

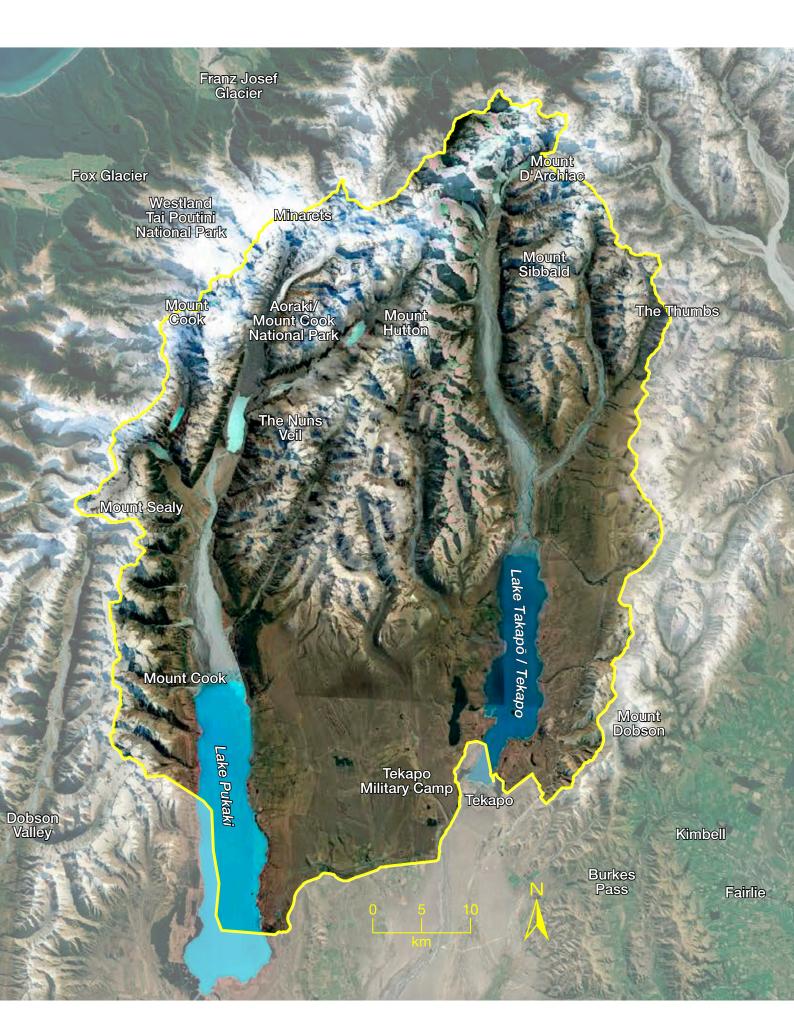


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PROJECT OVERVIEW

"The Te Manahuna Aoraki project has

brought various agencies together, and

could be a model for other conservation

projects. I'm hugely optimistic about what

it can achieve for the Mackenzie Basin."

Conservation Minister Eugenie Sage

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

It is a special conservation collaboration in terms of scale-both in size, and the number of different

partners brought together in a shared vision to care for this unique landscape and ecosystem.

Te Manahuna is the Māori name for the Mackenzie Basin and means the place of enlightenment. It was an important area for Māori as

they undertook seasonal mahika kai expeditions because of the abundance of weka and tuna (eel).

The project aims to preserve the unique landscapes and secure a safe habitat for endangered species ranging from kea and tuke/rock wren in the alpine zone to the braided river species

including ngutu parore/wrybill, robust grasshoppers, jewelled gecko and the world's rarest wading bird-the kakī/black stilt.

The 310,000 ha project area includes Aoraki/ Mount Cook National Park, mountain ranges, Lake Pukaki and Lake Takapō/Tekapo and the extensive braided river systems that feed them.

> Approximately 60% is conservation land. The balance is a mix of crown land and riverbed managed by Land Information New Zealand (LINZ), part or all of fourteen high country stations, and an area managed by the New Zealand Defence Force

for field training and preparation for deployments.

The partners have agreed to fund a "no regrets" three-year feasibility phase to extend protection for kakī/black stilt and other endangered species and to test tools and techniques for a proposed 20-year, landscape scale project, which aims to secure a vast predator free mainland island.



Front row: Wes Sechrest, Dr Kay Booth, Dr Jan Wright, Conservation Minister Eugenie Sage, Sue Eddington, Sandra Hampsted, Phil Tish Back row: Richard Maloney, Devon McLean, Sara Eddington, David Higgins, Rynee Hammond, Simone Cleland, John Henry, Mel Ross



PROJECT PARTNERS

Te Manahuna Aoraki is a team effort. Te Rūnanga o Ngāi Tahu Iwi, Government departments, philanthropists, landowners and local bodies-all working towards a common goal.

FOUNDING PARTNERS

Department of Conservation

The Department of Conservation/Te Papa Atawhai is a founding partner and manages 60% of the project's land. This public conservation land includes Aoraki/Mount Cook National Park.

www.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.

www.nextfoundation.org.nz

Te Rūnaka o Arowhenua

Arowhenua is the principal Māori kāinga of South Canterbury and lies between the junction of the Temuka and Opihi Rivers two kilometres south of Temuka.

www.arowhenua.org

Te Rūnaka o Waihao

Waihao is named for its river, which has its footprint in the inland foothills. The takiwa or district borders Arowhenua to the Waitaki, and inland to Omarama and the Main Divide.

www.waihaorunanga.co.nz

Te Rūnaka o Moeraki

Moeraki is the southernmost rūnaka in the project area with its marae situated on the Moeraki peninsula in North Otago.

www.moerakirunanga.nz

PARTNERS

Landowners of Te Manahuna

The 14 large private landowners in the project area are all key partners in the project.

Antegroa Foundation

An affiliated foundation 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.

www.robertsonfoundation.org

Global Wildlife Conservation

Global Wildlife Conservation is an international conservation organisation working with local partners to protect wildlife and their habitats in more than 50 countries.

www.globalwildlife.org

Jasmine Social Investments

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

www.jasmine.org.nz

Predator Free 2050 Limited

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.

www.pf2050.co.nz



CHAIR AND DIRECTOR'S REPORT

It is with pleasure we present Te Manahuna Aoraki's first annual report. In the eight months since our official launch, much has been achieved towards our goal of changing the ecological prospects of Te Manahuna Aoraki.

In this interim period we have been focusing on some urgently needed control of invasive animals and plants, and undertaking a number of research projects to inform our future decisions. We have also worked on building strong relationships with the three rūnaka, Arowhenua, Waihao and Moeraki, with those who live and work on the land, and with the Department of Conservation and other government agencies.

Our first priority was to provide a safer environment for the birds that live in the braided rivers. We have laid over 2,200 new traps, extending DOC's Tasman trapping network into the Cass, Godley, and Macaulay river systems. Kakī/black stilt (the rarest wading bird in the world) and other endangered birds such as ngutu parore/wrybill and tarapiroe/black-fronted tern will benefit across 80% of their natural range.

Another priority has been to control two invasive plants—rowan and broom—before they become widespread through the area. The number of fruiting rowan trees has been greatly reduced, and next year we will begin to see the effect of additional biocontrol on two broom infestations.

A major research project on the small mammals that do so much damage—stoats, ferrets, feral cats, rats, possums, rabbits and hares—is being undertaken by an Otago PhD student. Where they range and how high they go at different times of

the year will tell us how effective mountain ranges are as barriers and help optimise the design of future control programmes.

Two research projects are concerned with predator-proof fences. One of these has involved the construction of three different designs of fence at high altitude to test how they stand up to snow and wind in the harsh mountain environment. The other has involved building a fence around an area to see if robust grasshoppers will increase in numbers when protected from all predators.

A feasibility study to determine if we can eradicate rabbits by optimising existing techniques and natural boundaries as barriers is underway and being keenly watched by runholders.

Rūnaka are taking the lead on two projects. One is aimed at protecting native fish in small upland streams through the construction of weirs and removal of trout. The other is focused on a restoration plan for Motuariki Island in Lake Takapō/Tekapo, and will begin with a cultural and archeaological survey.

We are fortunate to be building on conservation work done by others, and acknowledge the strong support the project has received from many quarters as we gather information and explore possibilities for the proposed 20-year project. We are also very grateful for the commitment of our funders and partners in this venture.

Finally, on behalf of the board, we say a big thank you to the Te Manahuna Aoraki team for their fantastic work and enthusiasm.

Dr Jan Wright, Te Manahuna Aoraki Chair Phil Tisch, Inaugural Te Manahuna Aoraki Director



PROJECT CHAIR RETURNS TO HER **TŪRANGAWAEWAE**



After years living in Wellington Dr Jan Wright is loving being back in her tūrangawaewae-the South Island.

The straight-talking Parliamentary Commissioner for the Environment retired in 2017 after ten years in the job and in 2018 agreed to take on the role as the chair of Te Manahuna Aoraki.

Jan's affection for the Canterbury High Country began when she was a 15-year-old, canoeing on Lake Heron. She says it's a combination of the magical high country landscapes and some of the rarest birds in the world that drew her to the project.

"The vision of the people who started Te Manahuna Aoraki—the idea of preserving these large and varied areas across the country—is one I could absolutely buy into. We need to preserve large areas that have varied ecology, varied plants and animals. This is a dry high country mountainous area of the country which has its own life, and it is worth fighting for," she says.

As an independent officer in Parliament, Jan had the freedom to investigate topics of her choice. She was respected for her well-researched reports that tackled a number of big controversial issues.

Her last report as Parliamentary Commissioner for the Environment was about the state of New Zealand's birds. It found only 20% of our native bird species were considered to be doing well, 30% were on a slippery slope to extinction, and the rest were under pressure.

During the writing and researching of the report she fell in love with the ngutu parore/wrybill—the only bird in the world with a beak that curves to the side. In one of her first visits to Te Manahuna she got to see a wrybill in the wild. Since then she has enjoyed seeing kakī/black stilt released in the project area.

"It was hellishly windy on the release day which brought home how vulnerable these kakī are with their long skinny legs. They barrelled out of the boxes like teenagers and then grouped together, again just as teenagers do under peer pressure. It was a delight to watch," she says.

Jan draws on a lifetime of education and experience. She has a Physics degree from Canterbury University, a Masters degree in Energy and Resources from Berkeley in California, and a PhD in Public Policy from Harvard. Early in her working life she taught at Hillary College (now Sir Edmund Hillary Collegiate) in Otara and considers this one of her most formative experiences. She has worked as an independent policy and economic consultant for many different New Zealand government agencies and as a member of a number of boards.

She is excited to see what happens to the species and landscapes as the project removes predators and weeds. "In 20 years I would love to see the kakī in much greater numbers, as well as the wrybills, the dotterels, the black-fronted terns, and the other precious birds like kea that are hanging on in the braided rivers and mountains of Te Manahuna. I'll be fascinated to see what else emerges in terms of species. What will we find as we start to knock the invaders out of the landscape," she asks.

Retirement certainly has not slowed Jan down. As well as her role with Te Manahuna Aoraki she is a member of the Interim Climate Change Committee and the Westpac Sustainability Advisory Panel. She was made a Companion of the Royal Society of New Zealand in 2015.



RETAINING AND ENHANCING FOOTPRINT ON THE LANDSCAPE

For well over 50 years tribal leader David Higgins has been gathering knowledge about the traditions and history of mana whenua across Ngāi Tahu's whole rohe.

He is now also lending his wisdom and experience as the Arowhenua, Waihao and Moeraki rūnaka representative on the board of Te Manahuna Aoraki.

"All my adult life I have been working for our people. We have a responsibility to ensure that future generations learn about the history and traditions of our ancestors. We want to retain and enhance our footprint in the Te Manahuna landscape," he says.

David grew up at the pā in Moeraki. It was an idyllic life he says, along with his siblings he spent his adolescence learning how to roll meat, dig graves, make fences, shear sheep and gather kaimoana.

"My grandfather, Rāwiri Mamaru Renata (or Davey Leonard) was known as the blue cod king, he could fish half a tonne of blue cod in a day

with only two lines. Back then there wasn't as much pressure on resources as there is today," says David.

After attending Moeraki and Palmerston primary schools, and then Waitaki Boys' High in Ōamaru, David says he was planning to pursue a military career. But family called and as the oldest son he came home to run the whanau commercial fishing business with his grandfather and brother.

He was very young when his grandfather died. Despite still being in his early 20s, David was appointed the Arowhenua board member on the Ngāi Tahu Māori Trust Board.

He was tasked with co-ordinating and presenting the historic evidence relating to fisheries as part of the Ngāi Tahu Māori Trust Board's claim before the Waitangi Tribunal. He also became a co-negotiator, with Sir Tipene O'Regan, of the 'Sealord' settlement, a full and final settlement of all Māori commercial fishing claims under the Treaty.



Through his many roles, including Upoko of Moeraki Marae, David has gathered a wealth of knowledge about the history and traditions of the iwi. He says Te Manahuna was a place where ancestors gathered resources like weka and tuna (eels) as part of mahi mahika kai. It was also a place to transit to the West Coast, Te Tai o Poutini.

"Te Manahuna is a significant name because it tells part of the whakapapa of the valley, and the creation stories that come from the families of our three rūnaka. It is a precious name, literally it means the place of enlightenment, which has some connotations as being a place of energy," he says.

David has definitely had a busy life. He played a leading role in managing Ngāi Tahu Fisheries in its early years, and was Executive Chairman for ten years. He also served two terms as the Te Rūnaka o Moeraki representative on Te Rūnanga o Ngāi Tahu.

At one stage the husband and father of two was a director on 14 boards. "For a while there I lived out of a suitcase. I've been to the top of Norway, the back-blocks of Alaska and even northern Vladivostok".

In the late 1990s he became a Pou Kura Taiao, an environmental ethics advisor for the Department of Conservation, Te Papa Atawhai. His role was to support DOC management and staff to be culturally comfortable. Involvement in the UNESCO

World Heritage Committee meeting held in Christchurch and rebuilding the visitor centre at Aoraki were highlights during this time.

Te Manahuna Aoraki chair Jan Wright says David's mana, historical knowledge, and board experience are enormously valuable. "David ensures tīkākā Māori is always part of our thinking as we explore the opportunities to change the ecological prospects of Te Manahuna Aoraki," she says.

Now based back in Moeraki, David says he feels very fortunate to be appointed a director of Te Manahuna Aoraki and would love to see his people become more involved with the project.

"Te Manahuna Aoraki is closely aligned with our values. It would be wonderful to see a predator-free environment up around the big tupuna lakes. Whether we can accomplish that I'm not sure, but if we can get rid of the feral cats, and the ferrets and the stoats we're on our way to having a vigorous and healthy environment for the precious manu, and other species, that range far and wide up in the valley."

In 2017 David's years of service for his iwi was acknowledged when he was recognised as an Officer of the New Zealand Order of Merit for his services to Māori.

"I said back then I was just a pā boy from Moeraki and I was very humbled to accept the honour on behalf of our people. My whole world is about this place, people see me as an authority about what happens in the valley, and that is a privilege".











BRAIDED RIVER SPECIES

PREDATOR CONTROL PROTECTS THREATENED BRAIDED RIVER SPECIES

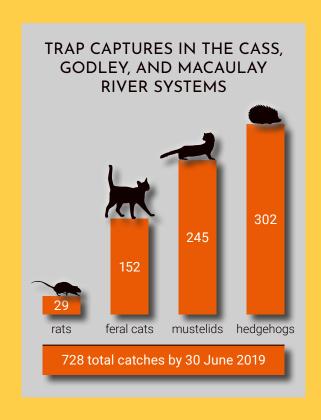
One of Te Manahuna Aoraki's first initiatives is to expand DOC and Project River Recovery's Tasman Valley trapping network into new areas which have never had permanent trapping networks before. The network now covers 60,000 ha, up from 26,000 ha, with over 2,200 new traps.

The new networks in the Cass, Godley and Macaulay river systems are providing protection for braided river species like kakī/black stilt, ngutu parore/wrybill, tarapiroe/black-fronted tern and extensions to the Tasman network will benefit scree wētā, kea and tuke/rock wren.

This project has really been a team effort. Trap boxes were constructed by inmates at the Department of Corrections Milton facility. They were fine tuned at the DOC office in Twizel and then transported by truck or helicopter into the field.

Landowners have been incredibly supportive, allowing traps and access on their land and also helping deploy the network at times.

Since the first traps were set, hundreds of feral cats, ferrets, stoats and hedgehogs have been trapped. Kakī set to be released into the Godley and Macaulay river systems in August will have their best ever chance of survival, with 80% of their range now protected.



The new traps deployed to date equate to 75% of Te Manahuna Aoraki's planned trapping network extension. The remainder of the traps into alpine areas in Aoraki/Mount Cook National Park will be deployed in summer once the avalanche risk has passed. Some of these traps will be maintained and checked by newly established volunteer group Predator Free Aoraki.





KAKĪ-THE WORLD'S RAREST WADING BIRD

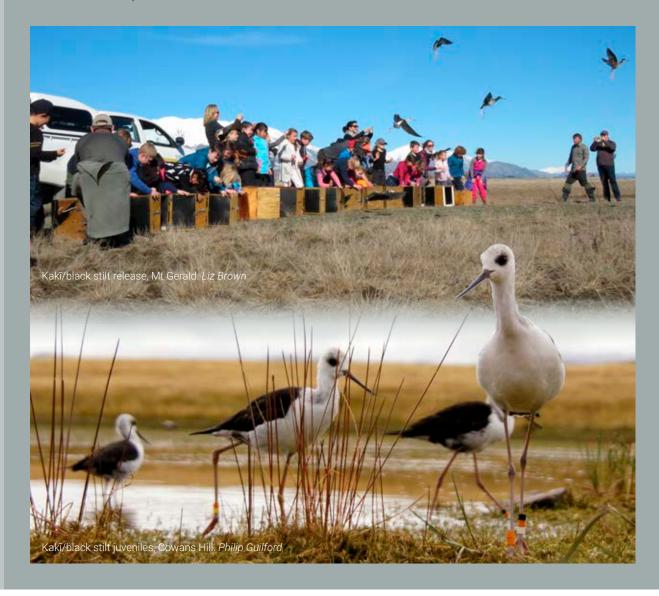
With their distinctive long red legs and elegant black plumage the kakī/black stilt looks graceful and delicate. But these birds are tough.

Kakī used to be common throughout New Zealand but are now only found in the Mackenzie and upper Waitaki basins. They live in an extreme environment, in the summer temperatures can reach 40 degrees, while in winter their feathers can freeze in -20 temperatures.

While other riverbed birds migrate, kakī stay in the braided rivers year round, where they are vulnerable to introduced predators like stoats.

In 1981 the wild population was reduced to only 23 birds. They are still designated nationally critical, but numbers have now increased to 129 adults in the wild, thanks to the work of DOC's Kakī Recovery Programme and the Isaac Conservation and Wildlife Trust.

A record 184 juvenile kakī were released into the Mackenzie Basin in 2018 and these birds will reach adulthood in September 2019. It is hoped the adult population will increase at the next kakī 'count'.





GLOBAL WILDLIFE CONSERVATION HELPS KAKI

The generosity of project partner Global Wildlife Conservation has seen a new aviary and brooding facility built in Twizel to help kakī/black stilt.



The new \$500,000 aviary was opened by Conservation Minister Eugenie Sage and GWC CEO Wes Sechrest in November. With the brooding facility expected to be completed in late 2019. The aviary replaces an older one which was destroyed by heavy snow fall and will boost DOC's Kakī Recovery Programme's rearing capacity. It replicates a braided river environment with pebbles, tussocks and water.

Rearing kakī in captivity significantly increases their chance of survival by preventing predation when they are at their most vulnerable. As well as having captive breeding pairs, kakī eggs are collected from the wild and then artificially incubated.

The chicks are hand reared and released into the aviaries at 35-days-old. They are fed twice daily until they are released back into the wild around nine months old, the same age they would usually leave their parents.

The wild pairs go on to lay more clutches and with Te Manahuna Aoraki's enhanced trapping network they should also have more chance to successfully breed and fledge chicks in the wild.





HIGH COUNTRY FARMERS SUPPORTING **CONSERVATION EFFORTS**

Like many high country farmers Ross Ivey is immensely proud of his families stewardship of their land.

Glentanner Station borders Aoraki/Mount Cook National Park and has been run by the Ivey family since his father arrived to manage the property back in 1957. Originally 45,000 acres, the station has been reduced to 9,000 acres by the Lake Pukaki hydro raising in 1974 and the Crown Pastoral Lease tenure review in 2014. It is now owned by the family freehold.

The family were pioneers of tourism in the valley. The working farm runs merino sheep along with a tourism business which includes accommodation, a retail business, café and airstrip. Wife Helen, who is a member of the Canterbury Aoraki Conservation Board, and the couple's two sons. Mark and George, all work in the business.

"We are unashamedly conservation minded and have been supporting conservation efforts in the valley for over 25 years," says Ross.

Those efforts take many forms, from predator control to dealing with invasive weeds. It has taken years and a lot of work to get rid of the station's wilding pines but Ross says he now gets great pleasure driving up to Glentanner and seeing tussockland, rather than a sea of pines. The wilding tree problem still keeps them busy however, as ongoing maintenance is needed to stop reinfestation.

DOC began predator control work in the Tasman Valley in 2005 with support from the Ivey's, their neighbours on Mt Cook Station, and both Meridian and Genesis Energy as part of Project River Recovery. Endangered kakī are released adjacent to Glentanner's airstrip in the Tasman so the station has long been a key site for the rare birds' recovery.

While he backs the trapping efforts he is acutely aware that removing predators like stoats and feral cats has had the unintended consequence of allowing rabbit numbers to increase.

"There are more kakī now than there have ever been in my life time, and that's a reflection of the massive effort that has been put in. But there's a trade-off against the expense of rabbit control. Rabbits damage some of the botanical values, they give the native shrubs like matagouri hell," says Ross.

Ross is a strong advocate for the Te Manahuna Aoraki project and says he thinks it is brave to look at tackling the big problems like rabbits. "Many of the projects are quite aspirational. In my opinion that is why they have been accepted by the landowners, we have an independent organisation acting collaboratively with DOC, iwi and landowners, that is fantastic," he says.

Te Manahuna Aoraki has partnered with Glentanner to control weeds like rowan. Situated half way between Aoraki/Mount Cook and Lake Pukaki, 'The Rest' at Whale Stream was historically the spot where travellers rested their horses. Amenity trees like pines, silver birches and rowan were planted and over a century later the Ivey's are having to deal with that legacy, with birds spreading the weeds far and wide.

The Ivey's have sprayed thousands of rowan trees, with Te Manahuna Aoraki recently dealing to large patches on DOC land. "It will be a terrific outcome if we can save this landscape from rowan. I've got my sights on the cotoneaster next," says Ross.

"Te Manahuna Aoraki is a massive opportunity for us. To think we have 14 landowners and other entities all holding hands for the first time. We are going to get the satisfaction of knowing we are really making a difference to biodiversity."



ROBUST GRASSHOPPER

WORLD FIRST PREDATOR-EXCLUSION **FENCE FOR INSECTS**

A purpose built predator-exclusion fence to protect the robust grasshopper should give valuable insights into the impact of predation on the nationally endangered species.

Robust grasshoppers (Brachaspis robustus) are normally only found in the open gravel riverbeds of the Mackenzie Basin. However, one of the largest known populations is found on a 3.5 km long unused gravel road built during the construction of the Tekapo canal in the 1970s. It's not known if the population extended naturally from the nearby river or if it established as a result of being moved during the canal construction.

Te Manahuna Aoraki funded the construction of a 6,000 m² predator exclusion fenced area, in a site where the grasshopper has already been studied, in November 2018. The 1.2 m capped fence was designed with help from Zero Invasive Predators (ZIP).

It is thought mammalian predators including mice, rats, stoats, ferrets, hedgehogs and feral cats are a key cause of decline in the robust grasshopper population. Trapping was undertaken within the enclosure and monitoring with tracking tunnels, trail cameras, thermal imaging and night vision was used to confirm it was predator free.

Te Manahuna Aoraki is working with Dr Tara Murray and University of Canterbury MSc student Liam McIver to monitor the grasshoppers. Liam's thesis will look at whether excluding predators results in a population increase compared to unprotected grasshopper populations outside the fence. The trial will also look at how the ZIP fence performs with the wind and snow loading during a Mackenzie Basin winter.

During monitoring between November and March robust grasshoppers were captured, their gender determined, and they were measured. They were also marked with unique ID numbers to help estimate the population size and analyse distribution and movement patterns both inside and outside the fenced area

Dr Murray says in the first year there were no breaches of the predator proof fence. A second season of grasshopper monitoring will begin again in November 2019 and we hope we will start to see grasshopper numbers increase within the fence. As the grasshoppers have a two-year life span, she says at least four seasons of monitoring will be required to determine with certainty if the protection provided by the predator fence results in a true B. robustus population increase.





A TRULY UNIQUE SPECIES

With its prehistoric look, the nationally endangered robust grasshopper (Brachaspis robustus) is one of the "rock stars" of Te Manahuna Aoraki.

The open gravel areas of braided rivers and terraces in the Mackenzie Basin is the only place robust grasshoppers are found. They look like short, squat, grey tanks and their grey, orange and black colouring make them hard to spot as they blend in with the gravel surroundings.

While robust grasshoppers do jump, they aren't very good at landing, sometimes doing a belly flop. Adult females are almost twice the size of a male and they freeze as a first defence, so are vulnerable to predators like mice, rats, stoats, ferrets, hedgehogs and feral cats.

The lifespan of B. robustus is approximately two years. Eggs are laid in summer and overwinter, often surviving temperatures well below 0 °C, before hatching into nymphs the following summer. The nymphs overwinter to reach maturity the next summer and lay their own eggs.





NATIVE FISH PROTECTION

LEARNING FROM OTHERS TO PROTECT NATIVE FISH

A collaborative project to protect native fish in the Canterbury high country is providing valuable learnings for Te Manahuna Aoraki.

In April members of the Te Manahuna Aoraki team visited Fork Stream, a beautiful spring fed waterway situated on Glenmore Station and land managed by the New Zealand Defence Force at its Tekapo Military Camp. Two weirs have been built on the stream as part of a partnership between NZDF, DOC and Environment Canterbury (ECan) to protect rare native fish.

The weirs form a barrier to prevent invasive trout moving up the waterways. The Te Manahuna Aoraki team watched as a line up of ECan and DOC staff with big nets faced another group with electric fishing units. Rubber boots were a necessity as they worked their way downstream collecting the stunned fish. Later, native fish were returned to the stream while the mixture of brown and rainbow trout that were collected were relocated.

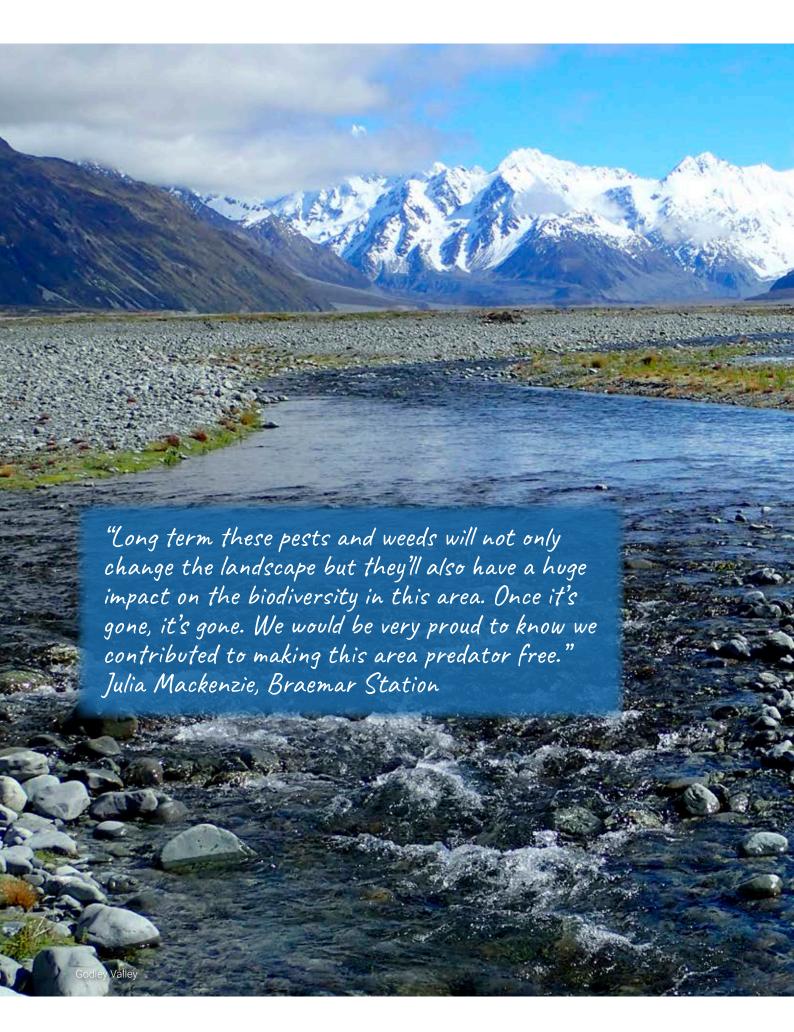
Ecologist and freshwater fish expert Dr Rose Clucas said the stream was particularly important for species like the upland longjaw galaxias

which use this area as spawning habitat. "This is rare habitat and it supports what are becoming increasingly rare species and we are here today to have a look at it and to try and understand it better," she said.

One of the projects Te Manahuna Aoraki is undertaking in its interim phase is to protect native non-migratory galaxias populations in a number of streams in the project area. The project will be iwi led and TMA board member and rūnaka representative David Higgins says he was impressed to see what was happening on the land. "Protecting native fish is very important and they are doing extremely well. We are fortunate to have Rose Clucas involved in this project and are well equipped tribally to be part of the process," he said.

Te Manahuna Aoraki inaugural director Phil Tish says it is great to already have all these players working together. "We can learn from their experience and build on the work that is already underway. Now we have to think about where best to put a weir, to make the greatest impact as some river systems can be fairly complex."













WEED CONTROL AIMS TO STOP THE NEXT "WILDING PINES"

Two invasive weeds that have the potential to become the next "wilding pine problem" and change the landscape of Te Manahuna Aoraki have been targeted this year.

BROOM

Broom is a scrawny shrub that spreads rapidly. It has an explosive seed mechanism which spreads seeds 1.5 m from the parent plant so can quickly colonise braided riverbanks and tussock grassland areas. It prevents natives species from establishing and is also a legume that fixes nitrogen in the soil, disturbing the ecology of an area by changing the type of plants which can survive where it has been growing.

There are two main infestations, at Jollie River and Takapō's Boundary Stream, comprising approximately 230 ha so we have the opportunity to control the weed before it spreads.

As the broom seed bank lasts for over 90 years we are trialling biocontrol as opposed to annual spraying. In 2019 different bio-control agents including broom seed beetles, broom gall mites and broom psyllids were trialled. These bugs each weaken a different part of the broom plant, reducing its vigour and preventing it from seeding. Assessments of the effectiveness of the bio-control agents will be carried out over the next few years.

ROWAN

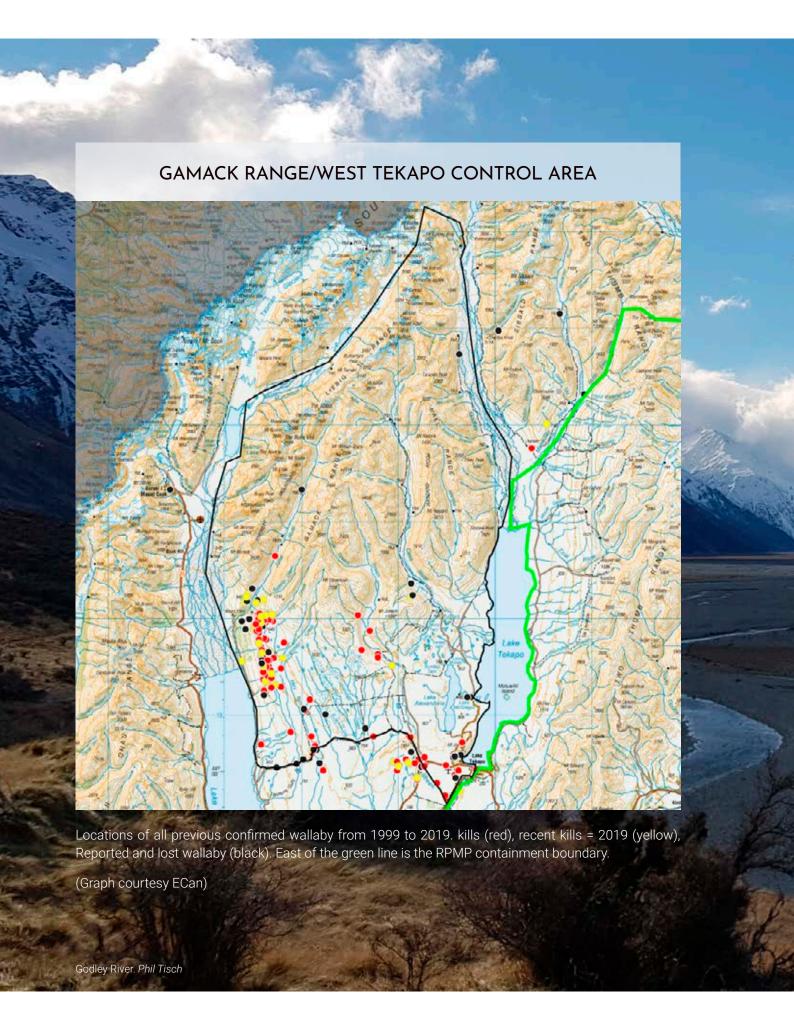
Rowan is a woody invasive tree that spreads quickly in the tussock land of the project area. It is a northern hemisphere species that competes for space with our native species. In ancient times it was planted to ward off witches.

Te Manahuna Aoraki has collaborated with DOC, Glentanner Station and Land Information New Zealand (LINZ) to reduce rowan infestations. The aim is for zero density of rowan from the National Park to Boundary Stream on the Ben Ohau Range.

As part of their wilding conifer control work LINZ sprayed any rowan they came across. Te Manahuna Aoraki aerially sprayed seeding trees to stop seed distribution and ground control crews dealt with some of the denser clumps.

A further round of spraying was done in autumn to pick up any trees that were missed and the plan is to initiate talks with partners to identify what the next steps might be to deal with the remaining infestation on the Ben Ohau Range.





WALLABY A SIGNIFICANT THREAT

Like many others, Te Manahuna Aoraki is watching with concern as wallaby continue to encroach into the project area.

The wallaby containment area first established by Environment Canterbury in 1996, covers 900,000 ha between the Waitaki River in the South and Rangitata in the north, inland to the Tekapo River, Lake Takapō/Tekapo and up the Macaulay River over the Two Thumb range.

Wallaby were first confirmed north of the Macaulay River in 1999, but over the last five years an increased number of reports and kills have been made as they spread west from the Tekapo River corridor to emerge at Mt. John, Air Safaris and Defence Land.

This season ECan have confirmed three wallabies were killed on the north side of the Jollie River, the first time they have been seen in this area and confirming their spread towards Aoraki/Mount Cook National Park. PestmastersNZ also killed a wallaby in the Upper Godley river during a rabbit control operation.

"It is very worrying to see the growing number of reports now occurring through the Upper Forks River, Cass River and Upper Godley River," says ECan's Brent Glentworth.

Sam Staley from PestmastersNZ agrees. "We've shot 30 in the defence training area in the last five years, in the 25 years before that we never saw a single one. I really worry wallaby are the next rabbit plague. They are coming from all flanks and we need to act now to control them," he says.



The Bennett's wallaby is sometimes described as a giant rabbit although it weighs up to 24+ kg and eats six times more than a rabbit. It was introduced from Australia, mainly for sport and the value of their skins.

The wallabies eat their way through native bush and tussock grasslands, competing with native species for food and eating rare native plants, Thick wilding pine and dense matagouri on steep faces provide ideal wallaby cover.

ECan and other agencies will be advocating for additional funding for wallaby control. "The problem is not going away and we have very limited tools," says Brent Glentworth.







MAMMALIAN PREDATOR RESEARCH PROVIDING VALUABLE INSIGHTS

A study into how far invasive mammals like hares, feral cats and stoats range in the upland areas of Te Manahuna Aoraki is already providing interesting data. Otago University PhD student Nick Foster is looking at how invasive small mammal distributions change across seasons, between tussock mast and non-mast years, and how effectively mountains may act as barriers.

Nick spent the summer in the mountains using a mix of detection devices including cameras, chew cards, plasticine eggs and tracking tunnels. His fieldwork has produced a mountain of data, including 1.4 million camera trap images.

The data shows feral cats and ferrets are more prevalent in lower altitudes of 500-1000 m but have been detected as high as 1700 m. Stoats and hares, appear to be more common in the mid altitudes, but inhabit areas as high as 2050 m. Possums, hedgehogs and mice are more abundant in the lower altitudes, but can be found widely in the mid altitudes and have been detected infrequently at several sites higher than 1800 m, and in the case of mice, above 2000 m.

In what is a New Zealand first, he also attached GPS tracking collars to a sample of hares to track their movements over a one year period. Hares are a persistent problem on some farms, they increase browsing pressure on sensitive subalpine and alpine species and are a food source for predators like stoats and cats.

"Hares that are found in New Zealand's alpine zones have never been studied in this way before" says Nick. "They are readily observed at high altitudes in the middle of winter, yet it's not understood if and how individuals that occur in these elevations are able to stick it out through the winter months. Learning more about how hares move across the broader landscape throughout the year will inform how we approach the management of this species and the populations of predators that are supported by them."

This project is ongoing and will be hugely valuable when it comes to designing more effective control programmes and understanding how effective mountain ranges are as barriers to stop predators reinvading. The next step will be to validate these findings across the wider Te Manahuna Aoraki project area and also explore how these distributions change around the year.







EVERYBODY NEEDS GOOD NEIGHBOURS



Local farmers are embracing the Te Manahuna Aoraki project, using their local knowledge and ingenuity to assist with a wide variety of projects.

When PhD student Nick Foster needed help to put GPS collars on hares as part of his research Lilybank Station manager, Johnny Wheeler, his neighbour Laurie Prouting from Mesopotamia Station and helicopter pilot Mark Pridham stepped in.

The problem was that no-one had ever caught and collared live hares in New Zealand's alpine zone. "Hares are notoriously problematic animals to handle" explains Nick. "They occur at relatively low densities and there are no established attractants." Thankfully, there was a wealth of knowledge between Johnny, Laurie and Mark concerning the capture of live animals such as deer, so the three offered to come up with a way to catch hares.

"People said it couldn't be done," says Te Manahuna Aoraki project manager Simone Cleland. "These guys took on the challenge, worked out how to do it, donated their time and came up with the goods. We couldn't have done it without their collaboration."

First, the group redesigned the nets they usually use to catch deer and other ungulates, making them much smaller. They then took to the sky at Lilybank Station to trial the system.

"Hares don't run in a straight line for very long, they zig-zag all over the place. So it took a while to get our eye in," says Johnny. It didn't take long for the trio to perfect their operation and they managed to net enough hares for Nick and his team to collar.



Johnny and the team from Lilybank have also helped airlift over 100 traps into the Macaulay and Godley River systems, volunteering time and muscle to assist installing the network. As they work around the station they clear and reset traps and catch information is recorded into the Trap NZ app.

"Farmers are really supportive of Te Manahuna Aoraki, we think it's a marvellous idea and like its objectives," says Johnny. "The trapping is already knocking back the feral cat and ferret population. When we are out spotlighting we are not seeing them like we used to."



ALL FENCES ARE EQUAL ... OR ARE THEY?

A trial to see how well different predator proof fence designs cope with the extreme weather conditions experienced in the project area is underway in the Two Thumbs range.

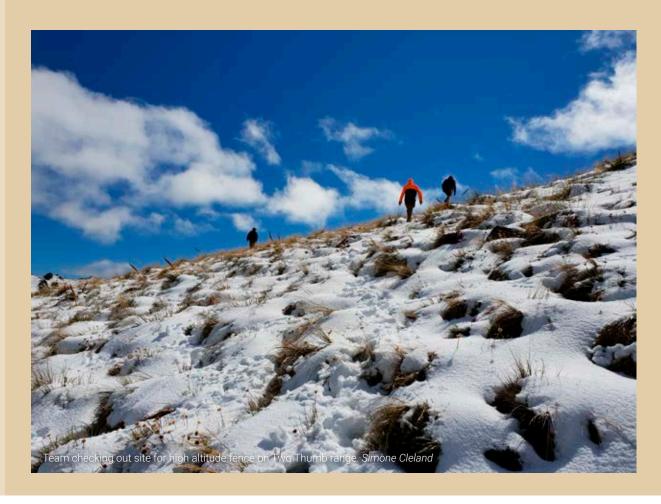
Three different sections of fence, designed by Zero Invasive Predators (ZIP) have been constructed. Two fence sections are 1.1 m high and use different construction techniques, either T irons or posts. The third is 1.8 m high. All fences have been fitted with a metal cap intentionally facing into the prevailing wind and each is covered with welded mesh donated by Christchurch company UMC Machinery.

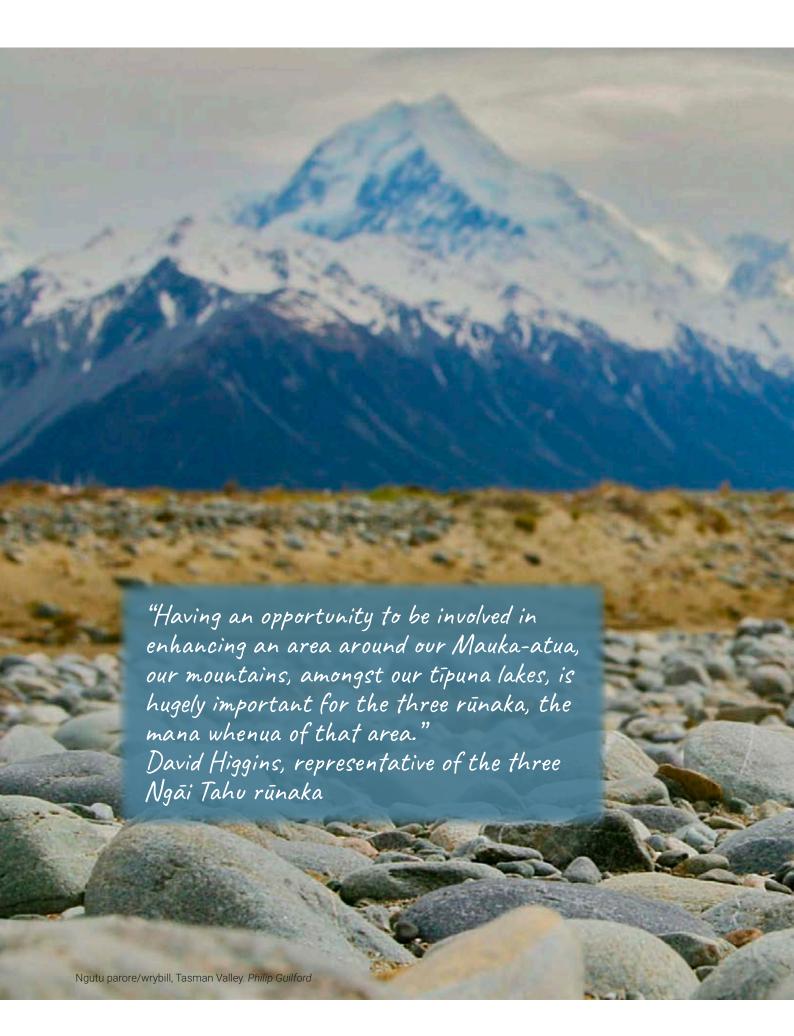
The fences were erected in June, before the winter snow arrived. A dedicated weather station and camera is recording local conditions. So far, the

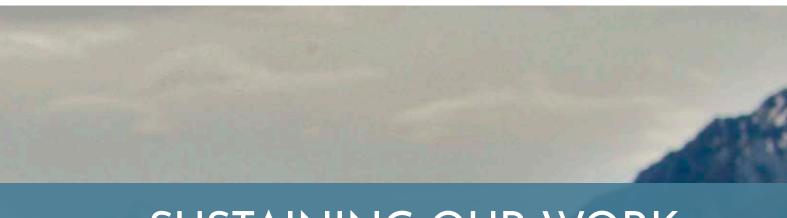
highest winds recorded have been 168 km/h but we expect to see gusts in excess of 300 km/h over spring.

Another fence is being trialled as part of the robust grasshopper predator free enclosure. Should the larger Te Manahuna Aoraki project proceed a predator proof fence may be used to prevent reinvasion on the southern boundary so this trial will provide valuable information. Natural mountain barriers will be used to protect the project area on other fronts.

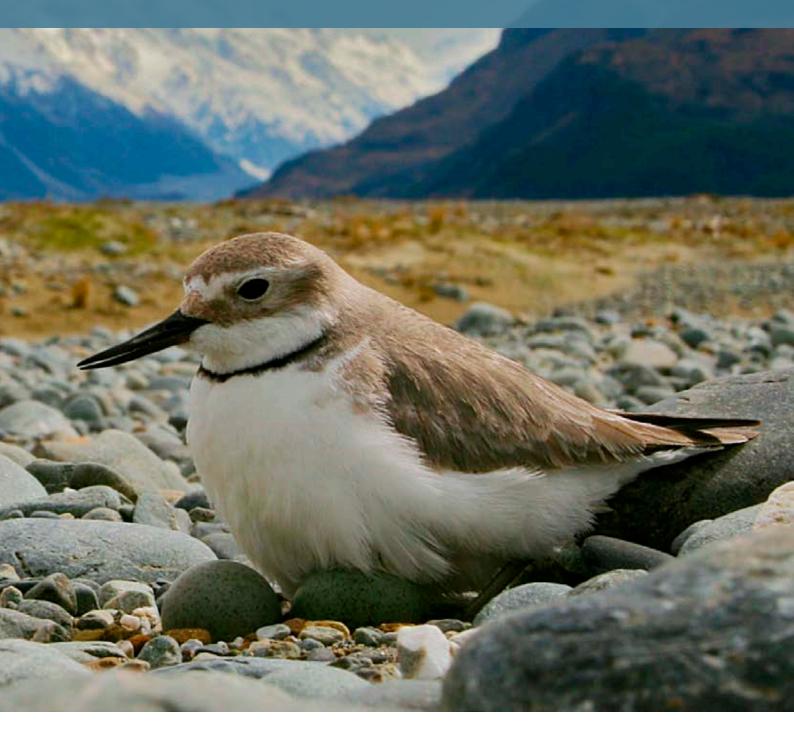
Thanks to Guy and Jackie Simpson of Mt Hay Station for their help and support with this project and Pest Proof Fences Ltd for constructing the fence.







SUSTAINING OUR WORK









VOLUNTEERS HELP WITH TRAPPING

A volunteer group is set to work with Te Manahuna Aoraki to extend trapping in Aoraki/Mount Cook National Park to protect the nationally endangered tuke/rock wren.

Since 2005, volunteers have checked 234 stoat traps around Aoraki village and the Tasman Valley. The plan is to more than double trap numbers with Te Manahuna Aoraki to provide an additional 364 traps that will be installed in places like Hooker Valley, Sealy Range, Sefton Biv, Tasman Lake flats and Wakefield Ridge.

DOC's volunteer coordinator for the community stoat control programme David Sagar says once the snowline recedes in summer the group will head into the back country to recce the area and decide exactly where the traps will be situated.

"Until now we have been trapping in the front country which has been easily accessible from the village. It is really exciting to be able to head into the remote back country and it should give extra protection to species like rock wren which are highly susceptible to stoats," he says.

The new volunteer group will be called Predator Free Aoraki. Volunteer numbers will double to around 20 people and in the future the group will look for more locals to help. DOC's Community Funding has just been approved which will be spent on gear like personal locator beacons, high vis and GPS navigators.

Predator Free Aoraki coordinator Gin Barker says the volunteers spend a lot of time in the outdoors. "It's pretty rare to see rock wren, I probably see them three or four times over summer. We actually see stoat prints in the snow so we are really keen to get trapping to help these beautiful alpine birds," she says.

She says the group originally had a goal of 40 extra traps so working with Te Manahuna Aoraki is awesome. "So many locals are excited about the vision of Te Manahuna Aoraki to ultimately have a predator free mainland island. Everyone is motivated to make sure it works and we feel we can do amazing things for rock wren".

OUR ONLY TRUE ALPINE BIRD

The tiny tuke/rock wren is a small insect-eating bird that lives high above the tree line along the Southern Alps and Kahurangi National Park. It's unknown how they survive the harsh climate all year round but it's likely they continue to forage on rocky bluffs where snow has not collected and among large boulder fields.

Rock wren are poor fliers and their habit of nesting in holes on the ground, makes them easy prey for stoats. They can become extinct quite quickly, site by site. Of the half dozen New Zealand wrens known to have existed, all but two are extinctonly rock wren (threatened-nationally vulnerable) and titipounamu/rifleman still exist.

Over summer a group of 18 people surveyed nine sites in the project area in the most comprehensive rock wren survey undertaken in the project area since the 1980s. They clambered over mountain tops, rocky cliffs and boulder basins searching for tuke which are hard to spot as they hide in big boulder fields.

The teams were delighted to find the birds are still persisting at seven of the nine survey sites. "The reality was we were prepared not to find any rock wren so it was really exciting to see them across a range of sites," says Te Manahuna Aoraki project manager Simone Cleland.



WORKING SAFELY IN AOTEAROA'S MOST EXTREME ALPINE ENVIRONMENT

One of the more challenging health and safety issues the Te Manahuna Aoraki team face is the risk of avalanches.

Avalanches are a part of life when you work in the mountains and back country. They can occur in any season, but are more common in winter and spring. We monitor risk daily, using assessments from the New Zealand Avalanche Advisory, and apply the Avalanche Terrain Exposure Scale (ATES) which assesses avalanche terrain as simple, challenging or complex.

Te Manahuna Aoraki projects that take place in avalanche terrain include our rabbit control feasibility study, back country trapping network, species monitoring, and small mammal pest research.

In order to ensure the safety of staff, researchers and contractors who work on these projects an Avalanche Management Plan was created

for Te Manahuna Aoraki. Individual project sites were flown to refine the broad ATES mapping, and assess whether terrain met 'Complex', 'Challenging' or 'Simple' criteria and a new category called 'Non-avalanche terrain' was added. Safe travel routes for rabbit control and small pest research were identified and conditions were set for each trapping line.

This enhanced information allows us to better read the risks every day and make decisions about what work can take place, and where, given the potential dangers. The Te Manahuna Aoraki team have also completed an Avalanche Awareness Course. We can work safely in more areas, more often, with the safety of the team always the priority.



MEET THE BOARD

DIRECTORS/SENIOR LIAISON OFFICER



Director
Devon McLean
NEXT Foundation
Representative

Director Dr Jan Wright Independent Chair

Senior Liaison Officer Kay Booth Department of I Conservation

r Director David Higgins Rūnaka Representative

OBSERVERS



Jerome Sheppard LINZ Representative



Stephen Phillipson NZDF Representative

Tasman Valley. Gillespie Photography

MEET THE TEAM



Phil Tisch Inaugural Director



Simone Cleland Project Manager



Tom Smits **Biodiversity Ranger**



Pat Soto **Biodiversity Ranger**



Nick Foster Small Mammal Expert



Richard Maloney Science Advisor



Robyn Janes Communications





Financial Statements

Te Manahuna Aoraki Limited For the 13 months ended 30 June 2019

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- 8 Statement of Changes in Equity
- 9 Statement of Financial Position
- 10 Statement of Cash Flows
- 11 Statement of Accounting Policies



Independent Auditor's Report

to the Directors of Te Manahuna Aoraki Limited

We have audited the financial statements which comprise:

- the statement of financial position as at 30 June 2019;
- · 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.

Our opinion

In our opinion, the accompanying financial statements of the Te Manahuna Aoraki Limited (the "Company"), present fairly, in all material respects, the financial position of the Company as at 30 June 2019, its financial performance and its cash flows for the year then ended in accordance with Public Benefit Entity Standards Reduced Disclosure Regime.

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.

We are independent of the Company in accordance with Professional and Ethical Standard 1 (Revised) Code of Ethics for Assurance Practitioners (PES 1) issued by the New Zealand Auditing and Assurance Standards Board and the International Ethics Standards Board for Accountants' Code of Ethics for Professional 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.

Information other than the financial statements and auditor's report

The directors are responsible for the financial statements. Our opinion on the financial statements does not cover the other information included in the financial statements and we do not express any form of assurance conclusion on the other information.

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, 188 Quay Street, Private Bag 92162, Auckland 1142, New Zealand T: +64 (9) 355 8000, F: +64 (9) 355 8001, www.pwc.com/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/standards-for-assurance-practitioners/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 12 November 2019

ricensterhouse Coopers

Auckland

Entity Information

Te Manahuna Aoraki Limited For the 13 months ended 30 June 2019

Issued Share Capital

100 Ordinary Shares

Registered Office

The Business Advisory Group Limited Level 9, 55 Shortland Street Auckland 1010

Directors

D W McLean J C Wright

Company Number

6854715

Chartered Accountants

The Business Advisory Group Limited P.O Box 162, Shortland Street Auckland

Banker

BNZ Bank

Solicitor

Chapman Tripp 23 Albert Street Auckland

Auditor

PricewaterhouseCoopers 188 Quay Street Auckland

Date of Formation

14 June 2018

Shareholder

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 13 months ended 30 June 2019

	NOTES	2019
Revenue		
Grants Received	7	1,644,173
Interest Received		130
Total Revenue		1,644,303
Expenses		
Accounting		6,854
Administration		1,498
Auditing Fees		9,450
Communications	7	38,909
Consultancy		13,806
Contractors		226,123
DOC services and supplies		323,652
Insurance		525
Motor Vehicle Expenses		1,777
Other expenses		15,477
Pest Eradication Equipment		55,344
Traps, Poison and Monitoring Supplies		166,526
Travel		8,317
Total Expenses		868,258
Net Surplus before Depreciation		776,045
Depreciation Expenses		
Depreciation		39,143
Total Depreciation Expenses		39,143
Total Comprehensive Revenue and Expenses for the Period		736,902

Statement of Changes in Equity

Te Manahuna Aoraki Limited For the 13 months ended 30 June 2019

	NOTES	2019
Equity		
Opening Balance		-
Increases		
Total Comprehensive Revenue and Expenses for the Period	7	736,902
Total Increases		736,902
Total Equity		736,902

Statement of Financial Position

Te Manahuna Aoraki Limited As at 30 June 2019

	NOTES	2019
Assets		
Current Assets		
Bank		788,608
Other Receivables		43
Total Current Assets		788,651
Non-Current Assets		
Fixed Assets	2	146,219
Total Non-Current Assets		146,219
Total Assets		934,870
Liabilities		
Current Liabilities		
Accounts Payable		89,441
Accrued Expenses		105,929
Goods and Services Tax		2,598
Total Current Liabilities		197,968
Total Liabilities		197,968
Net Assets		736,902
Equity		
Retained Earnings		736,902
Total Equity		736,902

For and on behalf of the Board:

Statement of Cash Flows

Te Manahuna Aoraki Limited For the 13 months ended 30 June 2019

	NOTES	2019
Cash Flows from Operating Activities		
Grants Received	3	1,644,173
Interest Received		130
Payments to suppliers and employees		(670,333)
Total Cash Flows from Operating Activities		973,970
Cash Flows from Investing and Financing Activities Payments to acquire property, plant and equipment		(185,362)
Total Cash Flows from Investing and Financing Activities		(185,362)
Net Increase in Cash		788,608
Bank Accounts and Cash		
Opening cash		-
Closing cash		788,608
Net change in cash for period		788,608

Statement of Accounting Policies

Te Manahuna Aoraki Limited For the 13 months ended 30 June 2019

1. Statement of Accounting Policies

The financial statements presented here are for the entity Te Manahuna Aoraki Limited, a registered company under the Companies Act 1993.

(a) Statutory Base

The financial statements have been prepared in accordance with Generally Accepted Accounting Practices in New Zealand ("NZ GAAP"). They comply with Public Benefit Entity International Public-Sector Accounting Standards ("PBE IPSAS") and other applicable financial reporting standards as appropriate that have been authorised for use by the External Reporting Board for Not-For-Profit entity and is eligible to apply Tier 2 Not-For-Profit PBE IPSAS on the basis that it does not have public accountability and is not defined as large.

The Board of Directors has elected to report in accordance with Tier 2 Not-For-Profit PBE Accounting Standards and in doing so has taken advantage of any applicable Reduced Disclosure Regime ("RDR") discourse concessions.

The financial statements are presented in New Zealand dollars rounded to the nearest dollar.

(b) Measurement Base

The measurement base adopted is historical cost.

(c) Changes in Accounting Policies

As these are the first financial statements prepared for this company, there are no comparatives for the previous year and no accounting policies previously employed which could have changed.

(d) Fixed Assets

The Company has depreciated its assets using the straight line method.

The entity has the following effective life for each asset:

Anesthetic Machine	3 Years Effective Life
Garmin In-reach devices	3 Years Effective Life
Grasshopper Fence	3 Years Effective Life
High Altitude Trial Fence	3 Years Effective Life
Rifle Browning	3 Years Effective Life
Thermal Camera	3 Years Effective Life

All Plant & Equipment assets are recorded at cost less accumulated depreciation, if any. Depreciation of the assets has been calculated at the rates which reflect the useful life of the asset.

(e) 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.

(f) Income Tax

Te Manahuna Aoraki Limited is wholly exempt from New Zealand income tax having fully complied with all statutory conditions for these exemptions.

(g) Receivables

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

(h) Revenue Recognition

Grants received are recognised on an accrual basis.

(i) Expenses

Expenses are recognised on an accrual basis.

	2019
2. Fixed Assets	
Plant & Equipment	
Plant & Equipment at Cost	185,36
Less Accumulated Depreciation	(39,143
Total Plant & Equipment	146,21
Total Fixed Assets	146,21
	2019

3. Reconciliation of Total Comprehensive Revenue and Expenses for the period with Cash Inflow from Operating Activities

736,902
39,143
39,143
(43)
195,370
2,598
197,925
973,970

4. Contingent Liabilities

At balance date there are no known contingent liabilities.

5. Capital Expenditure Commitments

There were no future capital commitments at period end.

6. Subsequent Events to Balance Date

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

7. Related Parties

During the period, Te Manahuna Aoraki Limited received grants of \$500,000 from Hutton Wilson Charitable Trust, a related party significantly influenced by key management personnel.

During the period, expenses amounting to \$22,920.29 were reimbursed to Zero Invasive Predators: \$16,013, Hutton Wilson Charitable Trust: \$6,664 and Project Janszoon Trust: \$243, all being related parties significantly influenced by key management personnel.

Hutton Wilson Nominees Limited is the shareholder for the company and no consideration was paid.

