

# CURIOUS MINDS

HE HIHIRI I TE MAHARA



## PARTICIPATORY SCIENCE PLATFORM TARANAKI UPDATE 2021

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**BUILDING OUR COMMUNITY'S  
CAPABILITY THROUGH  
COLLABORATIVE RESEARCH  
CREATES THE OPPORTUNITY  
FOR GROUND-UP INNOVATION,  
INSPIRING NEW SCIENTISTS  
OF ALL AGES, AS WELL AS  
DEVELOPING AND RETAINING  
TALENTED PEOPLE.**



## INTRODUCTION

**W**e are all curious about the world around us, and even more so when it involves our own backyard. Everyone can get involved with science and technology, and since 2015, Curious Minds Taranaki and Venture Taranaki have been helping turn your questions into research action.

The Curious Minds Participatory Science Platform (PSP) is a powerful partnership model empowering communities to address local issues and broadening scientific research. It encourages communities, particularly young people, educators and scientists to work together on collaborative science projects so that people become more enthused and informed about the role science plays in their lives. Now more than ever it is vital that our communities are empowered to engage with research-guiding decisions that policy makers, businesses, individuals and society make every day.

Here in Taranaki, Curious Minds PSP plays an important role in supporting regional strategic objectives, including building our research, science and innovation ecosystem and connecting community with local sectors of interest such as energy and food. It fosters the development of innovative minds in our region with science and technology an important part of future career and community pathways.

This update reflects on the incredible research being carried out by powerful collaborations here in Taranaki that contribute to improved outcomes for our region.

JUSTINE GILLILAND  
Chief Executive/Tumu Whakarae  
Venture Taranaki/Te Puna Umanga

**Curious Minds Taranaki is a Participatory Science Platform (PSP) delivered locally by Venture Taranaki in collaboration with Taranaki Regional Council and funded by the Ministry of Business, Innovation and Employment (MBIE). Grants of up to \$20,000 are available for projects that are locally relevant, educationally valuable and scientifically robust. Any type of community group can apply including students, schools, kura, community-based organisations, businesses or Māori organisations and collectives.**

# AT A GLANCE

SINCE 2015 IN TARANAKI:



PROJECTS FUNDED

MORE THAN  
**\$1M**

FUNDING DISTRIBUTED

MORE THAN  
**\$788,891**

IN-KIND AND CO-FUNDING



MORE THAN

**3,360**

PARTICIPANTS



INCLUDING MORE THAN

**1,800**

YOUTH



MORE THAN

**100**

EXPERTS



**STRONG  
KAUPAPA MĀORI  
ENGAGEMENT**



**52/97**

**OF TARANAKI  
SCHOOLS  
PARTICIPATED**



MORE THAN

**200**

**ORGANISATIONS  
INVOLVED**



**24**

**RESEARCH  
FIELDS  
INVESTIGATED**

# 2021 FUNDED PROJECTS



## WĒTĀ WATCHER

**W**ētā Watcher is helping bring wildlife conservation monitoring tools in Taranaki into the digital age!

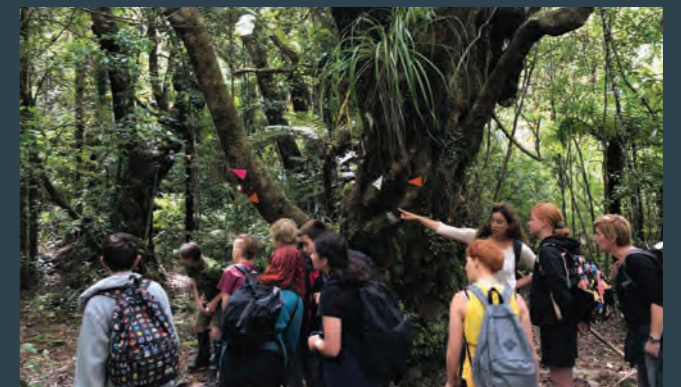
Developed by Wildlife.ai, the Wētā Watcher is a new purpose-built device that autonomously takes photos of ground-dwelling invertebrates and herpetofauna (lizards/geckos) and will eventually use Artificial Intelligence (AI) to identify/classify species.

Wildlife.ai worked with students from The Head Office to test the devices in the field and compare them to common manual monitoring methods such as tracking card tunnels. The collaboration saw the involvement of Taranaki Mounga Project, Te Kotahitanga o Te Atiawa Trust, Department of Conservation (DOC), Lake Rotokare Trust, MAIN Trust, and Indemic Design.

The project was carried out across a range of locations in Taranaki with different levels of predator control, including the predator-free Lake Rotokare Scenic Reserve and different locations in Te Papakura o Taranaki (Egmont National Park). This enabled the team to improve their understanding of potential Wētā Watchers to provide scientific evidence in guiding more efficient conservation efforts. The level of active collaboration between project partners helped minimise the potential technical challenges of deploying a new device in an often-unforgiving environment. An excellent presentation by the participating students during Tech Week 2021 proved the value of real-world, hands-on projects for developing an understanding of research processes and its role in solving challenges.

The project further highlighted to participants the positive impact of pest management with strong contrasts in the presence, abundance and activity of indicator and pest species. Taranaki Mounga Project and DOC are using the results of the footage captured to guide future management of pest species in Te Papakura o Taranaki.

Wētā Watchers continue to be deployed around Taranaki, giving community conservation groups more insights into what is happening on the ground in the reserves they are working to protect and restore. The 20,000+ labelled images collected during the project are now being used to improve AI identification algorithms to automatically analyse footage moving forward.





## REGENERATIVE FARMING TRIALS & TRANSITION

Improving soil, pasture and animal health while empowering farmers has been the driver of a Regenerative Farming Trials & Transitions project in Taranaki.

The Regenerative Farming project saw more than 30 farmers across 20 dairy, sheep, and beef farms around Taranaki collaborate and work alongside scientists and regenerative agriculture specialists to learn about, action, and monitor regenerative farming trials and increase with regenerative farming practices on their own farms.

Participants were active in taking their own soil and pasture samples and developed their understanding of using comprehensive soil, biology and pasture analysis, along with visual soil assessments and other indicators, to help inform farm management decisions and assess changes over time. Empowering farmers to take initiative in their own research of how different practices change the health of their farms is helping them to improve overall outcomes with confidence and enabling them to be engaged in and influence broader discussions around regenerative agriculture research in New Zealand.

Regenerative farming looks at how we can take our farming to the next level of health, prosperity, resilience, and responsibility. Optimising soil health is an essential key to unlock this potential. With a strong collaborative approach, workshops, farm visits, coaching and discussion groups, participants have played a key role in exploring the potential of 'regenerative farming' for us here in Taranaki.

Participating farmers have recorded significant improvements in soil structure, pasture condition, and animal performance all with reduced input costs. The project has invigorated participating farmers to see what else is possible as they look at the farming practices they use.

The Curious Minds project has enabled the group to attract further funding and expertise into the region. Gathering significant momentum, regenerative agriculture in Taranaki has developed a strong collective of passionate farmers, researchers, tangata whenua, educators, and industry bodies working to further improve Aotearoa New Zealand's farming practices.



## TARAKIHI TAIORA

Tarakihi Taiora is helping reconnect whānau, hapū, and iwi to Tarakihi, while empowering them with knowledge and skills to protect and manage Tarakihi for future generations.

Led by Te Kāhui o Taranaki and Ngāti Moeahu hapū, students from Coastal Taranaki and Rahotu schools are ensuring whānau are able to be more easily engaged with their whenua (land). With support from Land Information New Zealand, Drone Technologies NZ, and Seachange Surveys, the project blends mātauranga, GIS, remote sensing technologies, and marine research.

The kaupapa (initiative) is helping participants understand how to capture local narratives through mapping and imagery in a way that maximises value. Capturing stories and research related to pūkawa (reefs), tauranga waka (canoe landings), tauranga ika (fishing channels), awa (streams), hūhi (wetlands), and pā (fortifications), Tarakihi Taiora provides a centralised knowledge source for this significant place.

Through wānanga (educational forums), intergenerational relationships are being strengthened to enable hapū aspirations for Tarakihi to evolve.



## SHARK SPY TARANAKI

Shark Spy Taranaki is working to understand more about the richness and relative abundance of sharks along our coastline.

Led by the University of Otago's New Zealand Marine Studies Centre, in collaboration with local schools and community groups, this project helps to bridge the gap in what we know about sharks in Taranaki coastal waters. The project has seen students from Highlands Intermediate, Mangorei School, and Moturoa School get out on the water to learn how to use baited underwater video to survey the presence of sharks and other species on our coastline.

As a key apex predator, sharks play an important role as an indicator of the health of biodiversity in our oceans. Yet there is a lot that remains unknown about their presence and behaviour in New Zealand waters. Our rich Taranaki coastline provides a great habitat for sharks with over 14 species in the region. Collecting sightings and other information on sharks, rays, and skates (including egg cases) along the Taranaki coastline, the project helps build an understanding of species diversity, abundance, seasonality, size, and sex structure.

Through equipping the Taranaki community with the skills to record and analyse video data, Shark Spy is enabling participants to play a key role in important ongoing research.



## PESTS, THREATS AND OUR BIRDS

**T**he impact of introduced pests on bird life abundance in local reserves has been the focus of Pests, Threats and Our Birds.

Led by East Taranaki Environment Trust in collaboration with Norfolk School, the project saw students carry out pest monitoring in Everett Park and compared their results to those collected from Pouiatoa Conservation Area. Supported by Department of Conservation, Rotokare Scenic Reserve, Wildlife.ai, and Taranaki Kiwi Trust, the project has given students an understanding of the difference in bird life abundance between different pest control areas.

Utilising techniques such as chew cards, tracking tunnels, trail cameras, and five-minute bird counts, the project team were able to establish clear evidence of bird life in Everett Park being severely impacted by the lack of pest control.

The project established valuable baseline data that will be used for decision making and ongoing monitoring of pest control in Everett Park. The Park provides an opportunity for increased accessible environmental engagement and education within the community as pest control efforts are carried out.



## ROBOGROW

**I**nvestigating how an automated growing system can change the way we grow food at home for sustainability and food security is the focus of Robogrow.

Led by Inglewood High School, students are working alongside a range of industry partners to develop a system that meets the growing requirements of plants, and to investigate how such a system might be upscaled or adapted to a wider range of applications that could have potential for backyard growers.

Employing a range of cross-curricular skills to construct, programme, and monitor a miniature greenhouse for growing herbs, the project is a valuable experience with real-world applications. With the pressures of climate change, population growth and general environmental degradation, there is increasing consumer demand for alternative growing solutions where time and/or resources are limited.

The collaboration with industry partners is exposing students to expertise with engineering, automation, science, commercial growing, and industrial design, to help bring their project to life.

## TEMPOFIT RUNNING IN SCHOOLS PROGRAMME

**C**hanging perceptions and experiences of running has been the focus of students piloting an innovative running in schools programme.

TempoFit has teamed up with Ōakura Primary and Highlands Intermediate Schools to develop a programme that is fun and engaging to work on their wellbeing. Designed to re-ignite the love for running and movement that young people are born with, the programme seeks to address growing rates of childhood obesity, inactivity, and mental health issues through empowerment, education, and inspiration over a 5-week, in-class and take-home programme.

With the support of sports professionals, the research is focusing on behavioural and psychological outcomes as well as physiological metrics. Empowering students to take charge of data collection and analysis of their own exercise development is strengthening their connection to mind and body. The results of the pilot will provide an opportunity for the programme to be rolled out to other schools.

## SOIL YOUR UNDIES TARANAKI

**T**he health of Taranaki soils is under the microscope for students around the region.

Led by Taranaki Enviroschools, the project is engaging students from Waitara High School, Stratford Primary School, Green School, and Turuturu School in this fun take on investigating soil health. Students are burying cotton fabric (in the shape of undies) to measure the effect of macro and micro inhabitants and to help students understand soil biology, as well as the role of earthworms and dung beetles as ecosystem engineers.

Working alongside a range of community and industry partners including conservation and agriculture specialists, the project builds on student understanding of how different soil types and farming systems impact soil biology. On top of testing soils and burying fabric, students are building terrariums to track the lifecycle and habits of dung beetles.

Students are using the research to compare differences to a similar study conducted in Otago.

## CALL OF LITTER DUTY

**P**re-school and primary age students are tackling the issue of roadside litter in their communities in Call of Litter Duty.

Led by Litter Action NZ, Egmont Village School and Marfell Kindergarten are working to investigate where the litter in their community is coming from and what actions they can take to influence a reduction in litter ending up in the environment.

Students are testing a new app as a tool for collecting data and gaining insights into perceptions of litter within their community. These insights will help shape student initiatives that influence positive behaviours and empower the wider community to monitor and reduce litter prevalence.

The Call of Litter Duty project is enabling students to understand the impact of litter on the environment and become leaders in taking action and educating family and friends.

## KORORĀ KŌRERO

**U**nderstanding offshore behaviour of kororā (little blue penguin) along the coastline of Taranaki is the focus of Kororā Kōrero in 2022.

Led by Ngā Motu Marine Reserve Society in collaboration with Ngāti Te Whiti hapū, the project is engaging students from Central and Moturoa Schools alongside Port Taranaki to develop a community-led marine monitoring programme.

Spending up to 80% of their time at sea, only a limited amount can be learned about kororā through onshore efforts to protect the species. Until now, offshore behaviour monitoring has only been carried out as short-term academic studies. Advances in technology and research techniques now make it possible for trained local volunteers to carry out longer-term monitoring.

Participants will study the at-sea movements and diving behaviour of kororā throughout various stages of their life cycle. Combining this foraging data with population data, the project will help inform and educate the community on the state of our immediate marine environment.

# 2020 FUNDED PROJECTS



## A FASHIONABLE FIGHT: HE ORANGA TĀNGATA, HE ORANGA TAIAO

**A** Fashionable Fight: He Oranga Tāngata, He Oranga Taiao identifies and explores alternate processes for textile and fashion production methods, with an aim of reducing the social and environmental impacts of current sector practice through indigenous pedagogy and Mātauranga Māori.

Led by Whiri Design and their New Zealand label Wanoa Four, students from Te Wharekura o Te Pihipihinga Kākano Mai i Rangīātea are exploring how traditional Māori knowledge and indigenous dying methodologies can innovate 21st century textile manufacturing processes and systems. Supported by AgResearch NZ, Auckland University of Technology, local Mātauranga Māori experts, and Māori textile art practitioners, the project is providing insights into how indigenous textile practices intersect with modern commercial design and production methods within the fashion industry.

In an industry where environmental and social impacts are significant, the fashion sector's public image remains largely unscathed. Referred to by the United Nations as "an environmental and social emergency", the \$2.75 trillion fashion industry produces almost 20% of the world's wastewater and contributes to 10% of global greenhouse gas.

A Fashionable Fight: He Oranga Tāngata, He Oranga Taiao is ensuring Mātauranga Māori is a key factor in enabling the Aotearoa New Zealand fashion industry to be more sustainable and provide improved cultural, social, and economic opportunities for whānau to lead that story.

The collaboration across industry, research, education, and Mātauranga Māori has increased the interest of all partners in how indigenous knowledge can inform and innovate solutions for today's challenges.



## OUR GREEN ŌPUNAKĒ JOURNEY

**1**,2,5...we are not counting. We are recycling! Children in Ōpunakē have been showing the community how it's done through their project 'Our Green Ōpunakē Journey'.

Led by Sustainable Taranaki and Ōpunakē Kindergarten in collaboration with Silk Advisory, South Taranaki District Council, and Ōpunakē Four Square, their project explored if timely, relevant information at point of purchase drives better recycling. The project also explores whether personal or social commitments drive more or longer lasting change.

Working with children and the wider community, the project team used survey and bin audits to collect a baseline of what people say they are doing versus what they actually do when it comes to recycling. Pre-schoolers and informational posters engaged Ōpunakē shoppers with recycling information at local stores and asked an engagement group to make a commitment to better recycling with individual follow ups. And it worked! Follow up bin audits found an improvement in recycling behaviour from those who were simply presented with information, and significantly more from those that made a written commitment.

Their research proved to be not only productive and fun, but also provided great insight for promoting more sustainable behavioural change throughout our region. Sustainable Taranaki are now taking these findings and applying them to other initiatives.



## HAURAPA KIWI

**H**aurapa Kiwi is working to change the way kiwi are monitored in Taranaki!

The Taranaki Kiwi Trust worked with Drone Technologies NZ and Ōakura School to research whether telemetry equipment could be attached to a drone, and test its efficiency in locating kiwi.

All kiwi translocations to new areas require monitoring of birds for 1-3 years after they are released. The current method for tracking kiwi involves using telemetry equipment from the ground. To track non-territorial sub-adult kiwi, a fixed wing plane is often used as young birds on Mt Taranaki have been known to move up to 12km after they are released. This combination of methods is both time consuming and expensive.

Haurapa Kiwi blends available technologies to find a more economical and more accurate method of kiwi detection and monitoring. Supported by Taranaki Mouna Project and Department of Conservation, the project proved a success in allowing Taranaki Kiwi Trust to test their idea and engage community in new ways with the great work they do. As a result, the Trust have been able to secure funding from other providers to continue developing the project further and take it to the next level for the benefit of all kiwi(s).



## EXPLORING A PLACE FOR VIRTUAL REALITY IN DEMENTIA

**A**lzhimers Taranaki takes a proactive approach in seeking ways to support its clients, and their project 'Exploring a place for Virtual Reality in Dementia' strengthens that approach for the future.

Collaborating with health researcher Dr Linda Jones, and supported by Puke Ariki and StaplesVR, alongside researchers from Massey University and Valencia University, the team worked to identify patterns of engagement and experience for Persons With Dementia (PWD) when using Virtual Reality (VR).

The project saw Alzhimers Taranaki volunteers train in an existing arts-for-dementia programme and become researchers in assessing local PWD clients' experiences during visits to local museums. The museum study findings were used to create an original VR program that included activities modelled on our very own Pukekura Park. PWD clients were reassessed using the VR activities to see how their engagement and experiences changed.

Staff and clients of Alzhimers Taranaki otherwise not engaged in scientific research have loved working with new technology (some not knowing what VR was before starting the research), providing input into the useability of software, and learning how engaging with VR impacts their sleep, mood, and balance.

The collaboration revealed unexpected benefits for cognitive function, language and memory recovery, sheer enjoyment of the VR experience, ability to exercise in place, and possibility for VR to be a group/social activity in specific settings.

The research has also helped expand international thinking for how VR and similar technology can be used for reducing the impacts of dementia on daily functions with preliminary findings presented to international conferences.



## PAPA POKEPOKE

**P**apa Pokepoke has been exploring the unique features and properties of papa (hard blue clay) prevalent in the Ngāti Mutunga rohe.

Led by Te Rūnanga o Ngāti Mutunga, students from Mimi School and Ngāti Mutunga Kapahaka group have been working with scientists from GNS and Verum Group to understand the physical make-up of papa and how it originated in Taranaki. Though widely used throughout Taranaki as part of roading and other development projects, little is understood about the properties of papa when fired.

Blending Mātauranga, geology and engineering science, the project helped gain a clearer understanding of how this abundant resource could provide a valuable, sustainable, and environmentally friendly material for building, pottery, and rongoa (traditional medicinal uses).

Papa Pokepoke has also provided Ngāti Mutunga and their community an opportunity to further understand the whenua they whakapapa to, and to strengthen this relationship and the opportunities that exist.



## AUROA SCHOOL SOUND LURES

**S**tudents at Auroa School have been investigating the way sound can be used to increase the efficiency of pest traps.

Working with their teacher Myles Webb and local engineer Andrew Hornblow, students developed weather-tight, solar-powered devices capable of emitting any pre-recorded sound. Initial trials were conducted with local landowners to see if the sound lures helped attract possums to traps. Cameras set up to observe interactions with the devices captured some interesting and unexpected behaviours and help shape further development.

Supported by Taranaki Regional Council, Department of Conservation and other conservation groups, continued testing and refinement has continued with great success. The devices are now being trialled by Taranaki Mouna Project in an effort to catch the remaining low numbers of possums on the heavily trapped Kaitake Range.

Students wanted to find a way to make pest traps more effective after being involved in the 2019 Curious Minds Taranaki project 'I Whio I could live here'. The 2019 project found the high number of predators present along the Kaupokonui Awa prevented Whio populations being re-established.



## GROUND BREAKING MUSHROOMS

**N**ot just an energy source for people, coffee was the focus of Ground Breaking Mushrooms. The project explored the best secondary substrate (surface in which an organism lives) to mix with used coffee grounds to produce the maximum amount of mushrooms.

Led by Bishop's Action Foundation in collaboration with local mushroom expert Matthew Williams, Francis Douglas Memorial College, Massey University and local cafés, the project has contributed to maximising the value of a common by-product.

Spent coffee grounds collected from local cafés are an ideal substrate ingredient for growing oyster mushrooms. The grounds are full of unspent energy and, through the process of making espresso coffee, are pasteurised by the super heated steam. The project team has been very surprised by how many mushrooms can be produced from just 1 kg of used coffee grounds!

Once the coffee grounds were digested by the oyster mushroom fungus, they were able to be used as a rich compost as the fungi makes nutrients vastly more accessible to enzymes in other plants. The understanding of how everyday materials can be used in different ways is helping communities achieve further resilience and search for novel ways to solve community problems such as waste management, food security, and land management.



## SEACHANGE SURVEYS

**S**eachange Surveys is supporting local communities in the monitoring of coastal species, primarily kaimoana (seafood), in their rohe moana (coastal area). In this expansion of their 2019 project, Seachange Surveys explored how visual indicators used by local fishermen can be combined with drone imagery to assess pāua habitats and populations along Taranaki coastline.

Led by Wild for Taranaki and Marine Biologist Nicole Boniface, the project collaborated with a wide range of community organisations and businesses, including Ngā Mahanga a Tairi, Taranaki Iwi, Ngā Motu Marine Reserve Society, Highlands Intermediate, Taranaki Green School, Ōmata School, Coastal Taranaki School, and Drone Technologies NZ.

The development of simple, time efficient and adaptable surveying methods to monitor changes in species/habitats of interest over time allows communities to play a key role in effectively managing their local kaimoana species. The increased understanding of local pāua habitats is enabling participating groups to take a more targeted approach to education in the wider community including engaging signage at collection locations.

# PREVIOUS PROJECTS

### 2019

- Our Mountain, Our Volcano – Cynthia Werner
- Ngamatapouri School Waitotara River Monitoring Project – Ngamatapouri School
- Te Āhua o ngā Kūrei – Te Rūnanga o Ngāti Mutunga
- Healthy Living Soil – Organic Farm NZ Taranaki/Whanganui
- I Whio that I could live here – Te Korowai o Ngāruahine Trust
- Pūrangi Pekapeka – East Taranaki Environment Trust
- Fish food and fringes – MAIN Trust NZ
- Seachange Surveys – Wild for Taranaki
- Sustainable energy generation for use in electric vehicles – New Plymouth Girls' High School

### 2018

- Soil Fertility and Health Trials – Midhirst School
- CatMap MAIN Trust NZ
- Finding Little Blue Nga Motu marine Reserve Society
- Project Litter – Tapuae Trash Trackers Highlands Intermediate School
- Nga Kaitiaki o Nga Motu (Guardians of the Islands) – Te Atiawa Iwi Charitable Trust
- Bug ALERT! 2 – East Taranaki Environment Trust
- Kimihia Kermit – Te Rūnanga o Ngāti Mutunga
- Trashformers – Upcycle Taranaki
- Wi-DemystiFied – Massey University

### 2017

- Toko School Distillation Investigation – Toko School
- A Pesky Problem – Te Namu Hakirara – Woodleigh School
- South Taranaki Project Earth: Ready Rehearsed Resilient – Hawera High School
- Pest Trapping in the Makahu Valley – Makahu School
- Dotterel Defenders – Taranaki Conservationists
- Tracking Fur Babies in Taranaki – Wild for Taranaki
- Ko Nga Kowhitiwhiti – BTW Compay Ltd, Otaraua Hapu
- Inanga Ora Ki Te Awa O Waitara – Otaraua Hapu, Waitara Alive
- Bug ALERT! – East Taranaki Environment Trust
- Project Wi-Finding – Massey University
- Schoolyard Blues – Massey University

### 2016

- Maru Wai Matara – Te Whenua Tomuri Trust
- Project Hotspot – Nga Motu Marine Reserve Society
- Project Reef Life – South Taranaki Underwater Club
- CAPOW! Curious About Processing Organic Waste – Stratford and Matapu Schools
- Full STEaM Ahead! – Opunake School
- REV IT – New Plymouth Boys' High School
- Stone v.s. Metal – The Motunui Panels Revealed – Puke Ariki

### 2015

- Kiwi Presence in Egmont National Park – Taranaki Kiwi Trust
- Project Ultra – Pekapeka in Purangi – East Taranaki Environment Trust
- Project Hotspot – Nga Motu Marine Reserve Society
- Waitara Kaimoana Survey – Otaraua Hapu & Waitara Alive
- Reef Life Project – South Taranaki Underwater Club
- Te Moeone – Growing for the Future – Ngati Tawhirikura Hapu





## Do you have a great idea for a collaborative community-based research project in Taranaki?

Curious Minds Taranaki has grants of up to \$20,000 available for projects that are:

**Educationally Valuable** – Offer enduring educational value and two-way learning opportunities for those involved.

**Locally Relevant** – Will involve community members in research that is engaging and locally relevant and at least in part be driven by community-based champions.

**Scientifically Robust** – The project will tackle a substantive scientific question in active partnership with a science, technology or mātauranga expert.

Visit [curiousmindstaranaki.org.nz](http://curiousmindstaranaki.org.nz) to find out more and register your idea.



**venture**  
TARANAKI  
Te Pūna Umanga

An initiative of  
Te Kaunihera-ā-Rohe o Ngāmotu  
NEW PLYMOUTH DISTRICT COUNCIL  
[newplymouth.govt.nz](http://newplymouth.govt.nz)

**TARANAKI**  
like no other