

THE SHIFTING FRONTLINES OF TARAPIROHE/ BLACK-FRONTED TERN CONSERVATION



© Kailash Willis



Baylee Connor-McClean, Simon Lamb & Elizabeth Bell

TARAPIROHE/BLACK-FRONTED TERN



NATIONALLY ENDANGERED

Predicted to decline by 50% by 2040

Face a myriad of threats

Canterbury braided rivers support 60%
of BFT breeding populations

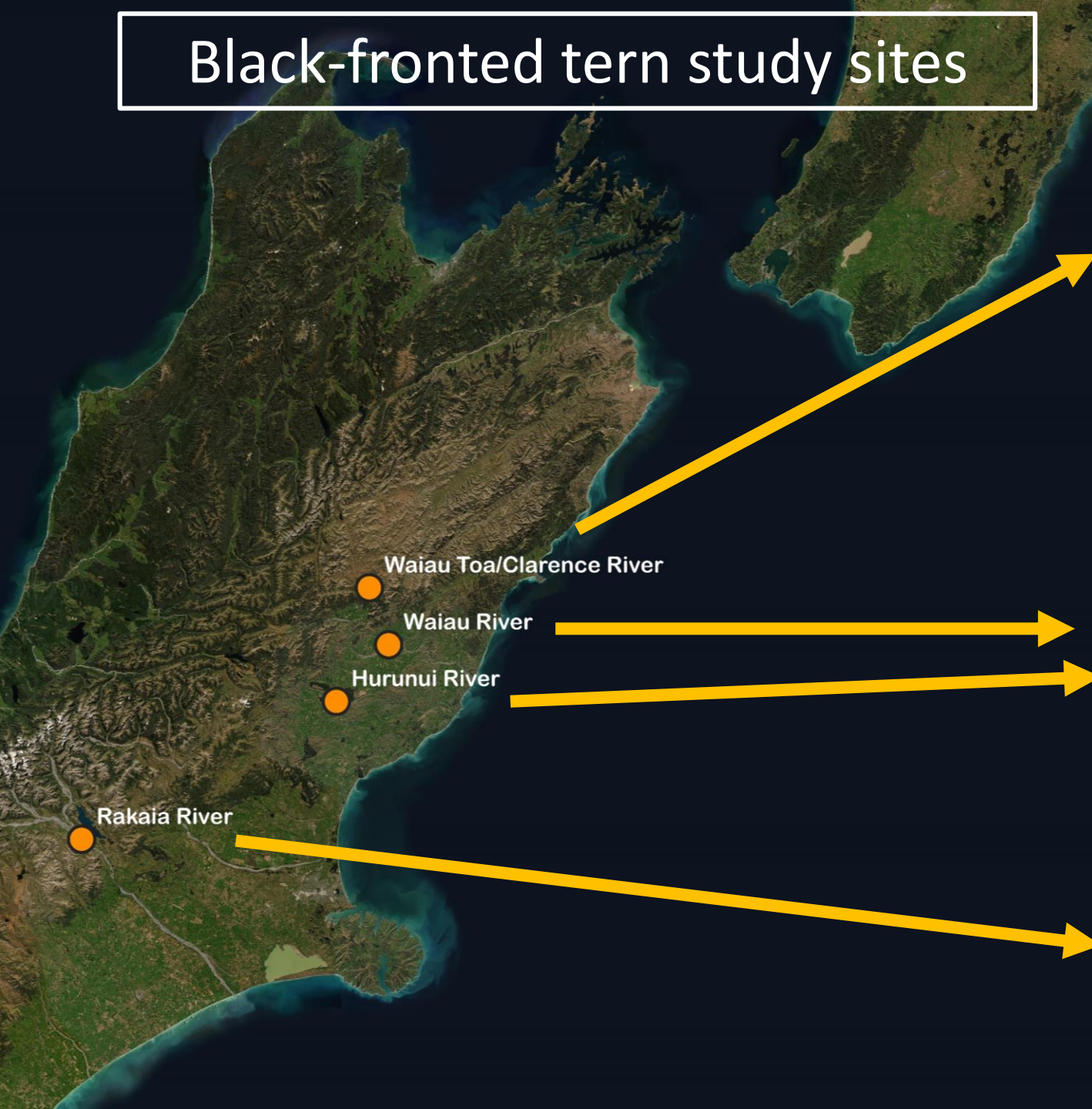


Braided River Ecosystems

An aerial photograph of a braided river system. The river consists of multiple channels that split and rejoin, creating a complex network of waterways and gravel bars. The surrounding landscape is a mix of dry, yellowish-brown grasslands and dense evergreen forests on the slopes of mountains in the background. A dirt road is visible on the left side of the river.

- Braided rivers provide productive feeding grounds
- River gravels provide key nesting habitat
- Specialized morphological features, foraging and breeding behaviors
- Braided rivers and inhabiting species threatened by human impacts

Black-fronted tern study sites



THREE MAIN FOCUS POINTS

① Initial phases of monitoring for all projects- **Rakaia River**

② Introduction of habitat enhancements and predator trapping- **Hurunui & Waiau Rivers**

③ Creating a black-fronted tern safe haven- **Waiau Toa/ Clarence River**



MONITORING BLACK-FRONTED TERNS



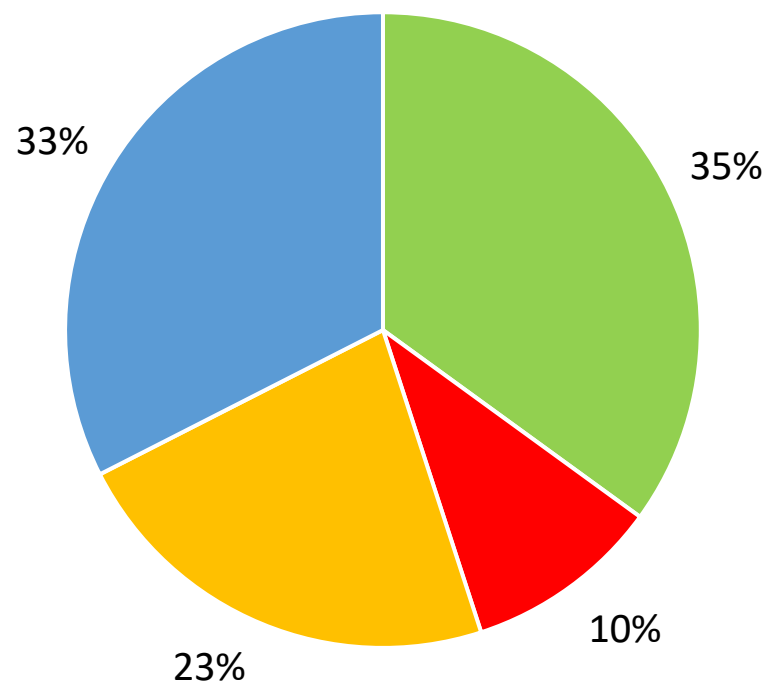
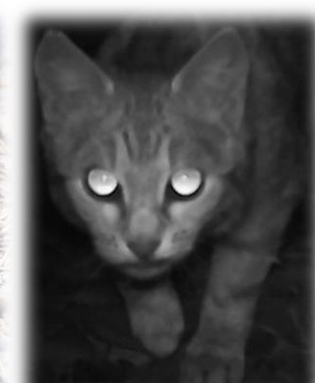
MONITORING BLACK-FRONTED TERNS

- ① Survey colony
- ② Locate nests
- ③ GPS and record nest contents
- ④ Set up nest cameras
- ⑤ Continued weekly nest check





Rakaia 2021/2022 Results



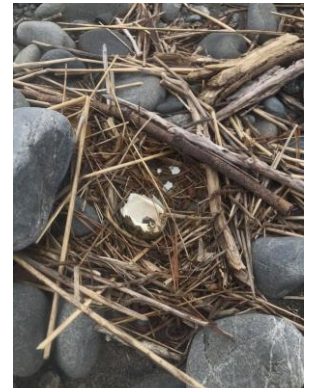
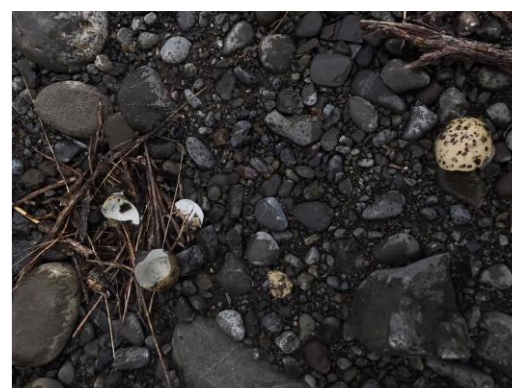
■ Hatched ■ Predated ■ Unknown ■ Flooded

PREDATION

- Predation often the leading cause of failure
- Harriers identified as top observed predator on several rivers
- Cats & mustelids often responsible for the largest amount of chick and adult predations
- Southern black-backed gulls are significant predators on Rakaia and Waiau Toa/Clarence River



PREDATION

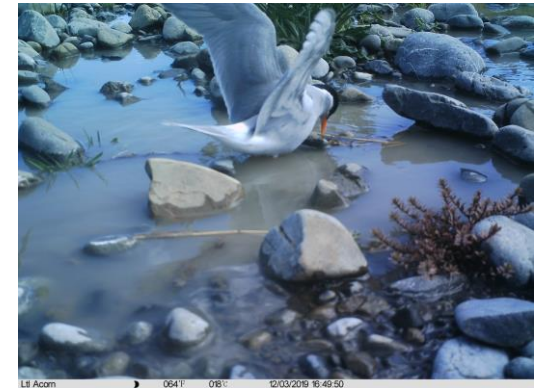


PREDATION



ABANDONMENT

- Abandonment often ranges between 9-28% throughout each season
- Largely caused during the night by nocturnal animals
- Often in conjunction with predation events



FLOODING

- Range of 3-40% of nests flooded each season
- 2019/20 season saw 40% of nests flooded on both Hurunui/Waiau and Clarence/Acheron Rivers
- Large percentages of hatched chicks are also flooded



Ltl Acorn 053F 012C 12/03/2019 13:36:48



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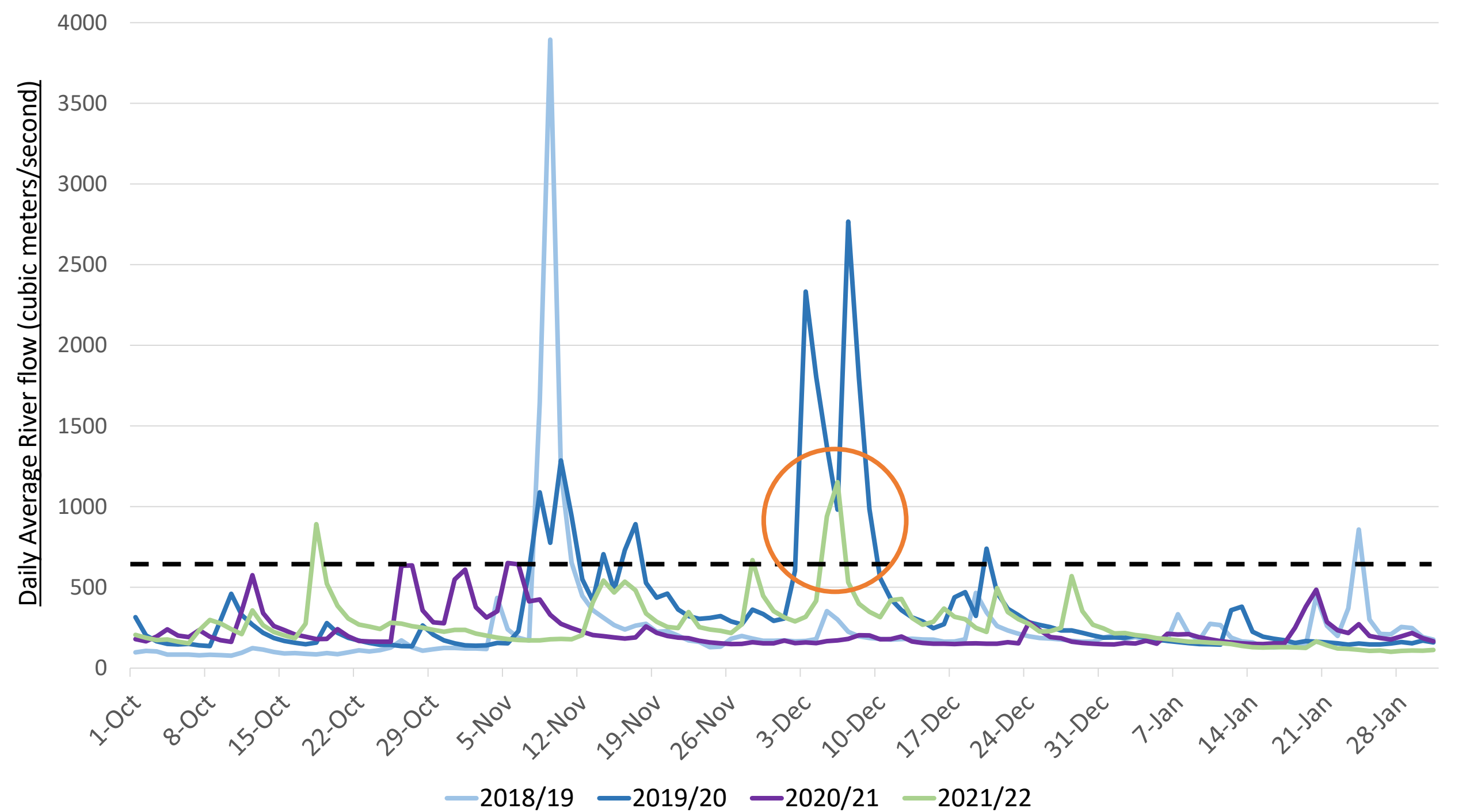


TTC 28.89 inHg

TRAILCAM01

02/05/2022 10:27AM

Flooded colonies during the 2019/20 season.



HATCHED

- Between 10 - 44% of nests hatch at least one chick per season
- Only 0 - 45% of chicks would fledge
- Predation, flooding and heat exhaustion are the largest causes of chick fatalities



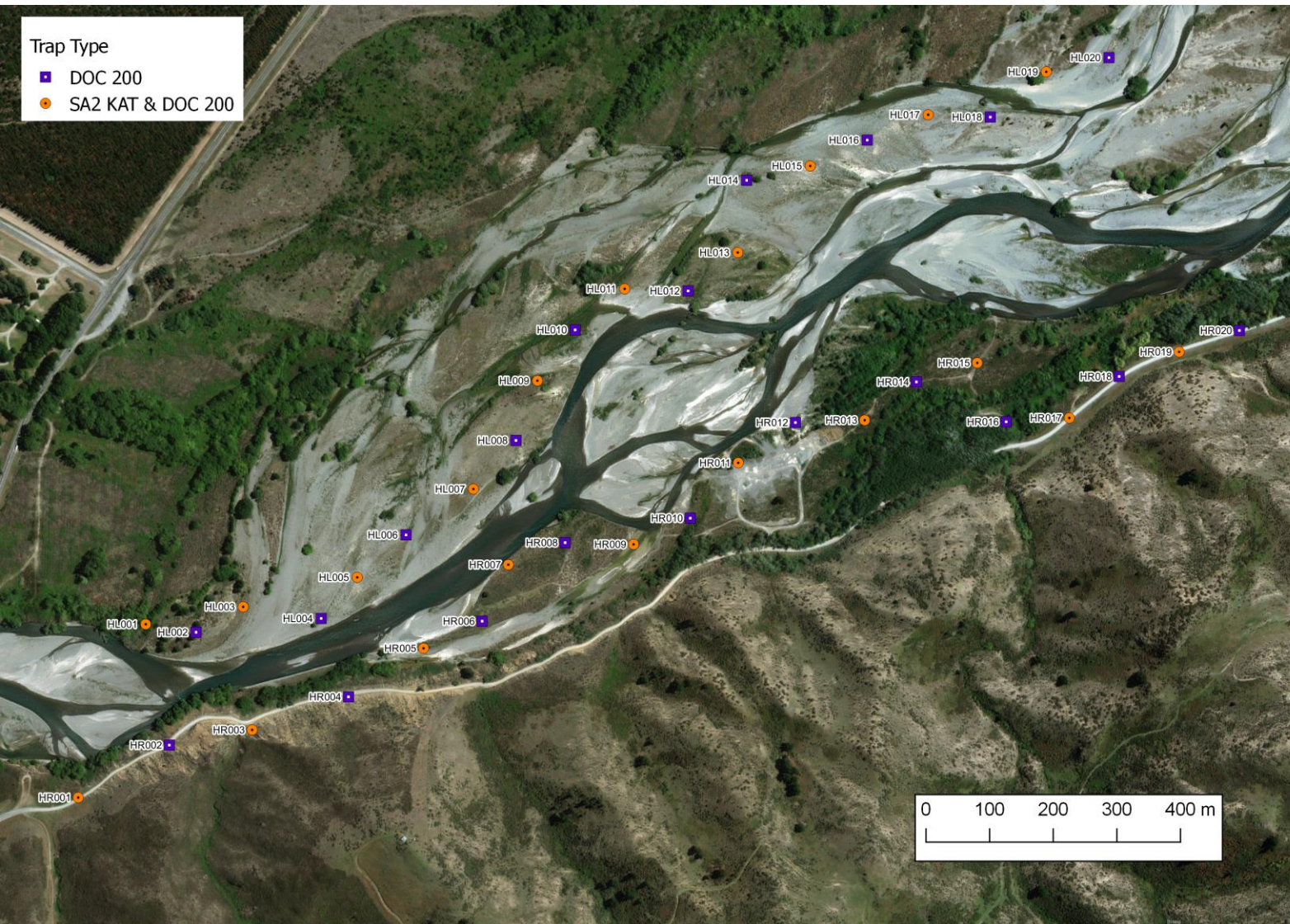
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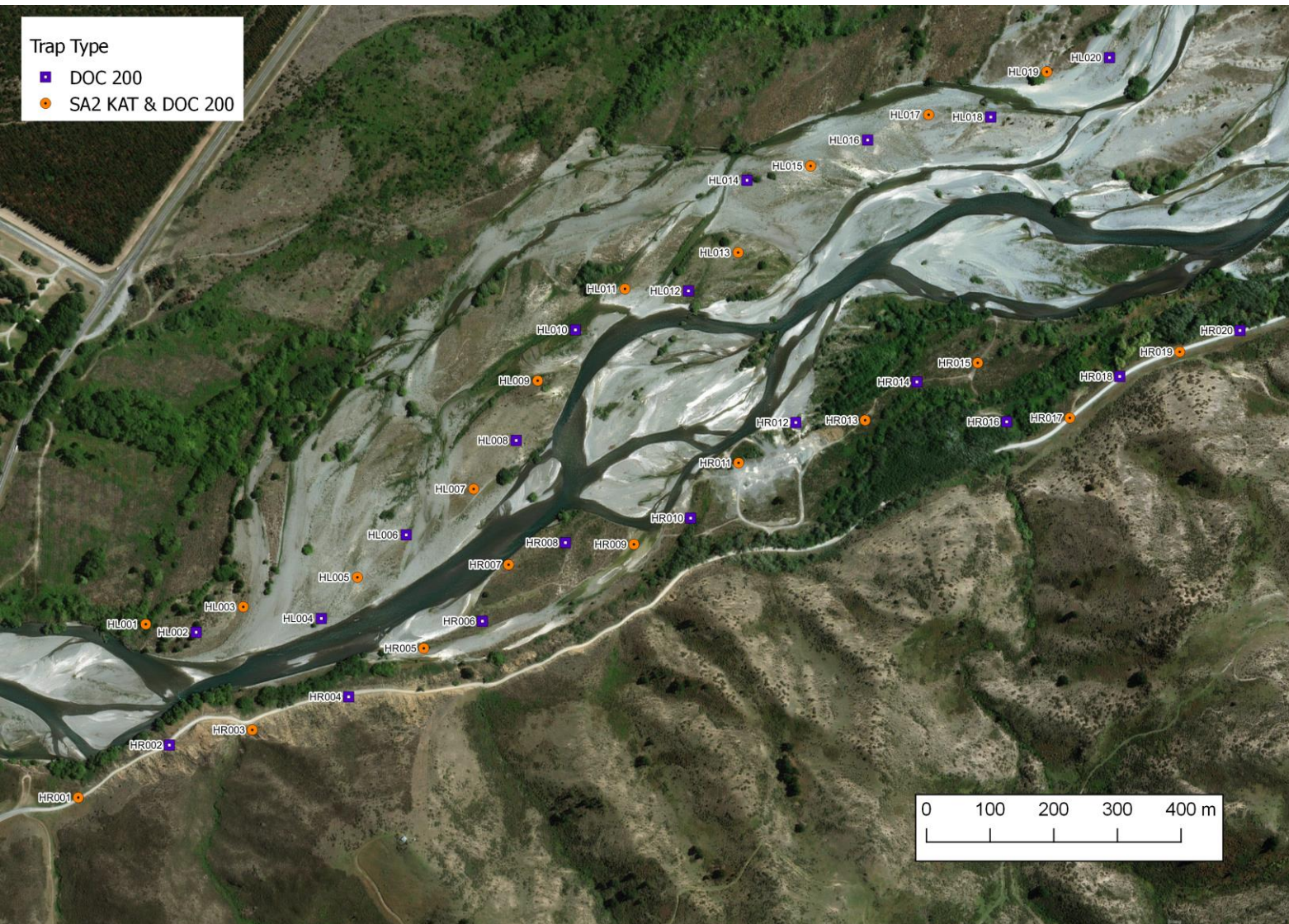
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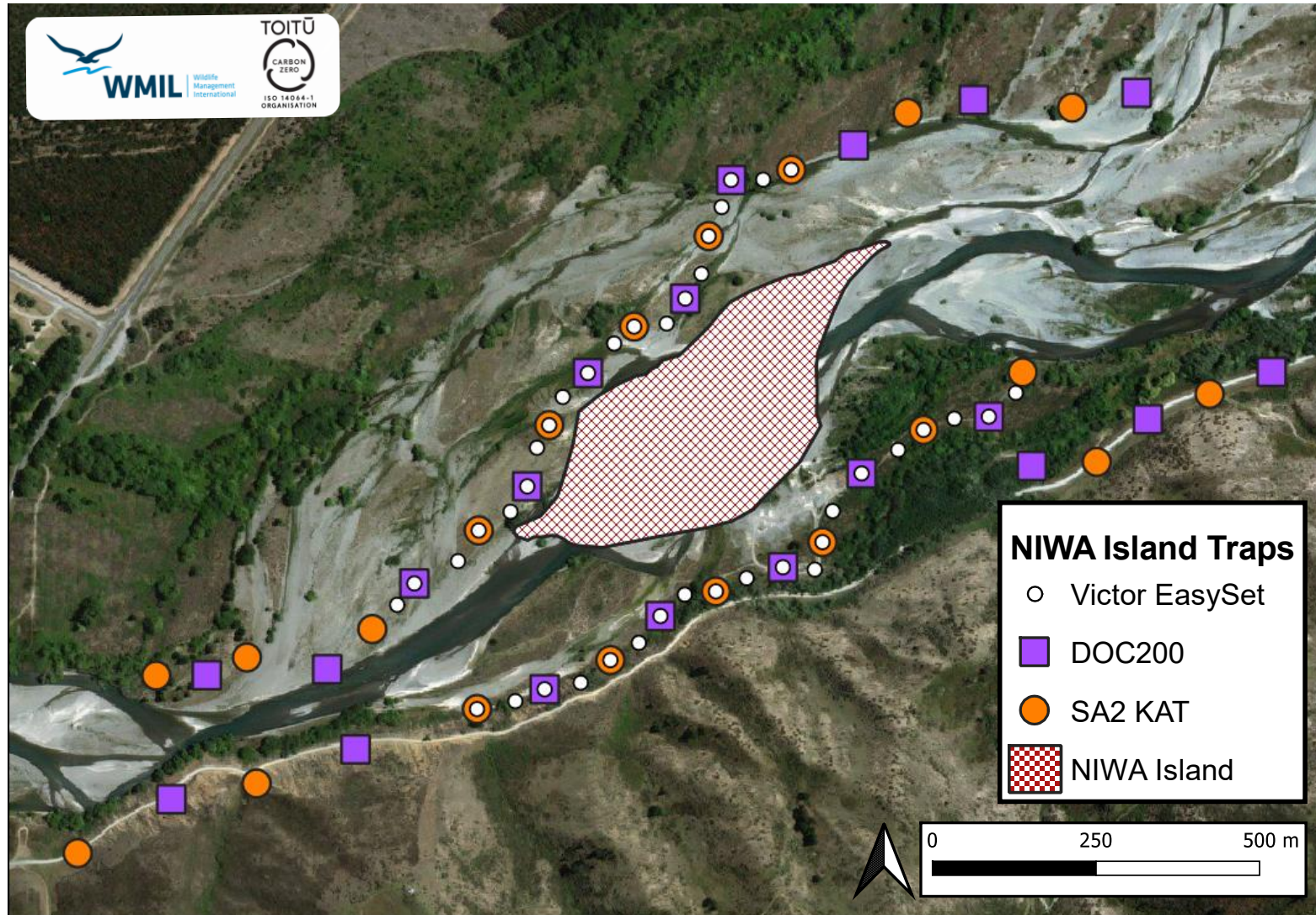
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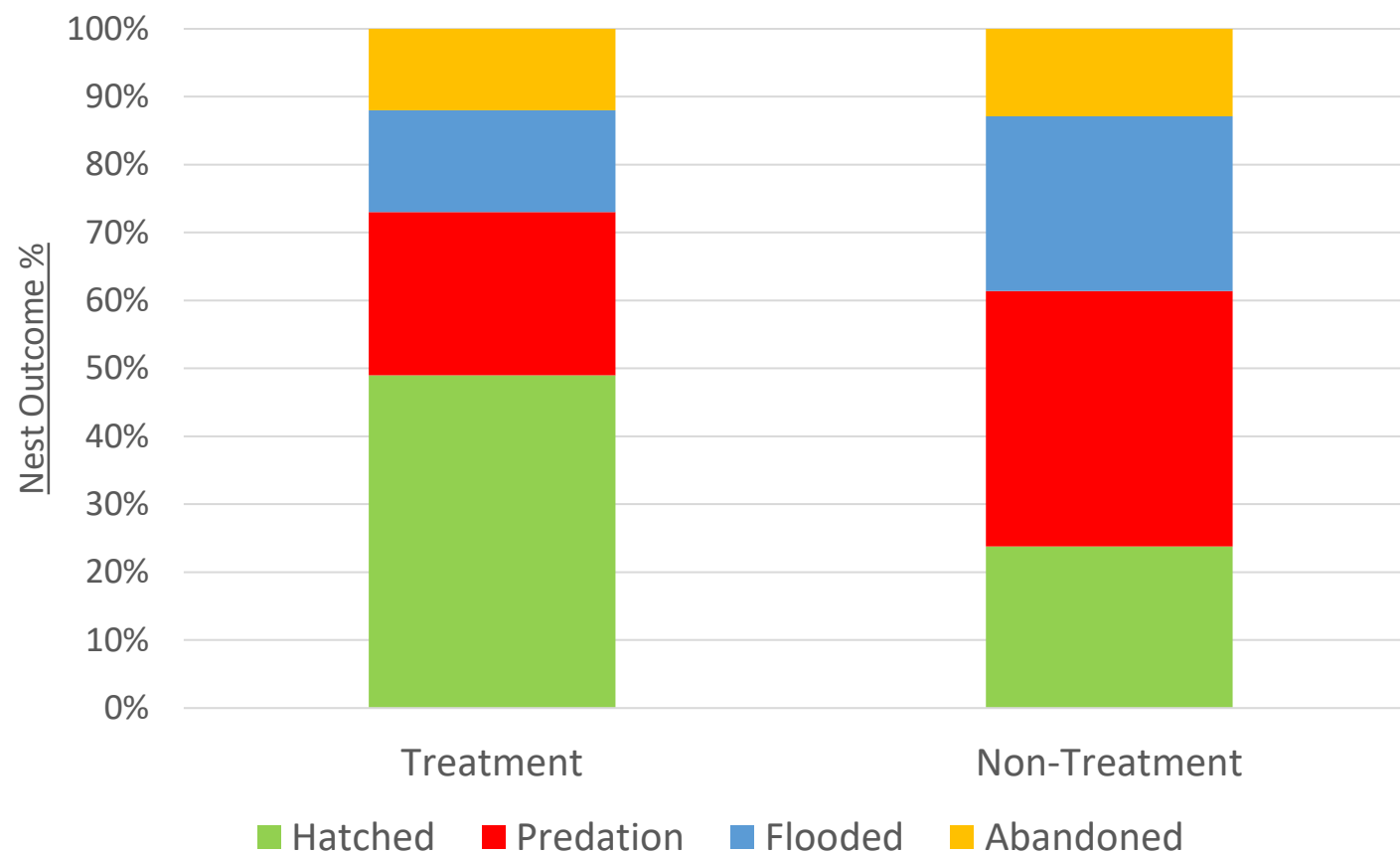


WHAT CAN BE DONE?





Hurunui/ Waiau 2017- 2022 Results



CAN WE DO BETTER?

PHASE 2

WAIUA TOA/CLARNECE RIVER

WAIIAU TOA/CLARENCE RIVER ENHANCEMENTS

- Island enhancement: Clearing, widening, deepening channels, raising island height
- Island weed clearing
- Predator trapping
- Chick shelter use
- Banding black-fronted tern adults and chicks
- Banding Australasian harrier



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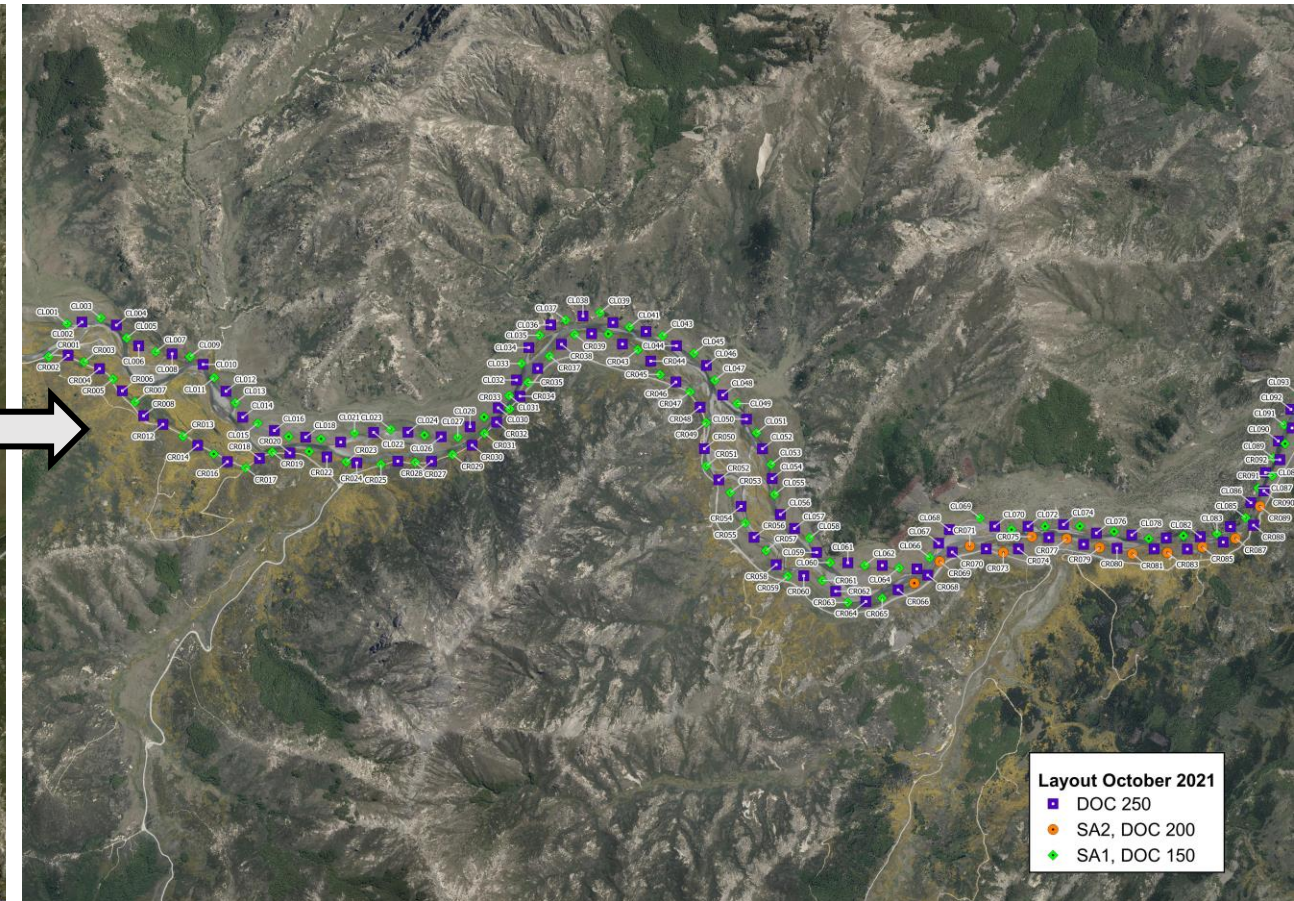
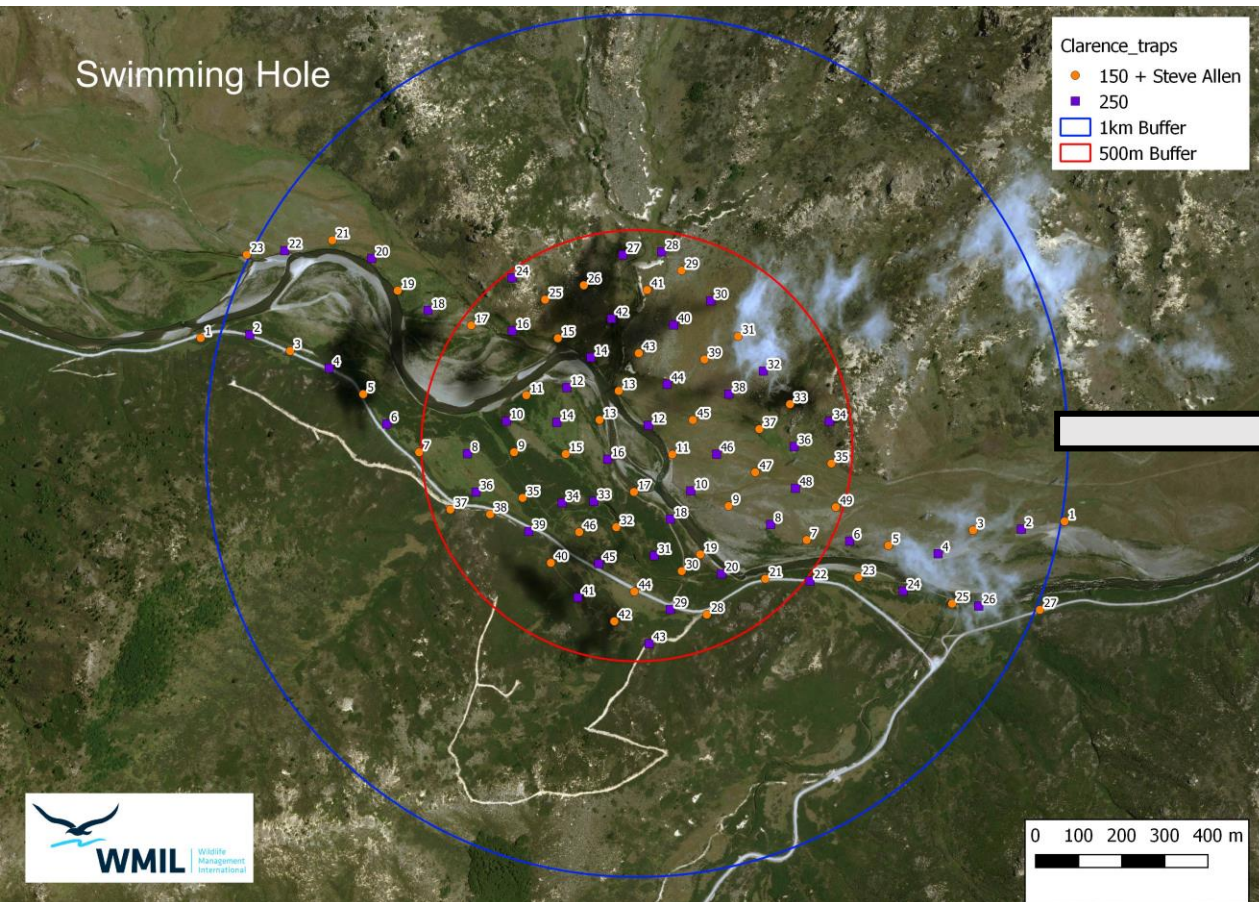


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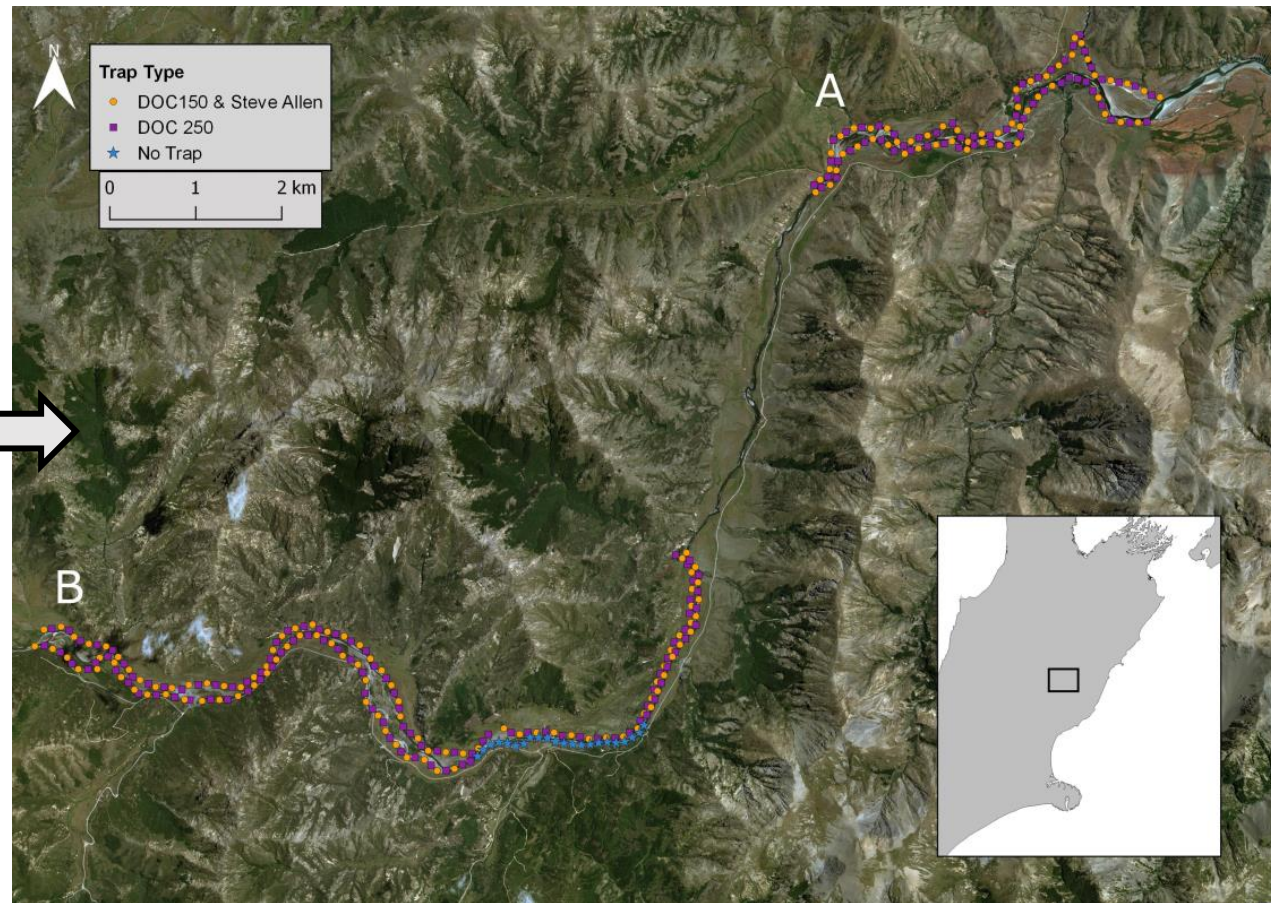
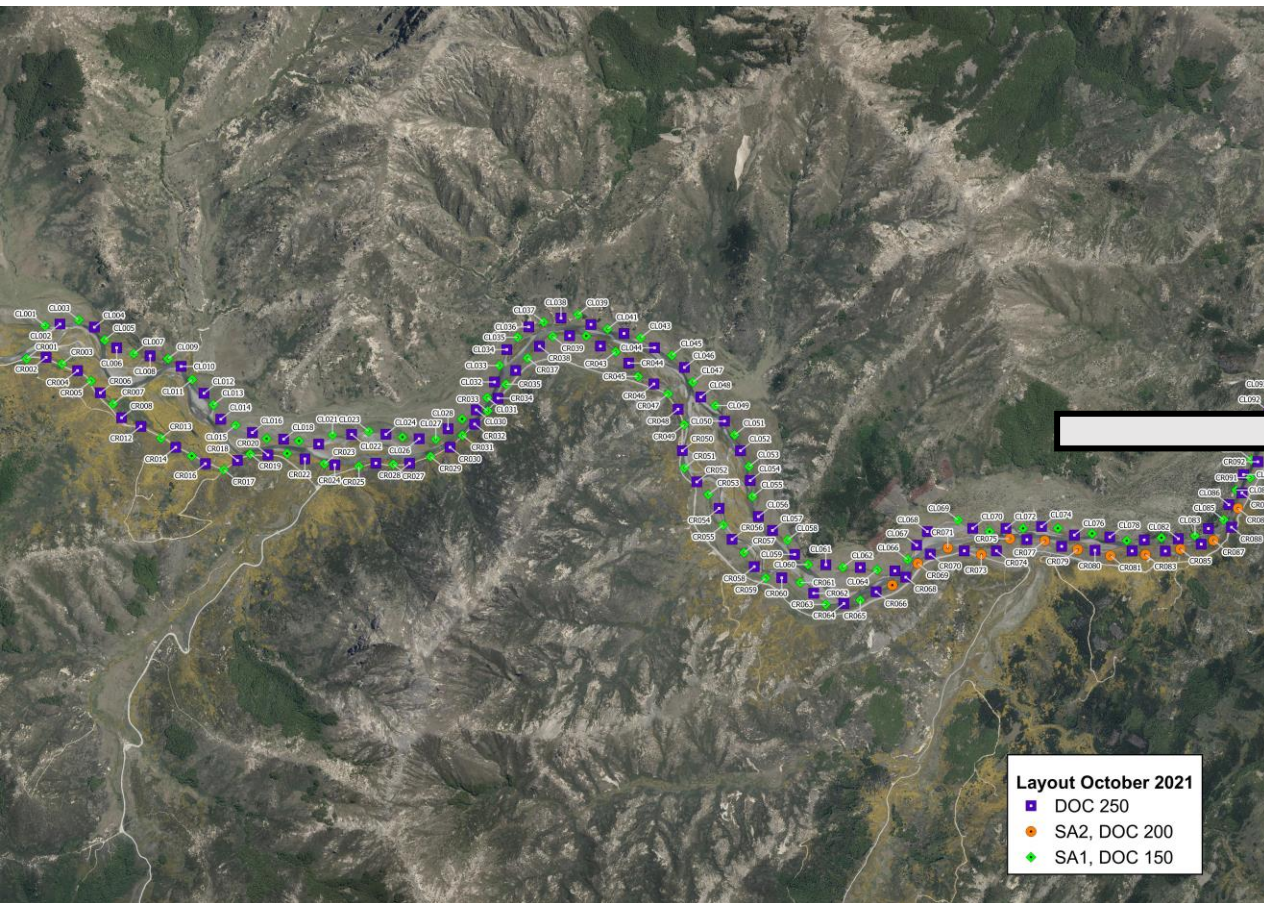
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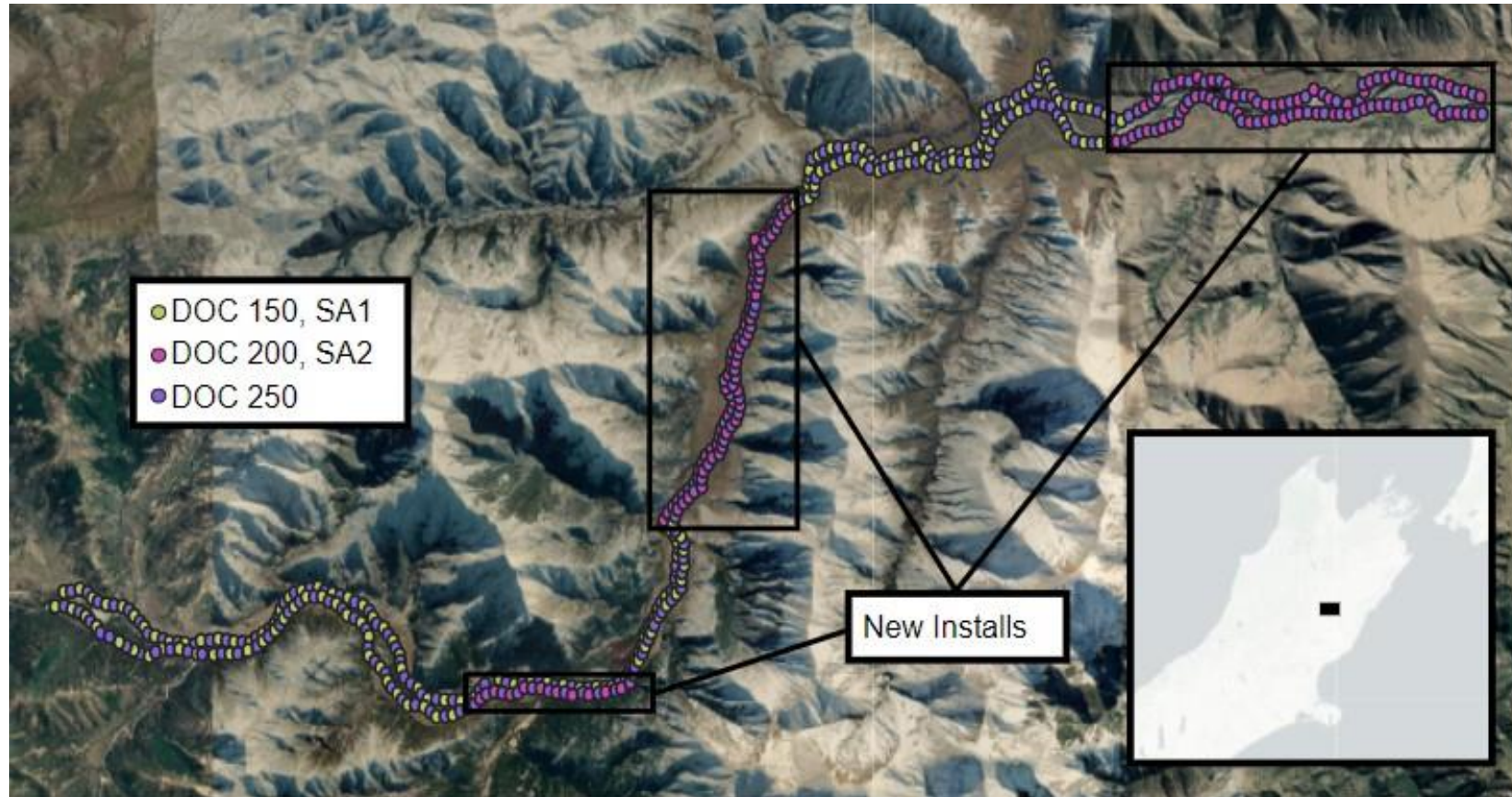
WAIIAU TOA/CLARENCE RIVER ENHANCEMENTS



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- Banding Australasian harrier



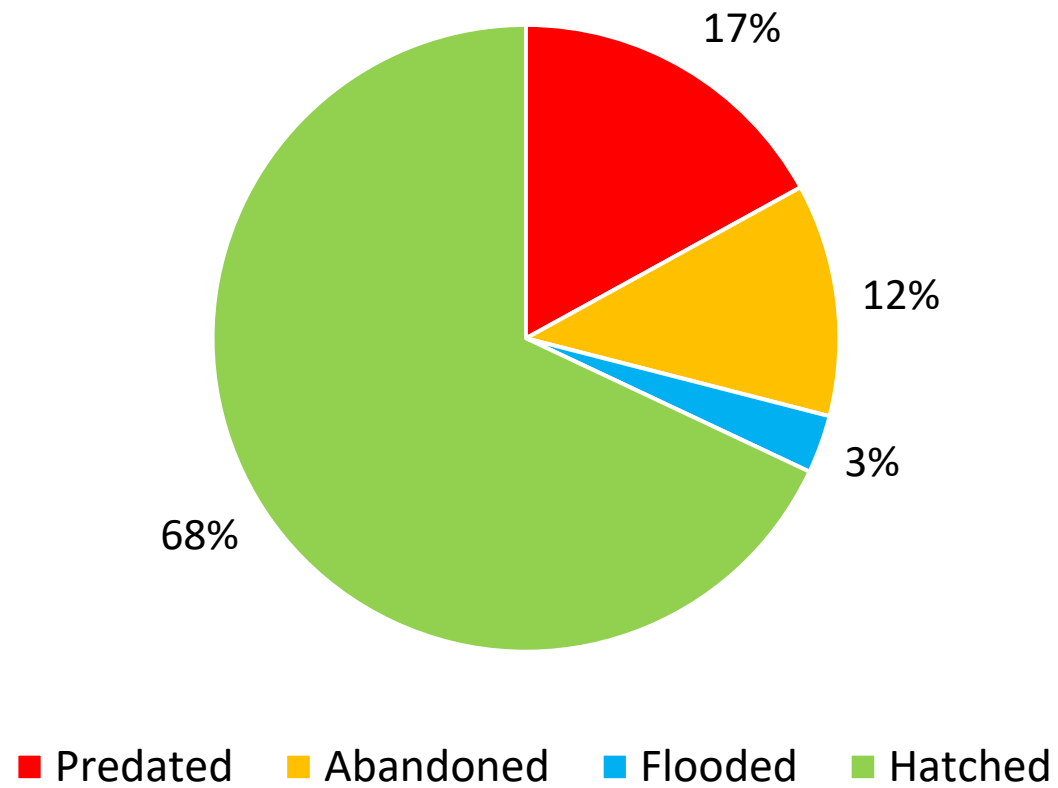
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- Banding black-fronted tern adults and chicks: Adults and chicks banded on two banding trips where possible
- Banding Australasian harrier: Harriers caught and banded along the Clarence River study site over 4 days in September





Waiau Toa/ Clarence & Acheron 2021/2022 Results

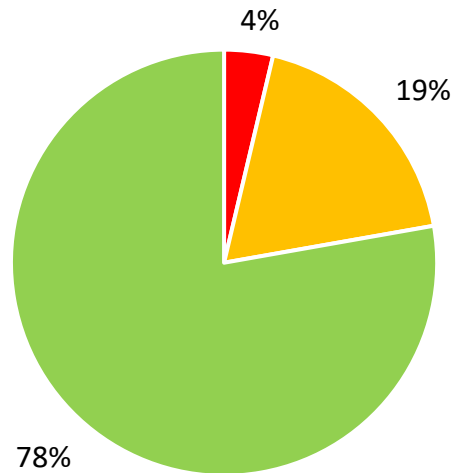




Waiau Toa/ Clarence & Acheron 2021/2022 Results

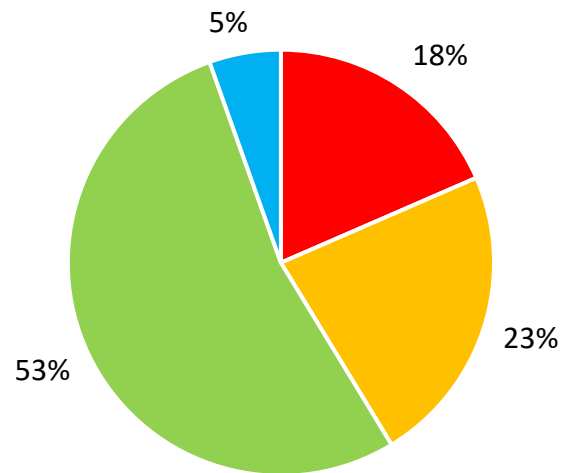


Enhanced Island Colonies



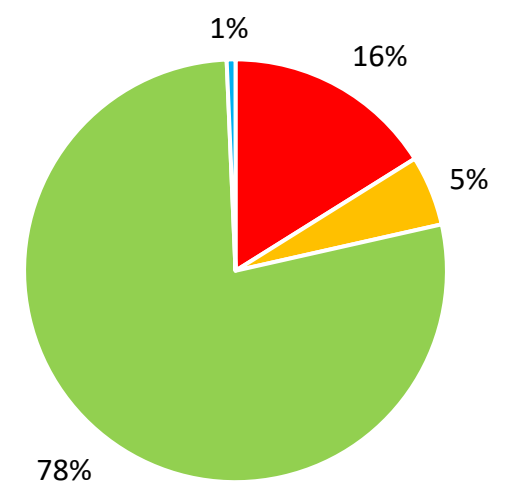
■ Predated ■ Abandoned ■ Hatched

Treatment Colonies



■ Predated ■ Abandoned ■ Hatched ■ Flooded

Non-Treatment Colonies



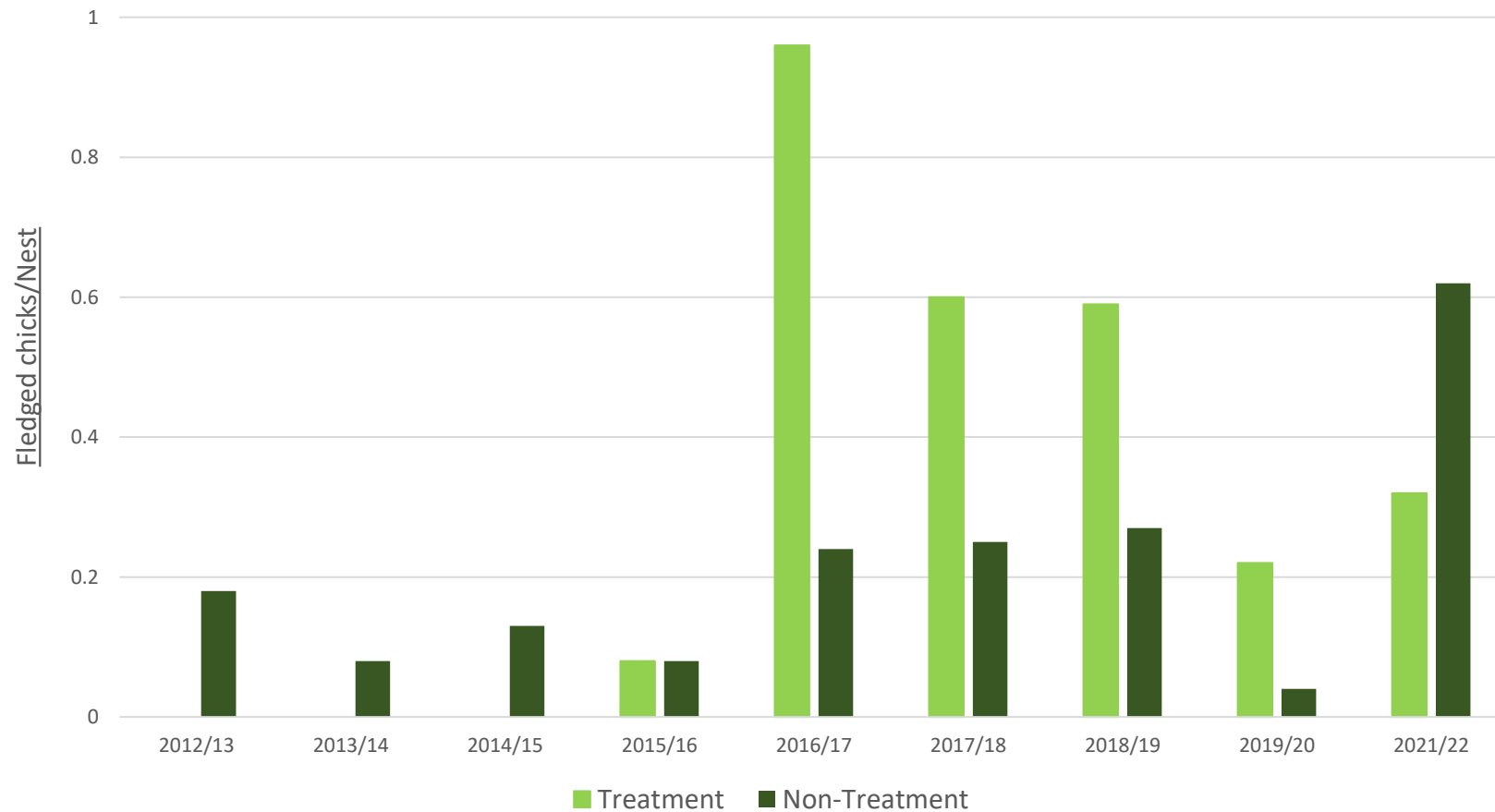
■ Predated ■ Abandoned ■ Hatched ■ Flooded



Waiau Toa/ Clarence & Acheron 2021/2022 Results



Fledging Success between Treatment and Non-Treatment Zones



ENHANCEMENT RESULTS



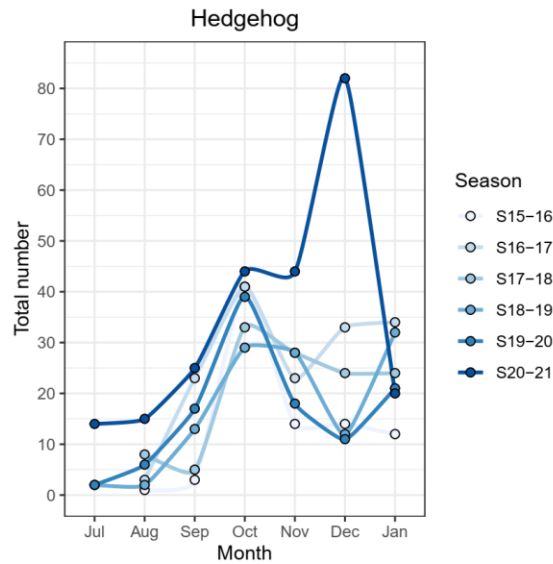
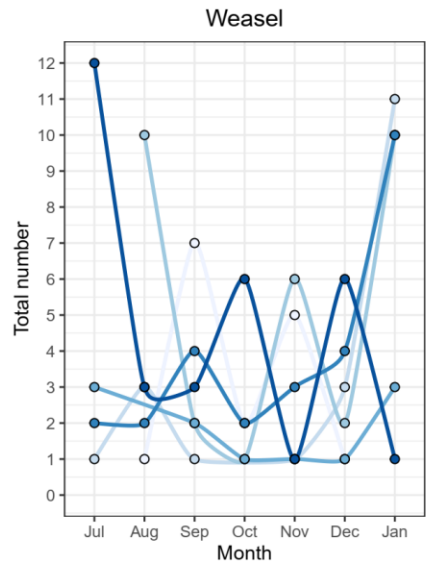
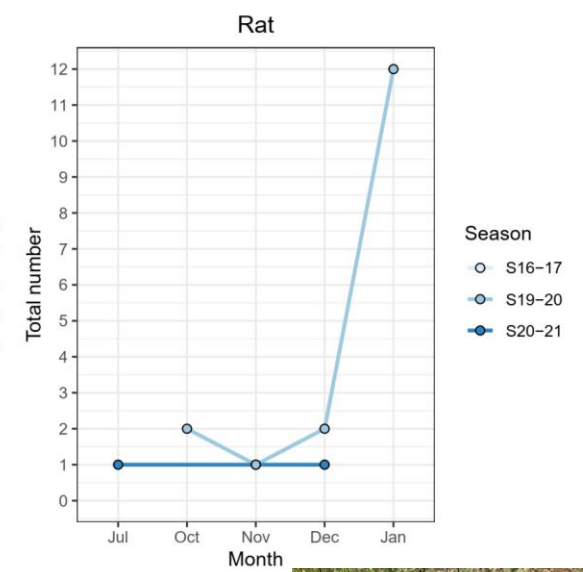
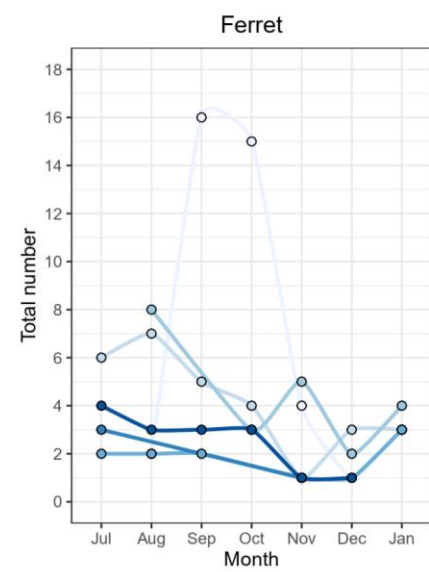
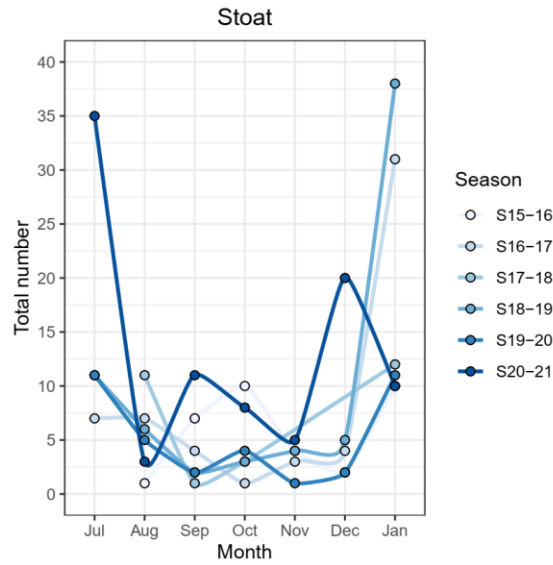
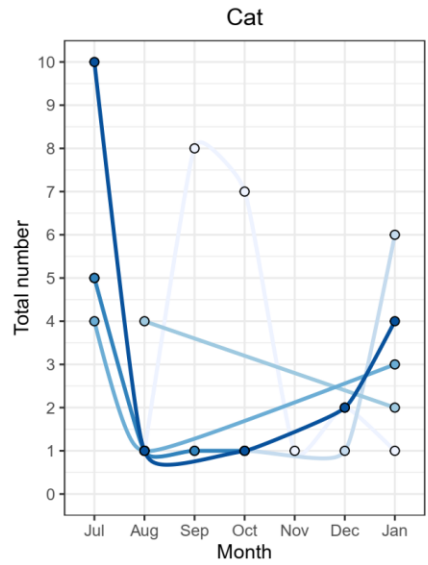


38 C 26.92 inHg

TRAILCAM01

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TRAPPING RESULTS 2021/2022



TRAPPING RESULTS 2021/2022

Cat

Stoat

Ferret

Number caught

● 1-2

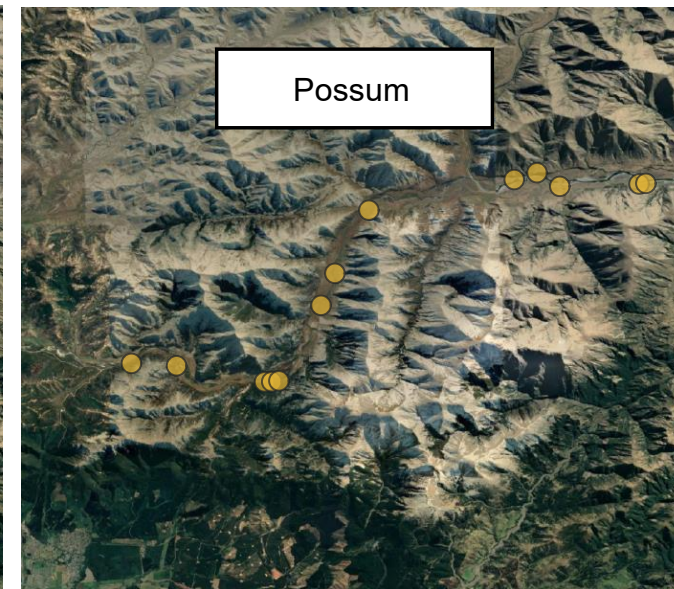
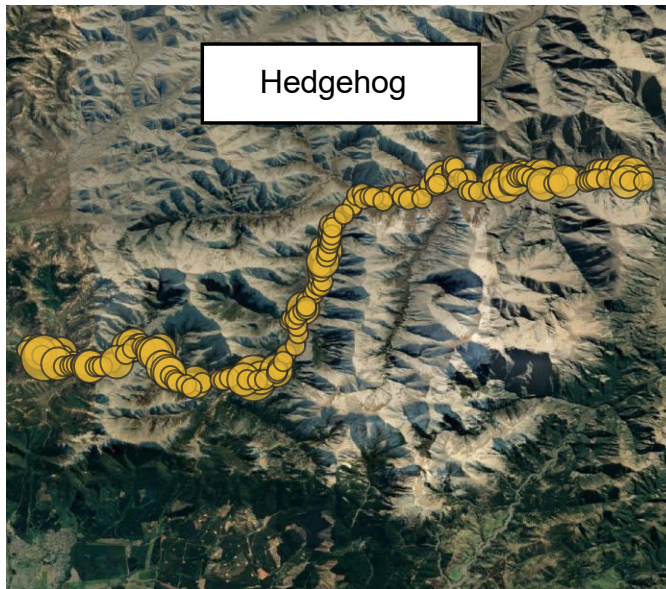
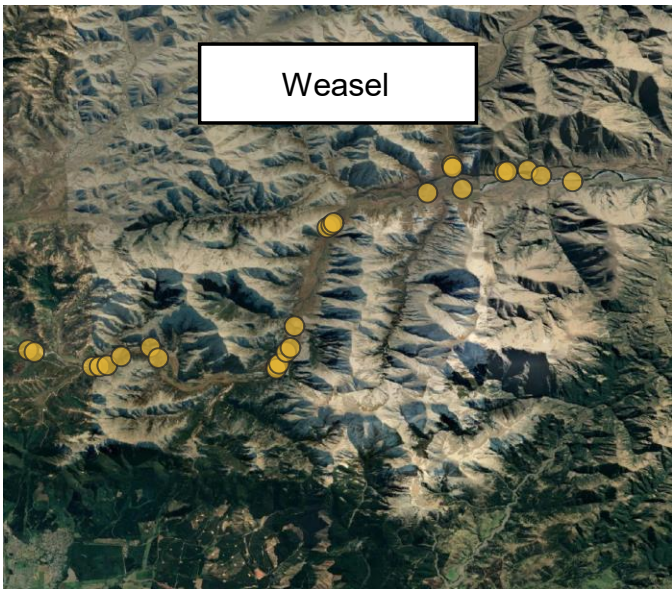
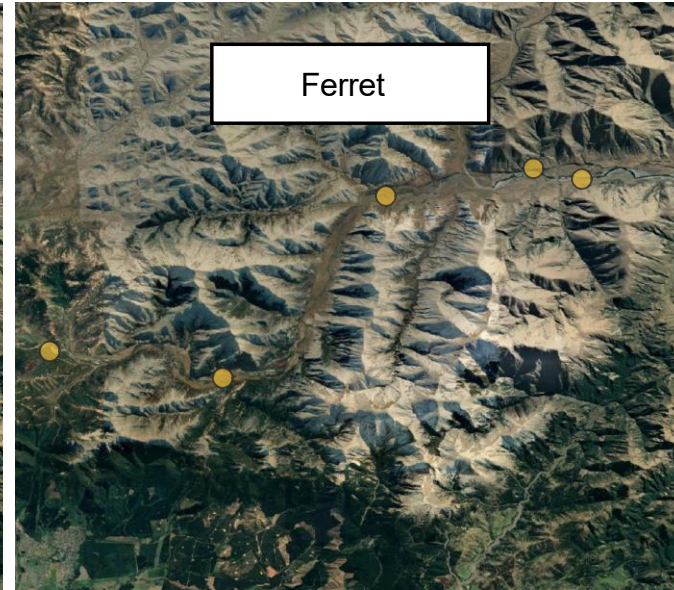
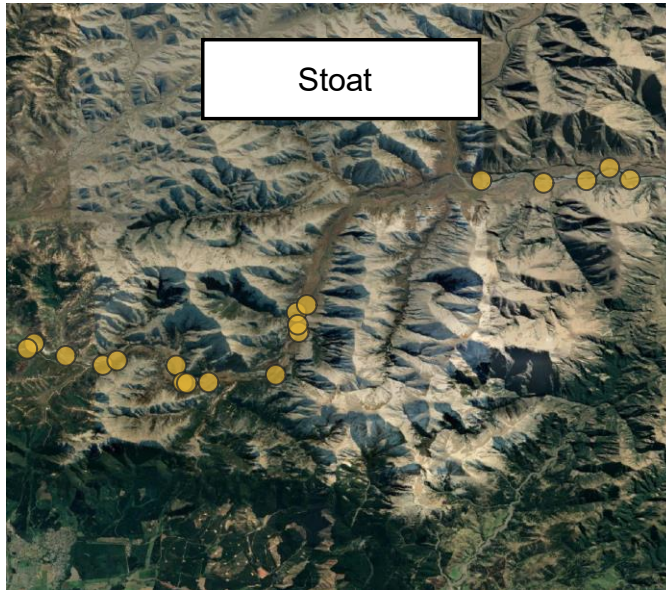
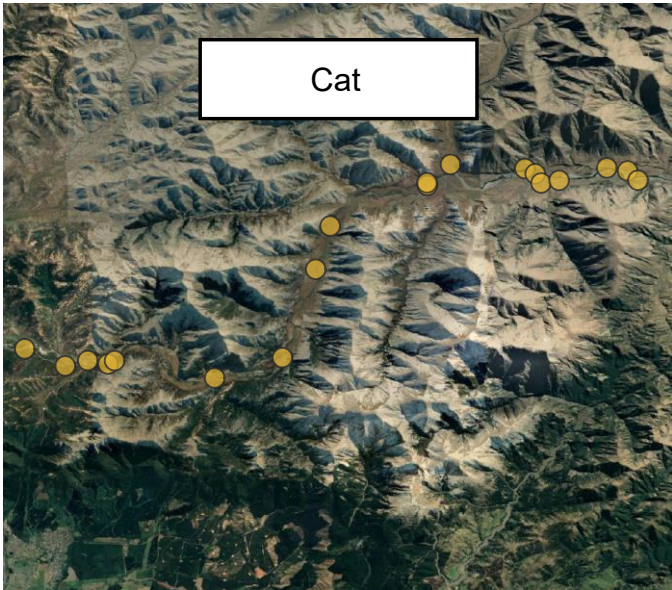
● 3-4

● 5-6

Weasel

Hedgehog

Possum



KĀHU/HARRIER RESIGHTINGS

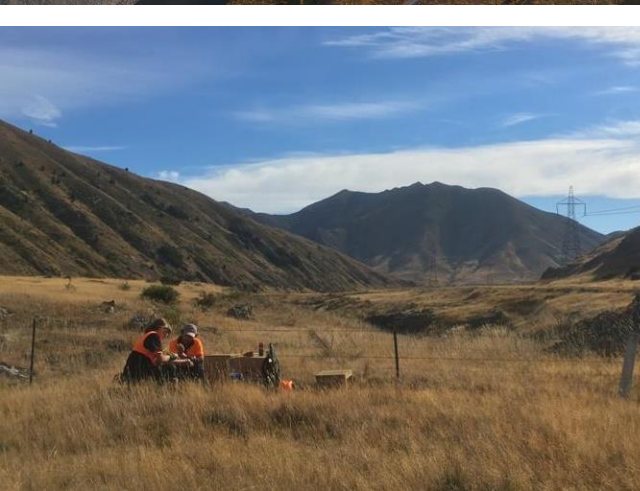


WHERE TO NEXT?





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70°F21°C 16-11-2020 09:25:01





CAMNAME 63°F17°C 06-01-2017 00:54:46

ACKNOWLEDGEMENTS

- ECan, DOC & LINZ for providing funding for one or more of these projects
- Kaikoura Water Zone Committee and Waiau-Uwha Hurunui Water Zone Committee for providing support and recommendations
- Patrick Crowe, Ellery Mayence, Kerry Weston (DOC) and Sian Reynolds (Boffa Miskell) for effectively managing these projects
- Field staff and volunteers for your help this season
- WMIL trapping team, particularly Finn McCool + other WMIL staff
- Various WMIL staff for photographs
- Lott Contractors for island enhancement works

