

# Ngā Āwa river restoration programme

Annual report 2023 / 24



Department of  
Conservation  
*Te Papa Atawhai*



**Te Kāwanatanga  
o Aotearoa**  
New Zealand Government



## Introduction

Welcome to the fourth annual report for DOC's Ngā Awa river restoration programme.

Our vision is aspirational, to work collaboratively with our communities, particularly mana whenua, to restore healthy, thriving rivers from source to sea in a way that enriches people's lives.

The heroes of the programme are the river rangers who work to connect people to each other and to their rivers, support hapū aspirations and build connection through surveys to better understand the river. The rangers support each other and are themselves supported by DOC's technical, science and engagement advisors.

Our budget is modest by catchment restoration standards – a national operating pool of \$1.3 million and a research pool of \$200,000. Together, we are stretching our budget by joining forces and budgets with others. The \$48 million of Jobs for Nature funding that we helped leverage for hapū and other groups in Ngā Awa catchments will have massive benefits in the long term.

Ngā Awa lives by the phrase 'faster alone, further together'. We still have some way to go, but the foundations across the programme are now well established, as showcased in the highlights from the 23/24 year below.

## Engagement and communication

This year we re-assessed our progress with engagement using a matrix of eight parameters. The parameters include: whānau, hapū, iwi engagement; shared vision for the project; diversity of participation and links to economic and social outcomes. In the previous assessment in 2020/21, 10 of the 14 rivers were in the



Chris Kavazos, DOC technical advisor freshwater and Tumai Cassidy, Māori cultural advisor, at Te Nohoaka o Tukiaauau / Sinclair Wetlands, photographed for Our Changing World  
Photo: Claire Concannon, RNZ

*at-risk* category. This time, all rivers had improved to the *good* category and four were close to *excellent*.

Programme information and news updates were communicated via Conservation Blogs, social media content and mainstream media:

- research and restoration work in the Taiari River was featured in a 30-minute Our Changing World story on RNZ
- Inanga spawning site restoration on the Whanganui River attracted local and national media attention
- the release of the draft Rakitata Revival Strategy was promoted widely in Canterbury.



The draft Rakitata Revival Strategy featured images showing how parts of a restored river could look, including the hāpua, as shown here. Artist: Mark Neilson

The Rakitata River revival community newsletter now has a circulation of 135, and 5 editions were sent out during the year.

Three intranet stories featuring the programme's work were shared within DOC. The Ngā Awa webpages were viewed a total of 11,300 times by 4,700 unique users during the year.

## Research highlights

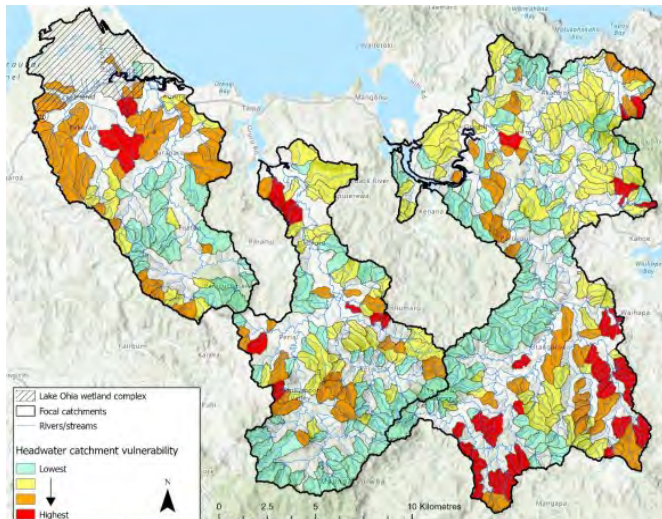
Ngā Awa provided input to an assessment of the climate change vulnerability of freshwater ecosystems and values of the Taiari River, and proposed management options. The research was led by the University of Otago.

We also funded University of Otago Masters research on the Central Otago roundhead galaxias (a native fish) in the Taiari River. This research will inform a non-migratory galaxiid conservation plan for the catchment. The species is one of four non-migratory galaxiids present in the catchment. It has a conservation status of Nationally Vulnerable and is considered to be highly

vulnerable to climate change. The three other galaxiid species are also Threatened.

Last year a Masters student from Auckland University developed models and mapping tools to study sediments in the Te Hoiere catchment. This year, the tools were refined and guidance provided to enable Marlborough District Council to identify and manage sediment hotspots associated with forestry.

Revegetation options for the Doubtless Bay catchments were researched this year. The project was led by Forbes Ecology and Auckland University of Technology and aimed to increase resilience to climate change and support restoration efforts in the catchments. Site visits with a group of hapū, community and agency representatives, and landowners were an important part of the research. The work examined the successes and failures of past restoration planting, as well as the climate, cultural, social and economic issues that needed to be addressed.



Map of Doubtless Bay catchment showing vulnerability to climate change effects from lowest (green) to highest (red).

Ngā Awa continued to fund a University of Canterbury PhD student to research the fine sediment dynamics of the Rakitata River. High-resolution LiDAR, photography and ground-based surveys are being used to produce better maps of the river's form and composition. This project is nearing completion.

## More information

See Ngā Awa river restoration programme for more information or to get in touch: [www.doc.govt.nz/nga-awa](http://www.doc.govt.nz/nga-awa).

Cover photo: River ranger Maddy Jopling pointing out locations of site visits in the Doubtless Bay catchments.  
*Photo: Sarah Wilcox, DOC*

## Highlights by river

### Doubtless Bay: Awapoko, Oruru and Oruaiti Rivers

#### People

Our relationship with hapū continues to grow and partnerships with five of the six hapū across the three rivers have been formalised.

A community catchment group brings together agencies, industries, hapū and community members and is chaired by a hapū representative. The sixth hapū recently joined this group. The group has agreed a common purpose, vision and goals for the catchment, as part of working towards a co-designed catchment action plan. The group also discussed a prioritisation and values paper that was prepared for the catchment.

#### Research

With hapū representatives, we studied three of the catchment's six taonga species: kēwai (freshwater crayfish), lamprey and īnanga, carrying out further īnanga spawning surveys.



Sampling macroinvertebrates in Kenana.

*Photo: Maddy Jopling, DOC*

In ecological health surveys across the catchment, we sampled macroinvertebrates and monitored dissolved oxygen, temperature and water levels. We also led a field tour to explore opportunities for including this catchment in an Endeavour Fund proposal titled *Living Rivers*.

#### Restoration

Ngā Awa provided further funding to support the restoration of two important īnanga spawning sites.



## Waipoua River

### People

We continued to work closely with the operations team of Te Iwi o Te Roroa, particularly their awa kaimahi. We supported a Curious Minds wānanga run by Papa Taioa, which focused on upskilling Te Roroa children of high school age.

Our collaboration with other agencies expanded the impact of Ngā Awa. We entered a 3-year restoration agreement with landowners and Northland Regional Council for restoration works in the lower river.

### Research

A trial rodent control programme was set up along a tributary of the Waipoua River to reduce the predation of shortjaw kōkopu eggs. The eggs are laid high up on riverbanks during a flood and are vulnerable to predation while they are developing. The programme successfully reduced rodent numbers to very low levels and the eggs had developed eyes and had not been predated several weeks later.

We researched aquatic insect communities at seven sites in the catchment using light traps to capture flying adult insects. 48 species were recorded with an average of 241 individuals per trap. Several species we expected to find were missing, and six potentially new species to the catchment were recorded.



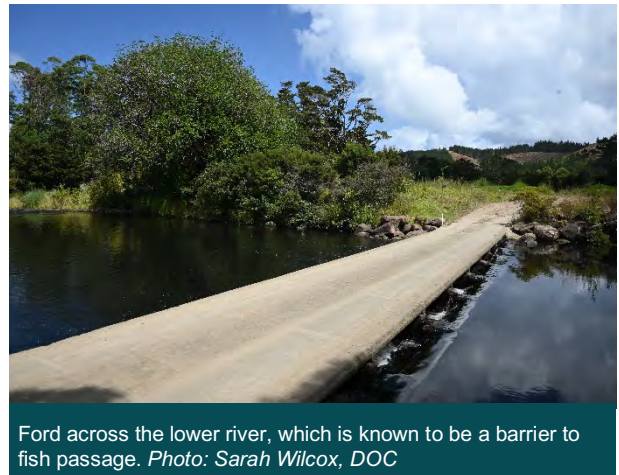
Adult mayflies and caddisflies caught in light traps at Kopai stream. Photo: Stephen Pohe, Pohe Environmental

### Restoration

Ngā Awa funded weed control across 60 ha in the lower catchment. The work targeted wilding pine, she-oak, pampas and kikuyu. 15,000 plants were added to riparian zones in this area. We also supported the control of pampas on 15 ha on the southern side of the river just above the ford.

A concrete ford in the lower river is known to be a barrier to fish passage, resulting in fewer fish upstream.

We commissioned a conceptual design for a replacement (steel beam deck) bridge and new roading, estimated to cost \$1.3 million. Options for funding this work are being explored.



Ford across the lower river, which is known to be a barrier to fish passage. Photo: Sarah Wilcox, DOC

## Arahura River

### People

This year we took the opportunity to review what has been achieved by Ngā Awa in the Arahura River since the programme began in June 2019. Challenges and possible future directions were identified. The review team agreed to explore the aspirations of Mawhera and Ngāti Waewae and look at opportunities to work in and beyond the Arahura catchment.

### Research



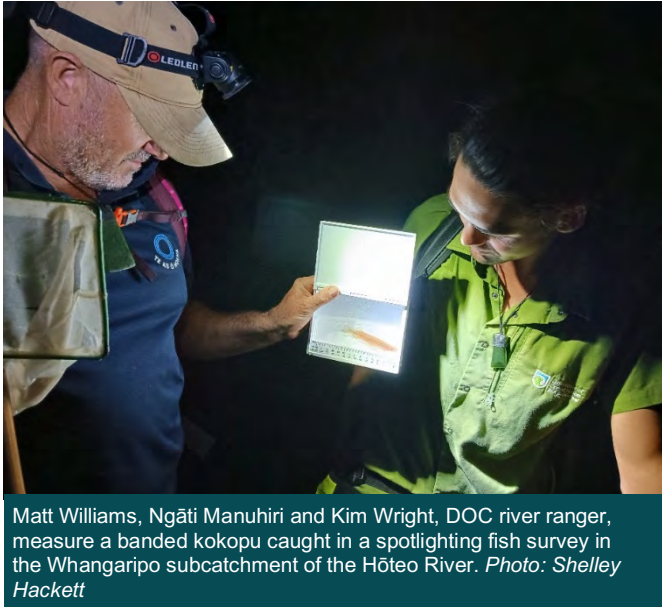
An eDNA survey above this weir in the upper Kawhaka creek found high levels from the non-migrating dwarf galaxias, as well as longfin eel, kōaro and brown trout. Photo: Suze Harris, DOC

A comprehensive eDNA survey was carried out at 24 sites in the catchment. Results identified sites where stock cannot access to the waterway (no cattle eDNA was found) and sites that are important for threatened fish. The survey also showed how some fish passage barriers are affecting populations in the lower catchment.

## Hōteo and Mahurangi Rivers

### People

A deed of grant with Ngāti Manuhiri (mana whenua for Mahurangi and Hōteo Rivers) was established this year. The deed will support the co-design of wetland restoration and the identification of freshwater taonga species. Ngāti Manuhiri state their desired outcome is to, “create opportunity through imagery and kōrero to revive and enhance mātauranga and pūrākau about freshwater species to guide us in restoring the hauora of the awa and its people”.



Matt Williams, Ngāti Manuhiri and Kim Wright, DOC river ranger, measure a banded kokopu caught in a spotlighting fish survey in the Whangaripo subcatchment of the Hōteo River. Photo: Shelley Hackett

### Research

We commissioned NIWA to carry out a cultural study of the Hōteo River. It was led by an environmental social scientist who has whakapapa to Ngāti Whatua o Kaipara, mana whenua for the Hōteo catchment. A series of interviews with pakeke (older adults) and mātātahi (younger adults) captured stories of the river. The study recorded observations of a significant decline in river health, and aspirations for a thriving river, informed by collaborative restoration approaches.

### Restoration

A further 9,000 plants were added to the planting project in the Hōteo gorge. Fish passage surveys have now been carried out in half of the upper catchment, and all barriers assessed. Auckland Council has agreed to remediate the fish passage barriers we identified last year.

## Waikanae River

### People



Pōwhiri for Waikanae Jobs for Nature tauira and whānau at Whakarongotai Marae. Photo: Dennis Makalio Jnr.

The Waikanae ki Uta ki Tai project is being supported by a new programme office and project coordinators, employed by Ātiawa ki Whakarongotai. This structure will provide good opportunities for iwi, and the Waikanae and Paraparaumu communities, to work together for river restoration.

### Research

We completed the third year of the catchment's freshwater survey programme with support from Waikanae Jobs for Nature kaimahi. The survey work has established a baseline for future monitoring. In the long term, this baseline data will be part of a co-designed integrated monitoring programme for the whole catchment.

### Restoration

Kōtuku Whenua is a restoration site on the southern side of Waikanae Estuary, with significance to Ātiawa ki Whakarongotai. Before the work began, we commissioned an archaeological assessment of the site. A remote-controlled mulcher was used to deal with blackberry and new planting will focus on restoring habitat for fish spawning. This will complement similar restoration work on the north bank of the estuary led by Kāpiti Coast District Council.



Mulched blackberry at Kōtuku Whenua restoration site. Photo: Sarah Wilcox, DOC



## Whanganui River

### People

We have successfully partnered with iwi to develop iwi-led projects in the catchment. This ensures long-term sustainability and ownership by the community. We worked Ngāti Hāua Iwi Trust to secure Te Mātāpuna o te Wai funding. This investment will provide a Pou Taiao position, the establishment of a GIS database and administrative support for freshwater management for the next 3 years.



Ngapari Nui (left) and Jane Taylor DOC river ranger at a community planting day. *Photo: J Stutely*

### Research

In partnership with hapū and whānau, we finished a 3-year project to collect ecological health and environmental DNA data from more than 20 sites in the catchment. This is the most comprehensive health check of the river and its tributaries in the last 20 years.



Collecting insect larvae to count as part of the river health surveys. *Image: DOC*

### Restoration

A highlight was the inanga spawning habitat restoration project at Te Ao Hou Marae. Re-shaping the riverbank, clearing weed trees and planting 2,300 trees has created or improved 500 m of spawning habitat. Deep engagement with the local community through a series of wānanga, collaborative planting days, and media attention was essential in this successful project.

## Te Hoiere / Pelorus River

### People

This year, we held our quarterly governance and working group hui at some of the catchment restoration sites. The opportunity to share, discuss and see the hard work going on was welcomed by everyone.



Demonstrating the te kupenga ā kuia mauri monitoring and assessment tool to project partners. *Photo: Heli Wade, DOC*

### Research

We took a new approach to fish and taonga species survey work this year. With Marlborough District Council, we designed and planned the surveys, then mana whenua, agency field crews and consultants joined us to make up the number of people required. 18 sites in 3 subcatchments (Rai, Te Hoiere and Wakamarino) were surveyed. DOC's Ngā Ika e Heke freshwater rangers joined us and contributed 12 additional lamprey pheromone samplers. Lamprey were detected at a single site.

We led a survey for kākahi (freshwater mussels) in the catchment. Ngāti Kuia recognise this species as a tohu (indicator) for the mauri and health of a waterway. Several kākahi populations were found. Some had juvenile mussels present, indicating successful breeding.

### Restoration

Ngā Awa continued to provide financial support for the restoration of Ruapaka Wetland, a Ngāti Kuia project. The wetland was once an important source of harakeke, a celebrated tuna fishery and a waka route from Te Motuweka (Havelock).

## Rakitata River

### People

A draft Ko te Whakahaumanu o te Rakitata revival strategy was prepared by the project's working group and released for public consultation this year. The working group is now focused on its completion. The strategy is already guiding restoration work in a number of workstreams, with local delivery staff and experts collaborating and supporting each other.

### Research

In the upper river, we used high resolution aerial imagery and topographic data to classify waterways and locate springs. The preliminary findings will contribute to a detailed map of the wetlands, groundwater seeps, springs, and tributary channels in the area.

In the last 2 years we have used eDNA, pheromone samplers and electric fishing to search for kanakana (lamprey). This was expected to be a challenging project, given the size of the catchment. Only two positive results across all methods have been recorded.

### Restoration

Te Rūnaka o Arowhenua received Jobs for Nature funding for restoration work in the lower river and set up the Arowhenua Native Nursery and Te Kete Tipuranga o Huirapa. The nursery supplies eco-sourced native plants for local restoration projects and currently supports 14 full time equivalent jobs now. It is moving to a commercial model ahead of the end of the Jobs for Nature funding.



Visitors welcomed to the Arowhenua Native Nursery. Photo: Brad Edwards, DOC

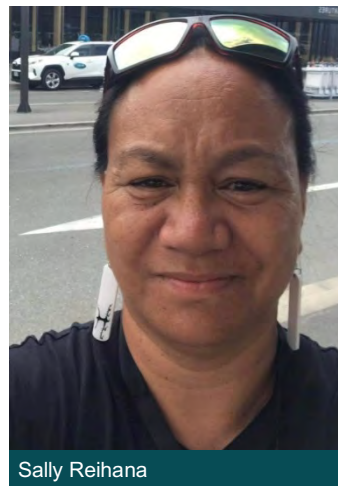
Te Kete Tipuranga o Huirapa provides restoration services (site preparation, planting and maintenance) along the lower river. It employs 16 full time equivalent restoration kaimahi and is now entering its fourth and final year of funding.



The late Lex Evans, manager Te Kete Tipuranga o Huirapa, who was instrumental in the restoration of this site at Ōtakitane McKinnon's Creek. Photo: DOC

The Upper Rangitata Gorge Landcare Group guided and delivered restoration work in the upper catchment with its Jobs for Nature funding. The group has completed 117 km of riparian fencing and created a native plant corridor linking the Rakitata gorge and Peel Forest Scenic Reserve through freehold farmland. The funding now has less than 12 months to run.

## Lower Waitaki River



Sally Reihana

### People

A deed of grant of funds was established with Te Rūnanga o Waihao to support a waihao kaiako taiao senior river ranger position. Sally Reihana was appointed to this role to progress the aspirations of Moeraki, Waihao and Arowhenua rūnaka in this river.

She is working to enable the lower Waitaki rūnaka to be partners in the project, developing a framework for collaboration and looking at strategic priorities for the lower river.



## Taiari River

### People

We have agreed to co-fund a project coordinator role with Otago Regional Council to continue the work of Te Mana o Taiari. The coordinator will be employed by Aukaha, a local manawhenua-owned organisation.

Te Nukuroa o Matamata staff were trained in electro-fishing so they can be involved with kanakana and biodiversity survey work.

### Research

We worked with LandPro to finalise a LiDAR survey of the lower reaches of the catchment. Whirika Consultancy completed a report setting out ways to manage the scroll plain in the upper river. We purchased relative surface elevation table equipment to monitor water levels in relation to sea-level rise in the lower catchment's wetlands. The first annual biodiversity survey was completed at 21 sites. Kanakana (lamprey) were studied in the upper catchment with larval surveys and pheromone samplers.



Monitoring the Taiari River at Canadian Flat. Photo: Chris Kavazos, DOC

### Restoration

We controlled feral geese and carried out a restoration planting project in the scroll plain.

## Waikawa River

### People

After a stocktake and review of options, a decision was made in May to withdraw the Waikawa River from the Ngā Awa programme. DOC acknowledges Waikawa as a significant river and continues to make Ngā Awa expertise available to others working in the catchment. Awarua rūnanga supported this approach and have acknowledged the efforts that have been made to date.

### Restoration

Through the Essential Freshwater Fund, Boffa Miskell was commissioned to develop an integrated catchment management plan for the Waikawa community. We

attended wānanga and stakeholder meetings, and shared information. The plan was presented as a StoryMap, which includes aspirations for the catchment and actions to help achieve them.

We continue to maintain four riparian planting areas in the lower catchment, with release spraying each spring and autumn.

## Waimatuku Stream

### People

In 2022, Ōraka-Aparima Rūnaka whānau chose the Waimatuku River to join Ngā Awa. Whānau identified some aspirations for the river and the project and how they would like to work with us. A catchment-wide survey and baseline report created valuable opportunities for engagement. These included an initial meeting with the Waimatuku catchment group, collaborating with rūnaka and regional council staff on fieldwork, conversations with landowners, and regular updates to Thriving Southland and Environment Southland.

### Research

We commissioned a catchment baseline report from Kitson Consulting. It collated current knowledge about the values, state, past research and restoration efforts, threats, information gaps, opportunities and potential actions.

A catchment-wide survey was completed in December 2023. This involved eDNA sampling, fish passage assessments and rapid habitat assessments.



DOC, Ōraka-Aparima rūnaka and Environment Southland staff surveying the Waimatuku Stream. Photo: Pat Hoffmann, DOC