay the average loss of revenues was calculated by farm type and similar losses could be expected within the Wellington Region. Costs listed below are based on 2008/09 dollars and may require adjustment for seasonal and annual fluctuations.

Landcare Research has determined the following correlations:

**Table 4**

Possum density/ha	% RTC	Average loss of revenue/ha – 2008/09			
		Dairy \$	Beef \$	Sheep \$	Deer \$
0.5	3	1.26	0.35	0.35	0.46
1	5	2.51	0.70	0.70	0.91
2	10	5.02	1.40	1.40	1.82
5	25	12.55	3.50	3.50	4.55

In our region, prior to the implementation of AHB possum control operations during the 1990s, many pre-operational trend monitors occurred. Results discovered that Wairarapa hill country farmland generally produced pre-operation RTC results of 25 to 30%, equivalent to five or more possums per hectare. In some areas initial possum populations reached RTC of 40.0%.

Throughout most of the bovine Tb programme, possum population levels have generally been maintained at RTC 2.0% or less. However, possum populations have the ability to bounce back if left uncontrolled. The area within the north

of the region which ceased vector control in 2008 was RTC monitored in 2010. Within this two-year time span possum population levels had increased to a range of RTC up to 16.6%. Eleven monitors occurred with an average RTC result of 7%, generally equating to 1.5 possums per hectare.

The following table makes growth assumptions based on 33% and 50% increases to the annual possum population.

**Table 5**

Year	Actual RTC Possum results	Assuming 33% Annual increase	Assuming 50% Annual increase
2008	<2.0%		
2010	Range 0.7 to 16.6%	(Av 7%)	(Av 7%)
2011		9.4%	10.6%
2012		12.6%	16.0%
2013		16.7%	24.0%

It is expected that without possum control an increase in possum numbers would occur to pre-control levels of RTC 25 – 30% in five to seven years.

### **7.3 Economic considerations**

There is a range of farming types within the north Wairarapa bovine Tb eradication zone and in the proposed areas to be declared Tb free by 2025. However, the majority of the area includes sheep and beef farming. At pre-initial possum populations (RTC 25%), possum grazing of pastures costs sheep and beef landowners approximately \$3.50/ha.

The commencement of the RPPCP in the north Wairarapa cost approximately \$4.00/ha, which included the costs of bait stations and their installation. The second and following maintenance costs are expected to be approximately \$2.00/ha. Annual monitoring costs are approximately \$0.80/ha but this can be reduced if monitoring is undertaken less regularly. However, monitoring will need to be undertaken regularly in the early years to confirm that the control inputs for the RPPCP is reducing possum populations to below an RTC of 5.0% and ensuring benefits of low possum numbers.

It is expected that implementation of the RPPCP within the west of the region will be more expensive to treat due to the greater number of occupiers, more consultation and travel time required, increased possum habitat and restrictive issues which may be present. However, beside economic benefits the programme would provide greater ecosystem and biodiversity benefits in this part of the region.

### **7.4 RPPCP cost sharing with AHB**

Some planning has occurred in recent AHB budgets and tenders for the 2011/12 year whereby contractors install bait stations during the final year of AHB control. When this control is completed the contractors leave the bait stations behind and GW then incorporates those areas within the RPPCP. If

implemented by AHB, this initiative would result in significant saving (\$2/ha) on initial implementation of RPPCP in new Bovine Tb free areas.

## 8. Recommended RPPCP Programme 2011-2021

When the AHB renewed their strategy (implemented July 2011) it changed the time table for the expected declaration of bovine Tb freedom for a number of areas within the Wellington Region (Map 2). An updated RPPCP, based on the proposed bovine Tb freedom declarations, is provided below. The revised RPPCP also incorporates 50,000 hectares of the western side of the region as per the programme supported in 2008 (subsequently removed from the LTCCP due to cost saving measures).

The new plan includes a possum control strategy based on input contracts using bait station regime (principally using brodifacoum bait), with the infrastructure installed as part of the final AHB contract before an area is declared Bovine Tb.

### Proposed future RPPCP

**Table 6**

Year	2008 Approved RPPCP		Current Budget LTP	2011 Revised Programme		Budget variation
	Area (ha)	Budget (\$)		Area (ha)	Budget (\$)	
2009/10	26,443	1.296 m				
2010/11	34,383	1.539 m	30 k			
2011/12	47,500	1.785 m	190 k	18,758	190 k	0
2012/13	47,206	1.462 m	194 k	79,529	563 k	369 k
2013/14	57,844	1.916 m	301 k	82,529	623 k	322 k
2014/15	57,293	1.782 m	494 k	82,529	623 k	129 k
2015/16			509 k	82,529	623 k	114 k
2016/17			660 k	158,041	1.253 m	593 k
2017/18			765 k	158,041	1.253 m	488 k
2018/19			765 k	158,041	1.253 m	488 k
2019/20			765 k	208,561	1.553 m	488 k
2020/21			765 k	208,561	1.553 m	488k

## Proposed Schedule of projects for revised RPPCP

**Table 7**

Control Area	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
North Wairarapa	18758	18758	18758	18758	18758	18758	18758	18758	18758	18758
Castlehill Pakowhai		3849	3849	3849	3849	3849	3849	3849	3849	3849
Mt Bruce Masterton		30905	30905	30905	30905	30905	30905	30905	30905	30905
Otaki		7017	7017	7017	7017	7017	7017	7017	7017	7017
Carterton						30066	30066	30066	30066	30066
Taueru						17946	17946	17946	17946	17946
Wellington						19993	19993	19993	19993	19993
Whangaehu Bideford									50520	50520
Porirua Kapiti		19000	19000	19000	19000	19000	19000	19000	19000	19000
Orongorongo			3000	3000	3000	3000	3000	3000	3000	3000
Makara Ohariu Belmont Haywards						7507	7507	7507	7507	7507
<b>Totals</b>	<b>18,758</b>	<b>79,529</b>	<b>82,529</b>	<b>82,529</b>	<b>82,529</b>	<b>158,041</b>	<b>158,041</b>	<b>158,041</b>	<b>208,561</b>	<b>208,561</b>

## 9. Summary

The RPPCP implemented in 2010/11 has been very successful. In addition, the North Wairarapa project has provided information to assist with the planning for similar work elsewhere in the Region.

The RPPCP offers a range of benefits to other Land Management activities which are not readily observed. Nowadays possum damage is hardly ever noticed over large parts of the Wairarapa and northern Otaki due to low possum populations maintained under the AHB programme over the past 10-15 years.

The bovine Tb vector control programme has provided significant benefits (listed under Sec 6 above) that are hard to quantify. As further areas are

declared bovine Tb free in the absence of further possum control these benefits will be lost and region will experience and display damage not observed for a very long time.

Without the introduction of the RPPCP in bovine Tb free areas the possum populations will increase to pre-control levels within five to seven years. To ensure the cost of possum control is minimised, ongoing maintenance should occur within one to two years of AHB ceasing control. The areas in the west of the region would benefit from the introduction of an expanded RPPCP by working alongside the territorial authorities and protecting the extensive GW KNE programme.

## 10. Recommendation

*That the Committee:*

1. ***Receives the report.***
2. ***Notes the content of the report.***
3. ***Considers an expanded Regional Possum Predator Control Programme during the preparation of the 2012-22 Long Term Plan.***

Report prepared by:

Report approved by:

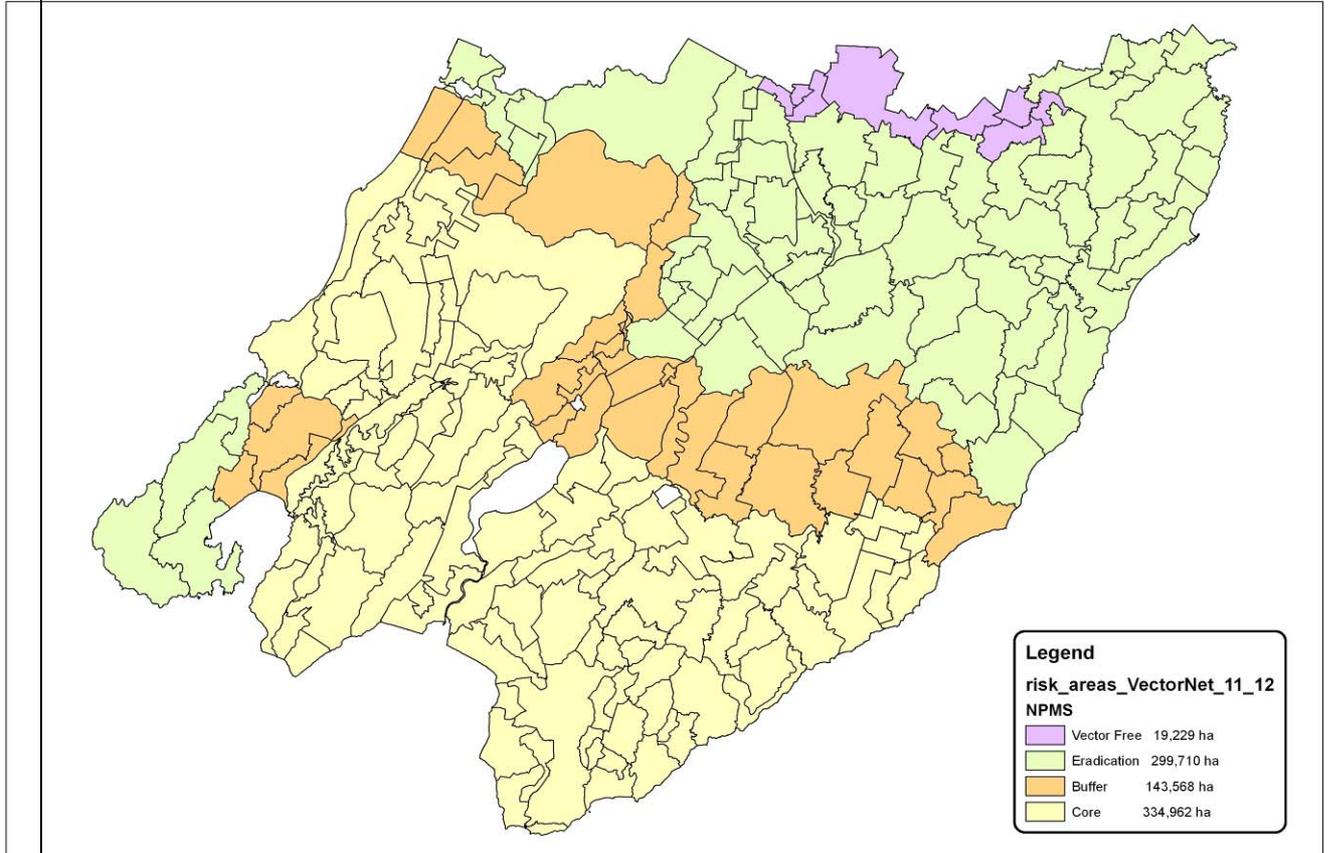


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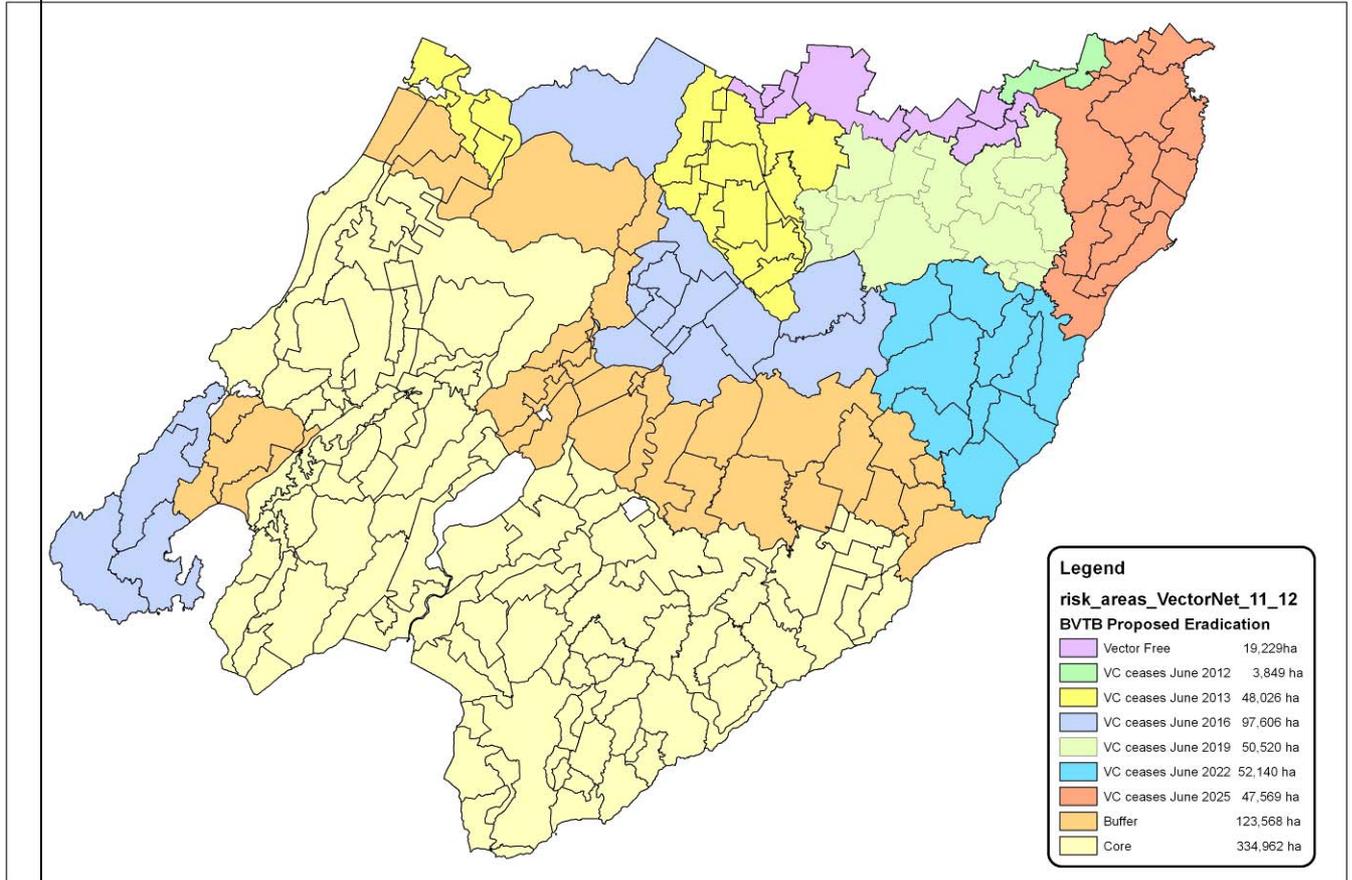
Map 1. AHB vector control programme in GW region (2011-2025)



AHB National Pest Management Strategy - 2011/12

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Map 2. AHB vector control programme in GW region (2011-2025). Planned Tb eradication.



AHB National Pest Management Strategy - 2011/12

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