Operational summary report for the Eglinton Valley 2016-17

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Department of Conservation
Te Papa Atawhai

Overview

The Department of Conservation undertakes continuous stoat and cat control; and periodic rat and possum control when required within the Eglinton Valley to protect a range of threatened species.

This report summarises the animal pest control and result monitoring carried out in the Eglinton Valley between September 2016 and September 2017. Pest species that were targeted for control during the 2016/17 season included stoats, rats, possums and cats. Outcome monitoring and translocations are not covered herein however a transfer of up to 100 mohua from Anchor Island was planned for October 2017.

Stoat control has been carried out in the Eglinton Valley since 1998, and traps have been checked and rebaited every four to six weeks (up to 9 times per annum). The trap network was expanded this past year. An additional trap line containing 79 traps was installed on the true right of the Eglinton River. This extension was paid for by Go Orange as part of an ongoing sponsorship for kaka protection in the Eglinton Valley. See Appendix 1 for map of the current trap network which now numbers 530 traps of different types. This includes 55 roadside traps that start at Marian Corner and head up the Hollyford River towards Homer Tunnel.

Rodent and mustelid abundance is monitored using standard tracking tunnel methods, and is typically carried out quarterly each year. Seedfall monitoring is reported nationally, with sampling points set up in February and results collected in May. These results are reported herein.

Following the 2016 beech masting event, an aerial 1080 operation was undertaken in the Eglinton Valley on 14 October 2016 targeting rats, stoats and possums. See Appendix 2 for a map of the area treated. The ground control bait station grid was not activated at this stage. Preliminary post monitoring results suggested a good knock down of rats, however in May and August there was an unexpected increase in rat numbers. While the increase was patchy across the tracking network, it was enough to threaten mohua and bat populations. A decision to reactivate the bait station network was made in late September 2017. At the time of writing this operation was still underway.

Mustelid Control

The network in the Eglinton Valley is comprised of mostly double-set stainless DOC 150/200 traps, and a few lines of old style single-set DOC 200 traps. The servicing of the stoat traps was offered to a network of preferred suppliers in early 2017. The incumbent supplier, Huntsman Ltd (Ben Crouchley) secured the contract for two years from July 2017 to July 2019. Capture data is represented in the following graphs

A total of 28 stoats were caught in the year from September 2016 through to September 2017. In the previous 12 months 73 stoats were caught. This may reflect the effects of secondary poisoning on the stoat population from the aerial 1080 operation carried out in October 2016. No stoats were caught until January. Results from the past two years are graphed in Figure 1, below. No ferrets were caught this past year.

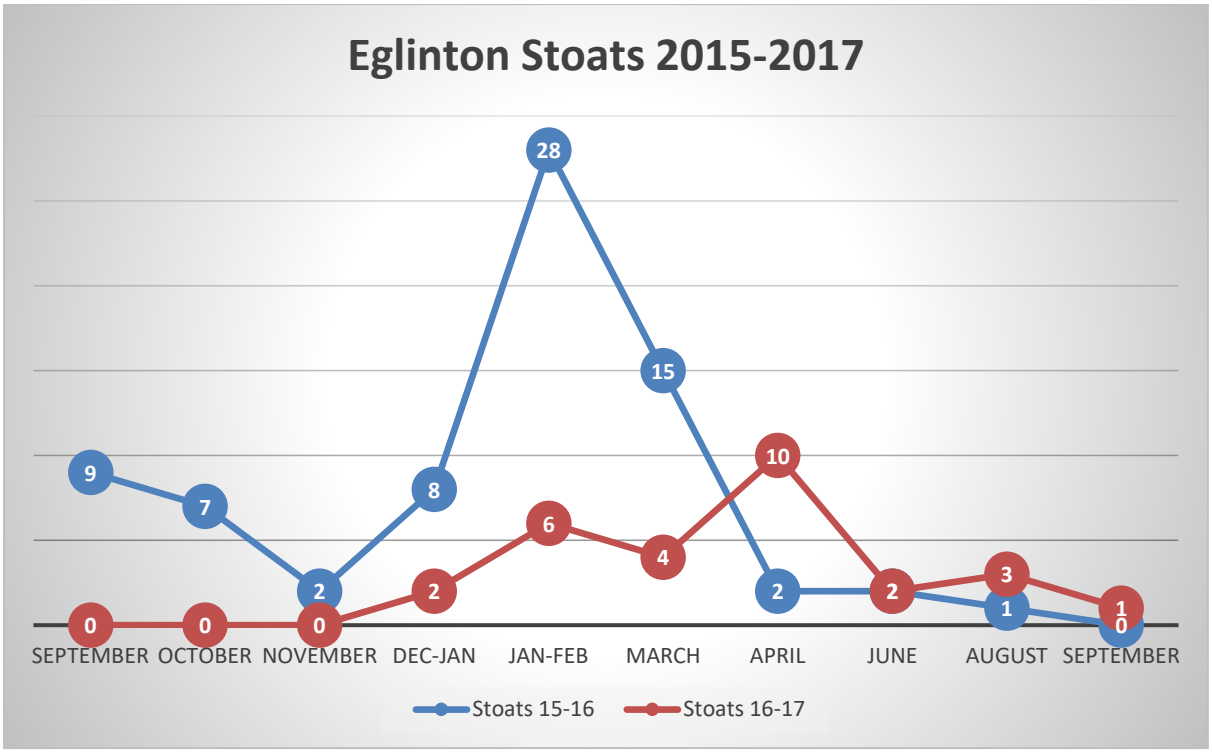


Figure 1: Stoat captures in the Eglinton Valley

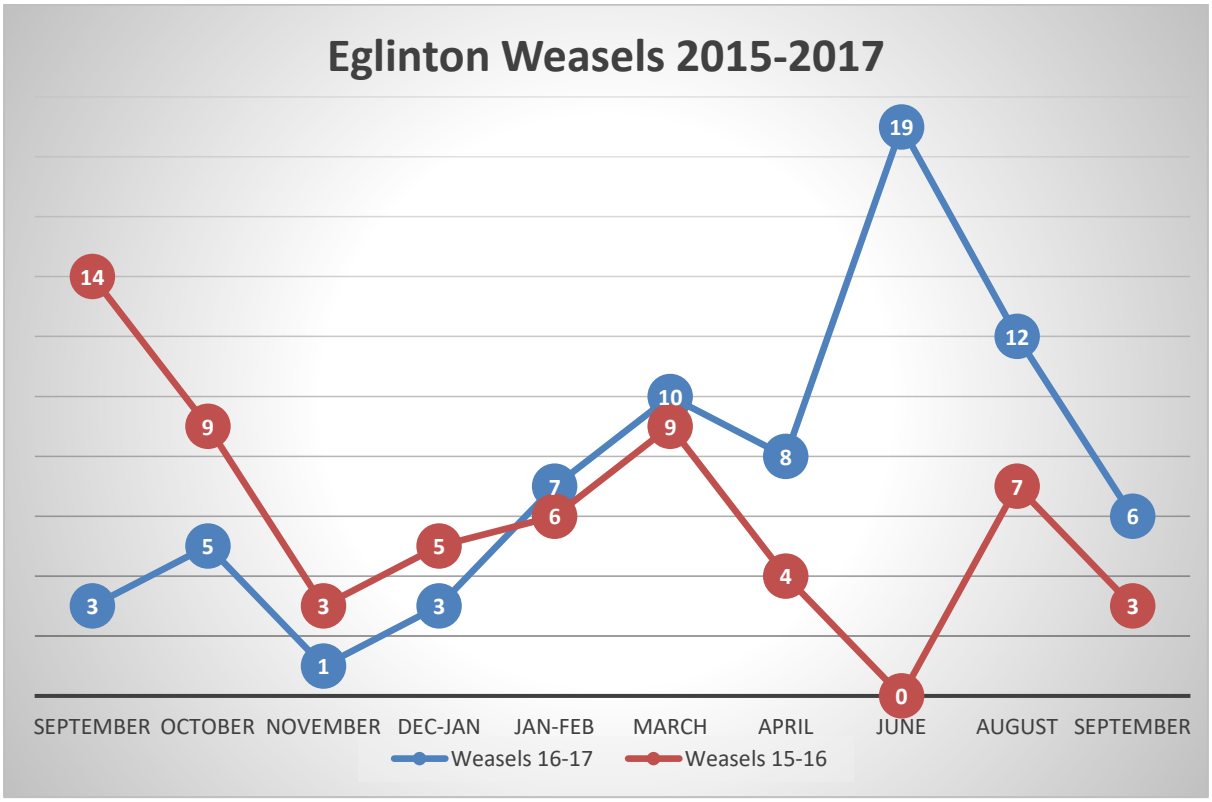


Figure 2: Weasel captures in the Eglinton Valley

Following the October 2016 aerial 1080 operation weasel numbers dropped away like other pest species in the Eglinton. However, approaching winter 2017 numbers caught increased to significant levels before dropping away again. This is a repeat of the pattern from the previous year. See Figure 2, above, for weasel captures from the past two years. Anecdotal evidence from this and other 1080 and trapping operation suggests that immediately following 1080 use weasel numbers will increase. The dynamics driving this behaviour is unknown, and should be investigated further.

Rat Control

The total yearly rat capture of 732 was higher than expected in a year following a 1080 operation. Rat captures declined as expected in the months after the operation however there was an unexpected spike in rat captures in December 2016 before they dropped off again. This could be explained by voids used in the 1080 operation. In late summer 2017 rat numbers again began to increase and spiked at a high point in August/September. This is reflected in tracking tunnel results featured later in this report. We had a very mild winter in Fiordland and this could go some way to explaining this phenomenon. Figure 3 shows rat captures from the last two years.

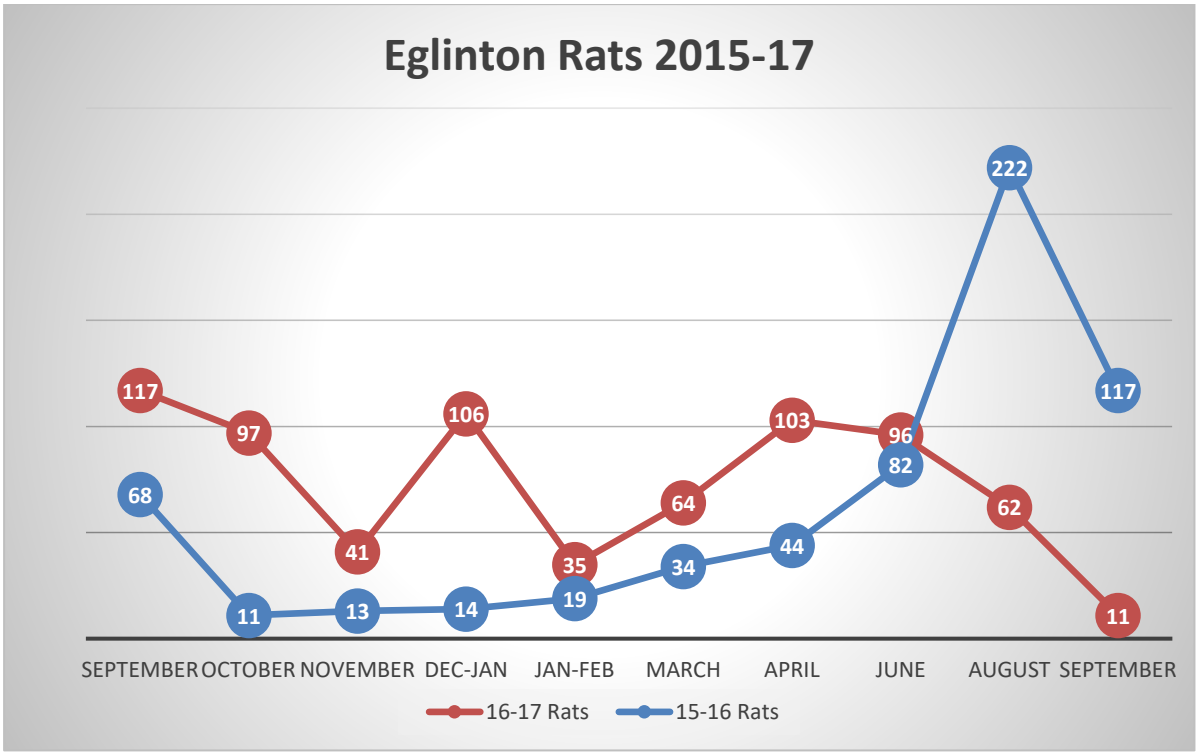


Figure 3: Rat captures in the Eglinton Valley

Cat Control

The density of feral cats and the effect they are having on local native wildlife continues to be largely unknown. Feral cats have been present in the Eglinton Valley for several years, and infrequent localised attempts to live capture them in cage traps have been made, with little

success. Cats have also been captured in stoat trap tunnels as non-target by-catch since the trapping programme began.

This season was the sixth that cats have been targeted with cat specific traps, with traps spread between the National Park boundary and Cascade Creek, in areas where cat sign had previously been reported DOC Te Anau receives frequent reports of cat sightings in the Eglinton, both from staff and the public, with some sighting multiple cats at one location (i.e. Knobs Flat).

There are currently 33 cat traps in the Eglinton Valley. Three styles of kill-traps are currently used: 9 x double Conibear traps, 12 x Timms traps and 12 x SA2 traps. These designs are considered current Best Practise options and have passed NAWAC tests for cats. All traps were baited with fresh rabbit meat. However, SA2s use an additional lure of peanut butter and cat biscuits at the entrance of the trap. Traps were checked 10 times during the 2016/17 season. 13 cast were caught in this time, a significant number of these were caught in winter 2017. See Figure 4 for a breakdown of captures per month, and figure 5 for a map of cat captures.

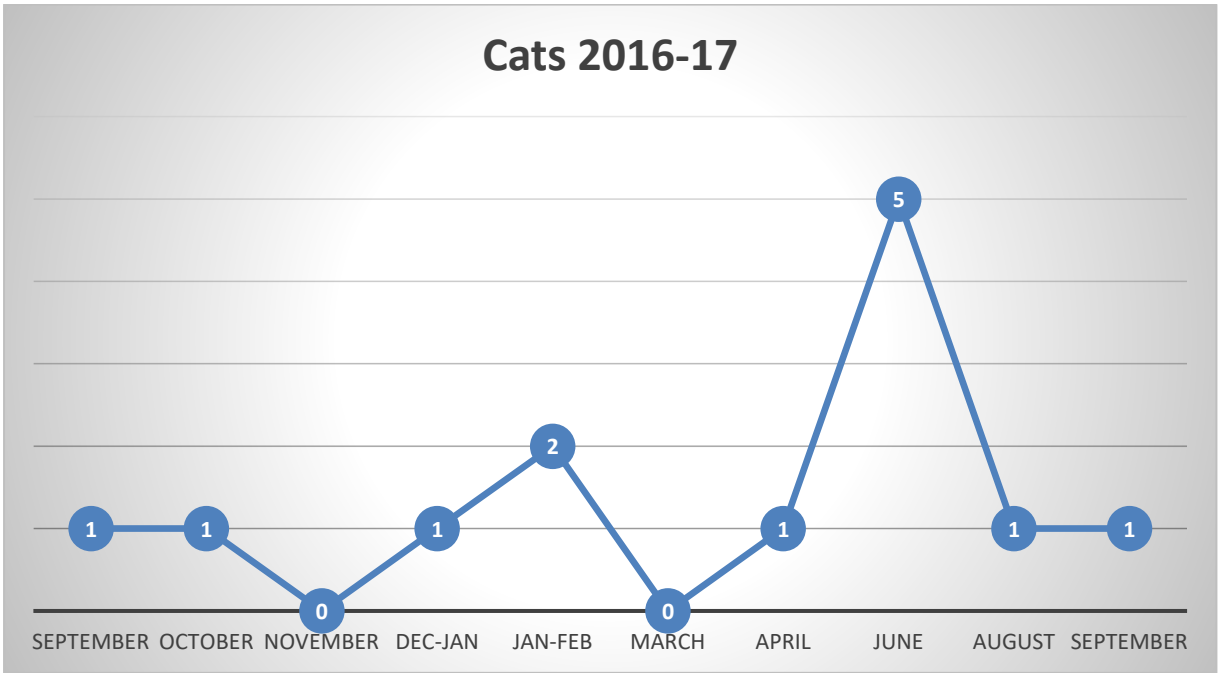


Figure 4: Cat captures in the Eglinton Valley

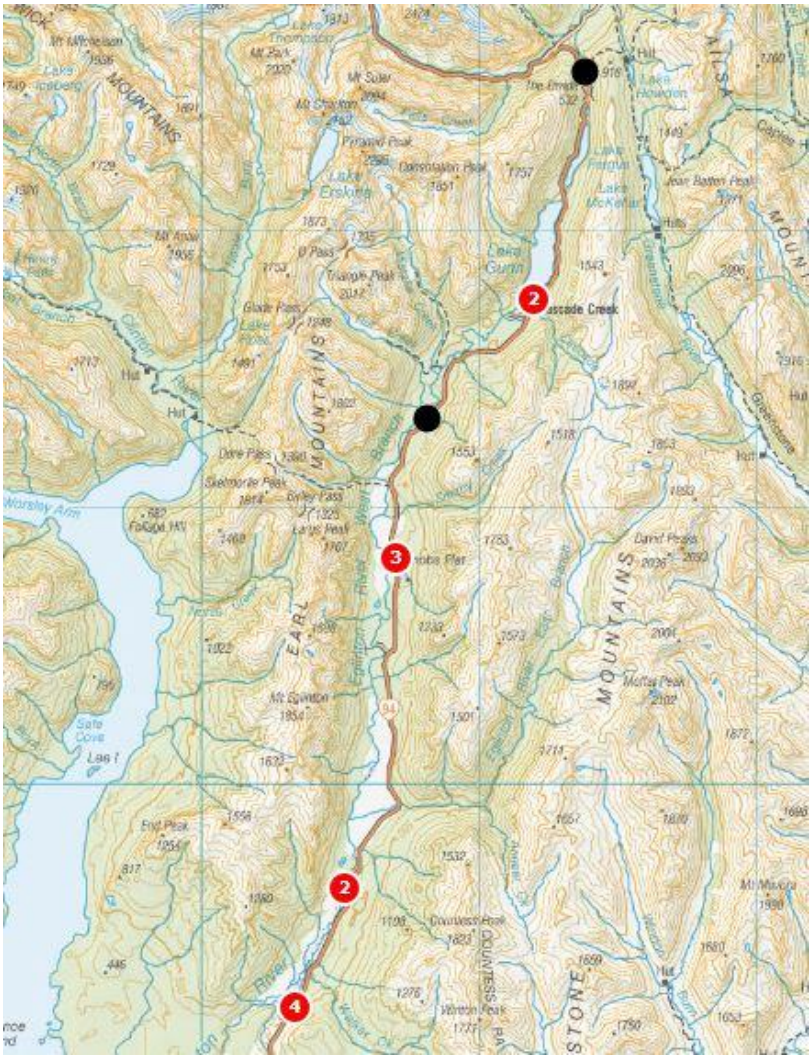


Figure 5: Cat capture locations

Battle For Our Birds 2016

The level of beech seeding recorded during autumn 2016 was sufficient to drive an increase in rodent numbers and an aerial 1080 operation took place in the Eglinton on 14-15 October 2016. This operation was contracted out to Eco FX Ltd and Heli Otago. 24,246 hectares in total was treated. A map of the area treated can be found in Appendix 2. Further information can be found in the Pestlink report for the operation (Pestlink report 1617TEA05).

Seedfall monitoring

Monitoring the amount of beech seed that falls in autumn is a useful way to predict probable trends in rodent and stoat populations for the following season. A high level of beech seeding was recorded last year in autumn 2016. This was a factor in deciding to proceed with an aerial toxin application targeting rats and possums in October 2016. In comparison, this year was similar to 2015 with very little, but some, viable seed around Data from the past three years can be seen in Table 2.

Table 2 – Total seeds per m2 for each line, February to May, for 2015, 16 and 17

	Walker Creek			Knobs Flat			Plato Creek			Eglinton		
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Red beech	2	2262	13	0	669	55	0	581	10	50	390	11
Mountain beech	0	88	0	0	111	0	0	127	0	8	811	14
Silver beech	0	0	0	2	334	41	0	62	3	3	8	38
Total	2	2350	13	2	1114	96	0	770	13	61	1209	63

Rodent and stoat monitoring data

Monitoring of rodents and mustelids is carried out using a network of tracking tunnel lines following the standard protocol of lines of ten tunnels 50 metres apart described by Gillies & Williams (2005). The tracking tunnel network sample design was changed in 2016 to move to a consistent sample design being used nationally for the collection and interpretation of rodent and stoat data. Four sets of 'ridge to river' runs (each set containing 5 lines of 10 tracking tunnels) were established – which provides data that can be analysed to assess rodent growth along altitudinal sequences. The new network also eliminates potential bias from treatment voids in the managed area that could potentially skew analyses. Rat tracking before and after the 2016 1080 operation is tabled below. Initially a good knockdown of rats was achieved however this began to climb again at the end of summer. Rat tracking was patchy in the Eglinton Valley with some areas tracking no rats and other lines tracking 50% and more. This triggered a response of checking more lines and at the time of writing a bait station response was being planned. Figures 6 and 7 give a graphical representation of rat and mouse numbers by altitude for the year.

Table 3 - Average tracking rates (%) for monitoring lines run during 2016-2017

	Rodent monitoring			Stoat monitoring	
Date	# rodent lines run	Rat	Mice	Actual date	Stoats tracked
August 2016	27	10%	7.5%	Sept 16	0
November 2016	28	3.5%	28%	Nov 16	0
January 2017	16	5%	58%	Jan 17	5*
February 2017	12	4.2%	63%		
April 2017	28	27%	83%	March 17	28 out of 110 tunnels
May 2017	14	17%	54%		
September 2017	11	16%**	8%		

**all tracked on one line at Boyd Creek*

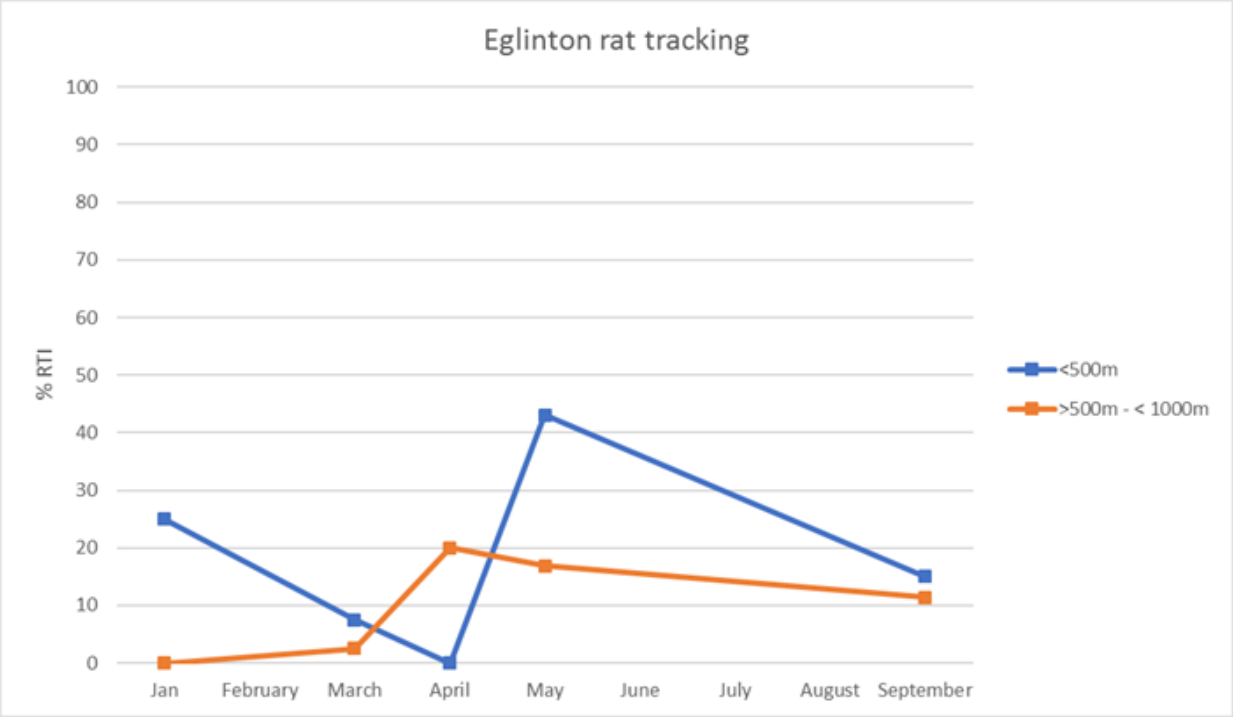


Figure 6: Rat tracking in the Eglinton Valley 2017

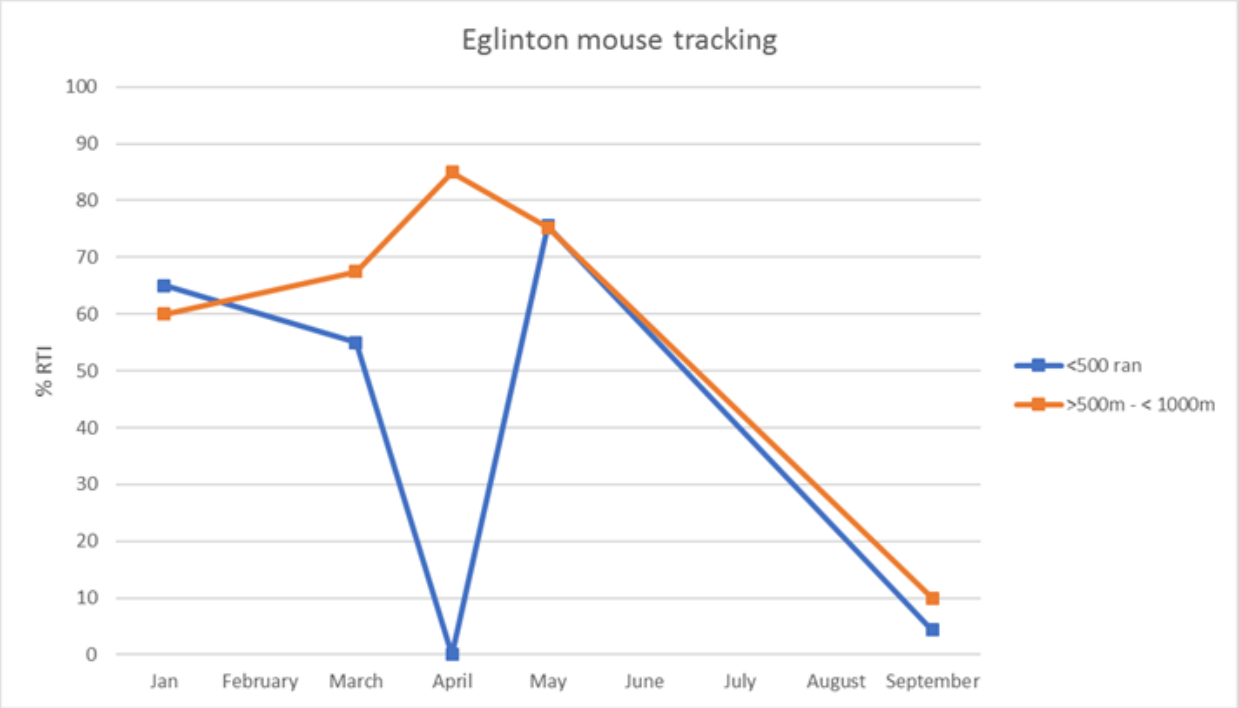


Figure 7: Mouse tracking in the Eglinton Valley 2017

Go Orange sponsorship and trap network expansion

Local tourism operator Go Orange donated $20, 000 to the Eglinton Valley project this past year in what is hoped will be an ongoing sponsorship of the project. Several options were considered for this money and it was decided to install a new trap line on the true right of the Eglinton River running from Mistake Creek to Knobs Flat. See Figure 8 for a map of the new trap line.

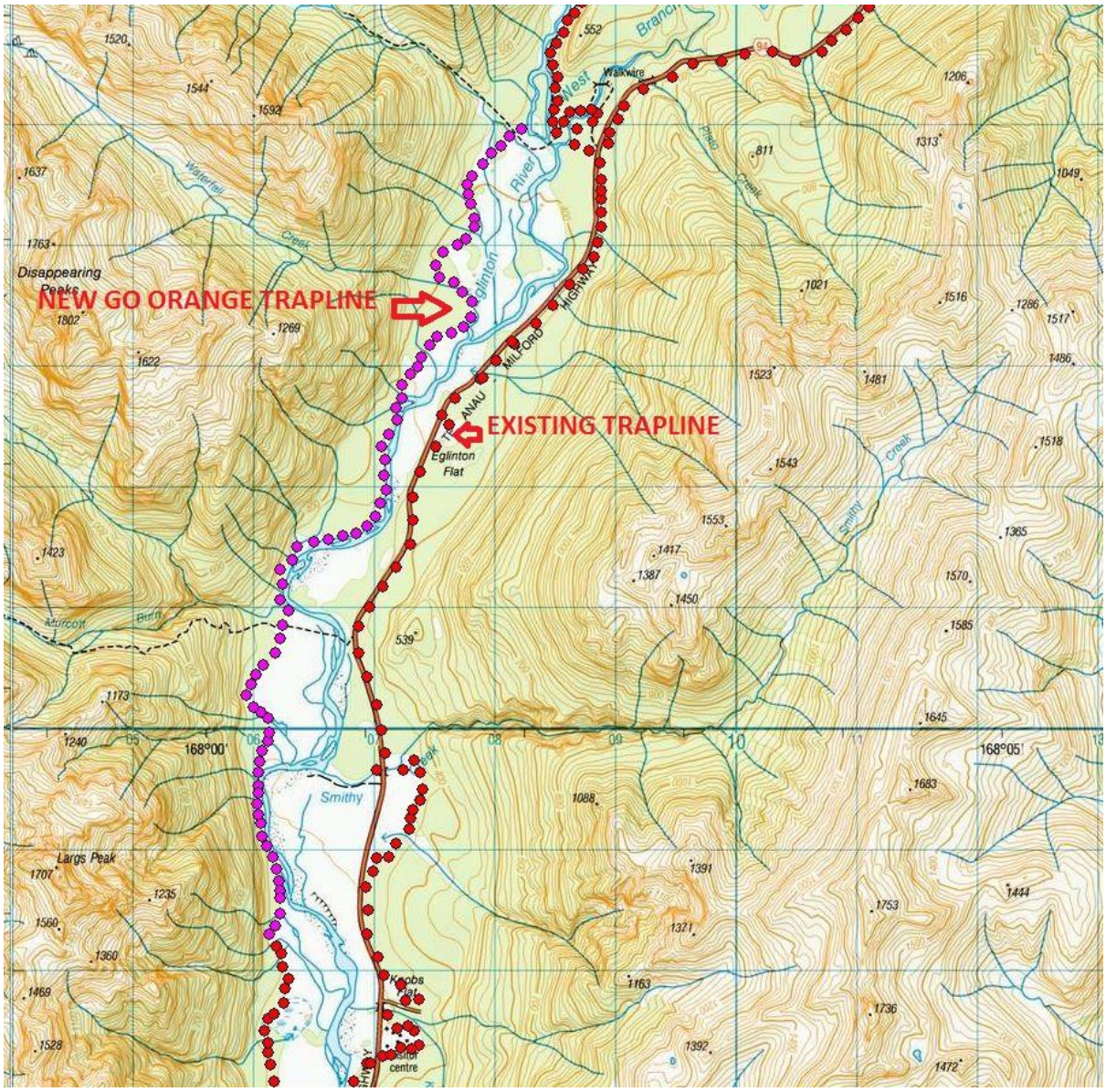
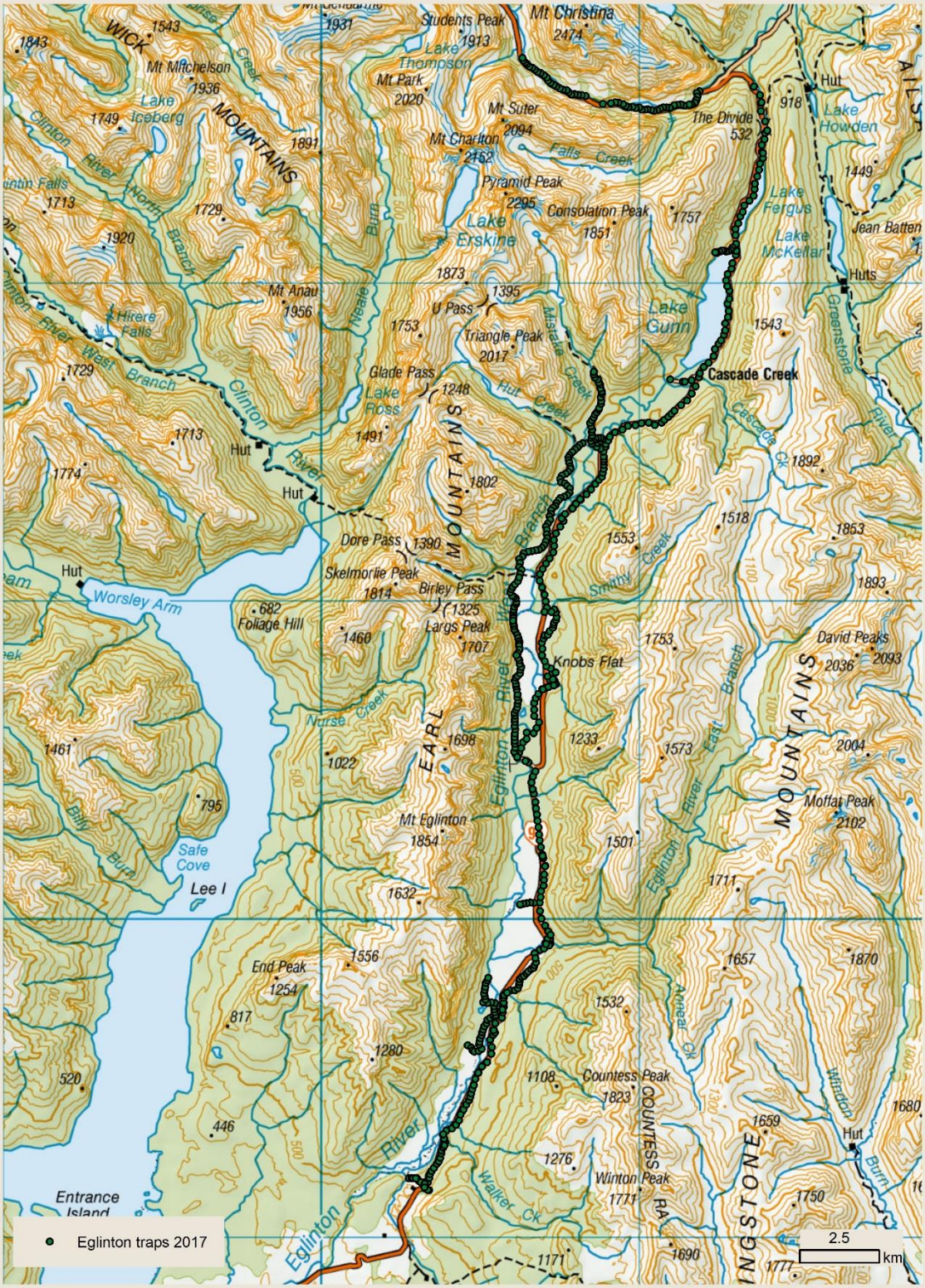


Figure 8: Go Orange sponsored trapline

Appendix 1 -Eglinton Valley stoat traps 2017



Eglinton Valley stoat traps

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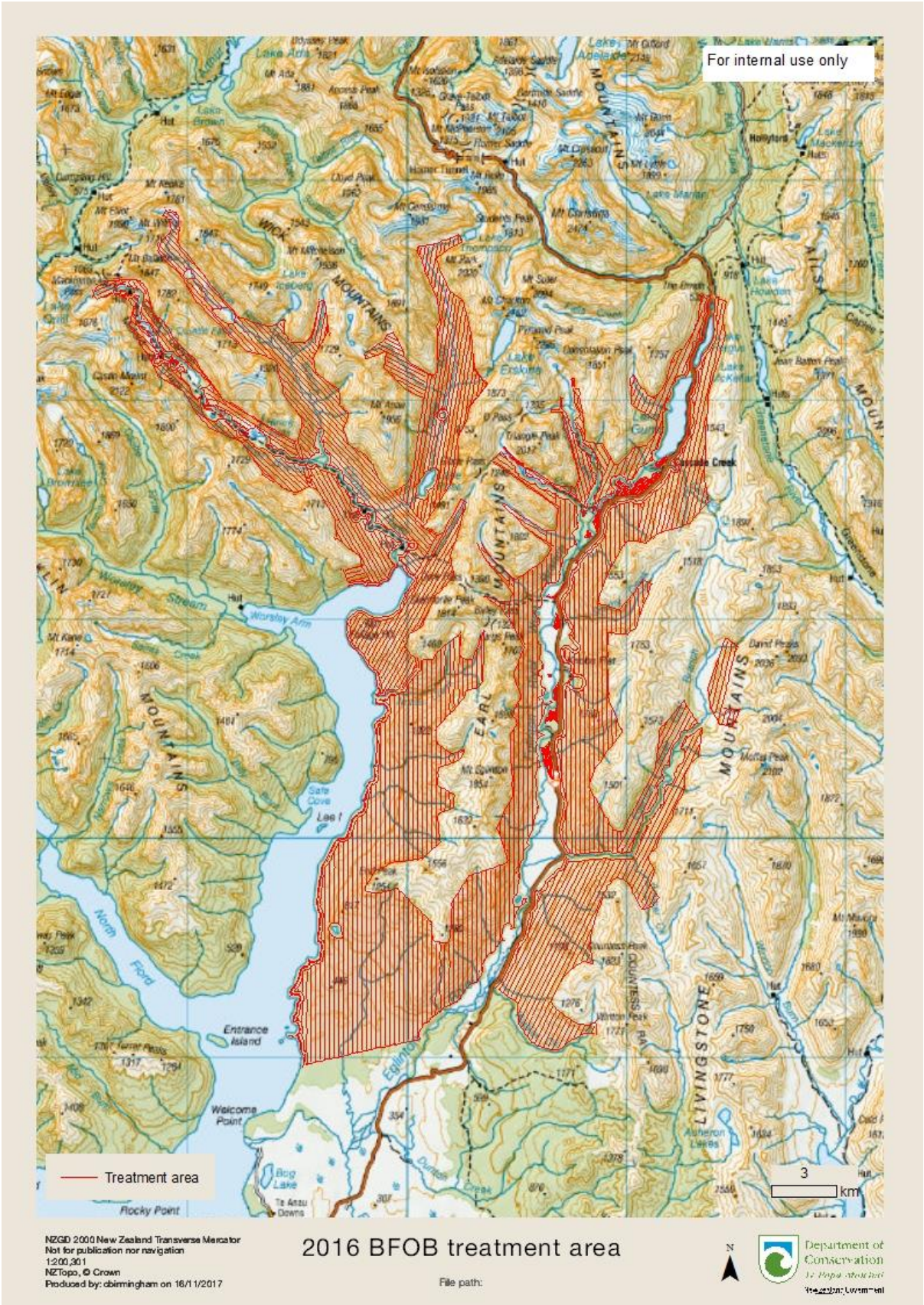
Appendix 2 – Battle For Our Birds treatment area 2016



APPENDIX 2 – KILL TRAPPING RESULTS

Trap capture results 16/17	STOAT (15/16)	RAT (15/16)	WEASEL (15/16)	CAT (15/16)
Sep-16	0 (9)	117 (68)	3 (14)	1
Oct-16	0 (7)	97 (11)	5 (9)	1
Nov-16	0 (2)	41 (13)	1 (3)	0
Dec-16	2 (8)	106 (14)	3 (5)	1
Jan- Feb 17	12 (28)	35 (19)	7 (6)	2
Mar-17	4 (15)	64 (34)	10 (9)	0
April-17	10 (2)	103 (44)	8 (4)	1
Jun-17	2 (2)	96 (82)	19 (0)	5
Aug-17	3 (1)	62 (222)	12 (7)	1
Sep-17	1 (0)	11 (117)	6 (3)	1
Total	28 (73)	732 (624)	74 (60)	13 (2)