



Rotokare Scenic Reserve Trust

Taranaki's Pest-free Sanctuary

Annual Report - July 2020

Sanctuary | Community | Sustainability



Photo credit: Davis McClutchie

We will achieve high quality restoration & protection of the indigenous ecosystem at Rotokare Scenic Reserve & beyond

We will actively involve the community by providing sustainable opportunities for conservation, education & recreation

Community-owned & Community-led

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Annual Report to Stakeholders & Community

The Rotokare Scenic Reserve Trust is proud to highlight its successes and challenges. We believe strongly in inclusive community values, and are humbled that a grassroots community-led project can establish and maintain a project that benefits the whole Taranaki region, and delivers important conservation outcomes of national importance.

Everyone that contributes to, visits, or benefits from this project in any way is an important stakeholder in this community-led sanctuary project - Financial contributors, partners, collaborators, volunteers, governance and committee, staff, schools, halo landowners and neighbours, Taranaki community, wider conservation community, and future generations.

The Trust express sincere gratitude to all volunteers, neighbours and surrounding landowners, and the many 'friends of the Lake' members – community is our purpose.

The Trust wishes to sincerely thank and recognise the following key partners, sponsors, donors, contributors, corporate volunteers, and collaborators:



- Ngati Tupaia
- Taranaki Mouna Project
- Tiaki Te Mauri O Parinihi Trust
- MAIN Trust
- Kiwi Recovery Group
- Enviro-schools Taranaki
- Curious Minds
- Taranaki Chamber of Commerce
- Stratford Business Association
- The Wheelhouse
- Mentoring Foundation of NZ
- South Taranaki Forest & Bird
- East Taranaki Environment Trust
- Bushy Park Trust
- Supporters of Tiritiri Matangi
- DFE Pharma
- Waikato University
- Pāteke recovery Group
- Nelson Marlborough Institute of Technology
- ICT Gateway
- Covid-19 Wage Subsidy

Annual Summary

The winter of 2019 was dominated by pāteke, feral cats. Following the return of pāteke to Taranaki in May 2019, eight of the 20 pāteke released died within a 12-day period between late May and early June when they ventured beyond the protection of the sanctuary. While the cause of all deaths was not certain, we are very certain feral cats were responsible for the majority at least. During winter 2019 a significant effort to up-scale feral cat management took operational priority, alongside very regular radio-telemetry monitoring of the pāteke to monitor survival and learn about the areas they preferred to spend time.

By the end of June 2020, no more of the original pāteke had died, pāteke had bred in Taranaki for the first time in over 100-years, and our protection efforts resulted in 124 feral cats being caught.

In April 2019, 60 titipounamu (North Island rifleman) were translocated from Mt Taranaki to Rotokare. This became the moment that Rotokare became the only site in Taranaki to have representatives of all four surviving New Zealand song-bird families. During spring 2019 the pre-breeding survey of titipounamu showed promising signs, breeding was successful over summer, and by autumn it was clear that a top-up translocation would not be necessary.

The Trust took the opportunity in 2019 to undertake an independent review of its business processes and operations through the Taranaki Chamber of Commerce Business Excellence Awards, and was thrilled to be named winner of the Taranaki Not for Profit Business Excellence Award at the awards ceremony in November.

With the rapid emergence of Covid-19 in early 2020, Rotokare was rapidly working to limit the risks of disruption, however, like the whole of the country, was not able to fully prepare. Staff began working from home a few days before the national lockdown, and the sanctuary was closed to all public and volunteers. One staff-person remained on-site to ensure critical sanctuary biosecurity and wildlife welfare work was maintained, with a second staff-person supporting with kiwi handling work. Thirty priority kiwi-handling events occurred during this time.

With the sudden lockdown came an amazing collaboration. The Rotokare Environmental Educator and the Taranaki Regional Council Educator teamed-up to create an 11-episode online education series called 'Backyard Biodiversity—Taiao Taiepa ki Tua'. Filmed entirely from their two homes, planned and edited remotely, this education series reached children through the country and abroad.

The financial impacts of Covid-19 were not immediate, and while the outcome has been manageable, of particular concern was the loss of an annual operational grant the Trust had been receiving since 2012. The Trust received some support from the Governments wage subsidy.

Just when the planned major milestone of the first kiwi translocation out of the sanctuary looked in doubt, the nation came out of lockdown, and in the space of two-weeks, the Taranaki Kohanga kiwi at Rotokare partnership managed to translocate 27 kiwi out of the sanctuary, running right down to the wire before kiwi breeding season began, meaning we could not capture any sub-adult and adult kiwi. A 10-year dream had been realised.

The Trust & Staff

Trustees actively maintain the 'Grassroots to Governance' approach to their roles. Community-led inclusiveness is highlighted as a core value throughout all aspects of the various Rotokare programmes. While the governance role is a significant and at times demanding undertaking, all trustees are involved in some capacity as volunteers assisting with everything from development projects, as education guides, and sanctuary volunteers.

Trustees: Chair – Mike Weren, Deputy-Chair – Jacqui Kingsnorth, Treasurer – Deborah Clough, Deputy-Treasurer – Graeme Pitman, Trustees - Murray Pranker, Joe Menzies, Steve Kane, Allen Juffermans, & Co-opted Trustee - Bruce Clarkson.

In October 2019 Mike Weren took over from Steve Kane as chair, and is on his second stint in the role. Jacqui Kingsnorth became Deputy-Chair, Deborah Clough became Treasurer, and a new role of Deputy-Treasurer was filled by Graeme Pitman at the same time. In March 2020 Allen Juffermans became a Trustee following a 6-month probationary period (a requirement for any prospective Rotokare Trustee).

Staff (5.6 full-time equivalents): Sanctuary Manager - Simon Collins, Conservation Manager - Fiona Gordon, Site Manager - Kane Bretherton, Environmental Educator – Ash Muralidhar Administrator - Tricia Jamieson, TKKR Kiwi Ranger - Jess Fancy.

Due to increasing workloads, the Taranaki Kōhanga Kiwi at Rotokare project, a partnership with the Taranaki Kiwi Trust, has established a kiwi ranger role. The Rotokare Trust is the formal employer on behalf of the partnership. Jess Fancy was employed in the role temporarily, with Chris Dodd starting the 24-month role in September 2019.

In addition, the Trust employs a Summer Ranger each year (12 weeks over summer) through the Trainee Ranger programme run by Nelson Marlborough Institute of Technology. This not only provides a well-needed capacity-boost for peak fieldwork season, but also contributes to skill-development and mentoring of a future conservation leader.

Committees

The longstanding Rotokare Committee continues to be a critical part of operational support and governance feedback. Community views and guidance, and a focus on community engagement, recreation and visitors provides important support. A new Operational Committee has recently been formed which includes operational staff and regular weekday volunteers. This addition is in response to the changing needs and growing complexities of Rotokare programmes.

Life Members

Life Members: Gwen Muller, Joan O'Connor, Alex Ballantyne, Ray Willy, Win Kerr, Don Litchfield, Barry Hartley, Jenny Kerrisk, Bill Hodges, Val Campbell, Audrey Thompson

Volunteers

The Rotokare project was started by passionate volunteers, and volunteers remain the critical life-force of Rotokare, fulfilling key roles throughout the organisation. The traditional Sunday working bee is still a feature, however week-day volunteering continues to grow. The success of the Rotokare Youth Ambassador programme highlights the interest of future conservation leaders in the values of contributing to their community. With assistance from the TSB Community Trust we have also been able to increase community conservation skill & knowledge training opportunities.

Recorded volunteer hours increased by 186 hours compared to the previous year, however the Covid-19 lockdown effectively reduced the year by nearly eight-weeks. Therefore, the actual volunteer input was significantly greater, with an average of 1,033 hours per month, compared to an average of 845 hours per month the previous year. We welcomed an additional

It was extremely sad for us to lock the sanctuary to the community. On the first day the nation moved down to level-three, a core group of volunteers were invited to return to Rotokare for priority essential work under strict protocols. The team briefing, standing in a wide circle on the lawn was a very special moment – the Rotokare family were coming back together.

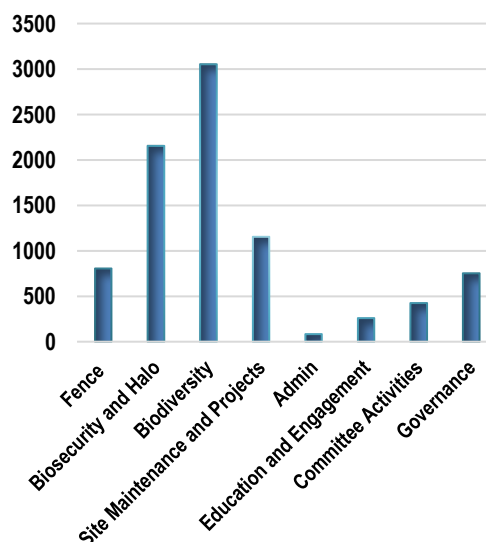
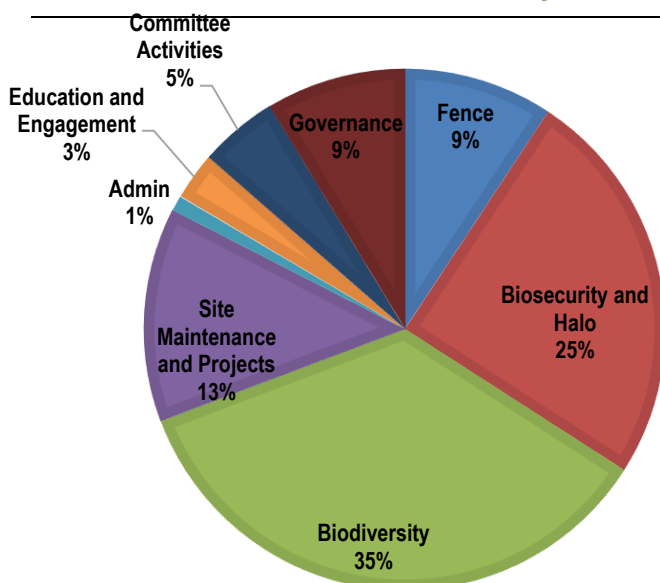
Volunteer Awards



Regular volunteer John Cooper was a finalist for South Taranaki District Council's Volunteer Superhero Award. John helps out at Rotokare 3-4 days a week with fence checks, trap checks, track management, kiwi management, and is also a tinkering genius whose magic hands fix anything he touches. John Cooper doesn't need a cape to be a superhero. His volunteering super powers are service, humility, an insightful ability to identify and solve problems, amazing fitness and passion for the environment.

Rotokare Volunteer Hours - July 2019 - June 2020

10,335 Hours



Corporate Volunteers



We continue to offer corporate volunteering experiences at Rotokare. Understandably, groups have been hesitant to gather outside their regular work places, so some planned work events were not able to proceed.

This year we hosted groups from DEF Pharma and Balance AgriNutrients.



Lawrie O'Connor

Lawrie O'Connor is a familiar Friday face at Rotokare. A student of Stratford High School, Lawrie has been volunteering at Rotokare once a week, helping with site operations, track maintenance, vehicle/quad bike care, water blasting, building maintenance, and even helping prep our new volunteer salad garden behind the buildings. His positive, engaging presence never fails to make our weeks' end on a high note.



Trainee Ranger

For the fifth year in a row, Rotokare hosted a Trainee Ranger from the one-year NMIT course. This summer 12-week placement supports with key extra capacity at a busy time, and provides a unique experience for a young conservation ranger. Tommy McKerras was a wonderful addition to the team, became experience in kiwi catching, trapping, and bird surveys – and is now on a placement working with takahe and kakapo – well done Tommy!



TSB Taranaki Chamber of Commerce Business Excellence Awards

The Rotokare Scenic Reserve Trust was thrilled to receive the Not For Profit Excellence Award at the TSB Taranaki Chamber of Commerce Business Excellence Awards 2019 (sponsored by The Wheelhouse)!

As a grassroots, community-led project, we are thrilled to be recognised for our business systems and management on such a prestigious platform. The team was honoured to receive this award on behalf of the whole Rotokare whānau, our many sponsors and supporters, and our incredible community of volunteers, who all deserve significant thanks. The judging process offered us an important opportunity to receive independent and unbiased feedback on our business systems and processes. Rotokare is the work of many hands and hearts; our success is the community's success.



Rotokare under Lockdown

Like many others, the Rotokare Sanctuary was looking ahead to an exciting and productive 2020. As the COVID-19 crisis began to unfold, we quickly began preparations for different potential scenarios. By mid-March, staff were prepared for a short-notice 'work from home' response and when lockdown came into effect, staff had already moved home for work.

The sanctuary was closed to all volunteers and visitors the evening before lockdown. We made a conscious decision to do our best to maintain priority threatened species welfare work and we recognised that the protection of our vulnerable native wildlife could not be neglected.

Throughout the lockdown period, core sanctuary tasks—checking our fence, responding to fence issues, trap-checks, and ensuring the welfare of other species at Rotokare—were managed by our Conservation Manager Fiona, with support from Sanctuary Manager Simon. The other four staff worked from home, with our education programmes and community engagement going online, as well as our weekly staff meetings and communications with our volunteers. While the financial impacts of Covid-19 are now beginning to be truly felt at

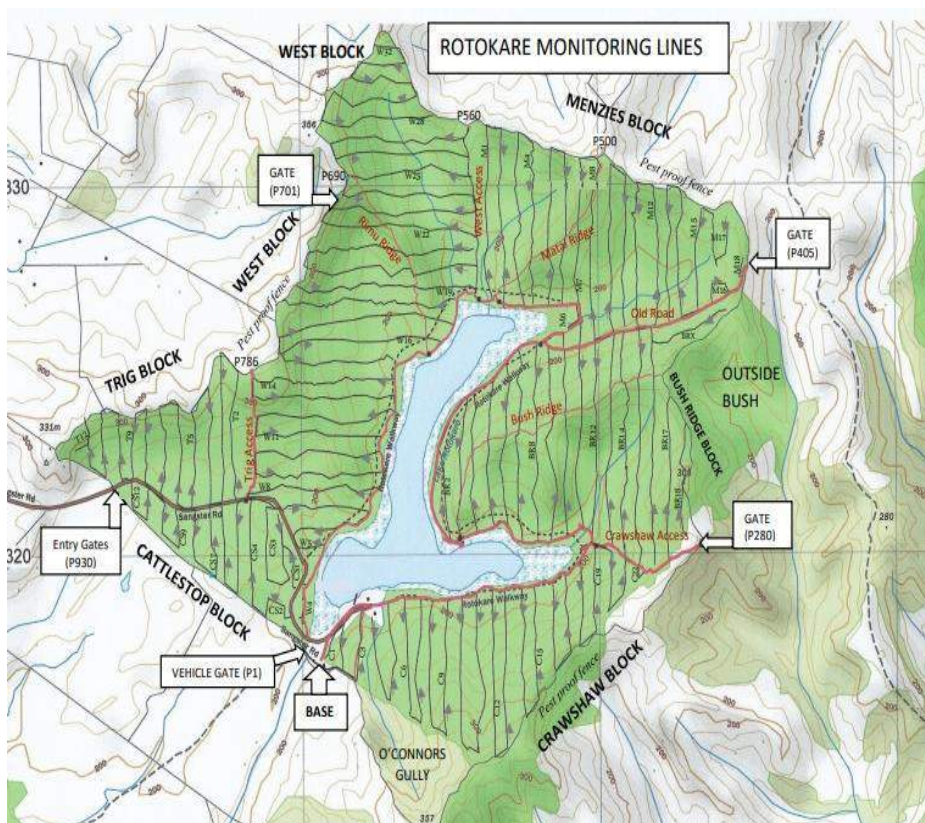
Rotokare, what was immediately important was ensuring the sanctuary and the vulnerable species within came out the other end in good shape—we are hugely proud that this was achieved for the benefit of our community. We extend huge thanks to the many people who sent messages of support to the team over this time!

Sanctuary Biosecurity

Maintaining the pest-free status of the sanctuary is our number-one priority. The ongoing successful management of sanctuary biosecurity is a significant achievement, and enables unique biodiversity restoration milestones for the benefit of the region.

On the 2nd of March 2020 the first mouse catch was recorded since June 2019. The 3rd mouse was caught the day before Covid-19 lockdown. During lockdown the Conservation Manager remained on-site and attended to urgent priority biosecurity management while attending to priority wildlife welfare tasks. Mouse surveillance and response work takes a significant amount of effort, and we are extremely grateful this was managed effectively during this difficult time, ensuring that a few months later the sanctuary would return to a mouse-free status.

Pest animal summary



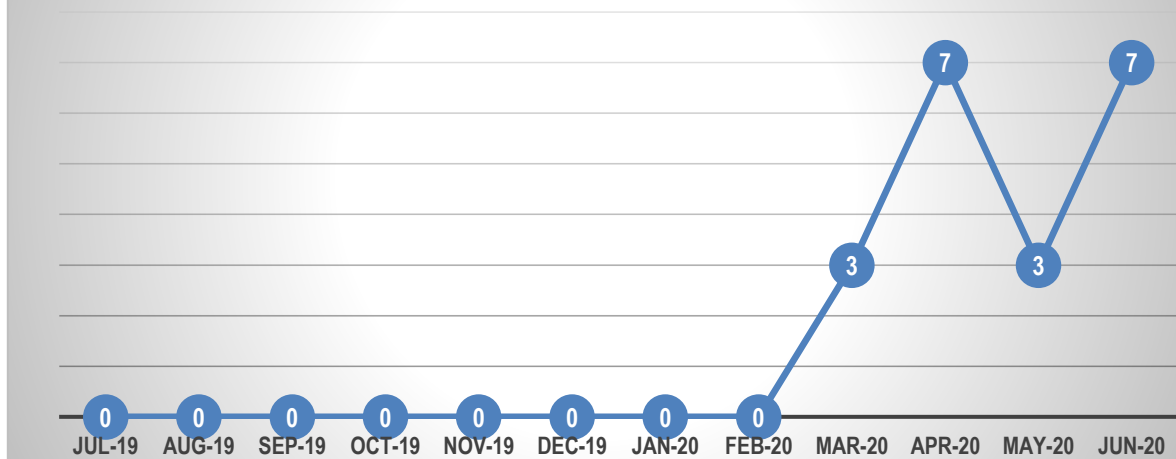
Sanctuary Biosecurity

- 45km's monitoring lines
- 1800 tracking tunnels
- 522 permanent traps
- Rodent & mustelid dog audits

Pest animals since eradication

- 2 stoats (2009)
 - 15 rats
 - 336 mice
- + 2 detailed toxin pulses for mice (2013 & 2016)

Sanctuary mouse catches - July 2019 - June 2020



Sanctuary trap replacement project

The team have been systematically replacing all traps and boxes within the sanctuary. Over a 2-year period all traps and boxes are due for replacement, as the majority are over 10-years old now, and although they've been well maintained throughout, the plan is to replace everything so there is minimal maintenance required for the next 10-years.

It is hoped this project will be complete in 2020-2021.



Sanctuary Biosecurity - Dog audits

Each year the trust benefits from the incredible support (humans and dogs) from the Conservation Dogs team. Two rodent audits and one mustelid audit are undertaken each year. Each audit involves 3-4 days searching the entire sanctuary for any indication of scent, sign, or animal. These provide critical information, either a suspicious indication which is followed-up on immediately, or a report that 'it was a nice walk'.



A Mustelid audit was undertaken in July 2020 (this was scheduled for March but had to be postponed due to the Covid-19 Alert Level 4 Lockdown). No mustelid sign was detected within the Sanctuary.

Rodent audits were undertaken in December 2019 and July 2020 (this was scheduled for March but had to be postponed due to the Covid-19 Alert Level 4 Lockdown). No detection was reported during the December 2019 audit. Coming into Lockdown, 3 mice were caught in known high risk areas. There had been no pest detections within the sanctuary up until this point. Core staff were able to manage mouse response efforts during Level 3 and 4. Mice were detected in the July 2020 audit in known high risk areas. These indications allowed the team to deploy targeted trapping, and mice were subsequently caught in the areas the identified.



Figure 1- July 2020 Rodent Dog coverage and indications

Pest-proof fence

The fence is the number-one asset in the Trust's biosecurity armoury. While pest incursions will happen via vehicles and avian predators (i.e. harrier, falcon, kingfisher, ruru – dropping live prey inside the sanctuary), the fence eliminates permanent pest-animal pressure on the taonga within. Fence-checks are undertaken weekly on foot by staff and volunteers. Regular maintenance is undertaken seasonally (i.e. platform spraying to ensure thorough visual inspections of the base and surrounding earth), and repairs undertaken as required (often as simple as replacing rivets, staples and screws).

Willow management

Controlling willows around the wetlands has been an on-ongoing battle for years. The only time of year that willow control can effectively be done is summer (optimal time to kill the plants but also to access them while the lake level is lower), making it an often very unpleasant task - not only the lack of shade and heat, but also the regular issue of wasps in the area. Over recent years good progress has been made, killing larger trees, then more recently an annual programme of sapling control - the goal being to restore the wetlands to indigenous species dominance.

Grants from both WWF and Wild for Taranaki allowed us to engage contractors to springboard our willow control efforts this season, with a 189 hour contractor delivered grid sweep being undertaken in the wetland fringe of the lake's south western corner, by the boat ramp/carpark. This complements volunteer efforts removing willow saplings along the lake's southern edge.



Halo Project

With establishment complete, the next major task has been to evaluate effectiveness, and optimise trap placement and servicing processes. 17 farm properties and reserve areas within the Rotokare halo area, plus significant effort by South Taranaki Forest and Bird and the Taranaki Kiwi Trust collectively cover over 4,520 hectares of multi-species pest and predator control which completely surrounds the sanctuary. The trust is focused now on improving efficiency, working towards extending buffers from the sanctuary, and increasing protection of corridor connections in the area.

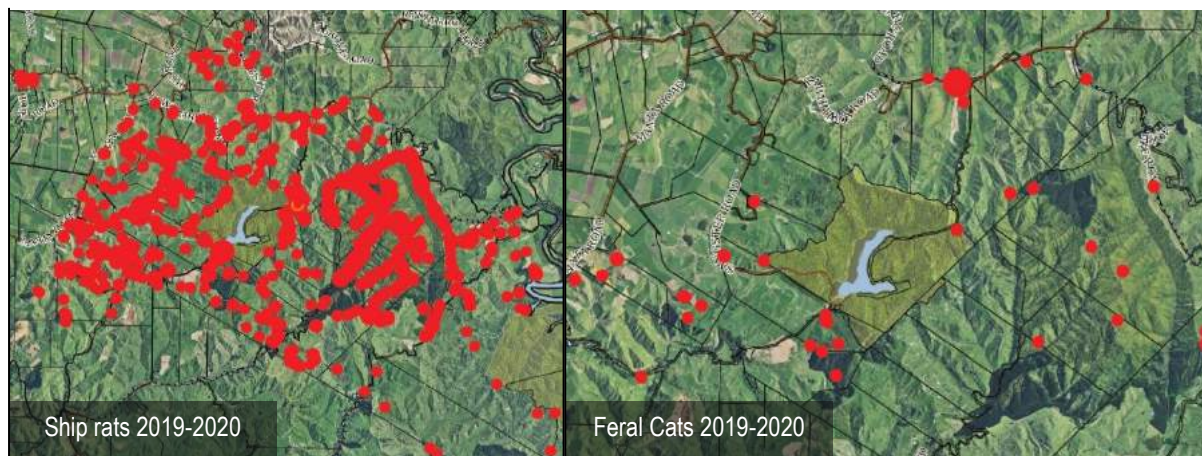
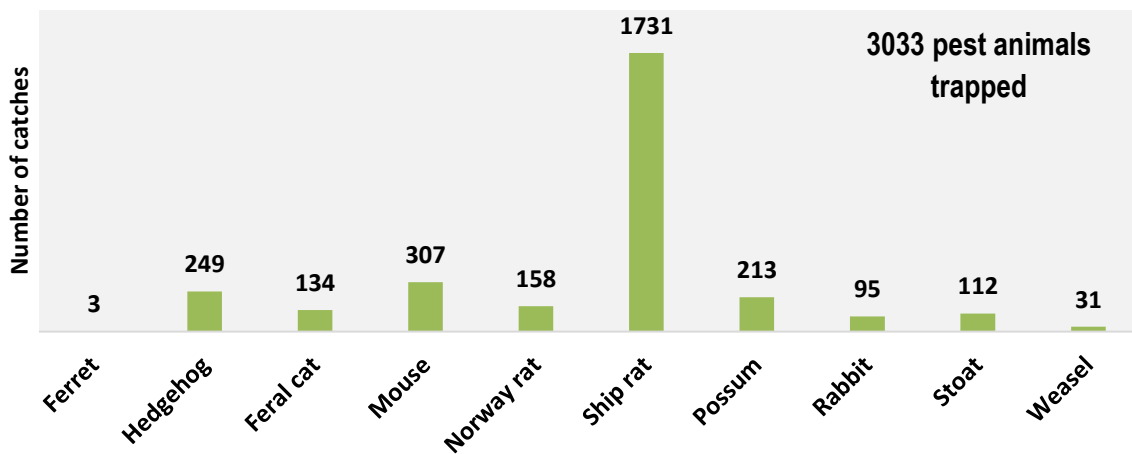
Kane catching-up with halo trapping & maintenance



COVID19 Impacts on the Halo project

During Level 4 lockdown, Halo trapping ceased across the board (with the exception of the pāteke protection trapping to the south of the reserve). With traps left unchecked for five weeks, the Halo team hurried to get on top of the trapping schedule once Level 3 came into effect. Over two weeks, Site Manager Kane serviced all the Halo traps and reinstated the trap check routine. As expected, pest numbers had risen in our absence, leading the team to trap more vigorously to make up for lost time.

Trap-catch July 2019 - June 2020



Halo programme – purpose

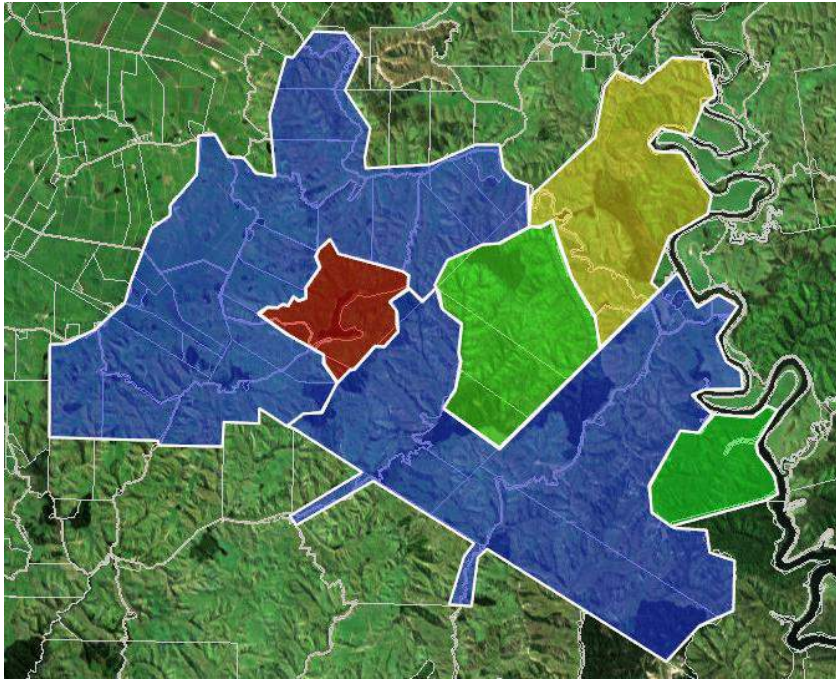
1. Protect sanctuary by reducing pressure of pest-animals on fence
2. Protect spill-over of vulnerable wildlife from within the sanctuary
3. Enhance connectivity and corridors of protection for wildlife dispersal
4. Promote collaborative community biodiversity protection and restoration

Halo project to date

1st traps deployed October 2015, full halo completed in spring 2017

Total pests destroyed since Oct 2015
11194

Number of traps deployed **~1137**



Key

Red – Rotokare Sanctuary

Blue - Rotokare Halo

Yellow - Taranaki Kiwi Trust

Lime - South Taranaki Forest & Bird

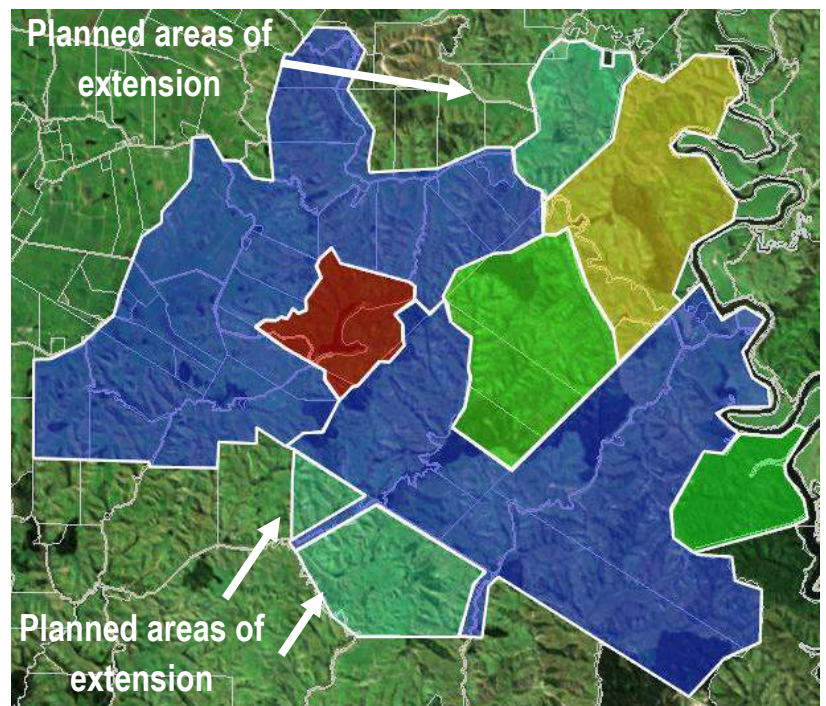
Green - Planned halo extensions 2021

Extending the halo

Planning is in-progress to extend the halo project to increase the minimum distance from the fence to outer-edge of the halo trapping, and to increase pest control support for nearby project areas.

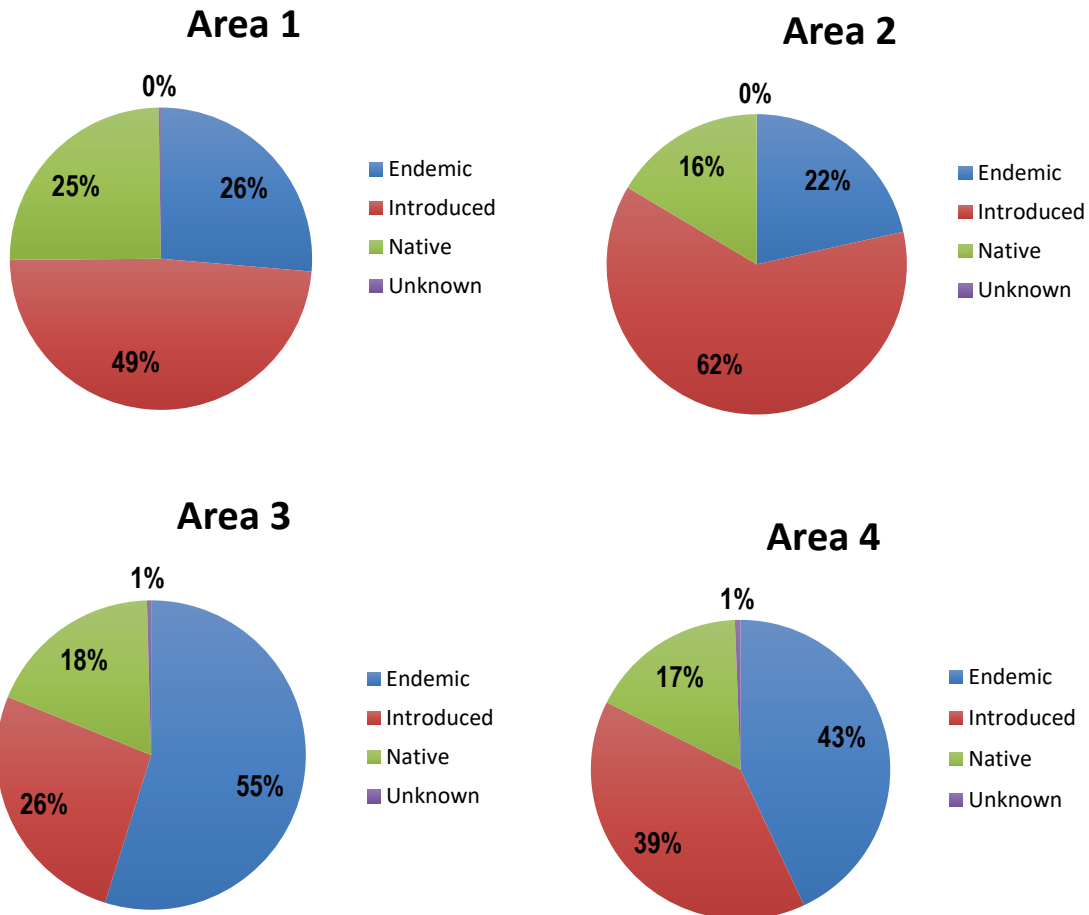
This will be limited to feral cat and mustelid control – targeting priority predators of kiwi and pāteke (see pāteke discussion under ecological section for context).

By limiting the target species, these extensions are more realistic to maintain with current resource levels.

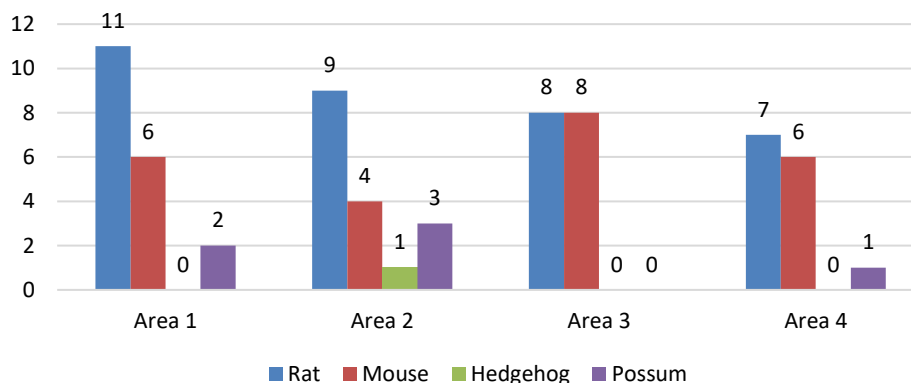


Halo Project - Biodiversity monitoring

Annual biodiversity monitoring measures progress towards the goal of increased native species abundance. Monitoring occurs in four study areas, over 39 permanent bird-count stations, and 84 tracking tunnel stations. Five-minute bird counts (5MBC's) are a national best-practice bird monitoring method and were initiated in 2016 to understand changes in abundance and diversity of birds in the halo project area. Raw results suggest an increase in abundance and diversity of birds in the halo project area. This monitoring is usually undertaken in May, but due to the Covid 19 lockdown the 2020 survey session unfortunately had to be delayed till June which will have skewed the results somewhat.



Tracking Card Audit Species Detected by Area Surveyed



Ecological

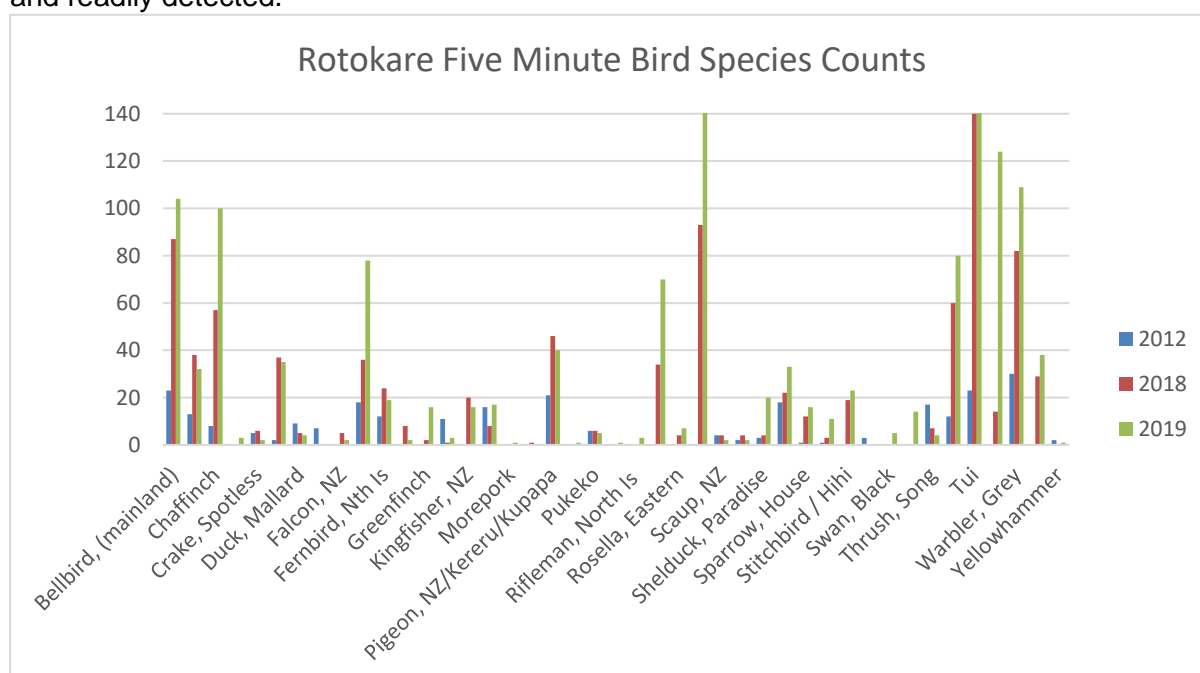
The ultimate purpose of our work is the 'ecological restoration of Rotokare and beyond'. The effort put into biosecurity work, fundraising, and our community-led focus are fundamental to ensuring pro-active sustainable ecological restoration. Rotokare provides a setting which enables species to return and flourish, as a consequence rare and long-since absent species will thrive in Taranaki. The Trust is committed to delivering significant regional outcomes and contributing to national conservation goals.

Progress this year has continued towards developing an ecological restoration plan for the sanctuary with a major focus on reintroducing missing species – restoring to the best of our ability a full complement of species that would once have been present, thus playing a key role in restoring biodiversity in Taranaki. The hihi and kiwi projects highlight the species-focused restoration, the matata/fernbird translocation from Rotokare highlights wider benefit of this restoration project. The translocation of titipounamu/rifleman to Rotokare, and the return of pateke/brown teal to Taranaki after ~100 years regional extinction highlight the ongoing process of restoring the missing species.

Sanctuary Five-minute bird counts (5MBC's)

Sanctuary five-minute bird counts had been undertaken on a 5-yearly cycle. From 2018 the Trust began to deliver this annually, in part to provide a training and develop opportunity for the wider team, but also give a more in depth understanding of changes at site.

In 2019 the Trust was thrilled to have the call of both pāteke and titipounamu/riflemen return to Rotokare with both being detected in surveys this year, following their reintroduction in April and May respectively. Overall, the number birds detected during the survey rose significantly, with a staggering 1435 birds detected vs 920 in the 2018 survey session. This is in large part due to a marked increase in endemic species detected. A significant increase was also noted in tieke/saddleback, toutouwai/NI robin, and piwakwaka/NI Fantail. Several other species were detected in counts for the first time including pheasant, spur winged plover, Californian Quail, Black Swan, Australasian coot, and morepork. Most of these species are known to have been present before but have likely now increased to numbers where they are more conspicuous and readily detected.



Hihi (stitchbird)

The Trust returned hihi to Taranaki in 2017 with a translocation of 40 birds from Tiritiri Matangi – c130 years after regional extinction. A second translocation was undertaken in 2018 in collaboration with the Bushy Park Trust. This is an intensive species management programme, and being one of only seven hihi populations on the planet ensures this will remain an intensive hands-on programme for several years to come.

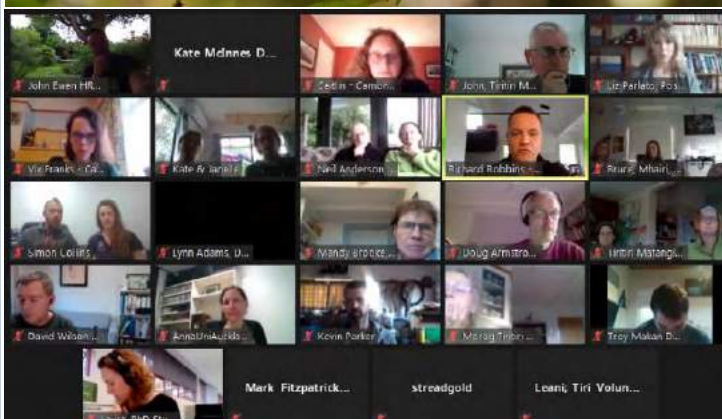
3rd breeding season in Taranaki since 1880's

The 2019-20 breeding season began with 41 known individuals as an absolute minimum (based on pre-breeding survey). This included 14 surviving founders from 2017, 7 surviving founders from the 2018 translocation, 4 Rotokare born birds from the 2017/18 and 16 from the 2018/19 season.

33% of known birds were sighted in the pre-breeding survey (41 of 125). This represents 37% of the original founders (14 of 40), 26% of the founders from the 2018 translocation (7 of 30), 24% of the Rotokare born birds from the 2017/18 season (4 of 17 banded), and 38% of the Rotokare born birds from the 2018/19 season (16 of 42 banded).

A minimum of 15-17 females bred this season. Excitingly Rotokare had more natural nests this season. A number of un-banded juveniles were seen around the reserve at the beginning of 2019. Based on the number of birds sighted and locations they were detected it is believed there were at least 4 successful natural nests.

43 chicks were banded over the 2019/20 season, including 6 caught as juveniles from natural nests. Based on overall hatched/chick survival to fledging, the result is a 95% fledging success (not including success of natural nesting). We estimate at least another 4-5 un-banded juveniles were present at the end of the season.



Top: an un-banded juvenile male hihi, from a natural nest at Rotokare, enjoying some karamu fruit.

Middle: Due to the Covid19 lockdown, the annual Hihi Recovery Group meeting was held online in 2020. A series of online lectures were also held via Zoom, which featured several international research projects that included work done at Rotokare.

Below: hihi nestling being fitted with a unique band combination to allow it to be individually identified



Titipounamu (Rifleman)

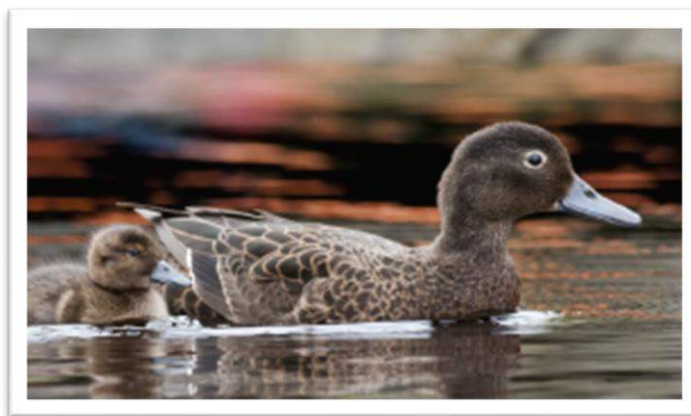
In April 2019, the Trust returned titipounamu to Rotokare. A pre-breeding survey was undertaken in September, including delivery of a training workshop.

Titipounamu are very hard to spot and very hard to hear, but at least 14 of the released birds were sighted.

A rifleman nest was also found during the survey. Anecdotal sightings of rifleman have been increasing, including a number of unbanded birds following the breeding season.



Pāteke (Brown Teal)



Pāteke have bred successfully in Taranaki for the first time in around a century!

20 radio-tagged endemic pāteke were reintroduced to Rotokare in May 2019, after being absent in Taranaki for c.100 years. This was always going to be a challenging reintroduction project, with the pāteke being expected to venture out of the fenced-sanctuary into surrounding farmland. In the 1st few weeks post-release, 8 pāteke were found predated outside the fence. The Trust responded quickly with targeted pest management to make it safer for pāteke to venture beyond the fence.

The 12 surviving pāteke have begun to establish territories and have bred successfully this season! At least four different broods, with 6-8 ducklings in each, have been recorded.

Our resident pāteke and their young from this season are doing well and continue to explore their environs inside and outside Rotokare. Pāteke have been seen visiting nearby farm ponds and returning safely, a promising sign for the population's recovery.

Taranaki Kōhanga Kiwi at Rotokare

Established in 2012, this project is a partnership with the Taranaki Kiwi Trust. The goal is to establish a genetically diverse founder population at Rotokare, with the ultimate purpose of developing an annual cycle of transfers of excess kiwi to suitable sites throughout Taranaki and Western Brown Kiwi range.

Current population summary

Genetically diverse founders: **37** (Goal to reach 40 by end of 2021).

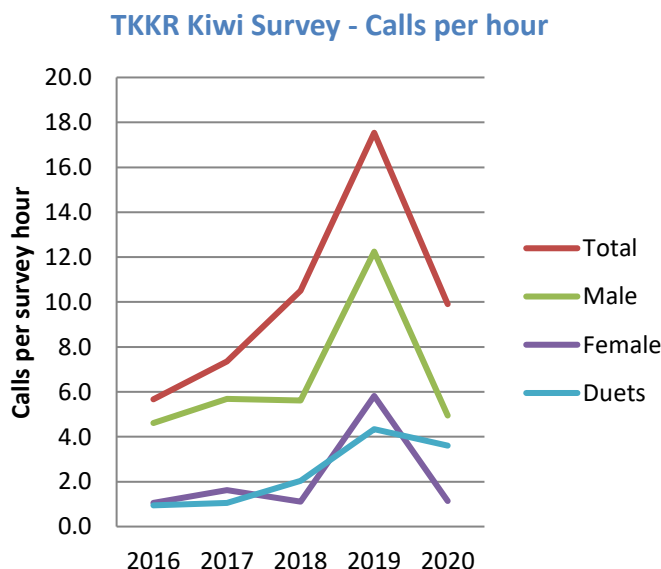
Estimated site capacity of breeding pairs: **20** (10ha per pair).

Estimated total population: **220-260** (adults, sub-adults, juveniles) based on mark-recapture survey, May 2020.



Estimating carrying capacity of the site, the composition and size of the population, and the productivity of the breeding population are all challenging but necessary questions to help inform development of a forward-focused management strategy. The optimal situation for this population is to begin annual cropping (transferring Rotokare-hatched kiwi to other suitable sites) when the population is at half-carrying capacity – it is now agreed that this population has passed this point. As a result, the project began to translocate birds out of the kohanga in May 2020, a significant milestone for the project (see next page for further details)!

Kiwi call surveys have been undertaken annually since 2015, indicating a steady population increase. In 2020 there was a decrease in calls rates, which is likely due to adult pairs being translocated out of the sanctuary (see next page for further details). Increased monitoring of breeding males, and the subsequent capture and monitoring of hatched chicks also helps increase the understanding of the overall population.



Two surveys are undertaken each winter, one week apart. Permanent listening stations are manned from dusk for the 2-hour survey. Average calls per hour from two surveys was 10, down from 18 in 2019. The 1st survey averaged 11 calls per hour and the 2nd an average of 8 calls per hour. Duet calls (male and female together) were 4.1 and 3.1 per station for the June and July surveys respectively, similar to 2018 levels but less than 2019. Duet calls were plotted on a map, providing an estimate of 34 pairs.

Over 20 people participated in the surveys.



Dog survey – May/June 2020

James Fraser with dog Duke, Natasha Coad with dog Bella, and James McLaughlin with dogs Charlie and Tui surveyed for 24 hours each over three days. 24 kiwi were handled, including 16 unmarked Rotokare born birds. A combination of distance sampling (encounters per hour) and mark-recapture (number of micro-chipped kiwi v's un-marked kiwi) produced estimate of 220-260 total kiwi population on-site, and recommendation to crop immediately. In preparation for translocation, some health screening was undertaken during this survey.

Kiwi leaving Rotokare

The Taranaki Kohanga Kiwi at Rotokare (a collaboration between Rotokare Scenic Reserve Trust and Taranaki Kiwi Trust) project reached a significant milestone in May 2020 with the first kiwi translocation from the reserve. Kiwi were translocated to the Totara block managed by South Taranaki Forest & Bird, and Sanctuary Mountain Maungatautari. Twenty-seven birds were translocated in total. Translocations are expected to be an annual occurrence from now on as the project has matured to the point of being able to achieve the ultimate purpose of the project - to provide an annual cohort of kiwi ready to be translocated to other sites around the region. Any prospective recipient site must meet several criteria – suitable habitat and area-size, demonstrated quality predator control, and a project capacity to monitor the outcomes of the kiwi released to the site. There was tremendous collaboration between kiwi handling practitioners and volunteers at all sites as well as with Ngati Tupaia to enable the safe translocation of these kiwi.





Education & Engagement

Rotokare's Environmental Education programme continues to provide a myriad of science and conservation-based learning focuses and units. Our Eco-Detective module features nine units from new-entrant to senior secondary classes, endorsed by the Ministry of Education 'Learning Experiences Outside the Classroom (LEOTC)' initiative, and our Health of the Forest module supports specific NCEA Achievement Objectives. The core strands of the national curriculum and 'Nature of Science' achievement aims are woven into our modules to truly complement classroom education with outdoor experiences.

Other learning opportunities at Rotokare include Early Childhood Education, outreach programme, school holiday programme, guided tours, night walks, group presentations, targeted education collaborations, and wider community learning initiatives.

Education programme stats: July 2019 – June 2020

Schools	#Schools	#classes	#Students
Early Childhood Education (ECE)	3	3	51
Primary Education	15	36	865
Secondary Education	4	8	173
Totals	22	47	1,089

District	#Schools	#Students
Central Taranaki	4	174
South Taranaki	12	452
North Taranaki	5	409
Outside Taranaki	1	54
Totals	22	1,089

Holiday Programmes	# times run	# students
Bird Art	1	10
Survival Game	2	81
Treasure Hunt	1	31
Totals	4	122

Education Numbers 2010 – June 2020

16,260
students from Taranaki
and Whanganui

82.5%
of all Taranaki schools

416
ECE visitors

45
Youth Ambassadors



Rotokare Education anywhere, anytime

Spring 2019 saw engagement beyond academic institutions, including sessions with libraries, Girl Guide units across Taranaki, and collaborations with MAIN Trust, Govett-Brewster Art Gallery, Department of Conservation, and National Geographic NZ's VR project. In 2020, with schools unable to visit Rotokare through the COVID lockdown and Alert Levels 2 and 3, the focus shifted to bringing Rotokare to the schools with online engagement and Rotokare modules being delivered at the schools.

Youth Ambassador Programme

Initiated in 2016, Rotokare's Youth Ambassador programme is a year-long extension-learning programme. A focused group of Year 6-9 students with a passion for nature are selected annually to engage in workshops, tour guiding, field skills training, and kaitiakitanga around native wildlife and conservation. In July 2019, six Junior Ambassadors began their journey to gain knowledge and confidence in conservation skills and communication.

A Senior Ambassador programme was initiated in July 2019, following all six 2018-19 Ambassadors wanting to continue their learning. This new course focuses on practical use of the information gained as Youth Ambassadors, including conservation management skills, critical thinking, and science communication.

The lockdown changed the progress and plans for the programme, which has now extended to December 2020 for the remaining 6 Youth Ambassadors and 6 Senior Ambassadors.



Backyard Biodiversity – Taiao Taiepa Ki Tua

Through the COVID-19 lockdown (March – June 2020), the educators at Rotokare and Taranaki Regional Council began 'Backyard Biodiversity', an online video resource that encouraged children and families to explore and enhance their gardens for wildlife. With 11 homemade episodes and an accompanying resource made by freelancer Donnaddigital, the series became a household name over eight weeks of Alert Level 4 and Level 3 lockdown periods, reaching more than 35,000 people across the country and engaging schools from Auckland to Dunedin. The initiative won the People's Choice Award in a national vote and placed third in the New Initiatives category at the 2019 ALGIM (Association of Local Government Information Management) awards.



Other Education Highlights



Night Tours



Our winter Rotokare by Night tours are a key part of the Trust's community engagement, sharing the knowledge and passion of the project in a magical way. Delivered mainly by volunteer guides with Youth Ambassadors leading groups, these tours provide a unique perspective on the sanctuary.

12 public and private tours were delivered, with 374 people attending. The increasing numbers are helped by organic Facebook promotions (reaching over 15,000 people) and word of mouth—all tours for the season were booked out before the first tour could begin!

Rotokare's nightlife—including noisy kiwi, creepy crawlies, kōura and eels in the lake and streams, hungry morepork, and pāteke in the car park—keep visitors busy during the two-hour tours.

Other engagement & events

Collaborative education programmes, public events, and presentations to a variety of groups make up the remainder of the education and engagement work undertaken by the Trust. In total, the Rotokare story was delivered to well over 1,300 people through public events and presentations this year.

Curious Minds – Fish Food & Fringes: This collaboration with the MAIN Trust was completed in December 2019. The project brought three schools (Rawhitiroa School, Ngaere School, and Hāwera High School) to investigate invertebrate diversity in riparian areas. The students discovered invertebrates across 16 guilds and that Rotokare sustains invertebrate populations across the season better than Nowell's Lake, a site devoid of predator trapping. This is an excellent example of science projects that provide students a unique opportunity to engage in a long-term study.



Training opportunities for Rotokare whānau & wider community

The Trust seeks to take every opportunity to upskill staff, volunteers and our community to equip them with skills and knowledge for the future of ecological restoration in Taranaki. Training events included conservation skills delivered by Rotokare staff and volunteers as well as collaborative events with other organisations or researchers. Covid lockdown and restrictions impacted the delivery of a number of planned community training events.



Training events that were able to go ahead included;

- trap deployment & setting
- tunnel tracking card deployment
- bird monitoring skills (for hihi, and titipounamu)
- Five minute bird counts
- kiwi call monitoring
- kiwi dog aversion training (with DOC)
- kiwi blood sampling (with Sanctuary Mountain Maungatautari)
- kiwi egg lift field skills (with Taranaki Kohanga Kiwi at Rotokare project)



Research at Rotokare

The Rotokare Scenic Reserve Trust continues to host a number of researchers. This involvement allows us to extend our knowledge and skills while assisting the development of ecological and conservation knowledge in New Zealand.

Over the past year the Trust hosted researchers from:

- Manaaki Whenua/Landcare Research (sampling lagarosiphon),
- University of Otago/Louisiana State University and AgCenter (studying the population genetics of NZ fernbird/matata),
- University of Waikato (Fish Aggregation Device (FAD) trial for Eurasian perch management)
- Lakes 380

Lakes380



Lakes 380 is a 5-year national project to characterise the health of New Zealand lakes, provide a richer understanding of our freshwater systems, and study our impacts on them. The Lakes 380 team has been visiting lakes across the country; on 15th October, the team visited Rotokare to sample the lake's water and soil.

A core-sample was taken of the lakebed at the deepest point of the lake (~12m deep). The result was a magnificent cross-section of the soil under the lake, showing over a thousand years' worth of sediment in the form of thick and thin, light and dark bands. The bands can be tested individually for fossils, chemical content, and other materials using techniques like environmental DNA and high-resolution core scanning to clarify its composition.

Waikato University – Lake Research



Submerged whakaweku marked by a buoy

Since November 2019, researchers from University of Waikato (led by Prof. Brendan Hicks) have been trialling their Fish Aggregation Devices (FADs) in the lake as part of ongoing perch management research. Once submerged, a FAD creates an artificial micro-habitat for small fish to colonise, and can be hauled out to survey. The FAD design is based on a traditional fishing tool called whakaweku - bundles of bracken-fern tied together and suspended in the water. Six bundles were set around the lake in November and will be checked periodically for juvenile perch.

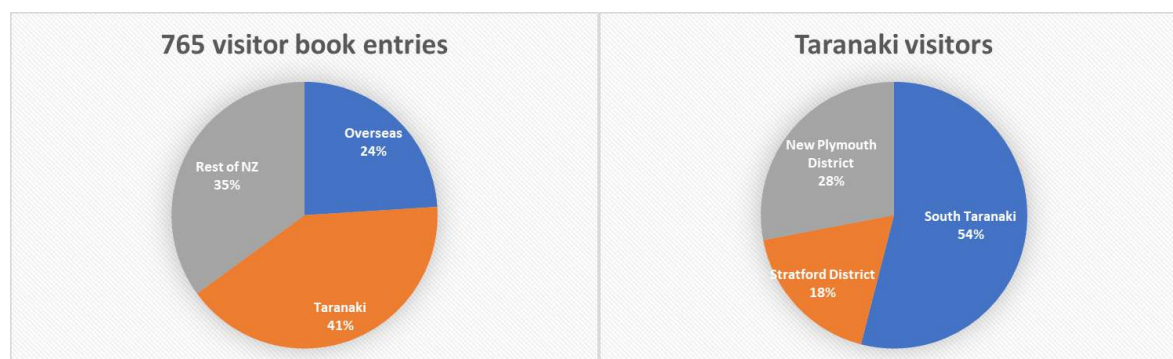
If these devices are successful in aggregating perch, they could be one of the few ways to manage perch at Rotokare. Previous studies by the university show that Rotokare hosts ~180,000 perch, a population that may be adversely affecting the lake environs, potentially impacting the frequency of cyanobacteria/algal blooms in the summer. Considering this impact, managing perch populations may be a

positive step towards supporting the health of the lake.

Public Visitors to Rotokare

Estimated annual visitor number are steady at around **30,000** including the education programme, other planned public events, and recreational users. We monitor visitor feedback through a visitor book, social media comments, and pro-active engagement with visitors on-site.

Visitor book summary – July 2019 – June 2020



Visitor book comments

Visitor comments usually follow two themes; appreciation of the sanctuary & appreciation of the volunteers. In 2020 a new theme emerged – people taking care of their own well-being and care for others.

“Arrived, got invited to wakeboard with locals, went for a late-night walk, saw the satellite string fly by and saw 3 kiwi. Awesome”

“Practicing the art of social distancing - Best place to do this. Thank you to all the volunteers. Take Care.”

“Tino ataahua tenei waahi me nga kaimahi/ kaitiaki hoki.”

Freedom Camping

Freedom Camping Summary		
	2019 - 2020*	2018 - 2019
*Sanctuary closed to visitors at level 4 lockdown		
Total Days recorded:	91	92
Days recorded randomly - mostly Mon-Fri		
Total vehicle numbers:	542	619
Largest number of vehicles on 1 night:	16	16
Number of nights no vehicle recorded	0	0
Avg. Vehicles p/night:	6	6.7
% non self-contained:	69%	76%
Total est. people numbers (1.9 p/vehicle)	1030	1176
Avg. People p/night	11.4	12.8

The COVID-19 lockdown and lack of international visitors following that, impacted visitor numbers. However long weekends, holidays and regional events drew large numbers of visitors and freedom campers, meaning annual visitor numbers are similar to previous years. An increase in the % self-contained vehicles could be attributed to a decrease in the number of younger international visitors travelling in smaller non-self-contained vans.

Many visitors are choosing to stay for the sanctuary experience rather than just a free camp site.

Development Projects

This year involved a combination of regular annual walkway upgrades and specific new development projects. The new Bush Classroom development will enhance the school-visit experience. The new office building has been long-planned, in response to the growing needs of the project.

Walkway upgrades



Improvements this year focused on re-metalling sections of the eastern lake walkway. A new boardwalk has been constructed to replace and extend an existing structure which was deteriorating. Several smaller maintenance tasks and 800m of walkway have been upgraded, including water culverts where necessary.

Office Developments

In June 2019 a new office building was relocated to site, providing 4 additional work stations, and a meeting room space.

The team have been hard at work preparing the building for use. This development has included the construction of a covered entranceway for school-bags, coats and footwear. Thanks to Eltham Construction for their support.

Over the past year the Trust has also undertaken a major upgrade of our computer hardware, software and network hubs. Thanks to Beach Energy for donating computers, and 4U Computer Solutions for a generous IT-upgrade sponsorship! And of course, a huge thanks to our volunteer team.



Financial Year April 2019 – March 2020

The Trust works extremely hard to ensure a cautious approach to expenditure, and puts in significant effort to ensure income streams are diverse. A key part of this is endeavouring to generate its own income. Over 35 different funding sources contribute to the annual income.

The Trust continues to rely on income from grants, sponsorships, donations, and generating income through contracts, sales and fees.

Financial Performance Report	
1 April 2019 - 31 March 2020	
Revenue	\$ 565,131
Expenditure	\$ 508,321
Net Profit	\$ 56,810
Depreciation	\$ 169,321
Deficit after Depreciation	-\$ 112,511

Depreciation Policy

The trust does not save for depreciation of assets. Instead, fundraising is undertaken as needed for replacement of assets.

Endowment Fund

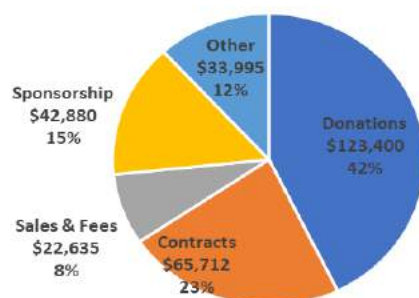
Current Balance \$47,059

The long-term goal is to build this fund to a level that provides for a significant percentage of annual operational income.

Total Income Breakdown



Self-generated income \$288,622

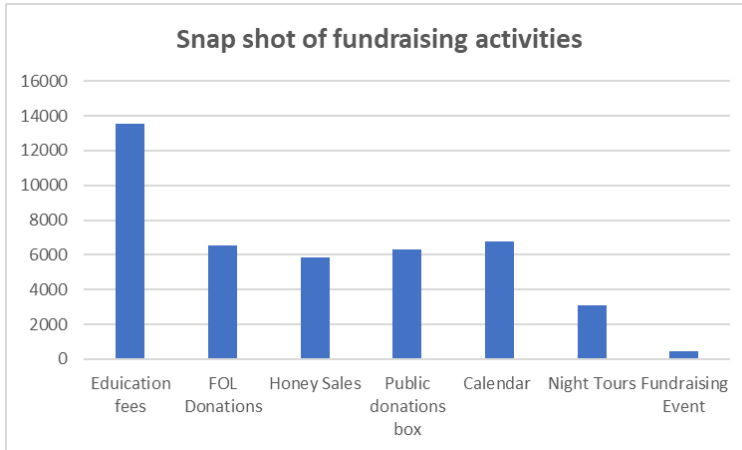


Contract Income

A combination of DOC Minister's Fund for pest-control, ongoing lawn mowing and public toilet maintenance, and Education programme contract with the Ministry of Education. This forms an important part of annual income.

Total contract income: \$65,712

Fundraising Focus



Key fundraising activities

Total income from these sources:

\$42,586

Night tours – income increased by over 24% from previous year

Public donations box – income increased by 65% from previous year



Special Reserve Honey

Since 2015, honey has been produced from hives on the ridge-line at Rotokare, where bees forage on local manuka, kamahi, rewarewa, and rata among other glorious natives. All thanks to the vision and generosity of Bees & Trees Native Honey and Eltham Lions Club.

How you can help

By supporting the Rotokare Sanctuary, you are contributing to an inspiring, fun-loving, and outcome focused community-led organisation. Working together we are achieving significant results for regional biodiversity restoration and the wellbeing of our community. The trust continues to rely of funding through a variety of sources – please consider how you might be able to be a part of Taranaki’s pest-free sanctuary.

Become a ‘Friend of the Lake’ | Make a donation | Volunteer some time

In-kind goods and services | Become a sponsor | Make a bequest



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