

BRINGING BURROWING SEABIRDS BACK

Ecological Restoration on Mainland Aotearoa

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INTRODUCTION

1/3 of seabirds are globally **threatened**¹

Seabirds contribute **\$780M** worth of ecosystem services annually²

Mammalian predators are the #1 threat¹

Eradication of these species is only possible on **islands** and small **sanctuaries**

Bringing them back to our mainland requires an understanding of the **relationship between** nesting success and mammalian predator abundance



GREY-FACED PETREL/ŌI

Nest in burrows and only lay **1 egg per year** (which is not replaced if lost)

One of the few burrowing seabirds to still breed on mainland New Zealand including the **Waitākere Ranges**

Taonga species to northern iwi

Nocturnal - only active on land at night

Although not threatened overall, many **smaller colonies** are **decreasing** and they face uncertainty in the face of **climate change**



METHODOLOGY

Nesting success



I monitored 200 **grey-faced petrel** breeding attempts and their success rate across 10 different colonies

Predator abundance



Using **trail cameras** (I found the diversity and abundance of **rats** and **stoats**)

Predator control



How many traps are around the colonies?

MAIN FINDINGS

79% Nesting success (**exceptionally high!**)

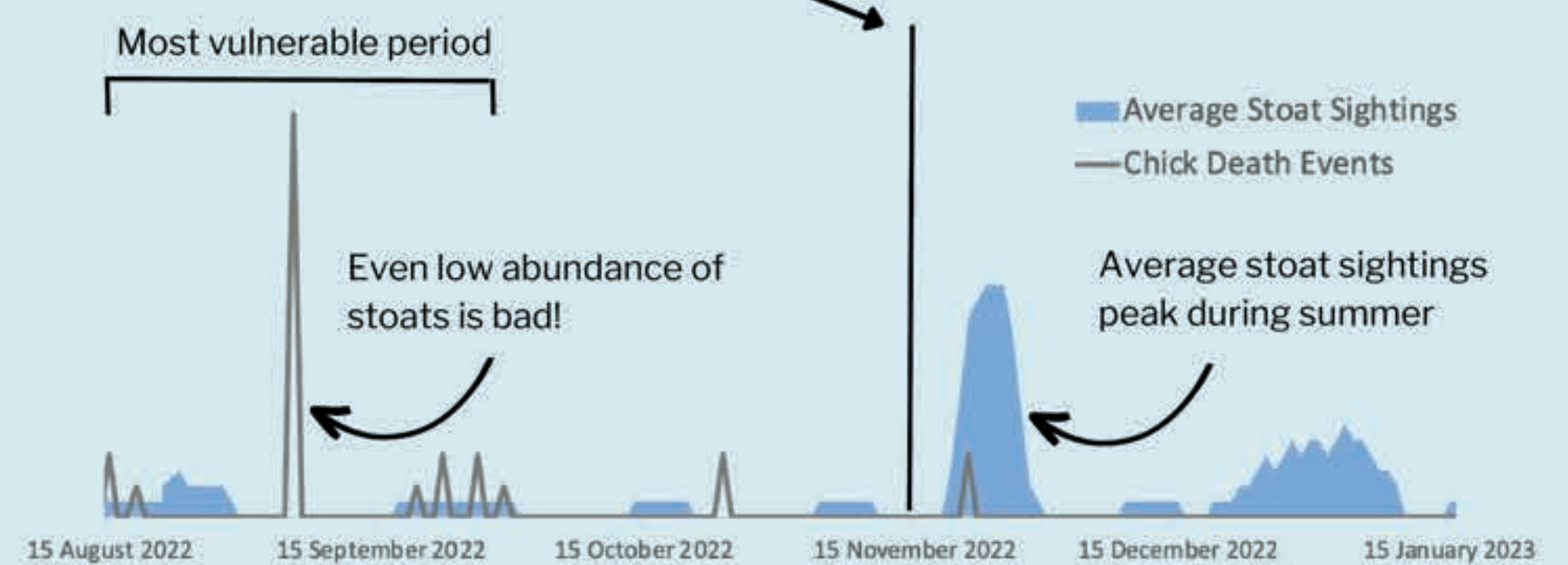
60% Of **failures** in August or September



Biggest predictor of chick death = **stoat presence**

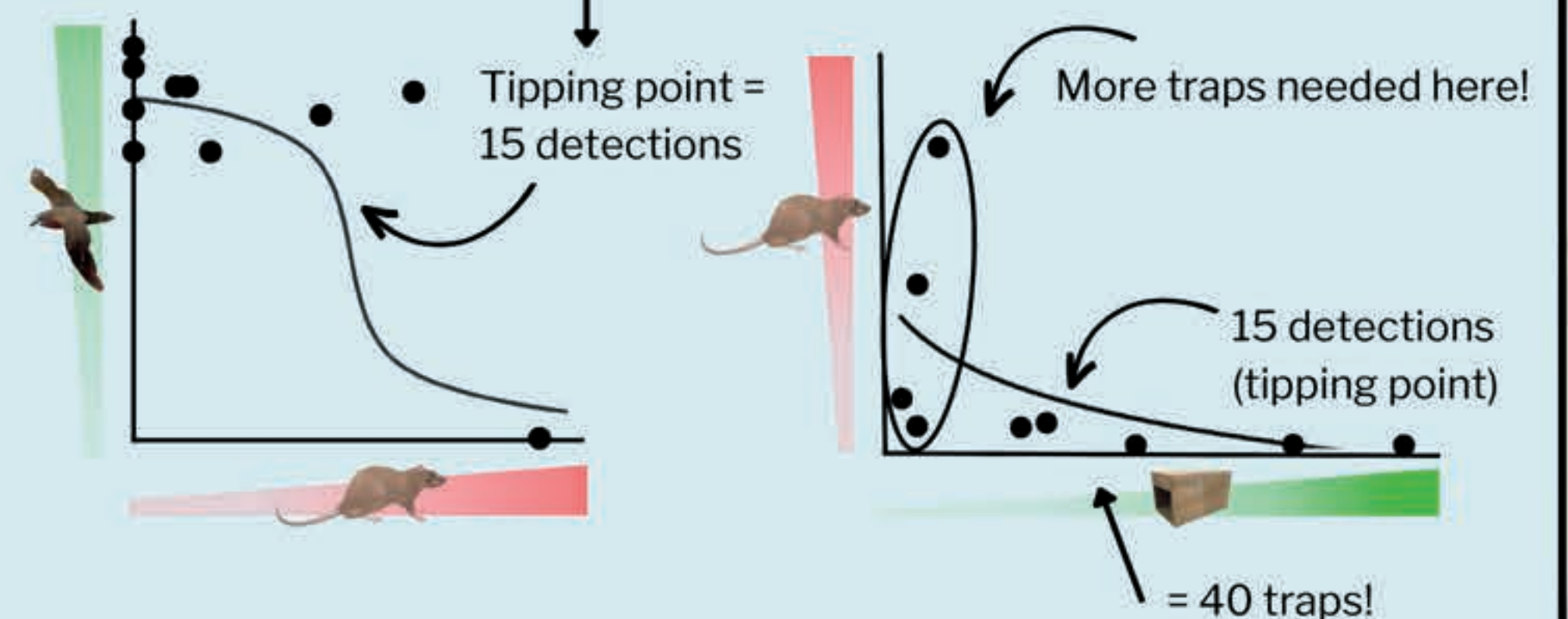


Peak weight³ = safe from stoat predation?



I identified the **tipping point** where rat numbers are too great for **successful restoration**

I then identified the **number of traps** required to **reduce rats** below the tipping point



CONCLUSIONS & RECOMMENDATIONS

Stoat numbers need to be **near zero** between August and October for **successful burrowing seabird restoration**

Forty DOC200 traps are required within a **1km radius** to reduce rats below their tipping point

Monitoring of predator diversity and abundance is key for setting **tangible restoration goals** for burrowing seabirds

Next steps - advocate for **best practice trapping** in areas where there are **grey-faced petrel nesting**

REFERENCES

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