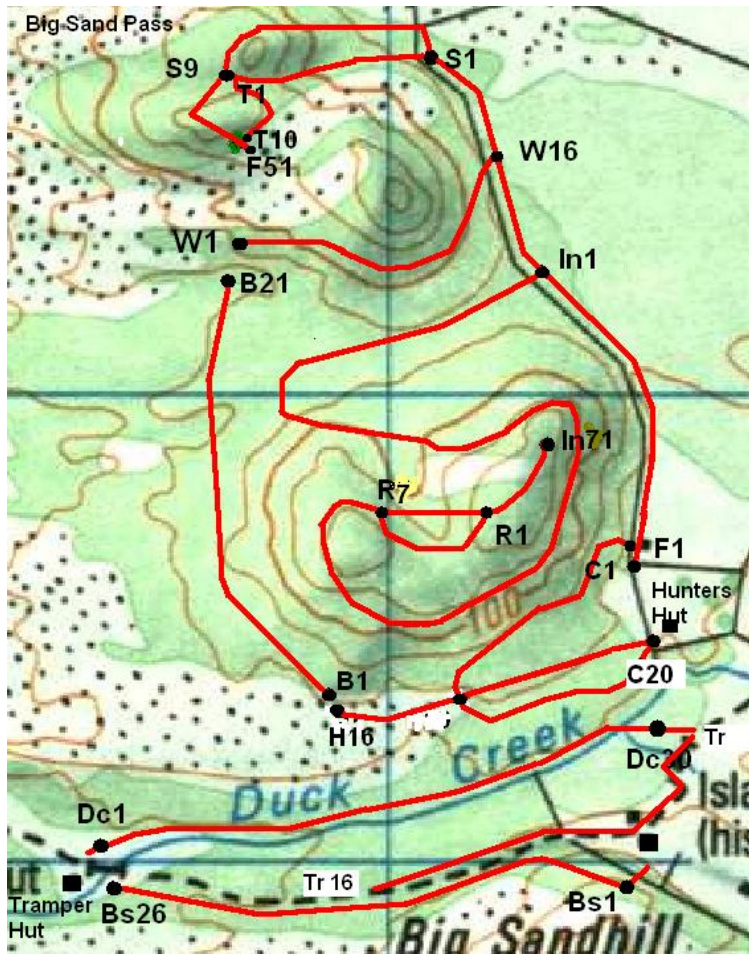# Mason Bay Project Report 2015

A Collaborative Project between the Southland branch of the NZ
Deerstalkers Association and DOC Rakiura

Letitia McRitchie, DOC Rakiura, May 2015

1. Background

The Mason Bay trapping project is a collaborative project between the Southland Branch of the NZDA & DOC Rakiura.

For the past nine seasons NZDA volunteers have run a rat control network over 300ha at Mason Bay during spring/early summer (August – December). The aim of the project is to **increase the productivity of native birds by reducing rat numbers during their vulnerable breeding season**. The trap network was first run in 2006 and was expanded in 2008 and 2009, bringing the number of traps up to 310. The traps require ongoing maintenance, which is carried out during the season by NZDA trap check teams.

Trap sets are Victor rat traps with a corflute cover.

Map 1. Trap network at Mason Bay

The project has also trialled Goodnature possum traps in 2012 and 2013. In 2012 it was found that most of the traps were faulty and they were replaced for 2013. Pre monitoring of possums (before the Goodnature traps were run), was undertaken in August 2012 showed an RTC of 8.8%. Post monitoring of possums was planned but not undertaken after the Goodnature trial finished in December 2013.

The rat trapping area was planned to have possum control undertaken using 1080 in 2015 and RTC monitoring was carried out in July 2015 to see if possum numbers were high enough to justify control. The RTC was 2.6%, well below the 10% threshold for control. I'm unsure if the Goodnature possum traps continued to be run after 2013, but it's likely that they helped to reduce possum numbers over time.

Feral Cats
In August 2013 five prototype Goodnature self re-setting cat traps were deployed around the rat trapping grid. Trail cameras recorded cats in the same area as the traps but there were no cat kills

Bird Monitoring
Bird monitoring was undertaken in 2015 by the trap teams for the third consecutive season, in order to create a baseline dataset to be compared against future seasons. See the 2012 report for background on the bird counting method used. The data has not been analysed yet.

2. Rat Trapping Results from the 2015 season

Chart 1 below summarises captures for each trip this season. Chart 2 presents the same data as compared with captures since 2007.
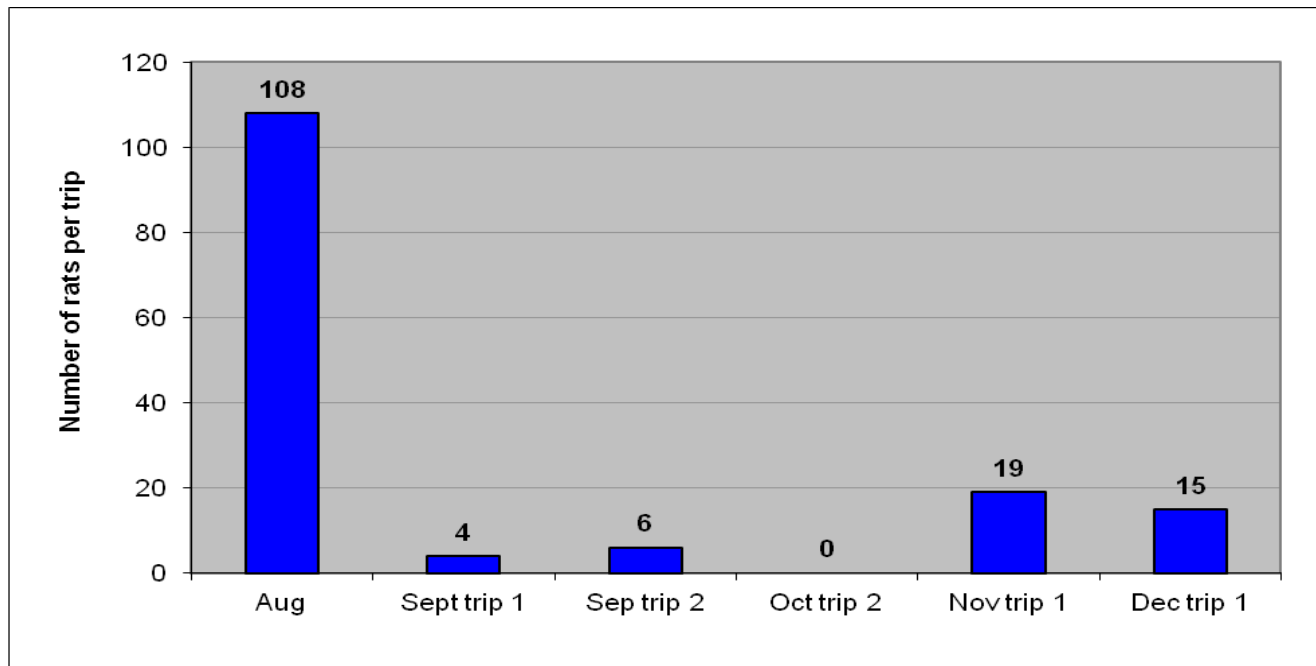

Chart 1. Total rat captures per trip, 2015.
There was no trip in October as the rat numbers had been low on the previous two trips

The captures per trip show that rat numbers were highest in early spring, with another smaller peak of catches in November. The high rat numbers on the first trip also include rats that were caught over the year as the traps are left open after the last trip in December 2014.
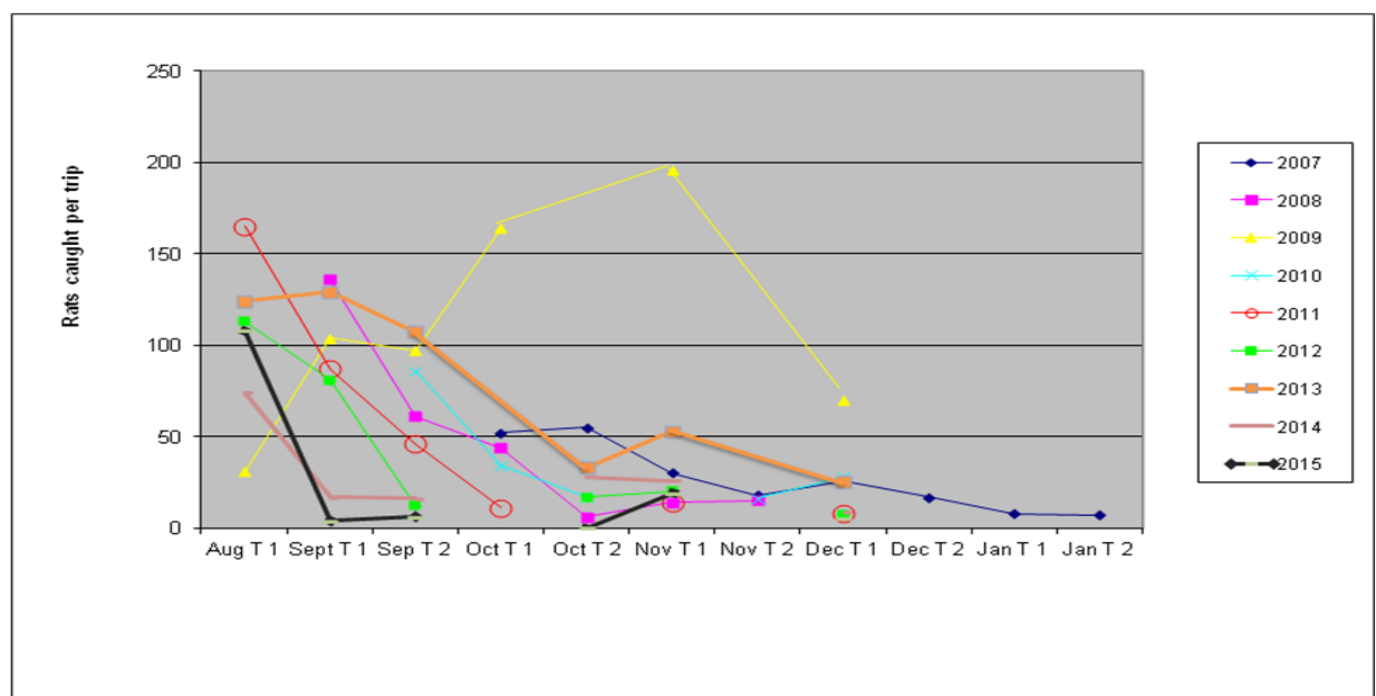

Chart 2: rat captures per trip, 2007-2015

Over most years the pattern has been to have high numbers in August which quickly reduce and often there is a small increase again in oct/nov. 2009 was an unusual year in that rat numbers continued to increase over the year and only reduced in December.
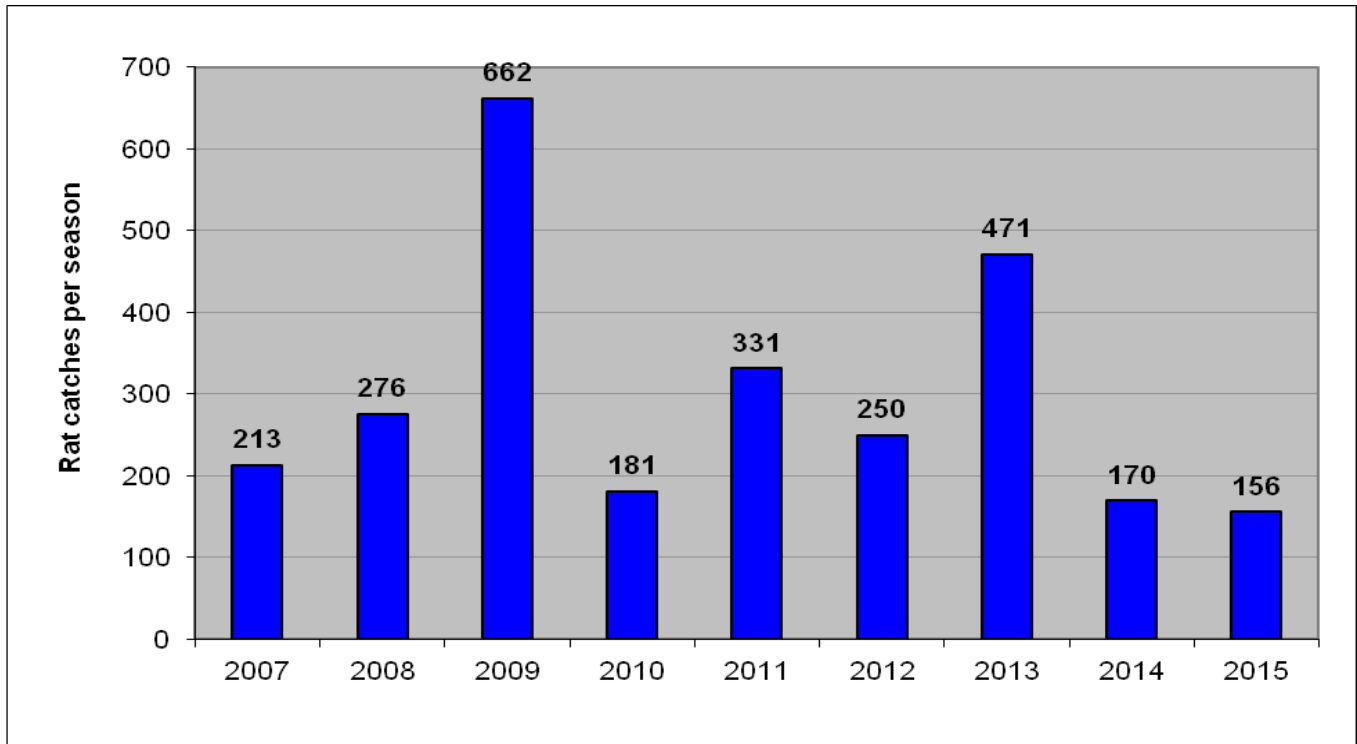

Chart 3; Total rat catches per year, 2007 - 2015

Chart 3 compares this year's total catch with total catches over the last eight years. A total of 156 rats were caught this season, the lowest number caught since the project began.

Rat populations are well known to cycle with high numbers in years when food sources are masting and lower populations in "normal" years. This is easily seen in the numbers trapped over the last nine years. With strong masting of species like rimu and totara occurring this autumn it is likely there will be a peak of rat numbers next spring
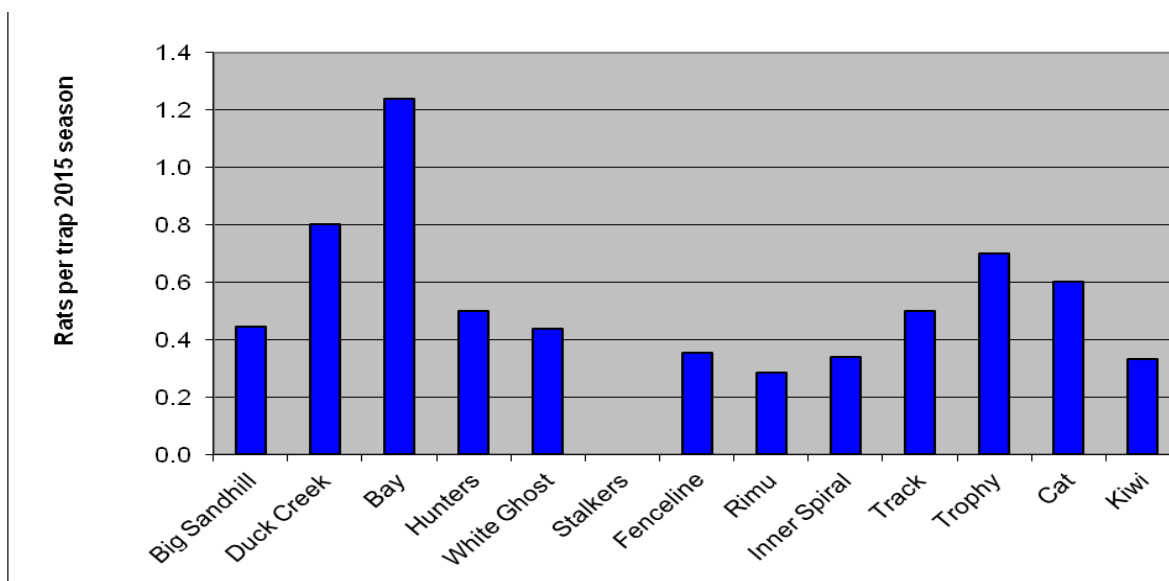

Chart 4. Rats trapped per line, 2015.

This chart averages the number of rats caught per line out against the number of traps per line. It is useful to look at to see if there are lines that catch more rats than other lines (and not just because a line has more traps on it). The Bay line shows the highest number of captures per trap. This area may be hot trapping zone for rats because it is in good habitat for rats and it is adjacent to untrapped areas that also have good rat habitat.
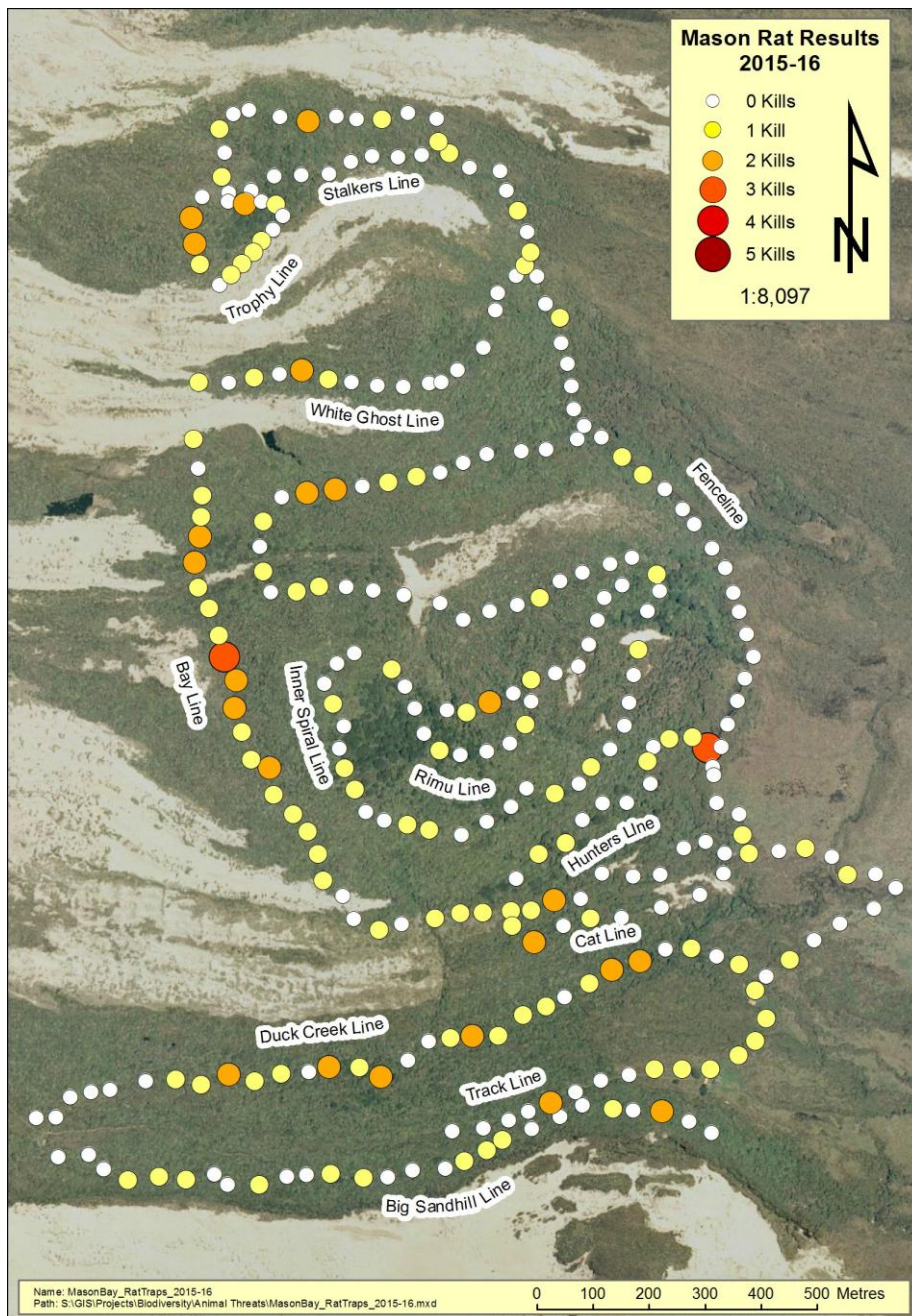
Map 2. Rat captures per individual trap, 2015 (mapping courtesy Willy Gamble, DOC Rakiura)

The high catch rate on the Bay line is easily seen here

Conclusion

Low catches of rats this year is likely to be a reflection of a natural low number of rats. This may change next year with an expected masting of forest plants and subsequent high rat numbers

Thanks to all the teams for their great effort to kill rats!