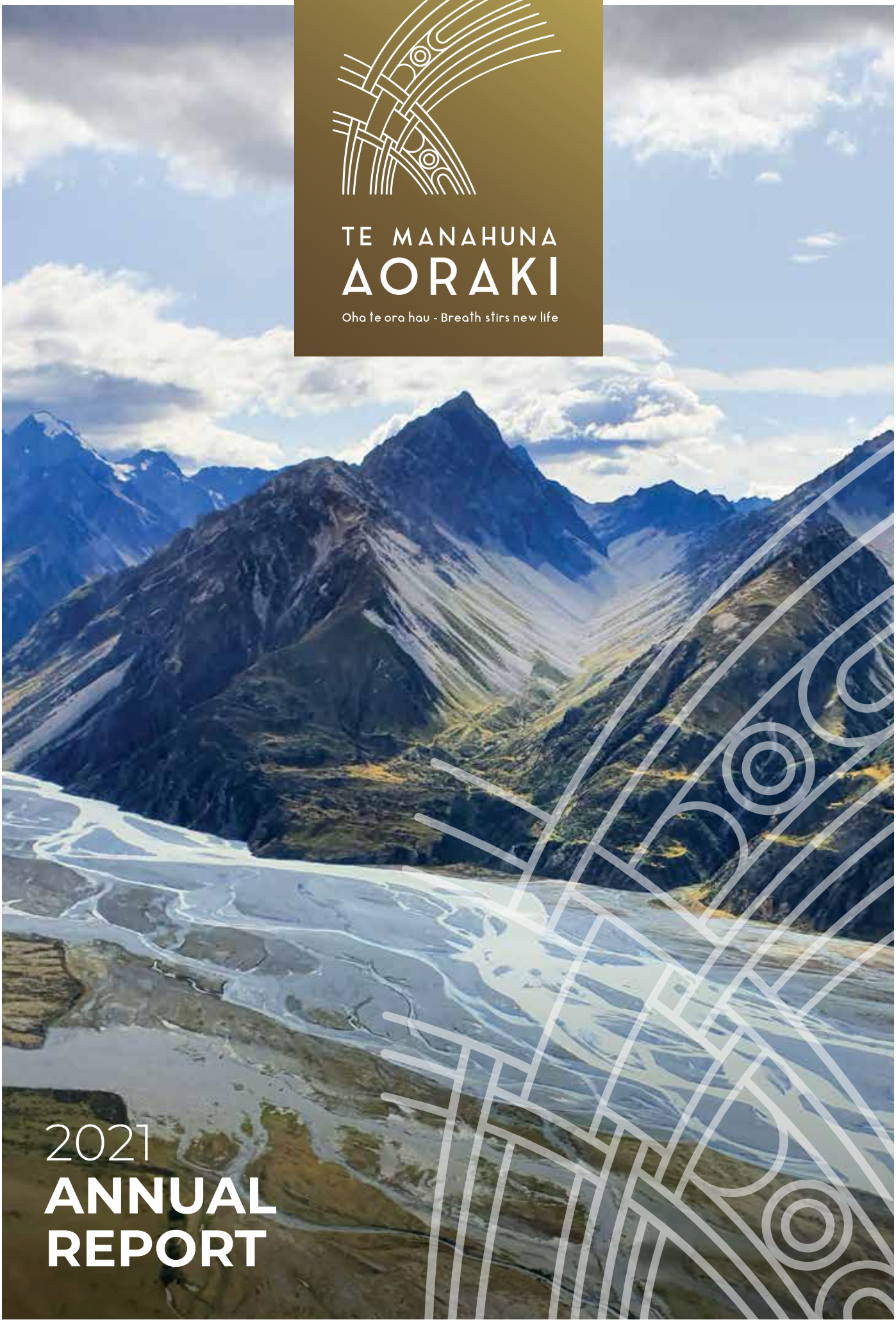
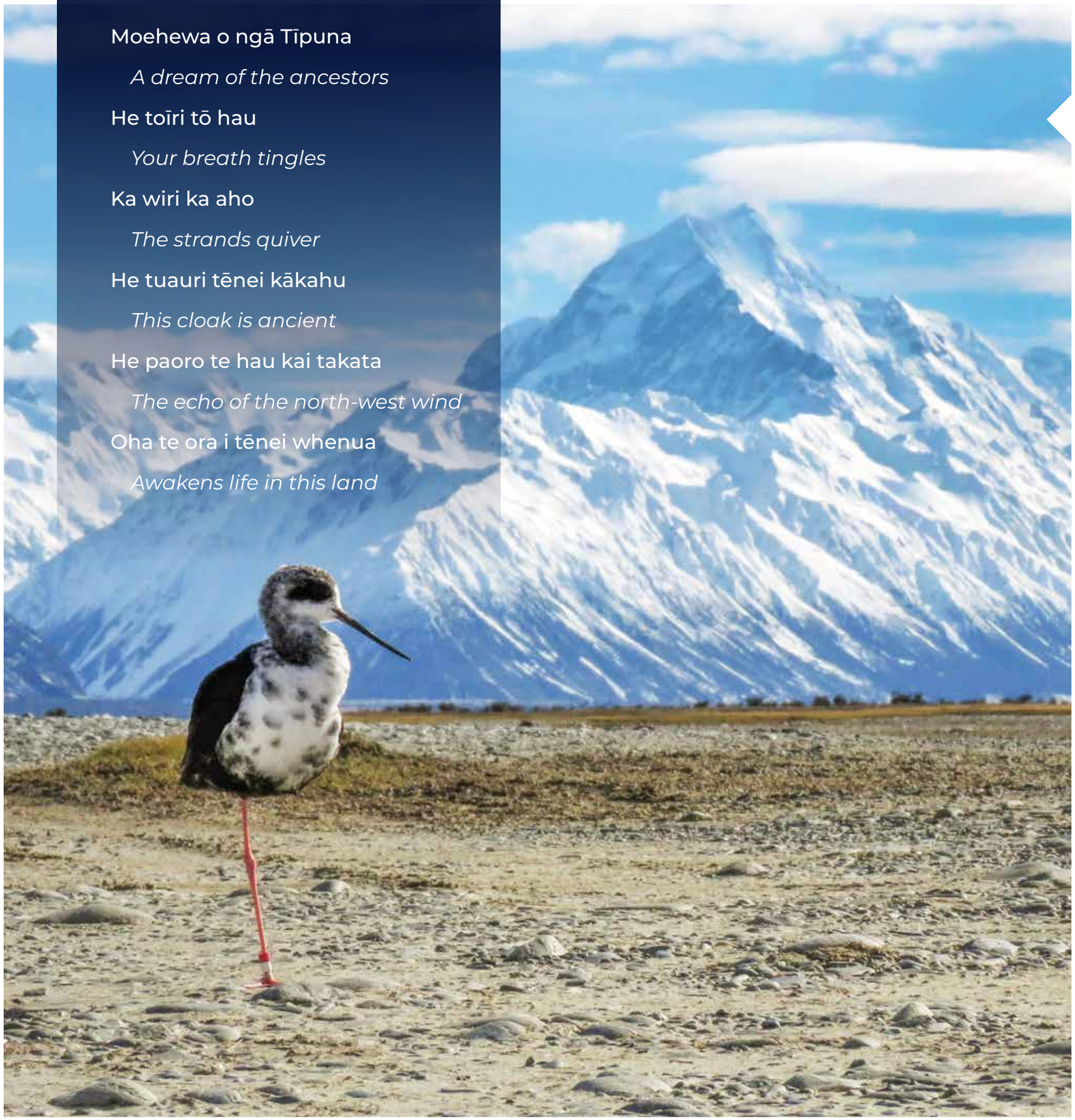


TE MANAHUNA
AORAKI

Oha te ora hau - Breath stirs new life

2021 ANNUAL REPORT



Moehewa o ngā Tīpuna

A dream of the ancestors

He toīri tō hau

Your breath tingles

Ka wiri ka aho

The strands quiver

He tuauri tēnei kākahu

This cloak is ancient

He paoro te hau kai takata

The echo of the north-west wind

Oha te ora i tēnei whenua

Awakens life in this land

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Te Manahuna Aoraki is a nationally significant biodiversity project revitalising the iconic natural landscapes and threatened species of the upper Mackenzie Basin and Aoraki/Mount Cook National Park.

Launched in November 2018, the project aims to protect and re-establish some of New Zealand's most unique rare alpine, braided river, wetland and dryland tussock ecosystems over a 310,000 hectare vast mainland island.

The area is home to endangered species like kea, tuke/rock wren and scree wētā in the alpine zone and ngutuparore/wrybill, robust grasshopper, and the world's rarest wading bird kakī/black stilt, in our braided rivers.

This is a special conservation collaboration in terms of scale – both in size, and the number of different partners brought together. Manawhenua iwi, high-country run-holders, government departments, philanthropists, councils and the community are all working together towards a shared vision to care for this special environment.

Oha te ora hau – Breath stirs new life

Dr Jan Wright, Chair, and Simone Smits, Project Manager
Photo by Robyn Janes

Chair and Project Manager's Report

We are delighted to present the annual report for the third year of Te Manahuna Aoraki – the exciting and ambitious conservation project that extends over three hundred thousand hectares of the Canterbury high country.

This year was to be the last before we launched into the 20-year restoration phase, but, largely because of the impact of COVID-19, we have added a fourth year to the development phase. This past year has been challenging for many, and we are grateful for the continued support and belief in the project by our partners and investors.

We have begun planning for the long-term restoration phase, engaging with a wide range of technical and operational experts, and seeking to understand the aspirations of manawhenua, runholders, and other partners. We are fortunate to have Stephen Hall leading this work. Stephen is the South Island Operations Manager for the NEXT Foundation. Once the plan starts to take form, it will be time to take it to potential funders.

> "Nick's discovery of a hedgehog at an altitude of nearly 2000m made the news in the UK"

New initiatives and investment

The project never stands still – every year there are new initiatives. This year, one of our government partners, Toitū Te Whenua Land Information New Zealand (LINZ), invested up to $12 million through to 2024 from its Jobs for Nature Programme. This will allow us to reduce rabbit populations and target a range of invasive weeds. Te Manahuna Aoraki is managing the bulk of the work, which has provided over 70 jobs.

This year has also seen rūnaka leading a project to protect native fish by removing trout from Fork Stream. Manawhenua from Arowhenua, Moeraki, and Waihao have formed a skilled team, working together to restore the health of the awa. For generations, Te Manahuna was a great resource for these rūnaka, who would periodically travel inland to gather tuna, weka, and other mahika kai.

The runholders who live and earn their living from the land share some enemies with us – rabbits, hares, wallabies, Canada geese, and many weed species. By working together, we are making progress in removing these pests. They have also embraced the chance to protect braided river species by allowing trapping networks on their land and providing information about vulnerable birds' breeding sites.

Increased understanding

Much of our work over the last year has been geared toward building a foundation of knowledge for the long-term plan. Research work by Otago PhD student Nick Foster on the seasonal movement of animal pests has been a breakthrough in understanding where these animals live and roam, and how the mountains act as natural barriers to reinvasion. This information is vital to successfully eliminating pests and protecting the values within Te Manahuna Aoraki. Nick's discovery of a hedgehog at an altitude of nearly 2000 metres was such a surprise that it made the news in the UK. Monitoring shows that the considerable pest-control efforts are resulting in improved braided-river bird hatching success and more kakī breeding on private land than ever. Native lizard and wētā monitoring has shown that more species have survived in this part of the country than previously thought.

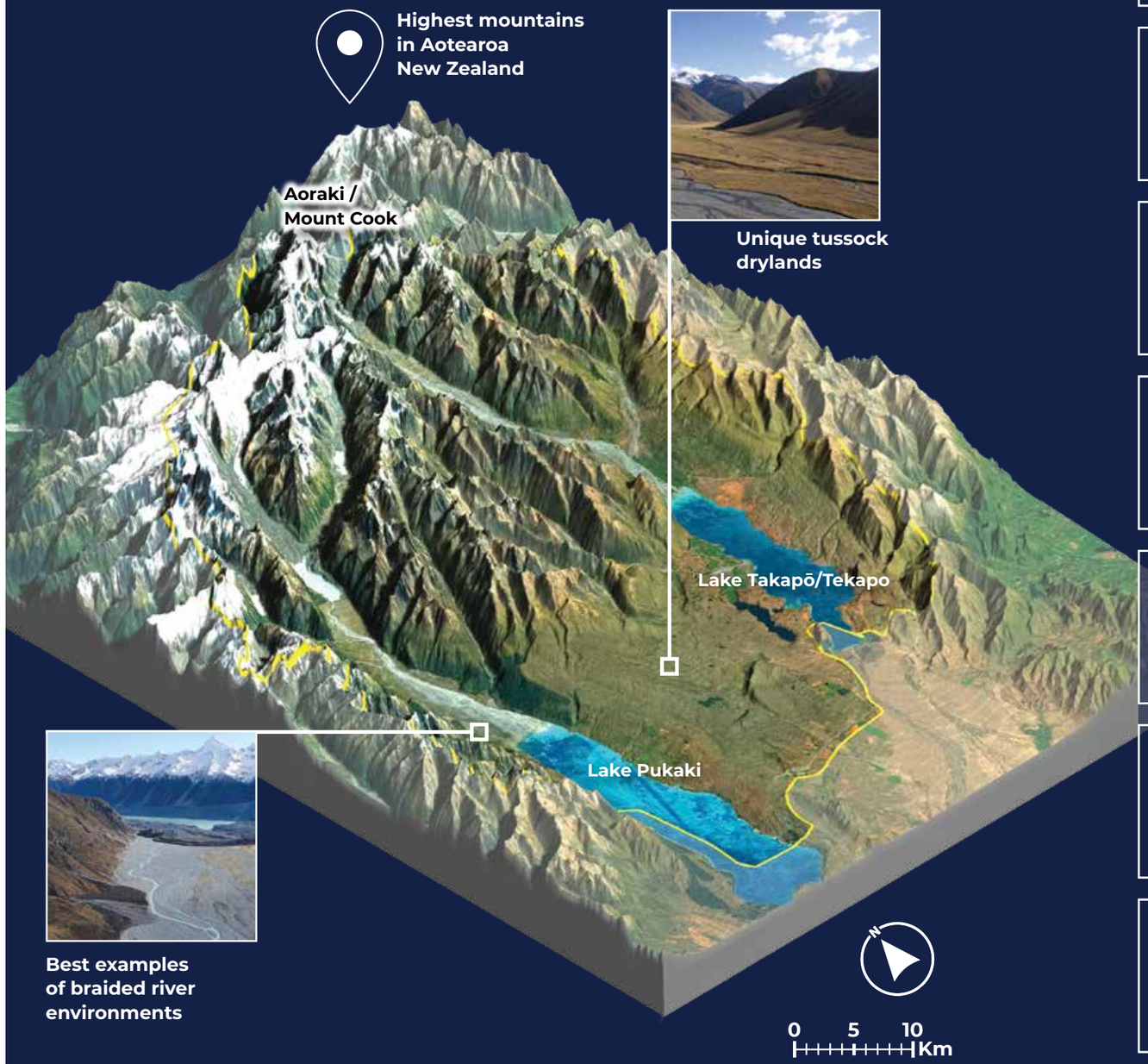
Team developments

We have farewelled one of our inaugural board members, rūnaka representative David Higgins, whose wealth of knowledge and wisdom have been invaluable. We are grateful for John Henry of Arowhenua agreeing to serve as rūnaka representative and have already benefited from his mātauranga Māori. We have also farewelled and thanked Kay Booth, who acted as the Department of Conservation's observer, and welcomed Mike Slater into the role.

The Te Manahuna Aoraki team has grown this year. Without them nothing would get done and we thank them for their enthusiasm and commitment.

The project area

310,000ha	212km	25km	14	10	3
project area	mountainous boundary	of canals	landowner partners	small mammal pests	rūnaka partners



2021 highlights

680 new traps laid

64,800+ hectares of trapping

234 traps maintained by volunteers

5,058 predators trapped

73-91% hatching success for banded dotterel

72-91% hatching success for black-fronted terns

28,329 hectares of weed control

131,334 invasive weeds eradicated

74 people employed with Jobs for Nature funding

2 endangered fish species protected by rūnaka

180 runholder hours controlling Canada geese

2900 Facebook followers

2 new species found

2 schools involved in kakī releases

PROJECT PARTNERS

Founding partners

Department of Conservation
New Zealand's Department of Conservation / Te Papa Atawhai manages 60 per cent of the project's land area, including Aoraki Mt Cook National Park.
→ **doc.govt.nz**

NEXT Foundation
NEXT is a strategic philanthropy fund. Its vision is to leave a legacy of environmental and educational excellence for the benefit of future generations of New Zealanders – supporting our land and our people.
→ **nextfoundation.org.nz**

Te Rūnanga o Arowhenua
The takiwā of Te Rūnanga o Arowhenua centres on Arowhenua near Temuka and extends from Rakaia to Waitaki and inland to Aoraki and the Main Divide.
→ **arowhenua.org**

Te Rūnanga o Moeraki
Moeraki is the southernmost rūnaka in the project area. It centres on Moeraki and extends from Waitaki to Waihemo and inland to the Main Divide.
→ **terunangaomoeraki.org**

Te Rūnanga o Waihao
Named for its river, which has its footprint in the inland foothills. The takiwā centres on Wainono near Waimate, sharing interests with Te Rūnanga o Arowhenua to Waitaki, and extends inland to Omarama and the Main Divide.
→ **waihaorunanga.co.nz**

Landowners of Te Manahuna
The 14 large private landowners and Crown pastoral lessees in the project area are all key partners in the project.

Partners

Toitū Te Whenua Land Information New Zealand (LINZ)
Toitū Te Whenua (LINZ) manages significant Crown lands (including pastoral leases) and rivers in the project area. Additionally, LINZ is investing considerable funding from its Jobs for Nature programme to remove pests and weeds.
→ **linz.govt.nz**

Aotearoa Foundation
The Aotearoa Foundation is affiliated to the Robertson Foundation established by Julian and Josie Robertson and their family in 1996. The Foundation's primary area of interest within the environment is the impact of climate change.
→ **robertsonfoundation.org**

Jasmine Social Investments
Jasmine Social Investments funds high-performing social ventures. Areas of interest include health, education, better livelihoods and environmental sustainability.
→ **jasmine.org.nz**

Predator Free 2050 Ltd
Predator Free 2050 Limited is a Crown-owned, charitable company established to help deliver the New Zealand government's ambitious goal of eradicating possums, stoats and rats by 2050.
→ **pf2050.co.nz**

RE:Wild
RE:Wild (formally Global Wildlife Conservation) is an international conservation organisation working that works to protect and restore biodiversity.
→ **Rewild.org**

Collaboration is key to transforming the ecological prospects of the upper Mackenzie and Aoraki Mount Cook National Park

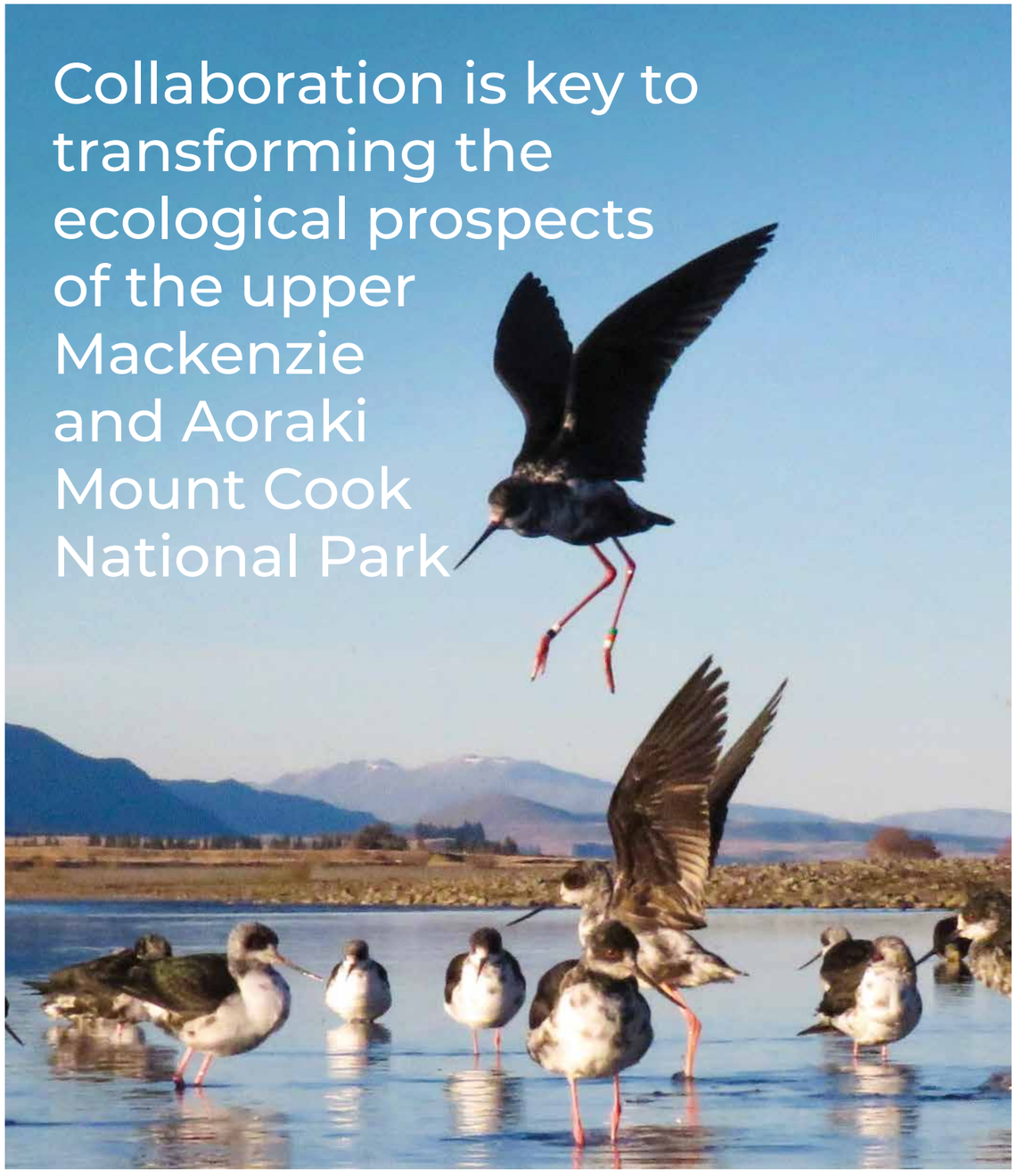


Photo by Liz Brown

Te Rūnanga o Arowhenua

TE MANAHUNA
AORAKI

Oha te ora hau - Breath stirs new life

Our tohu tells a story

Te Manahuna Aoraki adopted a new tohu (logo) this year. It was designed by distinguished artist and arts professor Ross Hemera of Ngāi Tahu, Ngāti Māmoe, and Waitaha.

To Ross, all art and design reflects identity and his creative work draws inspiration from the landscape of Te Waipounamu (the South Island), where he was born and grew up, and the ancient rock drawings created by his tīpuna, the Waitaha people.

He spent many days with Runāka representatives, land owners and those working with the Te Manahuna Aoraki project to bring together the vision for the tohu.

In designing the visual identity for Te Manahuna Aoraki, Ross was inspired by the haumata tussock seen throughout Te Manahuna.

The blue colour comes from our understanding about Te Pō – the night and potential that comes from the night. He references the crispness of the frost, an essential element in Te Manahuna, and its motivation as an invigorator. Keo - the shrill cry of the cold is inhaled, and oho – out of the depths, the long night's stillness is roused.

From night comes the dawn – the hāpara, when the haumata tussock begins to shimmer. The golden colour reflects this, with the lines woven together. The echoing north-west wind begins to stir life in this land.

Photo by Nick Foster

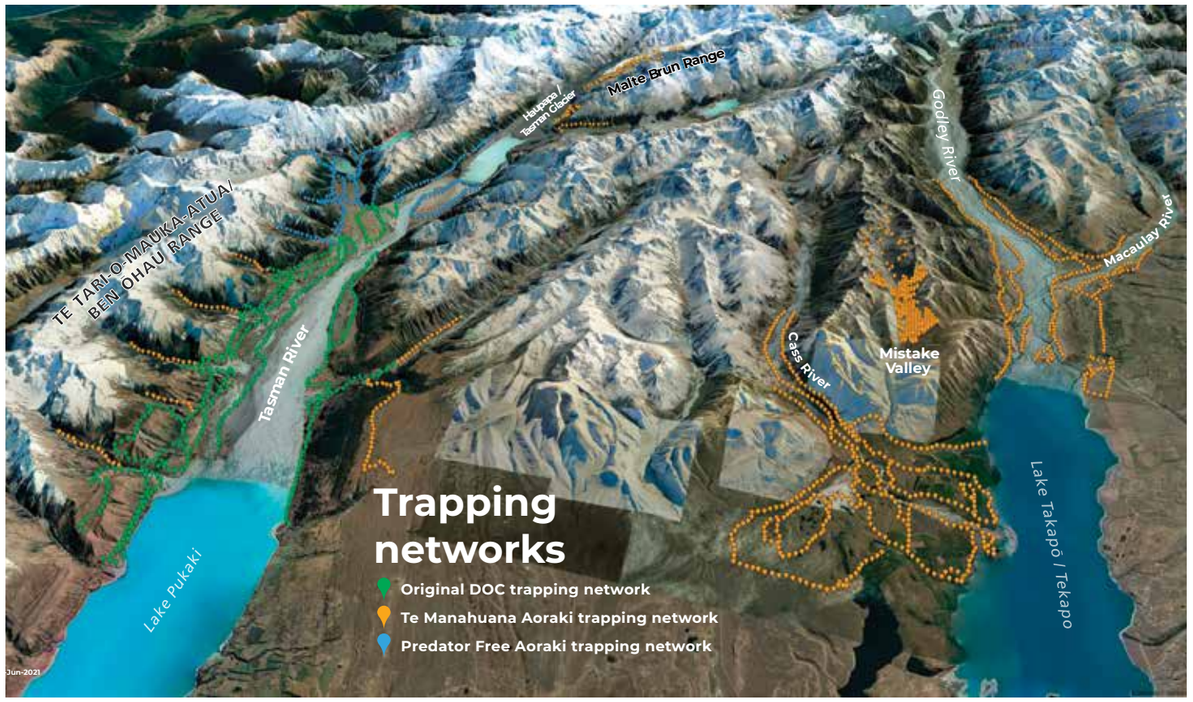
Expanding the alpine trapping network

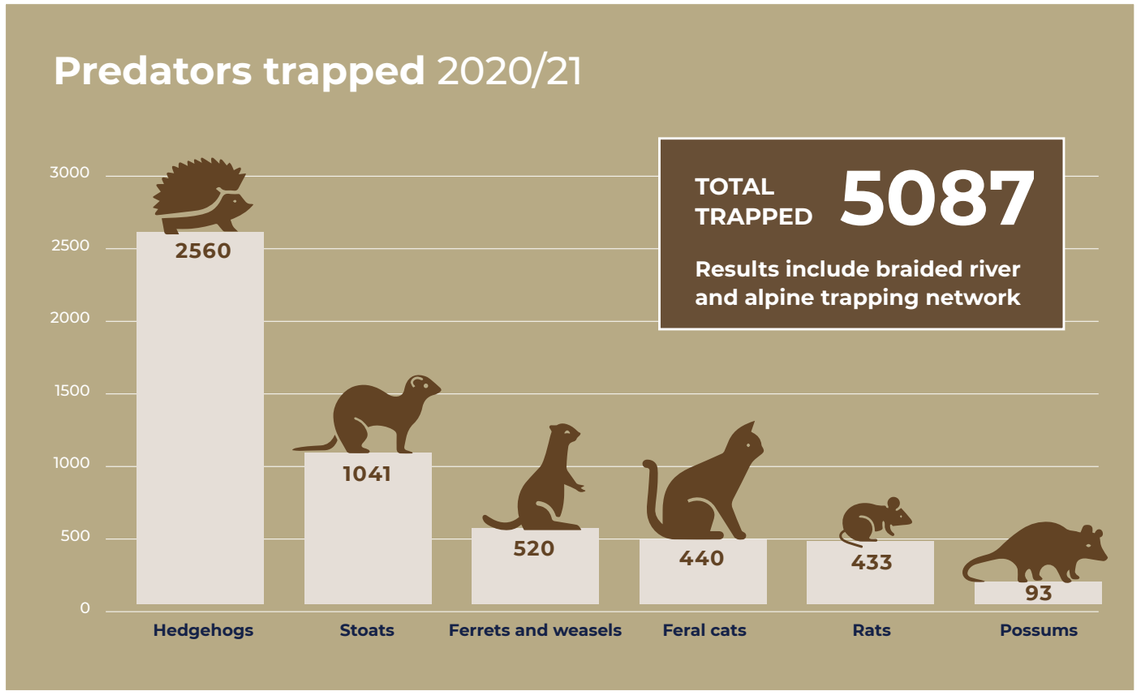
Species like tuke/rock wren, the mountain wētā and kea now have more protection as trapping networks were extended further into alpine areas this year.

We have installed 680 new traps in the Malte Brun and Mistake Valleys as part of our pest elimination efforts. These networks were set up during summer, but cannot be checked during the winter months because of avalanche risk.

The braided river trapping network now covers 60,000ha, and just over 5000 pests were removed over the year, giving more protection to species like kakī/black stilt and tūturiwhatu/banded dotterels. Over half the total captures were hedgehogs, with trapping of the prickly pest peaking in summer and autumn. Stoat captures were highest in the Tasman river valley and lowest in the Cass; however the Cass had the highest rat numbers.

The project extended the original DOC and Project River Recovery's trapping network in the Tasman Valley into the Godley, Macaulay and Cass river valleys in 2018/19.





TRAPPING

Communities pitch in to help with trapping initiatives

Volunteers from as far away as Christchurch and Timaru are helping with predator control in the project area.

Members of the Canterbury Mountaineering Club are going the extra mile, regularly undertaking the 650-kilometre round-trip from Christchurch to check stoat traps for Predator Free Aoraki. Predator Free Aoraki are a volunteer group that checks 234 traps in and around Aoraki/Mount Cook National Park.

In Timaru, members of the Menz Shed have helped make around 75 trap boxes for the new trapping network in the Malte Brun. The enthusiastic retirees made the boxes to excellent standards and have said they are keen to help out further when needed.

Volunteers trapping Predator Free Aoraki Sealy Tarns line
Photo by Nia-Joelle Weinzweig

John Cleland from Timaru MenzShed loads traps into a car
Photo by Simone Smits

BRAIDED RIVER BIRDS

Hatching rates soar

The project monitors three braided river birds – tūturiwhatu/banded dotterels, tarapirohe/black-fronted terns, and tarāpuka/black-billed gulls – to understand the benefits of our predator control measures in terms of breeding success, survival and population growth.

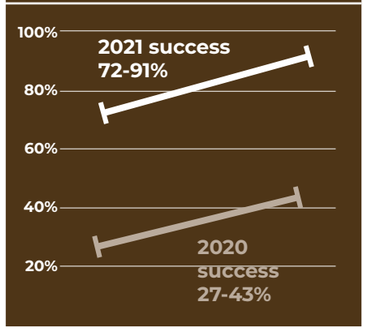
Nests of tūturiwhatu/banded dotterels and tarapirohe/black-fronted terns are monitored using motion activated cameras and visual checks. Compared with last season, hatching and breeding success increased at all sites for black-fronted terns, and were slightly down for banded dotterels (although higher than the 2018/19 season).

Tarāpuka/black-billed gulls nest in colonies. A single large colony of around 280 adults was found in the Lower Cass.

The colony hatched 334 chicks, considerably more than in 2019/20. In that year, there were a high number of nest failures due to flooding.

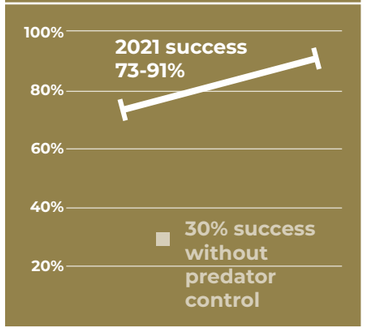
Tarapirohe / black-fronted terns
Nationally endangered

195 nests monitored



Tūturiwhatu/ banded dotterels
Nationally vulnerable

45 nests monitored



Tarāpuka/ black-billed gulls
Nationally critical

1 colony monitored

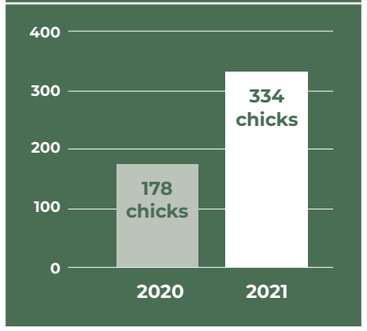


Photo by Kate Lawrence

KAKĪ

Landowners help critically endangered population recovery

A record number of 39 wild breeding pairs of kakī/black stilt out of 170 adults were found in the wild in the 2020/21 season.

To help the species' survival, DOC's Kakī Recovery Programme collects eggs from wild nests and then hatches them in captivity and raises them in aviaries. The key to kakī recovery is bringing in as many eggs as possible and 175 eggs were collected in the 2020/21 season, with at least 67 left to hatch in their nests – the second best season ever.

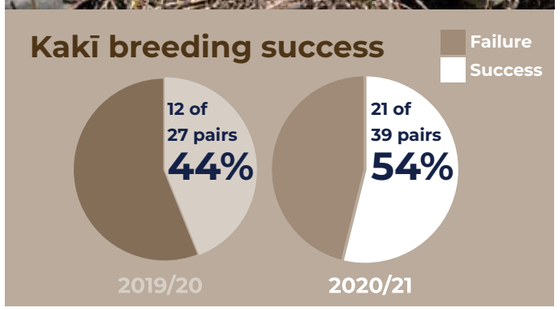
DOC Kakī Team Leader Claudia Mischler says 54% of pairs bred on private land and so the success of the programme relies on support from landowners, who have really got behind efforts to protect these special birds by allowing access for trapping, ensuring there is healthy wetland habitat, and alerting DOC rangers when they spot nesting birds.

> "To be able to say you have the rarest wading bird in the world living and breeding on your property is really exciting."
>
> **Hamish Mackenzie, Braemar Station**

Braemar Station owner Hamish Mackenzie says that being involved in Te Manahuna Aoraki has meant working together as partners, and he is really enjoying seeing more kakī around.

Kakī like braided riverbeds, wetlands and tarns, lake margins and irrigated paddocks if there is good feed available. Kakī are now protected on over 80% of their breeding range.

Photo by Liz Brown



Board member Devon McLean (left), local benefactor Dennis Viehland (centre), and project Chair Dr Jan Wright at a kakī release

ROCK WREN

Holding on

Observers walked 241km monitoring tuke/rock wren high in the mountains in summer with at least 46 of the tiny alpine birds spotted.

Before the 1980s, rock wren were commonly seen around the popular walking tracks of Aoraki/Mount Cook. However, they are very susceptible to stoats. It is hoped the new trapping networks we have installed in alpine areas including the Malte Brun network will begin to increase tuke survival rates.

Photo by Jemma Welch

Conservation dog Julius with Adriana Theobald in the Tasman Valley
Photo by Dave Kwant

FERAL CATS

Detection dogs join the fight

Detection dogs are showing good promise as a valuable tool alongside trapping and night shooting to remove feral cats.

As part of a trial to establish the most effective ways of using detection dogs to remove feral cats, conservation dog Julius and his handler Te Manahuna Aoraki ranger Adriana Theobald have walked 934km in the Tasman river valley over the 20/21 year.

Feral cats are difficult predators to remove as they are highly mobile, have large home ranges and are wily animals, accustomed to surviving in harsh conditions in the wild. Of the 440 feral cats removed in the project area over the year, 13 were found by Julius.

The trial has discovered Julius, a mixed-breed hunting dog certified as part of the Conservation Dog Programme, is most useful at finding feral cats that are avoiding other methods of control, especially when used in conjunction with trail cameras.

Julius can be brought in to respond quickly to sightings while scents are still fresh. The trial has established the best time to use a dog is early, when there is still moisture on the ground to hold the scent, and at night-time, when feral cats are more mobile.

"Julius is fast and agile, so when he obtains fresh scent, he is more likely to find his target. He is very adaptable and will track cats into rabbit burrows and up trees. Once he finds his target, he receives huge amount of praise and attention from me. That is reward for him," says Adriana.

The more familiar the handler and dog are with the terrain, the more accurately feral cats' habits can be predicted. Feral cat detection dogs will continue to be used alongside other tools and are likely to become an increasingly important method of removing feral cats.

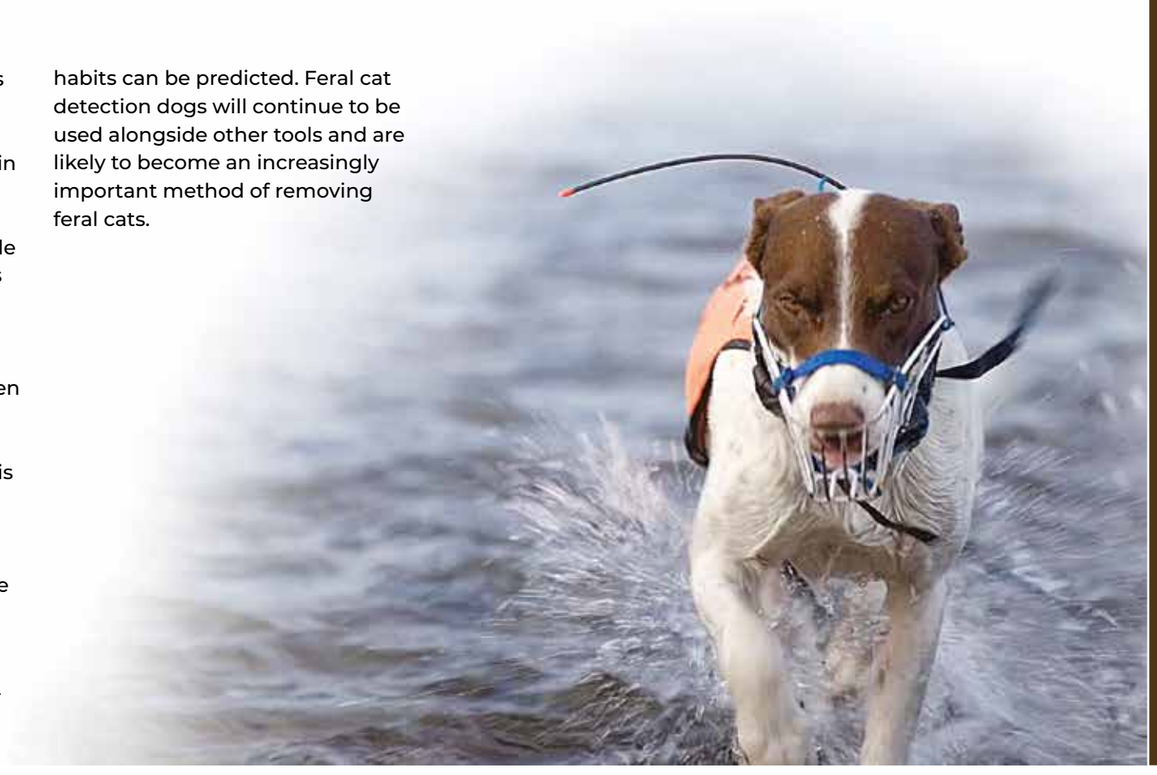


Photo by Adriana Theobald

HEDGEHOGS

A prickly job for new-boy Zach

A two-year-old pig dog called Zach is being trained to detect hedgehogs and he's on track to become New Zealand's only certified hedgehog detection dog.

Adriana Theobald is training Zach to detect the spiky invasive pests. He is also known as Professor Zachariah Q Wigglebottom for his tendency to wiggle his bottom with excitement when he finds a hedgehog.

"It's quite hard to get a dog to look specifically for hedgehogs and not be distracted, but Zach has a willingness to please and he is showing promise," says Adriana.

It is thought that some hedgehogs are reluctant to interact with traps, so next year Zach will be used alongside traps and thermal hunting in an effort to determine the best methods for eliminating hedgehogs.

Zach will become certified as part of DOC's Conservation Dogs programme. New Zealand was the first country to use dogs to benefit conservation as far back as the 1890s. Today, conservation dogs are used all over New Zealand to sniff out both protected species and pests, like weeds, rodents, mustelids and even Argentine ants.

NATIVE FISH

Collaboration nets results

The rūnaka-led project to protect native fish had a successful first season, resulting in a 90% knockdown of invasive fish in Fork Stream.

Photo by Mikaela Farr

Fork Stream is a beautiful spring-fed stream situated on Glenmore Station. It is important habitat for native species like the nationally threatened bignose Galaxias *macronasus* and upland long-jaw galaxias Galaxias *prognathus 'aff. Waitaki'* and the more abundant alpine Galaxias *paucispondylus*.

A few large koaro are also present, the original mountain trout. Introduced trout not only compete with native fish for food and habitat they also feed on the native galaxias.

Patrick Tipa, led a skilled team of seven from Te Rūnaka o Arowhenua, Te Rūnaka o Moeraki and Te Rūnaka o Waihao, who removed invasive fish and monitored the health of the awa. They have been trained in electric fishing methods and spent five weeks during autumn 2021 fishing the true left, or east, of the stream and its tributaries.

In total, 1053 trout were removed from the awa, 80% of which were brown trout, and the remainder rainbow. They were returned to the waterway below a weir that acts as a barrier to stop them returning.

Dr Rose Clucas from ECan says the rūnaka-led team put in a massive effort. "It's not easy work and it's always a learning curve. They have built their capacity and paid attention to detail, so I've got a good dataset and a good story to tell," she says.

Rūnaka board director for Te Manahuna Aoraki, John Henry, says the team did a fine job and he is keen to see the project completed.

The plan is to return to the awa next summer to remove the remaining trout. It is hoped the project will see improvements in distribution and abundance of the threatened non-migratory galaxias, bignose and upland longjaw, as has occurred in a neighbouring spring.

This project builds on work by DOC and ECan, which saw trout removed from the true right of Fork Stream, and is a great example of collaboration between Nga Rūnuka, Te Manahuna Aoraki, DOC, ECan, New Zealand Defence Force and Glenmore Station.

Photo by Robyn Janes

ROSEMARY CLUCAS

A foot in both the Māori and science worlds

Growing up on the Canterbury plains, the distant mountains were mysterious for Rosemary Clucas. The Two Thumbs, Te Kahui Kaupeka, beckoned and instilled a desire to explore the back country. She has achieved that through a fascinating learning and career journey.

Photo by Dave Kwant

These days, Rosemary has a foot in both the Māori and science worlds. She works as Poū Matai Kō, or cultural land management advisor at Environment Canterbury (ECan) and has been involved in native fish protection at Fork Stream for many years.

Rosemary whakapapas to Ngāi Tūāhuriri Kaiapoi. "I am one of the Karaitaina whānau – my tupuna tāne was the original chair of the Ngāi Tahu claim and my great pōua was also on the Ngāi Tahu Trust Board. I feel I am carrying on the tradition of keeping our association with the whenua and our relationship with our whenua tupuna alive," she says.

She never planned to be a scientist. "Like many of my generation I began nursing training but I was fascinated by science. Science was the power language as I felt it was able to explain so much." In her mid 30s and with two tamariki she started a Zoology degree. "I loved ecology, it meant when I walked at the beach I saw things I'd never seen before and I understood what I was seeing. It really opened my eyes, and at the same time I referenced as much as I was able with Te Ao Māori."

To her surprise she found she also loved statistics. "Statistics are central to ecology. Measurement helps you to resolve what you need to do next, or what you are doing wrong. Numbers help to determine causation".

Loving the university environment she went on to do a Masters at Otago in eel ecology at a tribally important wetland, Te Nohoanga o Tukiauau. Then came a PhD, spending three and a half years focusing on tītī. Her father and Poua had been muttonbirders so she saw it as an opportunity to understand more about their lives and a taonga tuku iho through harvest and matauranga Māori.

Rosemary began working as a biodiversity freshwater ranger for DOC in Canterbury and Otago. After eight years she started a consultancy and began the native fish restoration project at Fork Stream in 2108 as a consultant at request of rūnaka. She has stayed involved as part of her job. "I liked being part of a team, outdoors, everyone's getting the work done, enjoying what they are doing, with the manawhenua team there was singing waiata, I felt like I was in my element."

She certainly didn't take an easy path to those mountains but as she says. "You don't get change or satisfaction without challenge."

ROBUST GRASSHOPPERS

Native skinks removed from predator-free enclosure

Photo by Dave Kwant

330 skinks were removed from the purpose-built predator-exclusion enclosure at Paterson's Terrace. This should have a positive impact on the robust grasshoppers being studied inside the enclosure.

The 6000m² fenced area was built in 2018 to study the nationally endangered grasshopper. Hedgehogs, rats, stoats and ferrets have all been excluded.

Monitoring has shown from 2019 to 2020 total numbers of grasshoppers declined slightly, both inside and outside the fence, although the total number of breeding females declined more outside the fence. At the same time, the skink population inside the fence, thrived. This year, the majority of skinks were carefully moved to a suitable habitat outside the fence. This was done following advice from DOC's lizard technical advisory group, as it is thought they may be impacting the grasshoppers' survival.

DOC science advisor on invertebrates, Tara Murray, says it is likely the founder population of robust grasshoppers inside the fence may have been too low to sustain population growth. There is a plan to augment the robust grasshopper population inside the fence next season.

The robust grasshoppers will continue to be monitored both inside and outside the fence and it will be interesting to see what impact the removal of the majority of skinks has.

> Skinks may have been impacting the robust grasshoppers' survival

Photo by Simone Smits

TEKAPO GROUND WĒTĀ

Nationally critical wētā found within grasshopper enclosure

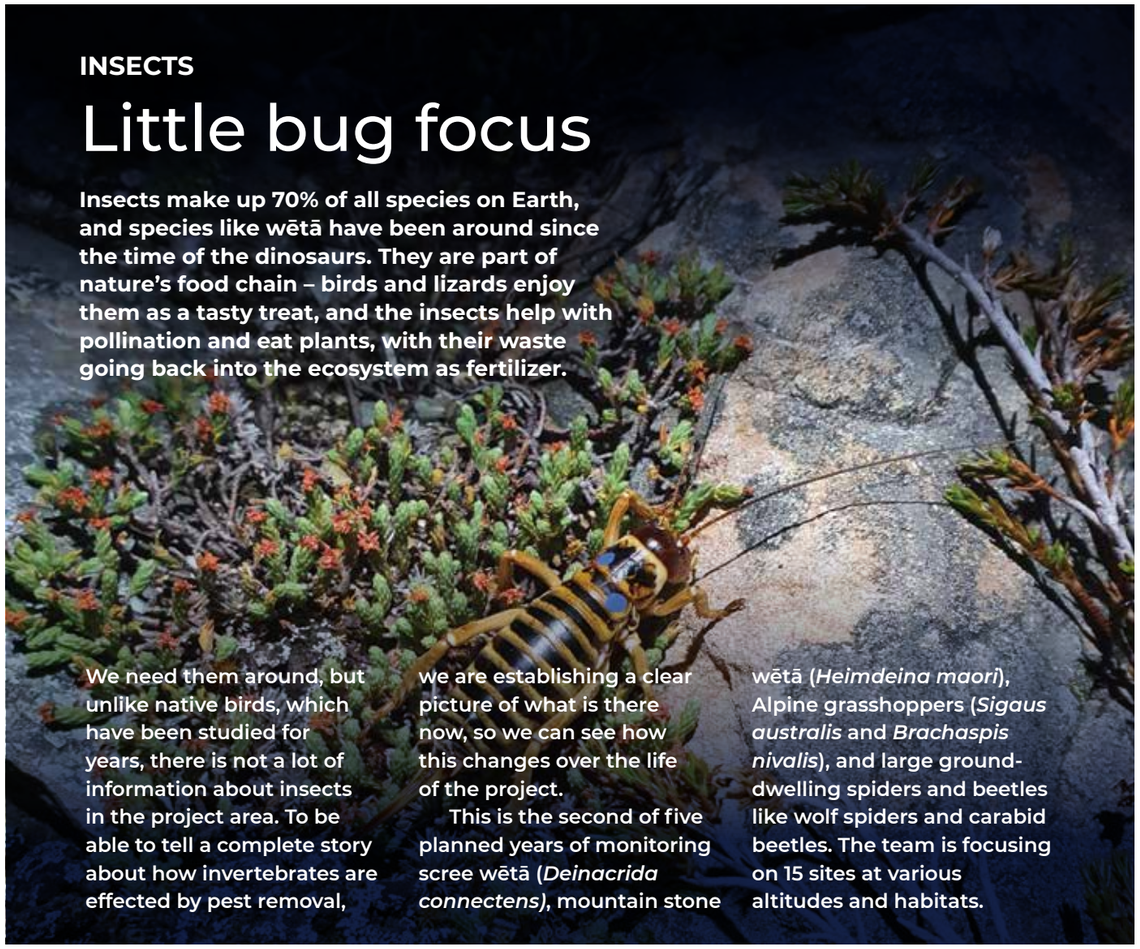
To the excitement of scientists a moderately large population of the nationally critical Tekapo ground wētā was found in 2021 when DOC staff were removing skinks from within the pest free enclosure at Paterson's Terrace.

The Tekapo ground wētā (*Hemiandrus furoviarius*) is thought to be extremely rare, and lives on river margins near Takapō/Tekapo. It burrows in silty soils and usually prefers to live on terraces above normal river flows and small floods, so is vulnerable to flooding.

DOC's science advisor on invertebrates Tara Murray says early indications are the Tekapo wētā may be more common than previously thought when its status was last assessed in 2014, as the species was also detected in two other sites by our invertebrate monitoring teams.

Over the 2021/22 summer an Otago University student will study the Tekapo wētā inside and outside the fence to assess whether it is benefiting from living in the pest free enclosure.

The Tekapo wētā may be more common than previously thought
Photo by Sam Turner



INSECTS

Little bug focus

Insects make up 70% of all species on Earth, and species like wētā have been around since the time of the dinosaurs. They are part of nature's food chain – birds and lizards enjoy them as a tasty treat, and the insects help with pollination and eat plants, with their waste going back into the ecosystem as fertilizer.

We need them around, but unlike native birds, which have been studied for years, there is not a lot of information about insects in the project area. To be able to tell a complete story about how invertebrates are effected by pest removal, we are establishing a clear picture of what is there now, so we can see how this changes over the life of the project.

This is the second of five planned years of monitoring scree wētā (*Deinacrida connectens)*, mountain stone wētā (*Heimdeina maori*), Alpine grasshoppers (*Sigaus australis* and *Brachaspis nivalis*), and large ground-dwelling spiders and beetles like wolf spiders and carabid beetles. The team is focusing on 15 sites at various altitudes and habitats.

Photo by Julia Gibson

MOUNTAIN STONE WĒTĀ

Meet the king of cool

This incredible insect has the ability to freeze without dying. As a species it has been around for 60-80 million years.

Mountain stone wētā live high in the Southern Alps and are exposed to high winds and low temperatures all year round. In winter they can survive down to -10°C with up to 80% of its body frozen.

It has developed special proteins to prevent ice crystals forming inside its cells – the largest-known insect that can do this. In this suspended animation it can survive harsh winter temperatures. In spring, it thaws out, returning to the land of the living.

It is vulnerable to native predators like ruru/morepork as its defence mechanism is to play dead (and vomit at the same time). However, as temperatures increase with climate change, more introduced predators are pushing up into the alpine zone. Our alpine predator control will help this species.

Photo by Inger Booiman

LIZARDS

First-year monitoring provides new data

Lizards are like the bees of the high country – they disperse seeds and pollinate so it's important to retain them in the project area.

This was the first year lizards were monitored to get baseline knowledge about where rare species are found and how abundant common species are.

Four sites were selected for monitoring. Given the threat of lizard smugglers, we can't name the sites. A total of 200 pitfall traps were set up and baited with canned pear, for four fine weather days.

The monitoring team checked the traps each morning, examining, measuring and photographing each lizard found. We know feral cats and stoats are significant threats to lizards. Te Manahuna Aoraki biodiversity ranger Julia Gibson says many of the skinks found had tail loss – indicating they are being targeted by predators.

Lizard captures varied across the sites with all species found except the jewelled gecko, but this is not surprising as they are tree-dwelling. Common Southern Alps geckos were caught across all sites with one found at 1900 m in the Malte Brun range. This is the highest altitude this species ever been found. The only skink to be found in more than one site was the Roamatimati skink (Southern long-toed skink). A single Mackenzie skink was caught, and four others were seen.

This baseline knowledge will be important to understand how lizards respond to landscape-scale predator control, and how we can better protect them.

Photo by Sam Turner

ALPINE ROCK SKINK

New lizard species found in project area

Experts have reviewed photos of some of the lizards our team found at one of the monitoring sites and it looks like we may have found Alpine rock skinks (*Oligosoma*). These skinks have previously only ever been found in the northern Otago region. The species was discovered in 2018. Genetic testing will be done next year to confirm the find and if deemed official, this will expand the range of the alpine rock skink.

SPECIES SHOWCASE

The lizards of Te Manahuna Aoraki

The project area is known to contain five skink and two gecko species

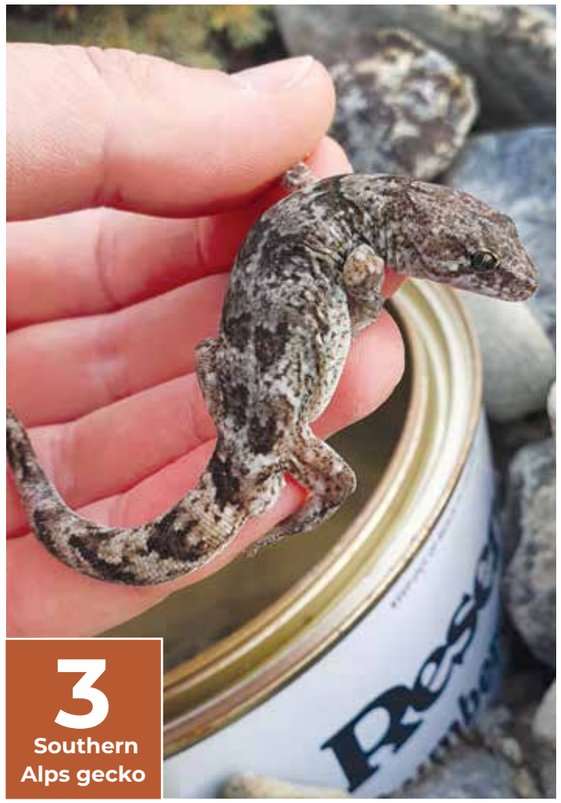
	COMMON NAME	LATIN NAME	STATUS
1	**Mackenzie skink**	*Oligosoma prasinum*	Nationally vulnerable
2	**Scree skink**	*Oligosoma waimatense*	Nationally vulnerable
3	**Southern Alps gecko**	*Woodworthia "Southern Alps"*	Declining
4	**Jewelled gecko**	*Naultinus gemmeua*	Declining
5	**Roamatimati/Southern long-toed skink**	*Oligosoma aff. longipes "southern"*	Declining
6	**Southern grass skink**	*Oligosoma aff. polychroma Clade 5*	Not threatened
7	**McCann's skink**	*Oligosoma maccanni*	Not threatened

1 Mackenzie skink

Photo by Julia Gibson

2 Scree skink

Photo by Marieke Lettink



3 Southern Alps gecko

4 Jewelled gecko

Photo by Aalbert Rebergen

5 Roamatimati

Photo by Julia Gibson

6 Southern grass skink

Photo by Julia Gibson

7 McCann's skink

Photo by Sam Turner

Photo by Peter Willemse

JOBS FOR NATURE

4 years

12 projects

74 people

$12 million

LINZ investment huge boost for weed and pest control

The investment from Toitū Te Whenua Land Information New Zealand (LINZ) through its Jobs for Nature programme is creating jobs and allowing the project to significantly scale up invasive weed and pest control.

This year, new employment has been provided for 74 people across weed and pest control programmes. Up to $12 million funding will be distributed to 12 projects over four years to support this work.

The LINZ-funded work focuses on the elimination or extensive control of rabbits, Canada geese, feral pigs, black-backed gulls, and nearly all woody weeds within the Te Manahuna Aoraki project boundary. If left unchecked, many of these weeds have the potential to become the next 'wilding pine problem', and along with pests like rabbits, can completely alter the unique tussock dryland and braided river landscapes.

This landscape-scale intervention expands and accelerates Te Manahuna Aoraki's existing weed and predator control operations and will greatly improve the habitat of some of New Zealand's most fragile plants and animals.

LINZ has management responsibilities over extensive Crown lands within the project area, including Lake Pukaki. This additional funding will complement work undertaken by LINZ, Te Manahuna Aoraki, Department of Conservation, Environment Canterbury and landholders.

Rabbits can damage huge areas very quickly

RABBITS

Scaling up control measures

Rabbit control across the Mackenzie basin is scaling up, with plans to reduce numbers to low levels across different land types.

Rabbits are serious environmental pests across 135,000ha of the project area, eating their way through native vegetation and agricultural land, and costing farmers millions in lost production and control. They are also a food source for feral cats, stoats and ferrets, so high rabbit numbers lead to high predator numbers, increasing the risk to native species.

The project is starting rabbit control at various locations, aimed at reducing rabbit numbers and protecting biodiversity values.

The existing rabbit elimination trial at the Godley will maintain rabbits at very low levels, with follow-up ground control, and extend to the other side of the Godley and the Macaulay River.

This trial has provided valuable learning and the team have been able to refine night vision and thermal tools, which will be used on next year's multi-species pest elimination at Paterson's Terrace.

The Paterson's Terrace site will focus on eliminating rabbits, hares, hedgehogs and ferrets from 2600ha of low country, including conservation and private land. Motion-activated cameras will be installed every 50ha, so we can understand what happens to predator numbers when rabbits are low. It will also be useful to identify whether the canals that border part of the site can be used as a barrier to stop reinvasion.

DOC and Glentanner Station are also controlling rabbits along the Tasman Riverbed, and sensitive plant biodiversity monitoring will be set up from winter 2021 to gauge what impact removing rabbits has on plants.

RABBITS

Elimination project an "exciting phase for the Basin"

> "Rabbits are a huge problem again."
>
> **Andrew Simpson**

Andrew Simpson knows the devastation rabbits can inflict on the dryland tussock landscape of the Mackenzie Basin – he's seen it all his life.

Brought up on Mt Hay Station, Andrew and his brother Rex brought Balmoral Station the year he left school. "I've had a mortgage since I was 17 years old," he laughs.

In the late 1970s and 1980s, rabbit plagues in the area were out of control. Picture a moon landscape where areas of golden tussocks were reduced to barren wasteland, paddocks turned into dusty deserts pitted with holes. "It was devastating to watch the land effectively disintegrate before your eyes. We'd come through the land development phase in the 1980s, and then the rabbits came along and ate everything we'd done."

Rabbits destroy dryland tussocks, cutting through new shoots and digging them up to line their burrows. Along with rabbits come Hieracium, a low flat weed also known as Hawkweed. Rabbits eating the competition allows hieracium to invade, leaving large areas of farmland unproductive.

"It all happened over a period of years and you wake up one day and you think holy Hell, you're in a mess," says Andrew.

The farming community did not just sit back and watch rabbits take over. In the 1980s, years of work went into getting approval to introduce the viral rabbit disease Myxomatosis, but the Government found the risks outweighed any advantages. Instead, a Rabbit and Land Management programme was introduced to assist farmers to rabbit-proof farms and make them more sustainable.

Andrew says the programme "chucked quite a bit of money at rabbit control" and put the onus back on farmers to put their own management plans together. He was able to get rabbits numbers down by spending $60-100,000 a year on pest control.

By the late 1990s, rabbit numbers exploded again in many areas. When the Government declined an application to release rabbit calicivirus disease (RCD), some farmers illegally released it anyway, in what has been called New Zealand's biggest biosecurity breach.

RCD made a huge difference in the Basin, says Andrew, taking out virtually all the rabbits, and allowing the land to recover. These days, secondary control is keeping rabbit numbers low on his property, but numbers have since exploded elsewhere. "They are a huge problem in the Basin again. You can't take your foot off the throat of rabbits. We still spend $30-40,000 on pest control every year."

He is cautiously excited about Te Manahuna Aoraki's trial to remove rabbits from 2600ha at Paterson's Terrace. The trial will attempt to eliminate them, and keep them out. Motion-activated cameras will help track the effect removing rabbits has on predator numbers and native wildlife. Andrew's worry is that removing cats and ferrets will leave rabbits predator-free. "I'm quite excited to see what sort of results we can get. But this is a trial. If it works great, if it doesn't I can go back to my old ways."

Despite that, as an enthusiastic supporter and partner of Te Manahuna Aoraki, he is glad we are trying. "If we can eliminate rabbits it would be mind- blowing ecologically and environmentally – it would be unbelievable."

Photo by Dave Kwant

RUSSELL LUPINS

Aiming for zero in biodiversity hotspots

Russell lupins in the Mackenzie Basin are a perfect example of a garden plant in the wrong place.

A native of North America, their colourful flowers are much photographed by visitors during summer. However, in New Zealand, Russell lupins can be aggressive weeds that can choke out native plants in unwanted locations like braided rivers, tussock grasslands and wetland habitats.

These areas are home to kakī/black stilts, ngutu pare/wrybill, turiwhatu/banded dotterel, and other threatened birds. Lupins can grow to 1.5m tall, and not only do they encroach on the habitat of these birds, they provide cover for predators. Lupins also capture silt, which changes the course of braided rivers.

The project is reducing lupin numbers to zero in biodiversity hotspots like braided riverbeds, and Aoraki Mount Cook National Park with LINZ funding. Popular spots to photograph lupins by Lake Takapō/Tekapo are not being targeted.

Photo by Peter Willemse

2019

Before

Red Rowan leaves and berries at Whale Stream

2021

After

Whale Stream after weed control

Photos by Peter Willemse

WEED CONTROL

Hitting the big six hard

LINZ funding has seen 70 people working on weed control this season, targeting over 140,000 invasive plants or trees, over 28,329ha.

The weed control is targeting six species; rowan, broom, gorse, cotoneaster, flowering cherry and wild Russell lupins. Treatment involved aerial and ground control using herbicide with six contractor crews and three local helicopter companies.

These weeds have the ability to spread quickly, and compete with native plants, preventing them from establishing. The additional funding has allowed us to hugely increase the existing rowan and broom control the project was already undertaking and add four more invasive weed species.

By hitting these weeds hard, we can stop them in their tracks before they become as much of a problem as wilding pines.

WEED	NUMBER TREATED	TARGET
Rowan	55,528	Eliminate adult plants by 2024
Broom	11,397	Eliminate by 2024 (except for 2 containment sites)
Flowering cherry	4481	Eliminate adult plants by 2024
Cotoneaster	21,603	Kill 90% of adult plants by 2024
Russell lupin	27,477	Eliminate 95% of all adult wild plants by 2024
Gorse	21,113	Eliminate adult plants by 2024

Photo by Robyn Janes

FLOWERING CHERRY

Most significant flowering cherry control in 20 years

Photo by Peter Willemse

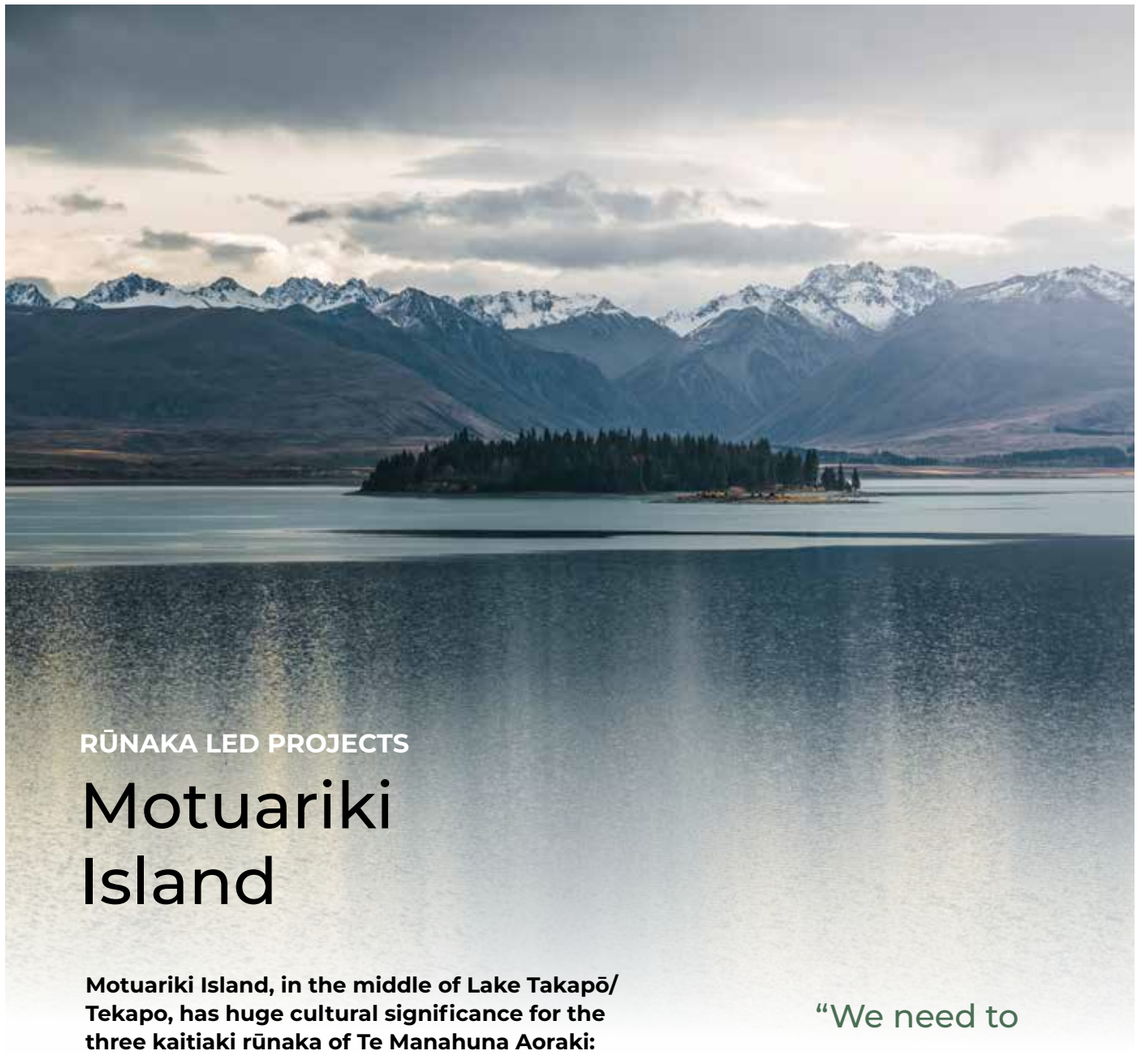
The biggest effort in 20 years saw 4481 flowering cherry plants targeted in the national park this season, halting their slow march through the sub-alpine landscape.

It is thought the trees were originally planted in the gardens of homesteads near Mount Cook village before the area became a national park. Thousands of flowering cherry are spreading throughout native shrublands near the village. It is a tree that can form forests which grow larger than some native species, so there is a risk it will completely alter the look of the area, shading out the native woody vegetation.

> “I’m confident we can significantly reduce flowering cherry in the park with continued resourcing and innovative techniques”
>
> **Peter Willemse**

Senior Te Manahuna Aoraki weeds ranger Peter Willemse says the national park is the site of the worst flowering cherry infestation in the Mackenzie Basin and the LINZ funding has allowed the biggest effort to eliminate it in 20 years.

“We have never had the capacity or financial resourcing to do as much previously, so this is really rewarding. We gave it a really good nudge this season, and I’m confident we can significantly reduce flowering cherry in the park with continued resourcing and innovative techniques.”



RŪNAKA LED PROJECTS

Motuariki Island

Motuariki Island, in the middle of Lake Takapō/ Tekapo, has huge cultural significance for the three kaitiaki rūnaka of Te Manahuna Aoraki: Arowhenua, Moeraki and Waihao.

According to Māori oral traditions the earliest people to inhabit Te Waipounamu (the South Island) were Hāwea, Rapawai and Waitaha. Te Rapawai established a pā site on Motuariki, and it was used for some time as a permanent living base.

The cultural values on the island are to be assessed by Rūnaka to inform future management options and discussion with the local community.

The chair of Te Rūnaka o Arowhenua, and Te Manahuna Aoraki director John Henry says it is a very tapu island and it will be good to use LIDAR technology to ascertain if there are any urupā (burial sites) there.

“It’s important to get those reports done, as we need to know what is there,” he says.

A fire on the island in 2014 is thought to have destroyed 80% of the island’s vegetation and rūnaka representatives are keen to get an understanding of what indigenous plants and animals remain and the island’s cultural and archaeological importance.

> “We need to know what is there”
>
> **John Henry**

CANADA GEESE

Culls protect habitats of native birds

A sustained effort by landowners saw 180 volunteer hours committed to controlling invasive Canada geese this season.

The control operations have been coordinated by Braemar Station's Hamish Mackenzie and it was pleasing to see the work gaining momentum with an additional seven landowners on the project's southern boundary, and three in the Ōhau catchment taking part this year. These sites may be acting as source populations for geese in the project area.

Large flocks of Canada geese destroy the habitat of threatened native species like kakī/black stilt and crested grebe, and pollute waterways and pasture with their droppings. The geese also impact farmers as they eat large amounts of pasture and crops.

Te Manahuna Aoraki is working with land owners, LINZ and DOC to humanely control geese in an efficient and co-ordinated way. A total of nine Canada geese cull operations took place during the nesting and moulting periods from the ground, air and by boat, removing 9,443 Canada geese from a total area of 3,055ha.

Members of manawhenua iwi Te Rūnanga o Waihao also collected geese from the Lake Alexandrina cull to use the feathers for korowai (cloaks).

More to learn about the movements of the geese

Canada geese live on high country waterways in summer before heading to breeding grounds in the headwater valleys of rivers flowing from the Southern Alps in spring. This season Te Manahuna Aoraki plans to attach GPS radio collars to a number of Canada geese to track their movements over an 18-month period. This will help determine how effective the culls are, and also provide information about where the geese move to, so we can work with other runholders across the Mackenzie Basin to humanely reduce geese numbers across the region.

Photo by Simone Smits

BLACK BACKED GULLS

Other native birds at risk from gull attacks

The karoro/black-backed gull is one of only two native bird species not given any level of protection under the Wildlife Act. That's because it is a very aggressive hunter, pirate, and scavenger that preys upon on braided river birds like tarapirohe/black-fronted tern, ngutu pare/wrybill, and tūturiwhatu/banded dotterel.

Black-backed gulls form large colonies, and are opportunistic feeders. Their numbers are artificially high in the project area because so many agricultural food sources are available. This year, in collaboration with Toitū Te Whenua/Land Information New Zealand, the project implemented ground, aerial, nesting and recruitment control measures to reduce black-backed gull populations down to more natural levels.

Outcome monitoring is planned for next season, and Te Manahuna Aoraki is also working with Project River Recovery to establish methods to track predation of tarapirohe/black-fronted terns by black-backed gulls.

Above and below: Department of Conservation trail cams have captured black-backed gulls preying on eggs and black-fronted tern chicks

Photo by Kim Miller

INVASIVE PESTS

Focusing on movement of the top 10 invasive pests

Comprehensive research into the movement of small mammal pests in the project area has produced valuable insights into invasive pest behaviour to help us target them more efficiently.

Over the last three years, Otago PhD student Nick Foster has led a research project funded by Te Manahuna Aoraki and Predator Free 2050 Ltd. He has studied the movement of 10 invasive pests in the project area, looking in-depth at distribution and seasonal trends of stoats, weasels, possums, ferrets, hedgehogs, feral cats, Norway rats, hares and rabbits.

Now we know where the small mammal pests are during different seasons, we can design pest and site-specific elimination as part of our long-term planning.

A hedgehog tagged with a GPS device near the boundary of the project area
Photo by Nick Foster

INVASIVE PESTS

Mountain ranges prevent the movement of pest species

Over 2.5 million images from sites all over the project area were analysed to model how high pest species range in the mountains of Te Manahuna Aoraki.

Most species did not range above 1500 m, however stoats, hares and mice are found higher, with stoats most often detected between 1750 m and 2000 m. One stoat was even seen at 2135m, which would be under snow for most of the year.

A hedgehog was also detected at nearly 2000 metres, sparking huge interest both in New Zealand and in the United Kingdom, where hedgehogs are protected.

The 310,000ha project area has a 212km mountainous boundary so the data was used to identify where mountain ranges and what kinds of terrain will be effective at limiting or preventing the reinvasion of each species. For example, the movements of hedgehogs are prevented by rugged rocky terrain and steep-sided scree slopes.

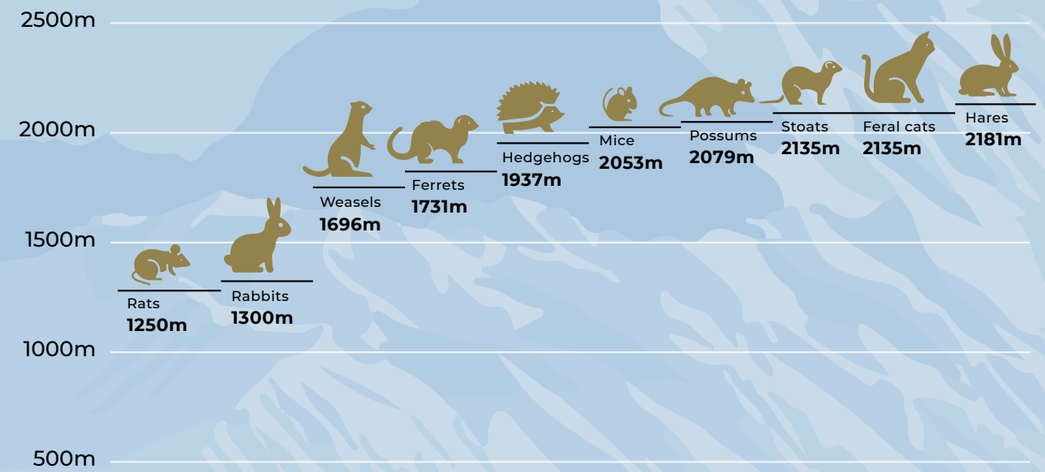
The project area is bounded on the east by the Two Thumb range, on the north by the Main Divide, and on the west by the Ben Ohau West range. These mountain barriers are nearly completely secure for Norway rats, rabbits, ferrets, hedgehogs and weasels, and largely secure for mice, possums, feral cats, stoats and hares. This information will be invaluable in designing the plan to eliminate pests across the entire project area.

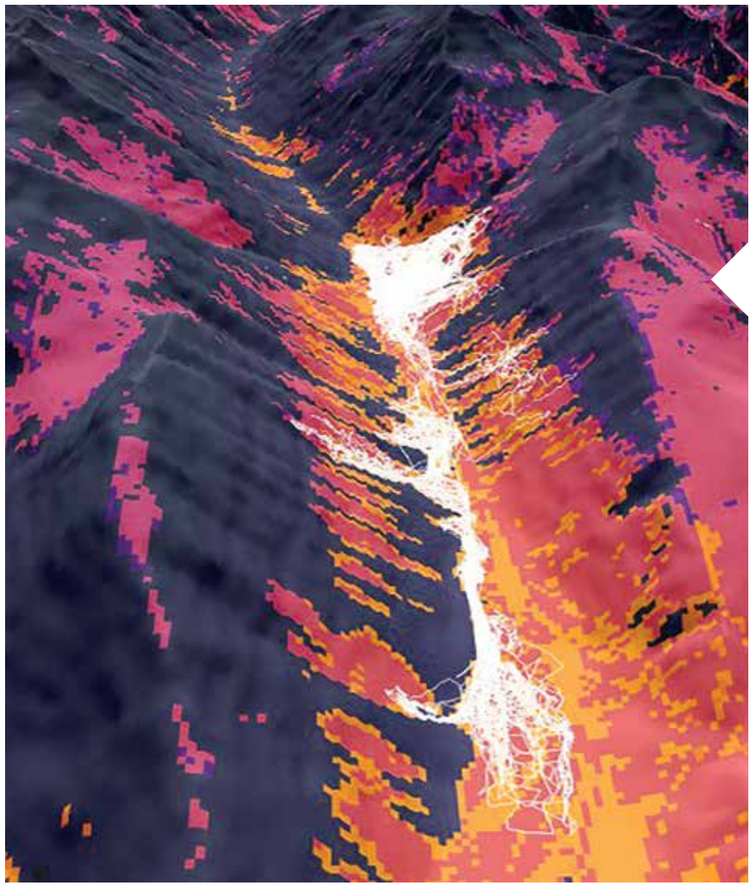
Below: Looking for temperature logger as part of the hedgehog trial in June 2021

Photo by Nick Foster

How high do the predators go?

Predators have been found at surprising altitudes across the project area





OCCUPANCY HEATMAP

Hedgehog hotspots

This map shows how the mountains in this area will provide a natural barrier against hedgehog reinvasion.

White lines show hedgehog tracks

Blue/black areas show where hedgehogs are unlikely to be found.

Orange/red areas show where hedgehogs are almost certainly active.

Probability of occurring

0% **100%**

RESEARCH EVIDENCE

Winter drives many pest species low

Winter conditions in the high mountains of the project area provide a unique opportunity to more efficiently target pest species, when snow cover is at its maximum.

Researcher Nick Foster says there is strong evidence that many pest species that roam very high in summer, like feral cats and possums, are completely absent in these zones in winter. Therefore, it makes sense to target them in lower, more accessible zones, between June and September.

"Imagine if once a year the entire population of a pest species in a forest environment congregated in a predictable 30-50% of the total area. This is what is happening in the upper regions of the project area – it's a great opportunity to get the biggest bang for your buck." This information allows us to design pest and site-specific elimination," says Nick.

Nick Foster finds a hedgehog hibernating, winter 2021
Photo by Kim Miller

"Imagine if once a year the entire population of a pest species in a forest environment congregated in a predictable 30-50% of the total area"

Nick Foster

Photo by Simone Smits

TRACKING

Pioneering research project targets hares

Final results from the research into hare movements in alpine areas will be extremely valuable for the management of hares in the project area and New Zealand-wide.

In a New Zealand first, researcher Nick Foster and his team GPS collared 28 hares and tracked them for between 2 and 12 months each, over the course of 2.5 years. His research looked at their home ranges and how and when they were present in particular alpine habitats.

Hares cause significant damage in sub-alpine and alpine grasslands when they are in high numbers, as they graze on sensitive populations of native plants.

Importantly, in alpine zones hares are one of the more important prey resources for introduced predators like feral cats and stoats. This means they support populations of these pests at altitude, putting native species like tuke/rock wren and kea at risk.

Even though hares were found to stay at high elevations during winter, the data from GPS collars and satellite imagery revealed that they preferred sunny, vegetated slopes and that their individual home ranges expanded to include multiple patches of favoured habitat. This information will allow us to target them more efficiently in winter months and is currently guiding a trial in the Malte Brun range.

A big thank-you to helicopter pilot Mark Pridham, and high country farmers Johnny Wheeler and Laurie Prouting, who developed a method to projectile-net hares from helicopters.

Photo by Inga Booiman

PREDATOR FENCING

Holding up to extremes

Some lower parts of the mountain ranges may need to be reinforced with pest-exclusion fences. We are trialling three different predator-proof fences at Mt Hay Station in the Two Thumb range.

The three fences were designed with input from landowners and Zero Invasive Predators (ZIP). A webcam and weather station are monitoring conditions and the highest wind gust so far was 197.4km/hr in December 2019. Despite the harsh conditions, all three fence designs are withstanding high wind and snow loads.

Photos by Fiona McNab

DESIGN A

- Short, strong, proven design
- 1.1m high
- PPF cap with wooden posts at 2m centres
- 12m long

DESIGN B

- Tall strong, proven design
- 1.8m high
- PPF cap with wooden posts every 2m
- 12m long

DESIGN C

- Short novel design
- 1.1m high
- PPF cap (plan to trial HDPE cap)
- 12m long + wooden end posts
- 57 irons every 2m

GPS STUDY

Turning the spotlight on tarapirohe/black-fronted terns

A study using GPS trackers on tarapirohe/black-fronted terns is hoping to reveal the daily movements of this iconic species.

This is the first time trackers have been put on these native birds. Unlike most terns which are seabirds, the tarapirohe lives and breeds inland, only visiting the coast to feed in autumn and winter. It's estimated there are 5000 – 10,000 in the wild.

Lincoln University Master's student Fraser Gurney attached trackers to 34 birds in the Cass and Upper Ōhau rivers in November 2020 and will retrieve the data when the birds return a year later. He says while tarapirohe are seen quite often there's a big knowledge gap about how far they travel from their colonies and which habitats they prefer spending time in.

They nest in colonies on open shingle along the braided rivers so breeding is a risky business. As well as stoats, ferrets, feral cats and hedgehogs, kāhu/swamp harriers and karoro/black-backed gulls are natural predators. Te Manahuna Aoraki, Project River Recovery and DOC are supporting this work.

Above: Lincoln University student Fraser Gurney monitoring tarapirohe black-fronted terns

Below: Hadley de Garnham with DOC's Principal Technical Advisor Richard Maloney, releasing one of the tarapirohe
Photo by Julia Gibson

Photos by Julia Gibson

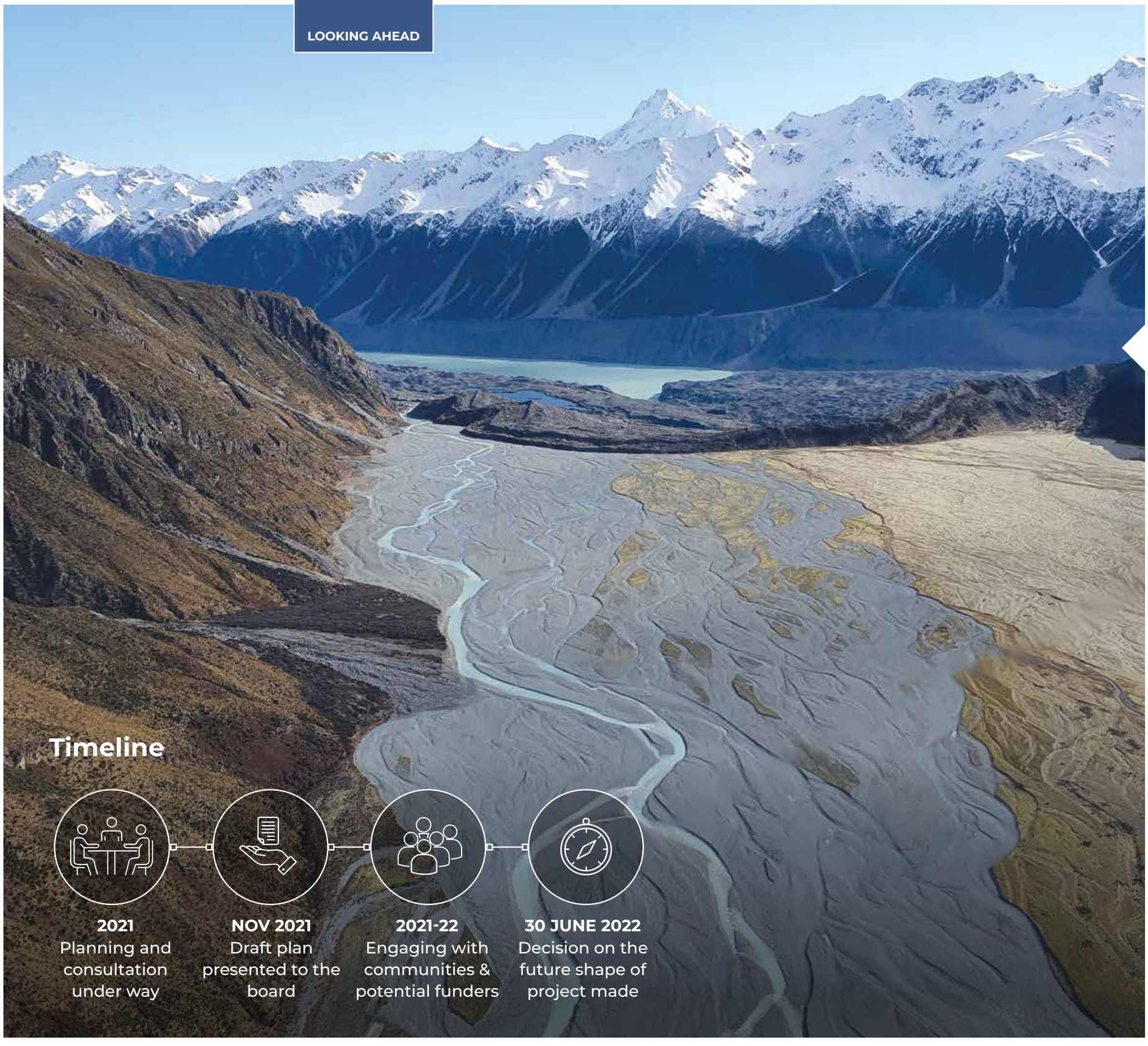


Photo by Simone Smits

Moving towards the next phase

Since 1 July 2018, Te Manahuna Aoraki has been in the development phase, focused on a programme of work designed to engage landowners and iwi, control some specific threats, research key unknowns and demonstrate delivery capability. The purpose of the project to date has been on informing the development of a long-term plan for the project that is credible, gains support and secures necessary funding over what will potentially be a 20-year period.

The 2021/22 year will be the final year of the development phase, concluding at the end of June 2022. The 2021/22 work programme will continue to focus on working with project partners, but will also aim to take what has been learned to date and test the efficacy of elimination for various pest species in the different environments.

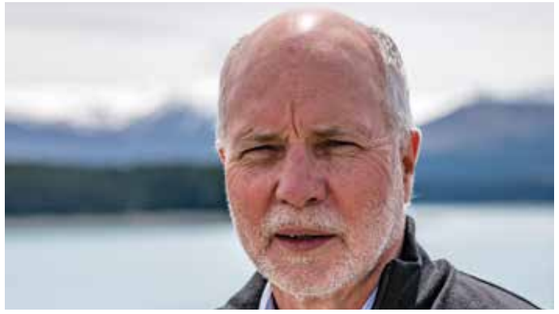
This will provide the platform to launch into the next phase, accelerating implementation of the project across the entire 310,000 ha area, in what will be the largest restoration project in Aotearoa. The project's future will be guided by an ambitious vision.

> The towering mountains, braided rivers and dryland tussock grasslands of Te Manahuna Aoraki are revitalised, and the native animals, plants and people that live there are thriving together in a vast, protected, mainland island.
> *Oha te ora hau – Breath stirs new life*

Decisions on the future shape and detail of the project will be made before the end of June 2022.

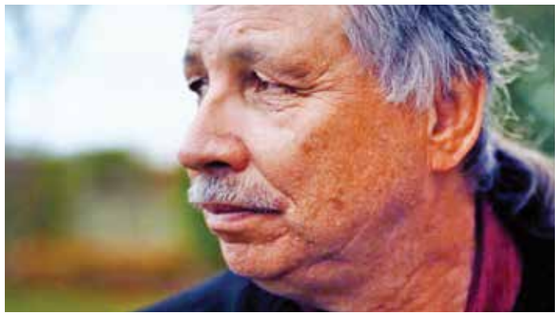
Meet the Board

Dr Jan Wright
Chair



Devon McLean
Director

David Higgins
Director (retired 2021)



John Henry
Rūnaka Director

Julia Mackenzie
Director

Mike Slater
Department of Conservation senior liaison officer

Jerome Sheppard
LINZ representative

Stephen Phillipson, New Zealand
Defence Force representative

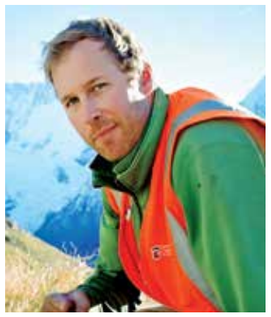
Our growing team

Stephen Hall
Project director

Simone Smits
Project manager

Nick Foster
Predator ecologist

Inga Booiman
Project team supervisor



Tom Smits
Predator control team lead

Pat Soto
Predator control

Julia Gibson
Outcome monitoring ranger

Adriana Theobald
Conservation dogs and feral cat control

Peter Willemse
Senior weeds ranger

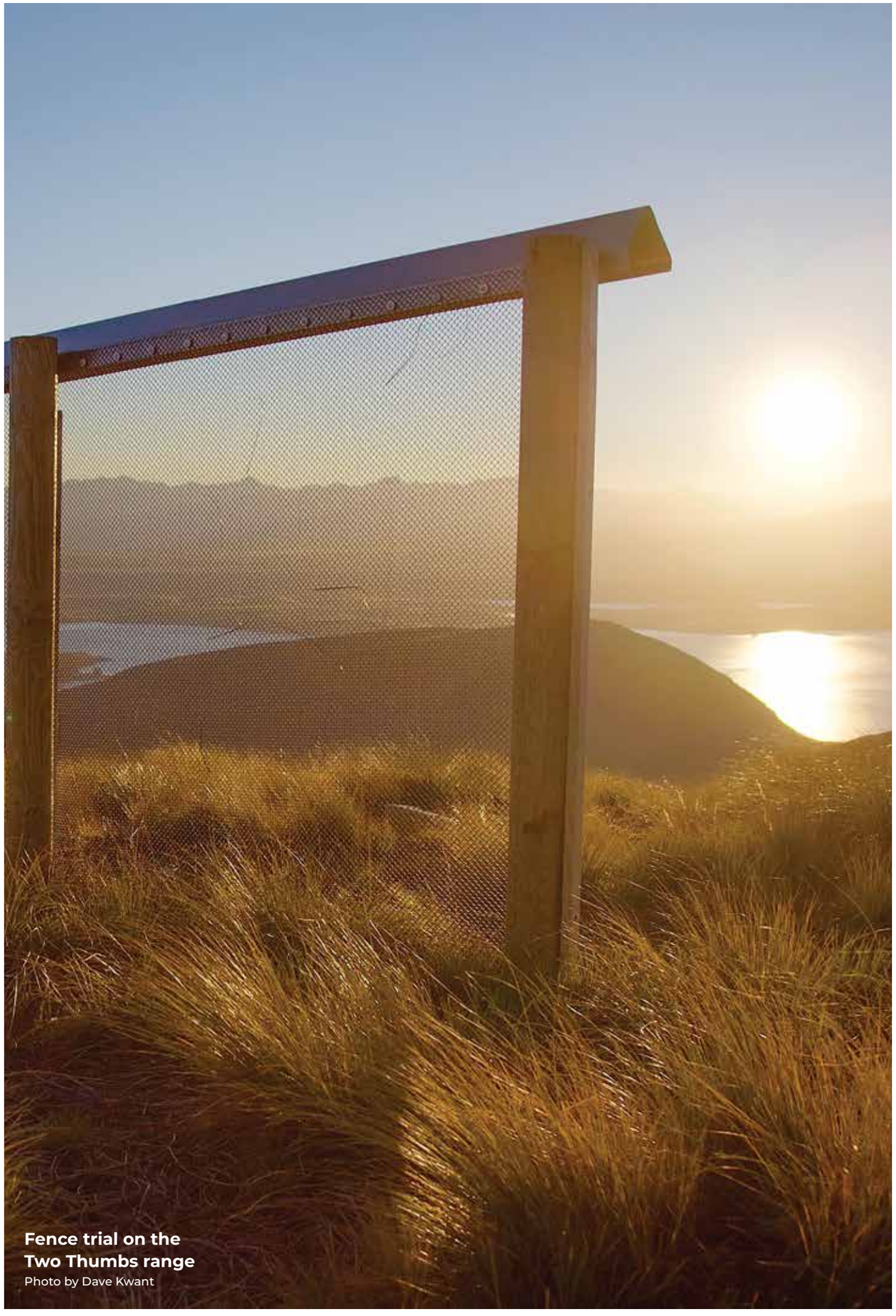
Charlotte Patterson
Data analyst

Chloe Underwood
Administrator

Richard Maloney
Technical advisor

Robyn Janes
Communications manager

Leigh Cooke
Accountant



Fence trial on the Two Thumbs range
Photo by Dave Kwant

FINANCIAL STATEMENTS

Te Manahuna Aoraki Limited

For the year ended 30 June 2021

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5	Entity Information
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Independent auditor's report

To the Directors of Te Manahuna Aoraki Limited

Our opinion

In our opinion, the accompanying financial statements of Te Manahuna Aoraki Limited (the "Company"), present fairly, in all material respects, the financial position of the Company as at 30 June 2021, its financial performance and its cash flows for the year then ended in accordance with Public Benefit Entity Standards Reduced Disclosure Regime.

What we have audited

The Company's financial statements comprise:

- the statement of financial position as at 30 June 2021;
- the statement of comprehensive revenue and expenses for the year then ended;
- the statement of changes in equity for the year then ended;
- the statement of cash flows for the year then ended; and
- the notes to the financial statements, which include a statement of accounting policies and other explanatory information.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (New Zealand) (ISAs (NZ)) and International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Company in accordance with Professional and Ethical Standard 1 *International Code of Ethics for Assurance Practitioners (including International Independence Standards) (New Zealand)* (PES 1) issued by the New Zealand Auditing and Assurance Standards Board and the *International Code of Ethics for Professional Accountants (including International Independence Standards)* issued by the International Ethics Standards Board for Accountants (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

Other than in our capacity as auditor we have no relationship with, or interests in, the Company.

Other information

The Directors are responsible for the other information. The other information comprises the information included in the Annual report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of audit opinion or assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

PricewaterhouseCoopers, PwC Tower, 15 Customs Street West, Private Bag 92162, Auckland 1142 New Zealand
T: +64 9 355 8000, www.pwc.co.nz

Responsibilities of the Directors for the financial statements

The Directors are responsible, on behalf of the Company, for the preparation and fair presentation of the financial statements in accordance with Public Benefit Entity Standards Reduced Disclosure Regime, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements, as a whole, are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (NZ) and ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located at the External Reporting Board's website at:

https://www.xrb.govt.nz/assurance-standards/auditors-responsibilities/audit-report-8/

This description forms part of our auditor's report.

Who we report to

This report is made solely to the Company's directors, as a body. Our audit work has been undertaken so that we might state those matters which we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's directors, as a body, for our audit work, for this report or for the opinions we have formed.

The engagement partner on the audit resulting in this independent auditor's report is Karl Deutschle.

For and on behalf of:

Chartered Accountants
30 September 2021

Auckland

Entity information

Te Manahuna Aoraki Limited

For the year ended 30 June 2021

Issued Share Capital
100 Ordinary Shares

Registered Office
Nexia Auckland Limited
Level 1
5 William Laurie Place
Auckland 0632

Directors
J E MacKenzie
D W McLean
J C Wright

Company Number
6854715

Banker
BNZ Bank

Solicitor
Chapman Tripp
Level 34
15 Customs Street West
Auckland

Auditor
PricewaterhouseCoopers
15 Customs Street West
Private Bag 92162
Auckland 1142

Date of Formation
14 June 2018

Shareholder

Hutton Wilson Nominees Limited	100 Ordinary Shares

Entity's Purpose or Mission
Te Manahuna Aoraki is a large-scale conservation partnership focused on restoring the iconic natural landscapes and threatened species of the upper Mackenzie Basin and Aoraki/Mt Cook National Park.

Main Sources of Cash and Resources
Te Manahuna Aoraki Limited has been made possible by the generosity of philanthropic Trusts and sponsorships.

Statement of Comprehensive Revenue and Expenses

Te Manahuna Aoraki Limited

For the year ended 30 June 2021

	Notes	2021 $	2020 $
Revenue			
Revenue from Non-Exchange Transactions			
Grants Received	7	1,683,959	1,573,954
In-kind Services Received	7	58,652	-
Donations		25,000	30,000
Revenue from Exchange Transactions			
Interest Received		6,744	9,746
Foreign Exchange (Loss)/Gain		(13,770)	2,376
Other Revenue		-	18,447
Total Revenue		**1,760,585**	**1,634,523**
Expenses			
Accounting	7	15,121	14,266
Administration		-	1,271
Auditing Fees		9,923	9,450
Board Expenses		5,370	1,967
Communications		68,099	62,624
Consultancy		20,525	23,921
Contractors		525,275	407,021
DOC services and supplies		484,877	339,905
Employee Costs		137,676	109,692
Insurance		433	896
Motor Vehicle Expenses		9,222	8,840
Other expenses		23,989	19,260
Pest Eradication Equipment	7	24,299	42,592
Traps, Poison and Monitoring Supplies		39,205	60,468
Travel		13,465	18,125
Total Expenses		**1,377,479**	**1,120,298**
Net Surplus before Depreciation		**383,106**	**514,225**
Depreciation			
Depreciation	4	63,568	62,401
Total Depreciation		**63,568**	**62,401**
Total Comprehensive Revenue and Expenses for the Period		**319,538**	**451,824**

Statement of Changes in Equity

Te Manahuna Aoraki Limited

For the year ended 30 June 2021

	Notes	2021 $	2020 $
Equity			
Opening Balance		1,188,726	736,902
Increases			
Total Comprehensive Revenue and Expenses for the Period		319,538	451,824
Total Increases		**319,538**	**451,824**
Total Equity		**1,508,264**	**1,188,726**

Statement of Financial Position

Te Manahuna Aoraki Limited

As at 30 June 2021

	Notes	2021 $	2020 $
Assets			
Current Assets			
Cash and Cash Equivalents	2	962,257	606,915
GST Refundable		4,620	28,057
Term Deposits		710,491	454,286
Other Receivables		1,772	204,053
Total Current Assets		**1,679,140**	**1,293,311**
Non-Current Assets			
Fixed Assets	4	25,594	89,162
Total Non-Current Assets		**25,594**	**89,162**
Total Assets		**1,704,734**	**1,382,473**
Liabilities			
Current Liabilities			
Accounts Payable	7	18,807	37,286
Accrued Expenses		157,254	101,289
Income in Advance		20,409	55,172
Total Current Liabilities		**196,470**	**193,747**
Total Liabilities		**196,470**	**193,747**
Net Assets		**1,508,264**	**1,188,726**
Equity			
Retained Earnings		1,508,264	1,188,726
Total Equity		**1,508,264**	**1,188,726**

For and on behalf of the Board:

Director

Date: 30/09/2021

Director

Date: 30/09/2021

pwc

Statement of Cash Flows

Te Manahuna Aoraki Limited

For the year ended 30 June 2021

	Notes	2021 $	2020 $
Cash Flows from Operating Activities			
Grants Received		1,849,196	1,429,126
Donations Received		25,000	30,000
Interest Received		254	8,374
Other Revenue Received		-	18,447
GST Refunds/(Payments)		21,397	(38,071)
Withholding Tax Refund/(Payment)		2,681	(2,637)
Payments to suppliers and employees		(1,279,416)	(1,161,601)
Total Cash Flows from Operating Activities		**619,112**	**283,638**
Cash Flows from Investing Activities			
Payments to acquire property, plant and equipment		-	(14,568)
Cash flows from investing in term deposits		(250,000)	(454,286)
Total Cash Flows from Investing Activities		**(250,000)**	**(468,854)**
Net (Decrease)/Increase in Cash		**369,112**	**(185,216)**
Opening cash		606,915	789,755
Effect of exchange rate (loss)/gain on cash		(13,770)	2,376
Cash and Cash Equivalents at end of year	**2**	**962,257**	**606,915**

Notes to the Financial Statements

Te Manahuna Aoraki Limited

For the year ended 30 June 2021

The financial statements presented here are for the entity Te Manahuna Aoraki Limited ("the entity"), a registered company under the Companies Act 1993 and a registered charity under the Charities Act 2005.

(a) Statutory Base
The financial statements have been prepared in accordance with Generally Accepted Accounting Practices in New Zealand ("NZ GAAP"). The entity is a public benefit not for profit entity for the purposes of financial reporting and complies with the Public Benefit Entity Standards Reduced Disclosure Regime (PBE Standards RDR) on the basis that it does not have public accountability and is not defined as large (i.e. does not have total expenses over $30 million).

The financial statements are presented in New Zealand dollars ($), which is the entity's functional currency. All financial information presented in New Zealand dollars has been rounded to the nearest dollar.

(b) Measurement Base
The measurement base adopted is historical cost.

(c) Use of Judgements and Estimates
The preparation of the financial statements requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from those estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

No judgements or estimates were made that have a significant affect on the amounts recognised in the financial statements.

(d) Changes in Accounting Policies
There have been no changes in accounting policies. Policies have been applied on a consistent basis with those of the previous reporting period unless otherwise stated. Certain amounts in the comparative information have been reclassified to ensure consistency with the current year's presentation. The impact of this is not material.

(e) Revenue Recognition
The specific accounting policies for significant revenue items are explained below:

Revenue from non-exchange transactions
Non-exchange transactions are those where the entity receives an inflow of resources but provides no direct consideration in return. They include the following types of transactions:

(i) Grants Received
Grants are recognised as revenue when they become receivable unless there is an obligation in substance to return the funds if conditions of the grant are not met. If there is such an obligation, the grants are initially recorded as grants received in advance and recognised as revenue when conditions of the grant are satisfied. Grants revenue is categorised as non-exchange where there is no obligation in substance associated with the funding provided.

(ii) In-kind Services Received
In-kind services are recorded at fair value and in accordance with any contractual documentation at the time they are received. These in-kind services are recognised as revenue and expenses in the statement of comprehensive revenue and expense.

(iii) Donations
Donations are recognised as revenue when they are received.

Revenue from exchange transactions
Exchange transactions are those where the entity receives an inflow of resources and provides approximately equal value to another entity in exchange that is equivalent to the fair value of the consideration received or receivable.

(iv) Interest Income
Interest income is recognised on a time-proportion basis using the effective interest method.

Notes to the Financial Statements

Te Manahuna Aoraki Limited

For the year ended 30 June 2021

1. Statement of Accounting Policies (continued)

(f) Expenses
A liability is accrued for expenses incurred in the year estimated at the future cash outflows for the goods and services provided and yet to be billed.

(g) Goods and Services Tax (GST)
The entity is registered for GST. All amounts are stated exclusive of goods and services tax (GST) except for accounts payable and accounts receivable which are stated inclusive of GST.

(h) Income Tax
The entity is a registered charity under the Charities Act 2005 and accordingly is not subject to income tax.

(i) Receivables
Receivables are stated at their estimated net realisable value. Bad debts are written off in the year in which they are identified.

(j) Fixed Assets
All Plant & Equipment assets are recorded at cost less accumulated depreciation and impairment.

Depreciation of the assets has been calculated using the straight line method at a rate of 33%, which reflects the useful life of the assets.

(k) Accounts Payable
These amounts represent liabilities for goods and services provided to the entity prior to the end of the financial year which are unpaid. The amounts are unsecured.

(l) Employee Benefits
Liabilities for salaries and leave entitlements are recognised in surplus or deficit during the period in which the employee provided the related services. Liabilities are measured at the amounts expected to be paid when the liabilities are settled.

(m) Income in Advance
Income in advance is made up of grants tied to a particular purpose where there is a requirement to repay funds if they are not fully utilised for that particular purpose. A liability is recognised to the extent that such conditions are unfulfilled at the end of the reporting period.

(n) Leases
Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. Payments made under operating leases are charged to the statement of comprehensive revenue and expense on a straight line basis over the period of the lease.

(o) Foreign Currency
Foreign currency transactions are translated into New Zealand dollars using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the statement of comprehensive revenue and expense.

(p) Financial Instruments
The entity's financial asets comprise cash and cash equivalents and receivables. All of these financial assets are categorised as "loans and receivables" for accounting purposes in accordance with financial reporting standards.

The entity's financial liabilities comprise accounts payable and accrued expenses which are categorised as "financial liabilities measured at amortised cost" for accounting purposes in accordance with financial reporting standards.

2. Cash and Cash Equivalents

	2021 $	2020 $
BNZ cheque account	790,184	496,391
BNZ USD call account	172,073	110,524
Total Cash and Cash Equivalents	**962,257**	**606,915**

3. Financial Instruments

The carrying value of financial assets and liabilities in each of the financial instrument categories are as follows:

	2021 $	2020 $
Loans and Receivables		
Cash and Cash Equivalents	962,257	606,915
Term Deposits	710,491	454,286.00
Accounts Receivable	1,772	204,053
Total Loans and Receivables	**1,674,520**	**1,265,254**
Financial Liabilities Measured at Amortised Cost		
Accounts Payable	18,807	37,286
Accrued Expenses	157,254	101,289
Total Financial Liabilities Measured at Amortised Cost	**176,061**	**138,575**

4. Fixed Assets

	2021 $	2020 $
Plant & Equipment		
Plant & Equipment at Cost	190,706	190,706
Less Accumulated Depreciation	(165,112)	(101,544)
Total Plant & Equipment	**25,594**	**89,162**

Reconciliation of the carrying amount at the beginning and end of the period:

As at 30 June 2021	**Plant and Equipment**
Opening net book value	89,162
Additions	-
Disposals	-
Depreciation	(63,568)
Closing net book value	**25,594**

5. Contingent Liabilities

At balance date there are no known contingent liabilities (2020: nil).

Notes to the Financial Statements
Te Manahuna Aoraki Limited
For the year ended 30 June 2021

6. Commitments

As at reporting date Te Manahuna Aoraki Limited had no operating lease for a motor vehicle.

	2021 $	2020 $
Less than one year	-	1,650
Total Operating Lease	**-**	**1,650**

There were no future capital commitments at period end (2020: nil).

7. Related Parties

Hutton Wilson Nominees Limited, Hutton Wilson Charitable Trust and Zero Invasive Predators Limited are related parties that have key management personnel in common with Te Manahuna Aoraki Limited.

During the period, Te Manahuna Aoraki Limited received grants of $500,000 (2020: $500,000) from Hutton Wilson Charitable Trust. It also received contractor services in-kind from Hutton Wilson Nominees Limited to the value of $58,652 (2020: nil).

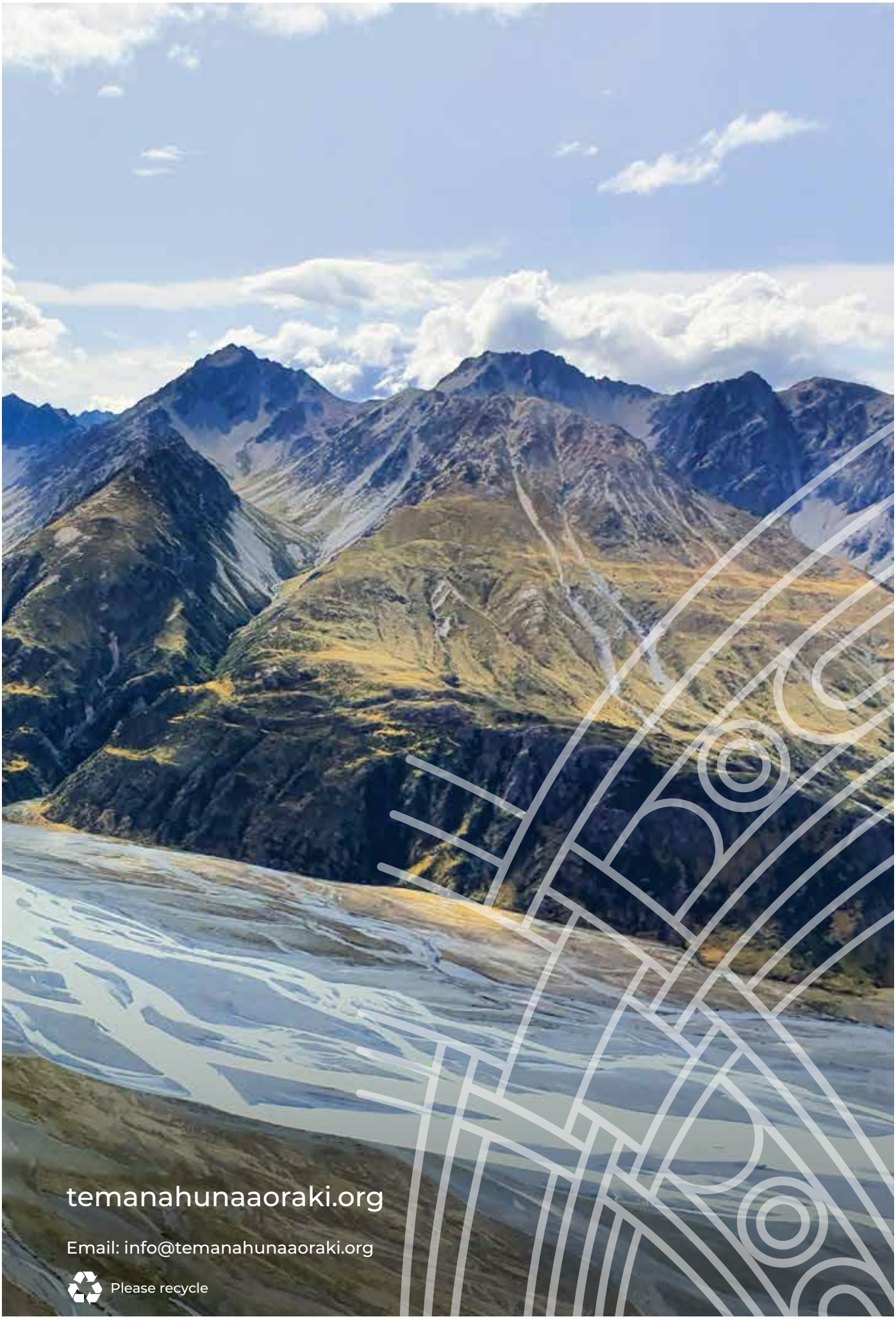
During the period, expenses amounting to $15,228 (2020: $24,694) were paid to:
- Hutton Wilson Nominees Limited: $14,445 (2020: $7,200) for accounting services;
- Zero Invasive Predators Limited: $783 (2020: $17,494) for pest eradication equipment. $900 was owed at balance date;

8. Events Subsequent to Balance Date

No subsequent events occurred after balance date requiring disclosure within the financial statements.

9. Covid-19 Impact

There have been no material negative impacts on the entity as a result of the Covid-19 pandemic. In fact the government investment in Jobs for Nature and regional alliances in conservation and employment related outcomes is likely to result in net benefits to the project. The entity will continue as a going concern for the foreseeable future and deliver its programme of work as planned.



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