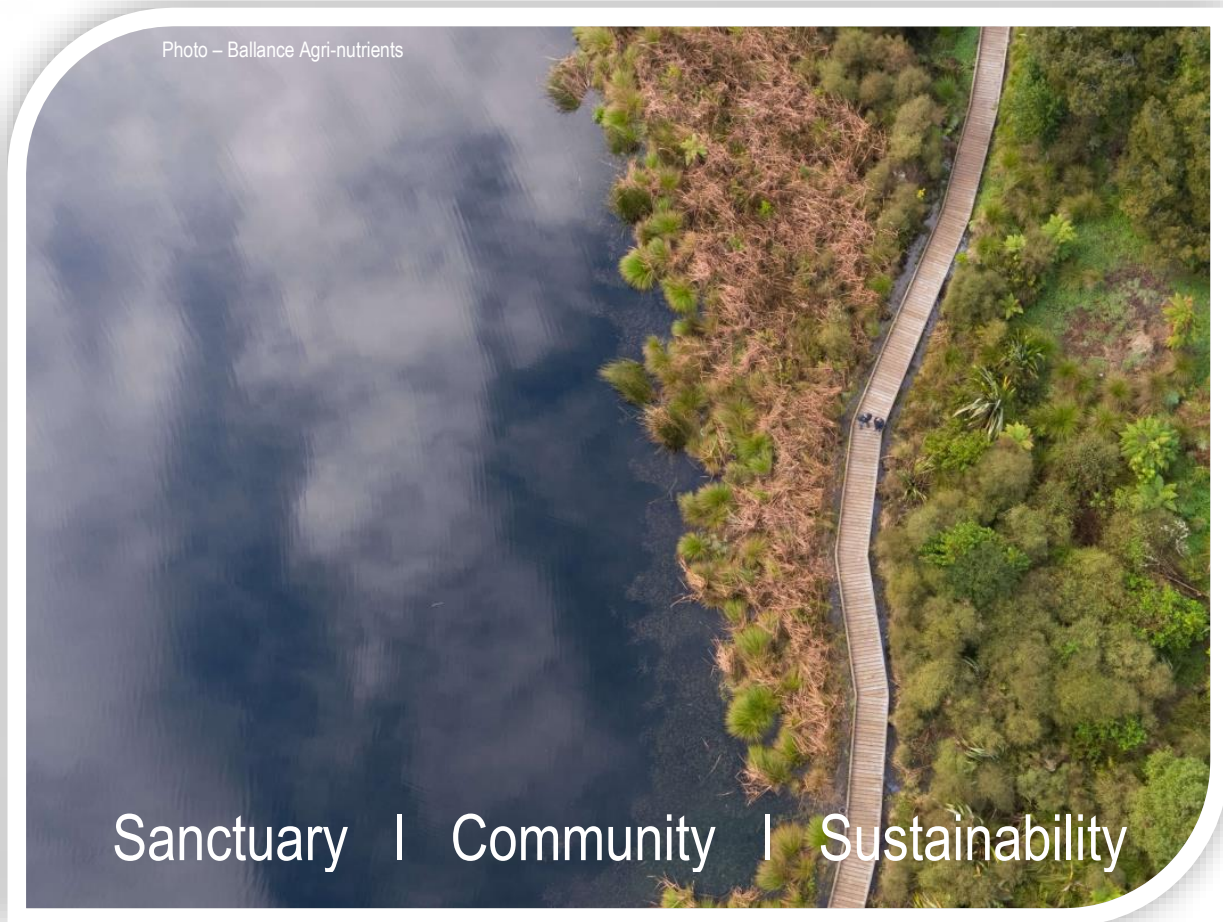




Annual Report - July 2019

Photo – Ballance Agri-nutrients



Sanctuary | Community | Sustainability

Rotokare is a thriving natural ecosystem
benefitting and inspiring all communities

Community-owned & Community-led

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 aspire for this project to benefit the whole Taranaki region. This summary offers all stakeholders an overview of the trusts work. 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 – the community is our purpose.

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



In addition, the trust also wishes to thank and acknowledge the following:

- Ngati Tupaia
- Taranaki Mouna Project
- Tiaki Te Mauri O Parininihi Trust
- MAIN Trust
- Kiwi Recovery Group
- Cambridge University UK (hihi)
- 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
- Zoological Society of London (hihi)
- Imperial College London (hihi)
- DFE Pharma
- Waikato University
- Pāteke recovery Group
- Nelson Marlborough Institute of Technology
- ICT Gateway

Annual Summary

This year has been significant for several reasons, including many elements of the behind-the-scenes activities. Ongoing administration system changes are helping to improve efficiency for the team, improvements for the team. A major review and subsequent realignment of operational sanctuary roles coupled with an increase in staffing capacity has ensured the trust is in a much-improved position for the year ahead.

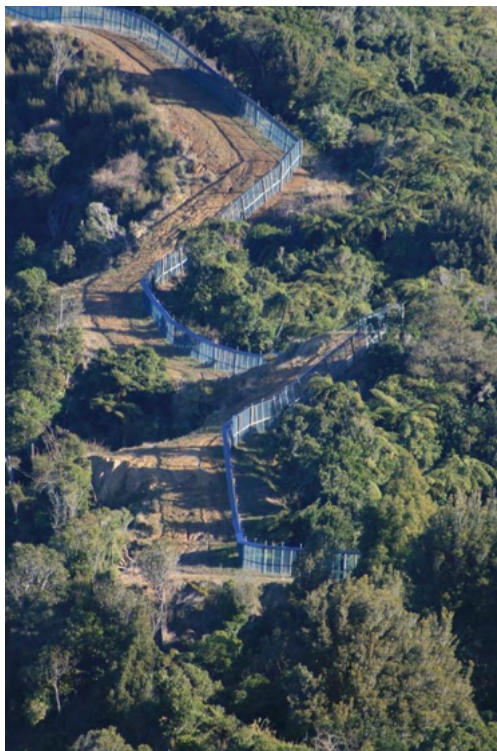
Biodiversity programmes again dominated the years activities and achievements - beginning with an assessment of the kiwi population, indicating we are now ready to begin transferring kiwi to other restoration sites. This was followed by a titipounamu (rifleman) reintroduction from the Taranaki mounga to Rotokare. In May pāteke (brown teal) were returned to Taranaki after c. 100-years regional extinction – the third bird species the trust has returned to the region.

Significant development-project highlights include further upgrades to the public walkway, which included significant corporate volunteer assistance, and development of the new Bush Classroom nearby the education classroom getting underway. After much planning, the arrival of a new office building also took place, which will provide additional workspace for the growing team of volunteers and staff.

The Environmental Education programme continues to deliver high-quality services to many schools and has been involved in multiple collaborations and events throughout the year – over 80% of Taranaki schools have now participated in the programme.

Sanctuary biosecurity operations have maintained a pest-free status, thanks in no small way to significant effort by dedicated staff and volunteers. The halo project faced some hurdles this year but is now back to full speed.

Regional purpose, and collaboration with other organisations remain as high priorities for the trust, as does the wellbeing of the Rotokare community, and the continual drive towards self-sustainability and the sustainability of biodiversity restoration within and beyond the sanctuary.



The Trust & Staff

Trustees actively maintain the 'Grassroots to Governance' approach to their roles at Rotokare. Community-led inclusiveness is highlighted as a core value by the trustees who remain involved throughout all aspects of the project - 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 - Steve Kane, Deputy-Chair & Treasurer - Mike Weren, Trustees - Murray Pranker, Graeme Pitman, Joe Menzies, Deborah Clough, Jacqui Kingsnorth, & Co-opted Trustee - Bruce Clarkson.

Rotokare staff have a shared-leadership approach to many key project activities, including a full-integration of volunteers in operational planning. The team-orientated culture provides important opportunities for the whole team to contribute and collaborate across all programmes.

Staff (5.2 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.

In early 2019 we said farewell to Aaron Jacobson who had been undertaking the halo role and support in the sanctuary - we wish Aaron well for the future. In April 2019 Kane Bretherton moved from dairy farming to becoming Site Manager (responsible for the halo project, and all on-site facilities and infrastructure) - this was a huge boost for the team, and filling this position allowed us to implement the long-planned realignment of operational roles. This sees Fiona Gordon formally take-on the Conservation Manager role (responsible for sanctuary biosecurity, the volunteer programme, and all biodiversity programmes).

This year, due to increasing workloads within the Taranaki Kohanga Kiwi at Rotokare project, a partnership with the Taranaki Kiwi Trust, it was decided to establish a kiwi ranger role for 24-months. The Rotokare Trust has become the formal employer on behalf of the partnership. This role will manage the operational delivery of kiwi work, allowing existing Rotokare staff (in particular Fiona Gordon and Simon Collins) to reduce the time required for kiwi work. Jess Fancy has been temporarily employed in this role, which will be filled soon.

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.

Committee

The Rotokare Committee is a critical part of operational support and governance feedback. This is a key opportunity for community views and guidance to actively provide a wider view to the trust. This group plays a key role in supporting a wide range of operational activities, fundraising projects, and public engagement activities. The committee is open to anyone, and represents the community and volunteers - directly informing governance decisions.

Life Members

This year Audrey Thompson was honoured for her long-standing and diverse service with a Lifetime Membership Award. Audrey has served as minutes secretary for both trust and committee meetings, is a key driver in landscaping around the buildings and grounds, helps with important facilities cleaning, is a core member of the fernbird monitoring team, constructed all of Rotokare's hihi nest boxes and well as a number of display cabinets and the office donations box, as well as supporting the education and advocacy team as a guide.

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

This project was started by passionate volunteers. While over the years some faces have changed, and the trust has employed staff, the volunteer team is still the critical life-force of the Rotokare community, enabling the trust to undertake its many programmes. Volunteers fulfil key roles throughout the organisation from governance and operational committee, to a wide range of skilled conservation delivery and administration support.

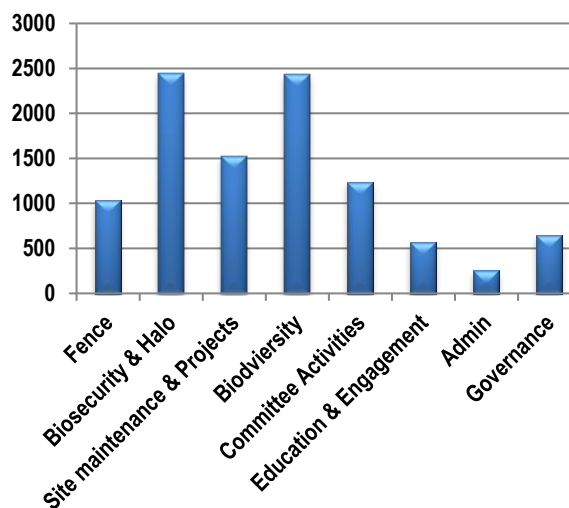
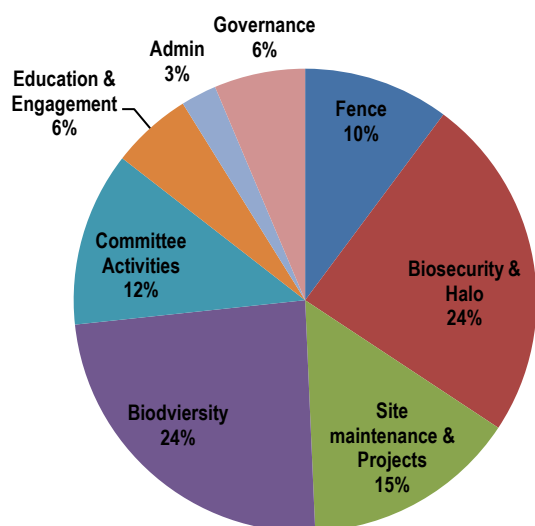
Staff and volunteer planning are fully integrated throughout all aspects of our operations. In the past year we have further enhanced and formalised this process by initiating fortnightly Operations planning meetings; where the team gather to review upcoming tasks and priorities, to raise and discuss issues and ideas, and to reflect on and celebrate achievements, and task completion. Feedback from this process has been hugely positive.

Jenny Kerrisk has stepped down as volunteer coordinator, after several years of service in the role, but is still heavily involved in operational tasks. The Trust would like acknowledge the important contributions Jenny has made in this role, and thank her for her significant contribution to both the Rotokare volunteer programme, and operational outcomes. The Trust is actively seeking a new volunteer co-ordinator.

The project continues to attract new volunteers, travelling volunteers, and interns, and corporate volunteer groups. **275** individuals gave their time during this year.

Rotokare Volunteer Hours - July 2018 - June 2019

10,149 Hours



Volunteer highlights



Don Litchfield - long-serving volunteer

A stalwart volunteer for more than 12 years, Don (Litchy) Litchfield knows Rotokare better than most. When Sanctuary Manager, Simon Collins first started at Rotokare (as Site Manager, December 2008) it was Litchy that showed him the ropes. Over the years Litchy has been heavily involved in trapping, fence work, maintaining tracks, and has many kiwi-catches under his belt. As is the case for many retirees, the volunteer role changes over-time. These days, its lawn-mowing, workshop tasks like trap-box construction, walkway maintenance as well as trap checks and fence maintenance. Litchy also volunteers for the South Taranaki Forest & Bird trapping programme at the nearby Totara's Block.

4,303 hours recorded over 5 years - thank you Litchy, we are truly grateful to have you on the Rotokare team.

Volunteer recognised with Enviro-award

TRC Environmental Award 2018: **Tony Green** was recognised for his significant contribution to volunteer activities over several projects, with a highlight being his work with the Taranaki Mounga project, monitoring toutouwai following their return in 2017 to the national park. At Rotokare, Tony was involved in hihi feeding, undertaking 50% of all feeds from April 2017 to early 2019, he even made sure they received their food on Christmas Day 2018. Well done, and thank you Tony - we're extremely grateful for all your support.

Known best for being behind the camera - this photo from 2010 kiwi creche opening - by Tony Green



Alan Rogers demonstrates kiwi monitoring at a 2012 event, and receiving 2018 Volunteer Award

Volunteer recognised with Community Volunteer Award

In November, long standing Rotokare volunteer **Alan Rogers** was recognised with South Taranaki District Council's Community Volunteer Award 2018 – Alan is one of the stalwart Sunday volunteers, 'cutting his teeth' at Rotokare long before it became pest-free, he leads many Sunday working bees, and is one of our key volunteers for hihi nest box checks. Alan is still involved with pretty much everything else that Rotokare delivers from translocation support, to maintenance and track work, to bird surveys. Thanks for all your hard-work over many years Alan.

Corporate & Group Volunteering

Betts & Bishop - beginning the new Bush Classroom development



Betts & Bishop - BBQ lunch & presentation from Fiona Gordon - Conservation Manager



It's all about teamwork!

A significant part of getting big projects done is the support the trust receives from corporate and group volunteers. This year has seen many highlights, and we sincerely thank everyone that has been part of these inspirational working-bee sessions!

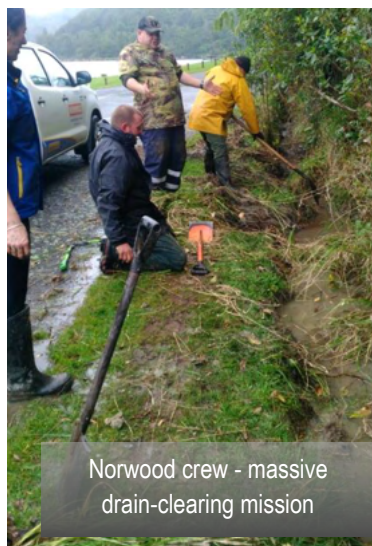
- Ballance Kapuni
- RNZAF
- Norwood Machinery
- Rabobank
- Betts & Bishop Landscaping
- Mt Egmont Alpine Club

There are many more, and we look forward to working with you all again!

These opportunities provide significant value to both the Rotokare family and the organisations that come to help - working together, we're building a strong future for the whole community to enjoy and benefit from.



RNZAF - Hard-work wheel-barrowing track metal!



Norwood crew - massive drain-clearing mission



Ballance, Kapuni - boardwalk construction (playing in the mud)

Work Experience

We also receive wonderful help from high school students, looking to gain experience in conservation related work. Josh & Brock from Opunake High School spent a week working with the team. Some of the tasks were absolutely awful ... especially having to help catch kiwi! It was a thrill for our team to help these guys get an insight into the practicalities of conservation work, and the rewards for the hard-slog in the hills.



Annual fieldtrip

Over the years, the Rotokare team have been away on many fieldtrips together. This trip brings together Trustees, Committee, Staff, Volunteers, and families. Alternating between local trips around the region, and bigger trips to the likes of Kapiti island, Tiritiri Matangi, Zealandia - usually mixing a few key visits each trip. This year the team headed to the east coast with visits to Cape Sanctuary, Opouahi kiwi crèche, Boundary Stream, Maungaharuru Seabird colony, Lake Tutira. These trips are social, but equally help inform future planning for Rotokare - it is always important to look at how others do things to learn and improve what we do. Team feedback from these trips inform annual strategic planning.



Opouahi kiwi crèche



Cape Sanctuary visit

Trainee Ranger

Ashleigh Watson, a young aspiring conservation leader from the South Island joined the team for 12-weeks over the summer of 2018-19. This is a work-placement component of the Trainee Ranger Programme, run by Nelson-Marlborough Institute of Technology (NMIT). Ashleigh is the fourth Trainee Ranger to do a summer placement at Rotokare. An important part of the Trust's vision is to ensure future generations of conservation leaders are given the opportunity to work along-side the community. At this time of each year, the additional field-work support is hugely valuable to our team - weed management, trap checking, pest monitoring, and of course, learning about wildlife field-skills too.



Training & Skill Development

The trust places strong importance on ensuring skills and knowledge are grown in the community. As the diversity of activities increases and the need for specialist skills grows, a more targeted approach to building these skills in the volunteering community has become a greater focus.

- Outdoor 1st aid
- Emergency fence response
- Plant ID (incl. pest-plants)
- Five-minute bird counts (via NMIT)
- GPS & compass skills
- Pest trapping & monitoring
- Kiwi skills: telemetry monitoring & tracking, catching & handling, health checks & transmitters, call-surveys
- Hihi feeding & nest-box monitoring
- Bird monitoring (multi-species & leg-band ID)
- Bird translocation skills (incl. catching assistance & bird transport)

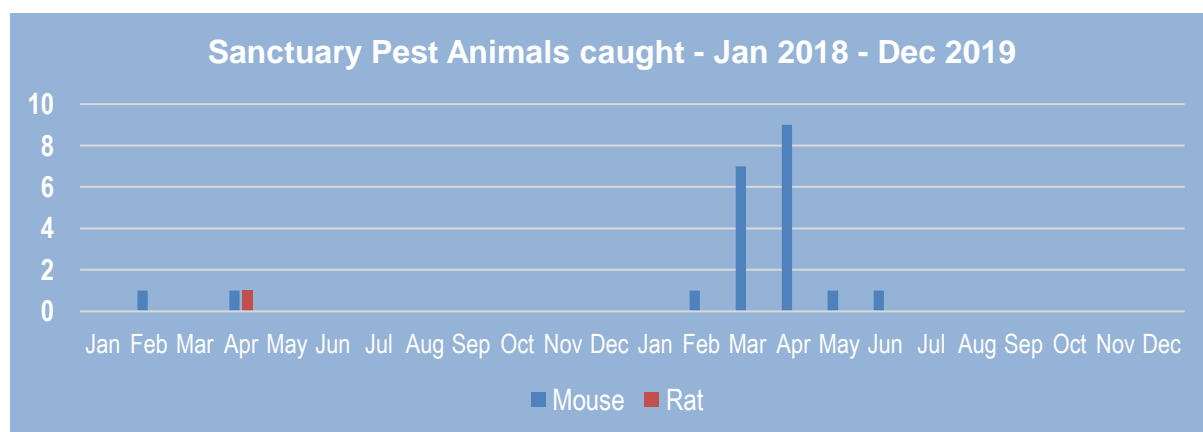
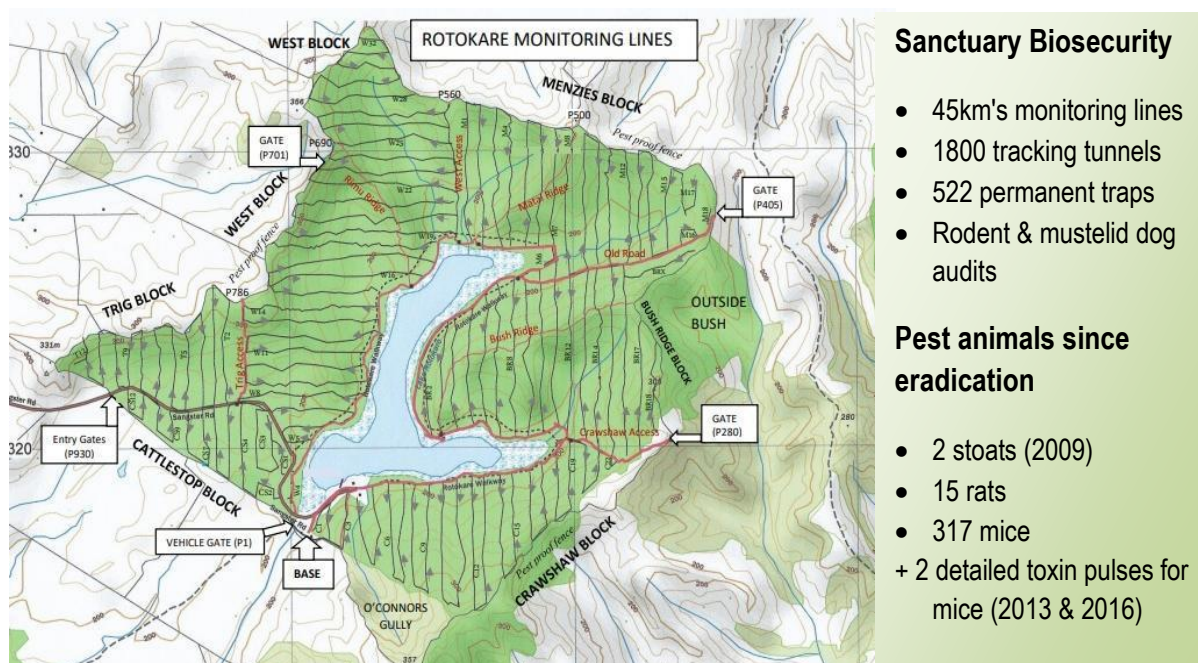
Sanctuary Biosecurity

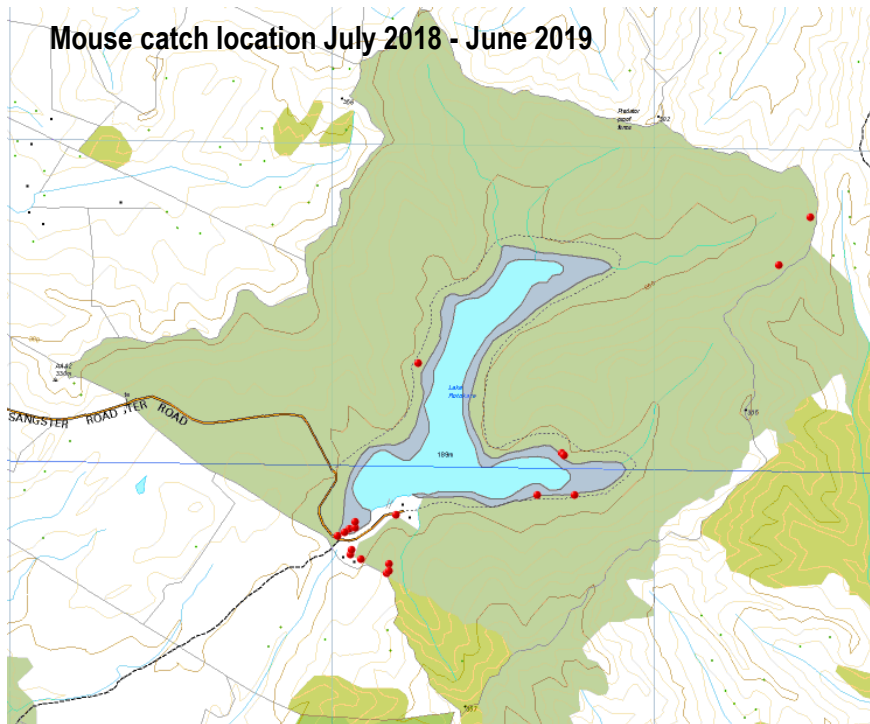
Maintaining the pest-free status of the sanctuary is our number-one priority. The ongoing successful management of sanctuary biosecurity is a significant achievement. This success has enabled all biodiversity milestones achieved to date, and is critical to all future biodiversity projects undertaken at Rotokare, for the benefit of the region.

Fence operations consist of detailed weekly inspection and ongoing maintenance of the 8.2km pest-proof fence and access gates (public entry and operational gates). Weekly trap servicing routines (522 permanently-set traps) and seasonal pest monitoring (approximately 1,800 tracking tunnels in total) are also core sanctuary biosecurity work. Pest plant surveillance and control, and wasp control are other core annual biosecurity activities. Biosecurity advocacy is a strong focus, delivered through the education programme, newsletters and media, and proactive on-site visitor engagement.

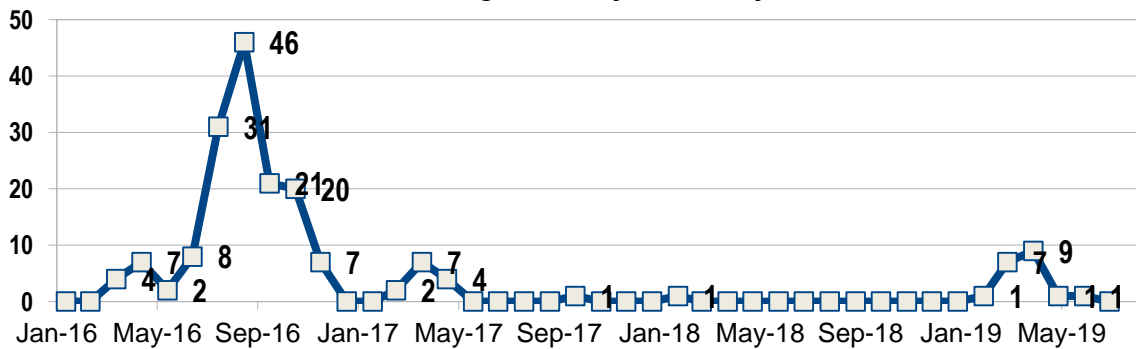
A few mice have made it into the sanctuary over the past year, however the ongoing monitoring efforts and rapid responses to detections have delivered the results. Following the reporting period, no further mice have been detected. No other pest animals have been detected.

Pest animal summary





Mice Caught January 2016 - July 2019



Sanctuary Biosecurity - Dog audits



Greg van der Lee - conservation dogs team & Sassy the rodent dog (right) surveyed Rotokare in September 2018

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 involve 3-4 days searching the entire sanctuary for any indication of scent, sign, or animal.

Rodent audits were undertaken in September 2018 and May 2019. These provide critical information, either a suspicious indication which is followed-up on immediately, or a report that 'it was a nice walk'. A possible detection was reported in September, however despite significant response effort during the following months, nothing further eventuated. No detection was reported during the May audit.

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).



Volunteer team cleaning fence-hood & trimming vegetation



Mouse-hole (outside fence) shows the detail required for fence-checks



Re-setting surveillance-box configuration

Annual fence routines

The 8.2km fence follows some steep terrain - the vast majority of work carried-out is done by foot

Winter - hood cleaning to remove lichen etc from the hood, ensuring no jumping animal could gain purchase on growths.

Spring - all fence-posts rammed to ensure movement over time doesn't create cracks encouraging water-erosion

Spring & autumn - fence platform spray on inside to maintain easy access and ensure visual inspections of base and surrounding earth.

Autumn - trimming of vegetation and threat-assessment of nearby trees

Autumn & summer - full audit and repair for all staples, rivets, screws, wire joiners, and all other components checked.

Weekly - detailed fence-checks including culverts and main water-gate, and testing of remote monitoring system

Monthly - servicing and testing of all gates

24/7 fence-monitoring & surveillance system

Five surveillance boxes monitor fence sections, sending SMS alerts when a potential issue arises. Staff and volunteers monitor this on a roster system. Regular electronic issues have plagued the system this past year, often requiring immediate attention, and sometimes causing false alarms. Future upgrades to the system are currently being planned.

Willow management

Controlling willows around the wetlands has been an on-going 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.



Rotokare Willow Control East Arm - Contractor delivery March 2019

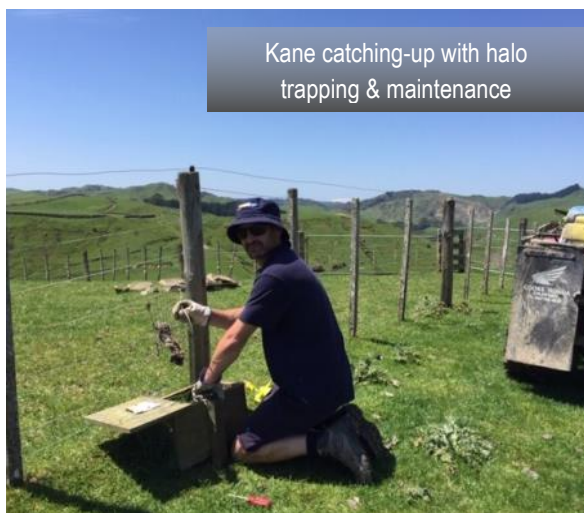


March 26, 2019

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Sourced from the LINZ Data Service and licensed for re-use under the Creative Commons Attribution 4.0 New Zealand license. LINZ, CORTINA, LINZ

Halo Project

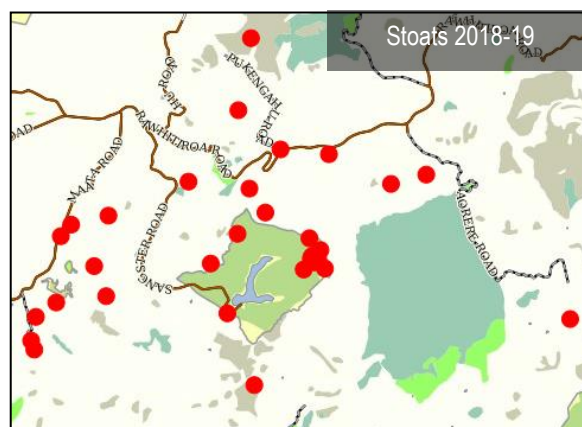
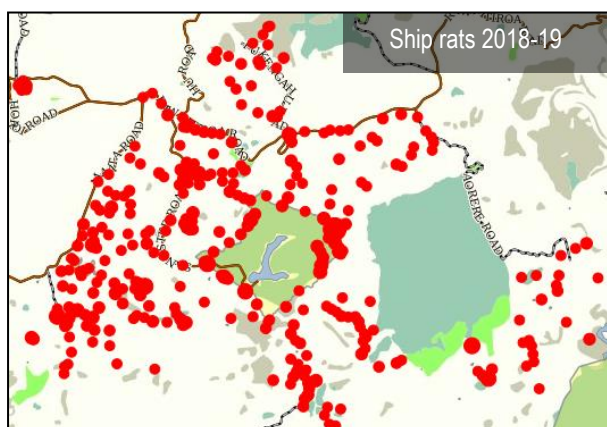
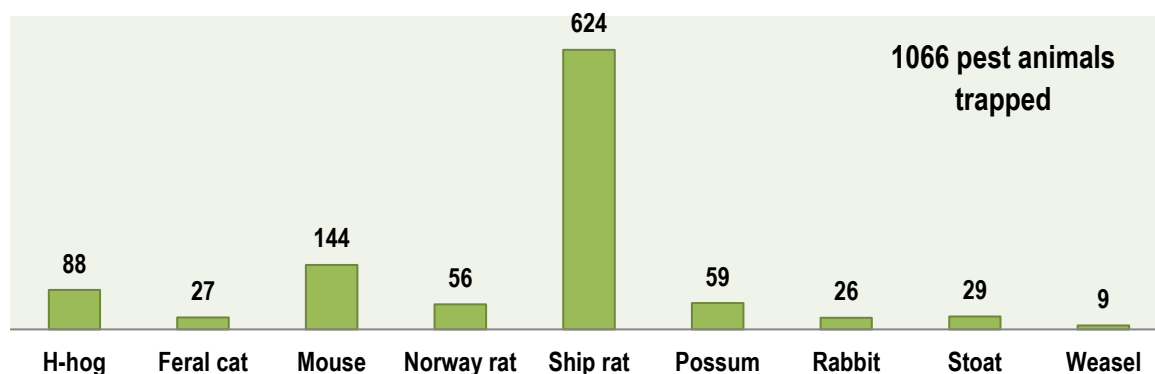
With establishment complete, the next major task has been to evaluate effectiveness, and optimise trap placement and servicing processes. 15 farm properties and reserve areas within the Rotokare halo area, plus significant effort by South Taranaki Forest and Bird and the Taranaki Kiwi Trust collectively cover over 4,000 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.



Funding gap effected staff capacity

The halo project requires approximately 2-weeks per month to maintain (fieldwork and admin). In January 2018, funding limitations reduced the existing Halo Ranger role to 8-hours per week - Aaron finished in the role in January 2019. Kane Bretherton began as Site Manager in April 2019 - Halo is approximately 50% of his role. from early 2018 to autumn 2019 reduced capacity impacted our ability to maintain the project, despite best efforts.

Trap-catch July 2018 - June 2019



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

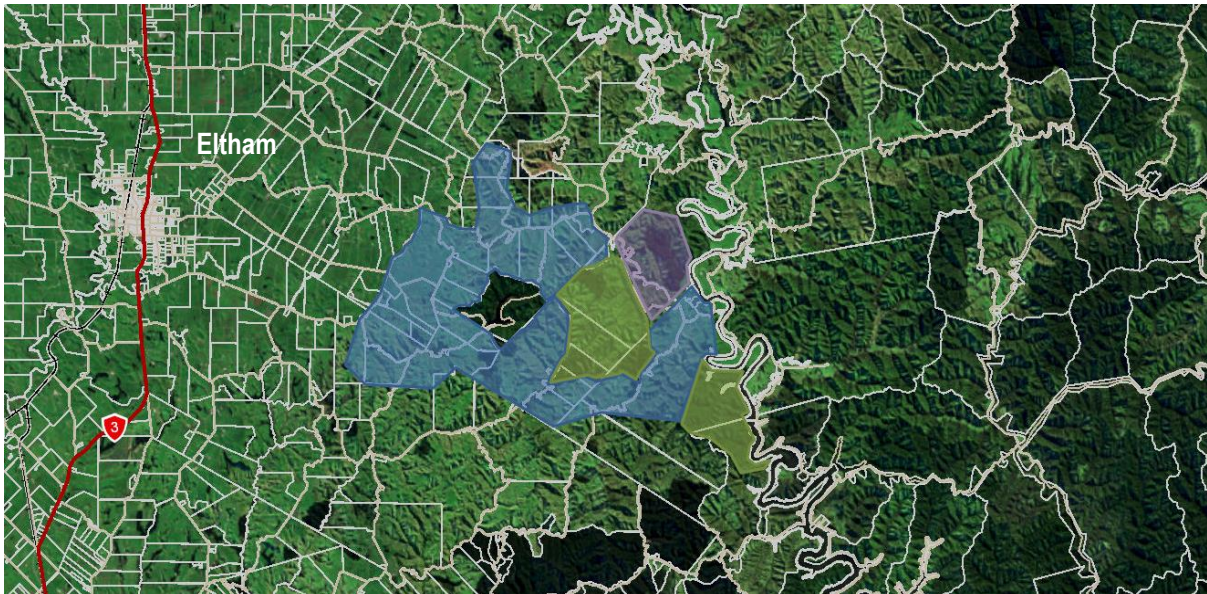
Halo project to date

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

Total pests destroyed since Oct 2015

7259

Number of traps deployed **~1100**



Key

Blue - Rotokare Halo

Purple - Taranaki Kiwi Trust

Red - Planned halo extensions 2020

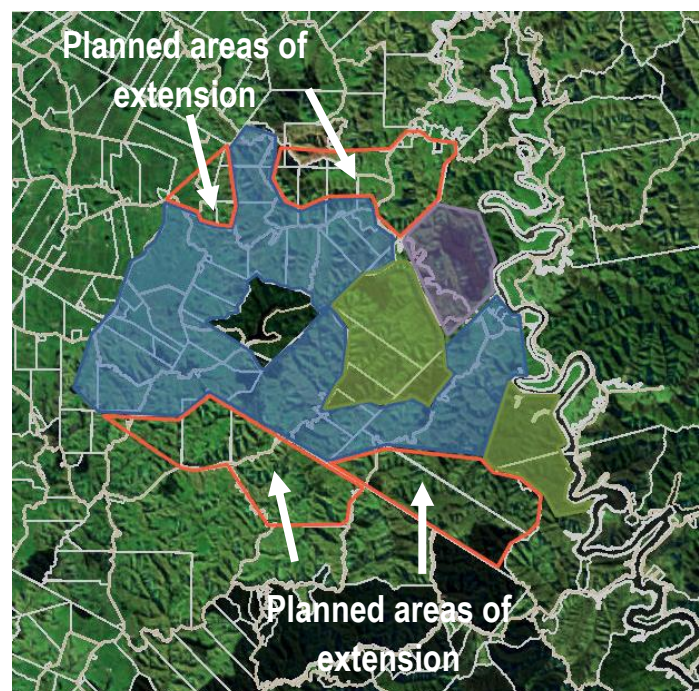
Green - South Taranaki Forest & Bird

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.

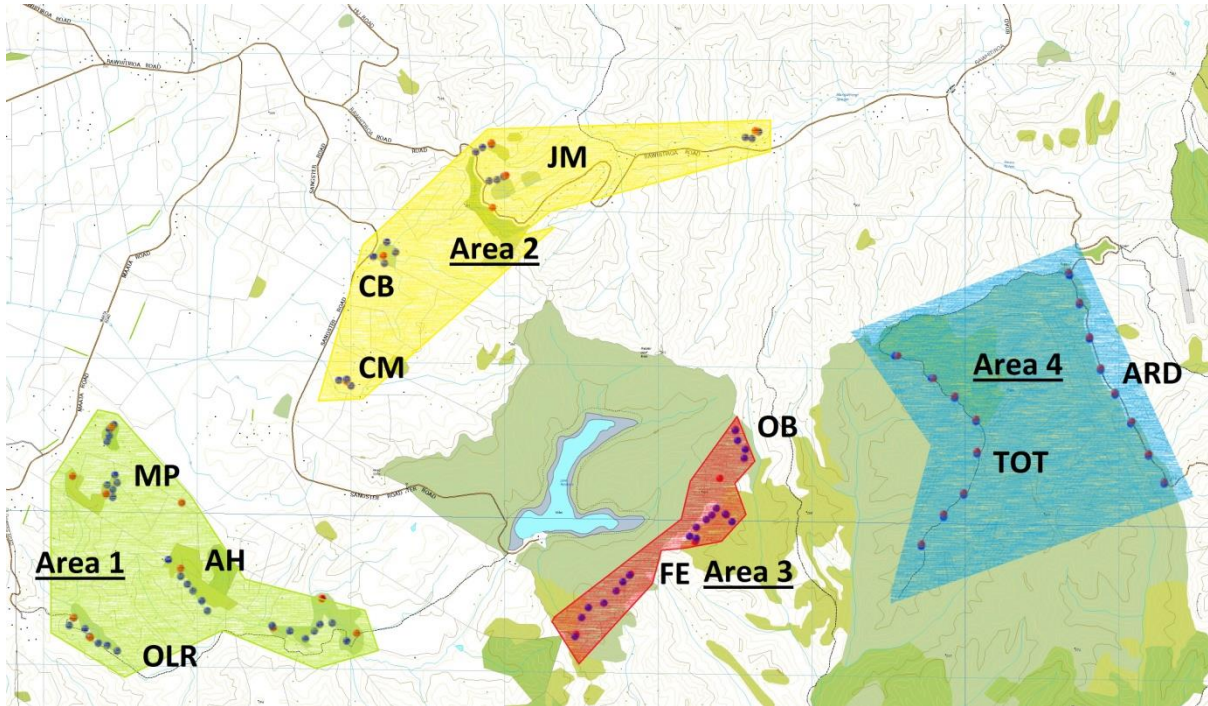
This will be limited to feral cat and mustelid control – targeting priority predators of kiwi and pāteke (see pāteke discussion under ecological section for context).

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

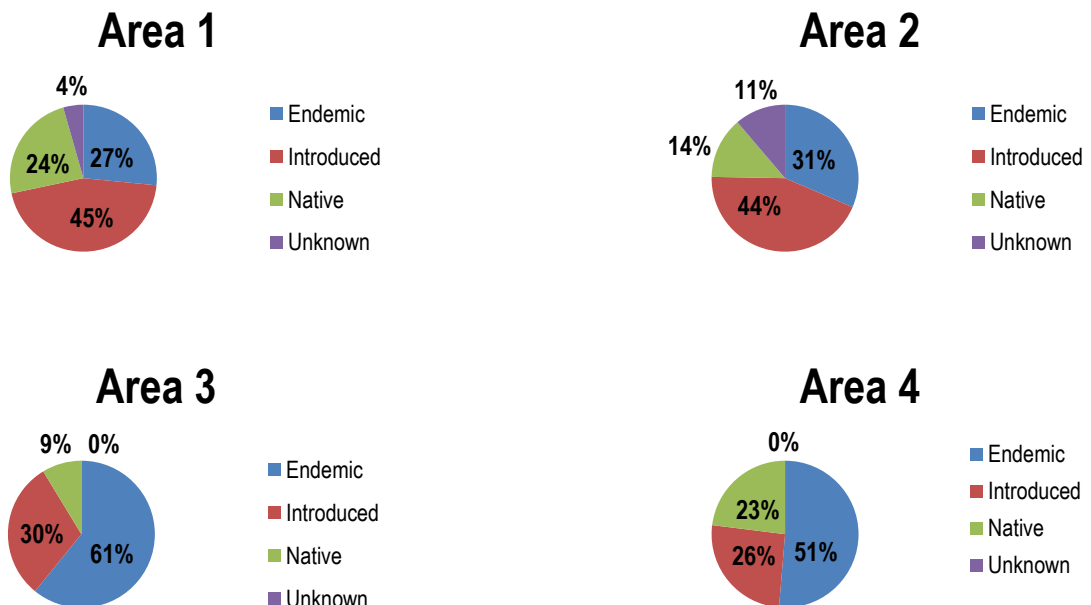


Halo Project - Biodiversity monitoring

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. 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. So far the trend is an increase in both native and indigenous species overall, however a full comparison will be completed after the 2020 surveys.



2018-19 Bird count percentages for each area: Endemic species, native species, introduced species, and unknown (to count a bird when the observer isn't sure of identification)



Ecological

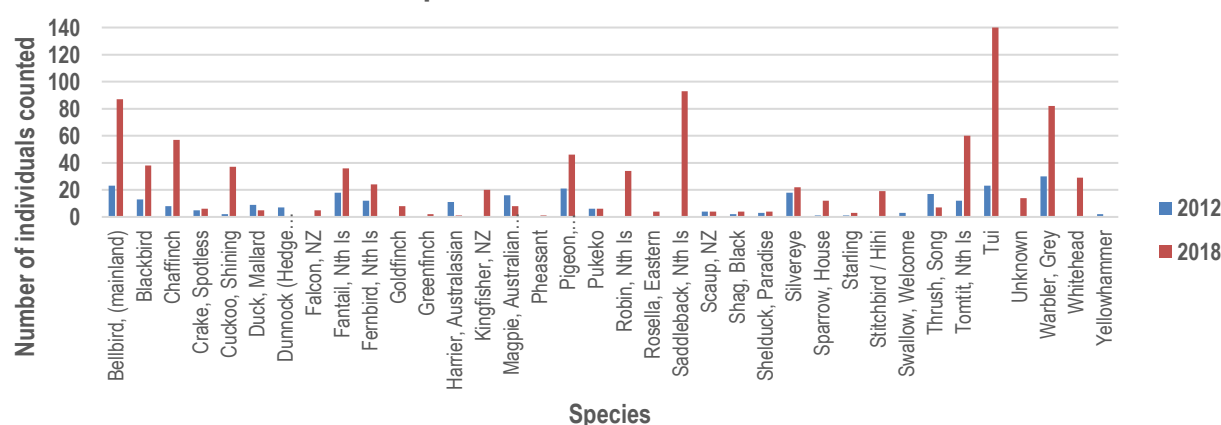
The ultimate purpose of our work is the 'ecological restoration of Rotokare and beyond'. The effort put into biosecurity work, fundraising, and our community-led focus are fundamental to ensuring pro-active sustainable ecological restoration. Rotokare provides a setting which enables species to return 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)

There is an obvious increase in species abundance and diversity within the sanctuary since 2012, with more species and individuals being counted in the 2018 surveys. Some species are absent or appeared to have declined since 2012, however it is unclear if this is observer bias or whether some of these introduced species have declined as competition from native species has increased. The number of endemic species in 2018 compared to 2012 has increased, with translocations into Rotokare during this time. Popokatea/whitehead and tieke/saddleback were both introduced to the reserve in 2014, while hihi/stitchbird were introduced in 2017 with a supplement of birds in 2018. A group of toutouwai/Ni robins were also translocated to the reserve in 2017 to supplement the existing population. While these introductions have certainly changed the species classification percentages within the reserve, it is likely that certain species have also introduced themselves or increased in numbers where they are now seen and heard more often. The percentage of endemic individuals has greatly increased since 2012 (from 55% to 72%), while the percentage of introduced individuals has decreased. The percentage of native species also seems to have decreased in 2018, a trend being increasingly noted at other sanctuaries after the return and establishment of endemic species.

Species Counts 2012 vs 2018



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.

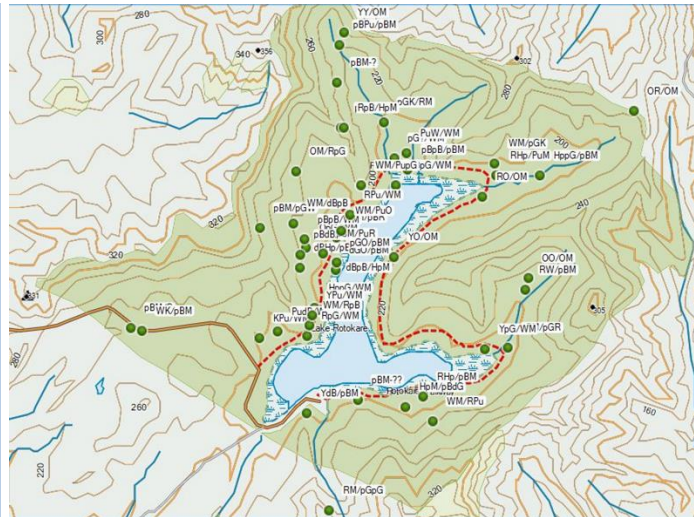
2nd breeding season in Taranaki since 1880's

The 2018-19 breeding season began with 49 known individuals as an absolute minimum (based on pre-breeding survey). This included 22 surviving founders from 2017 (6 females and 16 males), 19 surviving founders from the 2018 translocation (7 females and 12 males), and 8 Rotokare born birds from the 2017/18 season (5 females, 3 male).

56% of known birds were sighted in the pre-breeding survey (49 of 87). This represents 55% of the original founders (22 of 40), 63% of the founders from the 2018 translocation (19 of 30), and 47% of the Rotokare born birds from the 2017/18 season (8 of 17 banded).

A minimum of 16-18 females bred this season. Excitingly Rotokare had our first natural nests this season. A number of un-banded juveniles were seen around the reserve at the beginning of 2018. Based on the number of birds sighted and locations they were detected it is believed there were at least 3 successful natural nests.

42 chicks were banded over the 2018/19 season, including 6 caught as juveniles from natural nests. Based on overall hatched/chick survival to fledging, the result is a 66% fledging success (not including success of natural nesting). We estimate at least another 3 un-banded juveniles were present at the end of the season.



Top: pre-breeding survey September 2018. Middle: male hihi feeding on sugar-water. Below: Rotokare hosted annual Hihi Recovery Group meeting in April 2019, which included a public presentation at Puke Ariki – over a hundred people attended the presentation, which featured several international research projects that included work done at Rotokare during 2017-18.



Titipounamu (rifleman) translocation

In April 2019 the first-ever bird translocation took place from the Taranaki Mounga – 60 titipounamu were translocated to Rotokare, returning a species absent from the sanctuary. While titipounamu are found at various places in Taranaki, numbers overall are low, and anecdotally still in decline. The population on the mounga however is thriving, and therefore a suitable source for this translocation. This purpose of this translocation was to re-establish titipounamu at Rotokare, and to secure an additional protected population for Taranaki.



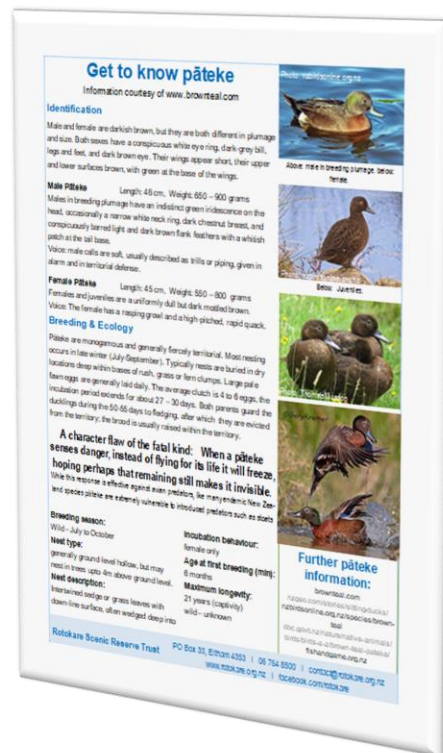
Titipounamu are New Zealand's smallest forest bird. They are extremely fragile and stress sensitive. Over three days, birds were caught by mist-netting, prepared for transfer, and released at Rotokare within three hours of initial capture.

Top-left: Fiona Gordon (Rotokare Conservation Manager), Morag Fordham (Supporters of Tiritiri Matangi), Emily King (DOC Taranaki), and Kay Milton (Supporters of Tiritiri Matangi) catching at the net. Middle-left: Julie Larcom (Rotokare volunteer) carries titipounamu in bags from the catch-team, to Kevin Parker (Parker Conservation), bottom-left. Top-right: Kevin attaches coloured leg-bands. Bottom-right: Rotokare Youth-Ambassadors gently carry bird-boxes to the release-site at Rotokare.



Pāteke (brown teal) return to Taranaki

In May 2019 the third species to be reintroduced to Taranaki by the Rotokare Trust arrived after c. 100-years regional extinction. With a total world-wide population of c.3,000 individual pāteke, and recognised among the worlds most endangered duck species, this multi-year project was always expected to be challenging. Unlike previous reintroductions to Taranaki (tieke in 2014 and hihi in 2017) pāteke were not expected to remain within the protection of the pest-free sanctuary – dispersal into the surrounding landscape was expected. 20 pāteke, all with radio-transmitters arrived from Peacock Springs (Isaac Conservation Trust) in Christchurch, part of a nationwide captive breeding programme led by the Pāteke Recovery Group. Simon Collins (Rotokare Sanctuary Manager) and Fiona Gordon (Rotokare Conservation Manager) spent two days with the team in Christchurch preparing the birds for transfer, and learning more about pāteke management.



Top left: Fiona & Simon helping at Peacock Springs; Middle left: Jenny Kerrisk releasing a pāteke. Bottom left to right: Mike Weren, Steve Kane, & Kane Bretherton head to lake-edge for release; Tāne Houston (Ngati Tupaia) calls visitors to the release; a happy team after the release, including Kevin Evans of the Pāteke Recovery Group on the left.

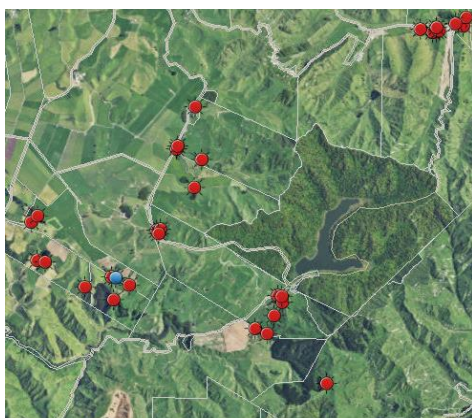
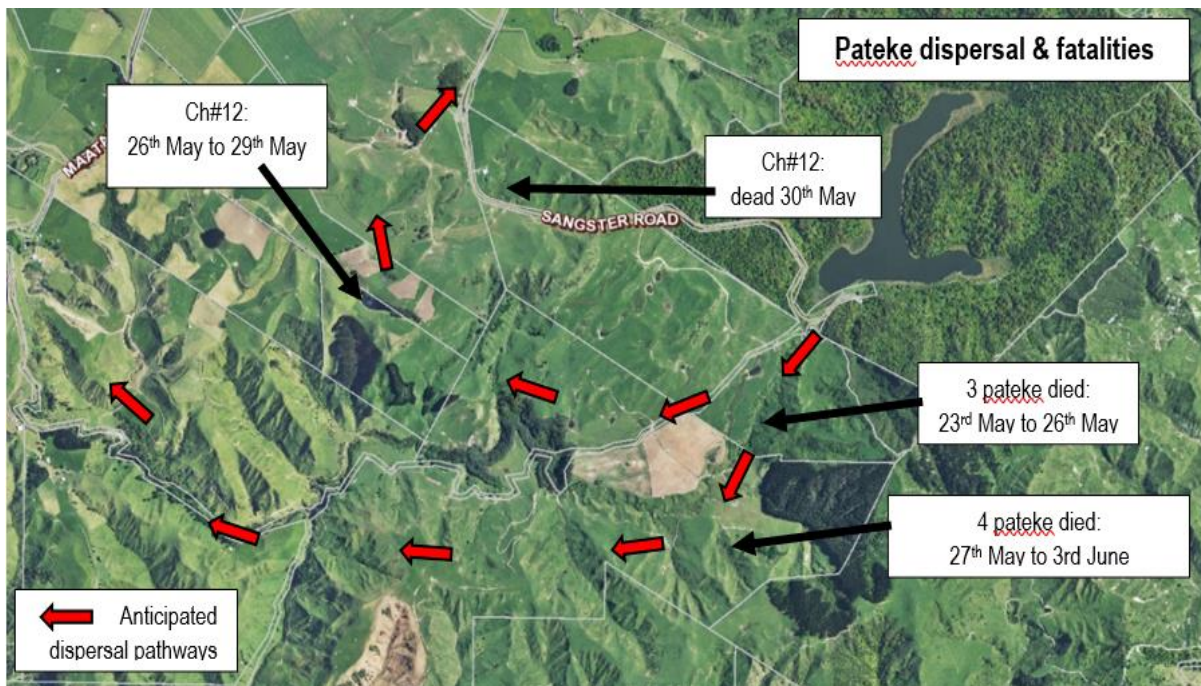
Prior to the release, an information booklet (above right) was produced to help people in the surrounding area learn to identify pāteke. They are extremely vulnerable to predation and dogs, and although they look different to known gamebirds, duck-shooting season was just kicking-off at the time of release. Pāteke love farm ponds and were always expected to travel out of the sanctuary.



Pāteke & feral cats

Immediately after the release, daily monitoring began. Each morning a roll call of all 20 pāteke was undertaken. The first few days went smoothly, but then some pāteke began venturing outside the sanctuary, and important lessons were learnt – we had underestimated our existing feral cat management in the halo, and their densities on the surrounding landscape. On the 23rd May 2019 (7 days after release) we found the remains of a pāteke outside the sanctuary. Three days later a further three individuals were located outside the sanctuary, two were deceased and the other had taken-up residence on a farm pond nearby (this pāteke spent three days there, before shifting and being found dead the following day). In total eight had died by the third of June – a 40% loss.

Working with neighbours and external experts, a feral cat trapping response was being deployed by the 25th of May. Within 12 hours of the first extra traps being set, we had caught two feral cats in the target area. Gut-content analysis confirmed pāteke feathers in the guts of two feral cats. A surveillance programme (daytime observations and night-scoping), major additional trap deployment, and significant volunteer support quickly changed the game – by the 1st of July, 26 feral cats and one ferret had been dispatched in the target area. Crucially, after the eighth dead pāteke was recovered on the 3rd of June, no further pāteke deaths occurred, despite some spending time foraging outside the sanctuary. This was a devastating time for the team, but quickly became a less than ideal time to be a feral cat.



Left: feral cats (red) & 1 ferret (blue) dispatched May-June 2019. Right: feral cat trapped within 12 hours of this trap being deployed.



While images like this can be disturbing for some, it's crucial to remember that feral cats (as oppose to pet cats) are a significantly serious issue.

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: **33** (Goal to reach 40 by end of 2020). 3-4 more founders to be released 2019-2020 season.

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

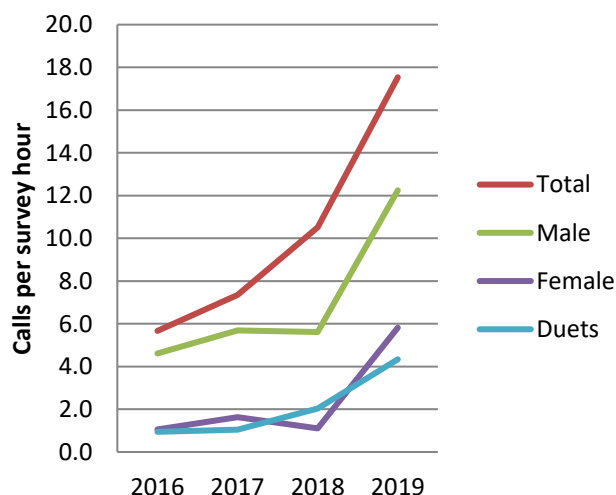
Estimated total population: **150-170** (adults, sub-adults, juveniles) based on mark-recapture survey, April 2019.



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, after a formal site assessment by the Kiwi Recovery Group in January 2019, and a mark-recapture/encounter-rate survey by experts in April 2019, that this population has passed this point. As a result, the project aims to begin removing kiwi by April 2020.

Kiwi call surveys have been undertaken annually since 2015, indicating a steady population increase. Increased monitoring of breeding males, and the subsequent capture and monitoring of hatched chicks also helps increase the understanding of the overall population.

TKKR - Kiwi call surveys



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 18, compared to 10 in 2018. The 1st survey averaged 12 calls per hour and the 2nd a spectacular 23 calls per hour. Duet calls (male and female together) have increased from 4 per station in 2018, to 6.1 duets in the 1st survey and 9.1 duets in the second. Duet calls were plotted on a map, providing an estimate of 28 pairs.

Over 30 people participated in the surveys.

Productivity monitoring

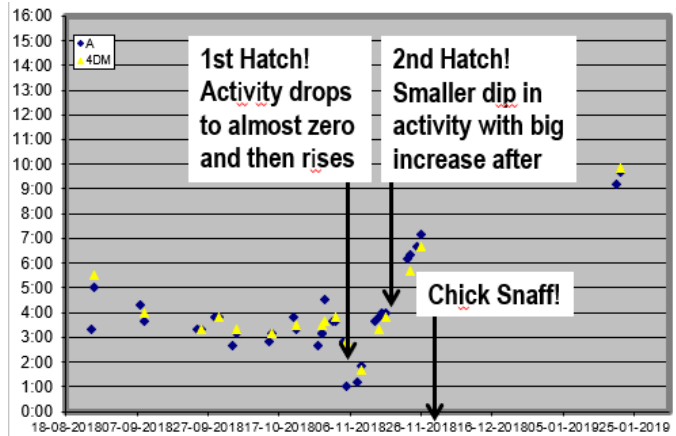
The 'Chick-snaffle' (snaff for short) is the term given (at Rotokare anyway) for the capture of chicks from a monitored nest. Since 2017 the project has been undertaking this monitoring to gain better understanding of productivity to estimate 'annual-yield' of kiwi through using radio-transmitters attached to the kiwi.

Of the five males monitored for breeding in the first clutch 2018-19, four incubated eggs, and a total of six chicks were 'snaffled' – a combined total of 1.5 chicks per nest. In April 2019 five more males were caught and added to the breeding monitoring, so 10 adult male kiwi will be monitored for breeding activity in the 2019-20 season.

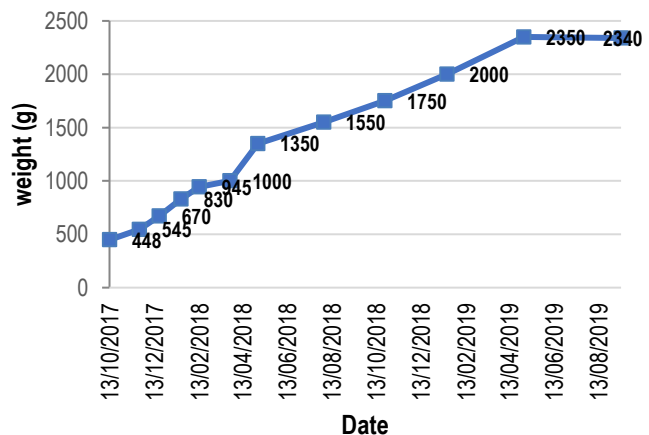
This provides important productivity data, but also allows the project to have a 'stock' of Rotokare-hatched kiwi ready to translocate to other sites. There are currently 18 kiwi with transmitters attached that are ready to be translocated when recipient sites and permits are ready.

Young chicks are re-captured monthly for health-checks and growth monitoring. As they become larger, they are captured less-frequently. Body condition, weight and bill-length are recorded, providing a history of each individual bird as they grow. Each captured kiwi-chick also has a micro-chip inserted after a few months, so all individuals are permanently marked for future reference.

Kiwi handlers – It can take 1-2 years for someone to become fully-independent as an accredited kiwi handler, depending on the number of opportunities they can take. This project is fortunate to have many accredited handlers and handling trainers. Increasing capacity through a coordinated volunteer training plan is a major priority for the project.



Titokowaru - growth chart

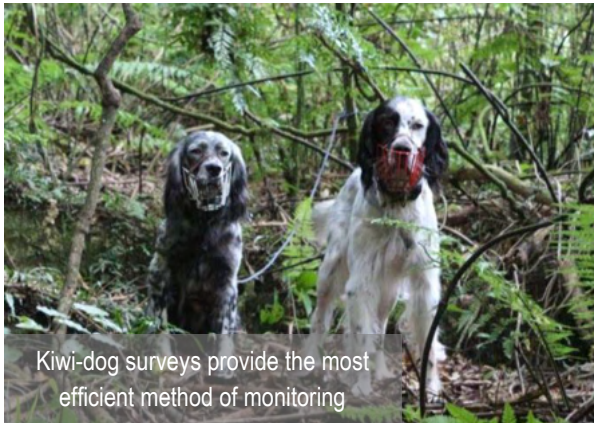




Processing soil samples for invertebrate abundance

Site assessment – January 2019

Representing the Kiwi Recovery Group, Rogan Coulbourne visited Rotokare to assess the site and estimate carrying capacity. This included habitat assessment and invertebrate sampling. The resulting recommendations were a probable site-capacity of 20 breeding pairs, to begin cropping as soon as possible, and to continue breeding and productivity monitoring.



Kiwi-dog surveys provide the most efficient method of monitoring

Dog survey – April 2019

James Fraser with dogs Peg and Duke, and Natasha Coad with dog Bella surveyed for 28.8 hours over five days, covering 68.9km's. 23 kiwi were seen, including 21 kiwi handled. A combination of distance sampling (encounters per hour) and mark-recapture (number of micro-chipped kiwi v's un-marked kiwi) produced estimate of 150-170 total kiwi population on-site, and recommendation to crop immediately.

Preparation for 2020 – Kiwi leaving Rotokare

The ultimate purpose of the project is 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. From autumn 2020 – the goal is to translocate up to 60 Rotokare-hatched kiwi. A kiwi-dog team will assist with capturing addition non-monitored kiwi to meet the target number.

Mātātā/Fernbird

For the third year in a row, Rotokare has been a source of fernbird for other community-led restoration projects. After a successful reintroduction to Pauatahanui in 2017-18, 40 fernbirds were caught at Rotokare and successfully released at Mana Island in April 2019. A priority goal for Rotokare is supporting other community restorations projects.



Education & Engagement

After nearly ten years of delivery, the Environmental Education programme continues to provide a broad range of learning focuses and units. A major focus is the fully curriculum-linked units from new-entrant to senior secondary classes, endorsed by the Ministry of Education 'Learning and Education Outside the Classroom'. All core strands of the national curriculum are woven into all units, with a focus on science and conservation.

In addition to the core education programme, other programmes provide a broad range of learning opportunities: Early Childhood Education, outreach programme, extension learning programme, school holiday programme, night walks, social action programme, group presentations, targeted education collaborations, and facilitation of wider community learning initiatives.

Education programme stats: July 2018 – June 2019

Schools	#Schools	#classes	#Students
Early Education	1	1	8
Primary Education	23	51	1134
Secondary Education	7	20	435
Totals	31	72	1577

District	#Schools	#Students
Central Taranaki	4	200
South Taranaki	10	605
North Taranaki	15	695
Outside Taranaki	2	77
Totals	31	1577

Holiday Programmes	# times run	# students
Bird Art	2	33
Survival Game	4	118
Totals	6	151

Numbers since 2010

15,512

students from Taranaki
and Whanganui

80.61%

of all Taranaki schools
visiting Rotokare

365

ECE (Early Childhood)
visitors

45

Rotokare Youth and
Senior Ambassadors



The Education Team – Ash,
Environmental Educator & the
amazing volunteer guides

Education programme going strong

Despite a lower number of students this year in the core programme – 1,577 (annual target is 2,000), the numbers are encouraging. Beyond this, other engagement such as library visits, groups including Guides, and holiday programmes have ensured a busy schedule for the education team. Ongoing marketing and engagement with teachers region-wide helps maintain a steady stream of bookings.

Youth Ambassador Programme

Initiated in 2016, the Youth Ambassador programme is a year-long extension-learning programme. A small number of year 6-7 students with a passion for nature are invited to apply, and if accepted onto the programme get involved in a structured programme of 1-2 day workshops, assisting with guided tours and events, and collaborations with other sanctuary ambassador programmes.

Students develop a deeper knowledge of conservation and are encouraged to develop confidence in public speaking. Developing knowledge and leadership skills, these students will help shape the future of conservation in Taranaki.

A senior ambassador programme has recently been initiated, following all 8 of the 2018-19 cohort wanting to stay involved – great feedback!

Top-right: Ambassadors from Zealandia in Wellington spend the weekend with the Rotokare Ambassadors exploring Rotokare. Middle-right: An Ambassador selling traps at local-school gala day. Bottom-right: New cohort of Ambassadors start in June 2019.



Other Education Highlights



Night tours



A key part of the trust's focus on community engagement is sharing the knowledge and passion of the project. An increasingly success element of this has been the annual night-tour programme run each winter. Delivered mainly by volunteer guides with Youth Ambassadors leading groups, these tours provide a unique perspective on the sanctuary.

Eight tours were delivered, with 352 people attending. The increasing numbers are helped by successful facebook campaigns, and radio promotion by MoreFM. Private night-tours have also become a feature this year.

'Creepy-crawlies', kiwi calls (and even some kiwi sightings), koura and eels in the streams and lake, and busy ruru/morepork 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 1,000 people through public events and presentations this year.

Curious Minds – Fish Food & Fringes: A collaboration with the MAIN Trust was initiated this year, bringing together three schools (Rawhitiroa, Ngaere, and Hāwera High School) to investigate invertebrate diversity in riparian areas. This research is looking at the differences between a predator-free environment and a non-protected site. This is an excellent example of science projects that provide students a unique opportunity to engage in a long-term study.

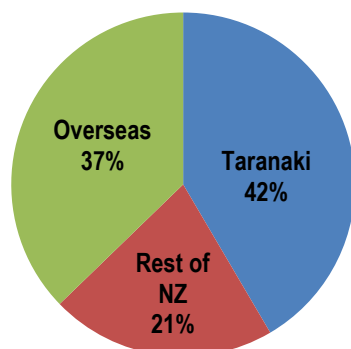


Public Visitors to Rotokare

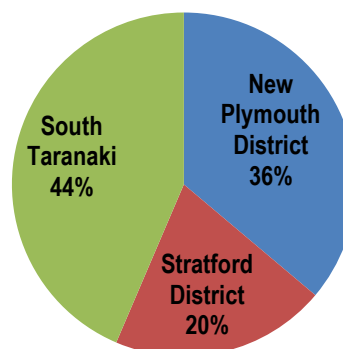
Estimated annual visitor number are around **30,000** including the education programme, other planned public events, and recreational users. We monitor visitor feedback through a visitor book, social media comments, and pro-active engagement with visitors on-site.

Visitor book summary – July 2018 – June 2019

1117 visitor book entries



Taranaki visitors



Freedom Camping



Freedom Camping Summary	
Recorded between 1st Oct 2018 & 30th May 2019	
Total days recorded:	92
<i>Days recorded randomly - mostly Mon-Fri</i>	
Total vehicle numbers:	619
largest number of vehicles on 1 night:	16
Number of nights no vehicle recorded:	0
Avg. Vehicles p/night:	6.7
% non self-contained:	76%
Total est. people numbers (1.9 p/vehicle):	1,176
Avg. People p/night:	12.8

Despite the regional increase in freedom camping over the past few years, the average 'people per night' at Rotokare has remained steady for the past two seasons. Other than a very occasional exception, all campers have demonstrated care and respect of the site, and a genuine interest in the sanctuary work.

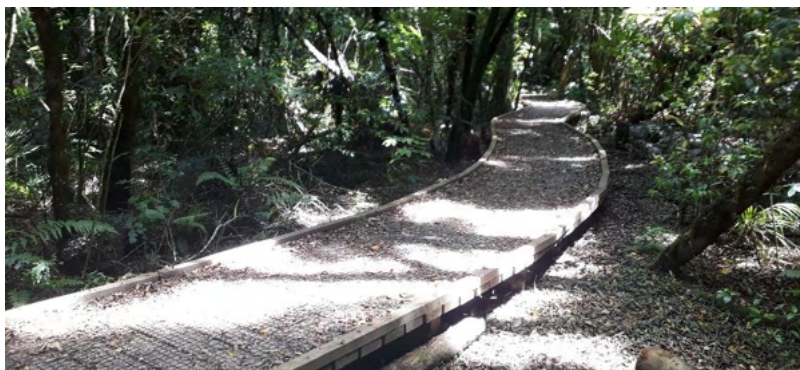
Volunteering: Campers are encouraged to volunteer during their stay, and some have specifically stayed in order to contribute as volunteers.

Feedback: Regular feedback highlights appreciation of a unique visitor experience.

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



A new boardwalk has been constructed to replace a particularly boggy section of walkway. Several smaller maintenance tasks and ~200m of walkway has been upgraded, including water culverts where necessary.

Bush Classroom



A purpose-built outdoor learning area is under development directly beside the education courtyard, a much more convenient location for school groups. This will include several learning stations, many being sheltered from the weather. It will also add-value to other group education sessions.



New office building



As the sanctuary project has developed, an increase in office workstations has become necessary – we've outgrown the 2-room offices now!

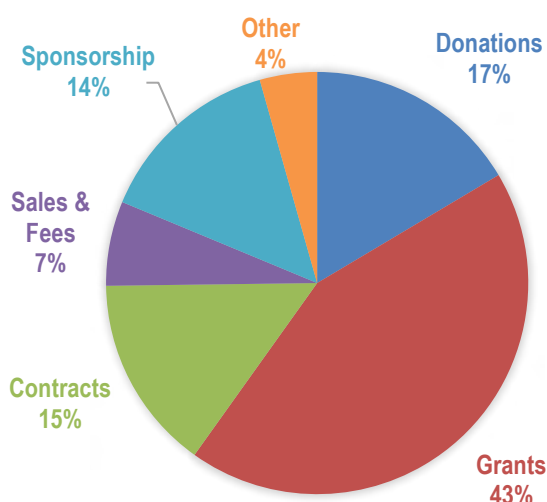
In addition to providing increased staff workstations, two dedicated volunteer/researcher workstations and a communal area for staff and volunteers to share for a cuppa and as a meeting room will be key outcomes.

Financial Year April 2018 – March 2019

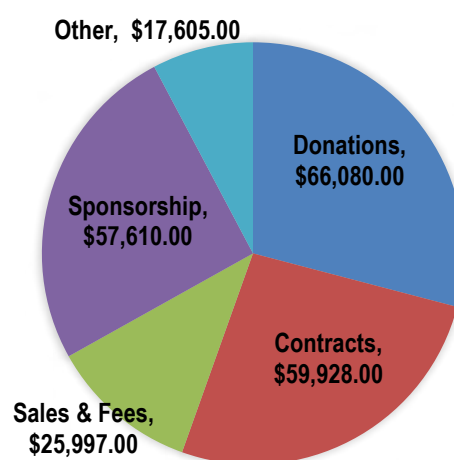
The Trust works extremely hard to ensure a cautious approach to expenditure, and puts in significant effort to ensure income streams are diverse. A key part of this is endeavouring to generate its own income. Over 35 different funding sources contribute to the annual income.

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

Income breakdown



Self-generated income \$227,220



Financial Performance Report 1 April 2018 - 31 March 2019		
Revenue		\$401,524
Expenditure		\$364,396
Net Profit		\$37,128
Depreciation		\$166,146
Deficit after Depreciation		-\$129,018
Tagged project funds held		\$104,729

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 \$46,386

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

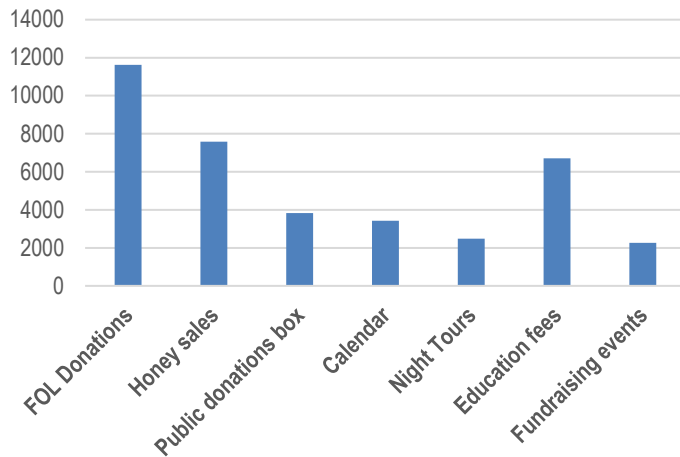
Contract Income

A combination of contracting-out specialist conservation skills to the Taranaki Mouna Project and Kiwi for Kiwi, 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: \$59,928

Fundraising Focus

Snapshot of fundraising activities



Self-generated funding

This snapshot demonstrates key areas of active income generation

Total income from these sources:

\$37,922

Night tours – income increased by over 200% from previous year

Public donations box – income increased by 14% from previous year



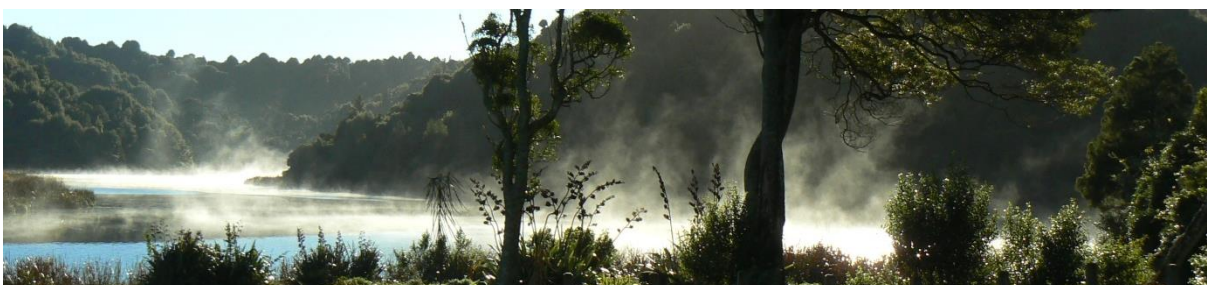
Annual fundraising calendar

Since the first calendar was produced (2012 edition), the trust has produced an annual calendar as part of its fundraising activities. Between 200-300 calendars have been produced each year since. This activity also acts as a means of telling relevant stories and sharing images taken by staff, volunteers, and visitors.

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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