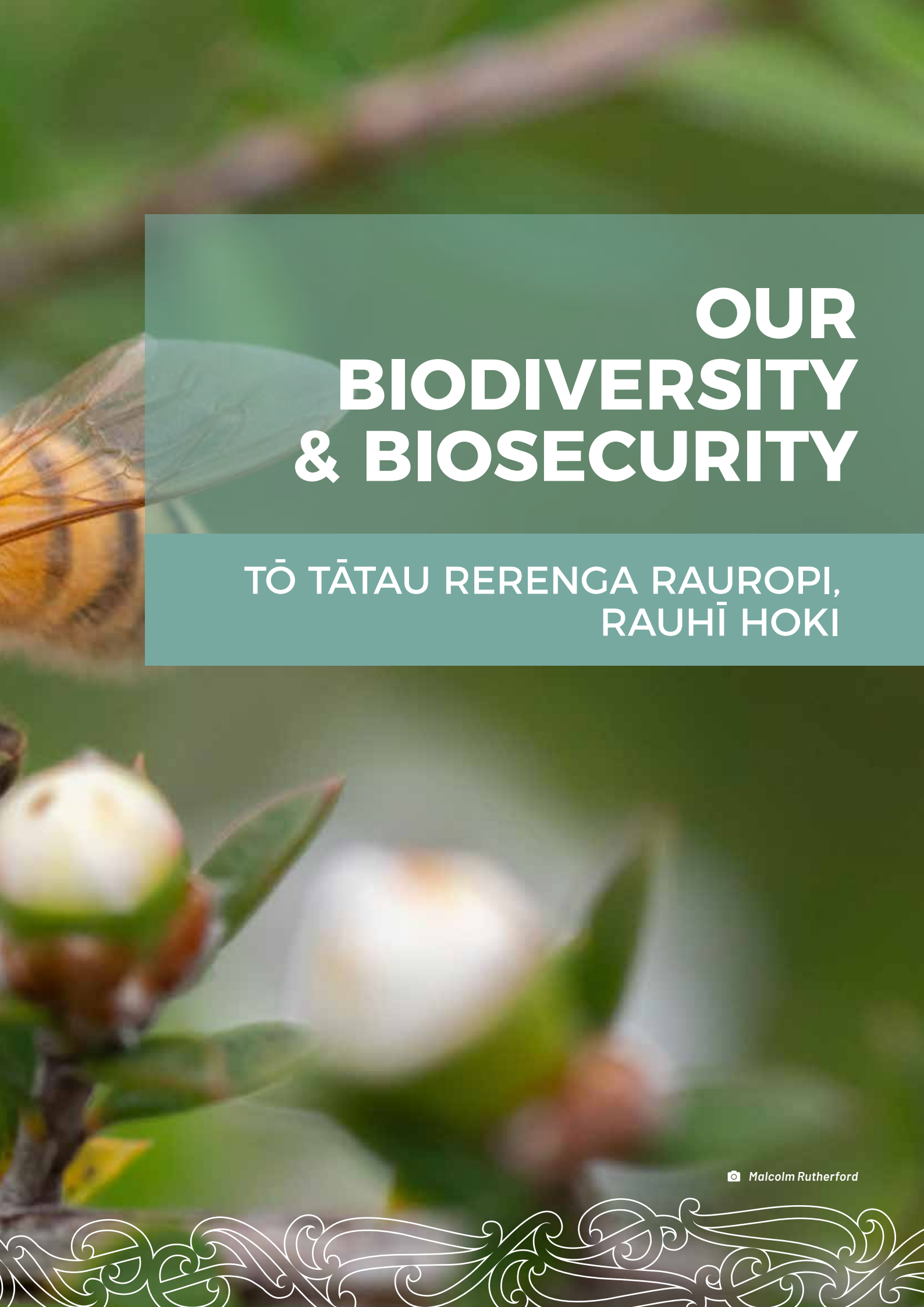
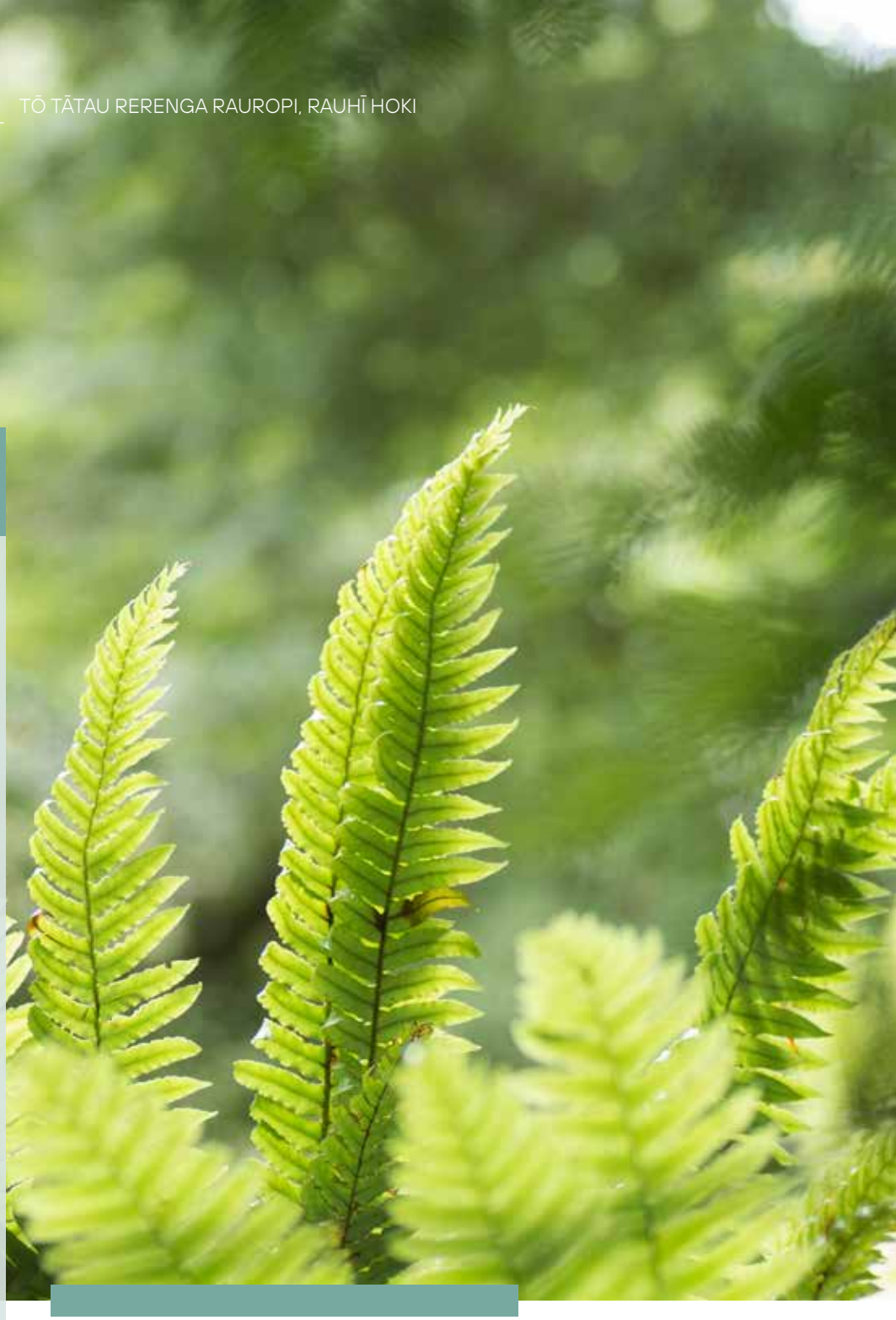
OUR BIODIVERSITY & BIOSECURITY

TŌ TĀTAU RERENGA RAUROPI, RAUHĪ HOKI



Malcolm Rutherford

Malcolm Rutherford



HIGHLIGHTS

Council is returning a significant portion of its largest forestry asset – Pamoa Forest – to native bush to enhance our region's biodiversity and protect the Waingake drinking water pipeline. In addition to planting natives, the project involves extensive pest control and eradication measures. Council is working to secure funding through the One Billion Trees programme.

Since 2016, 18 projects have been funded by Council's Natural Heritage Fund.

Mediterranean fanworm was detected in our region in 2015 and 2019, a major threat to marine biodiversity.

Important areas of native bush are designated "Protection Management Areas" (PMAs). Most of these areas are on private land so landowner action is key to protecting them from threats like weeds, livestock, wild deer and goats. Landowners are encouraged to apply to Council's Natural Heritage Fund. Read how the Williams are working to improve their waterways at Turihaua on **page 38**.

Together Council, DOC and our community identified long-tailed bats, a nationally-critical species, living around the Wharekopae River – an exciting find as part of the Wharekopae River Restoration Project. Read more about this on **page 40**.

BIODIVERSITY

Only 23% of original native vegetation remains in the Gisborne district. Outside of the Raukumara Range, remnants tend to consist largely of secondary regrowth forest dominated by kanuka. Around 7% (58,000ha) of our region is classified as Protection Management Areas (PMAs) – our highest value native vegetation.

There are 914 native plants found in our region with diverse landscapes including lowland flats, coast, dunes, hill country and the Raukumara Range providing a range of habitats. Fourteen per cent of our native plants are nationally threatened.

Wetlands are our most threatened ecosystem with only 1.75% (1,487ha) of their original area remaining. Wetland restoration is a high priority for our region.

CLEARANCE OF NATIVE SCRUB

The change to the area of native scrub (largely manuka and/or kanuka) in our region can be assessed two ways. As the clearance of native scrub requires a consent, the area consented can be assessed with the area consented from 2016 to 2018 shown in the table. Long-term trends in the area covered in native scrub can be assessed using the Land Cover Database (LCDB) maintained by Manaaki Whenua/Landcare Research.

The LCDB is now at version 5 and covers the period 1996-2018. The LCDB defines two types of native scrub: manuka and/or kanuka and matagouri and/or grey scrub.

In 1996 72,866ha of our district was covered by manuka/kanuka and 441.56ha was covered with matagouri/grey scrub. By 2018, 6,457.45ha of the area that had been in manuka/kanuka in 1996 had been converted to other uses. Of this, 2,133ha had been converted to either low-producing or high-producing grassland/pasture and 1,887ha to exotic forestry. Notably, 2,419.7ha of manuka/kanuka had grown into broadleaf or deciduous indigenous hardwoods. This suggests that when left undisturbed land covered by manuka/kanuka acts as a successful nursery crop for indigenous canopy species. Small areas had been lost to landslides or areas of gravel (where rivers had changed courses). For areas that had been matagouri/grey scrub in 1996 (441.6ha), 395.4ha remained in 2018 with the remainder converted to exotic forestry (19.35ha), or low-producing grassland pasture (24.7ha). A further 1ha had converted to manuka/kanuka and 1ha was affected by a landslide.

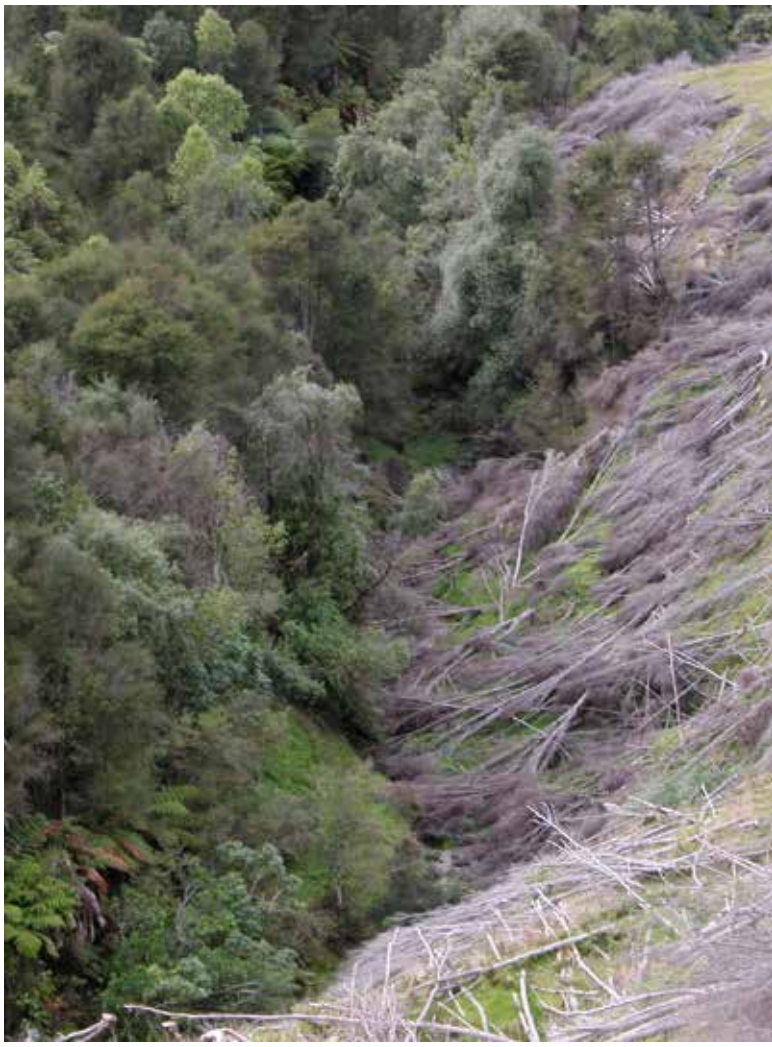
The LCDB also shows that 9,815.35ha of land cover other than manuka/kanuka in 1996 had been converted to manuka/kanuka by 2018, thus the net change on manuka/kanuka between 1996 and 2018 was an increase of 3,348ha to 76,214ha from 72,866ha in 1996.

Area changed to manuka and/or kanuka from other land uses between 1996 and 2018 (ha)

Broadleaved indigenous hardwoods	2,419.71
Exotic forest	1,887
Low-producing grassland	1,433.61
Gravel or rock	12.96
High-producing grassland	699.47
Lake or pond	5.83
Landslide	8.87
Total area lost to other land uses (ha)	6,467.45

Change in area of manuka and/or kanuka to other land uses between 1996 and 2018 (ha)

Sand/gravel	16.19
Broadleaved indigenous hardwoods	71.45
Exotic forest	8.91
Fernland	89.9
Gorse/broom	7.24
Gravel or rock	9.56
High-producing grassland	6,004.7
Low-producing grassland	3,607.4
Total hectares	9,815.35



Kanuka vs manuka

In the Gisborne district, most vegetation clearance involves kanuka or manuka dominated forest. Both species provide a range of benefits including slope stability, rainfall interception, habitat for native insects, plants and animals as well as flowers for the honey industry. Kanuka and manuka are primary succession plants, which means they are the starting point in the process of native forest regeneration.

Manuka and kanuka tend to look very similar at first glance. However, there are tangible differences (see the table on **page 33**). Careful inspections of several features will help determine whether it is kanuka or manuka.

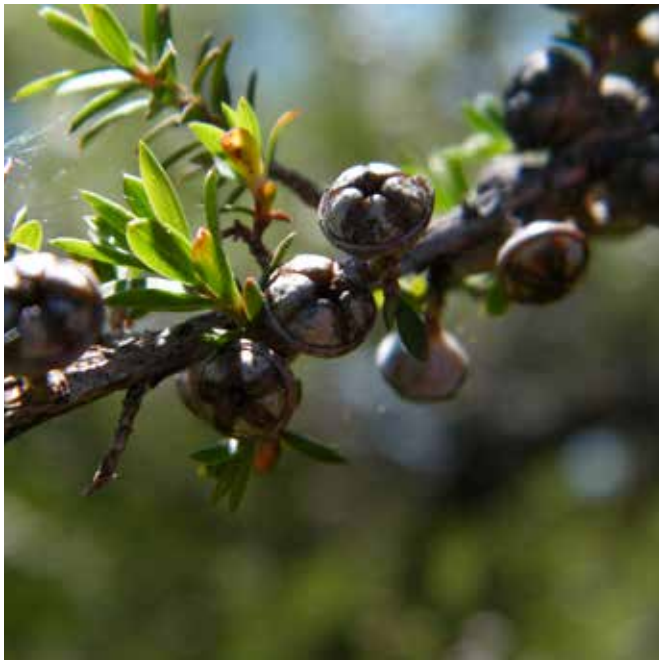
Manuka and kanuka grow on a variety of sites throughout our district. Manuka tends to be more dominant in areas with higher rainfall such as the Wharerata Range, towards East Cape and inland to the Raukumara Ranges. Kanuka is more dominant in drier parts of our district and survives – even regenerates – in the presence of farm stock.

The process of change within kanuka and manuka forest tends to occur over different time frames. Within a relatively short time frame other native tree species tend to grow through manuka forest which can result in a mixed forest within around a decade. In contrast, kanuka forest will often exist as a solid canopy for several decades before larger native trees such as rewarewa emerge.

Despite the solid canopy, kanuka forest provides a nurse crop for native shrubs and fern species to establish underneath. The solid canopy also provides an important buffer for primary (original) forest patches. In kanuka or manuka patches, often the greatest diversity of other native plants occurs on south-facing slopes and adjacent to waterways. Increased rates of native forest regeneration occur in these microsites due to cooler summer temperatures and higher moisture levels.

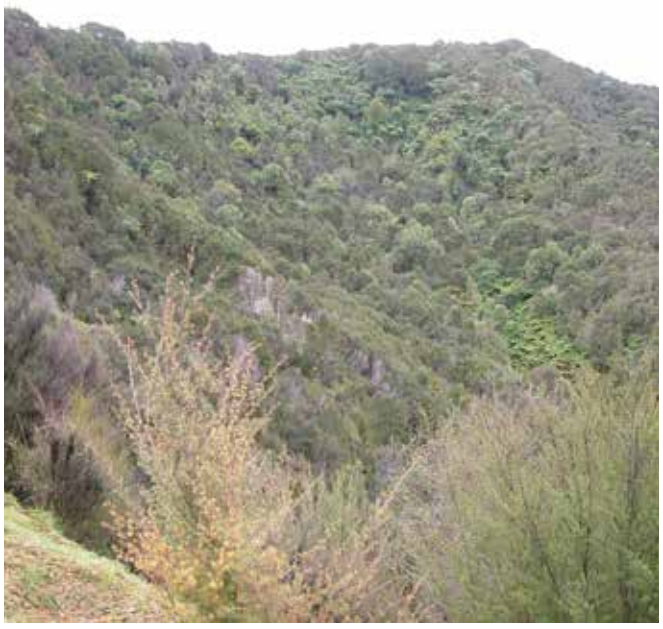
Kanuka forest with an understorey (seedling and shrub layer) dominated by tree ferns

	Manuka	Kanuka
Leaves	Prickly to the touch	Soft to the touch
Bark	Thin, flaky with pinkish wood underneath	Long, light brown strips
Capsules	Capsules are usually present on most plants and are easy to find	Tiny capsules are only seen in late summer and autumn
Mature tree sizes	Small and difficult to hug	Large, tall and easy to hug
Smell of crushed leaves	Smell is not distinctive	Smells like eucalyptus oil



Manuka: large, long-lived capsules

Kanuka: small, short-lived capsules



Manuka forest with mixed species emerging through the canopy

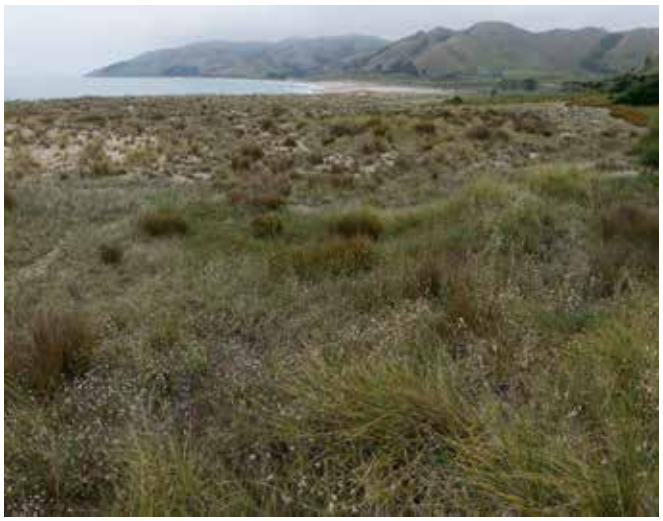
Kanuka forest buffering a tawa forest remnant

RESURVEY OF OUR SIGNIFICANT BUSH

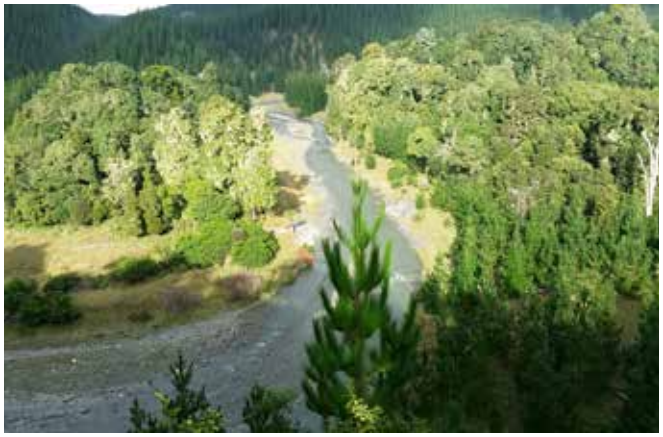
WHAT WE FOUND

Protection Management Areas (PMAs) is a term used to define important areas of native bush throughout New Zealand. PMAs cover 7% (58,000ha) of the total land area in our region. There are 315 individual PMAs, most of which are located on private land. The types of vegetation range from coastal dune land to high elevation beech forest.

In summer 2017, 15% of our PMAs were resurveyed, 48 of the 315 areas. The PMAs visited provided a good representation of types, including a range of land uses (peri-urban, farming and forestry), legally protected and unprotected, fenced / unfenced, a variety of sizes, primary and secondary forest and different bioclimatic zones (coastal, semi-coastal, lowland and montane).



Pouawa River mouth



PMA in forestry landscape

Where PMAs were located on farmland and not fenced, stock (cattle) was the greatest threat, in many cases preventing any regeneration of shrubs and seedlings.

Where PMAs were located in forestry (pre-harvest), the main threat was deer – however, the threat was significantly lower than in the Raukumara Ranges. In the forestry landscape, deer have a variety of food sources and are likely to have a greater preference for pasture than native species when pasture is available.

Overall, PMAs in unharvested forestry were in better condition largely due to the absence of farm stock.

Where PMAs were located in forestry (post-harvest), the main threats related to recovery from direct damage to the trees and invasion of key weeds (pampas and wilding pines). The post-harvest landscape creates disturbance which favours the establishment of pioneer weed species.

Goat control as part of forestry management has had a positive effect on PMAs, supporting regeneration of natives in damaged areas.

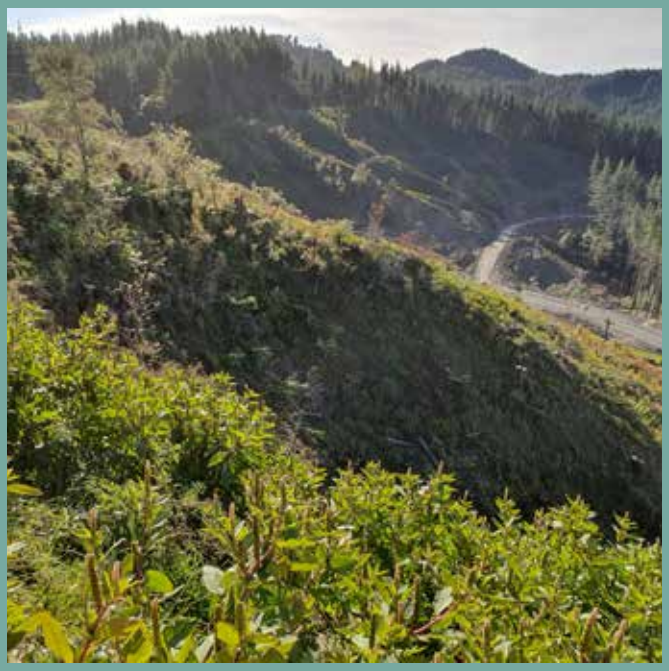
PMAs close to the Gisborne urban area were most impacted by weeds, with aggressive weeds such as Japanese honeysuckle invading.

Landowners are encouraged to apply for funding for weed and pest control and fencing through Council's Natural Heritage Fund.

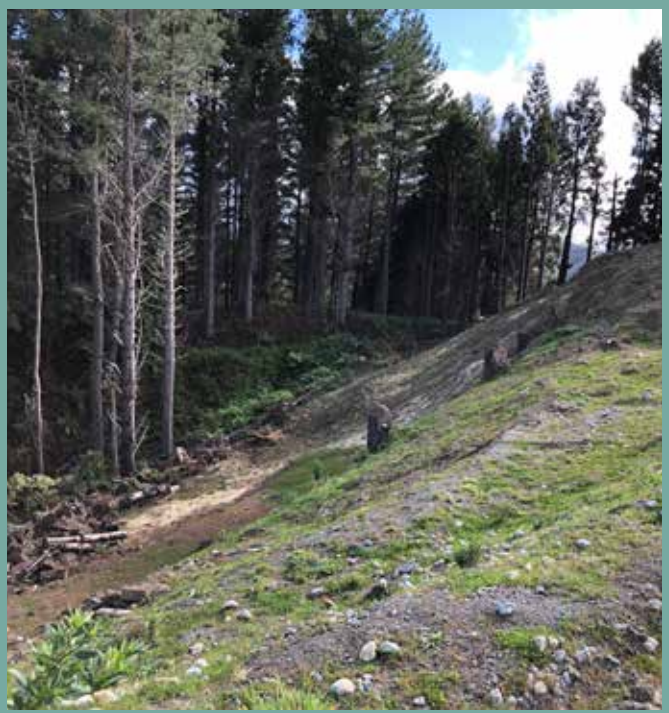
The health of our PMAs (important areas of native bush) is compromised by grazing animals (stock and roaming deer and goats) and weeds. With just 7% of our district classified as native bush, most of which is on private land, landowners are key to ensuring the health and longevity of these important areas.

#01 CASE STUDY | HE TAUIRA

Restoring and regenerating Pamoa



Initial reversion (including weeds) in post-harvest areas, Te Arai catchment

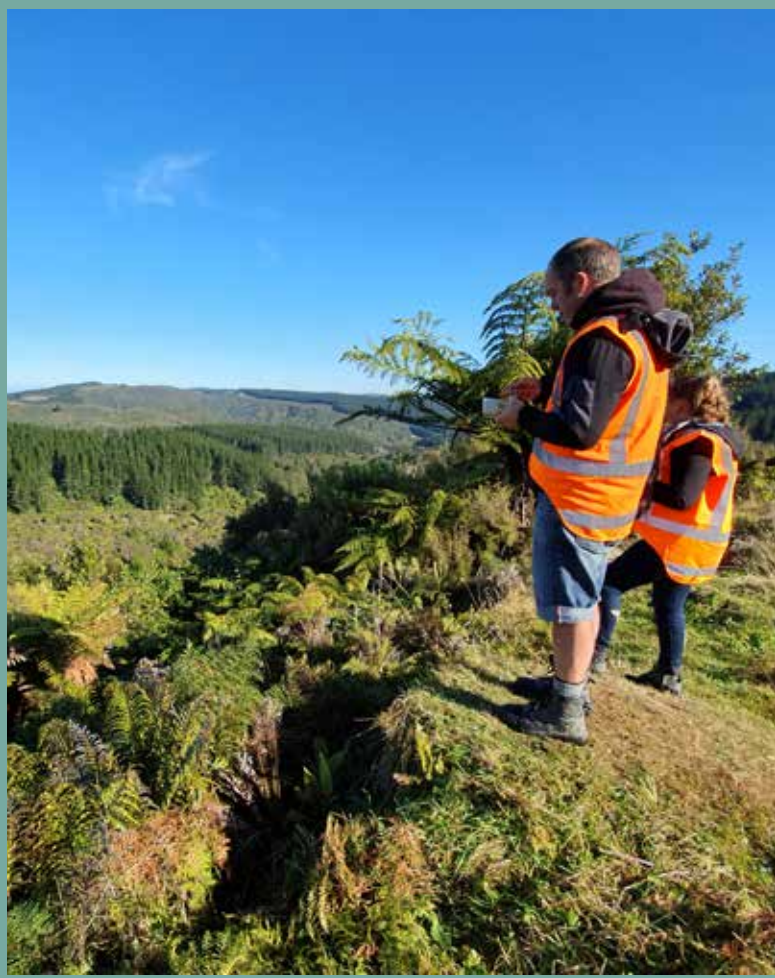


Exotic forestry in Pamoa is cleared to make way for native plantings

Pamoa forest is a 1,613ha area purchased by Council to protect Gisborne's main water pipeline from the Mangapoike reservoirs and the Te Arai River. The pastoral farming land and scrub was planted in pine forest to prevent erosion and for potential future income.

With the harvesting of pine trees underway, Council has decided to return a large section of pipeline into native forest. This will create a biodiversity corridor linking Pamoa forest with Waingake bush, as well as providing long-term protection for the reservoirs and the pipeline. It will also protect the Waingake Stream as well as the headwaters of the Te Arai, Nuhaka and Mangapoike Rivers, all of which are ecologically valuable. Pest and weed management will be key to successfully establishing native trees in the harvested areas, as well as enabling native wildlife to rebound.

Waingake bush is the largest remnant of coastal lowland bush in our region so the Pamoa restoration is a fantastic opportunity to increase both the area of native forest and the pest-control buffer.



Pre harvest area, headwaters of Mangapoike River

#02 CASE STUDY | HE TAUIRA

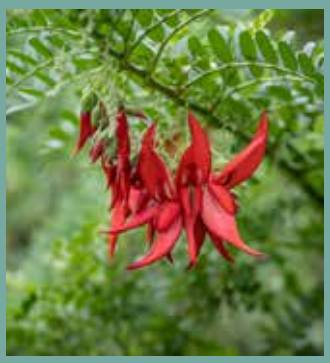
A LIVING LIBRARY

1769 Garden at Waikereru Ecosanctuary

In 1769 Endeavour botanists Joseph Banks and Daniel Solander set about collecting and classifying specimens at Gisborne Tairāwhiti. This took place amidst the chaos of first encounters, and the deaths of a number of tangata whenua. In the small window before the Endeavour departed, 40 plants were gathered.

A garden is being developed at Waikereru Ecosanctuary to reflect the flora and fauna in Tairāwhiti in 1769, and to celebrate ancestral relationships with these plants and animals. The garden is a design collaboration between Philip Smith (02 Landscapes), Graeme Atkins (Department of Conservation, Ngati Porou) and Malcolm Rutherford (QEII National Trust, curator). The garden is intended as a future refuge for endangered plants like the critically endangered kaka beak.

For more information, please visit **www.waikereru.org**.



The 1769 Garden: plants are grown within stone walls and mounds laid out in a quincunx grid, techniques traditionally used by Māori

Malcolm Rutherford

Funding for landowners to protect and enhance our biodiversity

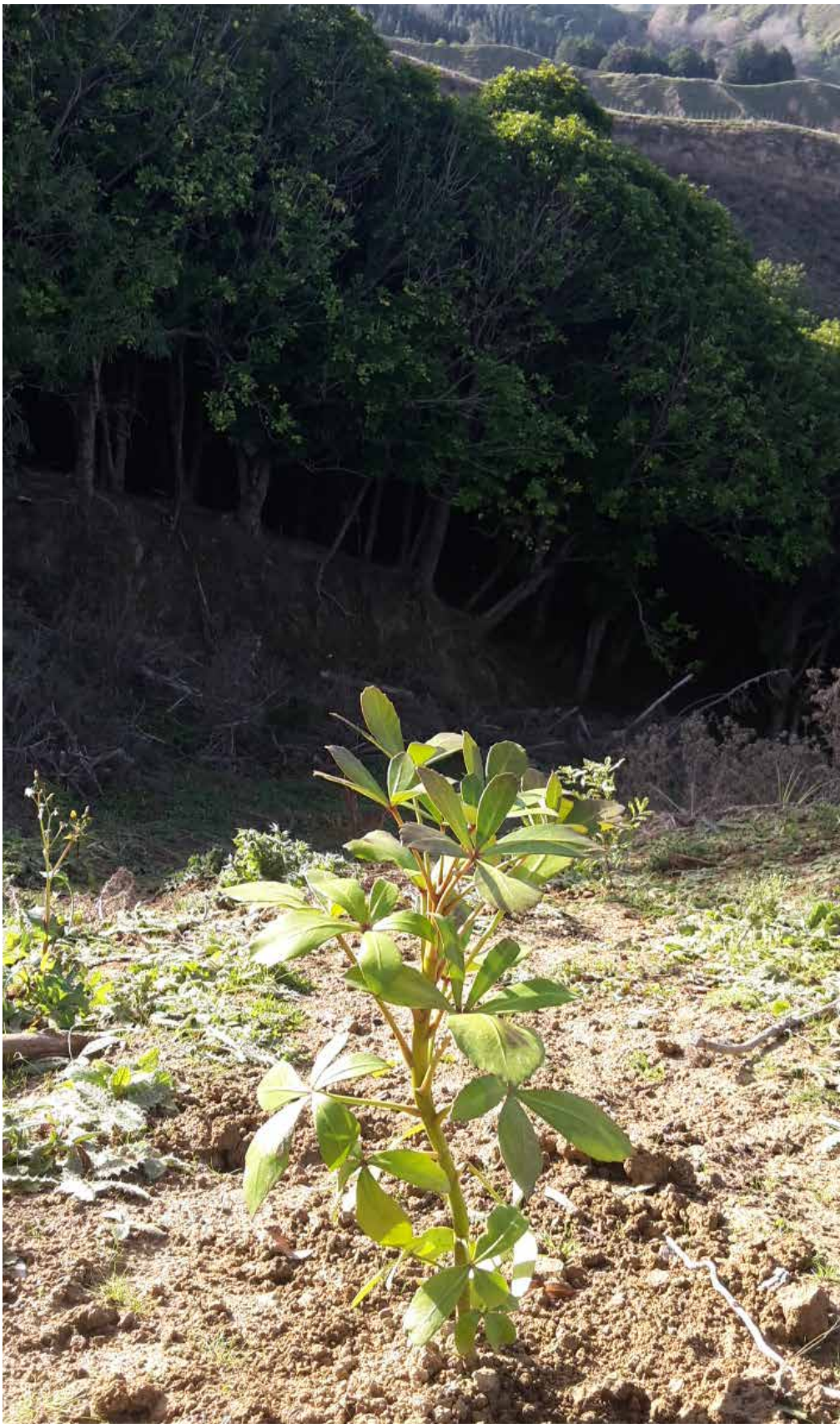
Council's Natural Heritage Fund helps private landowners protect or enhance indigenous biodiversity. It's a small fund that is made available instead of rates remissions on a limited number of properties.

Any privately owned land within our district is eligible for funding. Since its inception in 2013, the fund has helped finance 31 projects and provided more than $200,000 for native planting, pest and weed control and stock exclusion fencing to protect and restore indigenous vegetation, wetlands and waterways. So far, there have been seven rounds of grants.

For more information or to apply, please visit **www.gdc.govt.nz**.

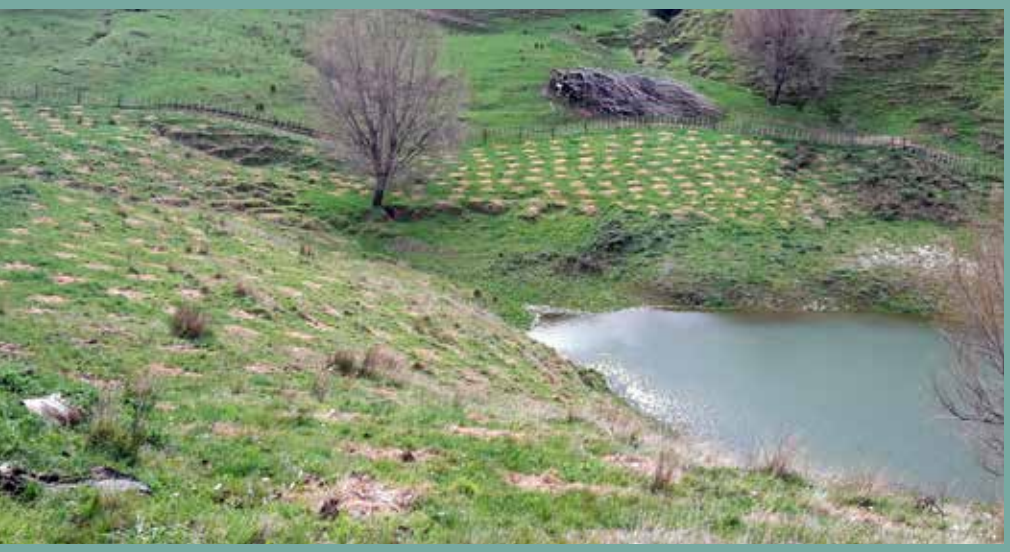
Natural Heritage Fund June 2016-May 2019

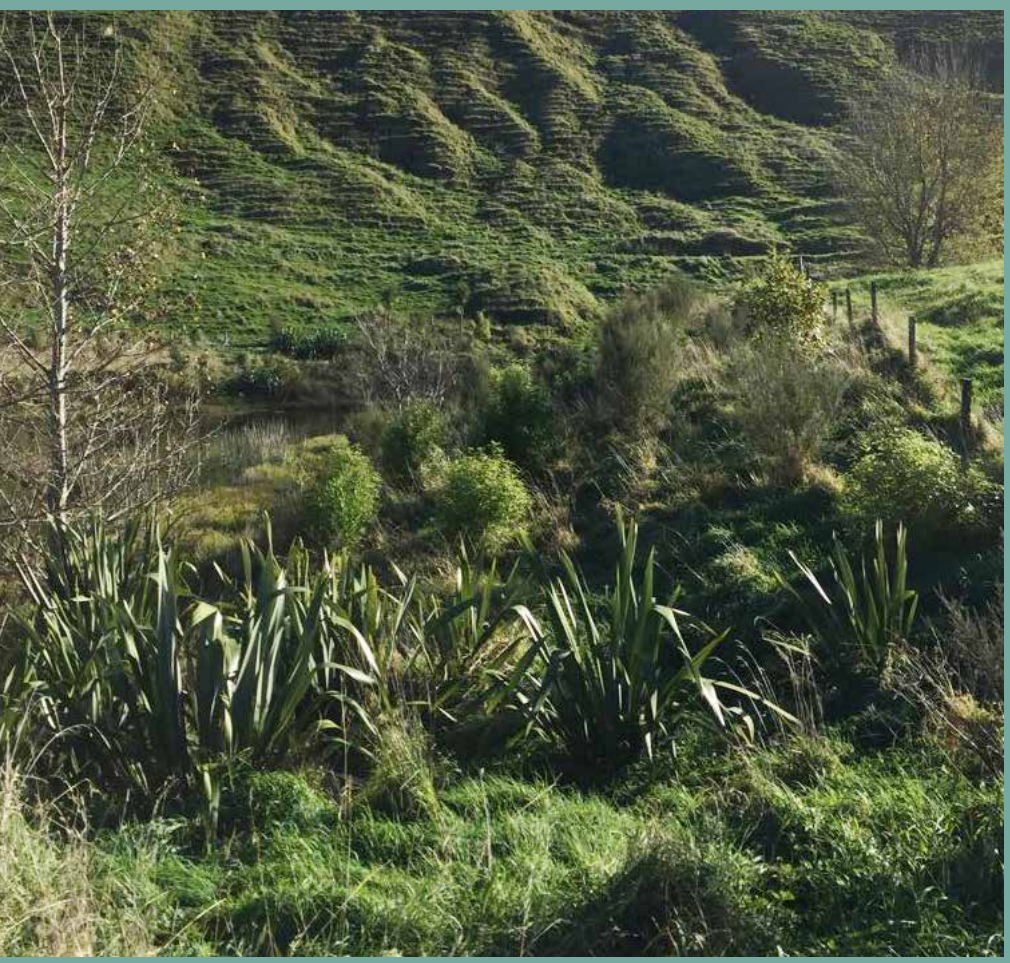
Activities	Total
Number of projects funded	18
Amount of funding allocated	$90,000
Amount spent so far	$68,414
Native planting projects	9
Established bush fencing projects	1
Combination (fencing and planting) projects	8



#03 CASE STUDY | HE TAUIRA

Restoring Turihaua Stream





Paul and Sarah Williams of Turihaua Angus Stud have planted four water reservoirs with funding from Council's Natural Heritage Fund in 2017 and 2018. Six hectares of native wetland and tree species were planted along the reservoirs' riparian margins and are now well established. Pest control and repeated release spraying of the plantings was essential.

Three kilometres of the Turihaua Stream flows through Turihaua Angus Stud, terminating in Turihaua Bay. Ten minutes from Gisborne, Turihaua Bay is utilised by day trippers, campers, and recreational and commercial fishers. Concerns have been raised about the poor water quality of the stream flowing into the bay. An ecological restoration plan is being implemented which includes pest control, fencing and riparian planting along the entire length of the stream which will minimise bank erosion, help filter the farm's run-off, and protect the water quality of the lagoon.

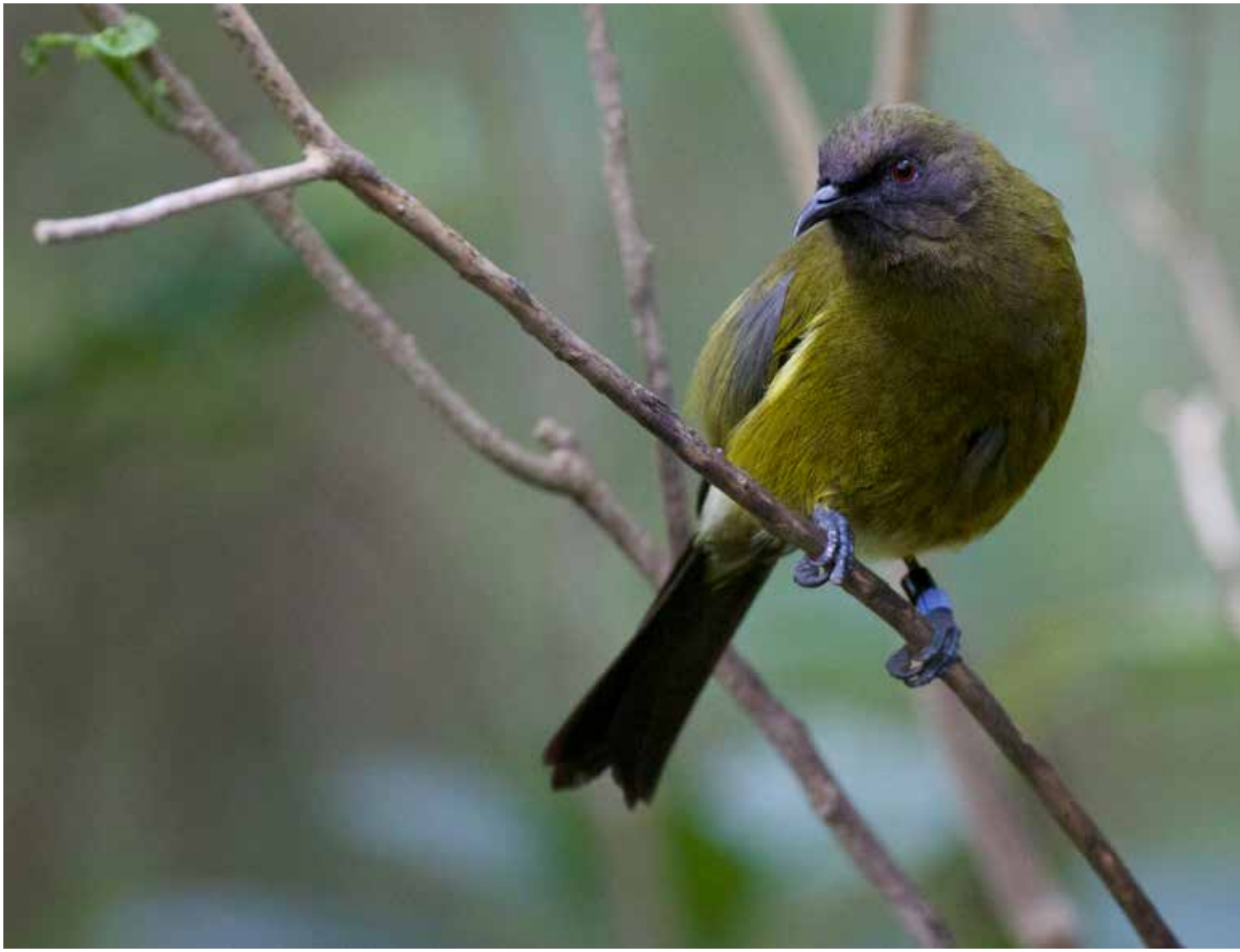
The Williams anticipate long-term benefits of the planting including shading of the stream to support its animal and plant life and providing a corridor for native birds between bush blocks. As custodians of the land for future generations, the Williams are committed to preserving and enhancing their land.

NATIVE FAUNA

Our region was once the home of many native species including a diverse range of coastal, forest and wetland birds, frogs, skinks, geckos, bats and insects. Many of these have been affected by human activity and their numbers have declined. DOC, QEII National Trust, Council and other agencies support landowners and communities working to protect our native fauna and restore their habitats.

Tairāwhiti is still home to an array of fauna, particularly avifauna (birds). Some species, such as the whio or blue duck, were once common in our clear fast-running rivers but are now rarely seen, but areas of indigenous forest still have numerous tui and bellbirds and some – such as the North Island fantail – still thrive. Weka, once abundant, are starting to recover in inland areas such as the Motu.

Common in both open wooden areas and waterways are the sacred kingfisher, while shore birds such as the rare New Zealand dotterel are present in small numbers but gradually spreading in distribution. Other species like the variable oystercatcher are common. The dabchick, a relative of the better known crested grebe, is widespread but with low numbers in lowland ponds and small lakes within our region.



Less common in Tairāwhiti than the tui, the bellbird can still be heard on Titirangi and in other areas of indigenous cover

#04 CASE STUDY | HE TAUIRA

Finding bats at Wharekopae

Long-tailed bat — Photo credit: Department of Conservation

Short-tailed bat — Photo credit: Department of Conservation

Bats are New Zealand's only native land mammal, of which there were just three species: the long-tailed bat, the lesser short-tailed bat, and the greater short-tailed bat (thought to be extinct).

The long-tailed bat is classified "nationally critical", while the lesser short-tailed bat subspecies range from "nationally vulnerable" to "recovering". They are in danger of extinction in the medium term if nothing is done to reverse their declining population and are a high priority for conservation.

As part of the Wharekopae River Restoration Project, monitoring was done by the community with the help of the Department of Conservation.

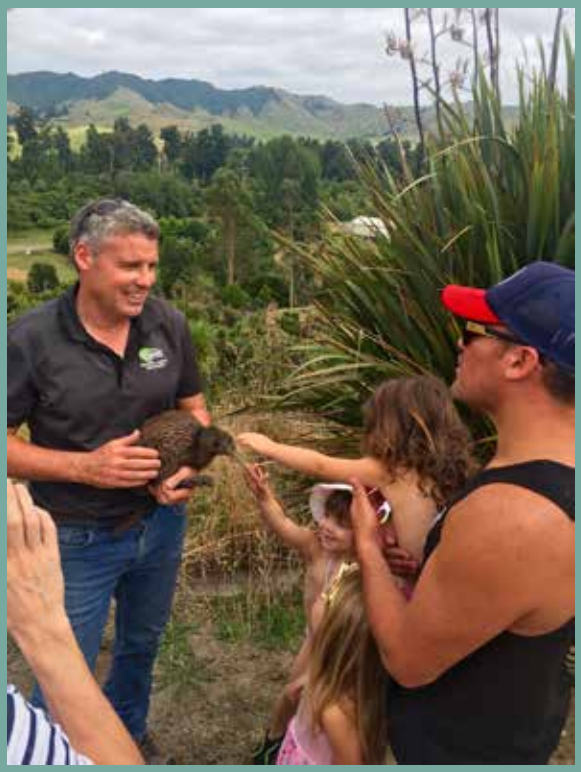
Bat monitors were set overlooking the Wharekopae River in areas of low water movement and during a period of good weather. The monitors pick up calls at different frequencies (40kHz for long-tailed bats and 28kHz for lesser short-tailed bats).

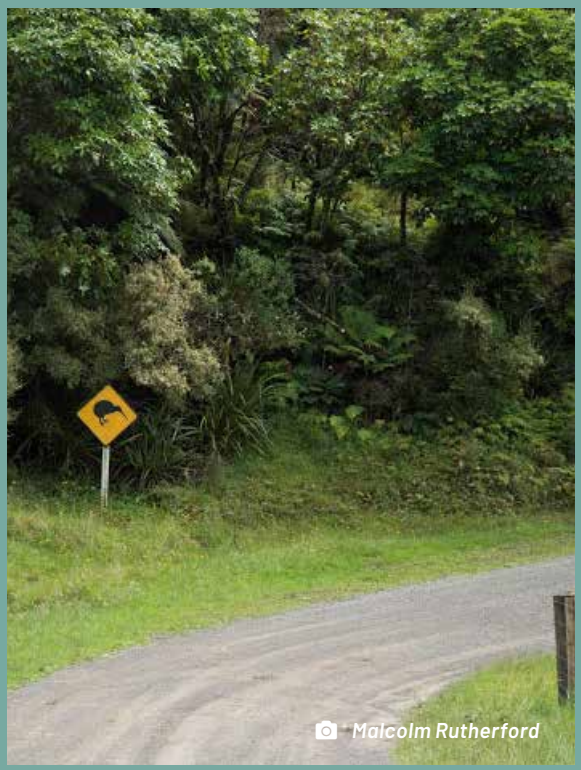
The study found long-tailed bats at two locations in the catchment, one on the Wharekopae River and one on the Makaretu Stream, both areas with riparian native bush. Further surveys are planned to identify where exactly the bats are living.

Long-tailed bats used to be common throughout New Zealand in the 1800s, but by 1900-1930 they were becoming scarce in many districts.

#05 CASE STUDY | HE TAUIRA

MOTU KIWI CRECHE
Saving the kiwi





In 2019, Council sponsored the delivery of a brown kiwi chick, Viv, back to its Motu home. Viv was found soon after hatching in a burrow at Whinray Scenic Reserve in March 2019. She was taken to Rainbow Springs Nature Park in Rotorua, under a programme called Operation Nest Egg, where kiwi eggs / chicks are taken from their wild nests until they reach about 350g. New kiwis taken from the Whinray Reserve are then returned to the kiwi crèche, a 1.4ha predator -proof fenced area in Motu township, where they stay until they reach 1,100g, a size when they can defend themselves from predators.

Transporting Viv was nerve-wracking for Council staff. A cable tie was secured around the handle of the "Kiwi On The Move" box so Viv couldn't burst out during the trip. During the four-hour journey, numerous taps of the beak and rustles amongst the dirt and ferns in the bottom of the box could be heard.

On arrival, Fiona Fisher, a member of the Whinray Ecological Charitable Trust and experienced kiwi handler, opened the box, revealing Viv to a small group of excited Motu residents. A transmitter was then attached to Viv's leg at the MotuVation Café, followed by a short walk up the hill to the crèche to be released into an artificial burrow.

Viv's arrival meant it was time to release Quirky the kiwi into the Whinray Reserve. Named after DOC ranger and longtime Whinray supporter Jamie Quirk, Quirky was released by the man himself. At 1,300g, Quirky has an excellent chance of reaching adulthood in the reserve.

The Whinray Ecological Charitable Trust supports the protection and conservation of kiwi and other birds and wildlife.

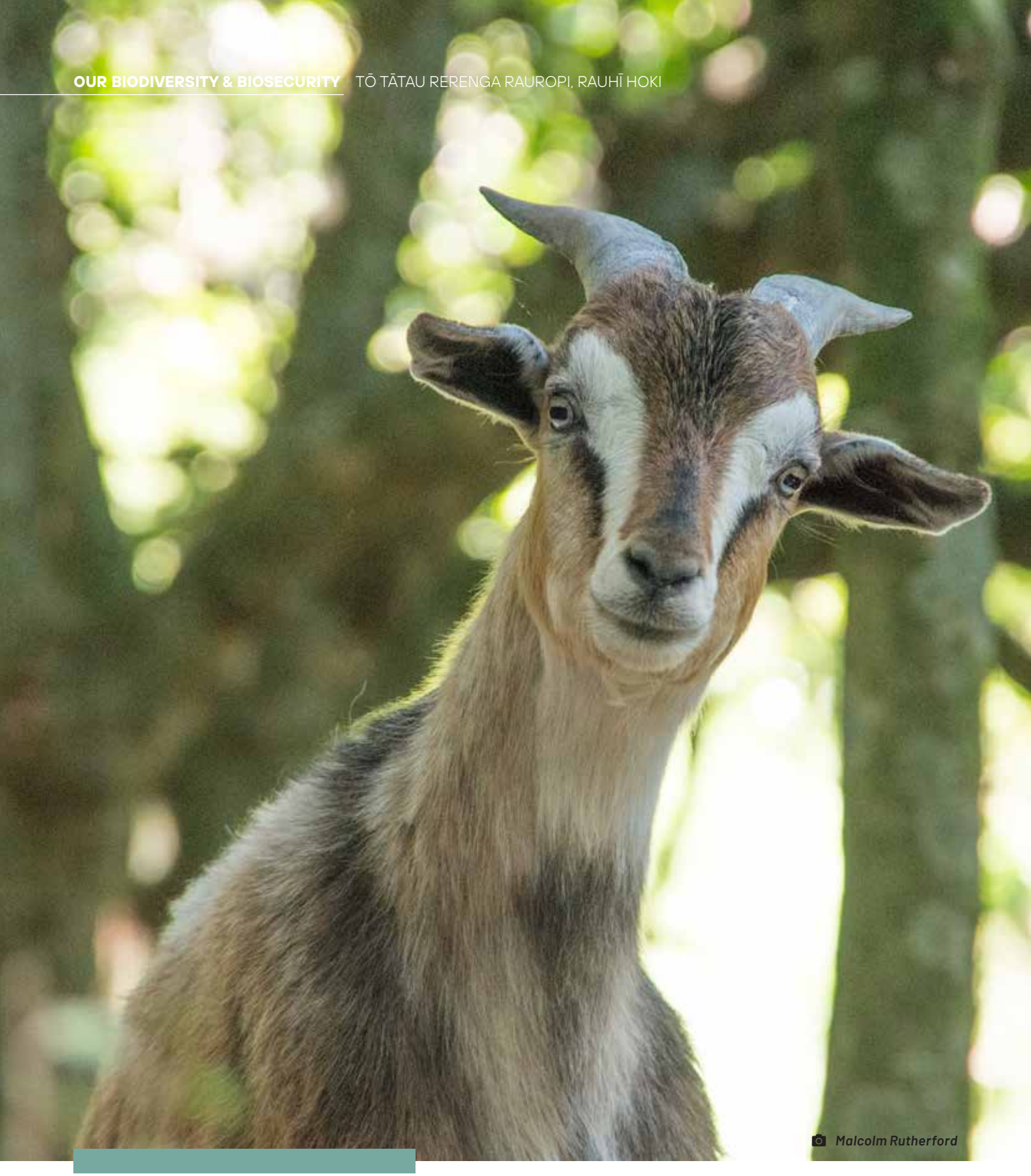
Community volunteers and sponsors make their work possible.

Protecting our national icon

The Whinray Ecological Charitable Trust was formed not only to restore our national icon, the kiwi, but to help protect the Whinray Scenic Reserve and conserve other endangered bird and wildlife species living in the area such as North Island robin, weka, falcon, whio, kaka, rifleman, hochstetter's frog and long tailed bats.

The Trust's success is down to the determined and passionate community and a wide range of volunteers and generous sponsors. The Trust employs fulltime trappers who cover the reserve's 430ha of pristine podocarp native forest and about 200ha of surrounding farmland to control mustelids, cats, possums, ship and Norway rats, and hedgehogs.

For more information, please visit **www.facebook.com/MotuKiwiProject.**



Malcolm Rutherford

BIOSECURITY

Pest animals or plants classified as "eradication species" in the Regional Pest Management Plan are those we want to eliminate from the region. There are 15 pest species in this category – one animal and 14 plants. Council conducts regular inspections of known sites and investigates any new reports applying direct control to eliminate any of these pest species.

Pest animal	Infected properties	Sites	Active	Inactive
Rook	1	1	5	-
Pest plant				
African feathergrass	2	2	1	1
Apple of Sodom	1	13		13
Cape tulip	2	2	2	-
Californian stinkweed	6	7	2	5
Climbing spindle-berry	6	6		6
Horse nettle	1	1		1
Lagarosiphon	1	1		1
Mediterranean fanworm	1	1	1	-
Monkey comb vine	1	1	1	-
Pennisetum	23	23	6	17
Red cestrum	6	14		3
Spiny emex	33	33	4	29
Velvet leaf	1	2	-	2
White edged nightshade	2	2	2	-

Lagarosiphon

Eradication pest plant horse nettle only known site is located in the Matakaoa ward on a property in the Waikura Valley. Recent monitoring of this site has found no active regrowth

Eliminating rooks

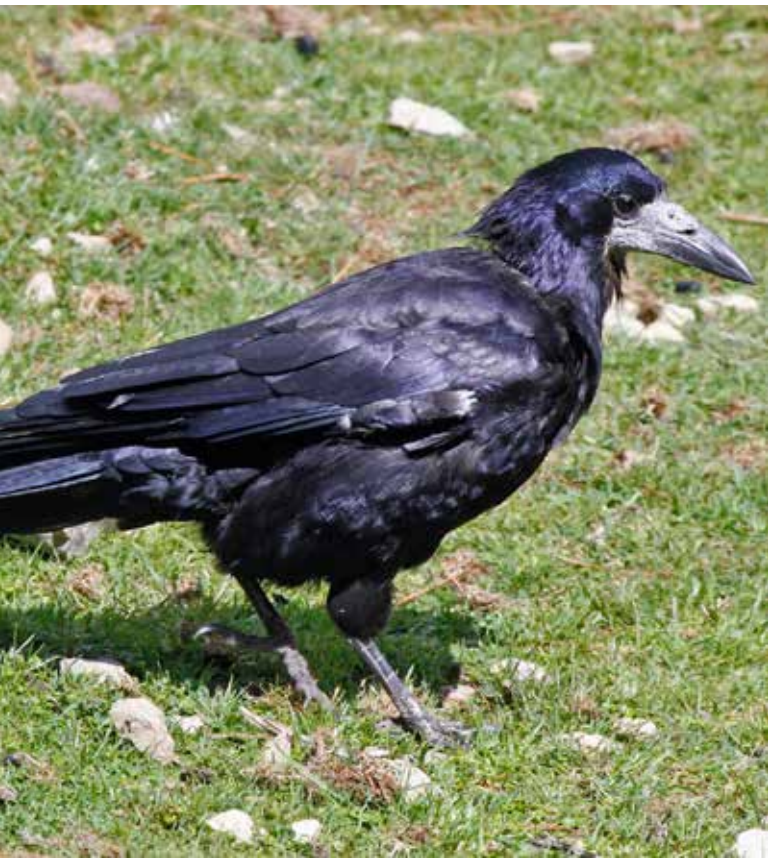
Rooks are a declared eradication category pest bird in the Gisborne region and Council's focus is to eliminate all rooks.

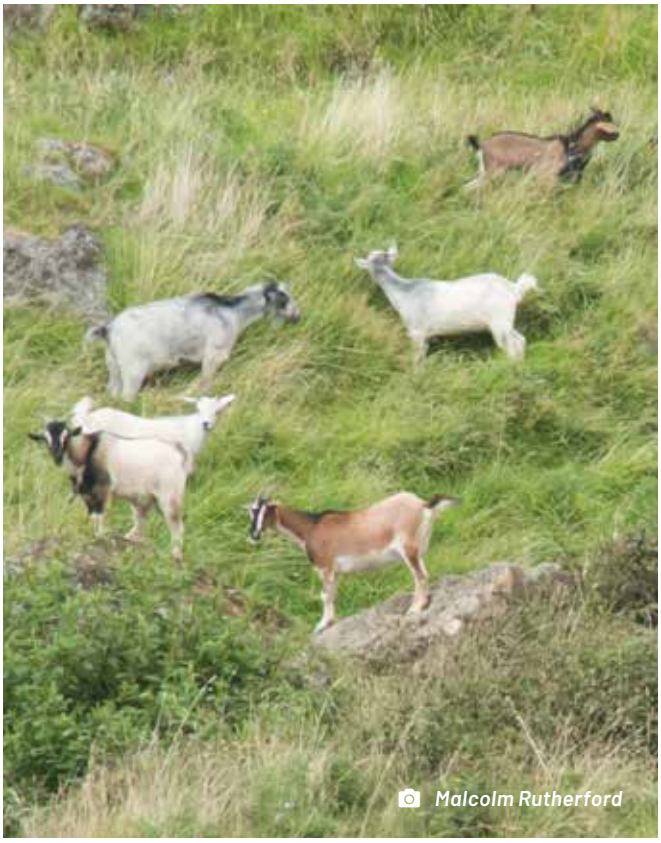
At present we have only one small population of four adult birds north of Te Puia Springs and one possible lone bird near East Cape.

Attempted control of rooks near Te Puia Springs in 2018 and 2019 was unsuccessful. Monitoring to date has confirmed they are still present. Follow-up control of the rooks near East Cape resulted in one rook being shot and no other rooks observed.

Council will conduct site monitoring of both locations in August and September 2020 to confirm numbers and any nest-building activity. Control actions will be considered and undertaken between late September and November 2020.

Year	Rooks sighted	Rooks destroyed
2016	2 adult and 2 juvenile birds	4
2017	4 adult birds near Te Puia Springs and 2 reported near East Cape	0
2018	5 (4 near Te Puia Springs and 1 near East Cape)	1
2019	5 adult birds near Te Puia Springs	0





Reducing goats

Uncontrolled feral goats can significantly damage indigenous vegetation and have wide-scale pervasive effects on indigenous biodiversity. Feral goats are managed as "site led pest animals" in the Regional Pest Management Plan.

Together with Environment Bay of Plenty, Department of Conservation and Nga Whenua Rahui, Council has established a joint goat management plan centered along our regional district boundary in the Matakaoa ward.

All partners have been actively controlling feral goat populations in and around farmland in the Waikura Valley for ten years, which has seen a reduction in goats to very low numbers.

Council does annual inspections of farms in the Waikura Valley, supported by farm owners. It is an ongoing challenge as numbers can spread from farmland outside the goat management areas.

Council has destroyed approximately 24 goats in the Waikura Valley since this collaborative management plan was initiated covering several properties.

Year	Goats sighted	Goats destroyed
2016	11	11
2017	0	0
2018	5	5
2019	4	4

In 2019 there was a new arrival of fanworm at Gisborne Port when a yacht bound for South America had to be towed into port

View of fanworm and mussels on hull of the yacht Wahoo

Mediterranean fanworm

Mediterranean fanworm is a marine pest that has established in several New Zealand ports and harbours, including Lyttelton Port, the wider Waitemata Harbour in Auckland and Whangarei Harbour.

Fanworm was first detected in Gisborne by commercial divers in 2015. Since then, Council has worked with the Ministry of Primary Industries to fund an eradication programme in Gisborne Port, with over $100,000 spent to date. In March 2019 a new fanworm incursion occurred at Gisborne Port when a yacht en route for South America got in trouble when the skipper fell overboard and the yacht had to be towed into port. The yacht was quickly lifted from the water and the fanworms and other pests on the hull cleaned by Council biosecurity and Eastland Port staff.

Fanworm facts

- They breed quickly and over an extended season which makes eradication challenging. A mature female can produce more than 50,000 eggs at a time and the reproductive season can occur from May until late September in our region
- In New Zealand, worms longer than 120mm are considered sexually mature, however, there is evidence suggesting that they can reproduce earlier
- They are capable of rapid growth and able to regenerate damaged body structures
- They have wide environmental tolerances and lack predators
- They are habitat generalists and can live in most artificial and natural habitats
- There is a high chance of natural dispersal due to their extended larval duration (up to three weeks) and ability to delay settlement if unsuitable environmental conditions are encountered

Tips to stop fanworm

- Keep your boat bottom and niche areas clean (no more than light slime, all the time)
- Keep your anti-fouling paint fresh – manufacturers usually recommend replacement every 1-2 years
- Check your hull before you travel to a new area, every time
- If your boat is heavily fouled, haul it out. Cleaning underwater will only spread any pests.

If you think you've seen any marine pests, call MPI on 0800 80 99 66, note the location and grab a sample if you can.

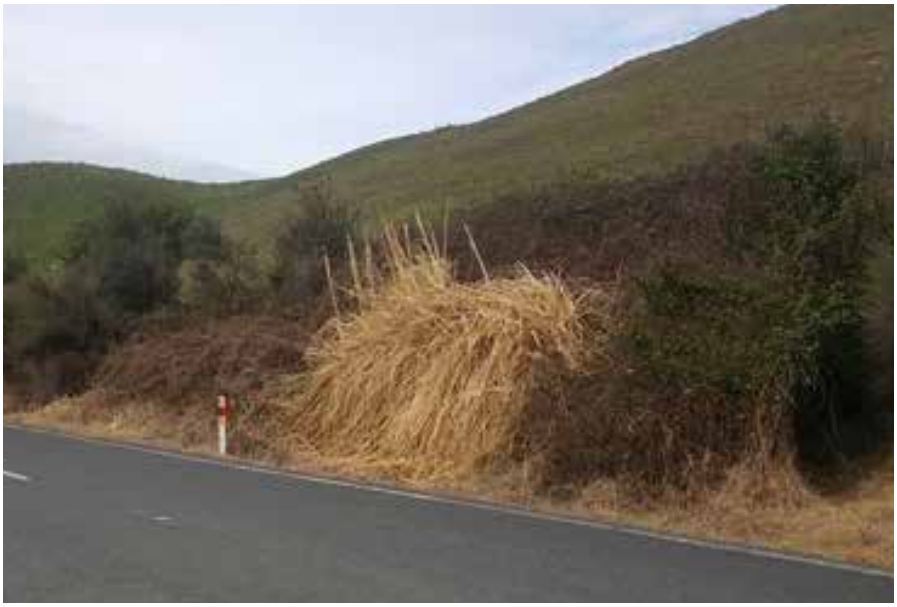
Managing roadside weeds

The control of roadside weeds has been long overdue by those responsible for managing our local road networks.

Collaboration with New Zealand Transport Authority (NZTA) and Council under our Regional Pest Management Plan has brought about a change making each party responsible for controlling pest plants on roadsides they administer.

Council has provided a list of priority pest plants that are to be managed as agency funding allows.

Priority pest weeds to be controlled include pampas grass and blackberry along NZTA roadsides. Attention is also being given to some of Council's own roadside networks.



Roadside weed spraying Lavenham Road

Spartina: introduced grass impacts marine life

Spartina is an introduced maritime grass that was planted in the Taruheru River in the 1960s by a local Gisborne Service Club to cover up the 'smelly mud flats' and beautify the river margins.

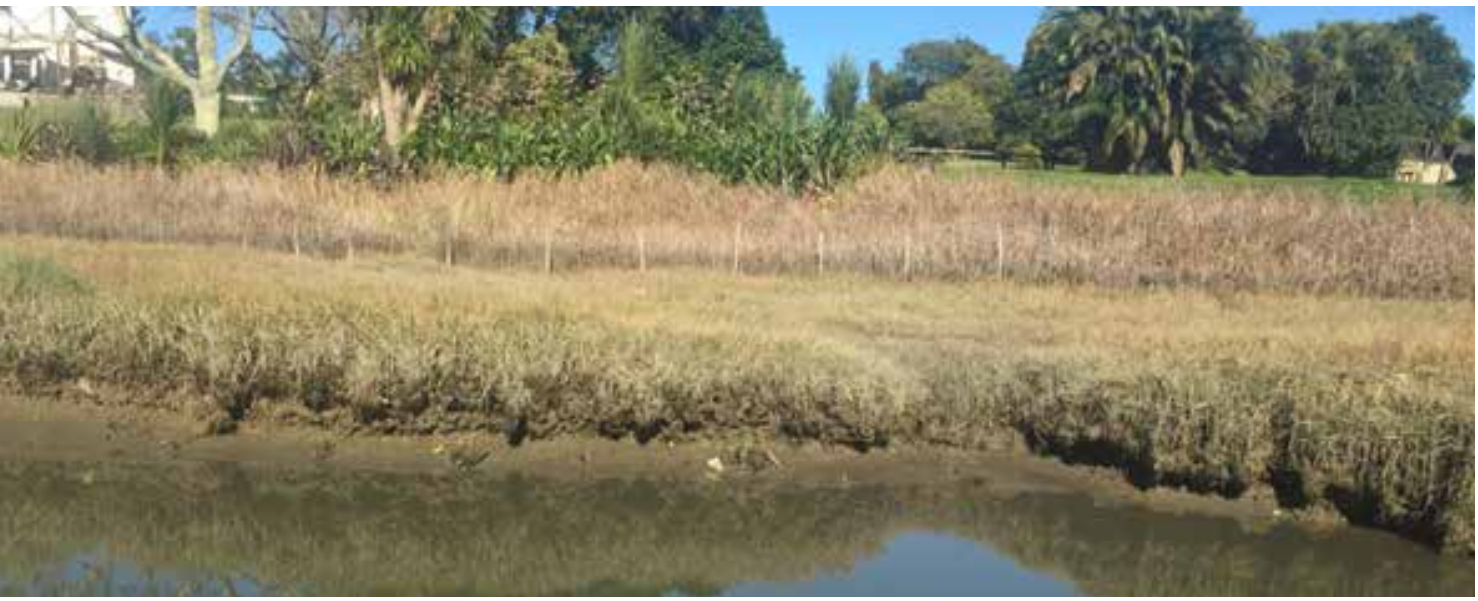
Spartina is currently present in the following waterways:

- Taruheru River
- Waimata River
- Te Wherowhero Lagoon
- Uawa Estuary
- Waikanae Stream.

Spartina forms dense swards in estuaries and other intertidal habitats. The plant was introduced to New Zealand in the early 1900s to assist with land reclamation through its ability to aid accumulation of sediments. The growth of spartina leads to large-scale physical modification of estuaries, river margins, and the loss of saltmarsh and mudflat habitats for a wide range of marine life including shellfish, fish and wading birds.

Considerable effort has been invested in this plant's control and eradication throughout New Zealand with the best and now proven effective eradication results by using the herbicide Gallant (haloxyfol).

Council has not initiated any spartina control work during this reporting period.



#06 CASE STUDY | HE TAUIRA

RESTORING OUR MAUNGA
Titirangi weed control

Titirangi, also known as Kaiti Hill, will soon be covered in native plants as part of a restoration project.

Titirangi maunga is a significant regional reserve, a major landmark with deep historical, archeological, recreational and cultural importance.

In partnership with Ngati Oneone, Council's four-year project is underway to restore Titirangi. A key part of the project is to replace pine forests with natives.

"In order to restore her mana, to restore her mauri, she needs to be clothed appropriately – we believe that is in native flora," says project manager Ranell Nikora.

"There is a lot of weeding involved. We planted over 60,000 native plants on the hill between 2015 and 2016. They need a considerable amount of care and we want to make sure that they are going to grow nice and big and healthy."

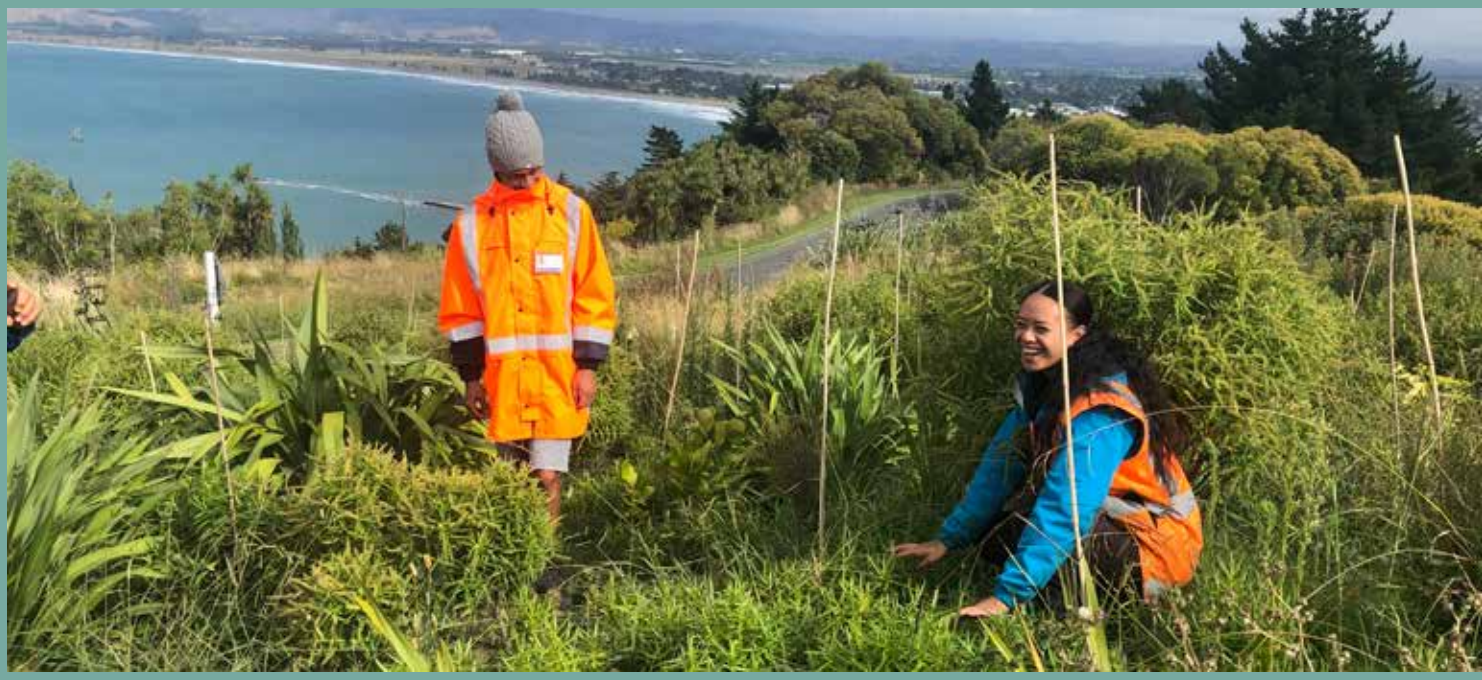
A team – "Whaia Titirangi" – has been employed for further clearing and planting (another 3,500 plants), along with weed control.

Volunteers, school groups and other organisations are participating in the restoration of this important taonga.

Ranell says Titirangi Domain was a place to be enjoyed by everyone.

"We have mana whenua responsibility both to the community to make sure she is looked after, and for future generations."

Other developments include the planned replacement of the existing observatory with a multi-use community centre and extensive walkways.



#07 CASE STUDY | HE TAUIRA

Protecting and enhancing Waingake, our water catchment

Waingake, also known as "Waterworks Bush", comprises 1,100ha podocarp-tawa-beech forest owned by Council. This important forest is the catchment area for Gisborne's water supply.

Pest control at Waingake

Waingake has the potential to be a biodiversity haven for indigenous flora and fauna and therefore a major asset for our region. In April 2018, Council laid out the first set of mustelid (ferret, stoat and weasel) box traps in Waingake. In January 2019 more traps were added, leaving only one boundary edge without traps due to current pine forest logging. The current combined kill tally is 4 ferrets, 44 stoats, 4 rabbits, 562 rats, 79 hedgehogs, 86 mice, 16 cats and 8 possums.

In addition to the stoat box traps, permanent possum bait stations have also been set at 100m intervals around the perimeter of Waingake reserve with the exception of the area where forest harvesting is in progress. Pre-baiting with non-toxic pellet bait over three nights achieved 95% bait take by possums. One application of Feracol toxic pellets was applied with 100% of the bait consumed by possums over several nights.

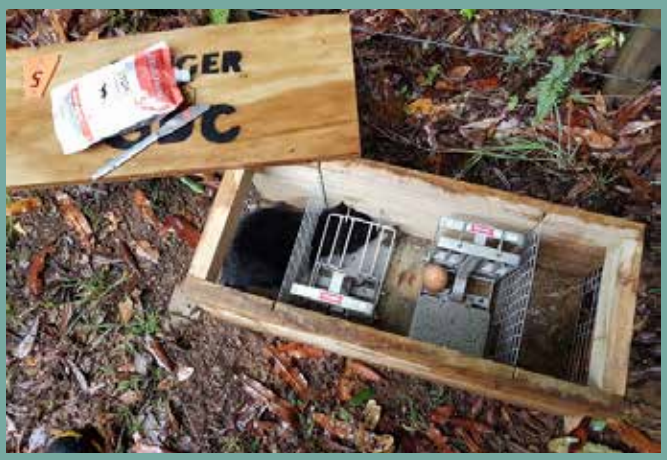
The next step is to implement a possum control programme in the interior of Waingake aiming to reduce possums to at least 5% RTC (residual trap catch – ie, five possums caught for every 100 trap nights).

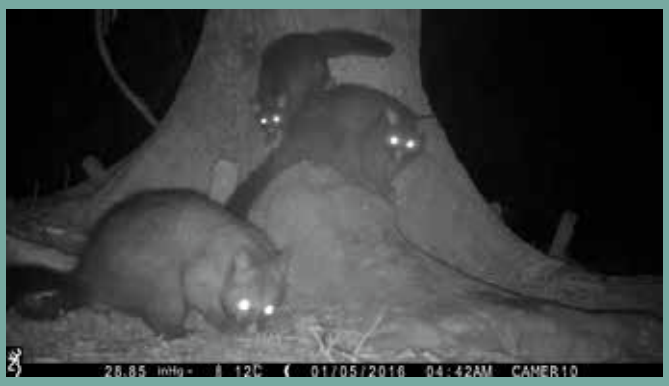
The plan also includes targeting feral cats, deer and pigs and expanding the current goat eradication programme to include a buffer area around Waingake.

A 1km feral goat control buffer has been established with support of surrounding farmers and forest owners. Council staff have shot 149 goats on neighbouring farmland since implementing this programme in January 2020. Collaboration with iwi and other stakeholders will see future goat control within the buffer being a coordinated effort carried out at quarterly intervals.

Monitoring

A network of cameras has been installed throughout Waingake to detect possums, rats, cats and stoats. The results showed that possums and rats had the highest numbers detected, with significantly fewer stoats and cats.





Two adult possums and a joey attracted to the lure at a camera trap during the survey in Waingake bush

Waingake is important both locally and nationally

"The largest and perhaps the most diverse piece of primary lowland forest in the eastern soft-rock lowlands of the North Island; there is no other comparable piece of lowland podocarp-broadleaf-beech forest of such size and intactness." (Whaley et al 2001)

Council has implemented a five-year animal control and monitoring programme to protect and enhance the area's biodiversity and to maintain and improve the quality of the water supply.

Council collaboration with iwi and other stakeholders will see future goat control within the buffer of Waingake being a coordinated effort carried out at quarterly intervals