



Tiaki Maniototo

THE SCROLL

The Newsletter of Tiaki Maniototo



July 2024
Edition #02



UPPER TAIERI WAI: NEW ZEALAND'S FIRST CATCHMENT GROUP AT THE CROSSROADS

The Upper Taieri/Taieri region faces enormous environmental and economic challenges. Meeting these challenges requires community buy-in, and that's why catchment groups are more vital now than ever. Upper Taieri Wai, the catchment group that oversees the Tiaki Maniototo project, is about to enter the next phase of its existence. What are the group's priorities and strategies for the next decade and beyond?

Join us to discuss:
Friday, July 19th, 2pm
Ranfurly Bowling Club

A WORD FROM THE PROJECT MANAGERS: WHY CATCHMENT GROUPS MATTER



We live in a time when our freshwater ecosystems, and the farmers and communities who depend on these catchments, face massive challenges. A changing climate may force us to adapt to new methods of farming, while weed and pest control will only become more important as water resources become scarcer. Only by bringing the whole community together can we effectively tackle these challenges head-on.

Catchment groups across New Zealand have found that small changes can have a big cumulative effect on improving freshwater quality. These include fencing off critical source areas and providing sediment traps, two issues covered in this edition of The Scroll. Monitoring water quality is crucial to understanding environmental baselines and targets for restoration. Well-organised catchment groups are better able to access funding and support for research and environmental work.

Our project, Tiaki Maniototo, was born out of a successful 2021 funding application made to the Ministry for the Environment's Freshwater Improvement Fund by Upper Taieri Wai Inc., and is a great example of what catchment groups can achieve. Our community day, **at 2pm on July 19th at the Ranfurly Bowling Club**, will be a great chance for to hear what we've been up to—we'd love to see you there - **Caitlin and Colin**

It's been a huge autumn for us, with another 19,000 plants going in the ground, thanks to the hard work of Habitat Restorations Aotearoa. Project co-manager Caitlin Daley says the dry conditions in summer through autumn threw up some challenges. "It was one of our toughest planting seasons," she says. "I'm really proud of what the team achieved in the end."

The big autumn effort brings our total planting to 83,000, which means we're close to reaching the goal of 90,000 initially set for the entire 5-year project, and that puts us about two years ahead of schedule.

Caitlin stresses that the 90,000 figure is an arbitrary one — ideally we would like to see that greatly exceeded. "When you talk to people there's so many more awesome sites out there. We're still getting new people contacting us wanting to plant. We need to look at how we continue forward past this current funding and continue to support people who do have these great sites that could benefit from some planting."

As a team, Tiaki Maniototo is focused on what we can build for the community by the time our current funding ends. That includes the nursery at Pātearoa, which has been a huge success in its first year. There are now more than 30,000 plants growing there, with many locally-sourced seeds currently germinating.

To learn more about our subsidised fencing programme, please visit www.tiakimaniototo.co.nz

PLANTING UP A STORM



Photo: Habitat Restorations Aotearoa

TIAKI MANIOTOTO TRAIL



Could the Maniototo/Māniatoto be New Zealand's gravel cycling capital? We are developing a network of trails linking freshwater restoration sites around the Upper Taiari in a cycle trail that we hope will be a valuable tourism asset for decades to come.

Gravel cycling is the fastest growing segment of the cycling economy. Riders are looking for miles of quiet gravel roads in beautiful environments and lots of hospitality and accommodation options and the Maniototo offers all of this in spades.

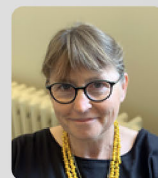
The Tiaki Maniototo Trail will be a figure of 8 loop centred on Ranfurly that extends out around the Kyeburn in one direction and south towards Pātearoa in the other. It will also extend up into the Styx Valley.

Around the trail, riders (and drivers) can make stops where they will be able to learn about the river, the catchment and the ecology, geology and climate of this region.

We're hoping to open this route in summer, stay tuned for more information as this project evolves.

Contact: Bill Morris
e: bill@tiakimaniototo.co.nz

A WORD FROM UPPER TAIERI WAI CHAIR KATE WILSON



We seem to be going through constant change and it's tiring. The pendulum appears to swing one way and then another depending on whims of others. What we have been trying to do with Upper Taieri Wai and its current projects, Tiaki Maniototo and Healthy Taieri, is remain ahead of those swings by creating enduring solutions and practices that will set us all up well with a healthy environment, good farming practices and a great story for our consumers.

We have engaged with politicians, we have driven projects to show what can be done, and we are establishing catchment wide resources to make individual farm planning easier and less costly.

I am proud of some successes that we and industry partners and stakeholders have made and the latest round of Central Government direction seems to be a sweet spot of prioritising catchment groups as the delivery mechanism for good practice and actions.

That should be good news for those in the Maniototo that have been working together at this scale for years, well before it was as popular as it is now.

Rather than heads down, let's get together, build on what we have done, and face up to the opportunities that might come with planning together for ways to manage the changes our consumers, our environment and we might need in the medium and longer term. Upper Taieri Wai has led in the past, and we are going to keep the upper hand over regulations and enforcement by planning our own destiny, together.

UPPER TAIERI WAI: NEW ZEALAND'S FIRST CATCHMENT GROUP

Upper Taieri Wai Incorporated (UTW) is our local catchment group. It grew out of the Taieri Trust, which was the first large scale catchment management group in New Zealand. It is made up of farmers, the Maniototo Irrigation Company and other stakeholders. The catchment group was started with a view to efficiently and effectively managing the Taieri/Taieri catchment water resource for irrigators in the region.



It was also started with the understanding that not just irrigators, but many other people throughout the region have a connection with the river and are concerned with its well-being. Decades later, the focus of the catchment group still very much incorporates the health of the Taieri/Taieri river and how the water resource can be managed in a way that benefits the river and the people who use it —for kai gathering, for farming, for recreation, or for household drinking water. UTW is responsible for receiving the funding for the Tiaki Maniototo Project. As Upper Taieri Wai looks to the next stage of its existence, Tiaki Maniototo would like to invite the Maniototo community to be part of the conversation. How can we be good stewards of the Taieri/Taieri?

Please join us on July 19th (see below)

TIAKI MANIOTOTO COMMUNITY DAY



Tiaki Maniototo

**Friday, July 19th, 2pm
Ranfurly Bowling Club**

**Come and hear what we've been up to
and learn more about how catchment
groups can benefit communities.
All welcome. Refreshments provided.**



SEDIMENT TRAP WORKSHOP



A sediment trap is an area where the runoff from a paddock will collect and settle for sufficient time to allow any sediment in suspension to drop out, before the water drains away through an overflow or spill way. Any measure that spreads water out and slows down the flow will allow sediments to drop out.

Ponds are formed by excavation into the ground or by the construction of an embankment. They are designed so water leaves at a rate that will allow suspended sediment to settle out. Drains can and do catch sediment. Sections of a drain can be engineered to increase the amount of sediment that they collect.

Sediment build-up can obstruct water channels, reduce drainage and cause flooding. Excessive amounts of sediment in waterways can smother stream beds and suffocate fish eggs and invertebrates. It also affects the availability of water for stock water, domestic supply and irrigation.

Slowing down water velocity will minimise erosion and the loss of suspended sediments. When sediment is cleaned out from sediment traps and returned to paddocks it can be phosphate rich, improving pasture growth.

Tiaki Maniototo is running a sediment trap workshop for local landowners. The workshop will cover how to design one on your stream, and where they are most beneficial. This will be held by Craig Simpson, a freshwater scientist and sediment trap consultant. He will be able to answer questions on the consent processes and whether the waterways on your farm will benefit from a sediment trap. For more details and dates, keep an eye on our Facebook page.

CRITICAL SOURCE MAPPING

Critical source areas (CSA's) are places on the landscape where water accumulates and runs off, carrying sediment and contaminants into waterways if they're not managed well.

A big part of our role in the Mānīatoto/Maniototo is identifying and mapping these areas, and putting plans in place with landowners to manage them. In order to protect the health of the catchment, critical source areas need to be planted in native vegetation, and fenced.

Intensive winter grazing should not happen in these areas as CSA's carry precious topsoil away, depleting farmland and contributing to poor water quality in the river and streams.

The Otago Regional Council recommends the Stop, Slow, Trap approach to CSA's:

Stop contaminants getting to water through cultivation and strategic grazing techniques.

Slow down the movement of water in CSAs using grassy buffers (this allows water time to soak into the soil.)

Trap sediment using grass buffers, sediment traps and sediment cloth.



WATER MANAGEMENT IN A CHANGING CLIMATE

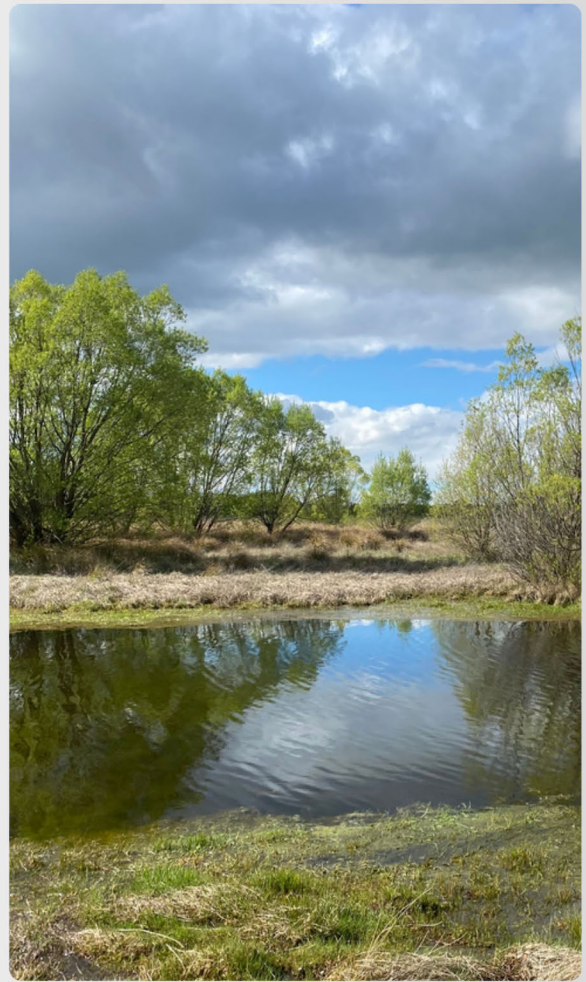
A recent report, commissioned by the Department of Conservation, looked at the expected impact of climate change on the Taiari/Taieri catchment. The report found that we should expect more extreme weather events – harder droughts and bigger floods.

Planning to manage these impacts in an environment that is already under stress from harsh conditions is crucial. Wise, conservative, water use will be essential to maintain healthy flows in the Taieri River. Fencing off waterways and riparian planting will help water systems function naturally, accumulating and then gradually releasing water to maintain water flow even through the driest parts of the year. Protecting and enhancing wetland habitats will allow them to function naturally, by filtering streams and rivers.

In a more extreme climate, the report says, farmers need to assess current and future land use “proactively to anticipate drought and other climate change impacts. Don’t assume irrigation will be able to keep pace with drought.”

Currently, willow leaves contribute, along with organic sediment from land use, to “black-water events,” in which microbes in the water feeding off organic matter, turn the water anoxic. These events are deadly to fish. Controlling willows will help reduce these and restore natural river processes.

The Taieri catchment is perhaps more exposed to the impacts of climate change than any other in New Zealand. But the Maniototo community has been dealing with scarce water resources for a long time. This community now has the opportunity to lead the way towards sustainable water use for a warmer, and potentially drier world.



LOOKING AFTER THE LOCALS: KŌURA

New Zealand’s freshwater crayfish, known as kōura, kēwai or kekewai by Māori, are fascinating little creatures with an ancient history. Ancestors of kōura were around on Earth more than 250 million years ago.

There are more than 600 species of freshwater crayfish world wide. Here in New Zealand, we have just two, a northern and a southern kōura (*Paranephrops zealandicus*).

Kōura were a crucial source of food for Māori as they travelled into the interior of the country. They remain an important mahika kai species and are prized by hunters and fishermen. Kōura are also “ecosystem engineers.” As predators, they keep ecosystems in balance and through their busy activities, they can help to remove sediment from a waterway.

A 2000 survey of the Taiari/Taieri found kōura throughout the catchment, particularly in areas with good native riparian plants overhanging waterways. The presence of kōura in a stream or pond is evidence of good water quality. Conversely, an absence of kōura may be an indication of water quality problems. Kōura are very susceptible to chemical pollution and low dissolved oxygen. They also like to burrow into banks, so unplanted, unfenced, collapsing banks leave them nowhere to hide.



PLANTING GUIDE FOR THE MĀNIATOTO

The Māniatoto/Maniototo, with its hot, dry summers and bitterly cold winter frosts, is one of the toughest places for native planting in New Zealand. But by choosing species carefully and helping them out with watering, wool wraps and weed control, you can successfully establish native vegetation on your farm or in your garden. Here are some ideas to continue with.

Lemonwood (*Pittosporum eugenioides*)

12m. Dry areas

Fast-growing shelter or hedging tree, with highly scented flowers that are attractive to pollinators. Long, light-green glossy leaves. Frost-tender when very young.



Olearia

(*Olearia bullata*)

3m. Damp areas

A divaricating shrub with small brownish-green leaves on interlacing twigs. White flowers in clusters. Excellent for damp, well-drained sites. Evergreen. Hardy.



Cabbage Tree (*Cordyline australis*)

10m. Damp - Dry areas

An iconic New Zealand tree. Attractive to pollinators and birds; flowers early to mid summer and produces fruit mid summer to early autumn. Hardy.



Hebe odora

1.2m. Dry areas

Hardy, ball-like shrub with small box-like dark-green leaves. Showy, white, cone shaped flowers. Best in well-drained soils.



Swamp Ribbonwood (*Plagianthus divaricatus*)

2m. Wet

Dense tangled shrub with silvery stems and small green leaves. Salt and wind resistant and tolerant of wet, swampy soils. Small cream flowers are very sweetly scented. Great trimmed hedge or low shelter. Semi-deciduous. Hardy



Silver Tussock (*Poa cita*)

1m. Dry

Fast-growing, densely tufted, tawny-green tussock. Very fine foliage with feathery flower heads in summer. Looks great in mass plantings, especially on dry, exposed sites. Can handle poor soils. Evergreen. Hardy.



Red Tussock (*Chionochloa rubra*)

1m. Dry, Wet

A large, distinctive red-tinged tussock. Flowering form is impressive in exposed windy sites. Tolerates damp and infertile soils, Attractive seedheads from February to April. Hardy.





PINE SHELTER BELTS: A THING OF THE PAST?

In the 1970's the government encouraged farmers and landowners to plant *Pinus contorta* (lodgepole pine) shelter belts and to stabilise hillsides. Lodgepole pine grows fast and is incredibly hardy. Those qualities, however, also make it a super-invader.

Pine trees are now spreading on top of the Rock and Pillar Ranges, where they pose an enormous risk to water systems in the Taiari/Taiari catchment.

Not only will pine trees displace the native tussock, which is crucial for harvesting water from the atmosphere, they will also suck water out of the catchment, drying up wetlands and soils and leaving far less water for the plains below.

Pete Oswald of the Central Otago Wilding Conifer Control group (CWG) has been working with landowners and Tiaki Maniototo to address these issues. Through his initial study of the Loganburn catchment, he came to realise that the trees were spreading from shelter belts in the Styx Basin.

Pete and the landowners discussed what could be done to replace these shelter belts with native species and non-spreading alternatives. He used local expertise to create a list of plants that could make good, fast-growing alternatives to pine.

Landowners, he found, were very open to the idea. One farming family, the Kensingtons on Loganbrae, have partnered with the group to rip out an old *Pinus contorta* shelter belt and have planned to replant it with flax and toetoe. Given time and some water, these species will offer valuable shelter to stock.

Pete says he was surprised to learn that the height of the *Contorta* shelter belts wasn't actually considered necessary by a lot of farmers, and in fact tall pine shelter belts were a burden on some farming operations. "Big, high, pine trees drop limbs in the wind and heavy snow, which destroys the fence below, and with that height and huge stature comes maintenance costs," he explains. One farming operation, he says, recently spent \$100,000 on maintaining the farm's shelter belts.

Working alongside Tiaki Maniototo, CWG are now looking at ways to arm farmers with the necessary information to tackle pine trees on their properties, and replace them with native biodiversity. At the same time, we are working together to eradicate pines from the tussock grasslands of the Rock and Pillars, before catastrophe can unfold. Through conversations, we have seen how some landowners have been managing this problem on their hill country themselves –asking hunters on their land to remove any small wilding pines they come across.

"We've got it just in time," says Pete. "We have very few seeding trees up there on top of the Rock and Pillars. So as long as we continue with taking out the seed source, as well as maintaining what spread happens up on top, we will progressively get it under control." Anyone who'd like to get in touch to discuss should **contact Pete Oswald on pete@centralwildingconifers.co.nz**

SAVE THE DATE: TAIARI CATCHMENT FORUM

**Tuesday August 6th
10am-3pm
Middlemarch Hall**

- Science update (water quality and climate change)
- Integrated Catchment Management overview
- Workshop session on how we can work together for a Healthy Taiari Catchment.

**Please RSVP to Christopher Kavazos at DOC:
ckavazos@doc.govt.nz (by Friday 26th July)**



OUR TEAM



Janine Smith

Project Executive



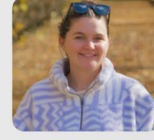
Caitlin Daley

Project Manager



Colin Delahunt

Project Manager



Ellis Hogan

Field Officer



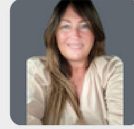
Morgan Trotter

Project Advisor



Bill Morris

Communications



Natalie Willis

Secretary



Margo Hall

Nursery

OUR STRATEGIC PARTNERS



OUR SUPPLY PARTNERS



Kāti Huirapa Rūnaka ki Puketeraki

Steele Fencing



A1 Irrigation

