

# Eglinton Valley Report



2018-2019

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Conservation  
*Te Papa Atawhai*

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DOC - 6098741

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# 1 Summery

High rat numbers again through the winter of 2018 initiated a ground control bait station operation in November 2018, similar to 2017. This winter rise in rat numbers was unexpected and does not fit the rat abundance pattern predicted by beech masting models. Whilst the control resulted in a good knock down of rat numbers inside the control area, long term monitoring of long-tailed bats in the valley has shown a serious drop in survival over the last two years. This indicates that high rat numbers during winter may affect long-tailed bat survival in the area and should be controlled to improve survival of long-tailed bat populations at the site. As predicted beech seedfall levels were very high this season leading to productive breeding seasons for many species. An aerial 1080 operation is planned for spring 2019 to control the high rat numbers predicted.

## 2 Overview

The Eglinton Valley is a high priority site with large tracts of unmodified beech forest stretching up to alpine tussock grassland and herbfields. The area is a refuge for many threatened species including mohua, kaka, black fronted terns, short-tailed and long-tailed bats.

The Department of Conservation undertakes continuous stoat and cat control as well as periodic rat and possum control when required to protect this ecosystem. There are several species monitoring projects in the area as well as long term research being undertaken by the Biodiversity Group, DOC. This report summarises the management activities in the valley between July 2018 and June 2019.

Stoat control has been carried out in the Eglinton Valley since 1998. The original trap network of 266 traps was expanded in 2008 and further again in 2017 and now comprises 433 DOC 150 and DOC200 traps. There are a further 8 DOC250 traps targeting ferrets and 33 cat traps. Rodent abundance is monitored using standard tracking tunnel methods and is typically carried out quarterly each year. Seedfall monitoring is also undertaken annually.

## 3 Predator Control

### 3.1 Mustelid Control

The trap network in the Eglinton Valley is comprised mainly of double-set stainless DOC 150/200 traps. A few lines of old style single-set DOC 200 traps remain, and these are slowly being upgraded to double-sets. 8 ferret traps were set up 2015/16 along the park boundary and Eglinton flats, but no ferrets have been caught so far in them. 7 ferrets however have been caught in stoat and cat traps this season.

A total of 58 stoats were caught in the year from July 2018 through to June 2019, similar to 50 the previous year. During the same period 20 weasels were caught, significantly less than the 75 the previous year.



Figure 1. Stoat and weasel captures 2015 - 2019

### 3.2 Rat Control

464 rats were caught in stoat traps this year with a sharp spike in May 2019 following the predicted mast cycle pattern. Due to repeated high rat tracking rates through the winter of 2018 a bait station operation took place in the valley in spring 2018. Initially the northern part of the bait station network was activated as preliminary rat tracking results suggested localised high rat numbers, however as the season progressed rat tracking numbers were high throughout the valley and the entire 4800ha network was used. 2 fills of pindone was undertaken with the remaining toxin collected in May.

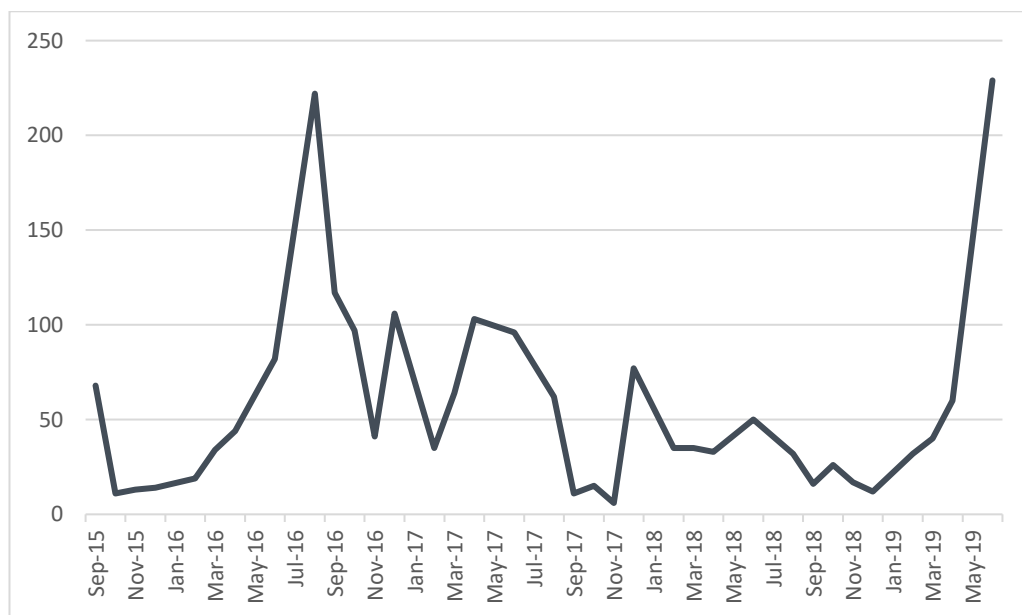


Figure 2. Rat captures 2015-2019

Tracking rates for 2018-2019 can be seen in figure 3 below. Bait station control knocked rat tracking down to zero % inside the control area. Tracking rates began increasing in autumn 2019 as expected in response to the beech mast.

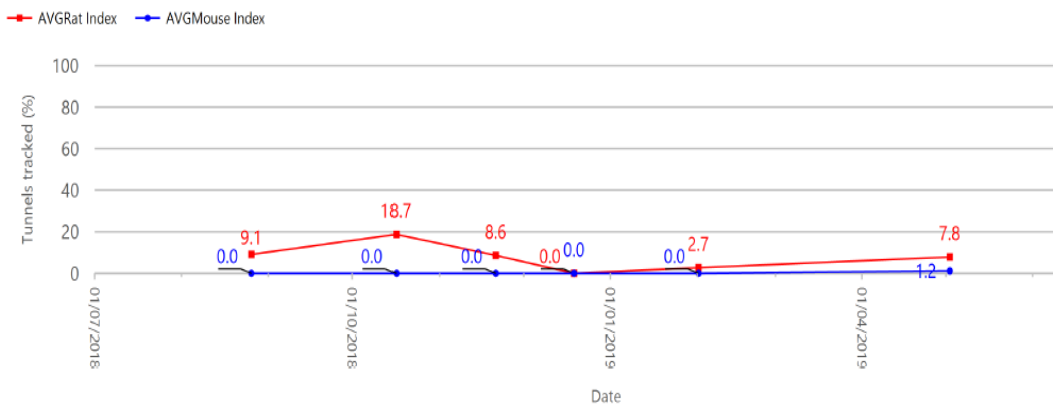


Figure 3. Eglinton Valley rodent tracking rates 2018-2019

Tracking results from the control areas at Boyd Creek and Dunton, which has never had any form of pest control followed a different pattern, with no spike in rat numbers over winter.

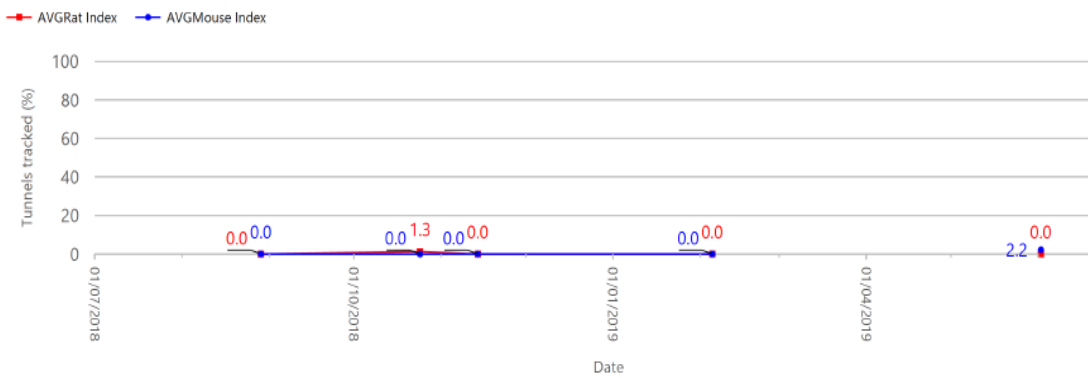


Figure 4. Control site rodent tracking rates 2018-2019

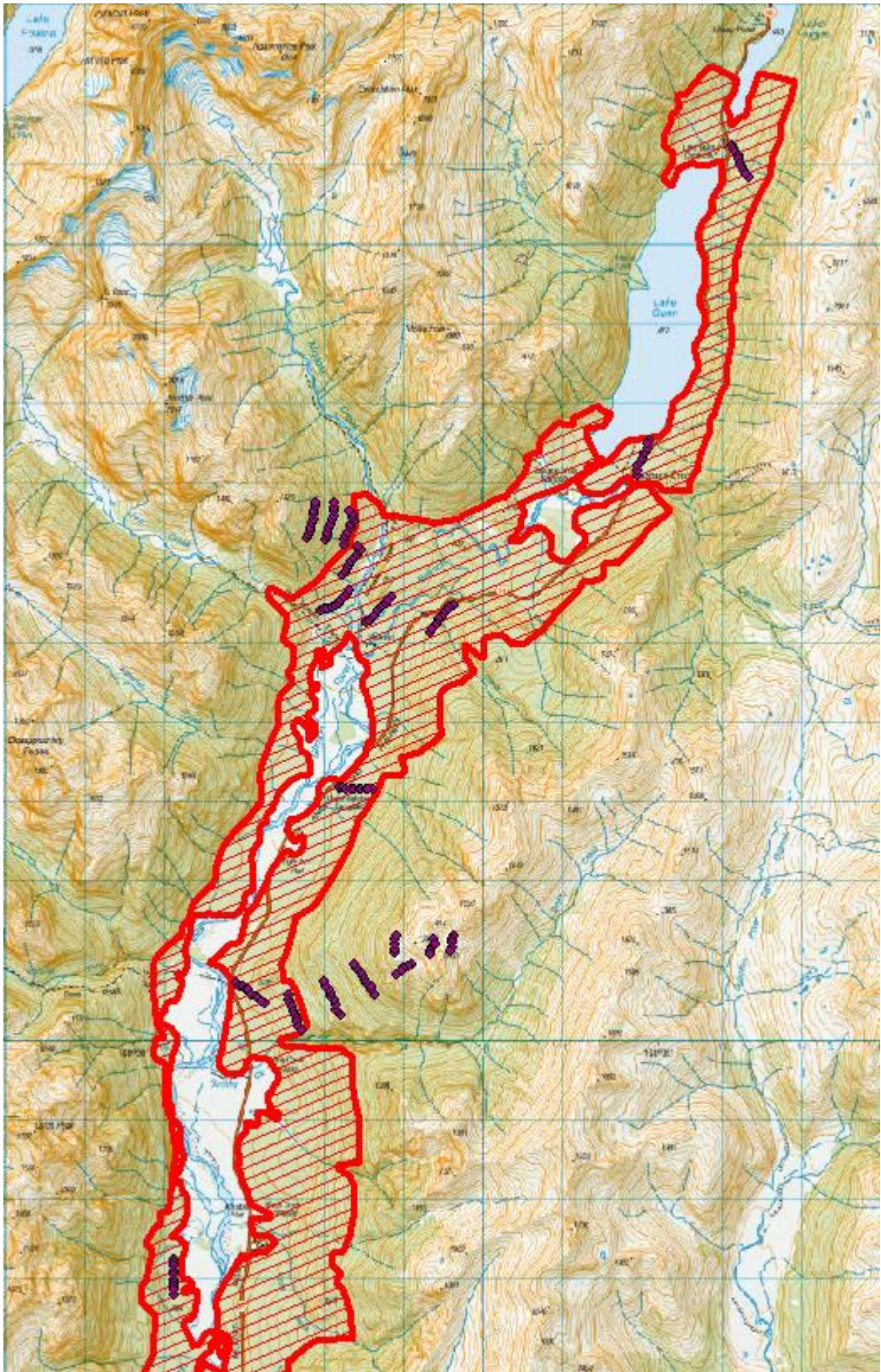


Figure 5. Tracking tunnel lines and bait station control area, upper valley.

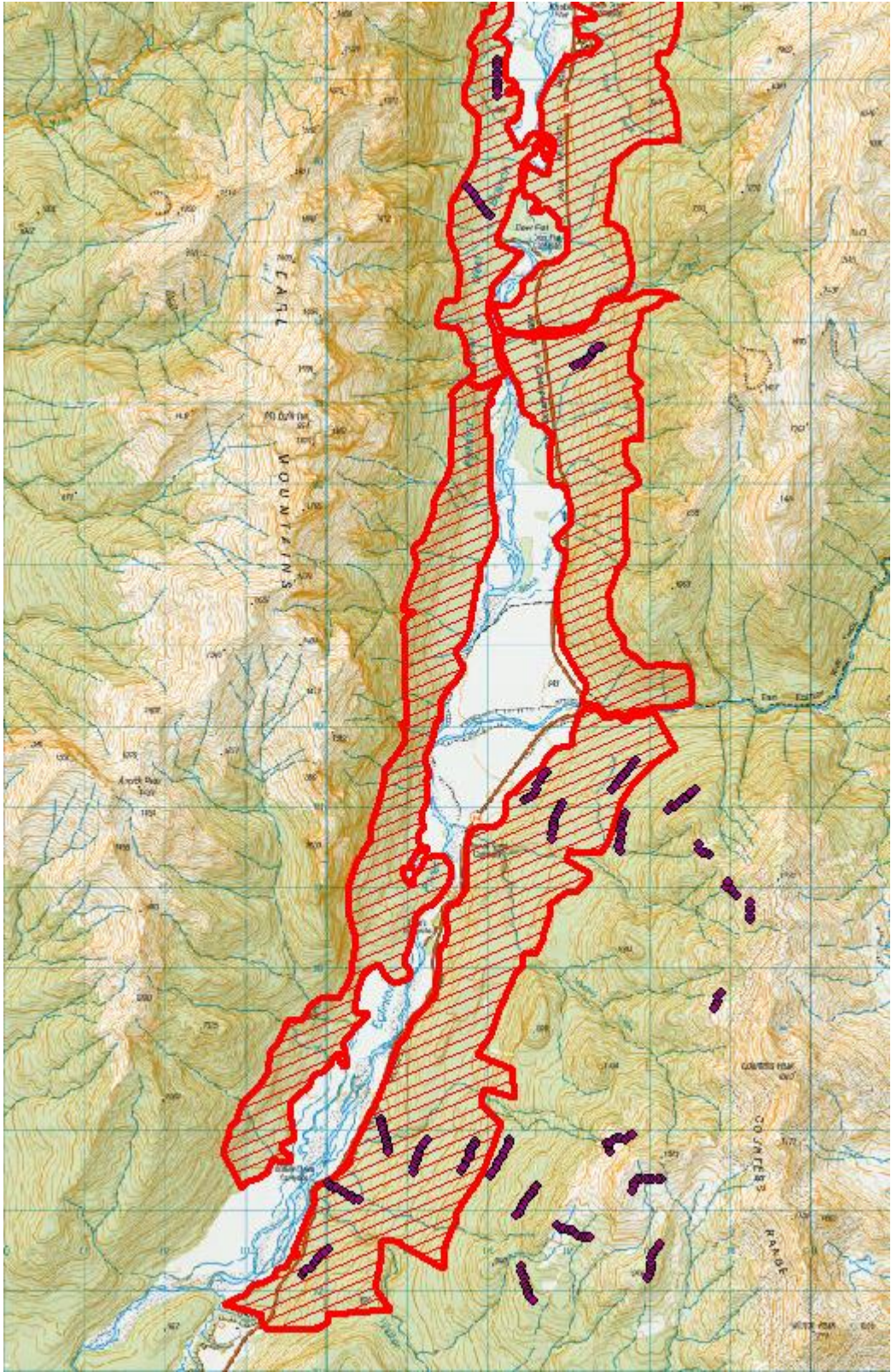


Figure 6. Tracking tunnel lines and bait station control area, lower valley.





### 3.3 Cat Control

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.

Three types of kill trap make up the 33 cat traps in the valley; double conibear traps, Timms traps and SA2 traps. 13 cats were caught this season mainly in the specific cat traps. The number of cats caught in stoat traps has gone down over the last few years, which is thought to be due to older traps with larger openings being replaced.

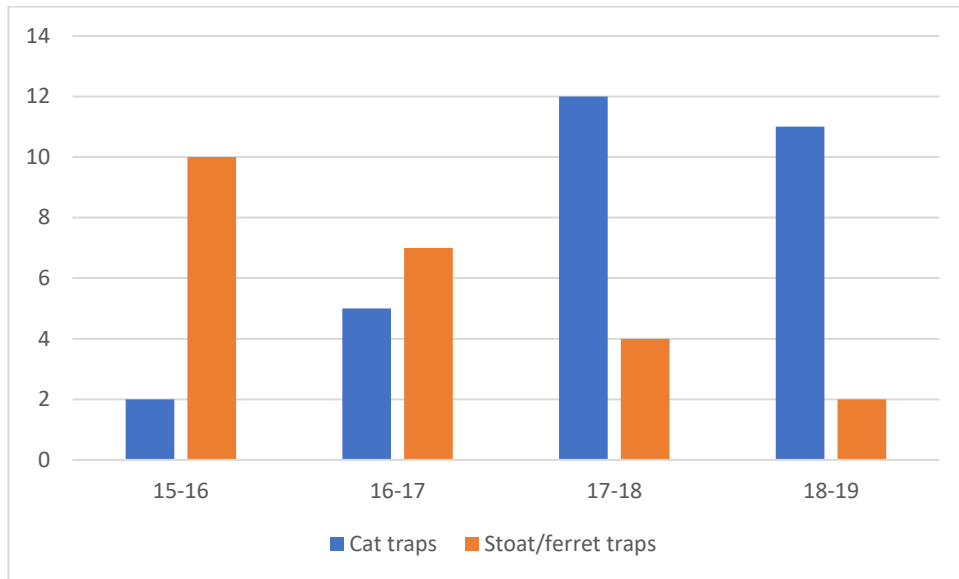


Figure 8. Cat captures in kill traps 2015-2016

## 4 Monitoring

### 4.1 Seedfall

Seedfall was collected in May 2019 however at the time of writing these results have not yet been calculated. Beech seed snipping using helicopters was undertaken by the Biodiversity Group and found high beech seed numbers predicting a rodent irruption to be very likely. Tussock seed counts also gave very high numbers.

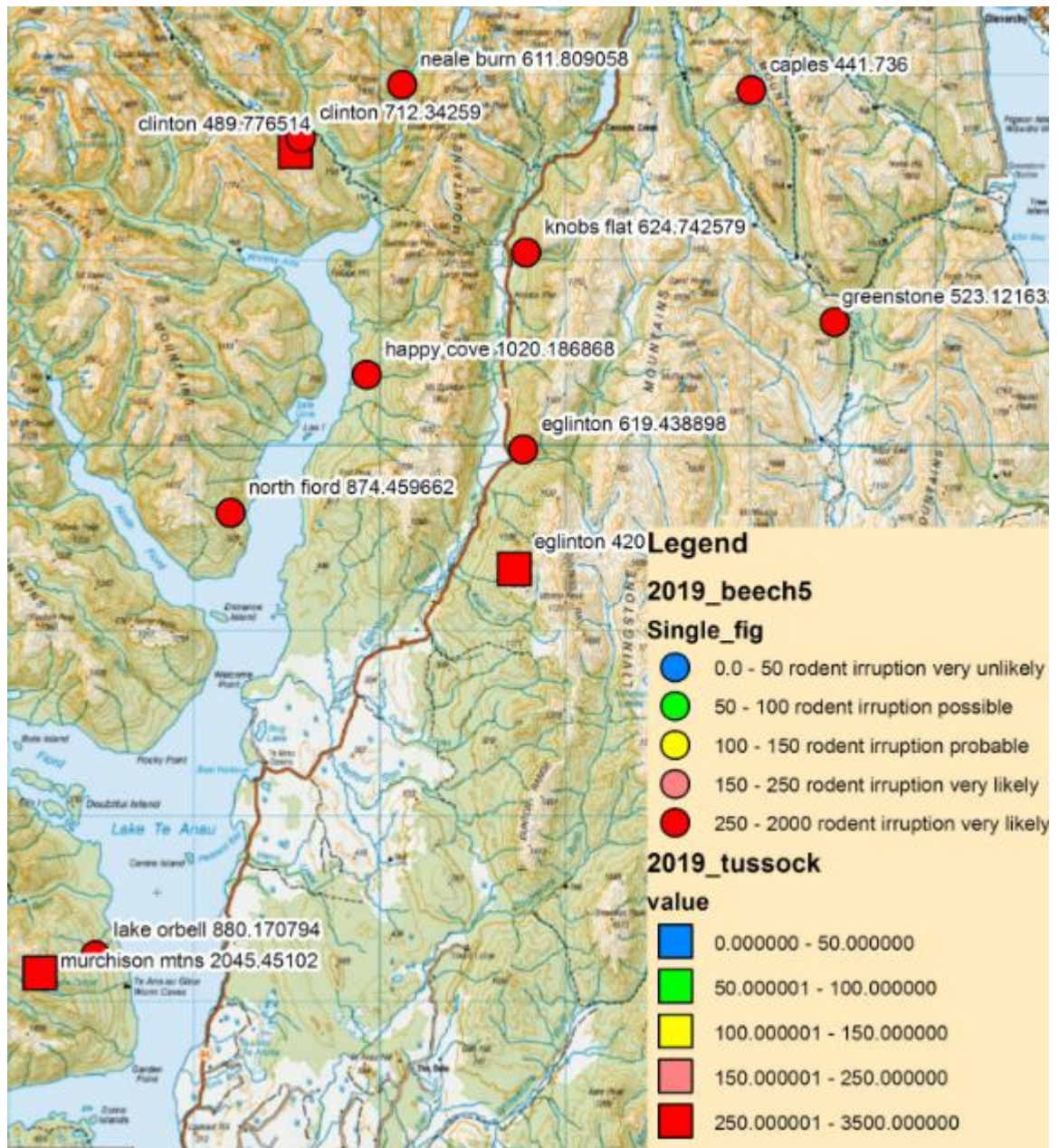


Figure 9. Helicopter seed sampling results 2019

## 4.2 Mohua

Monitoring undertaken by the Biodiversity Group staff indicate that mohua numbers are still declining in the valley due to high winter mortality. Sampling effort was reduced this year compared to last season but even taking this into consideration a large reduction of numbers was seen. Whilst nest-monitoring was not undertaken, many juveniles were seen indicating a healthy breeding season, see Jones and Bowler 2019 for more information. No top up translocations were undertaken this year after the decision was made to hold off on further translocations to see how the mohua population responds.

### 4.3 Southern Short-tailed Bats

The short-tailed bat population is continuing to recover with high adult female survival in 2017/18 (86%) and 2018/19 (preliminary data at 89%). Maximum roost emergence numbers also remain high with a maximum count of 2257. An increased number of bats (308) were marked with PIT-tags this season, increasing from the target of 200 to reflect the growing population size. See Jackson and Pryde 2019 for more information.

### 4.4 Long-tailed Bats

Annual long-tailed bat monitoring undertaken by the Biodiversity Group has shown that despite rat control in the last three years long-tailed bat survival has been low with the two monitored populations declining since 2016.

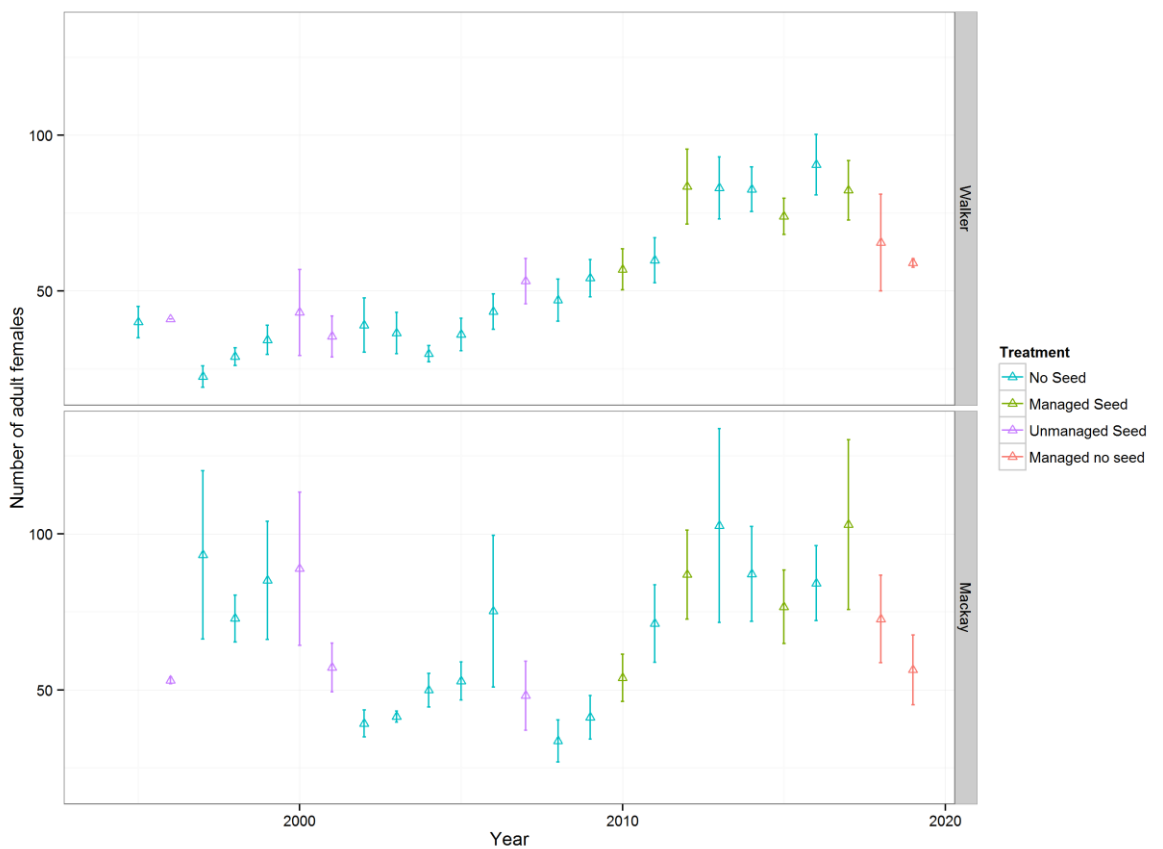


Figure 10. Long-tailed bat numbers

## 5 Birds, bats and banana splits

Two “Bats and Banana splits” events were held this summer, doubling the number of people able to attend and was once again very successful in advocating bat and bird conservation to the local community.

## 6 Discussion

Following the same pattern as 2017 rat tracking rates increased unexpectedly over the winter of 2018. This pattern does not follow the current thinking around rodent numbers in beech forest - which predicts low rat numbers except following a beech mast event. This phenomenon appears linked to sustained predator control as rodent tracking rates in the non-treatment area do not show the same pattern. It is unknown what is driving this trend with climate change and/or changes in food abundance possibilities.

The spring pindone bait station control operation used in response to the high rat tracking was successful in reducing rat tracking numbers however it does not appear to ensure high long-tailed bat or mohua survival. Long-tailed bats have generally thought to be more susceptible to predators during summer when they are roosting communally but their poor survival in the Eglinton corresponding with high winter rat tracking suggests they are also vulnerable to predation over this time period as well.

The density of feral cats and the effect they are having on local native wildlife continues to be largely unknown. Cascade Creek Campsite with its very high visitor rates has become an area especially notable for cats with several consistently seen. Scraps left behind by campers make this a particularly attractive area for cats, further enhanced by people deliberately feeding them. Plans have been made to set up several live capture traps in the area in the summer of 19-20 to control these cats. The valley would benefit from a large-scale cat control programme, which would also have the benefit of reducing the number of cats penetrating further into the park.

## 7 Recommendations

- If rat tracking follows the same pattern as 2017 and 2018 undertake predator control in autumn to prevent high rat numbers through winter and see how this corresponds with mohua and long-tailed bat numbers.
- Continue to upgrade and kea proof kill traps in the valley as opportunity allows.
- Undertake live capture cat control around problem areas such as Cascade Creek Campsite.
- Develop and implement a landscape scale cat control programme.

## 8 Acknowledgements

Big thanks to all the contractors who have undertaken predator control and monitoring in the valley; Huntsman, Mammalian Corrections Unit, Mainly Fauna, Contract Wild Animal Control.

Thanks to Go Orange for their sponsorship.

Thank you to all the Biodiversity Group staff for all the work they undertake in the valley.

And thanks to all the local team for their efforts doing jobs big and small.

## 9 References

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