Picton Dawn Chorus

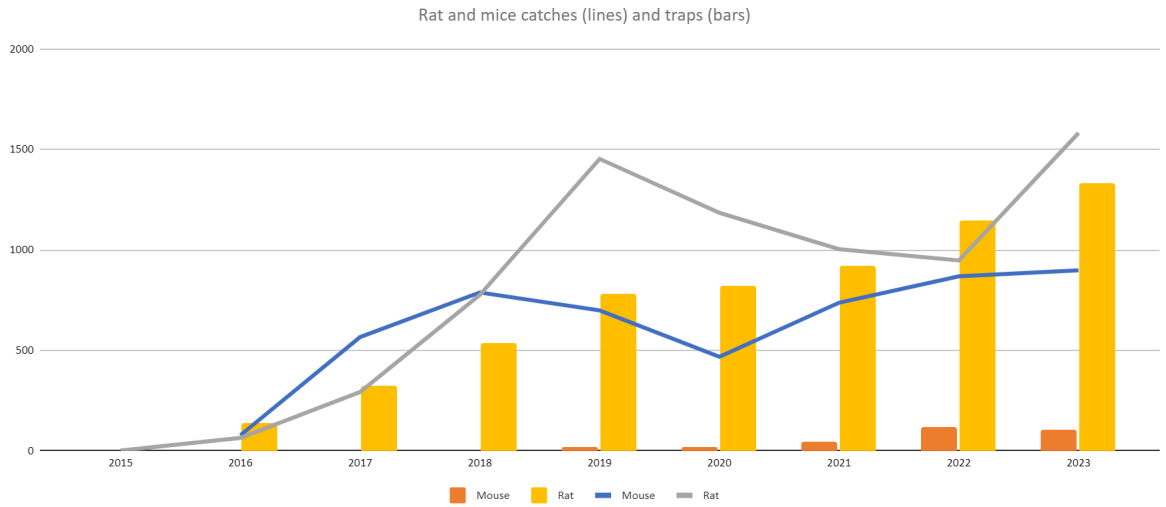
TRAP NZ DATA ANALYSIS - BY JACK BAILEY

Rats and Mice

From 2015 to 2019 the annual rat catch steeply increased from 2 to 1,452 respectively as the network expanded. In the following 3 years to 2023 the annual catch slightly decreased despite the network continuing to expand (779 traps in 2019 to 1,143 traps in 2022). Catches may have been affected by a plateau/decrease in the frequency of checks. Rat traps were checked 26,778 times in 2019, down to 23,378x and 24,814x in 2021 and 2022 respectively. There are now 45% more rat traps in the network than at the end of 2021 and 2023's annual rat catch is higher than any year in the history of the project despite the year only being ~80% complete.

The expansion of traps has been more modest for mice with a reduction in 2023 due to a transition away from these traps. Despite a comparatively small mouse trapping network, many mice have been caught due to by-catch in rat traps. Victor traps recently distributed across the network are able to target both rats and mice, preventing bait theft and increasing efficiency.

Alongside expansions in the volunteer workforce and trap network, environmental factors also influence the populations of target species. Beech Mast events have occurred within our project area in 2019 and 2023, the abundance of food during these events typically leads to increased pest populations. This effect will be apparent in remnant beach forest in Esson's valley and on eastern slopes of the Wedge. The peak and decline of rats caught in 2019 and the strong increase seen in 2023 is associated with these mast events.

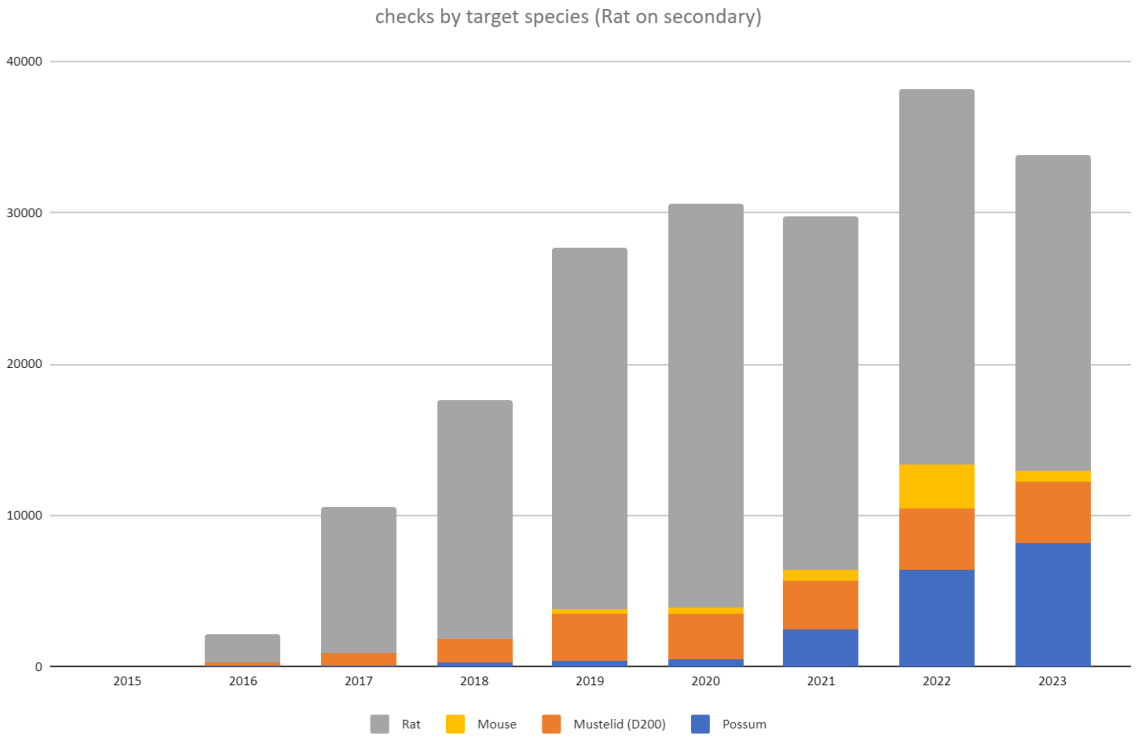


Mustelids

DOC200's are utilised to enable mustelid control across the project, however they have a strong by-catch of rats (and hedgehogs). The DOC200 network has been steadily expanding, with a more than 3 fold increase since 2020. This expansion has allowed mustelid control to spread across the project area, with traps along ridgelines surrounding Picton and along the road from Ngakuta Bay to Whatamango Bay.

DOC200's are not the only traps controlling mustelid populations. DOC200's only account for 33% of weasels caught, Victor traps (37%) and t-rex (23%) are also effective at targeting these smaller mustelids. The story continues with stoats, this slightly larger mustelid is most commonly caught in a DOC200 (51%) but a significant amount are caught in Victor traps (22%).

In line with the expanding network, the number of stoats caught has steadily increased with 2023 set to be the highest year yet. The number of weasels caught peaked in 2021 and remains high in 2023. The Beech mast will also provide increased food sources to mustelids, primarily through increased seed availability but also through increased prey populations (birds, rats and mice). As predator-prey relationships and ecosystem dynamics progress, populations of invasive species will naturally fluctuate. It is difficult to correlate an increase in catches of specific mustelids to these environmental conditions as the network has expanded considerably.



Possums

The annual possum catch has seen a marked increase since 2020, mirroring a significant increase in the numbers of possum traps. There are now 6x more

possum traps across the network than in 2020 and more than double than 2021. This expansion into previously uncontrolled possum habitat has resulted in a corresponding pronounced increase in catches.