ENHANCING MONITORING METHODS FOR NATIVE SKINKS OF AOTEAROA

A FUSION OF MĀTAURANGA MĀORI AND WESTERN SCIENCE

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PREDATOR FREE 2050 IS A NATIONAL INITIATIVE TO **PROTECT NATIVE SPECIES** BY ELIMINATING ALL RATS, STOATS, AND POSSUMS

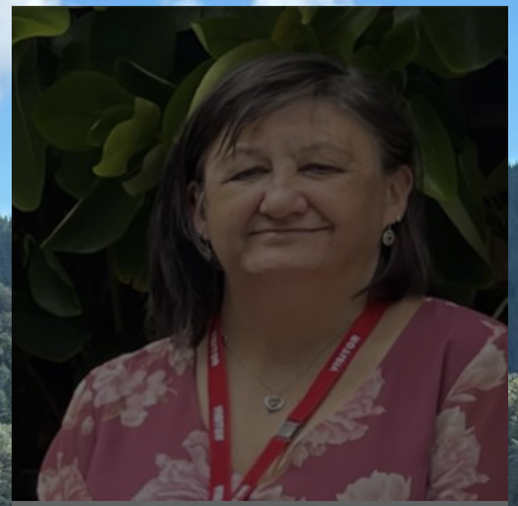
WE EVALUATED NON-INVASIVE **METHODS** OF **SKINK MONITORING** USING **SCIENTIFIC** AND **CULTURAL** FRAMEWORKS

PITFALL TRAPS

ARE USED FOR ONLY PRESENCE, BUT HAVE THE RISK OF DISRUPTING AND HARMING THE SKUNKS

TRACKING TUNNELS

CAN EXPLICIT DETECT DATA, BUT THEY ARE USEFUL, CHEAP, EASY TO USE



DR. SARA BELCHER

STU HEREWINI

WESTERN SCIENCE CAN BE A POWERFUL **ADDITION** TO **MĀTAURANGA MĀORI**

WHAKAPAPA
GENEALOGIES

KAITIAKITANGA
GUARDIANSHIP

TAONGA
TREASURE

ROTORUA

TE KURA TAIAO COLLECTIVE

ENVIRONMENTAL STEWARDSHIP

AESTHETIC SEARCHING

THE FOUR PILLARS OF HAUORA

TAHA WHĀNAU
SOCIAL

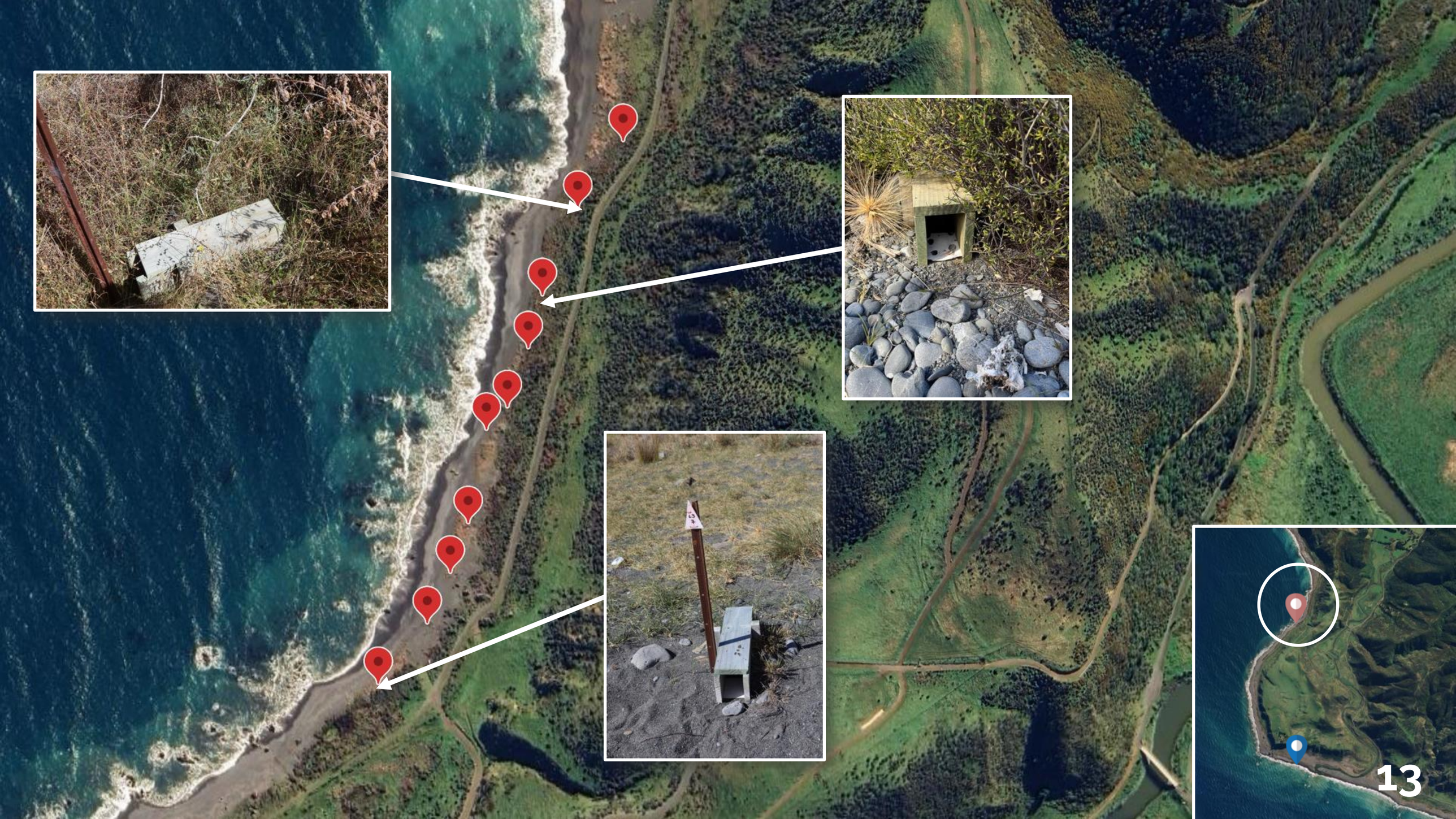
TAHA HINENGARO
MENTAL

TAHA WAIRUA
SPIRITUAL

TAHA TINANA
PHYSICAL

ROTORUA
BARING HEAD

Baring Head/
Ōrua-pouanui
Greater Wellington
IN THE EVENT OF A WILD FIRE
FOLLOW THESE INSTRUCTIONS:
1) If fire seen call 111 to report fire, give location (NZTM 1757117.826, 5414290.389) and exit intentions.
2) Immediately move away from the spreading fire and head towards park exit.
3) If fire makes it impossible to evacuate to a safe location, find an area with as little vegetation as possible such as bare earth, gravelled or mown grass areas, shelter behind non-flammable objects and stay low.
Baring Head
N
Fitzroy Bay Beach Exit
Baring Head Bridge
PARK EXIT
YOU ARE HERE
Baring Head/
Ōrua-pouanui
Wainuiomata
River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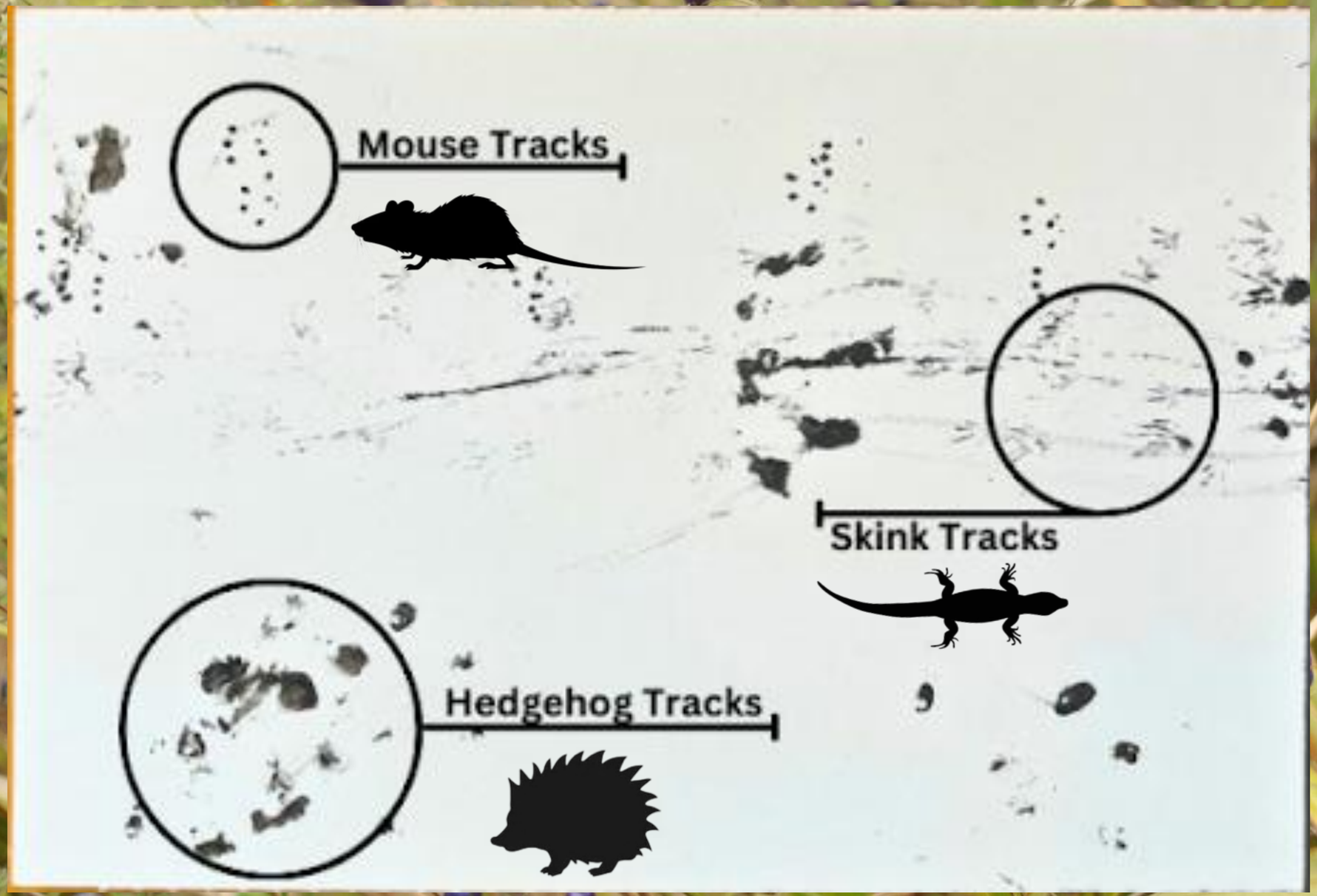
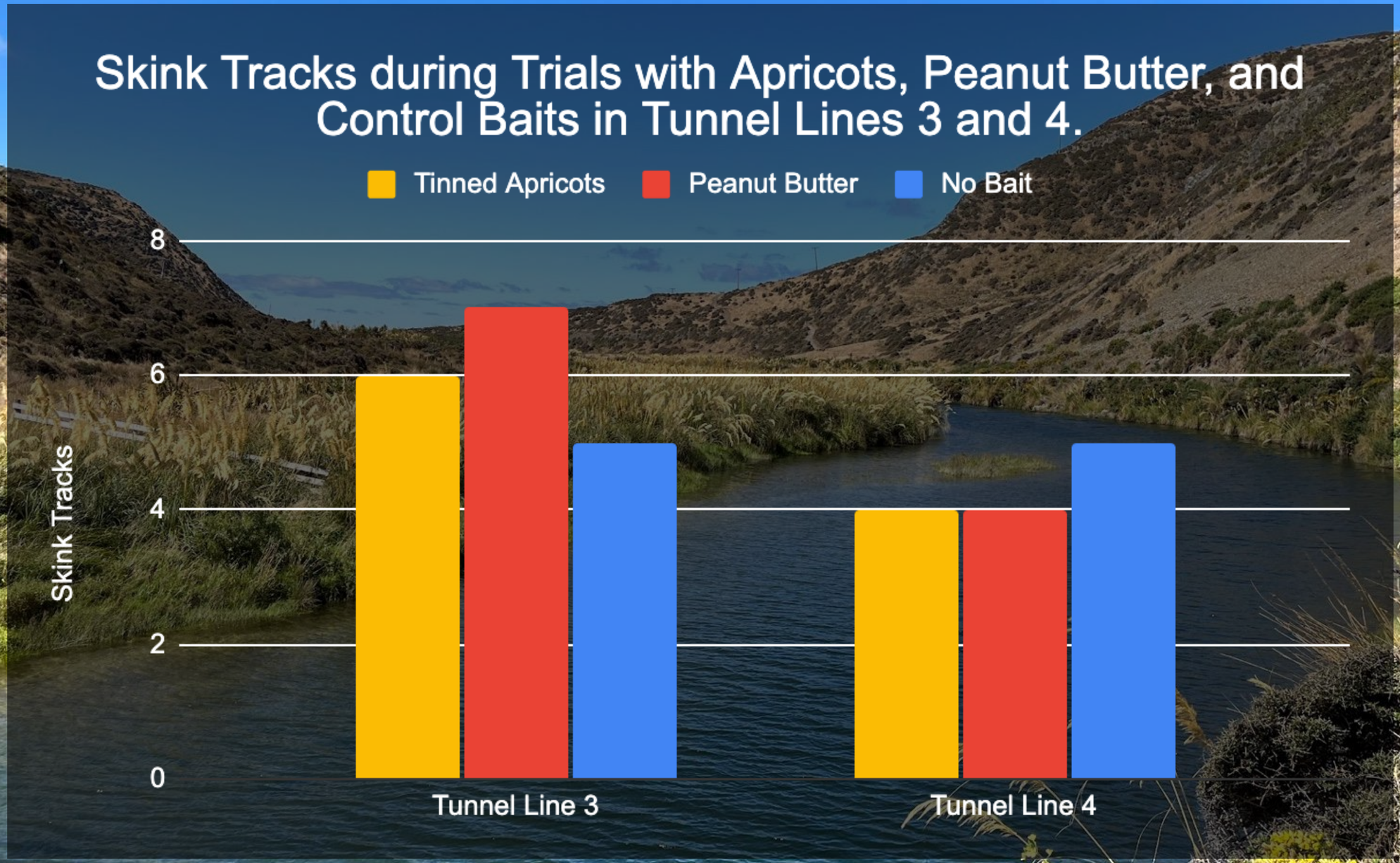
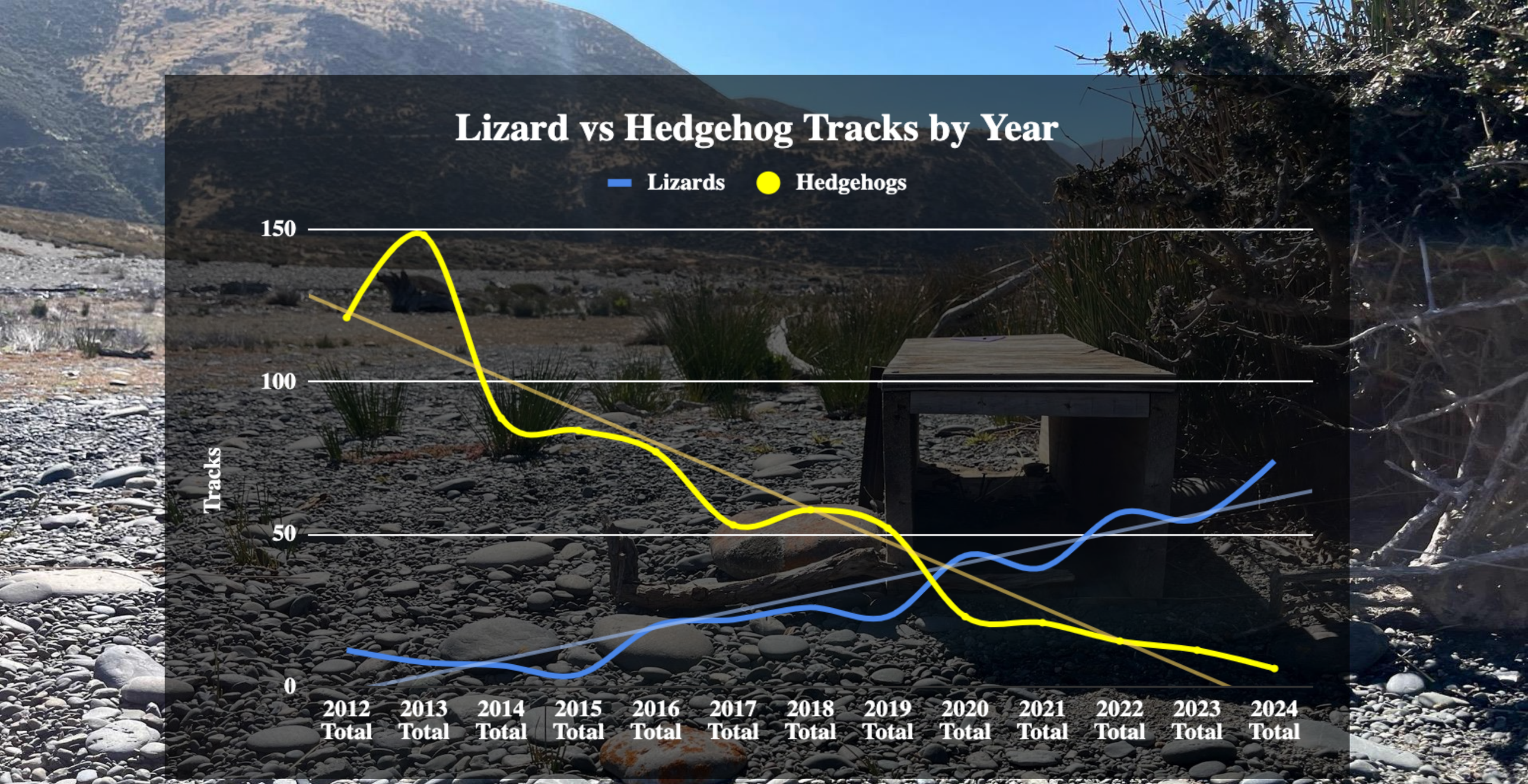
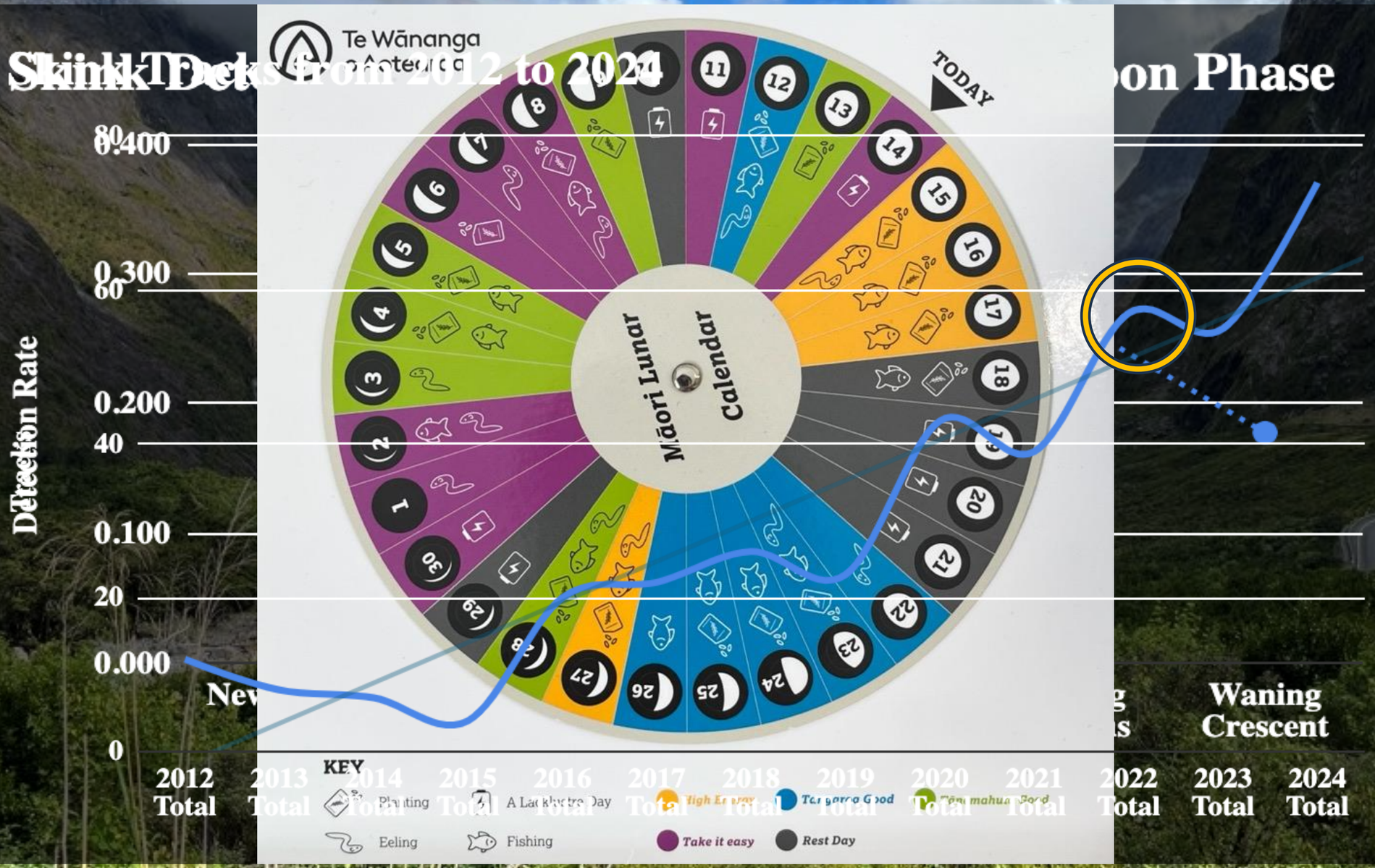

Mouse Tracks
Skink Tracks
Hedgehog Tracks

WELLINGTON
ROTORUA
BARING HEAD

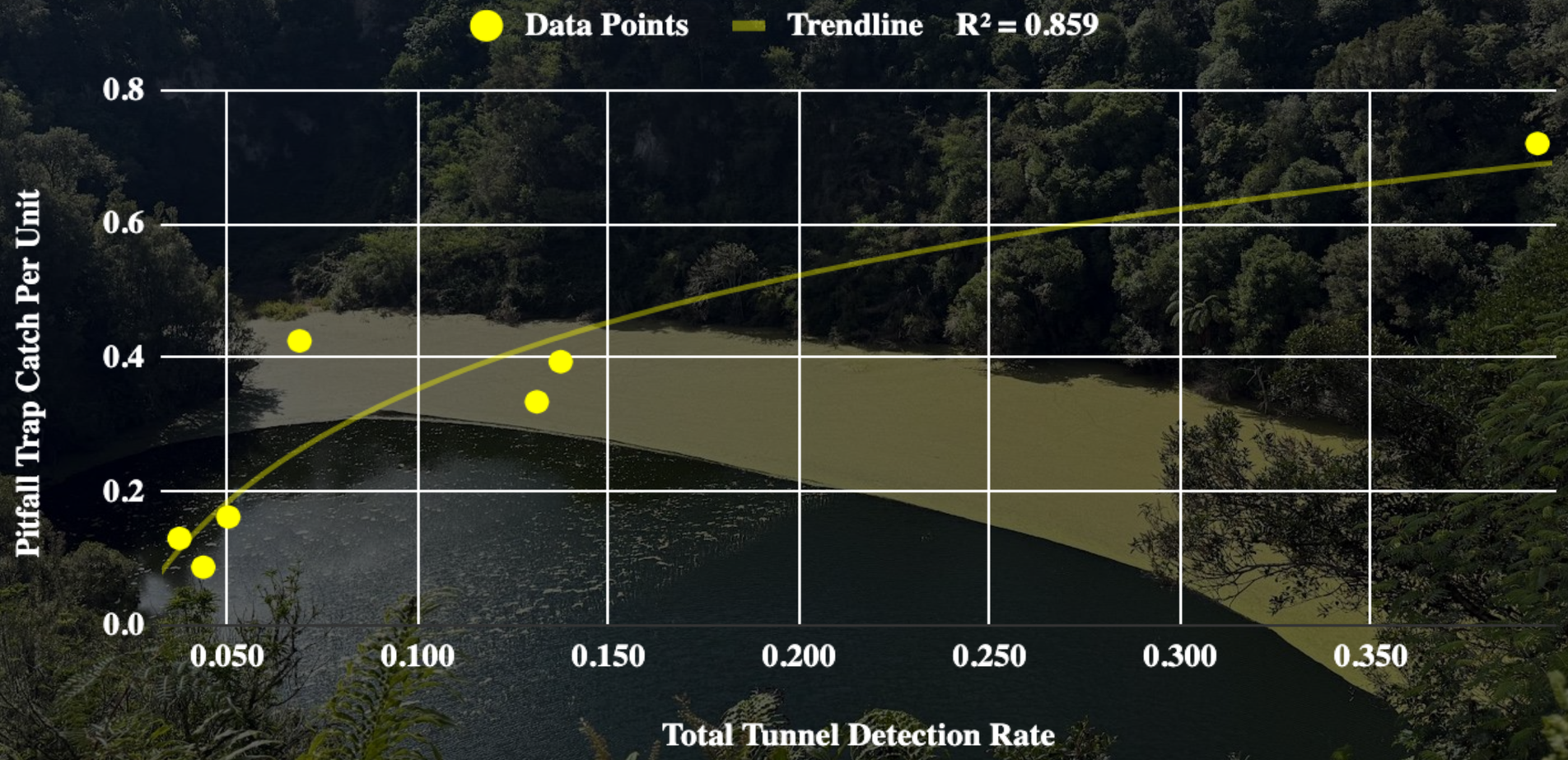

Skink Tracks during Trials with Apricots, Peanut Butter, and Control Baits in Tunnel Lines 3 and 4.
Tinned Apricots
Peanut Butter
No Bait
Skink Tracks
8
6
4
2
0
Tunnel Line 3
Tunnel Line 4


Lizard vs Hedgehog Tracks by Year
Lizards
Hedgehogs
Tracks
150
100
50
0
2012 Total
2013 Total
2014 Total
2015 Total
2016 Total
2017 Total
2018 Total
2019 Total
2020 Total
2021 Total
2022 Total
2023 Total
2024 Total

Skink Decks from 2012 to 2024 on Phase



Total Tunnel Detection Rate vs. Pitfall Trap Catch Per Unit with a Logarithmic Trendline



RECOMMENDATIONS

1. REMOVE BAIT FROM TRACKING TUNNEL OPERATIONS

2. CONNECT HEDGEHOG CONTROL AND SKINK MONITORING

3. PRIORITIZE TRACKING TUNNELS FOR SKINK MONITORING

4. INVOLVE YOUTH IN CONSERVATION VIA TRACKING TUNNEL PROJECTS IN A KINESTHETIC LEARNING ENVIRONMENT

5. EXPAND THE RELATIONSHIP BETWEEN IWIS AND THE DEPARTMENT OF CONSERVATION

OUR EXPERIENCE

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Partner

Stu Herewini
Partner

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Key Informant

Dr. Ingrid Shockey
Co-Advisor

Dr. Robert Kinicki
Co-Advisor

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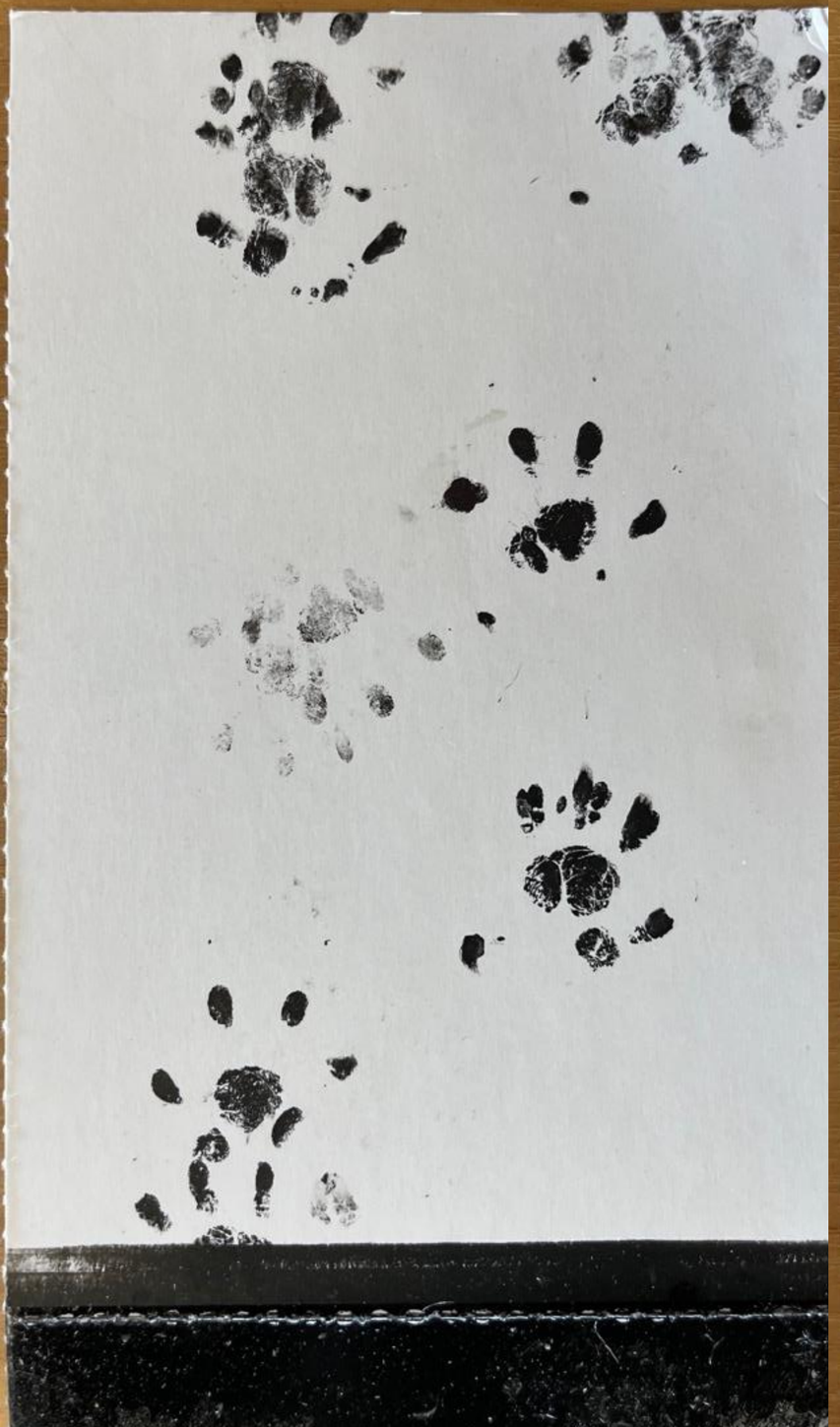
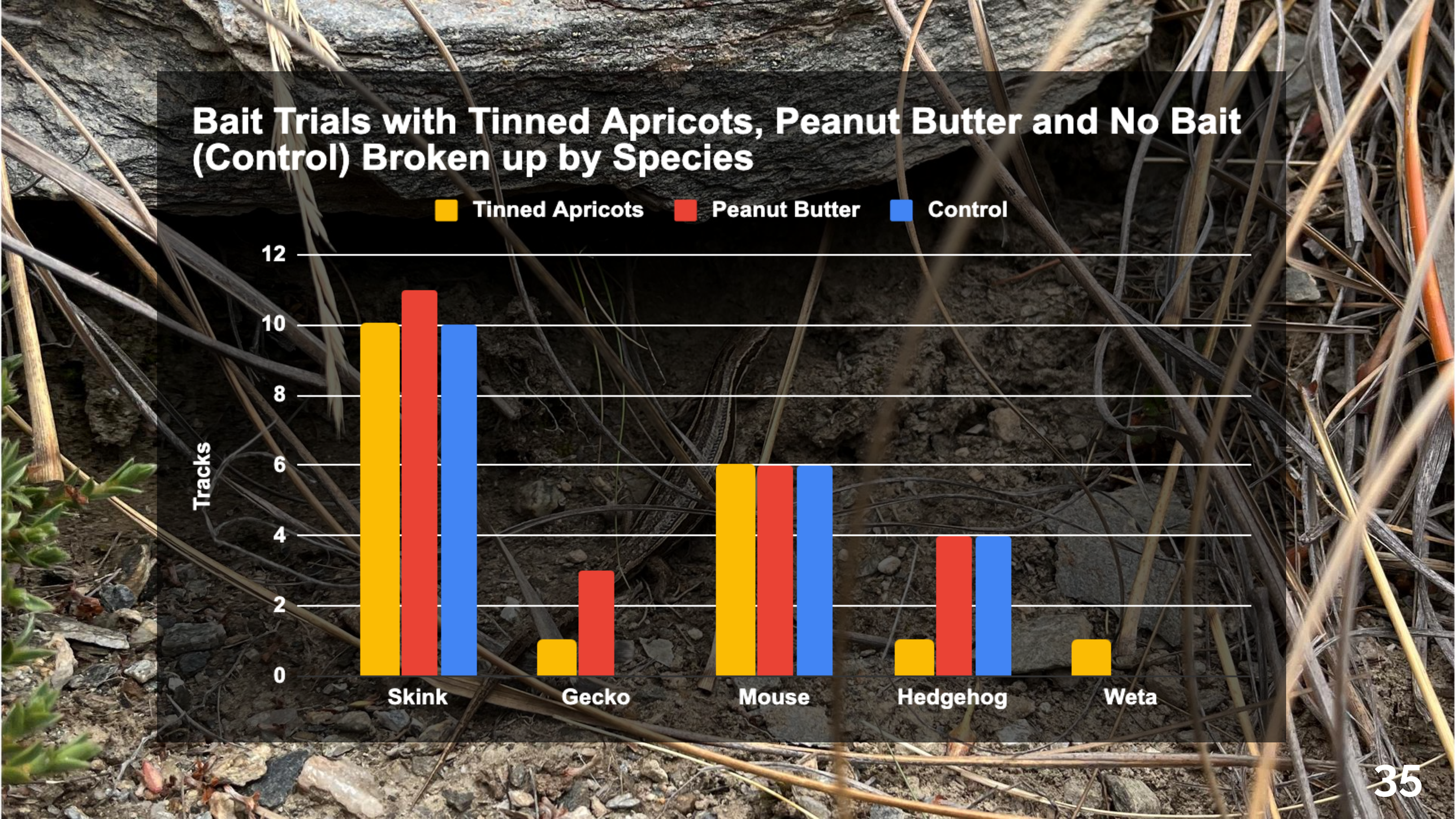
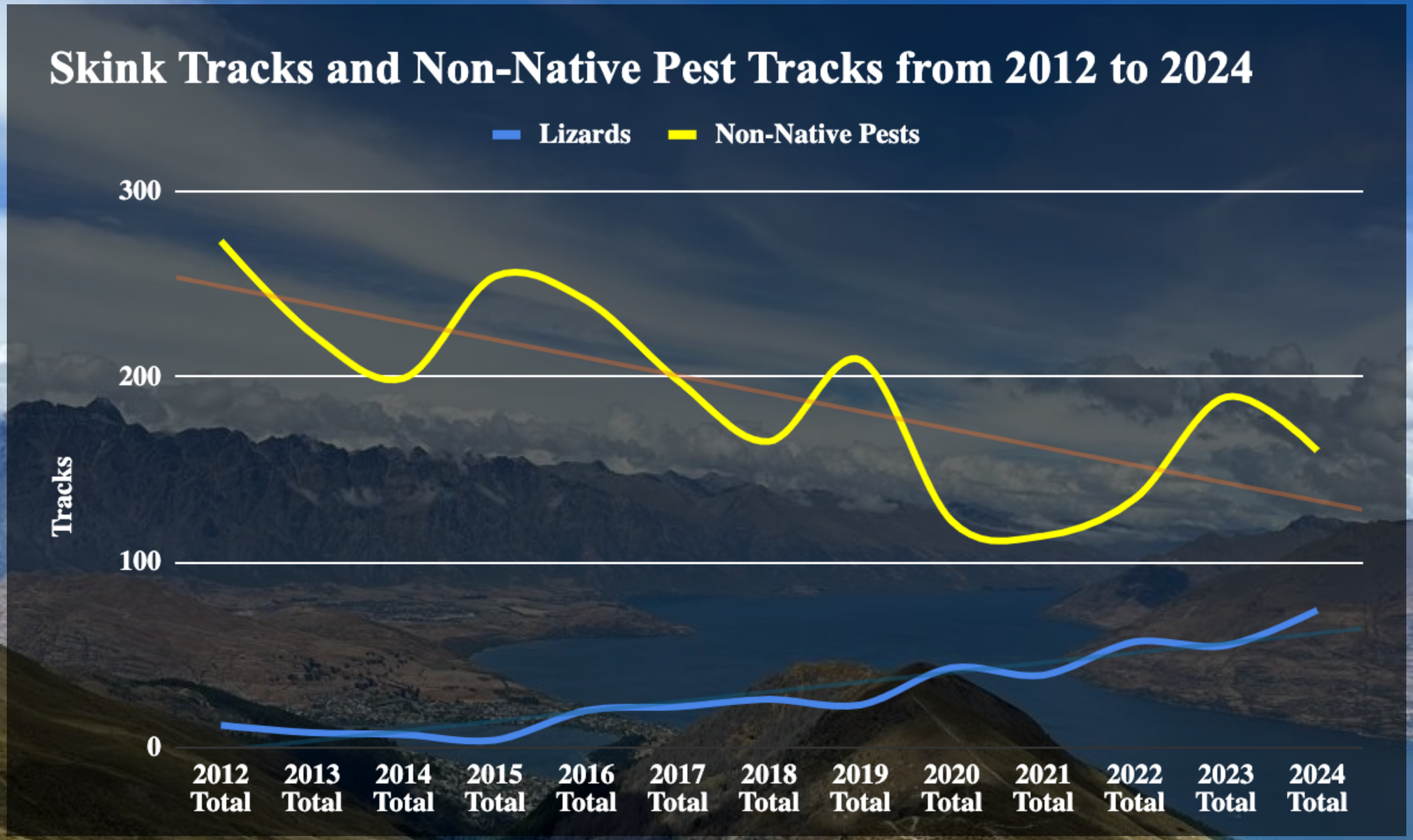
THANK YOU!

DO YOU HAVE ANY QUESTIONS?

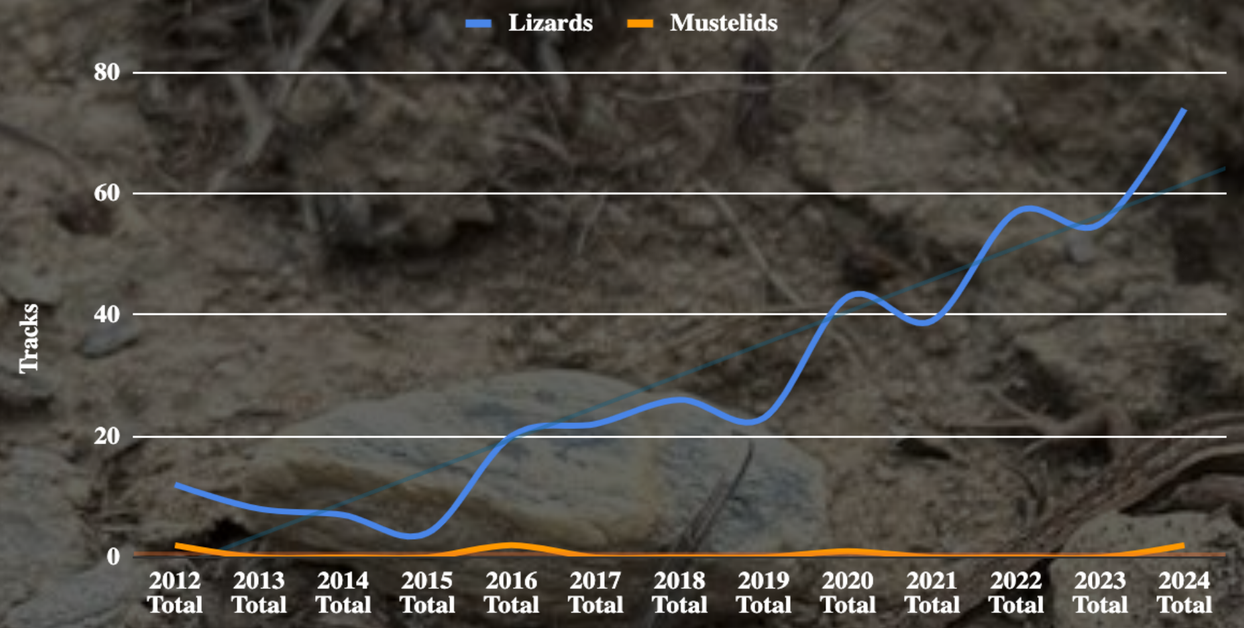
HE PATAI?



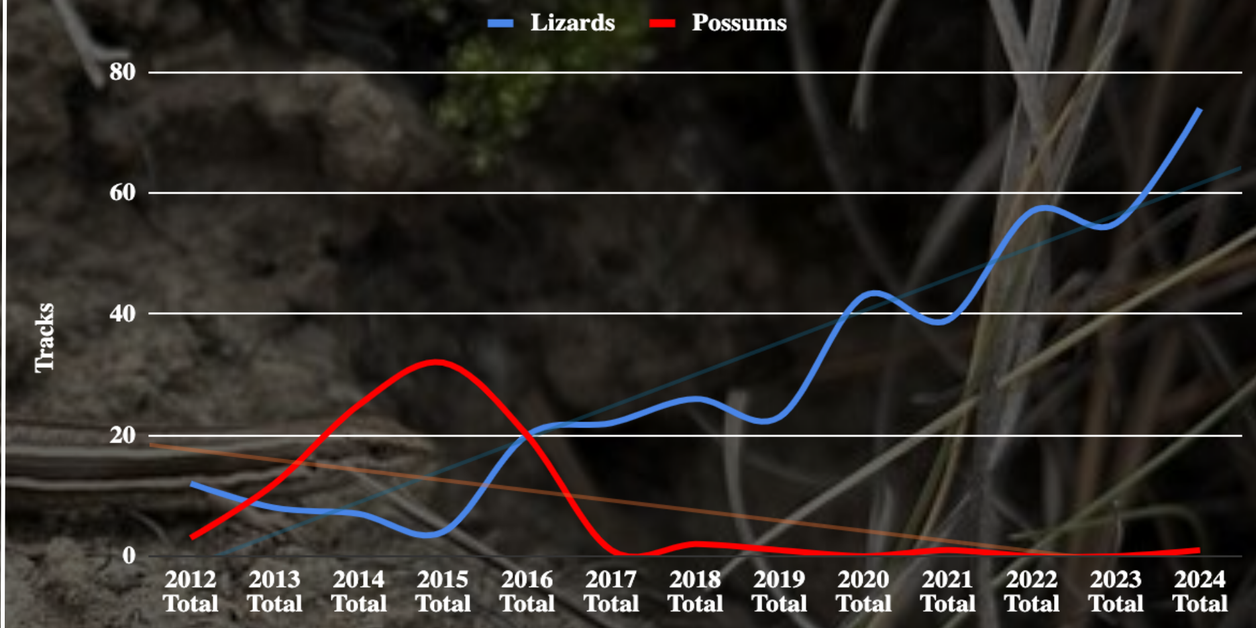

Bait Trials with Tinned Apricots, Peanut Butter and No Bait (Control) Broken up by Species
Tinned Apricots
Peanut Butter
Control
Tracks
12
10
8
6
4
2
0
Skink
Gecko
Mouse
Hedgehog
Weta


Skink Tracks and Non-Native Pest Tracks from 2012 to 2024
Lizards
Non-Native Pests
300
200
100
0
Tracks
2012 Total
2013 Total
2014 Total
2015 Total
2016 Total
2017 Total
2018 Total
2019 Total
2020 Total
2021 Total
2022 Total
2023 Total
2024 Total

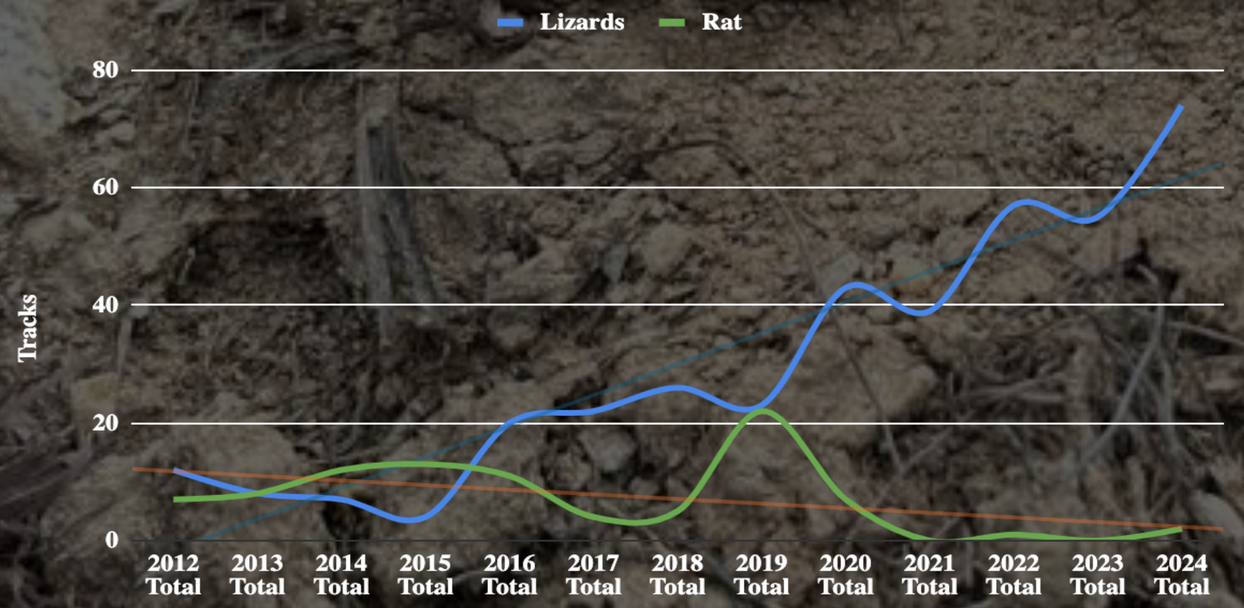
Skink Tracks and Mustelid Tracks from 2012 to 2024



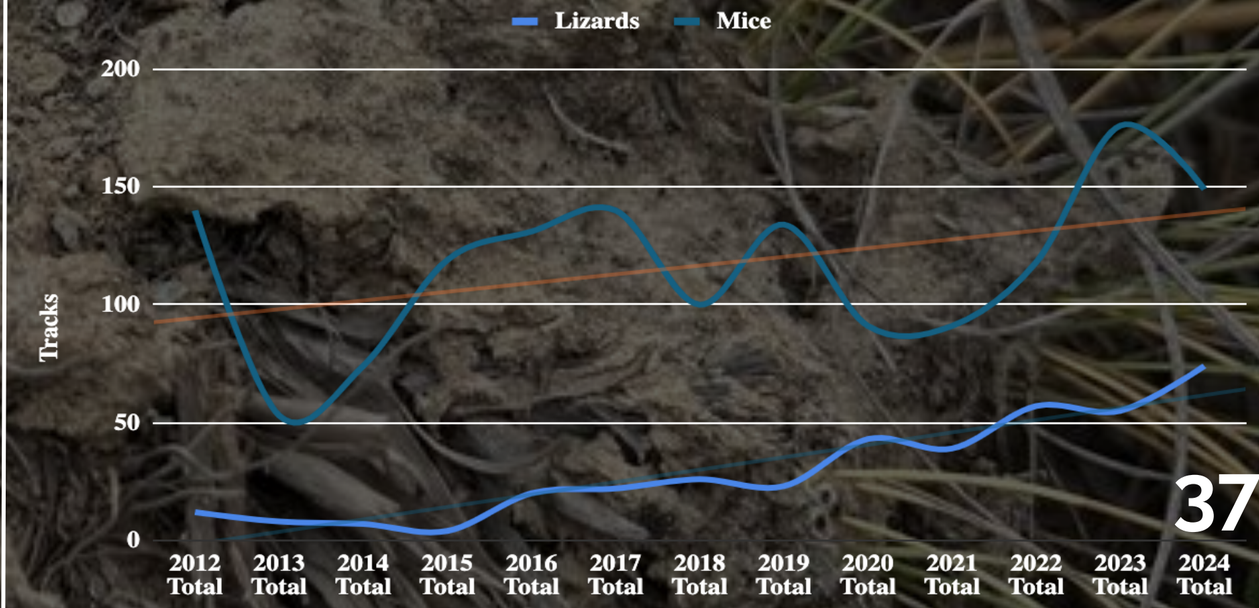
Skink Tracks and Possum Tracks from 2012 to 2024

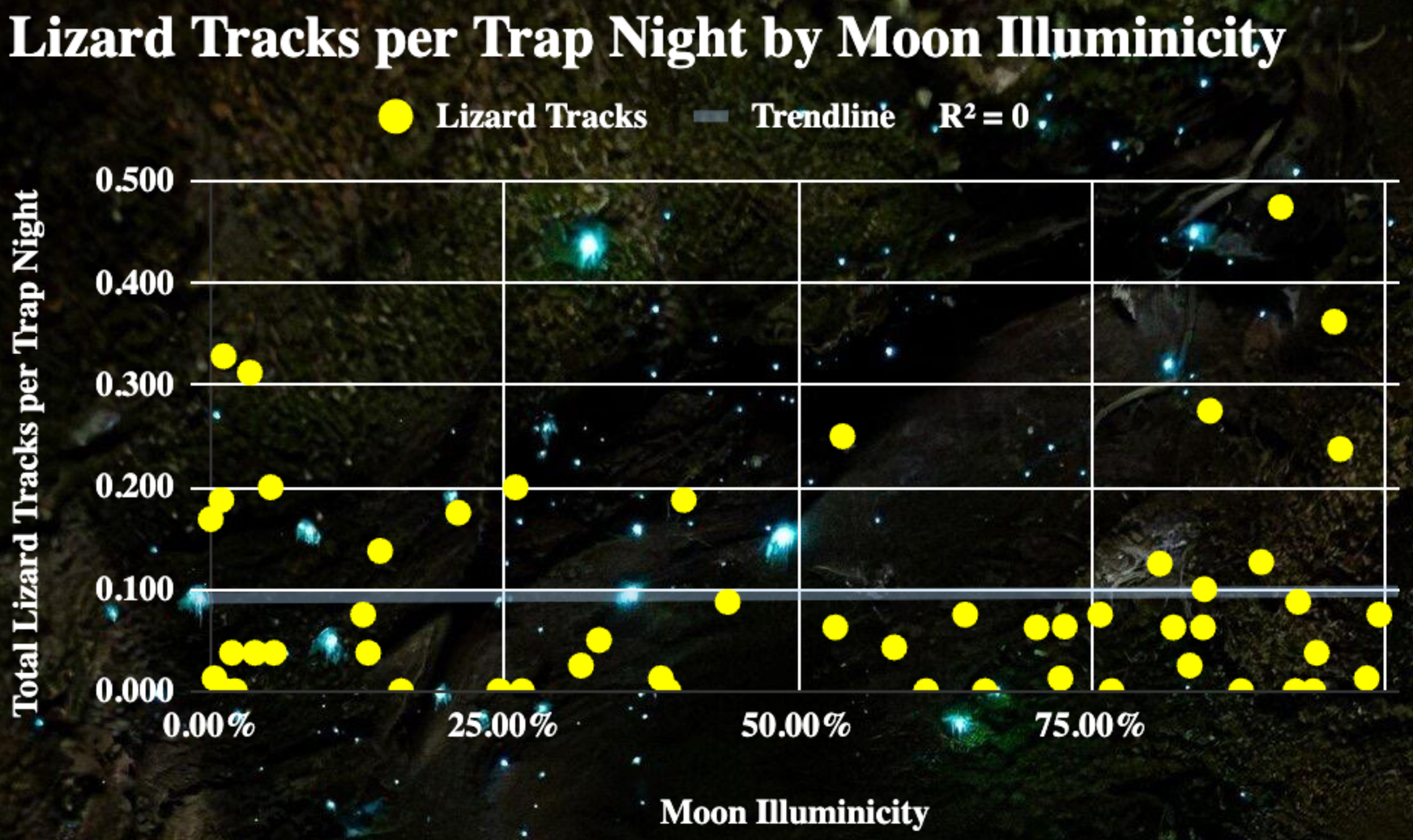


Skink Tracks and Rat Tracks from 2012 to 2024

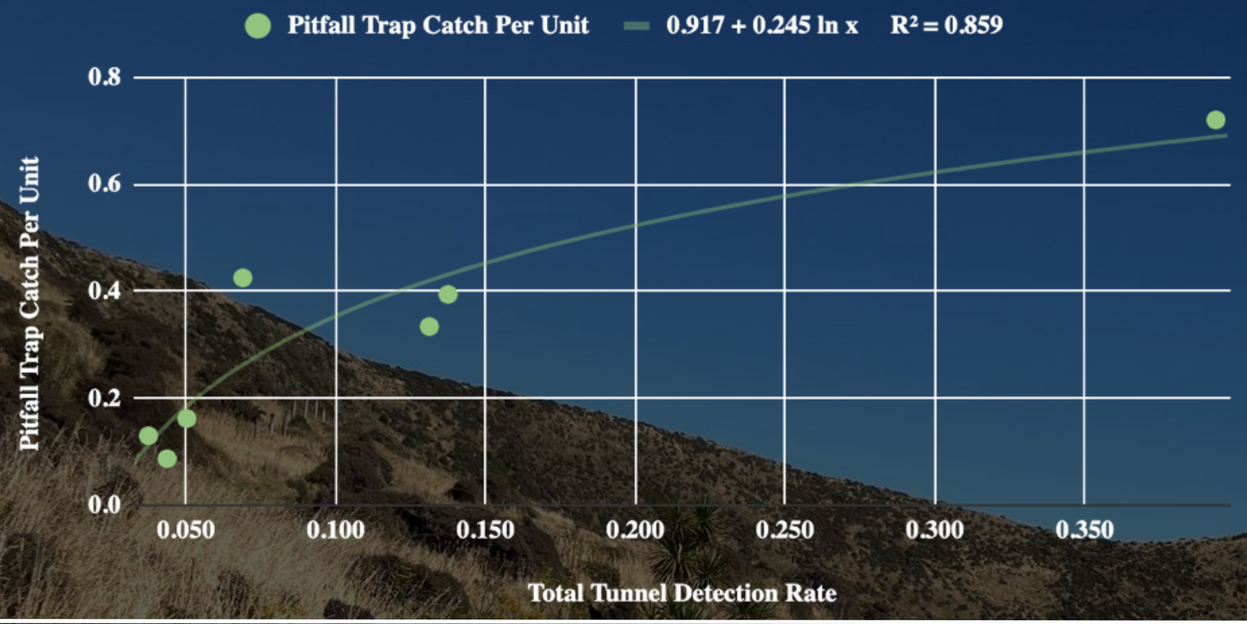


Skink Tracks and Mouse Tracks from 2012 to 2024

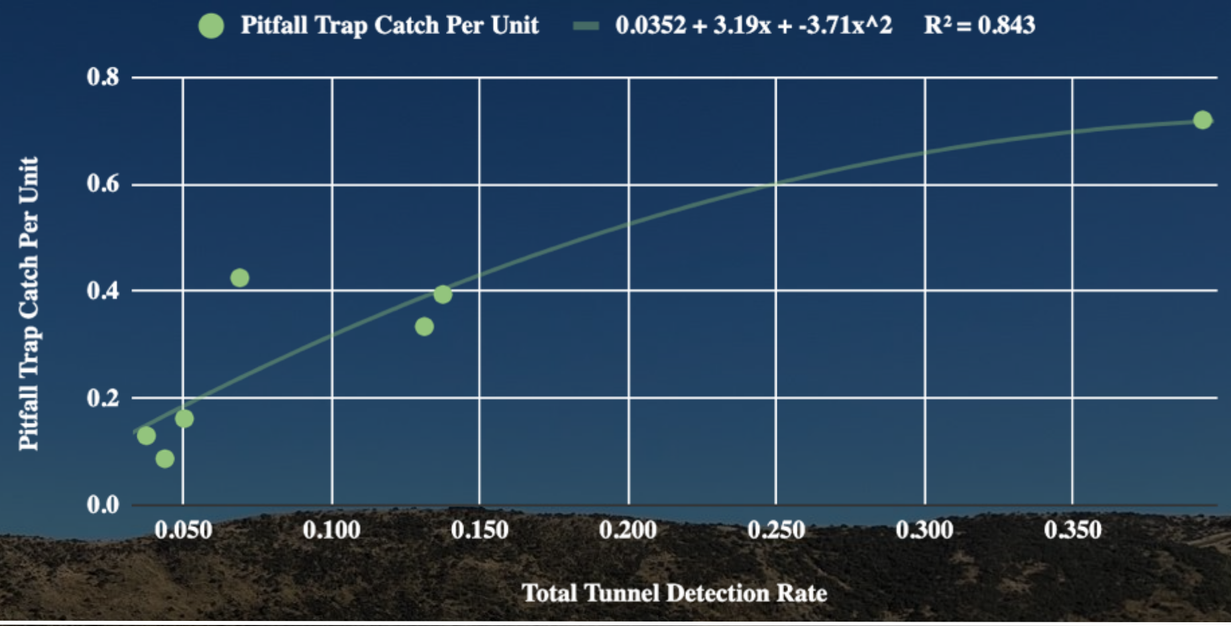



Lizard Tracks per Trap Night by Moon Illuminicity
Lizard Tracks
Trendline
R² = 0
Total Lizard Tracks per Trap Night
0.500
0.400
0.300
0.200
0.100
0.000
0.00%
25.00%
50.00%
75.00%
Moon Illuminicity

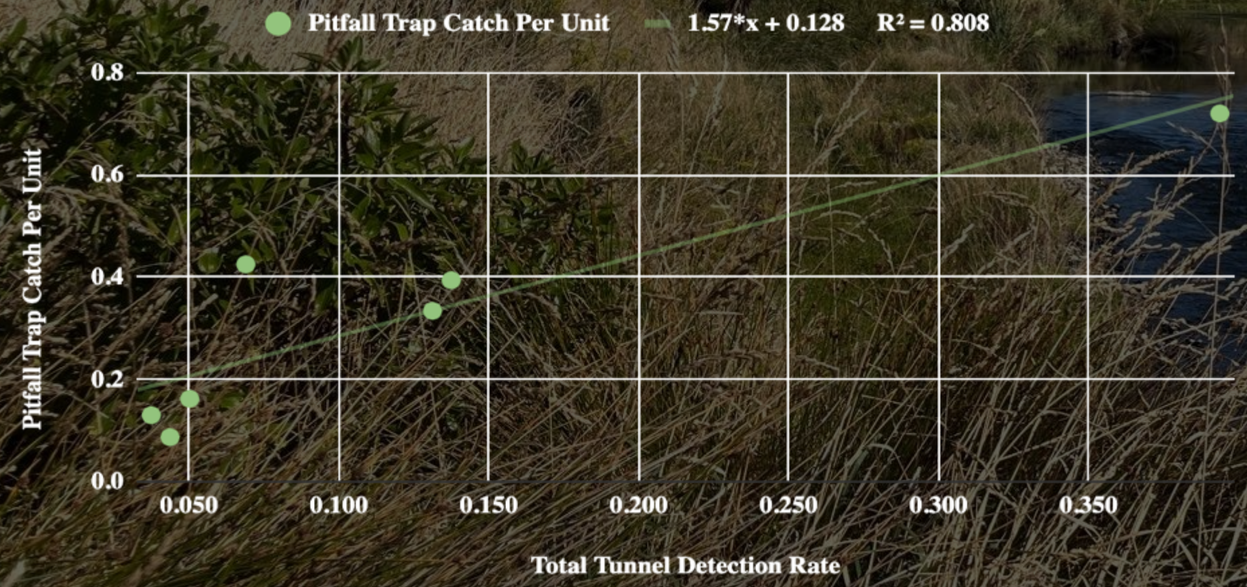
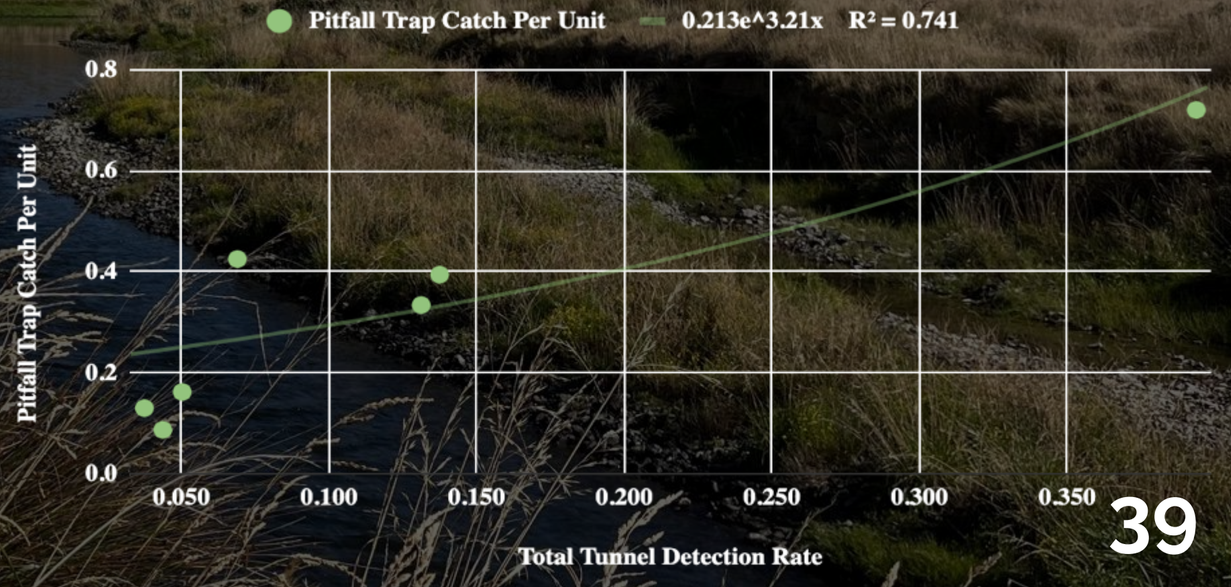
Total Tunnel Detection Rate vs. Pitfall Trap Catch Per Unit with a Logarithmic Trendline



Total Tunnel Detection Rate vs. Pitfall Trap Catch Per Unit with a Polynomial Trendline



Total Tunnel Detection Rate vs. Pitfall Trap Catch Per Unit with a Linear Trendline



Total Tunnel Detection Rate vs. Pitfall Trap Catch Per Unit with an Exponential Trendline