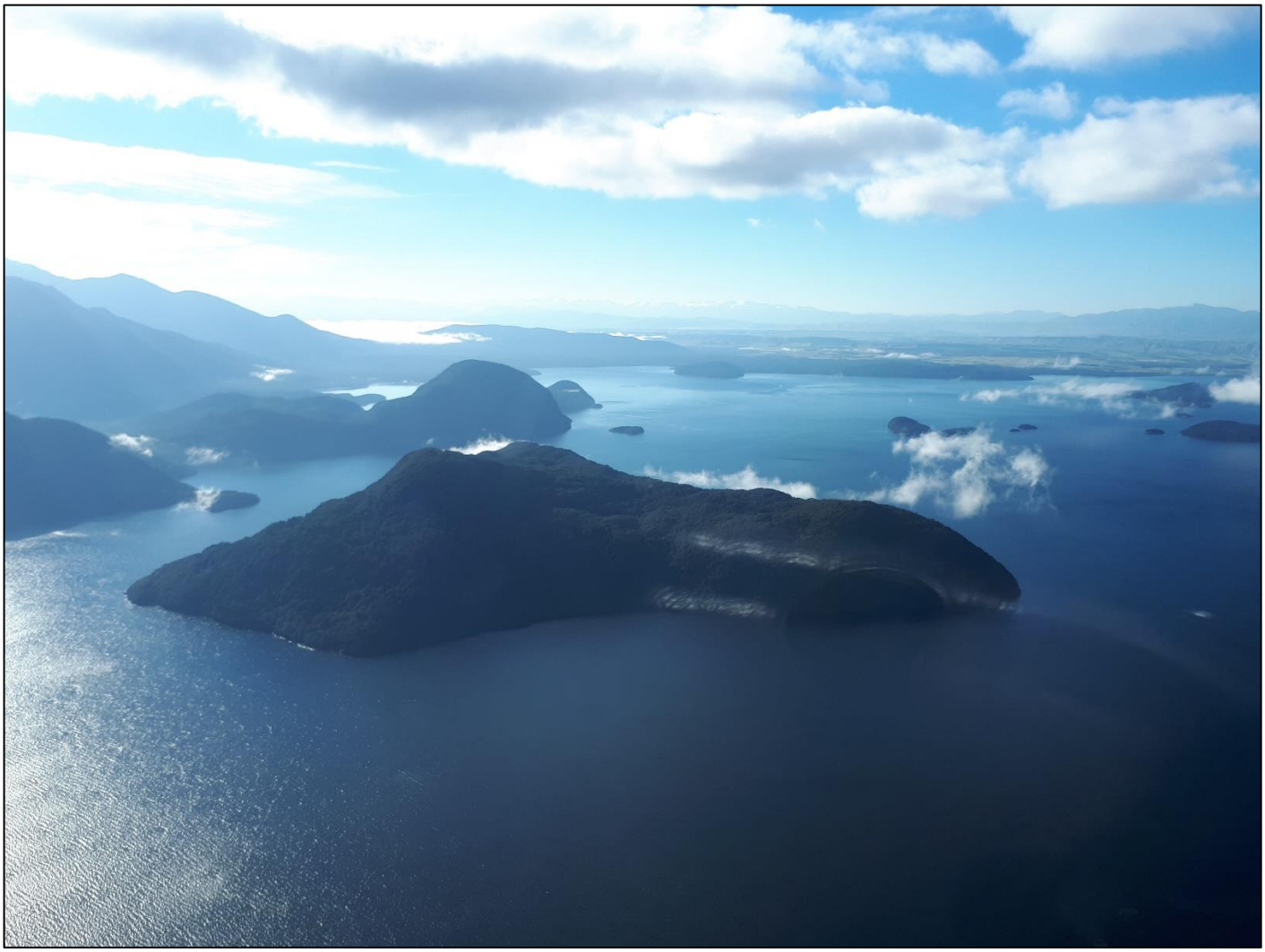
Pomona Island Charitable Trust Annual Report 2023/2024



Pomona island, with Rona Island partially behind the Beehive. Photo: Gerard Hill

Significant Events 2023/2024

Pomona Island

1080 operation on Pomona Island to deal with high rat numbers
Stag seen on Pomona Island December 2023
Grant from Save the Kiwi for poison operation on Pomona
David Cary continuing audio monitoring of kiwi on Pomona
Trap trigger detection system modified
Track work completed on Pomona Island

Rona Island

Another mouse incursion on Rona Island - incursion response mounted
Bait station network modified for brodifacoum blocks
Rona again used as creche for Haast tokoeka
Lynley King continuing gecko monitoring project on Rona

Communication

New West Arm display installed

Introduction

This Annual report records the activities of the Pomona Island Charitable Trust over the financial year from 1st April 2023 to 31st March 2024.

Organisation

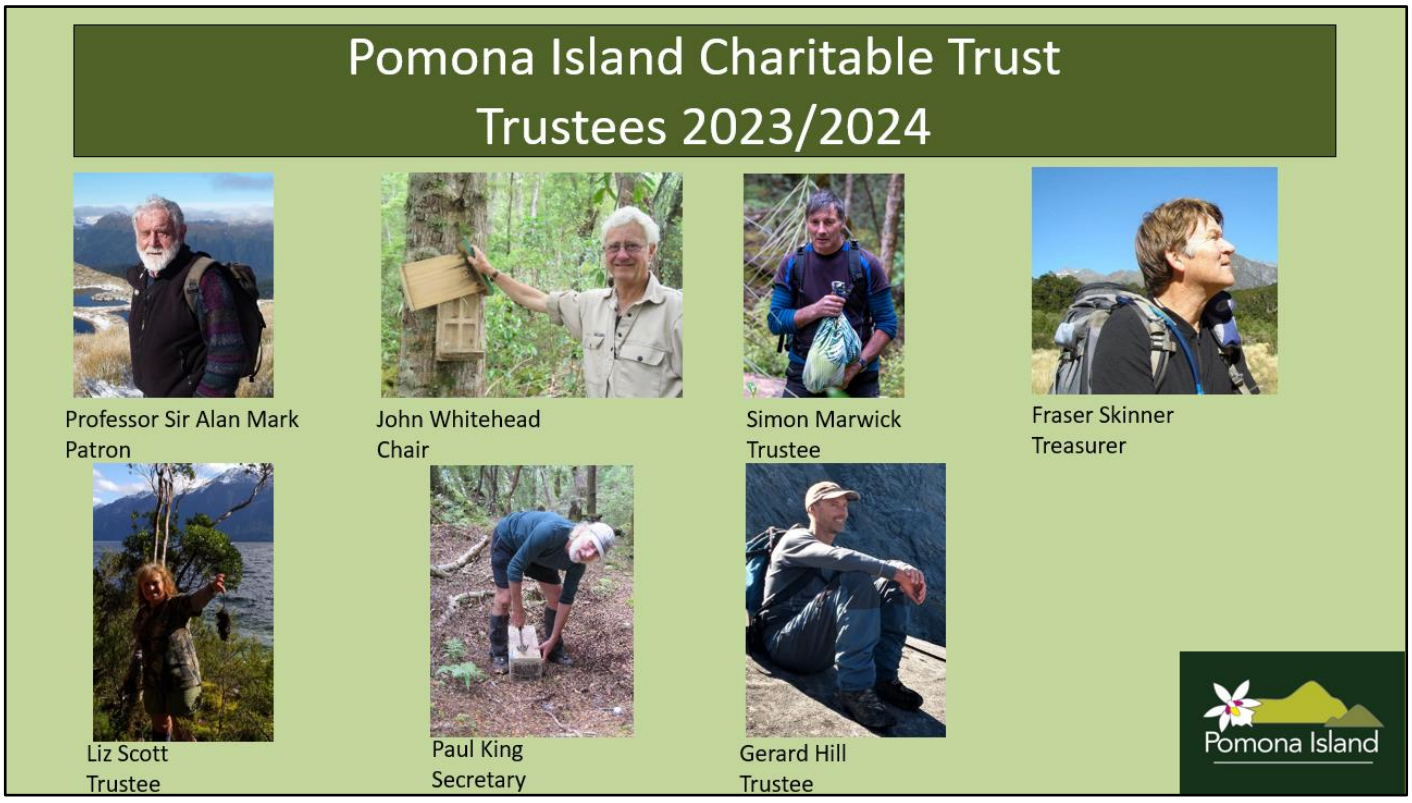
Meetings were held in May, October 2023
The AGM was held in May 2023.

At the AGM in May 2023:
John Whitehead was re-elected as Chair.
Paul King was re-elected as Secretary
Fraser Skinner was re-elected as Treasurer

The make-up of the Trust at 31st March 2024 was:

John Whitehead	Chair
Fraser Skinner	Treasurer
Paul King	Secretary
Liz Scott	Trustee
Gerard Hill	Trustee
Simon Marwick	Trustee

Professor Sir Alan Mark remains our Patron



The Trust is registered as a charitable entity under the Charities Act 2005 (CC22629). This registration enables the Trust to be exempt from tax, which means that anyone donating money to the Trust can claim the tax back on their donations. The Trust files annual returns which are available for public viewing on the Charities Services website.

Relationship with DOC

We would like to thank several staff in the DOC Te Anau office who have assisted the Trust this year: Dulkara Martig, Pete McMurtrie, Jenny Rickett, Crystal Brindle, Jo Marsh, Jamie McAulay.
Thanks to Bruce Harvey and Nick Poutu (DOC) for helping with poison permit applications.

The trust liaises with DOC Haast over kiwi matters and would like to thank Heath Sinclair and Tracey Dearlove for their help.

Funding
We are grateful to the following for financial support during 2023/2024
(Figures are rounded and exclude GST)

Interest	$7,500
Friend Donation	$10,500

-this includes several significant donations from AAT Kings NZ tourism, through Fiordland Jet

West Arm donation box	$600
Miscellaneous	$3,500

We received a generous grant of $20,000 from "Save the Kiwi" which funded a poison operation on Pomona Island
Gary Chisholm continues to fund the trap trigger detection system through generous donations.

Predator control Pomona Island

Rats
6 trips to Pomona Island have been completed since March 2023, principally to carry out pest control and monitoring. This does not include several trips made by contractors in November and December 2023 to carry out the 1080 operation (see below).

Between April 2023 and March 2024, 363 rats were removed from stoat traps on Pomona Island.

1080 operation

In early 2023, the Trust decided to engage CWAC NZL (Contract Wild Animal Control (NZ) Limited) as a contractor to obtain the necessary permits and complete a bait station operation using 1080 as the toxin. Bait take data and spatial data were provided to the Trust by CWAC NZL. Other data from Pomona Island Charitable Trust.
Application started in March 2023, permission was completed in July for the operation to commence after 1st November 2023. There was some debate as to the optimal start date. The Trust arguing for a start in spring, DOC preferring early summer.
Two rounds of pre-feed started during the first half of November. (8th and 20th November).
After the pre-feed rounds, it was realised that the option to do a toxic top-up would be beneficial due to the high pre-feed take. In fact there was 100% pre-feed take in both rounds. A variation to the permit was applied for, and obtained, to allow a toxic top-up if needed.
The 1080 toxin was deployed on 26th November, topped up on 5th December and removed on 13th December.

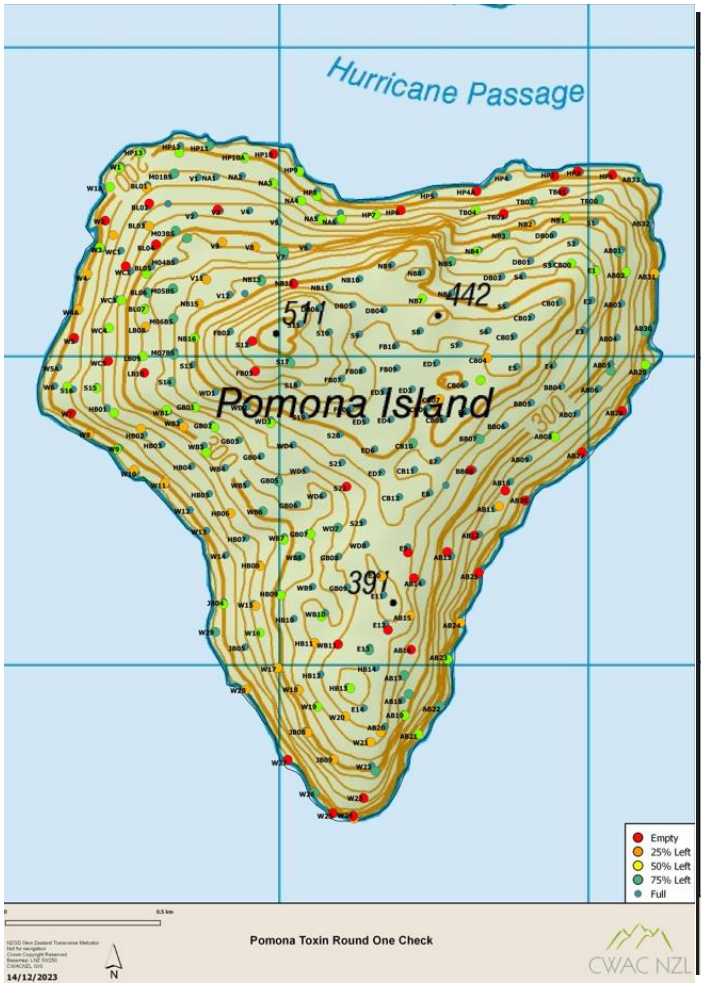
Toxic bait take results

The average toxic bait take* was 34% (visit 4) and 14% (visit 5). During the period leading to visit 4, nearly half of the bait stations (122) had zero take and the period leading up to visit 5 had nearly 80% (205) of the bait stations with zero take.
*Percentage bait take averaged across all 264 bait stations.

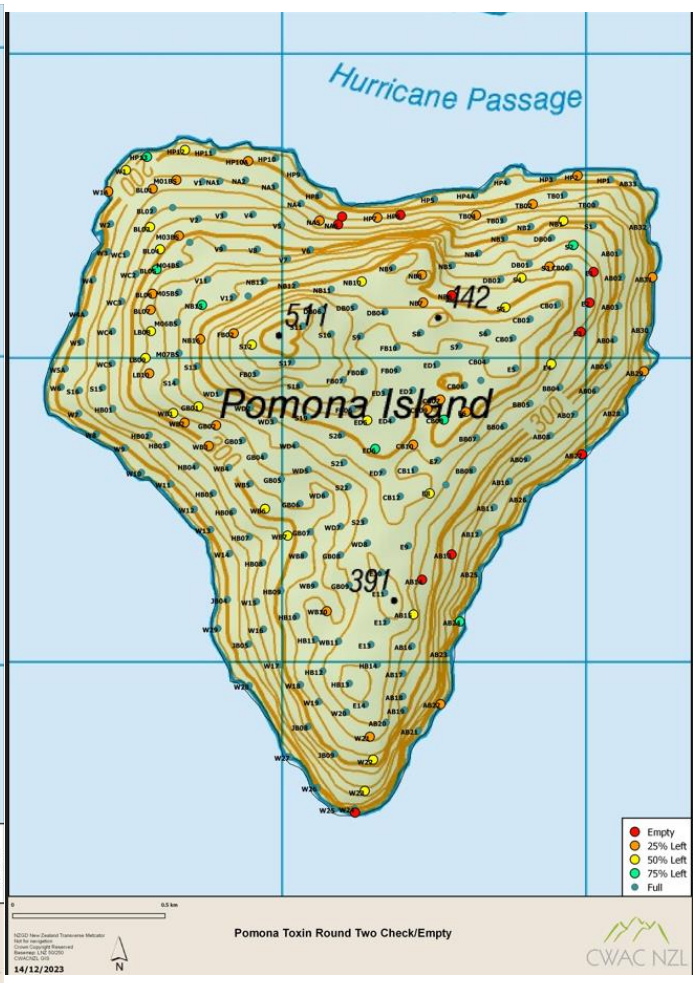
264 bait stations	Visit Four	Visit Five
	Toxin (Extra Round)	Toxin
	Top Up to 500gms	Empty
	5/12/2023	13/12/2023
	Bait Take 25% | 50% | 75% | 100%	Bait Take 25% | 50% | 75% | 100%
Average % take	34	14
Zero take	122	205
25% take	30	8
50% take	43	24
75% take	32	18
100% take	37	9

Spatial bait take

Maps showing the spatial bait take after the two toxic rounds are shown below. After the first toxic round, most bait take was in the NW corner, which has been known as an area with a high rat density since the 2018/19 mega mast. Other know rat strongholds also had high bait take, such as SE "A" line and parts of Hurricane Passage.



First toxic fill bait-take



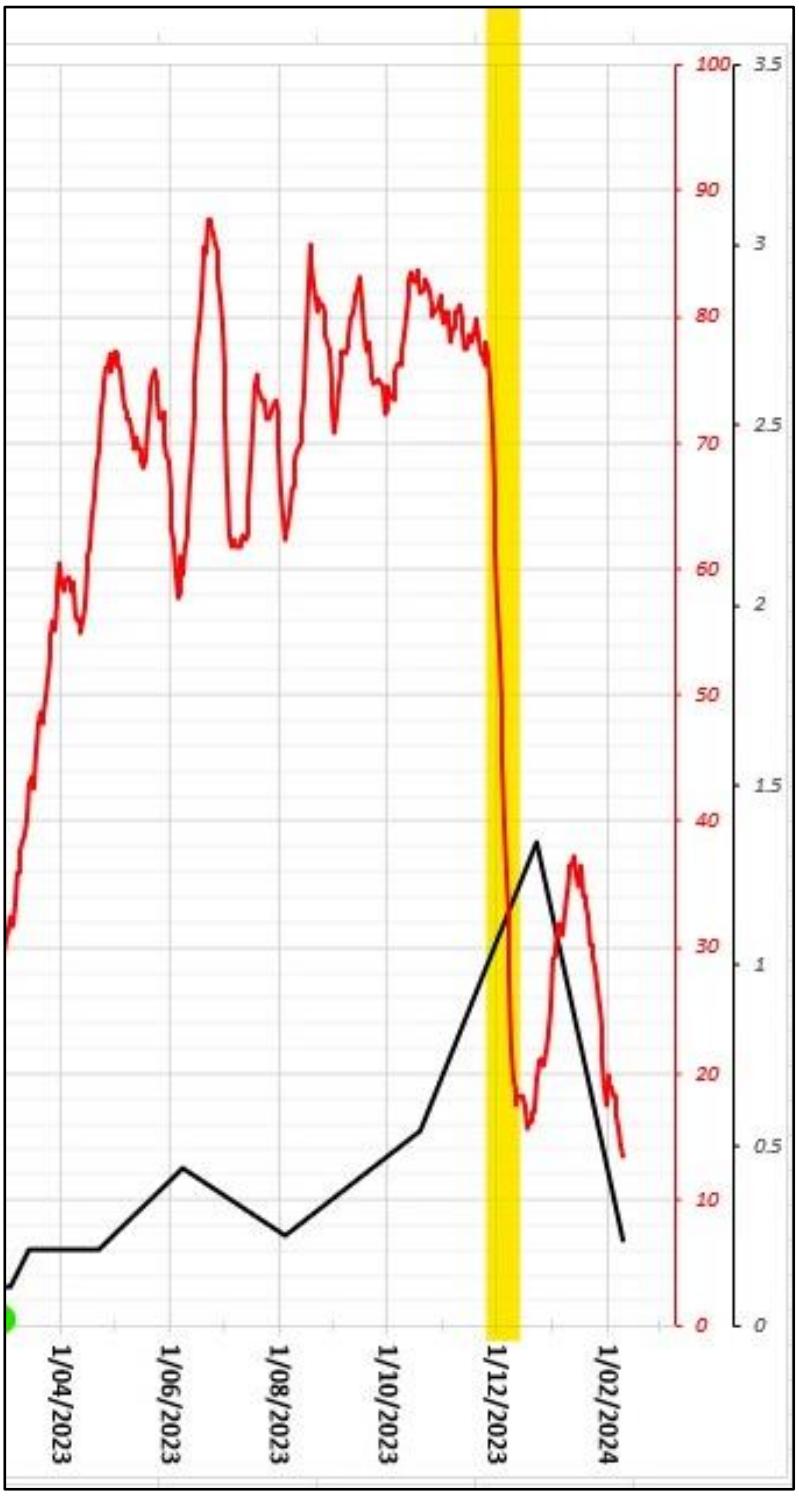
Second toxic fill bait-take

After the second toxic fill, most bait was taken in the NW corner again (orange and yellow) and bait take was patchy in other areas. Large areas of the central plateau and the western slopes of the island had zero bait take.

Rat numbers pre- and post- operation

Daily rat sightings, and by extrapolation, daily rat numbers, are determined using a network of 16 cameras across the island. Two cameras have ALDs and the rest have Erayz lures in tea-strainers.
The data is processed as "percentage of cameras with one or more rats per day" – red line on graph and red vertical axis, which is also smoothed using a 14 day moving average. Data is also normalised to take into account any cameras with malfunctions, kea interference etc. Trap night percentage is shown as black and values are shown on the black vertical axis. The yellow bar indicates the 1080 operation.

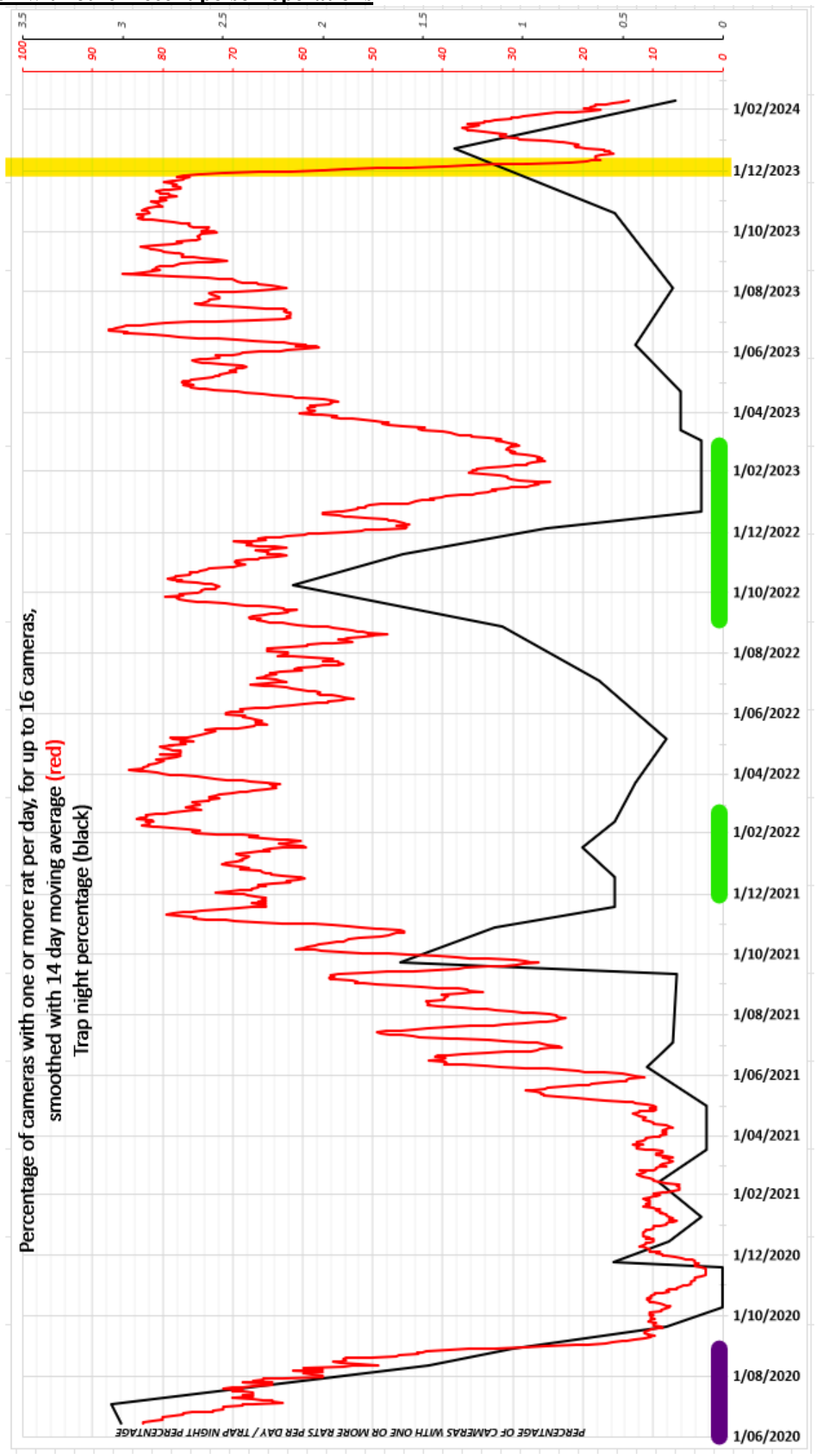
Rat numbers following the 1080 operation in December 2023 are now (February 2024) around 25% (± 10%) cameras showing one or more rats per day.



Trap night percentages have also dropped and reached 0.24 in February 2024. (202 traps).

4th August 2023	_19th October 2023	23rd December 2023	9th February 2024	
57	76	65	48	**Nights between trap checks**
29	**78**	**176**	**23**	**Rat total**
0.25	**0.54**	**1.34**	**0.24**	**Trap night percentage**
202 traps checked	190 traps checked	202 traps checked	202 traps checked	

Comparison with other recent poison operations



Comparison with other recent poison operations - see graph of rat camera data since June 2020.

Knockdown with brodifacoum (Purple bar) in 2020 reduced rat numbers to around 10% cameras showing one or more rats per day. After the brodifacoum operation, rat numbers stayed below 10% for nearly a year. Pindone during 2021-2022-2023 (two green bars) achieved a minimum of around 30% cameras showing one or more rats per day. The knockdown after the pindone is comparable to the 1080 knockdown, however the 1080 operation was completed in a much shorter time interval than the pindone operation.

Rat numbers following the 1080 operation in December 2023 reached around 25% (± 10%) cameras showing one or more rats per day in March 2024. The camera data indicates that most rats have been killed, but not all.

The graph again is smoothed using a 14 day moving average. Data has been normalised to account for different numbers of cameras operating on any particular day. The most recent data is based on data from 9 cameras. Kea interference and camera malfunctions caused some loss of data in the latest monitoring period (23rd December 2023 to 9th February 2024).

Other observations

Both prefeed rounds had 100% take. The high pre-feed take suggests there were pretty high rat numbers to start with. During this phase, rats were so hungry that they ate several of the bait stations, which had to be replaced! The initial toxic take was 34% bait take across all of the bait station network, and reducing to 14% for the second toxic fill. This is largely because
1080 is a fast-acting acute toxin, so most or all rats that ate a lethal dose would die that same night or within a few hours, so wouldn't be coming back repeatedly to eat more in following nights like they could with the pre-feed.

Effect on stoats of 1080 operation

Although we had made intermittent sightings of a stoat for most of 2023, it was hoped that this individual would take a 1080-laced rat and succumb to secondary poisoning. There were no sightings between 23rd September 2023 and 12th January 2024, a gap of 3½ months. However, a stoat was seen at 3 different locations after the end of the 1080 operation. The recent sightings could be a new arrival, as the yacht squadron caught 10 stoats on the mainland across Hurricane Passage from Pomona over the New Year period.

The future

- If another 1080 bait station operation were to be considered for Pomona conditions, an earlier start would be at least as effective. The rats had reached their maximum density as early as June 2023, and were hungry, even eating the wood in trap boxes at that time.
- If eradication were to be attempted, aerial application of 1080 or Brodifacoum might be essential. This would have to be backed up by a widespread 1080 operation in the Kepler Mountains. There is no point in eradicating rats from Pomona, when there is massive population pressure on the mainland (both rats and stoats). A similar argument applies to Rona Island, with mice, rats and stoats.
- Trapping alone will not be able to “hold the line” with rats. A rough estimate of maximum rat numbers on Pomona Island gives around 5000 rats (20 per Ha). If our volunteers catch 50 rats every month, they have only removed 1% of the population each time. Further poison operations will be needed in the future to preserve the Pomona Island ecosystem.

Stoats
18 sightings of a stoat on camera have been made since April 2023, and no stoats were caught in traps. One stoat was caught on a trap check just after the end of the current reporting interval, however it is thought that there is still one stoat at large on the island as it has been seen on camera after the stoat capture.

Deer
Pomona has been free of deer since around 2008. A stag was seen on Pomona Island in December 2023. It is thought to have left the island, as no further sightings have occurred. CWAC NZ flew around the island later in December with a thermal camera, but did not locate the animal. It is possible that it has swum back to the mainland.

Camera monitoring
Our camera network across Pomona has continued to operate well, giving a reliable measure of the rat population, together with detecting stoats. There are now two Automatic Lure Dispensers, which are popular with kiwi. Unfortunately, some cameras have suffered from kea interference, in two cases the cameras have been rolled away and lost. We intend to use security boxes for some cameras in the future.

Trap Trigger Detection System
The trap trigger detection system on Pomona Island continued to be modified this year by Gary Chisholm, with help from volunteers. The 14 stoat traps with trigger systems installed now use a repeater on the mainland, together with island-based repeaters. There are plans to replace the satellite system with a cell-phone based system this year.

Pomona Mainland Traps
The Southland Trailer Yacht Squadron, led by Ross Forrester, serviced the traps to the north of Pomona Island approximately every 2 months. They sailed out to Hurricane Passage 5 times during the year, and caught 15 stoats, 128 rats and 6 mice in the 72 traps. They also service the traps at Stockyard Cove, to the south of Pomona Island.

Predator control Rona

12 trips have been completed to Rona since March 2023, to undertake pest control and monitoring.

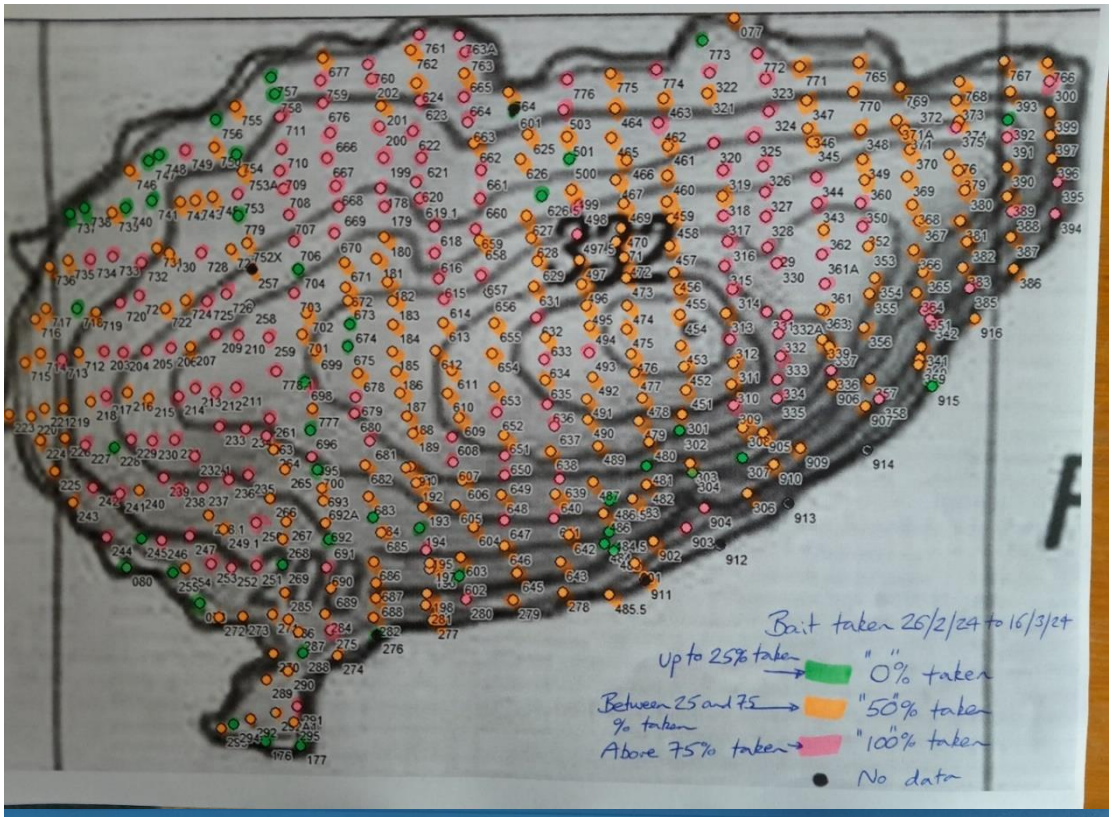
Rats
One rat, which had been seen on trail-cam, was caught in a trap in July 2023. No other rats have been detected.

Mice
Following the intensive mouse incursion response during the Autumn and Winter of 2022, it was thought mice had been eradicated from Rona. No further mouse detections were made until mid-February 2023, after which mouse numbers on tracking cards built up quickly. Debate among the Trust, DOC continued with various suggestions as to how to deal with the ongoing mouse problem on Rona.

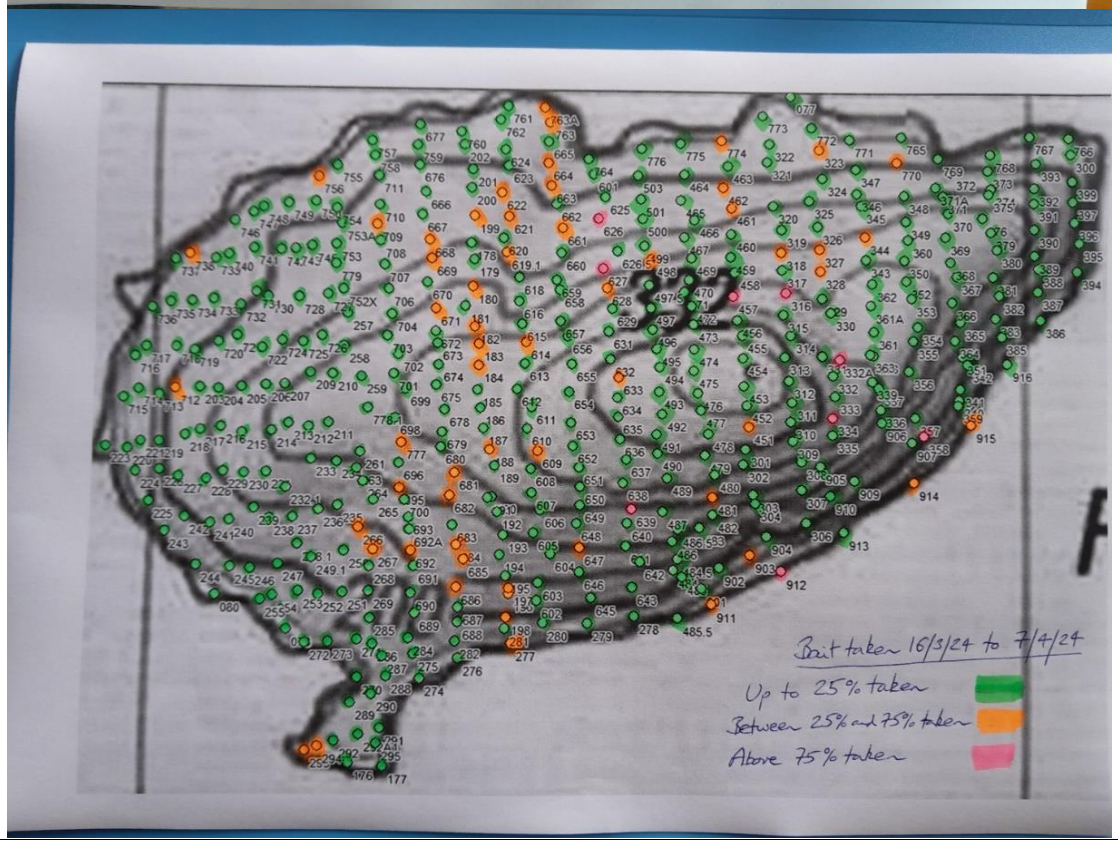
Mouse boxes destined for Rona Island

Eventually it was decided to have another attempt at eradication, and the necessary permits were obtained. The 450 bait stations were modified with spikes to take brodifacoum blocks, and the toxin was deployed over a 6 week period in February and March 2024. Results from this operation were mixed: a large bait take was observed (around 12 kg in total), but mice returned, producing a 100% tracking rate by May 2024.

Left: A bait station modified to take brodifacoum blocks



The first map shows that bait was taken from bait stations across the island during the first bait fill at the end of February 2024.



The second fill in mid-March 2024 has less bait take.

Stoat on Rona

In December 2023, a stoat was seen on a trail camera on Rona. An incursion response was mounted, checking traps and rebaiting with fresh meat. Eventually, the female stoat was caught in a trap in April 2024 following many sightings of the animal since December 2023. It is thought to have swum from the mainland during warm lake temperatures.

A stoat at large on Rona Island

February 2024

Simon Marwick holds the Rona stoat.

Photo: Lynley King

Rona Mainland traps

Rodents and mustelids are an ongoing threat to Rona.

We are fortunate therefore to have two dedicated volunteers from Manapouri (Kevin and Leslie Schwamm) who have emptied the traps on the Rona mainland around every month. They have removed a record 8 Mice, 229 rats and 37 stoats during 9 trips to the area.

Haast Tokoeka

Pomona

Haast Tokoeka are regularly seen on most of the 14 camera network across Pomona Island. Various estimates of the population give around 30 individuals.

Volunteer David Cary has continued to run audio monitoring of Haast Tokoeka across Pomona Island. He is using around 10 audio moths at different locations at a time, although he has used numerous different sites over the course of the project.

There are further details and statistical analysis of his project at https://skraak.kiwi/

Rona

After a short break as a creche site, Rona again hosted 4 juvenile Haast tokoeka over spring and summer 2023-24. One of those birds dropped its transmitter and was eventually caught by Heath Sinclair (DOC Haast) using a kiwi dog. Trust members and volunteers have been involved in releases, catching and medical checks for the kiwis on Rona.

Heath Sinclair (DOC Haast) with a kiwi on its way back to the Haast sanctuary.

Photo: Nick Key

Rona Island gecko monitoring

The Kōrero Project- Results from season 2023/24

The 8 semi-permanent monitoring sites set up last season on the N/W shoreline on Rona continued to be monitored. The sites had between 2-4 tracking tunnels lured with canned fruit were changed 4 times during the monitoring season. This was fewer than last season because of the mice.
Mice have clearly had an impact on the gecko monitoring for this season. The mice have been getting to the lure and eating it all before the geckos get there.

- For example; Site 3 (R19) had no gecko prints compared to 5 last season.
  Site 6 (R22M) had 1 gecko print compared to 14 last season.

The most encouraging results were obtained from Site 2 (R18) which had 3 tracking tunnels recording gecko prints 13 out of the total 15 times (3TT x 5 times the cards were changed =15). Mice were recorded at this site on all 15 times on the cards but the geckos were still visiting the tunnels.
There were 4 visual encounters with live adult geckos with 3 of those encounters were from under the Onduline refuges at Site 1D and Site 7A. Small (young) gecko prints were seen on the cards at 2 sites. This evidence of young geckos is important for the health of the population and monitoring in the future will help understand Rona's Korero.
In the future we intend to keep the monitoring going which will tell us the impacts of mice on the population.

Kōrero gecko seen on Rona Island. Photo: Lynley King

Bird Monitoring

Estimates of the health of bird populations have been made using casual observations by volunteers on both islands, bird hearings and sightings being recorded on trip reports. Tieke numbers on Rona have dropped to very low numbers probably due to stoat predation when a stoat was present during Autumn 2024.

Bird monitoring is now transitioning towards audio monitoring using electronic devices.

Birds seen or heard - Rona	**Birds seen or heard - Pomona**
Haast tokoeka	Haast tokoeka
Tieke	
Tui	Tui
Fantail piwakawaka	Fantail piwakawaka
Kereru	Kereru
Bellbird korimako	Bellbird korimako
Grey warbler	Grey warbler
Tomtit	Tomtit
South Island robin	South Island robin
Brown creeper	Brown creeper
Kakariki	
Black shag	
Rifleman	
Kea	Kea
Kaka	Kaka

Health and safety

The Trust has continued with their improved Safety Toolbox briefings at the start of every trip to the islands. All volunteers are briefed on Emergency Procedures, and have several methods of summoning assistance including PLBs.
John Whitehead has renewed his Chainsaw Accreditation through Competenz.

Data collection and analysis

All trapping data is stored on the national database trap.nz. https://www.trap.nz/ However, camera data and bait station information is held separately by the Trust. Trap.nz has also proved to be a useful navigation tool in the field.

Volunteers

This year, volunteers have contributed a total of 663 hours on Pomona and Rona since April 2023, representing 18 trips to the islands. In addition, Kevin and Leslie Schwamm have continued to service the traps on the mainland North and West of Rona. The Trust also thanks the Invercargill Trailer Yacht Squadron for servicing the trap network on the mainland to the north of Pomona Island. See earlier for catches from these two areas.

Sue Marwick with young volunteers on Rona Island. Photo: Lynley King

Boat Transport

Nick and Maree Key of Southern Frontiers Ltd Water Taxi Service are thanked for providing reliable and friendly transport to Pomona and Rona islands.

Communication

Lynley King has produced two issues of the popular "Pomona Post" newsletter this year. These are available on the Trust website https://pomona-island.org.nz/news.
Liz Scott and Fraser Skinner have upgraded and installed a new information board in the West Arm visitor centre, which tells the story of the Trust's work on the islands.

Pomona volunteers completing the display board upgrade at West Arm visitor centre. Photo: Nick Key

Conclusion

During 2023/24, the Trust has had its fair share of challenges and successes.
On Rona, our struggles with mouse incursion have continued, with only partial success. A stoat incursion is thought to have further reduced tieke numbers. On Pomona, a poison operation was only partially successful, and rat and stoat control continues……

Trustees of the Pomona Island Charitable Trust June 2024

Pomona Island