

# Restoring the mauri of Te Raukūmara

Information from Raukūmara Pae Maunga - a restoration project  
between Te Whānau-ā-Apanui, Ngāti Porou and  
Te Papa Atawhai, the Department of Conservation

## Native wildlife and forests need protection here

Over the last four decades, pests like possums, rats and stoats have invaded and wreaked havoc on Te Raukūmara. We know this through the silence in our ngahere. We see it when the awa rise high and fast and water dirty with sediment speeds down our rivers and into the sea. Our challenge is to understand these tohu so we know what Te Raukūmara needs and how we can respond.

## Values and tohu

Te Raukūmara is an ancient forest that holds the roadmap of our Tipuna footprints. It embraces the secrets of our waahi tapu and ara tipuna. It remembers the traditional hunting grounds and native species that live only in Te Raukūmara.

This significant tract of ngahere is the only one left of this size in the North Island that runs from the Mountains to the Sea – Ki Uta Ki Tai. Wai is a connector, it sustains Papatuanuku and connects all life and the iwi of Te Raukūmara.

Wai is a cleanser and protector flowing through the region and it reveals to us the health of the forest. But we are now seeing that when it rains, our rivers flood quickly and then the level drops equally fast. After rain we can see the sediment travelling far out to sea. This is one of the tohu that tells us Te Raukūmara is not well.

## Protecting taonga species

Once we relied on Te Raukūmara for our survival. Now Te Raukūmara needs our help to survive. Possums, rats and stoats have devastated our taonga species.

Te Raukūmara is home to rare species like kākā, kiwi, whio, pekapeka/bats and the Hochstetter's frog. Pests and predators have destroyed the canopy and understory of the ngahere and attacked these rare species to the point of local extinction. Controlling predators will mean our native species can grow to adulthood and breed. We want our tamariki and future generations to be able to see and appreciate these taonga for themselves.



Mōtū, Raukūmara

## Controlling possums and other predators

Possums were introduced in the South Island in the late 1850's to establish a fur industry. By the 1930's possums were widespread. In 1946 possums were classified as pests because of the damage they caused in native forests. By the 1950's our people started seeing possums in Te Raukūmara. Possums eat the ngahere from the top down. They eat so many leaves that they kill trees. Possums and other predators like rats and stoats also eat bird eggs, chicks and sometimes adult birds, and over many years they have destroyed the homes and food sources that our Raukūmara native species need.

When it rains, with the tree canopy eaten away by possums, the forest understory gone and mosses stripped away the rain comes straight through the gaps and this forest can no longer function as a sponge for the rain. Big and small rain events are having a devastating impact - increasing erosion, slips, debris and soils washing into the awa and out to sea.

Huge numbers of trees are dying. We have seen thousand-year-old tōtara that have been browsed to death and fallen across the ranges. If unaided, Te Raukūmara will continue to collapse and die.

## What is Raukūmara Pae Maunga?

Raukūmara Pae Maunga is a project partnering Te Whānau-ā-Apanui, Ngāti Porou and Te Papa Atawhai to restore the ecological health of the Raukūmara Ranges. We are currently working with whānau, hapū and landowners who whakapapa or are connected to the central and northern Raukūmara.



Ruatahunga forest devastation, Raukūmara

## Where are we going to control predators?

Starting in January 2023, we are planning to control predators over an area of approximately 124,917ha (see attached map) in the Raukūmara Conservation Park and contiguous areas of private land. This will help to restore our tuakana and the taonga species within the ngāhere.

## Why do we need 1080 to protect Raukūmara?

Due to the vast, remote and rugged terrain of the Raukūmara Range, the only practical method of controlling predators is using 1080 bait pellets distributed by helicopter.

If you know te Raukūmara, you'll know that it is incredibly steep and rugged and it's not possible to use traps effectively for large scale predator control for possums, rats and stoats. For rats you would need two traps per hectare. That is 160,000 traps across 8,000 km of tracks which is approximately eight times up and down the North Island. Then once laid, you would need thousands of people to set, check and maintain traps regularly in terrain that is rugged, gnarly, and steep. This is just not possible or safe.

We need a tool that can safely and effectively control predators over large areas of our whenua. We believe that without 1080 we will not be able to save Te Raukūmara.

## What is 1080?

Despite its chemical sounding name, the active ingredient in 1080, fluoroacetate, is a naturally occurring toxin found in many plants around the world. Plants use it to protect themselves from being eaten by mammals.

In Western Australia, sheep and cattle of early settlers died because they were eating plants that produced fluoroacetate in their leaves. In fact, your cup of tea and puha naturally has fluoroacetate in very low doses.

The toxin was nicknamed 1080 because back in the 1930's the American scientists that formulated it sent an invoice which had the invoice number '1080' and the name stuck from there. 1080 is the name given to the manufactured version of fluoroacetate. It is biodegradable which means it breaks down naturally in the environment.

## How does 1080 work?

1080 has been extensively researched and it is proven to effectively protect New Zealand's wildlife.

When a rat or possum eats 1080, they will usually head back to their nest or den, become unconscious and die there. Feral cats, stoats, weasels and ferrets are then likely to eat the dying or freshly dead rats and possums which are poisoned. 1080 operations can remove 95 – 99% of target predators from within a treatment area.

The widespread knockdown of predators gives native species the chance to live, reproduce and grow. However, it will take years of consistent and progressive predator control before our taonga species return in greater numbers and the mauri of Raukūmara can be saved.



Kākā is a taonga species for Te Raukūmara

## Is 1080 safe?

We know there are some concerns and questions about 1080. It's important for us to understand that modern 1080 operations have little in common with those of the 1960's. Unfortunately, old stories continue to circulate creating a false picture of today's conservation efforts.

### Early operations conducted by the New Zealand Forest Service used:

- cubed carrots sprayed with 1080 to target possums and rabbits
- sow rates of up to 32 kg per hectare
- bait spreading widely from small planes.

This high bait loading, combined with smaller bits of carrot that broke off, led to high rates of poisoning in non-target species in certain cases.

Extensive research and technological development have changed the way DOC and other organisations use 1080.

### Fast forward 60 years in today's operations:

- baits are dyed green so birds aren't attracted to it
- baits are scented with cinnamon so it's attractive to possums but not birds
- 1080 makes up only 0.15% of a single pellet
- sow rates have been reduced to just 1–4 kg per hectare (4-6 pellets across the size of tennis court)
- helicopter flightpaths are guided and logged using GPS to ensure accurate, consistent delivery, cross-checked by geo-spatial (mapping) analysts on the ground.

Helicopters distribute the bait into places that people can't get to. In just three days and nights you can get pest populations down to near zero allowing native bird populations to nest in peace.

These improvements have almost eliminated native bird by-kill. Monitoring results and independent research prove that 1080 protects birds and other native species and enables them to breed and grow.

## What happens to 1080 in water?

Decades of research show that 1080 breaks down very quickly. Studies have shown when a pellet lands in water it will leach 50% of 1080 in the first 2 hours and the rest of it leaches within 24 hours – imagine slowly dripping a teaspoon of salt. 1080 dilutes easily, so imagine that same teaspoon of salt being dripped into a stream – it is quickly diluted.

The more water it lands in and the faster flowing, the faster it will dilute. We also know that it is broken down by the water's bacteria into a harmless substance and then it is gone. This also happens when it hits soil, and the soil bacteria breaks it down.

1080 does not build up or stay in our environment. It also does not affect the eels, fish, or invertebrates in the water.

The Ministry of Health has set a stringent guideline that 1080 can only be present at levels below 2 parts per billion. At these extremely low levels, an adult weighing 70 kg would have to drink 70,000 litres (or 230 baths-full) in one go to receive a fatal dose.

Monitoring of public water supplies has never shown contamination by 1080. As part of our due diligence, we will test at our waterways onsite and send away tests for independent scrutiny. There will be East Coast whānau on the monitoring team to support our iwi to measure the mauri of our waters and lands before and after a 1080 operation.

## Timing and next steps

The treatment area is divided into three blocks. Block one (41,000ha approx.) was completed in April. We intend to treat half of Block two (21,000ha approx.) in the next weather window. The remaining area of block 2 along with Block 3 will be treated at a later date. The intention is to complete all blocks in 2023.

Each block treatment begins with the distribution of non-toxic pre-feed bait pellets.

There has been extensive engagement and as part of this all neighbouring landowners will be notified and there has been public notices in local newspapers. There will be warning signs placed at all access points to the application area immediately prior to the operation.

## Dogs and 1080

Dogs are at high risk from 1080 for a period in areas where the toxin has been used because they are prone to eating dead rats and possums that have been poisoned.

When 1080 baits have been applied, a minimum four month rahui / caution period will apply depending on the time it takes for bait and possum bodies to break down. To keep our hapū informed the monitoring of dead possums will be done by our team and whānau wishing to learn more about how we monitor the ngahere directly after an aerial 1080 application.

People can still enter Raukūmara during this time, however there will be warning signs at entrances to the forest until the rahui / caution period is lifted.

The practices and procedures that will be followed for the use of 1080 in Te Raukūmara have also been approved by the Environmental Protection Agency and Ministry of Health.

## Pigs, deer and 1080

Animals should not be taken for food from the treatment area until the rāhui has been lifted and warning signs removed. Deer have completely eaten out many parts of Te Raukūmara. 1080 is not an effective method of controlling deer, however, due to a lack of food they may be susceptible to eating some of the toxin and being killed.

Pigs are not a target for this operation either and 1080 is not an effective means of controlling pigs or deer.

Although some pigs may be killed during a 1080 operation, their populations aren't significantly affected. Local observations suggest pig populations rebound quickly and come back in greater numbers as they respond to the increased berries and other food sources which increase after possum control.

### Managing risk

1080 is poisonous to humans, domestic and game animals. In areas where the toxin has been applied, dogs are highly at risk until poisoned carcasses have disintegrated. This takes four-to-eight months or longer. Seek veterinary advice for suspected poisoning of domestic animals.

#### Risks can be eliminated by following these

rules: **DO NOT** touch bait

**WATCH** children at all times

**DO NOT EAT** animals from this area or within the buffer zone outside the treatment boundary. The standard buffer zone is 2 km for deer and pigs, 200 m for rabbits, and 1 km for hares, tahr, wallabies and possums.

#### Poison baits or carcasses are DEADLY to DOGS

Observe these rules whenever you see warning signs about pesticides. These signs indicate pesticide residues may be still present in baits and poisoned carcasses. When signs are removed this means you can resume normal activities in the area. Always report suspected vandalism or unauthorised removal of signs.

#### If you suspect poisoning, please contact:

- Your local doctor or hospital
- The National Poisons Centre: 0800 764 766 (urgent calls) or 03 479 7248 or dial 111
- Seek veterinary advice for suspected poisoning of domestic animals

## For more information

#### Please contact:

Department of Conservation, Whakatane Office  
Raukūmara Operations Planner

PO Box 457

Whakatane

Email: [easternbop@doc.govt.nz](mailto:easternbop@doc.govt.nz)

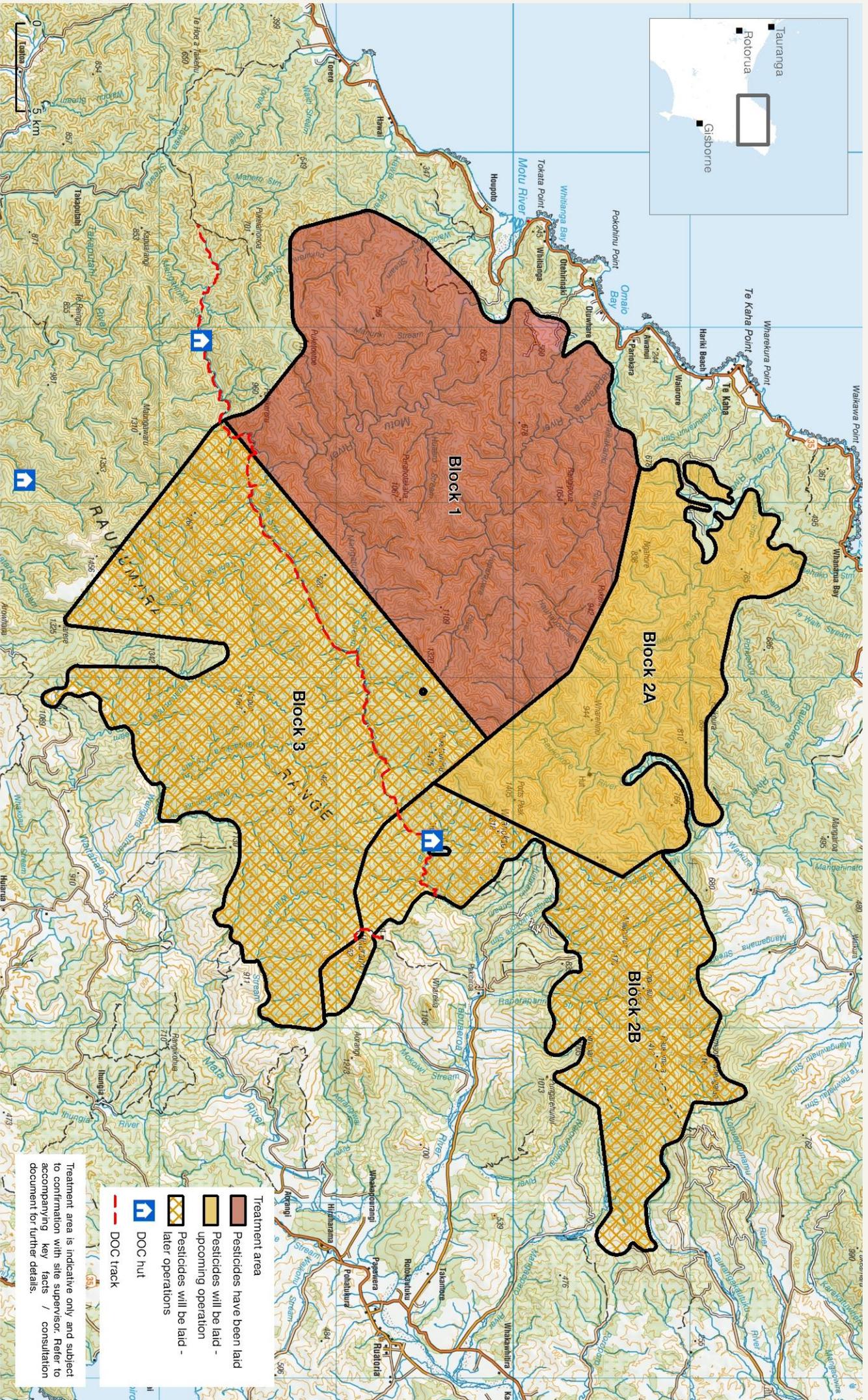
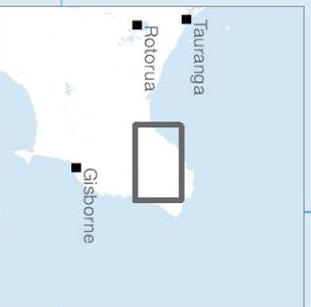
Visit: [doc.govt.nz/our-work/national-predator-control-programme](http://doc.govt.nz/our-work/national-predator-control-programme)

Learn more about why we 1080 is used to control introduced predators.

[doc.govt.nz/nature/pests-and-threats/methods-of-control/1080](http://doc.govt.nz/nature/pests-and-threats/methods-of-control/1080)

### Map of predator control area in Raukūmara Conservation Park

The map on the next page shows the total predator control area covering 120,093 ha. It also shows the different blocks and application status.



# Raukūmara Pae Maunga

Aerial Predator Control 2023

Treatment area: 118,578 ha

Treatment area is indicative only and subject to confirmation with site supervisor. Refer to accompanying key facts / consultation document for further details.

- Treatment area
- Pesticides have been laid
- Pesticides will be laid - upcoming operation
- Pesticides will be laid - later operations
- DOC hut
- DOC track

