

Embracing the Braid

Evolution of Flood Protection in Canterbury



Who are we?



Shaun McCracken
Chief Engineer- Infrastructure



Amy-Grace McIlraith
BRR Officer- Natural Infrastructure





Local Government Reforms



Public Transport

Ngā waka tūmatanui



**Community Preparedness and
Response to Hazards**

Te whakarite hapori me ngā urupare mōrearea



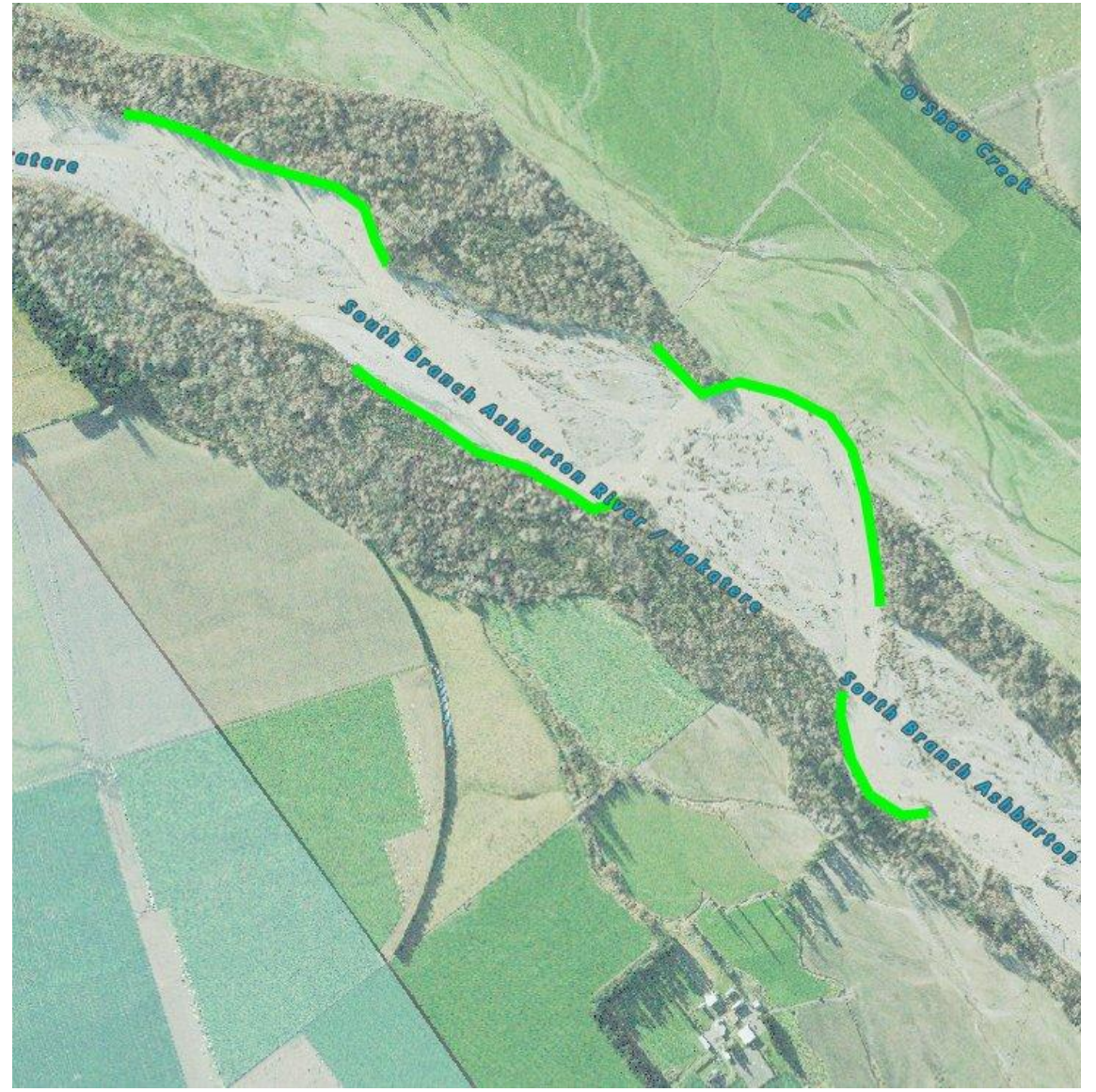
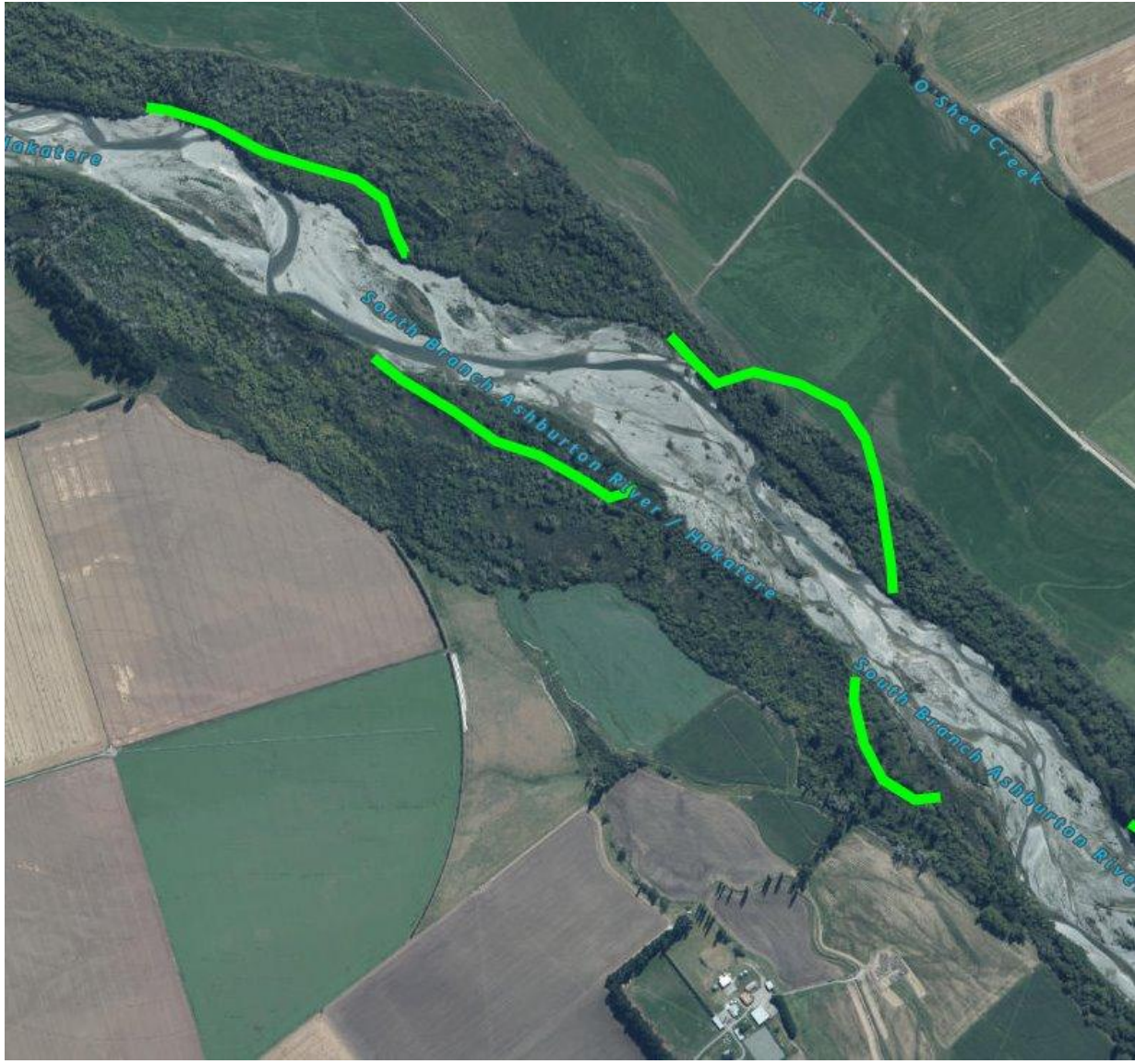
**Environmental
Regulation and Protection**

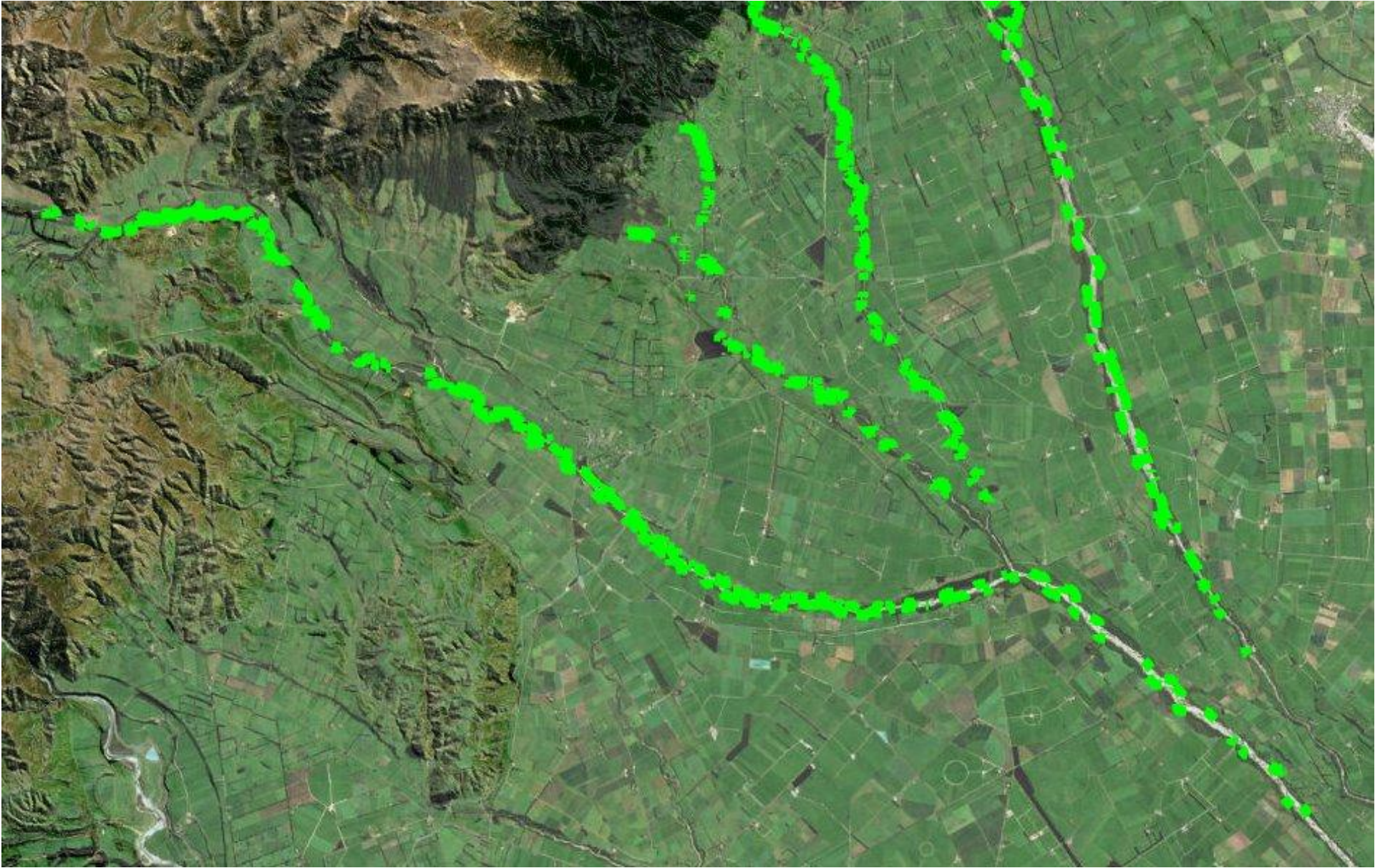
Ngā mahi tiakina me ngā whakaritenga taiao

We don't have any answers, sorry to disappoint.



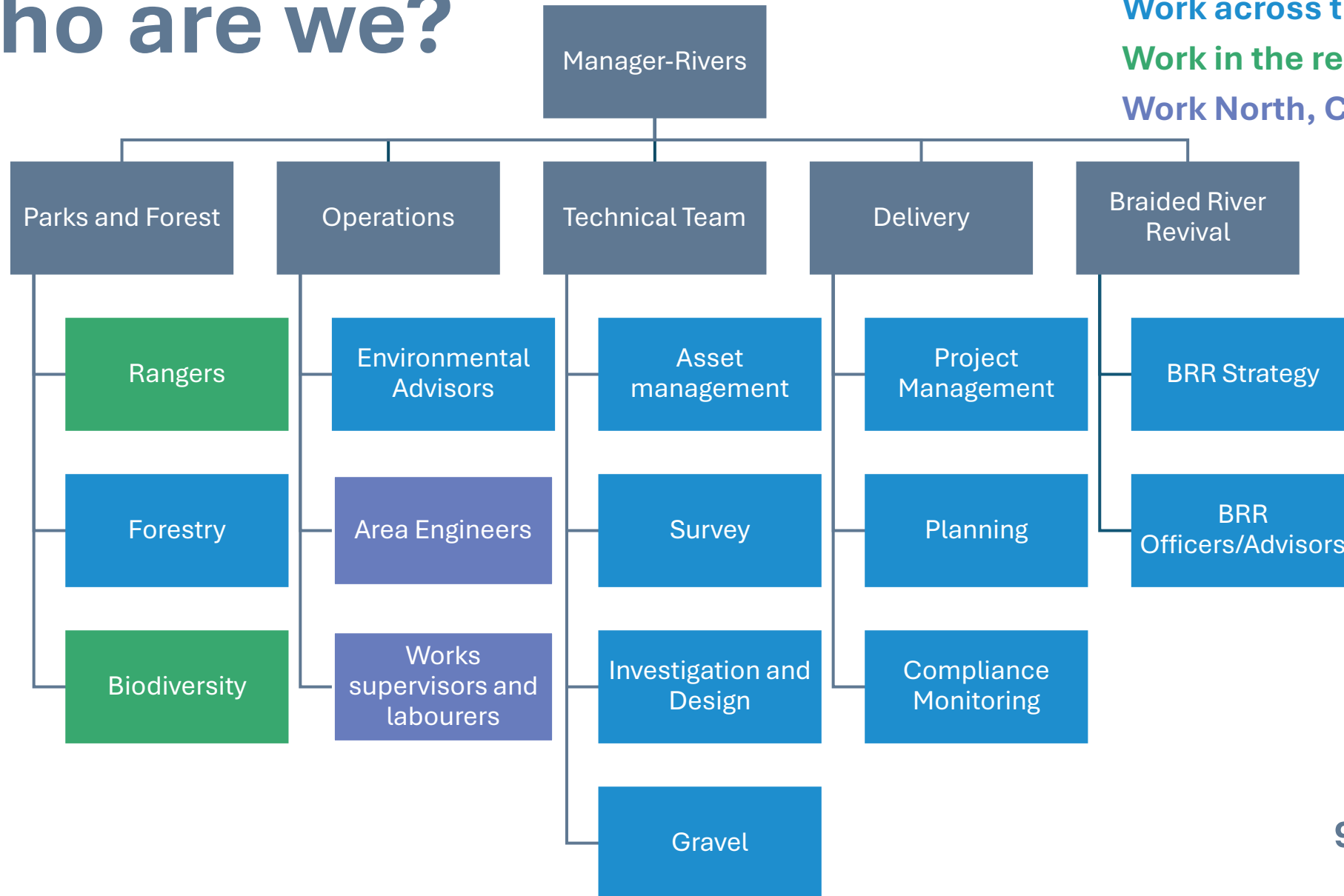
Archives
New Zealand







So, who are we?



Work across the region
Work in the regional parks
Work North, Central or South

99 Staff total

So, who are we?

Operators

Engineers

Project Managers

Soil Scientists

Botanists

Geomorphologists

Nerds

Ecologists

Chemists

Hydrologists

Resource Managers

Spatial Planners

Surveyors

Geologists



What you see



Too much Gravel

Bulldozers

More Willows

Floods

Helicopters Spraying

Mess

Constrained Rivers

Another meeting

Sediment Discharge

Nothing happening

What we see



Design Works

Budget

Flow Modelling

Annual Works Plans

Consideration of alternatives

Rating District Level of Service

Difficult conversations

Consultation

Work Timing

EPA Approvals

Compliance reporting

Gravel levels

Environmental Plan

Communications Plan

Best Practice

Tender Process

National Policy

Community Expectation

Downstream Impacts

Herbicide Consent

Asset Management

The part of the job we don't talk about...

The image is a collage of news articles and a text box. At the top left is an RNZ article titled "Hundreds of homes unliveable, as flood protection warning issued" dated July 20, 2021. It features a photo of a flooded house with two people standing in the water. To the right is a "Stuff" article titled "The gravel wars: Farmers vs council on who pays for flood clean-up" dated July 17, 2021, with a photo of a blue sky and a sign. In the center is a white text box with the heading "Why doesn't ECan have specialists in this area?" and a sub-heading "Fluvial geomorphology". The text box contains a paragraph about fluvial geomorphology and its importance for river management and flood risk assessment. At the bottom of the collage is a decorative blue wave graphic.

Emotional Highs

RNZ News Life Radio Podcasts Video

World Politics Crime / Justice Business Sport Health Education Environment Community Country Weather Te Ao Māori

Hundreds of homes unliveable, as flood protection warning issued

News / Weather 20 July 2021, 10:30am

Westport residents are cleaning up flooded prop...

Stuff

NZ News World News Quizzes Property Money HealthStuff Sport Life

The gravel wars: Farmers vs council on who pays for flood clean-up

Hor Nadine Porter July 17, 2021 · 5:00am

copy Link

Why doesn't ECan have specialists in this area?

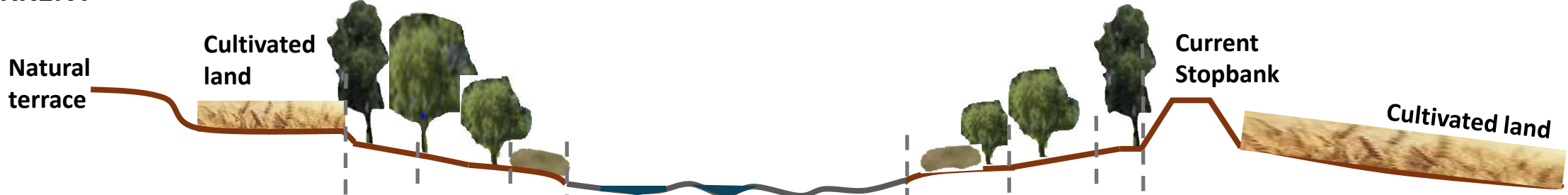
Fluvial geomorphology

Fluvial geomorphology is the study of how running water shapes the Earth's surface through erosion, transport, and deposition of sediment. It examines the interaction between hydrodynamic forces and channel materials to create landforms like meandering streams, floodplains, and deltas. **This field is critical for river management, flood risk assessment, and understanding channel adjustments.**

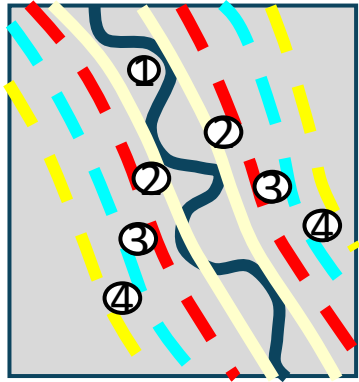
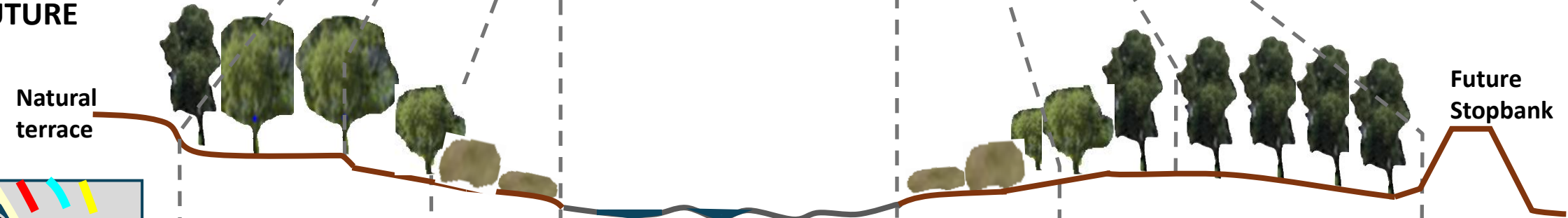
versary

Room for the River

CURRENT

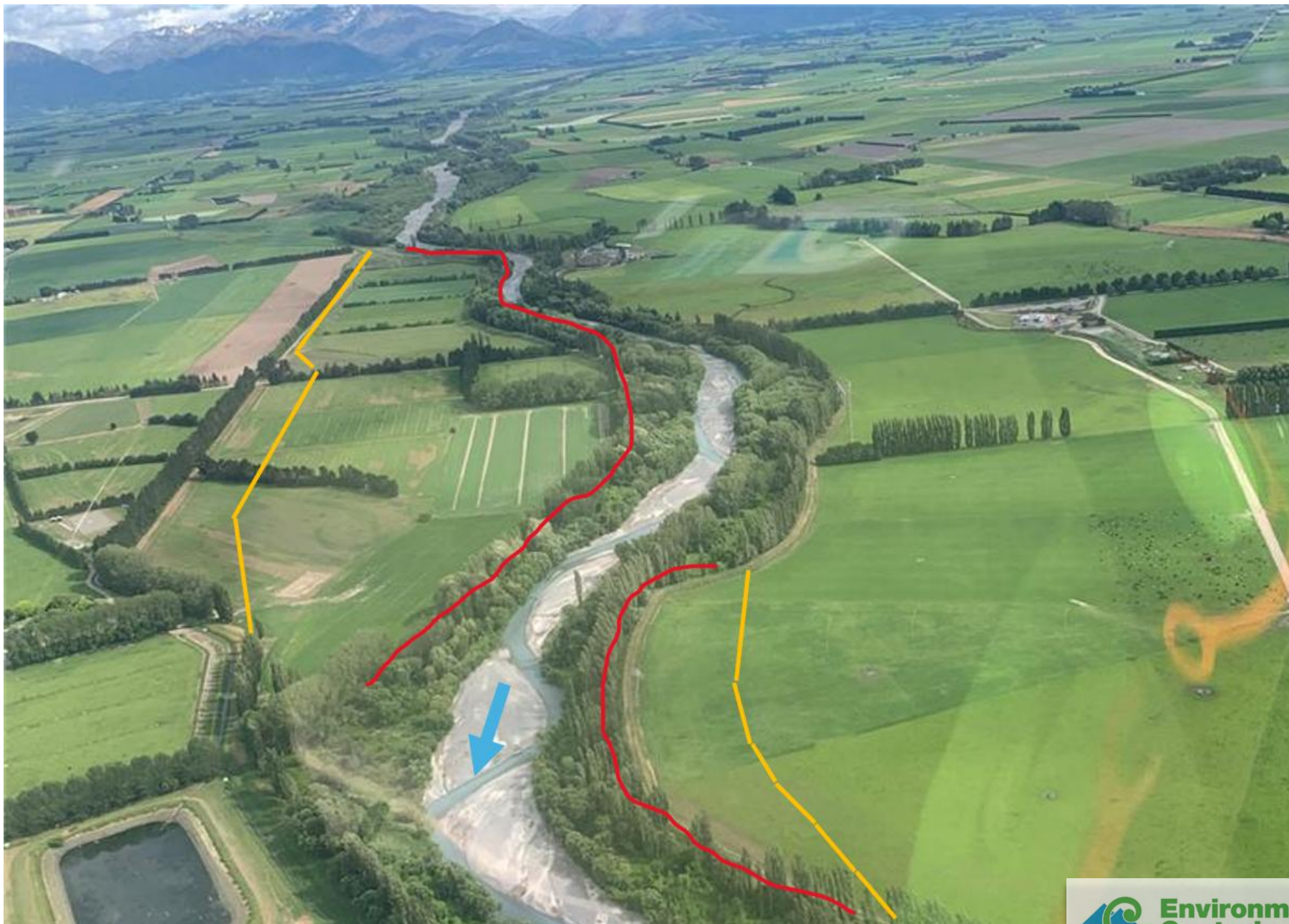


FUTURE



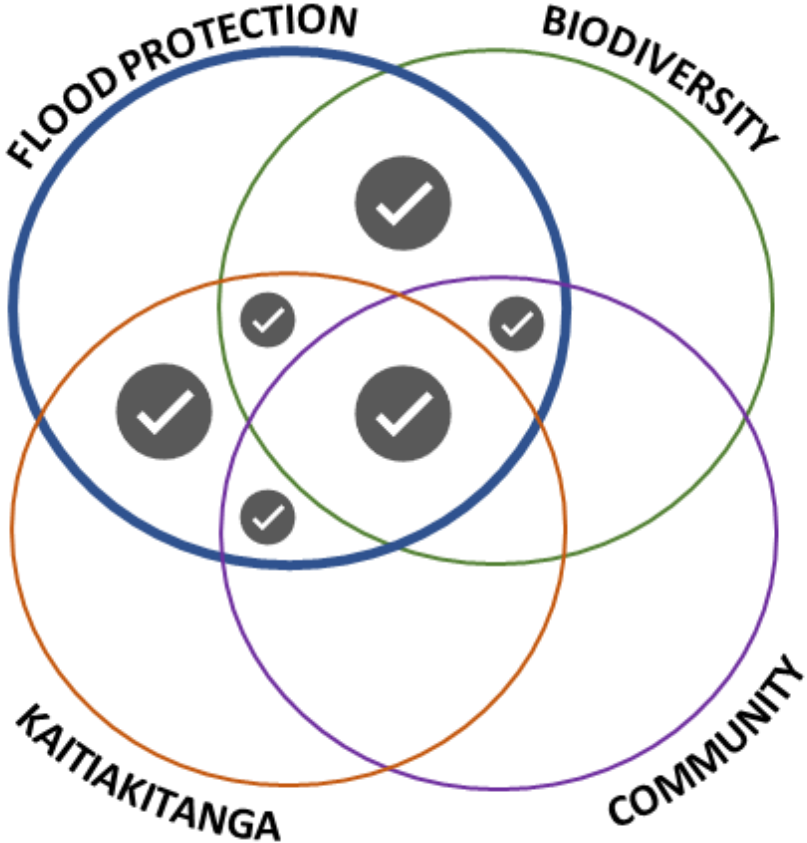
Vegetated edge protection **Free move** **Active channel** **Free move** **Vegetated edge protection**







Braided River Revival



We're making space



What have we been up to?



What have we been up to?



Ashburton 06, September 2022



Ashburton 06, October 2025



What have we been up to?



August 2023



November 2023



April 2025



Local Impact



Regional Impact

Canterbury Regional Council
Kauwhera Taiao ki Waikaha

Canterbury Regional Code of Practice
for defences against water and drainage schemes
Date: April 2019

Canterbury Regional Council
Braided River Revival
Whakahaumanu
Ngā Awa ā Pākihi
100-Year Strategy
July 2025

Canterbury Regional Council
Canterbury Regional
River Gravel
Management Strategy
July 2025

Canterbury Regional Council
Kauwhera Taiao ki Waikaha | Canterbury Regional Council
Draft Landholdings Strategy
June 2026

CANTERBURY REGIONAL COUNCIL
Kauwhera Taiao ki Waikaha
Flood Protection and Drainage Bylaw
2013
Amended 16 January 2019

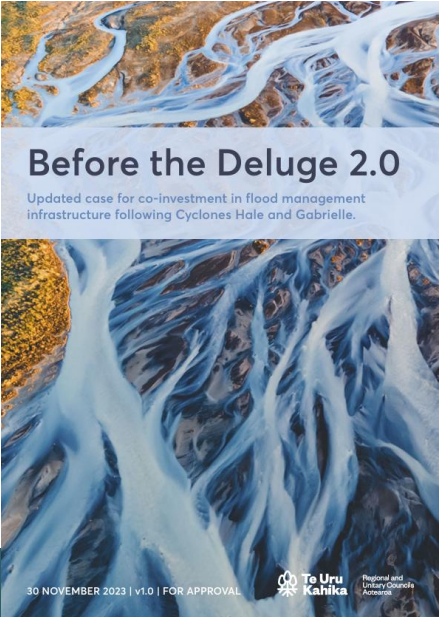
Planning Policy Strategy

Action on the ground

National Impact



Kānoa
Regional Economic Development
& Investment Unit



River Managers' Professional Development Programme

This programme has been designed to identify a framework to raise awareness, learning and development pathways and ultimately drive recruitment and attraction strategies to assure river management expertise for the future



