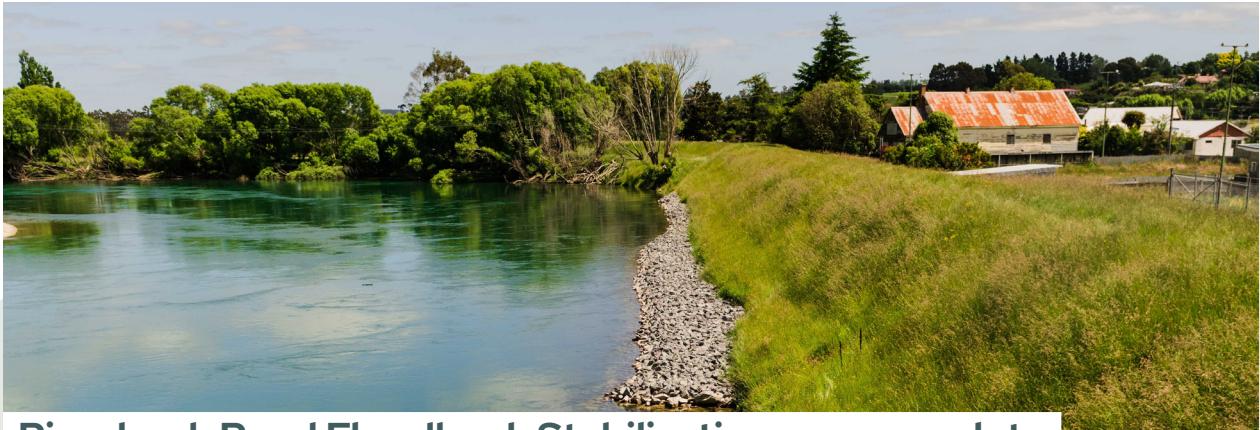




## Quarterly Update April 2022



### Riverbank Road Floodbank Stabilisation now complete

*Otago Regional Council*

The Riverbank Road Floodbank Stabilisation project resulted from significant damage to the Lower Clutha River sustained in the February 2020 flood.

Now complete, this project reduces the risk of inundation to 1,300ha of productive farmland, homes and community assets. The project supports the entire Lower Clutha Flood Protection and Drainage scheme that provides protection to approximately 9,300ha in the Clutha delta.

The project team employed a range of repair approaches, including the use of environmental vegetative solutions, battering back and reshaping the damaged and eroded area of floodbank, stabilisation using coconut matting, and planting grass and trees to stabilise the bank longer term.

Otago Regional Council Manager of Engineering, Michelle Mifflin says that stopbank stabilisation with rock was used on the more complex section of the river upstream of the Stirling Bridge, near Balclutha.

“With very little space, the steep rock lined stopbank had scoured away and was collapsing upstream of the Riverbank Rd bridge at Stirling putting the bridge at risk. The repair involved re-lining the toe of the stopbank with rock riprap and keying this into the riverbed to prevent any further slumping”.

An access track was created at the waterline to allow for excavation into the riverbed and laying of the rock foundation. Approximately 3,500 cubic metres of rock was used for these works to re-establish rock protection along 300m of floodbank.

During excavation of the riverbed, timber beams from an historic, pre-1900's bridge were uncovered. Works stopped for a week and an archaeological assessment of the beams was undertaken. Despite the delay, works were completed in mid-May, two weeks ahead of schedule.

Environmental benefits of the project include vegetative planting along 400m of riverbank and providing direct flood protection and reducing the risk of inundation to 1,300ha of productive farmland, homes and community assets.

The Riverbank Road stopbank stabilisation project has been successfully completed ahead of schedule and under budget providing employment opportunity within the local region and achieving significant environmental flood protection benefits.

This project has been partially funded through Kānoa, the Regional Economic Development Unit of the Ministry for Business, Innovation and Employment (MBIE), as one of the post-Covid 19 Shovel Ready projects.

#### Key facts

- Project budget \$1,000,000. Completed cost \$940,000
- 25 months (FTE's) of time on the project
- Women (22%), Maori (4%), Apprentices (8%), Youth aged 15-24 (5%) of FTE's
- Five direct suppliers (4 local) have provided services on the project.



## **West Coast flooding – an exemplar of collaboration in crisis**

*West Coast Regional Council*

**When a red-light weather warning, the highest of its nature, was issued by MetService for the West Coast in early February, duty flood controllers, river engineers and river managers from neighbouring Otago Regional Council and Environment Canterbury were called upon to provide support to the West Coast. The response was swift.**

‘It’s going to be a big one,’ was the initial response from the Operations Director at the West Coast Regional Council, following a briefing from Council’s Flood Response Analysis Team at 9.00am on 31 January.

The calls began immediately- with outreach to neighbouring Otago Regional Council and

Environment Canterbury, mobilising the local flood team and connecting with Civil Defence to activate the emergency response on the ground. The phone lines across the West Coast ran hot. Helicopters were lined up for critical event monitoring, and the local response was supported on the ground by staff from the National Emergency Management Agency, neighbouring Civil Defence Emergency Management Groups, emergency services, lifeline utilities, and government agencies including the NZ Defence Force, Fire and Emergency Management, Ministry for Primary Industries and Waka Kotahi NZ Transport Agency. The Emergency Management Assistance Team and New Zealand Response Teams also surged in to assist.

The burst of activity came immediately before the storm as everyone braced for dangerous river conditions and flooding.





It had been a mere 7 months since the last major event (July 2021), when the people of the West Coast were battered by extreme rain and flooding. Many hadn't even had the chance to fully recover yet. Some people had only just moved back into their houses, others were still waiting on insurers or building supplies. Some of the less fortunate didn't have insurance to fall back on and had been doing it tough as they tried to rebuild their lives.

River engineering staff from Environment Canterbury travelled to the West Coast alongside four environmental monitoring experts and river engineers from the Otago Regional Council. Local teams were prepped and briefed. Everyone pulled together, ready to respond shoulder-to-shoulder.

What followed was a massive team effort. Rosters were established, response requirements and the PIM (Public Information Management) officer was confirmed.

PIM is Public Information Management within the Civil Defence Emergency Operations Centre

The duty flood control team monitored river flows around the clock with sites calling in new data every five minutes to every hour. Engineers assessed the stability and effectiveness of some of the flood protection structures, such as the groynes - what might look like a fallen tree or a giant rock pile but is actually a strategically placed structure built out from the riverbank to help prevent riverbank erosion - were going to withstand the flows and monitored the capacity of berms - the area immediately next to a river that is designed to capture overflow.

In Westport, working through the day and night in shifts, Environment Canterbury staff paired up operating as spotters, monitoring known breakout spots, and keeping a close eye on the rate of rise and flow of the Buller River.

On the Otago side of the mountains, the Network Infrastructure Lead recorded river flows from the relative dryness of a helicopter. Incredible amounts of water were coming off the hill in the peak of the storm. Some of the highest flows ever measured on some of those rivers were recorded. Parts of Otago were affected including the Wānaka and Whakatipu catchments.

Otago Regional Council staff carried out helicopter gauging on the Young North Branch, Wilkin, Rees and Dart rivers during the event, to help understand and model the volume of water flowing down off the mountains. Helicopter gauging is a technique that was developed by ORC's own Paul Hannah in collaboration

with NIWA. Using this technique, experts were able to fly over washed-out roads and bridges, to measure peak river flow rates safely and efficiently.

Another critical piece of the response puzzle was the on-going surveying and photographing of the landscape as the event unfolded. Photos taken from helicopters and from the ground provided important information that was able to be used to assess the kind and level of danger, to keep the local communities safe.



The next few days passed in a blur of preparation and response for all affected regions. There was not one, but two major downpours amongst the relentless and extreme rain due to an "atmospheric river" of warm and moist air hitting the region. Westport experienced its wettest February day since records began in 1944. Residents were encouraged to self-evacuate to friends and family on higher ground with more than 100 people sleeping in an evacuation centre as the peak of the event came on the Friday night and into Saturday morning.

As the weather subsided and the teams who had come in from Otago and Canterbury headed home from the West Coast, the assessment of the damage that yet another extreme weather event had inflicted on the region, began. Recovery is a long road, but the efforts of all teams coming together from three adjacent Regional Councils are a shining example of working together to respond to yet another extreme weather event in Aotearoa.



## Building bridges into the future

### Northland Regional Council

Pamela-Anne Ngohe Simon's role in the Ōtiria Spillway Project has been one of quiet perseverance.

Ngohe Simon sits on the Taumāreere Flood Management Working Group board and has been a fierce advocate of the project to help protect the townships of Ōtiria and Morewa in Northland. "Ōtiria suffers a phenomenal amount of flooding, every time it floods, we suffer".

The spillway project has been 18 months in the making, but Ngohe Simon is now confident they have a way forward.

"It's taken Hui, after Hui but the community now understands the project and what Northland Regional Council are trying to achieve by reducing the flood risks to Ōtiria and Moerewa".

Ngohe Simon says that the collaboration between Māori and local government has been the key to the project's success.

"The tact that Northland Regional Council are taking has never really been seen before up here. It works and it should be mimicked around the country"

"It's about the relationship between Māori and the council and it's those relationships our people need to maintain throughout this process. Our people want someone who turns up and understands. The team at NRC appreciate and acknowledge the effort that's gone in to getting the project to this stage".

Ngohe Simon says that having Kaitiaki (guardians) involved in Resilient River Communities projects is essential.

"To have Kaitiaki on site on these projects is the key, they have huge value".

Chantez Connor-Kingi is Kai Whiri iwituna\* for Northland Regional Council and has been working closely with Ngohe Simon, Wiremu Keretene, Tangata Whenua, She says that the approach that council and Mana Whenua have taken to working together is a true partnership.

"As Kaitiakitanga this is always how we've worked, and it's about being true, doing the mahi and turning up, kanohi ki te kanohi - face to face".

Connor-Kingi says that they are working hard to change the narrative as a council.

"Mana Whenua has a lens on the council and we're working to change that through our actions. Changing our narrative to be better and wanting to be better, demonstrates true partnership. It's about shaping old habits gone unchecked and replacing them we the right values that delivers the one outcome, for everyone, partnership, protection, participation".

*\*Kai is the action the doing, Whiri iwituna is a plait of 8 strands or more which each plait represents strength that holds me to my role, and empowering and mana enhancing hapu, mana e te whenua, engagement, He Whakaputanga, Titiri o Waitangi, kawangatanga, Manaakitanga, kotahitanga, whakawhanaungatanga, tikanga, rangatira, aroha, working as roopu, no I in team or whanau.*





## *In Memory of Duane Le Roux*

In memory of Duane Le Roux who died peacefully in his sleep on Saturday 12 March with his loving family. A memorial service was held later in the week which was attended by as many of his close work colleagues and family as practicably possible who shared grief and offered support to Duane's family.

Duane's hard work and tireless effort towards ensuring the success of the Climate Resilience and Flood Management Programme of work was acknowledged by the many kind words received from those of us who worked with Duane. Duane's Mum and Dad and sisters were overwhelmed by the shared grief and support extended to the family following Duane's passing.

Duane's family received numerous bouquets of flowers including a large and beautiful bouquet from The River Managers Sector Group and was represented by Graeme Carroll.

This coming together at a challenging time reflected the closeness and support that exists amongst the Group which Duane was a big part of.



**WHAKATAU WAIRUA!**

**RONGO-MĀ-TĀNE MAURI TAU**

**KIA Ū, KIA TAU**

**RONGO I TE WHIWHIA**

**TŪ I TE WHIHIA**

**KIA MAU KI TE KUPU**

**KIA TIPU AI TE KUPU**

**KI TŌNA IHO MATUA**

**RONGO-MĀ-TĀNE MAURI TAU**

**KIA Ū, KIA TAU**

**WHAKATAU WAIRUA!**

Settle our spirit

Rongo of peace, be steadfast

Hold fast, and settle

Bind our peace

Bind our energy

Holdfast to the words

So the words might grow

To their true authenticity

Rongo of peace, be steadfast

Hold fast, and settle

Settle our spirit



**Resilient River  
Communities**

Built By



**Te Uru  
Kahika**

Regional and  
Unitary Councils  
Aotearoa



**Kānoa**  
Regional Economic Development  
& Investment Unit



## Resilient River Communities

### Website Launch

Over the past months the RRC project team have been working on developing a new dedicated website to bring together the information for all the work that the councils are undertaking in one place.

## The website includes information regarding the aims for the community, and details of the projects and their various stages of development.

As we continue to populate this website it will include flood resources available for download, access to information about river careers and links to newsletters and media coverage.

Thank you to the communications managers from around the country who provided updates, information, and images of these very important projects.



## Take a look!

The website will continue to expand and develop over the coming months as interest in this very important work continues.

[View the website](#)