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TīTī Times

KAITIAKI ISSUE

In search of the greater short-tailed bat

Rakiura Tītī Islands
ADMINISTERING BODY

Manaaki Whenua
Landcare Research

UC
UNIVERSITY OF
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Waipapa Taumata Rau
NEW ZEALAND

Kā tangi te tītī.
Kā tangi te kākā.
Kā tangi hoki ahau.
Tihei mauriora.

The tītī is calling.
The kākā is calling,
and I wish to call.
Behold for there is life.

Contents

Production team: Tina Nixon, Cat White and Blondini Gang Design

Cover image: *A close up of an adult lesser short-tailed bat from the Eglinton Valley, Fiordland (Photo: Colin O'Donnelly*

Foreword image: *Jimi Bull*

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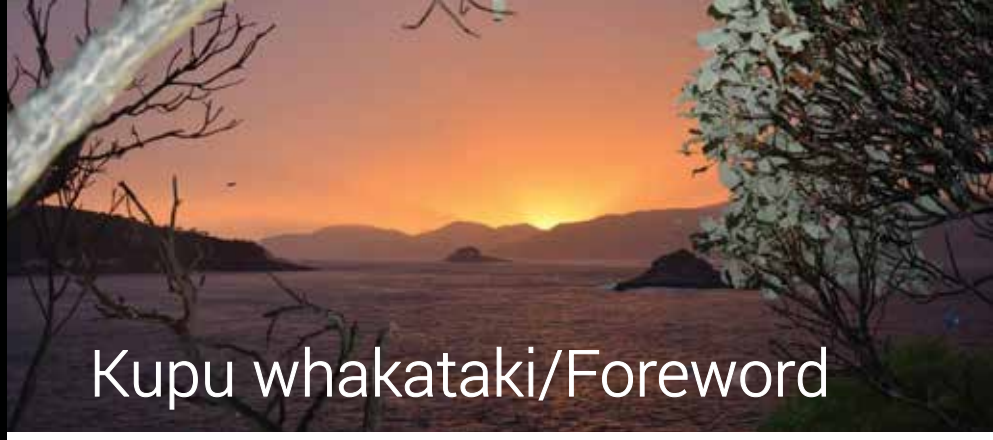


Kupu whakataki/Foreword

Editor's Korero

Kia ora e te whānau

Spring is here and with it return our tītī as they prepare to breed.

It was heartening to see so many of you at the RTIAB mid-year hui. We are truely an active and engaged community and this was demonstrated by the busy agenda which, despite our best efforts, probably still didn't quite cover all the mahi that is going on. For those of you who were unable to make it, we provide a round-up of the hui on page 13.

The science programme brings us some exciting updates in this edition. Brendan Dunphy describes his work examining the impact of climate resilience on tītī. Kate Orwin talks us through the impact different methods of killing taupata have on the whenua. ZIP's Duncan Kay applies the learnings from possum eradication in South Westland to the work required to achieve Predator-Free status on Rakiura. We also hear from DOC's very own 'Batman', Colin O'Donnell, who is in pursuit of the thought-to-be-extinct greater short-tailed bat.

Of course every Batman needs a Robin so RTIAB executive assistant Robyn Smith features in one of our people stories, and so does our newest committee member, Tamati Pennicott.

Before the year is out you can expect another edition from us which will include a summary of the Rakiura Tītī Islands Management Plan. Our website is also expected to be up and running by this time. And just in time for your Christmas shopping we will announce the winner of the Design A Hoodie Comp.

Hei konā mai.

Tina Nixon
Editor

In search of the greater short-tailed bat

The Tītī Islands were home to a mysterious pekapeka (bat) – the greater short-tailed bat. Whether it still exists is a mystery.

Last seen in a cave on Rerewhakaupoko in 1967, this pekapeka was thought to be extinct following the invasion of rats in the 1960s. Rats also caused the extinction of mātuhituhi (bush wren), tutukiwi (snipe) and the near extinction of tīeke (saddleback).

However, tītī researchers working on Putauhina noticed what they thought were pekapeka flitting through the muttonbird scrub in the 1990s. More recently, after rats had been eradicated, local birders reported possible pekapeka sightings on Taukihepa.

When people first arrived in Aotearoa, pekapeka were abundant throughout the forests. Dry caves are places where bones are often well-preserved so can tell us a story of what was present in the past. Pekapeka bones, especially those of greater short-tailed bats, are common in caves, suggesting they were also common throughout Aotearoa.

A close up of an adult lesser short-tailed bat from the Eglinton Valley, Fiordland (Photo: Colin O'Donnell).

In the recent past, there were three pekapeka species: the greater short-tailed bat, lesser short-tailed bat and long-tailed bat. The greater short-tailed bat was thought to be twice as big as the lesser, weighing 25-30 grams. These short-tailed bats have one of the longest recognised whakapapa of any indigenous species today – researchers can recognise their ancestors in fossil deposits that are over 20 million years old. Greater short-tailed bats disappeared early from the mainland, probably because rats killed and ate them. The last place they remained was Rerewhakaupoko.

Are the puzzling bats, seen recently, the thought-to-be-extinct greater short-tailed bats, or perhaps their cousins, the lesser short-tailed bat, which is present in the thousands on nearby Whenua Hou?

DOC researchers are hoping to join local birders to solve this mystery once and for all, bringing with them a new secret weapon – an electronic bat lure! Bats navigate in complete darkness using their onboard echolocation (sonar). Using this, they can fly at speeds as fast as 40 km per hour through the trees while catching small insects.

Pekapeka also call to each other socially – most of these calls, humans cannot hear. Working with Ian Davidson-Watts from Gore, we have trialled artificial social calls. These get the attention of pekapeka and can draw bats into our special bat harp traps. The harp traps are a combination of a series of fine strings (which pekapeka usually don't see), and a bag much like a hīnaki, which once the pekapeka has entered they can't figure out how to exit. Using a combination of artificial calls and harp traps, researchers are far more likely to catch bats than they were in the past. This is so successful that most pekapeka projects around Aotearoa now use this approach.

A specialised bat trap (called a harp trap) used to catch pekapeka in other studies. This one also shows the ultrasonic bat-lure speaker, and three lesser short-tailed bats that have just been caught (Photo: Colin O'Donnell).

Rediscovering the greater short-tailed bat on the Tītī Islands would further confirm the outstanding value of the islands and recognise another achievement of the conservation management being undertaken by mana whenua.

Colin O'Donnell,
Principal Science Advisor, DOC, Christchurch

If readers want more information about pekapeka, don't hesitate to contact Colin codonnell@doc.govt.nz

Climate resilience of tītī project

Key points:

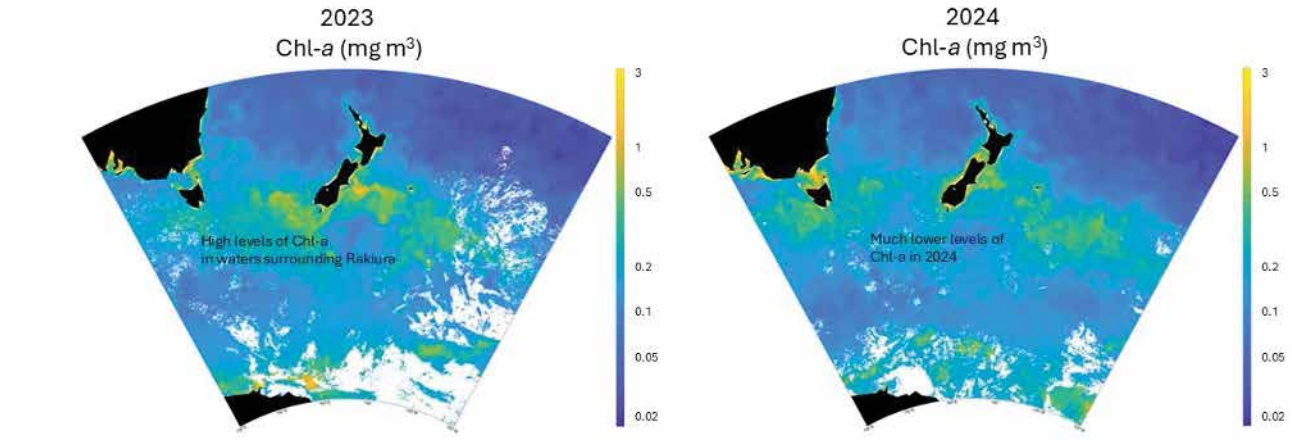
- Chick growth at Whenua Hou was much lower compared to other sites in Aotearoa/New Zealand in 2024.
- Phytoplankton levels dropped during early 2024 potentially affecting energy supply to the ecosystem around Rakiura.

To unpick how tītī are responding to warming seas (and also El Niño), our project is looking at health of tītī at colonies surrounding Rakiura and then compared to those further north where warming seas are knocking back chick numbers year on year. Our central question is: "how will climate change and ENSO affect tītī stress levels and breeding success?"

Our data for 2024 shows that chicks on Whenua Hou were growing slower (in terms of weights and increase in wing lengths) compared to other colonies including Mana Island in the Wellington region, suggesting they had quite a poor year at this site. In fact, growth of Whenua Hou chicks was similar to our most northern site at Te Henga/Bethells Beach in Tāmaki Makaurau/Auckland which is typically our poorest performing.

One possible driver might be related to low phytoplankton levels in the waters surrounding Rakiura during early 2024. Phytoplankton is nature's solar panel that captures energy to percolate up the food chain; so low phytoplankton broadly equals not much food availability/low productivity. Using satellites we can measure the chlorophyll (Chl-a) in seawater (the same pigment that makes plants green) thus telling us the amount of phytoplankton in the waters around Aotearoa. Shown below is a comparison of the same week in March in 2023 and in 2024. Immediately obvious is the low Chl-a in the water around Rakiura, but this extends out to the Chatham Rise as well. This trend continued over the months of March to May in 2024. It really shows the tough job adults had raising a chick in 2024!

The research programme is a joint venture initiated in 1995 by Rakiura Māori with the University of Otago and subsequently other organisations. Researchers include Brendon Dunphy, Inka Pleiss, Edin Whitehead (University of Auckland), Alice Della-Penna (University of Auckland), Jingjing Zhang (Plant and Food Research), Phil Lyver (Manaaki Whenua/Landcare Research), Matt Rayner (Auckland Museum), Graeme Taylor (DOC).



Daily Chl-a level in ocean around Aotearoa/NZ in early March. The more yellow/green the water is = more Chl-a. Key point to notice is the big decline in Chl-a between years – especially around Rakiura, thus ultimately affecting potential food for tītī.

Rockin' Robyn

Eco-warrior, intrepid adventurer, ToastMaster extraordinaire – Robyn Smith is so much more than Executive Assistant to the Rakiura Tītī Islands Administering Body.

Growing up on a Southland farm, Robyn – the oldest of four girls – was ever ready to lend a hand where needed. Lambing beats, tailing lambs, tractor driving, hay-making, rousie – whatever was required, she did it. A self-confessed tomboy, Robyn fondly recalls her early years in Otahuti. 'Doing work on the farm for Dad was much better than working for Mum inside!.'

Robyn and her sisters attended Waianiwa School in their early years, before progressing to Southland Girls' High School. From there, Robyn developed passions for science and maths, which have held her in good stead since.

Knowing numbers to be her strong point, Robyn sought work at a local accounting firm where she provided business support. She went on to begin a Bachelor of Commerce Degree through Otago University.

Robyn on a trip to Rukawahakura Island.

Another love of Robyn's is being outdoors. 'Since my student days I've been a keen tramper and cyclist,' she says. As a member of the Southland Tramping Club, Robyn spent her weekends forging rivers, scaling mountains and doing bike trips in fancy dress. The tramping club also boasted a lively social scene where Robyn made many lifelong friends. Indeed, one of them is her husband, Barry.

Robyn and Barry Smith.

The urge to explore the wilderness has taken Robyn, Barry and some of their friends to Nepal where they flew into Lukla (the most dangerous airport in the world) and spent several weeks trekking to Everest Base Camp. They then returned to Jiri Bazaar before taking an 8-hour, 188 kilometre bus journey back to Kathmandu which traversed several 2,000 metre passes. Of the scenery, Robyn can attest that the Himalayas are a majestic and magnificent playground for souls like herself. 'Words cannot describe the beauty that the wildness and remoteness of that landscape offers up.' The memory is only slightly tarnished by the fact that her entire group eventually got sick owing to bad food and contaminated water.

Robyn's employer had been kind enough to give her a year's leave of absence from her job to hold her place at the accounting firm. She returned to the role but quickly realised that the Commerce Degree she'd only partially completed would be a lot more useful in its entirety. So back to university Robyn went, where she graduated two years later with a Bachelor of Commerce. She then later gained her professional qualification as a Chartered Accountant.

And only just in time! It wasn't long before Barry and Robyn's first daughter, Hilary, arrived. (Spelt slightly differently to Sir Ed, but Robyn doesn't deny there may be a link to her fond memories of Nepal in there somewhere.)

Fiona soon followed, but the adventures in the outdoors didn't stop. Both of Robyn and Barry's daughters have countless memories of fun-filled family holidays based around camping at Moke Lake, cycling and hiking expeditions.

Cycling the Timber Trail.

Robyn continued to work as a mum. She had just finished a 13-year stint at the YMCA as their accountant when the first Covid lockdown occurred. Like for many of us, Covid invoked a mind shift. Something inside Robyn told her to sit back and take stock of what she was doing and where she would like to be. By happy coincidence, she spotted an advertisement in the local paper seeking a willing person to take on the executive assistant role for the RTIAB. And by an even happier coincidence, she scored an interview with the Chair, who also happened to be her neighbour.

Tane Davis was immediately impressed with Robyn's skillset and her enthusiasm to try something different. As well as the number-crunching, Robyn loves the opportunities the job lends her to try new things. Her report-writing, minute-taking and project management tasks have opened up worlds to her including science, kaupapa, and indigenous biodiversity. She has embraced each learning prospect whole-heartedly.

Robyn has also earned experiences which not many without the bloodline can claim. She has seen first-hand the results kaitiakitanga can bring when whānau invest time, energy and resources into their taonga. On the Davis's manu – Rukawahakura – the whānau have worked tirelessly to eradicate pests over many decades. Their motu has transformed from a rocky outcrop devoid of birdlife to a haven for native fauna including tītī, tīeke/saddleback and pūnui/būnui.

Robyn has also accompanied the RTIAB members to Little Piko Island, to see first-hand the devasting impacts of taupata where scientists in conjunction with the whānau are trialling methods to control it. 'Sure taupata is native, but it's not native to the Tītī Islands,' says Robyn. She is now acutely aware of the impact this woody plant pest is having on tītī. 'It seeds profusely, it resprouts easily and its roots prevent tītī from burrowing.'

Similarly, Robyn has learned about the devastating effect weka have on native birdlife. Weka were introduced by whānau to provide a food source long before it was discovered that they are capable of killing and eating other birds. To an extent, weka have been kept at bay by rats. But today, as whānau get on top of their rat problems, the weka populations burgeon.

To this day Robyn and Barry remain members of the tramping club. In fact, they are life members. Barry is currently the chair and Robyn the treasurer. Though they perhaps don't tackle the gnarly treks they once used to, they continue to be busy with projects such as track maintenance, planting days, and helping to build shelters on walking tracks.

These days, when not serving the RTIAB, Robyn busies herself as the long-serving treasurer of the Invercargill Pipe Band, who are organising the National Championships in Invercargill in March 2025. She also produces eye-catching arrangements at her floral art club and keeps active by participating in the weekly 5 km Park Run. Robyn is also

Tramping expedition – The Old Ghost Road.

heavily involved with ToastMasters of which she has been a member for 24 years. What started out as an effort to build her confidence many years ago has seen Robyn remain an enthusiastic member of ToastMasters ever since.

Robyn's thirst for knowledge and her curious mind continue driving her to seek answers to everything that intrigues her. As a fit and active 62 year-old, she is an inspiration to all of us who fear that age might be a barrier to fulfilment in our lives.

For her grandchildren, (she jokes that she currently has one and a half) Robyn would like them to inherit a planet where people live more sustainably. She feels privileged to have had insights into a world that is sacred and special to the people who take care of it. Robyn likes to believe that the future indeed holds promise for the taonga that are the Tītī Islands. 'If te ao Māori can continue to partner with science and technology, then there is real hope that the Tītī Islands will one day be predator-free.'

Starting to get a handle on taupata management options

Little Piko (Fig. 1) is a bird-lover's paradise – the ground is occupied by at least three species of burrowing sea birds, and a high diversity of forest birds flit among the branches. It unfortunately has a problem – taupata invaded the island ~50 years ago and is now the dominant plant species, having largely replaced much of the tētēaweka and muttonbird scrub that was previously common on the island (Fig. 1). Although a native plant, taupata is not a normal part of the flora of the Rakiura Tītī Islands. In addition to fundamentally changing the plant community, birders report that under dense taupata the ground becomes much more fragile than it was before, making it difficult to walk around without causing substantial damage to burrows (Fig. 2).

Although Little Piko has one of the more advanced taupata invasions of the Tītī Islands, it is not alone in having taupata – taupata is present on islands in the north-east, east and south-west of Rakiura and there is clear evidence that it is spreading between islands. Working out what to do about taupata invasion is not straight-forward, particularly where taupata is now the dominant plant species. We're aiming to increase knowledge of taupata to help mana whenua develop a management plan, as part of the Te Weu O Te Kaitiaki research programme.

The whānau that birds on Little Piko have been exceptionally generous and hosted us on several occasions and allowed us to run a series of experiments to progress that

Fig. 1: Part of Little Piko that is now dominated by taupata (foreground and most of the green in the background). Dead stems of the previous plants can be seen above the taupata, along with some remnant tētēaweka trees.

research. The island now has one of the densest vegetation plot networks in New Zealand! To date, we have learnt that taupata plants start producing seeds at about 7 years old, so finding newly arrived plants within that timeframe should stop spread within an island. Taupata produces copious amounts of berries, which on Little Piko are being eaten and potentially dispersed up to 2 km by birds like tūī, kākāriki and tīeke. Kērēru and starlings have also been seen on Little Piko – these birds can disperse seeds over 10s of kilometres. Those distances unfortunately mean that all Rakiura Tītī Islands are within the range of dispersal from known taupata populations. How long those seeds remain viable for is unknown, but we have set up an experiment to find out.

Fig. 2: Duncan helping to put out untreated timber boards to reduce damage to burrows as we make measurements and set up experiments.

How to remove taupata is a hot topic– at the taupata hui we held last year, birders raised concerns about using herbicides on the islands. We trialled cutting taupata down, but plants of all sizes were capable of re-sprouting (Fig. 3), and only 25% had died after a year. Cut stems lying on the ground can also produce roots and re-sprout, so cutting is unlikely to be a reliable method of taupata removal. We also trialled four different herbicides at a small scale in pure taupata stands (Fig. 4). Results were variable, but the best herbicide was drill and fill glyphosate. We've now set up another experiment using glyphosate at a larger scale and in mixed forest to check for non-target impacts of glyphosate, refine the dose we're applying to increase efficacy, and to see how the system behaves once taupata has died. That'll get us some way towards understanding regeneration post-removal as well.

Overall we've made quite a bit of progress in filling in knowledge gaps over the last year. There is more to be done, and some difficult decisions to be made, but it is a start.

Fig. 3: Taupata sprouting after being cut.

Fig. 4: The team working on the herbicide type trial.

ZIP joins the effort towards a predator-free Rakiura

Duncan Kay, Operations Director for Zero Invasive Predators (ZIP)

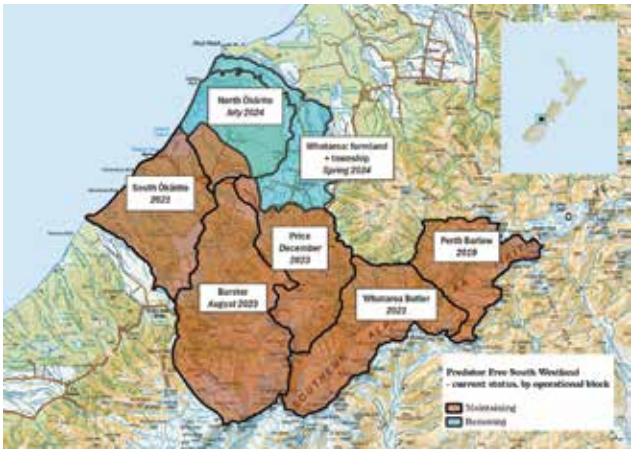
The Predator-Free Rakiura goal is a natural next step to protect Aotearoa's taonga species, building off and supporting the hard work of Ngāi Tahu whānau and the Department of Conservation (DOC) on the Tītī Islands and Te Wharawhara / Ulva Island. Over the last five years, the community, led by the Predator-Free Rakiura Engagement and Advisory Group and Te Puka Rakiura Trust, has been paving the way for work to remove rats, possums, feral cats and hedgehogs from the island to begin in earnest. Now, as the project is preparing for its first operational step, Zero Invasive Predators (ZIP) has been brought on board to lead the planning and delivery of the Predator-Free Rakiura project – and we're absolutely stoked to be here.

ZIP is a not-for-profit organisation established through a partnership between DOC and philanthropists – the NEXT Foundation in 2015. ZIP was established specifically to innovate tools and techniques that would completely remove predators from mainland Aotearoa, allowing our manu and ngahere to thrive long into the future. Shortly after ZIP was established, the ambitious goal of a Predator-Free Aotearoa by 2050 was officially announced.

In the last decade, our understanding around how we achieve a Predator-Free 2050 has grown hugely, with our progress in Predator-Free South Westland (PFSW) demonstrating that we're building an approach that will get us there. PFSW is a partnership between Te Rūnanga o Makaawhio, DOC, the NEXT Foundation and the local community, supported by a collective of organisations including Predator-Free 2050 Ltd, OSPRI and philanthropy. The project area spans 107,000 hectares, bounded by

Kea on Butler range – Chad Cottle.

the craggy Ka Tiritiri-o-te-Moana, Te Tai-o-Rēhua and two mighty rivers running from the mountains to the ocean. ZIP has led the delivery of predator removal operations for the project since it was established in 2021.



PFSW progress and timing by block, with inset.

Our approach in PFSW has consisted of five steps: define, establish, remove, maintain, repeat. First, the boundaries of a management block for predator removal are defined. We try to use natural boundaries like rivers and mountains that will make the block easier to defend long-term. Next, a detection network of cameras is established. Because our aim is to have to zero predators left in the block, ongoing visibility throughout each stage of removal is crucial.

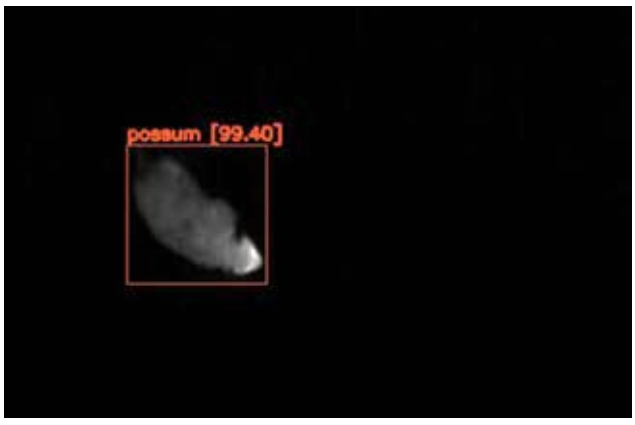
Jono looking up the South Butler River – Chad Cottle.

Al Bramley adjusts cable on ZIP's AI camera, Perth Valley – Peter Young.

A range of tools is then used to remove predators, first by knocking down the population and then by mopping up the remaining individuals. Once resident predator populations have been removed, we maintain the block as predator-free. We use our camera network to rapidly detect any predator incursions into the area, and respond quickly to prevent them from establishing a new population.

Then, the whole process is repeated for the next management block. By removing predators from one block at a time, we're able to absorb any new knowledge gained from each block and adapt the approach for the next. The foundation of all of these steps is community consultation and engagement, which is ongoing throughout.

Right now, PFSW is on track to be predator-free across the full 107,000 hectares by mid-2025. We're already starting to see the bush and the birds bounce back. Paula Sheridan, a nature tourism operator in the project area, has been vocal about the changes she is seeing in the local wildlife. "Life in Ōkārito is now one filled with maniacal tūī, fernbirds, kākāriki, and flocks of yellowhammers in the fields." And it's not just birds – kiekie has been seen flowering in Ōkārito township, for the first time in living memory.



Al camera identifying a possum.

Through our work in South Westland, we've learned that an approach requires all the tools in the toolkit to be successful – there is no silver bullet. 1080 needs to be used alongside other tools like traps, bait stations, cameras, enhanced with automation, A.I., and remote reporting systems. Combined, they form an approach that allows us to completely remove predators at scale and protect vast landscapes long-term.

ZIP is bringing this experience and knowledge to Rakiura as we start to nut out the approach for an initial block at the southern end of the island. We're in the process of gathering input from iwi, hunters, fishers and local residents and businesses to turn conceptual ideas into an achievable plan for this first operational step. While we expect to draw from the approach in PFSW, that needs to be combined with local knowledge and perspectives to design a plan that'll be effective for Rakiura.

A Predator-Free Rakiura is a beautiful vision; kākāpō booming in the bush, pukunui breeding on the hills, and species now protected on the Tītī Islands returning to the mainland. We'd love to hear your thoughts on how we can get there.

Consultation is now happening – please do get in touch: info@predatorfreesouthwestland.org.nz

Keep an eye on the project website for more details about the consultation process and regular updates on the project. www.predatorfreerakiura.org.nz

ROUND UP: Rakiura Tītī Islands Administering Body — Annual Mid-Year Hui

First and foremost may I commend such a great turnout for our annual mid-year hui. It was heartening for the Rakiura Tītī Islands Administering Body to receive such good numbers and we acknowledge the effort so many went to in order to attend and listen to what were some fascinating presentations. It was also very special to hold a hui at Invercargill's stunning Waihōpai marae.

There is a huge amount of mahi going on – both with the science programme and Rakiura Tītī Islands Management Plan as well as just general activities. The presentations from the scientists were fascinating and comprehensive and also easy to understand. People were very engaged and asked great pātai.

The presentation from Duncan Kay from ZIP (Zero Invasive Predators) was very informative and it is amazing to think that possums have been eradicated from 185,000 ha in South Westland. ZIP have also pledged to be involved in the mahi required to get Rakiura Predator-Free. Duncan's presentation explained how during the early stages of the work to get rid of possums in South Westland they realised that kea were being killed. ZIP therefore stopped work and consequently changed baits to repel kea. It is this kind of knowledge that will be important to feed into the programme for Rakiura.

Brendan Dunphy from Auckland University presented on the work his team are doing to establish the impact of water temperature, weather and climate change on tītī. There is a story on page 4 about this work.

Kate Orwin from LandCare Research updated us on taupata and we now know the impact different methods of killing the tree have on the whenua. This work is largely being carried out on Little Piko and will help us define the best tools to use to get rid of this invasive pest plant. A full update on this work is on page 8.

Tāne Davis, our Chair, gave an update on the Rakiura Tītī Islands Management Plan, which is now waiting for sign-off by the Minister of Conservation, Hon Tama Potaka. The RTIAB is also keen to revise its constitution and Tāne advised everyone to take a look and feed suggestions into the committee.

On a final note, we would like to collate the experiences you all had over this 2024 season. We want to know how was this season for you compared to previous ones. Please furnish your responses with any other information you think we could find useful. We are happy to keep your info anonymous. Any summary we do will exclude the names of whānau or islands/manu on request. Email Tina Nixon at tinanixon@gmail.com The more data we have however, the better the decisions we make to ensure the future of our tītī.

Thanks again for your attendance.

Tina Nixon
Editor
Rakiura Tītī Islands Administering Body

Researcher profile: Dr Phil Lyver (Manaaki Whenua Landcare Research)

Phil is the overall Principal Investigator for *Te Weu o te Kaitiaki* (Indigenous Regeneration Pathways), which is a 5-year research programme funded by MBIE. If you still have Issue 1 of Tītī Times in a box somewhere, you will find Phil was first profiled on p3 as a fresh-faced PhD student. Phil cut his teeth with Rakiura Tītī Programme 30 years ago under the tutelage of Prof. Henrik Moller. Even three decades later, a career highlight for Phil has been spending two full muttonbirding seasons on Poutama with his late uncle, John Wixon.

On completion of his PhD, Phil held a Post-Doctoral Fellowship at the University of Manitoba in Winnipeg, Canada, but spent most of his time living in the Dënesųłinë community up in the Northwest Territories and working with hunters on the customary management of barren-ground caribou.

Back in NZ, Phil has had privilege of working with Tūhoe Tuawhenua on the ecology of kererū and with coastal Iwi such as Ngāti Awa, Pare Hauraki and Ngātiwai on the northern muttonbird (also called manu kuia, manu oi, or grey-faced petrel). The lifting of a 50-year rāhui on the customary harvest of manu kuia on Moutohorā (Whale Island) by Ngāti Awa and the Minister of Conservation was another career highlight for Phil. In conjunction with this work, Phil led NZ's Adélie penguin programme in the Ross Sea, Antarctica for over decade. Drawing heavily on his experiences of working with kaitiaki, Phil spent time advising member nations on a United Nations inter-governmental platform created to assess the state of global biodiversity and ecosystem services. He is looking forward to the outcomes from this new research collaboration with Rakiura.

Kereru wananga with Tuhoe Tuawhenua.

Adelies nesting in historical artefacts.

Phil on island.

Newest RTIAB member profile

TAMATI PENNICOTT

Pennicott whānau.

Who would you bring with you if you were stranded on an island? More specifically, who would you bring with you if you were stranded on a Tītī Island? Perhaps Putauhinu Island?

Presumably, the island would be equipped with machines and tools necessary for birding. So if it was up to me, I'd cast around for someone I could rely on to ensure the equipment remained in working order. Like a mechanical engineer… like Tamati Pennicott!

Tamati Rii Hoani Rua Pennicott is the newest serving board member of the Rakiura Tītī Islands Administering Body. His day job involves designing, repairing and giving advice on pretty much anything relating to the building and repairing of machines and tools. He is the modern day MacGyver of his small Southland town of Mataura. It's no coincidence that his family's house and workshop on Putauhinu have all the latest technology - 'generators, solar power, inverters and we have Starlink internet!'

Mataura is famous for once being dominated by freezing works and shearing industries. It has produced its fair share of All Blacks, the most recent being Jimmy Cowan and Justin Marshall. Mataura also produced Cardigan Bay - the first standardbred in the world to win $1 million.

Tamati is married to Aleisha. They have two boys - Braxton who is 11, and five year-old Carson. Tamati is also father to an older son – Teony Pennicott who is 21. And just recently, Tamati became a granddad to Teony's wee girl Manaia, who is three months old.

Tamati's bloodline can be traced back on his father Lee's side. Lee Pennicott's mother was Phyllis Lee. Phylis Lee's father was James Lee. James Lee's mother was Mary Ann Lee (nee Wilson).

Tamati first went birding as an eager five-year old in 1991. One of his earliest memories is plucking birds on the beach in front of the manu. He also has early recollections of being transported from the beach to a boat in a net suspended from a helicopter. The thrill and the delight experienced by himself and the other children on those early trips have stayed with him since.

The birding season for Tamati's whānau generally lasts from six to eight weeks and preparation begins months in advance. Soon after New Year, the assembly of all of the required gear begins. 'There is a lot of equipment to gather and a lot of it is expensive,' says Tamati.

The family keep an 'islands book,' where they record what items are needed for the house as well as what working gear and building gear is required. As items accumulate, they are ticked off in the book. 'We also write up a weekly meal schedule and base our groceries and meat supply around that,' says Tamati.

Finally it is time to transport everything to the boat. 'We pack up all our gear at home and stack it onto trailers then head down to Bluff where we load it up.' Once the cargo is loaded on and secured for what is more often than not a rough crossing, the family head home and have a final meal together on the mainland. From there, they either head off to the boat or to a waiting helicopter, depending on who is coming.

When the family arrive at Putauhinu, the gear is lifted off the boat by helicopter in cages with safety-approved strops. 'The first thing we do when we arrive at the manu is unload all of the cages', says Tamati. 'Then there is all the site preparation to take care of.' Overgrown tracks are cleared and so is any surrounding shrubbery. The adults use slashers to cut the vegetation back. The clearing of the land is an important procedure and can last up to a week.

Day-to-day life during the season is just as busy. The family practice nanao for the earlier part of it using hooks to coax the birds out of their burrows during the day time. 'During the second part of the season we start torching for birds at night or in the darkness of an early morning.' The birds gathered are plucked and waxed. They are then hung in a cooler room ready to be gutted and packed the next day.

Children bring a special element to the seasons. 'Our children are involved in all activities alongside us,' says Tamati. 'In order to grow the next generation of kaitiaki, we must connect our kids to nature and inspire them from an early age to advocate and care for te taiao.' Tamati's best memories of birding are of 'being out torching with dad,' as well as the season he first brought his wife and three boys.

During the afternoons the family take a break from work and explore the island. 'We visit neighbours or go fishing.'

When he's on cooking, Tamati breaks out his signature dish – tītī stuffed and roasted – which occasionally will be substituted with a good old boil up.

Tamati says it is hard to find words that describe what he loves about going birding each year. 'The experience is just so special. Personally, I love being away from my normal everyday life for a bit. I love being on the manu – it refreshes my body and mind.'

On days when the weather prevents anyone from doing much outside, the family break out the boredom busters – usually card games, darts or Monopoly. 'Everyone loves a game of Monopoly even though it always ends with someone upset!' laughs Tamati.

Near the end of season the family start packing their buckets and things to be returned home into cages. The cages are loaded onto the boat and taken back to the mainland. The family all return home by helicopter.

What Tamati hopes for the next generation of birders is that his children and their children can continue to learn about the culture and harvesting of tītī. 'I want them to be able to enjoy but also look after and respect their manu and pass the knowledge on to the next generation and so on'.

Kia ora, Tamati.

Mā mua ka kite a muri, mā muri ka ora a mua.

Those who lead give sight to those who follow, those who follow give life to those who lead.