### TARANAKI MOUNGA He Kawa Ora – Back to Life

Ku hun

ANNUAL 2020





TARANAKI MOUNGA He Kawa Ora — Back to Life

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# VISION

# **He Kawa Ora:** Sustaining the health and wellbeing of Te Kāhui Tupua and their people.

Restoring the ecological vitality of Taranaki Mounga in partnership with iwi, agencies and community.

#### Outcomes

The ecological resilience of Taranaki Mounga is restored.

Supported by local and regional government, Taranaki iw chairs and the community embrace and sustain the transformation of Taranaki Mounga to an ecologically resilient state.

The Taranaki Mounga Project inspires other communities and investors to address New Zealand's ecological challenges at landscape scale.

#### **Project Objectives**

Secure the Mounga against animal and weed pests.

- Remove the threat of goats and significantly lower the number of other pests so their impact on Taranaki Mounga is reduced.
- Egmont National Park could become the first national park in New Zealand to be free of hoofed animals.

#### **Restore Species.**

 Transform the ecological prospects of the Mounga through the reintroduction of lost species and the strengthening of existing populations of threatened species.

Build community support and commitment by ensuring the transformational changes are valued and secure for the long-term.

#### Actions

#### The creation of a halo.

- Develop innovative, effective means of pest control to protect the perimeter of Egmont National Park and beyond by creating a biodiversity halo and restoring the ecological corridors from Ki uta ki tai (Mountain to Sea).
- Oranga Mounga Oranga Tangata: Healthy Mountain, Healthy People.
- Create opportunities for health and environmental education and skill development through the promotion of the Taranaki Mounga Project's focus on nature.



Restore

Restore more whio (blue duck), toutouwai (North Island robin) and North Island brown kiwi to the Mounga in 2020.



#### Extend

Extend the stoat trapping network to protect whio, toutouwai and kiwi.



#### Learn

Learn more about the ground-based rat control on 1000 hectares of land.



Implement

Implement a strategy for the complete removal of goats.



#### Develop Develop a five-year

weed control plan.



Reduce

Reduce pest numbers significantly.



Investigate potential translocations

of kākā.



#### Undertake

Undertake a baseline survey on bat distribution and abundance.



#### Establish

Establish a seabird colony.





# Taranaki Mounga Project Area

2020 was a year of both reflection and action for our project. While New Zealand focused on beating Covid-19 with lockdown measures in place for nearly two months, our Mounga had an opportunity to rejuvenate himself.

The lockdown allowed us all an opportunity to connect with our Mounga in our own way. It was also a time for our team and volunteers to recharge after a busy 2019/2020 summer season.



TARANAKI MOUNGA He Kawa Ora - Back to Life Our team and volunteers have been back on the Mounga since June 2020, firstly resetting our work after the lockdown, then extending our predator management to enhance our restoration efforts and enable species to thrive within our project.

## Kaitake and Pouakai Range

	2018	2020	2018	2020
POSSUM TRAPS	0	237	PREDATOR CONTROL AREA COVERED 200 hectares	4965 hectares
STOAT TRAPS	60	714	<b>STOAT NET WORK</b> VOLUNTEER HOURS	1925
FERRET TRAPS	0	106		

### A24 Rat Control Block of 1000 hectares

	2018	2020	
A24 GOODNATURE RAT TRAPS	2160	2160	
TOUTOWAI MONITORING	400 hours (TMP & Contractors)	<b>950</b> hours (TMP & Volunteers)	

## Rest of Egmont National Park 29,170 hectares

	2018	2020
Stoat traps	1286	1987
Possum traps	0	0
Predator control coverage area	200 hectares	13,080 hectares
Stoat network volunteer hours	168	1456
Rat tracking results (core lines)	89%	July 61%
Rat tracking (boundary lines)	93%	July 58%
Possum wax tag results (core lines)	45%	July 16%
Possum wax tag results (boundary lines)	31%	July 23%
Whio numbers (within eight monitored rivers)	28 pairs, 58 fledged	44 pairs, 65 fledged
Whio released on Mounga	10	8
Monitored kiwi - Taranaki Kiwi Trust	26	7
Kiwi monitoring volunteer hours - Taranaki Kiwi Trust	525	386
Kiwi release on Mounga - Taranaki Kiwi Trust	12	0
New hunters' tracks	58.5km	4.1km
Re-cut hunters' tracks	40.4km	46.6km
Goat culls	594	25

## Ngā Motu Sugar Loaf Islands

2018

2020



30 traps **100** Serviced by Francis Douglas Memorial College (FDMC)



# **Chair and Director's Report**

All will agree that 2020 has been a year of unprecedented times. As we adjust to our new normal and all the challenges Covid-19 has brought the world, we have been forced to take time to reflect on what is important to us all.

The lockdown also gave our tūpuna a chance to breathe and to balance himself. With Egmont National Park closed during Level 3 and Level 4, Taranaki Mounga was free of people. It was a time of calm and regeneration.

Across the region we all slowed down. We noticed more birdlife and the nature around us and we had time to connect and reconnect with our Mounga in our own way.

The lockdown helped our staff, rangers and volunteers to recharge and gave them time to plan for restoration and research activities that will continue to enhance the ecological resilience of the Mounga.

Prior to Covid-19 Level 3 in March 2020, we reached a number of project milestones. Highlights included:

#### Post-1080 monitoring

Predator control monitoring after the 2019 1080 operations across Egmont National Park continued in 2020. During monitoring in July 2020 numbers remained low. Rattracking tunnel results were at 61 per cent and only 16 per cent for possum wax tag results.

This is substantially less than the 89 per cent rat-tracking rates and 45 per cent possum wax tag results before the 1080 operation.

This was a good result considering that Covid-19 Lockdown restrictions stopped us checking and resetting our stoat and possum traps for nearly two months. This meant our team could not work in Egmont National Park until Level 3. Our volunteers had to wait for Level 2.

#### Boom in whio duckling number

At the beginning of 2020, a record number of whio ducklings were located in the national park.

Eighty-seven ducklings were found by Department of Conservation

(DOC) rangers on eight regularly surveyed rivers. This was an increase of 71 per cent from the 51 ducklings located during the 2018-2019 breeding season.

The annual whio monitoring work on the Mounga is part of the DOC Whio Forever partnership with Genesis Energy.

### Collaboration is key to more birds across the region

For the last two years Taranaki Mounga and Towards Predator-Free Taranaki have been working closely to provide a region-wide predator control programme. With more than 4700 traps in the national park and 8000 traps across Taranaki, farmers living on the park boundary are seeing first-hand the positive impact of this work. Whio are now living along rivers on farmland and there have been sightings of toutouwai at Pukeiti, some 15 kilometres from their original location by the North Egmont Visitor Centre. There is also an abundance of other birdlife both in and near the national park.

#### Goats functionally extinct

After 93 years, the world's longest running goat eradication programme is coming to an end. During the last three years an increased effort to reduce the goat population and locate the remaining ungulates has proven successful. At the end of 2019, a thermal imaging project was run in the sub-alpine area of the national park. No goats were detected during 30 hours of flying. Since then, hunters have found it more difficult to locate goats.

This is a win for biodiversity as goats cause significant damage to the forest structure because they eat young seedlings and saplings and ring-bark mature trees. This vegetation provides important food sources and habitat for native insects, lizards and birds.

### Expansion of cadet ranger programme

In 2019, former Supporting Today's At Risk Teenagers (START) student Trevor Walker (17) was welcomed to the Taranaki Mounga Project as our first cadet ranger. Since then, two more START Taranaki cadet rangers, Tipunakore Rangiwai (18) and Marley Joyce (17), have joined the project. All three work closely with our rangers on a number of predator control and monitoring activities. They are gaining valuable skills and qualifications.

#### Optimising predator control on Kaitake Range

We have been working in collaboration with Towards Predator-Free Taranaki to eradicate possums in and around the Kaitake Range, resulting in the reconfiguration of our trapping network. The team has worked incredibly hard to replace all 300 possum traps with an optimised lean detection network of 179 leghold traps. One hundred and six ferret traps were also installed within the 25 traplines containing more than 500 stoat traps and managed mostly by the Kaitake Ranges Conservation Trust. Returning kiwi to the Kaitake Range is the goal and aspiration not only of our project but also of the Omata, Oakura and Kaitake communities.

#### National Park a hub for research

Even with the disruption of Covid-19, a number of research projects were conducted across the National Park. We are proud to be at the forefront of testing new technology and to be a hub for research which will benefit not just New Zealand but also the world. Current research being conducted includes:

- Understanding the speed of recovery of rat populations after an aerial 1080 operation.
- Studying the behaviour of possums living in low population densities in and around the Kaitake Range and Pukeiti.

- Understanding how far stoats travel, using collar tracking and DNA testing.
- Thermal cacophony research.
- Four pilot ruru (morepork) surveys were undertaken to compare results from previous surveys.
- A clematis paniculata survey.
- Providing Zero Invasive Predators (ZIP) with updates on the Kaitake Range lean detection network.

#### Volunteers continue to support our efforts

The extension of our predator control network across the national park has increased from 9020 hectares in 2016 to more than 17,000 hectares now. With this increase, willing local residents and businesses are volunteering their time to support the restoration of our Mounga. Sixty per cent of the trapping network is now managed by volunteers.

The wider community's trapping efforts contribute to the Towards Predator-Free Taranaki programme.

We would like to thank our founding partners, sponsors, iwi, agencies, businesses and the community for their support of our project.

We are proud of and continue to be impressed with the way the individuals in the Taranaki Mounga team, both from DOC and our associate team members, have shown resilience and perseverance. They have adapted to difficult circumstances and continue to be ambassadors for the project, building authentic relationships with everyone with whom they interact in our communities. We are only as successful as the trust we build and we remain humbled by their work.

Together we are bringing Taranaki Mounga Back to Life – He Kawa Ora.

**Jamie Tuuta** Taranaki Mounga Chairman

**Jan Hania** Taranaki Mounga Director Heheua te mangemange nui kia tupu whakaritorito te toi a te kawa ora

Clear the obstruction to let well-being flourish

# Partners

#### **Department of Conservation**

The Taranaki Mounga Project remains one of the Department of Conservation's most significant partnerships with iwi and the NEXT Foundation.

Now in its fourth year, this groundbreaking landscape-scale project is maturing. Breeding for both toutouwai and whio has broken records and mustelid control and goat eradication have expanded after a successful aerial pest control operation. A component of the aerial operation supported Restore Kaitake, a collaborative effort with the Taranaki Regional Council, Predator Free 2050 Ltd and the surrounding community to conduct a Zero Possum trial.

#### Other highlights include:

- Growth and opportunities to support rangitahi from START Taranaki with workforce initiatives.
- The development of a Collaborative Community Education Model, Te Ara Taiao, in Kaitake.
- Wider education and research opportunities with schools across the Taranaki region and with national tertiary institutions.

These achievements would not have been possible without the extensive protection provided for many years to the Mounga, Pouakai, Kaitake and surrounds by whanau, hapū and iwi, agencies, conservation trusts, businesses and the wider community. Conservation has enjoyed significant growth over the last 12 months and this continued collaboration and collective impact are substantive, both regionally and nationally. Together we are leading the way. We all look forward to another successful year.

#### Daniel Heinrich

Director, Operations Hauraki Waikato Taranaki Region

#### **NEXT Foundation**

The Taranaki Mounga Project continues to play a lead role in developing and implementing landscape-scale ecological restoration in Aotearoa New Zealand through its hightrust collaboration with Taranaki iwi, community, the Department of Conservation and local government. The recent extension and deployment of the latest technologies in predator control, in close partnership with Taranaki Regional Council and PF2050, continue to build significant impact in biodiversity restoration, test and develop new learnings about new tools and study how they can be delivered at scale within and alongside productive farming landscape and thriving urban environments. NEXT Foundation is proud of its association with Taranaki Mounga's purposeful approach and pushing of boundaries towards a Predator Free New Zealand for the benefit of Ngā Taonga tuku iho, those treasures passed down.

#### Bill Kermode

CEO NEXT Foundation

#### Taranaki lwi Chairs

2020 has been a time of reflection and activation. COVID-19 enabled our tupuna, Maunga Taranaki, to rest and recuperate from the visits of thousands of people. Through this time his rivers continued to flow, his ngahere flourished and the manu prepared for spring.

To support the work of Taranaki Mounga before COVID-19 and after the national park reopened, Taranaki iwi have actively participated in a number of activities related to He Kawa Ora. This assistance ranged from whio monitoring and translocating toutouwai to predator control on the Mounga. In turn, the Taranaki Mounga Project has embraced Te Ao Māori (Māori world view) and the knowledge each iwi has shared, helping to deepen each person's role as kaitiaki to our Mounga.

Iwi and hapū wananga, rangatahi forum, local schools, START Taranaki and the Tiki Toa programme are all supporting our people of all ages as they connect with their tupuna. This is heartening as we move closer to completing our Maunga Treaty of Waitangi negotiations.

As well as sharing experiences and knowledge within our region, I want to make a special thanks to Ngāti Rereahu. This King Country iwi gifted 95 toutouwai to our Mounga in 2017/18. Their generosity was extended again this year with a wananga at Mangapeehi and Pūrekireki Marae and visits to Maungatautiri, Pirongia and Pureora Forests. The Taranaki Mounga team were fortunate to see manaakitanga and kaitakitanga first-hand from this selfless and humble iwi.

#### Hemi Sundgren

Taranaki lwi Chairs Forum representative



#### **TSB Community Trust**

As a founding partner, the TSB Community Trust is both committed to and proud of the ongoing success and milestone achievements of the Taranaki Mounga Project, which has made substantial progress towards its stated 20-year outcomes.

The TSB Community Trust thanks the Taranaki Mounga Board, management, staff and large team of committed volunteers for the significant contributions they have made since the start of the Project.

The Project truly demonstrates the diverse ways a region can work towards achieving common goals and is a testament to the Trust's belief that together we are stronger. The TSB Community Trust supports our communities to build a thriving inclusive and equitable Taranaki.

#### Maria Ramsay

Chief Executive TSB Community Trust & TSB Group

#### Manaaki Whenua Landcare Research

Manaaki Whenua Landcare Research is a partner of the Taranaki Mounga Project and provides underpinning research on pest ecology, pest eradication and suppression, and people's motivations for involvement.

Motion-triggered cameras have been deployed across the landscape to measure, after trapping, the decline in the number of predators, including stoats and possums, and to identify the habitat types that these predators prefer.

In collaboration with the University of New England in Australia, we are developing artificial intelligence that will automatically identify pest species in camera images, saving thousands of hours of image processing.

The software is currently being calibrated for New Zealand pest species and will be available shortly. We are using the 'proof-of-freedom' statistical framework to quantify the probability that possum eradication has been achieved on the Kaitake Range, the surrounding rural area and urban Oakura.

Lack of detection of possums does not necessarily mean eradication. That depends on the nature of the detection network and the probability that a possum can be detected if it is present.

Given no detections, modelling suggests that the detection network is sufficient to declare eradication, with more than 95 per cent confidence.

Understanding people's motivation to become involved in the restoration of Taranaki is a key component of our research. This year we will investigate the participation of New Plymouth residents in rat control in conjunction with Towards Predator-Free Taranaki.

We also developed a proposal for Predator Free 2050 Limited that identifies methods for linking activities with measures of policy acceptance and community wellbeing.

This nationally-focused work will have direct benefits for the Taranaki Mounga Project and Aotearoa as we work towards the country's predatorfree goals.

#### **Grant Norbury**

Researcher / Capability Leader Manaaki Whenua Landcare Research



ABOVE: Miromiro/Tomtit PHOTO: Pat Murphy

# Objective One: ASPIRE

# **He Kawa Ora:** Sustaining the health and wellbeing of Te Kāhui Tupua and their people.

Since the Taranaki Mounga Project was launched in 2015 the lessons, achievements and aspirations of our project have grown. In 2020 we updated our Outcome Strategy Framework to refocus our goals for the project.

#### Iwi and communities are leading and owning the successful restoration of Te Kāhui Tupua.

#### Highlights of 2020 include:

- Ongoing engagement with iwi and hapū of Taranaki to enhance opportunities for whanau to participate in restoration activities on the Mounga.
  - After receiving feedback from iwi and hapū, we invited them to send representatives to join our team in whio, ruru and toutouwai monitoring and stoat and possum trap servicing on Ngā Motu and across the national park and to accompany academics during research on rats, possums, powelliphanta snails, seabirds, flora and fauna. We also work closely with manawhenua on projects specifically within their rohe.

- Input from iwi, hapū and key community representatives to shape our Outcome Strategy Framework.
- Kaitake Ranges Conservation Trust volunteers continue to lead the stoat trap servicing along 18 traplines on the range. In 2020 more than 106 ferret traps were added and are now serviced by the Trust.
- Dozens of individuals and families manage traplines on the Mounga. In 2020, all of these volunteers have adopted their own lines.
- Working closely with Towards Predator-Free Taranaki to co-ordinate our trapping networks to align with their phased rollout.
- Sharing our collective community story of restoring our region.
- Ngā Motu/Sugar Loaf Islands is being successfully co-managed by DOC, Te Kotahitanga o Te Atiawa, Te Kāhui o Taranaki with Ngāti Te Whiti and Ngā Mahanga a Tairi.

#### Restoring Ngā Motu together

The intensive barrier of traps on Ngā Motu/ Sugar Loaf Islands has reduced the number of rats and other predators on the five islands.

The islands are an important breeding ground for several seabird species, including the nationally vulnerable flesh footed shearwater and the declining sooty shearwaters/white fronted terns. They remain important nesting sites for the white-faced storm petrels and fluttering shearwaters.

In total, about 10,000 individuals from 19 species of seabird nest on these islands. There is also a breeding colony of New Zealand fur seals. The nationally endangered Cook's Scurvy Grass is also recorded in low numbers.

The five Islands are important to Ngā Mahanga a Tāiri of Taranaki Iwi and Ngāti Te Whiti of Te Atiawa Iwi as they were places where their tūpuna sheltered when necessary. Four of the islands provided access to abundant



coastal resources such as fish, birds and plants. Pararaki was the exception as it was home to a seagull nesting colony.

Taranaki Mounga work closely with the hapū, Te Kotahitanga o Te Atiawa, Te Kahui o Taranaki and DOC to make sure this collective predator control effort meets their aspirations for the islands. Representatives also help with monitoring and trap servicing.

The increase in trapping means nearly all rats and mice have been wiped out. Ongoing monitoring will determine when the islands are predator-free.

Since October 2020, only four rats have been trapped on Mataora Island. No sign of predators was detected on Pararaki and Motuotamatea during routine weekly re-servicing of 10 specially designed traps.

The traps contain a DC200 stoat trap, a mouse trap and A24 resetting trap, as well as a rat lure formulated by pest control company Zero Invasive Predator (ZIP) to reduce manual servicing.

The ongoing servicing of the 100trap network and bait stations along Centennial Drive and Paritutu Rock on the mainland near Port Taranaki has also helped stop pests swimming to the islands. This work has been carried out by New Plymouth District Council, Francis Douglas Memorial College students and Port Taranaki.



ABOVE: Setting predator traps on Mataora, one of the Ngā Motu/Sugar Loaf Islands. PHOTO: Sera Gibson



ABOVE: Taranaki Mounga staff and hapū representatives from Ngāti Te Whiti. PHOTO: Sera Gibson

### Volunteer reaps nature's rewards

Rodents and other pests are no match for Bryony Tubby *(pictured above),* of New Plymouth.

Since October 2019 she has volunteered her time to manage a stoat trapline along the York Road boundary of Egmont National Park.

Bryony's trapline contains 19 stoat traps and it takes her about three hours to check. It's not a simple track either. Bryony has to cross a river and a dozen streams and traverse some tough terrain. But she enjoys every minute of it.

"I really love it. On my way back from checking my traps I listen to all the birds including fantails, tui and wood pigeons. I have even seen whio whilst out volunteering, which was amazing," she says.

She is pleased to have caught many rats, some hedgehogs and three weasels along her trapline. "Every time I catch something, I know it's one less predator that could kill a kiwi, whio or toutouwai. I'm proud to be playing my part."

Bryony encourages others to volunteer for the project by serving a trapline.

"It's a great way to keep fit, have fun by enjoying our wonderful local bush and helping protect our native birds and wildlife."



# Objective Two SHARE

The innovative practices adopted for Te Kahui Tupua inspire large-scale New Zealand restoration projects.

Egmont National Park was a hub of research activity during the second part of 2020. Crown Research Institutes, research organisations, university academics and students worked alongside DOC and our Taranaki Mounga team to gain a greater understanding of biodiversity.

Taranaki Mounga has actively been promoting our national park as an opportunity for undergraduate, Master and PhD students to complete research on topics of importance not only to the project but also to other landscape-scale projects across New Zealand.

### Student research highlights of 2020 include:

- Auckland University PHD student Tess O'Malley is conducting two important research projects on rat and possum behaviour. An in-depth look into her research is featured on page 22 and 23.
- Lincoln University Master's student Katy Coster started her research in optimisation of our stoat control network during the 2020/21 summer. Of the 34 mustelid stomach contents she investigated up to November 2020, 58 per cent contained rodents, 12 per cent had invertebrates, 12 per cent had feathers and three per cent had lizards. Her thesis will be completed early in 2021.
- Over the 2020/21 summer four undergraduate and Masters' students completed research on the Mounga. Topics investigated included an invertebrate survey in and around the A24 block, the Powelliphanta 'Egmont' snail, bird outcomes of Taranaki Mounga investment, changes to Druce's mahoe (Melicytus drucei) and epiphytic shrubs since the removal

of goats, nocturnal insect surveys and the predator-free Ngā Motu/ Sugar Loaf islands. Funding for these students has been provided by Ngā Pae o te Māramatanga, DOC summer scholarships, Massey University and the Puhoro fund.

#### Manaaki Whenua Landcare Research highlights include:

- Continuing its research on mustelid movements, habitat use, dispersal and re-invasion potential based on telemetry-based approaches.
- Continuing its research on landscapescale movements of mustelids based on genetic kin-relatedness.
- Motion-triggered cameras were deployed to measure the decline in the number of predators, including stoats and possums, and to identify the habitat types that these predators prefer.
- Trends in bird counts from 5-minute bird count data. Report by May 30, 2021. *More birds in the bush* is conducting a three-year study in the national park to determine survival and dispersal patterns of juvenile toutouwai, both within and outside the A24 block. During this breeding season up to 20 juveniles will have transmitters attached to understand their dispersal.
- Supporting Tess O'Malley's PhD research with technical help in the field, analysis and writing up of key parameter estimates to inform possum eradication models.

### Taranaki Mounga research completed on the Mounga includes:

• An analysis of why single-set kill traps did not achieve complete removal of



ABOVE: Tess O'Malley with a possum wearing a GPS collar PHOTO: Tim Sjoberg

possums from continuous forest in Taranaki.

- Chew card versus Infrared camera efficiency when hunting the last few possums, providing lessons for mainland New Zealand eradication tool use.
- Self-reporting leghold trap technology. The good, the bad and the expense of the Kaitake range experience 2020. An in-depth look into Tess O'Malley's research is featured on page 22.
- Can the A24 block reduce rats to below five per cent? Yes, with the help of aerial 1080.

### Other areas of on-going research include:

- Cacophony continues to run trials of their thermal cameras with artificial intelligence. These cameras will be trialled within Tess O'Malley's possum research.
- Five remote bird recorders, known as cocophonometers, were installed on the five islands of Ngā Motu.
  This technology is used to measure seabird vocalisation when nesting to compare their increase or decrease over time.
- Investigating refillable CO2 bottles for A24 traps as part of the DOC "tools to market" project.
- Devices to target feral cats and mustelids.
- Trials with Retrofit PodiTrap to enhance volunteer friendliness and provide feedback to manufacturers. Limited information suggests the PodiTrap may be more effective at controlling ferrets than DOC250 traps.

# **Restore Kaitake**

#### Zero possum project

In 2019 the Taranaki Mounga Project, in partnership with DOC and Taranaki Regional Council, undertook a trial within the Kaitake Range to completely remove possums, using existing and new tools.

Restore Kaitake is an ongoing pilot programme to completely remove possum from 5000 hectares of land in and surrounding the Kaitake Range. This area includes 2400 hectares of the Kaitake Range, Kaitake farmland and Oākura town which has residential properties, a school, public reserves and walkways.

After the dual aerial 1080 operation in 2019, possums were at a low density. A Zero Invasive Predator (ZIP) self-reporting leghold trap network was installed to remove the remaining animals in January 2020. It was estimated that 120 leghold traps spread every 200 metres along 10 lines would sufficiently cover the Kaitake Range and place most possums at risk.

During 2020, 383 possums were caught in the network, a hugely beneficial number when the aim was for complete removal. The main advantage of this leghold trap system is that animals are directed onto the trap (if ramp is used) and the trap is mainly hidden from view, meaning possums are unaware of the traps' presence until they are caught.

A lesson was that at times the technical requirements of the traps disrupted the efficiency of the network.

"It's good we were able to work with ZIP to mitigate these issues early," says Taranaki Mounga Project co-manager Sean Zieltjes. "This is what research and development is all about - sharing the success and learnings that will ultimately help us all on our journey toward a predator-free future."

The lean detection possum trapping network is still active on the Kaitake Range.

## Mātauranga

In 2020 Taranaki Mounga began work to extend its knowledge base of Mātauranga and to explore how we can apply its various principles in our work.

Mātauranga is the way Maori engage with Te Taiao (the natural world). Knowledge and understanding of Te Taiao follow a connected and evidence-based system incorporating kawa (cultural practice), tikanga (cultural principles) and Te Ao Māori (Māori world view). Mātauranga embraces inter-generational continuity by drawing on the knowledge of our tupuna and allowing today's knowledge to be passed to our mokopuna, tamariki and rangatahi.

We are currently in the identification phase. In November members of our team and iwi representatives were hosted by King Country iwi Ngāti Rereahu at Pureora and Maungatautari. This iwi gifted



ABOVE: Nataria Te Rīta Winikerei (left) and Waimirirangi MacDonald hold framed photos of two toutouwai Tekau and Martha from Ngāti Rereahu. PHOTO: Tui MacDonald

95 toutouwai to our Mounga in 2017 and 2018. Our team learnt about the mātauranga associated with their species and what success looks like for them.

The assessment and validation phases to determine the success of the project will occur through research with iwi/hapū, Māori undergraduate interns via Massey University that connect to Taranaki and local schools.

# A research race against possums and rats

Since February 2019, University of Auckland PHD student Tess O'Malley has called Taranaki home. Her work in Egmont National Park is a long way from Dunedin where her family lives, and even further from Connecticut in the USA where she grew up.

ABOVE: Tess O'Malley at one of her two 2.5 hectare rat research sites. PHOTO: Zachery Carter

The 27 year-old has been working on two research projects that will transform predator control across Aotearoa.

#### **Ending the rat race**

Tess's first project looks at the speed of recovery of rat populations after an aerial 1080 operation.

Tess set up two 2.5 hectare research sites in Egmont National Park. One is in the Kaitake Range, which has a low possum population after two 1080 prescriptions in 2019 and because possum control there is ongoing. The other is on the York Road side of the Mounga which has a higher possum population. This site represents the whole of Mt Taranaki and the Pouakai Range which had only one 1080 prescription in 2019 and where there is no ongoing possum control.

Each site contains 49 rat live cage traps, spaced in a grid formation. Wax

tags to monitor possums in the area and sensor cameras to capture the movements of rats and possums are also set up. A nearby tracking tunnel line is also run during each survey to assess how the rates compare to live capture densities.

Initial baseline results were gathered in early 2019 before the first 1080 operation across the park. Tess has since returned every three months to re-survey the sites.

Tess is enjoying the hands-on experience she has gained in this field work. In addition, she feels well supported and is learning a lot from Taranaki Mounga Innovation Lead Tim Sjoberg.

"The team is fantastic, very supportive and experienced," says Tess. "Tim has also taught me a lot - things like where to place traps and baits to get the best results. That type of knowledge you can only get with experience." With baseline data collection now complete, the recovery phase of research has started. Tess says this preliminary research has shown faster rat recovery in the Kaitake site than at York Road. However, it is still early days.

"It is yet to be seen whether this difference is due to lower Kaitake possum densities or some other factor," says Tess.

A clearer picture of which site has a quicker rat recovery and factors contributing to it will be known over the coming months. Interim results have found the Kaitake Range has a faster rat recovery rate and why this is happening is still being studied. Final tracking tunnel measurements will be completed in early 2021. Her final report will be available once completed. Tess will complete her PHD research in 2022.

#### Understanding possum behaviour

For more than a year, Tess's second research project has studied the behaviour of possums living in low population densities in and around the Kaitake Range and Pukeiti.

Her research is already helping the Taranaki Mounga Project, Towards Predator-Free Taranaki, the University of Auckland, Manaaki Whenua – Landcare Research and other research organisations to determine the best predator control tools to use in low-possum populated areas.

The main aim of the study was to measure home range size at very low possum density across two habitat types, farmland and forest. Possums are known to increase their home range size as density drops, and thus large ranges were expected.

However, the numbers obtained were unexpectedly small, typically around 25 hectares. While possum ranges in uncontrolled populations can be as small as one hectare, this 25-hectare figure is still small when compared to the 36-160 hectares seen in some other low-density populations.

The work started with a pilot study of five possums in the Kaitake Range. From there, more than 30 possums were captured and collared in Pukeiti and the farmland around Oakura. All were collared with a lightweight yet powerful GPS transmitter and released where they were initially found.

The GPS tracks their movements so the home range of each possum can be assessed. For those residing in Pukeiti, a surveillance and control area containing three different types of traps, AT220s, legholds and Sentinels were set up. The collected trap interaction data and footage from motion-sensitive field cameras helped Tess study possum behaviour and their interactions with three traps.

Each possum was also fitted with a visual aerial for individual identification on camera. After several months each possum was safely recaptured. Its collar was taken off and then the possum was removed from the population. The Pukeiti device interaction study was completed in December. Data will be analysed in the coming months.

The Kaitake Range and Pukeiti were good locations for this research as they have a continuous forest canopy and low possum numbers. The huge amount of predator control work by landowners, the Kaitake Ranges Conservation Trust and the Towards a Predator-Free Taranaki programme during the last 18 months were the reasons for the low population.

Science and Innovation Lead for Taranaki Mounga Tim Sjoberg says Tess's research is already providing valuable information about possum behaviour and how far possums roam.

"Preliminary results show possums who live on farmland have a home range of about 25 hectares. Some live solely on farmland or the Kaitake Range while some duck in and out of the range," says Tim. "This data provides a good insight into possum movements and also shows how important it is to work right across the forest, farmland and urban environments."

Project Manager for Towards Predator-Free Taranaki Toby Shanley agrees.

"Tess's research will provide valuable information to inform all parts of our project, from removing the last possums and providing evidence that we have reached our goal to setting up an effective trap network to remove any invaders before they can start a new population," says Toby.

Although Tess is still waiting to perform formal analysis, a number of other behaviours can be seen. Firstly, young males showed the typical dispersal behaviour seen in other possum studies. When a young male reaches a certain size, he leaves his mother's territory and finds his own. The dispersing possums in Tess's study sometimes moved multiple times and distances varied between individuals. One moved all the way from Pukeiti to near the Kaitake Range summit.

More interestingly, Tess also saw that some males had much larger home ranges than females or other males. The cause is uncertain but anecdotally Tess has noticed that these males were often large and in good condition. They might be more competitive and able to maintain a larger territory to find more females. But confirming this theory would require further research.

In the last year Tess has been awarded a George Mason Charitable Trust Scholarship and a Predator Free 2050 Postgraduate Study Grant.



### Welcome Sera Gibson

In 2020 the Taranaki Mounga Project welcomed Sera Gibson to the team. What started as paternity cover for Project Manager Sean Zieltjes moved into a long-term role.

Sera's role is a Pou Whakahaere / Project Manager Strategy and Design. Her focus is the development of an education and research programme that connects iwi/hapū, researchers and younger generations to Taranaki Mounga and that facilitates educational and career opportunities and pathways. The programme she develops will utilise both Mātauranga and western science paradigms to determine the health of our Tupuna and the project's success.

She divides her time between the project and her role as Pou Taiao, Policy Advisor, Environment at Te Kotahitanga o Te Atiawa. In that position she works closely with Nga Hapū o Te Atiawa to ensure their relationship with Te Taiao is recognised and provided for in the use and management of natural resources.



### Farewell Tim Sjoberg

After three years as our Science and Innovation Lead, Tim Sjoberg has moved on from our project. We would like to thank Tim for his huge contribution to the research and predator control outcomes of our project.

He's taking up a new role with the Banks Peninsula Conservation Trust as Senior Team Leader. As well as taking his skills and knowledge to his new role, he is returning to his hometown of Christchurch.

Tim will still be connected to our project as the convenor of our technical reference group.

Kōtukutuku (tree fuchsia) in flower. PHOTO: Emily King Traps being deployed on the Pouakai Range. PHOTO: Tama Blackburn

Congratulations to BTW Company which was a winner in the Environmental Leadership in Business category at the 2020 Taranaki Regional Council Awards. рното: Vicki Zieltjes

# **Objective Three** ENRICH

The people of Taranaki have the ability to selfsustain Te Kahui Tupua now and in the future.

The Taranaki Mounga Project has identified a number of areas where it can create work for Taranaki residents and a strong sense of responsibility by building a sustainable environment.

#### This includes:

- The addition of two more Taranaki Mounga cadets who join Trevor Walker from the START Taranaki programme. A story on this programme is featured below.
- The internal promotion of rangers to more senior positions within the team. As well as offering them greater responsibility, promotion helps them learn from their DOC peers.
- Opportunities for rangers to learn from other projects. Members of our team have spent time helping, learning and supporting other projects including Project Janzoon, Tiaki te Mauri o Parininihi Trust, Rotokare Scenic

Reserve Trust, Towards Predator Free Taranaki, Zero Invasive Predators (ZIP), Canterbury University, Manaaki Whenua Landcare Research and Kaitake Ranges Conservation Trust. In addition, our senior team regularly engages with their NEXT Foundation environmental investment colleagues across New Zealand.

 Planning is under way with interested iwi to offer employment opportunities on the Mounga in future.

This objective also incorporates businesses and communities who 'give back' to the Mounga.

More businesses are supporting our collective restoration efforts. Joining BTW Company, Todd Energy, Methanex and Countdown in 2020 were First Gas and TSB Bank. Providing time for their staff to service traps not only helps our project but also supports their health and wellbeing.



Tipunakore Rangiwai

Marley Joyce



Trevor Walker

### A positive START for new cadets

Three teenagers outgrew their classroom walls and are now helping to protect our Mounga.

Trevor Walker (17), Tipunakore Rangiwai (18) and Marley Joyce (17) all came to the Taranaki Mounga Project from START Taranaki, which supports at-risk teenagers.

In 2019, Taranaki Mounga partnered with START Taranaki to mentor and provide part-time employment to those interested in a future in conservation and restoration.

Trevor was the first person to become a Taranaki Mounga cadet and made an immediate impact on the project. During his first few months he has built more than 300 DOC200 predator traps, as well as cutting tracks and setting some of his traps along traplines on the southern side of the Mounga.

"I used to go into the bush with my uncles but it was still a bit of a mission building the traps and setting trap lines up to 15 kilometres of track," says Trevor.

"I enjoy the work and it gives me a sense of freedom where I don't have to rely on anyone to do what I'm doing."

In 2020, Tipunakore and Marley joined the team. All three work closely with the Project Mounga team to complete tasks both in and outside Egmont National Park.

Taranaki Mounga Project co-manager Sera Gibson speaks highly of the work they have been undertaking.

"All three taiohi are valued members of our team. They have shown dedication, commitment and skill in their work, which is contributing to the revitalisation of their tūpuna, Taranaki Mounga," she says.

Trevor, Tipunakore and Marley will receive further training to help them gain gualifications and move into fulltime roles within our team.

## A win-win for wellbeing

Natural gas company Todd Energy has taken the opportunity to support staff health and wellness by carrying out important restoration work in Egmont National Park.

More than 40 staff from across the company's Kapuni, Mangahewa and New Plymouth sites have been servicing 60 stoat traps along two traplines on the Enchanted Track near the Stratford Plateau and the Maketawa Track at North Egmont.

Todd Energy Environmental Manager Nik Pyselman says staff participate in this activity during work time and enjoy the experience.

"We have people across the business participating, from engineering and subsurface through to administration and finance," says Nik. "It's great for staff health, wellness and teambonding across disciplines."

The feedback from staff has been positive, with many enjoying a reconnection to nature as well as the positive impact they have on the environment. Nik says some staff even participated in a whio release.

"It is a good feeling knowing that the work we are doing is helping to protect these whio and other birds on Mount Taranaki."

Taranaki Mounga Project Manager Sean Zieltjes is grateful to Todd Energy for their restoration efforts.

"It's awesome to see Todd Energy supporting not only our project but many others across the region," says Sean. "We are already seeing great results in our national park, thanks to the collective trapping efforts from volunteers, with our best whio season ever."

About a third of the nearly 5000 predator traps across Egmont National Park are managed by volunteers. Taranaki Mounga is extremely grateful to Todd Energy and the hundreds of locals and businesses who support our vision of restoring our Mounga, He Kawa Ora, to bring him back to life.



TOP: Todd Energy staff check their trapline. ABOVE: Todd Energy's Stephen Dobson shows off his catch. PHOTO: Supplied

# Objective Four REVITALISE

Improving the ecological resilience of Te Kahui Tupua so that native species flourish.

The 2019 aerial 1080 operation, the near-eradication of goats and the increase and ongoing servicing of traps across Egmont National Park mean birds, flora and fauna are thriving on the Mounga.

### In 2020 there has been a number of highlights:

- Goats are now functionally extinct in the national park. There is an in-depth look at this eradication programme on page 28.
- As a result, the understory of the forest is thriving and seedlings are growing.
- More than 5300 traps are now within the project as trapping networks have been extended on the Pouakai Range and around the southern side of the Mounga.

- A five-yearly whio (blue duck) census has confirmed their boom in numbers on the Mounga. More details on page 28.
- Since February whio have been found outside the national park.
- Five whio were released in the national park. They provide new genetics to the current population.
- Toutouwai (North Island robin) pairs have increased in the monitored A24 block. More information on page 29.
- Toutouwai have been sighted as far as Pukeiti and Lake Mangamahoe, about 15km from the A24 block.
- During the 2020/2021 summer, initial research found powelliphanta snails in identified areas of the Pouakai Range.
- The increase in predator control measures in and around the Kaitake

Range is allowing us to plan for the return of kiwi to the area in early 2021.

- Ngā Motu is now a safe haven for seabirds because predator control has increased on all five islands.
- Four pilot ruru (morepork) surveys were undertaken to compare with four surveys conducted in the mid-1990s and another in 2008.
- Auroa School has been testing its sound lure invention to trap stoats and other predators on the Mounga and across Taranaki. It is also being tested in the Mackenzie Country and on the west coast of the South Island. In 2020 the school won a national title for its invention at the 123 Technology Innovation Challenge Awards and a Taranaki Regional Council Environmental Award.

## **Goodbye goats**

For almost a century there has been an ongoing work programme to rid Egmont National Park of feral goats.



In early 2020, DOC staff from Taranaki and Te Anau, along with Te Anau Helicopters, conducted an aerial operation and thermal detection work. During 30 hours of flying, no goats were seen and there was no evidence of the pest in the sub-alpine area of the park.

Eradicating every last goat has meant for the last two years hunters have had to methodically traverse the national park multiple times. Known hotspots in particular were hunted regularly and intensively.

In 2021 hunters will complete another sweep of the Mounga.

The low number of goats removes the threat posed to native plants in the park, some of which are found only on the Mounga, says Taranaki Mounga Project co-manager Sean Zieltjes.

"Goats have caused significant damage to the forest structure over the last 100 years as they eat young seedlings, saplings and ring-bark mature trees." This vegetation provides important food sources and habitat for native insects, lizards and birds.

Since 1925 around 100,000 goats have been shot in the national park by experienced goat hunters and DOC staff.

Neighbouring landowners and residents have also been helping by agreeing not to replace domestic goats.

"It is important for the biodiversity of the mounga that domestic goats did not escape and breed in the park," says Sean.

## Whio boom

A five-yearly whio (blue duck) census has confirmed the boom in the number of these endangered birds across Egmont National Park. Whio ducklings. PHOTO: Lyn Hassell

Ongoing yearly monitoring and the 2015 whio census on eight monitored rivers within the national park mean a lot is already known about the increase of whio in these areas.

The 2020 whio census focused on whether these taonga were moving into previously uninhabited territories. Eleven new rivers were surveyed by DOC biodiversity rangers, their two conservation dogs and volunteers between January and March 2020.

The results are positive as whio seem to be thriving on the 11 newly surveyed rivers. Breeding success is evident and shows new territories are being established across the national park. During the 2020 census, 15 pairs of whio were located, of which eight were breeding. Another 18 single whio and 17 juveniles were also located. Two of those juveniles were released in March 2020 to provide new genetics to the current population.

The protection of these whio was helped by the reduced predation of whio eggs and ducklings as a result of the 2019 aerial 1080 predator control operation. Most of the surveyed rivers already have comprehensive trapping networks in place.

DOC Biodiversity Ranger Joe Carson is pleased with the results.

"It's awesome to see how well the whio is doing. Every river we surveyed had whio living there and several showed presence of fledged offspring. It is really exciting and has completely expanded our aspirations for ongoing growth of the whio population across Taranaki," she says.



Whio are fiercely territorial and a pair need about a kilometre of fastflowing river or stream for themselves. So, with around 200 whio now living around and across the national park, work is under way to maintain and increase trapping networks in another 8700 hectares.

"Our team and volunteers have worked really hard to re-bait the stoat control network before winter and we will be increasing predator control around the southern and western side along rivers later this year," says Taranaki Mounga Project co-manager Sera Gibson.

Whio are found nowhere else in the world and are rarer than some species of kiwi. The whio population in Taranaki has been growing and there was a 71 per cent increase in ducklings during the 2018/19 breeding season.

## Low-key welcome for new whio

PHOTO: Joe Carson

Three juvenile whio were quietly released onto the Kapuni Stream only days before New Zealand moved into Covid-19 Level 4 at the end of March 2020. The release was the first into a South Taranaki river in Egmont National Park.

The two male and one female whio were bred at Ngā Manu Nature Reserve in Waikanae and then taken to a 'hardening' facility at the Tongariro Trout Centre.

The three whio join another two which were released in February 2020. They all provide new genetics to the current population. They also join the record number of whio ducklings found by DOC rangers on eight regularly surveyed rivers.

The birds were named Tipunakore, Trev and Tui after two START Taranaki students and a supporter of the Taranaki Mounga Project.

Taranaki Mounga Project co-manager Sean Zieltjes says Trev has worked with the project for nearly a year and is 'stoked' to have a whio named after him. Trev worked incredibly hard to help protect these taonga.



## Toutouwai monitoring

Ninety-five toutouwai (North Island robin) released on the Mounga in 2017-2018 have been gradually establishing a population. The year 2020 marked the start of the fourth year of monitoring, which provides valuable information on the population and new pairings of these taonga.

Post and pre-breeding monitoring provides valuable insight into the breeding success, population growth and dispersal of the toutouwai. Low rat-tracking rates of just 10 per cent during the last two years inside the 1000-hectare rat control block mean a much safer habitat for breeding.

### Post-breeding season monitoring

Early in 2020 a DOC team of rangers and dedicated volunteers completed post-breeding season monitoring. Sixteen volunteers spent more than 450 hours on the monitoring project. The season was successful because pair numbers were double those of the previous season. Nineteen pairs were observed and at least 14 pairs had bred.

#### **Pre-breeding monitoring**

Late in 2020, pre-breeding monitoring was conducted again in the block. Interim results indicated at least 21 pairs were displaying breeding behaviour. Zoe Stone, a post-coctoral researcher at Massey University, helped us look more closely at nesting behaviour. As well, more than 20 toutouwai, including early fledglings, were banded. Nineteen volunteers spent about 500 hours on this work. A 2020 highlight was the outreach of toutouwai. There were reports of a toutouwai pair at Lake Mangamahoe and a single bird at Pukeiti, about 15 kilometres from the area where they were released. This dispersal was also reflected during monitoring when toutouwai were observed in sections of the block where they had never been seen before. We hope this trend of toutouwai making their homes outside the monitored block continues so that this precious taonga can be widely observed and enjoyed.

ABOVE: A banded toutouwai (North Island robin). PHOTO: Pat Murphy

# Objective Five TREASURE

People adore Te Kahui Tupua not only for his health and wellbeing benefits but also for giving them a sense of regional identity and belonging.

Taranaki Mounga is an anchor and tūpuna to many. Our team regularly share the work they are doing and are proud to hear how our communities are connecting to the Mounga. We enjoy working with a broad range of organisations so we can continue to create opportunities for these connections.

### We are proud to be supporting the aspirations of:

- New Horizons Aotearoa. An afterschool programme which mentors Year 7 and 8 students at Devon Intermediate, Coastal Area School and Manukorihi Intermediate.
- **Tiki Toa.** A collaborative project with DOC, Taranaki Mounga Project,

Te Pi'ipi'inga Kakano Mai Rangiatea and Devon Intermediate. This programme is developed for intermediate schoolage children and focuses on facilitating a connection to Maunga Taranaki, Te Taiao (natural environment) and Te Ao Māori to support and improve holistic wellbeing. Tui Ora staff run group programmes on the maunga and around the Taranaki region at sites such as local pā. Whānau of participants are encouraged to be involved in the final hikoi to celebrate their successes.

• Rongo Taua. A new programme designed for the purpose of reconnecting rangatahi Māori with their identity and culture.

- Why Ora and its annual Pūtaiao Expo. An opportunity for Year 13 students throughout Taranaki to learn more about science and health-related career options.
- The Kaitake, Ōakura and Omata communities to bring kiwi back to the Kaitake Range.
- Iwi of Taranaki.

During 2020 our team also spoke with groups and events including Techweek, Predator Free 2050 technical groups, Taranaki secondary schools, Rotary, Scouts, Western Institute of Technology at Taranaki (WITT), Massey University, DOC Conservation Week and rangatahi forum.

# Ranger leads by example

ABOVE: Taranaki Mounga ranger Tama Blackburn passes DOC200 traps to a New Plymouth Boys' High School student. PHOTO: Andy Jackson

The Taranaki Mounga Project is fortunate to work alongside and learn from the wealth of experience brought by each of its rangers.

Tama Blackburn (pictured above) has been working as a ranger with the project since 2018. His passion for his work and koro Taranaki runs deep.

"He (Taranaki Mounga) is the beacon to everyone and has been for generations, even before colonisation. He's a symbol of the past, present and future and a unifier of all iwi of Taranaki," says Tama.

Of Ngāti Maniapoto descent, Tama has a connection to the Mounga through his many relatives in in Waitara and through his wife Gina (Te Atiawa and Ngāti Mutunga).

Taranaki Mounga Project comanager Sean Zieltjes says rangers like Tama make the biggest impact not only on Te Papakura o Taranaki but also across the region. "From working tirelessly in the aim of eradicating possums on the Kaitake Range, through to showing our schools, businesses and interested groups the importance of looking after our Mounga, our rangers are the true heroes of our project," says Sean.

Tama's passion for conservation in his Waitara community was rewarded with a Taranaki Regional Council Environmental Award. In mid-2019 he and Gina started a community group called Waitara Taiao, which is recognised for its outstanding advocacy and voluntary efforts to protect and restore native biodiversity and Te Taiao o Waitara. More recently, Tama received an appreciation award from Volunteering New Plymouth for his efforts in the community. "After a wide and varied work and sporting history, I reached a point in my life where I wanted to give back," says Tama. "The Taranaki Mounga Project created a perfect platform for me to do that. Inspiring others to care for and reconnect with nature is the most rewarding and enjoyable part of the Taranaki Mounga Project and Waitara Taiao."

During the summer of 2020/2021, Tama is supporting a number of research projects across the national park. His practical expertise and bush knowledge have provided a deeper appreciation of koro Taranaki for students and research organisations.

As well as working with the Taranaki Mounga Project, he and Gina own Nau Mai Tours and New Zealand Surfing Adventures.

ABOVE: DOC staff member Sorrel Hoskin speaks to rangatahi participating in the Tiki Toa programme. PHOTO:: Tui MacDonald

# **Special thanks to:**

Parker Conservation TOP Guides 2014 Ltd Kowalewski Brothers Ltd Rotokare Scenic Reserve Trust and its volunteers Taranaki Kiwi Trust and its volunteers Kiwis for kiwi Wild for Taranaki Taranaki Regional Council **Precision Helicopters Ltd** Gotcha traps Lane Plastics Ltd Pest Control Research Helmut Pleiter Goodnature Ltd **Biosuppliers Ltd** Pureora Forest Park Lodge Tiaki te Mauri o Parininihi Trust Tui Ora, Ngāti Tawirikura Ngā Mahanga a Tairi **Project Hotspot Elise Smith** Elvisa van der Leden Ngā Motu Marine Reserve Society Ngāti Tama o Taranaki Te Rūnanga o Ngāti Mutunga Te Rūnanga o Ngāti Muru Te Kotahitanga o Te Atiawa Tony Green

New Plymouth District Council Stacey Hitchcock START Taranaki Tui Ora Rongo Taua Zero Invasive Predators (ZIP) Predator Free 2050 Ltd Predator Free New Zealand Taranaki Tuturu Te Korowai o Ngāruahine Trust Te Rūnanga o Ngāti Ruanui Te Kaahui o Rauru Te Kāhui o Taranaki lwi Te Rūnanga o Ngāti Maru Ngāti Rereahu Ngāti Te Whiti Te Kere Davey Sera Gibson Sharyn Tamarapa Hoani Eriwata Te Poihi Campbell Taipuni Ruakere Wayne Capper Tina Dalliston Vicki Zieltjes Pat Murphy <u> TimberCo – David and Cheryl Leuthart</u> Sue O'Dowd Jim Clarkson Tess O'Malley

Auroa School Strategy Collective Whio Forever Kōkako Specialist Group Kiwi Recovery Group **Dean Strong** Favour the Brave New Horizons Aotearoa **BTW Company Ltd** Towards Predator-Free Taranaki and team Bruce Clarkson First Gas Methanex Countdown Manaaki Whenua Landcare Research Todd Energy Tree Machine All our dedicated volunteers.

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### **Our People**

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Shaun Bayliss

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#### The Taranaki Mounga Project team

PHOTO: Keith Finnerty

Gareth Hopkins, DOC Operations Manager; Jan Hania, Taranaki Mounga Director; Sean Zieltjes and Sera Gibson, Taranaki Mounga Project co-managers; Darryn Ratana, DOC Partnerships Manager; Emily King, DOC Senior Biodiversity Ranger; Tim Sjoberg, Taranaki Mounga Innovation and Research Lead; Fern Brand, DOC Partnerships Ranger; Jared Coombes, Goat Operations Manager; Andrew Macalister, Goat Eradication Project Lead; Tui MacDonald, Taranaki Mounga Communications Manager; Brandon Kingi, Taranaki Mounga DOC Lead Ranger, Taranaki Mounga DOC Rangers Cody Luckin, Michael Blanks, Georgina Tubby, Tama Blackburn, Marie McGregory-Hunt, Joe Hau, Shaun Bayliss, and Taranaki Mounga Cadets Trevor Walker, Tipunakore Rangiwai and Marley Joyce.

#### TARANAKI IWI CHAIRS FORUM













### TARANAKI MOUNGA He Kawa Ora - Back to Life

Heheua te mangemange nui kia tupu whakaritorito te toi a te kawa ora

Clear the obstruction to let well-being flourish



taranakimounga.nz