



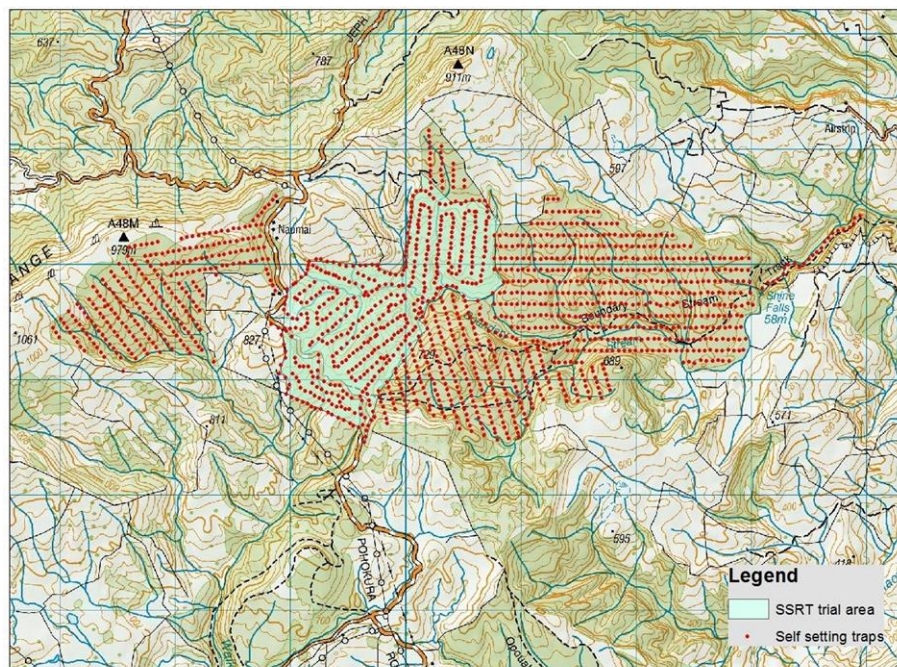
PredatorFree
Hawke's Bay
Whakaorangia Te Matau-a-Māui

The effectiveness and reliability of self-resetting rat traps in Boundary Stream

Introduction

In October 2014, 1552 A24 self-resetting rat traps were deployed in Boundary Stream Mainland Island (800ha) to test whether the traps are able to maintain low (<5%) rat densities across the reserve. This expansion from the original trial area of 140ha was used to test the efficacy of SSRT's over a large area (800ha) with greater spacing between traps and longer service times. Tracking tunnel monitoring has been undertaken at 3 month intervals to monitor rodent population indices.

The original 140ha trial included spacings of 25m x 100m and monthly servicing. The expanded project traps were spaced 50m x 100m and serviced every two months. The lure that was used in the original trial (peanut butter) was carried over.



Layout of the A24 Self-Setting Rat Traps (SSRT) in Boundary Stream, original SSRT trial area in light green

Timeline

- Oct 2014: Original 140ha trial expanded to entire Boundary Stream Mainland Island. Servicing conducted every two months.
- Oct 2014 – Feb 2015: only 97 of the 1552 (6%) peanut butter lure bottles were considered to be viable to 6 months. The remaining bottles were removed from the field. Much of the lure developed a plug of mold within the first month.
- March 2014: the majority of the peanut butter lure (93%) was removed due to mold or decay.
- June 2015: peanut butter lure was replaced with chocolate lure.
- December 2015: 99% of the chocolate lure lasted full 6 months, although mold had to be removed from the neck and fresh lure pushed out at every service
- August 2016: original static lures replaced with automatic luring dispensers (ALPs), designed to be serviced every 6 months (instead of every 2 months). Servicing rescheduled to every 6 months.
- April 2018: Contractors used for service.
- In 2017/18 report; suspicion that the ALP's do not last the full 6 months
- August 2019: Servicing rescheduled to occur every 4 months.

Lure

Even though the traps self-reset after a trigger event, the lure still required refreshing every two months. The lure bottles tended to develop a plug of mold within the first month, minimizing any attractiveness of the lure. The peanut butter lure itself additionally did not last the advertised 6 months. The chocolate lure that replaced the peanut butter lasted the full 6 months, however still developed mold which had to be removed at each service.

The introduction of automatic lure pumps in 2016 meant servicing could be extended out to 6 months, however the servicing team found that the ALP's were only lasting for four. This led to servicing being scheduled every four months in August 2019.

Contractors

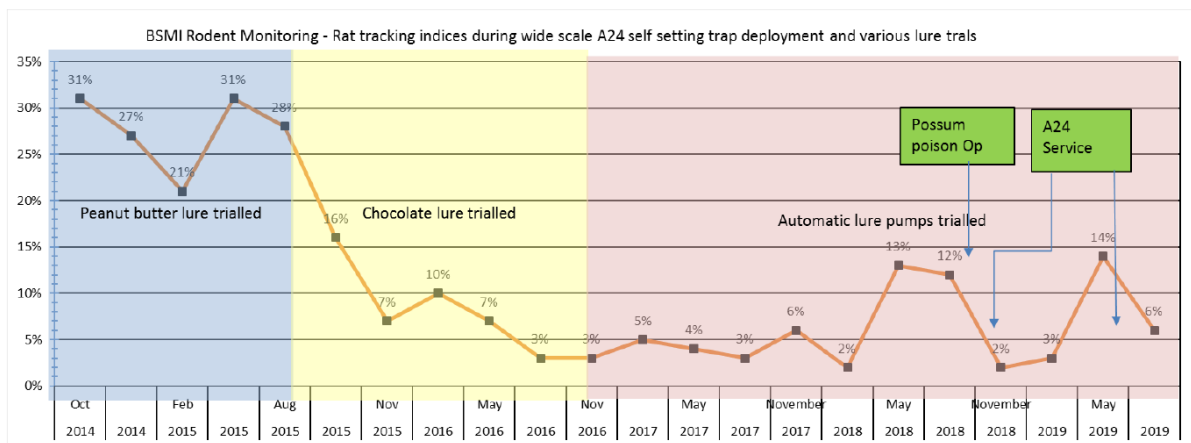
Contractors were used from April 2018 to free staff time and audits demonstrated no issues. Labour cost was ~\$12 000 per service. It has been observed that the growth of trees will soon start to affect the A24s and they will need to be loosened on the trees or moved to new locations to prevent damage.

Tracking Tunnel Monitoring

Rodent indices have been monitored using tracking tunnels four times (September, November, February, and May) annually.

Initially, the use of automatic lure pumps (ALP's) coincided with tracking of $\leq 5\%$. However, from November 2017, the tracking has fluctuated quite dramatically and this year continues with that trend. As shown below, there are a several factors that may have resulted in the fluctuation:

- In August/September 2018, a possum poison operation was run by HBRC and Ospri.
- It is generally accepted that the ALP's only last four months before emptying, not the six months as advertised. Up to this point, the servicing has been calendared in for 6-monthly, which means that there are two months where there is little or no lure. From August 2019, the servicing times will be four monthly.
- The largest increases shown in Graph 1 both happened after the February tracking, coming into autumn. Fruiting of many native trees occurs during this time.
- It has been four years since the chocolate lure (in static and ALP's) was first used. Perhaps a lure change is needed.



Boundary Stream Rodent Monitoring – Rat Tracking Indices During Wide Scale A24 Self Setting Trap Deployment and Various Lure Trials

Conclusions

The A24 self resetting rat trap network in Boundary Stream Mainland Island, paired with automatic luring dispensers now require servicing every four months.

Rodent monitoring has been variable since the trap network was first installed. The fluctuation in rat population indices indicate that while the A24's are able to suppress the rat population, a suite of tools are needed to retain sub-5% monitoring.

This report was written based on the previous Boundary Stream Mainland Island Annual Reports since 2014.