



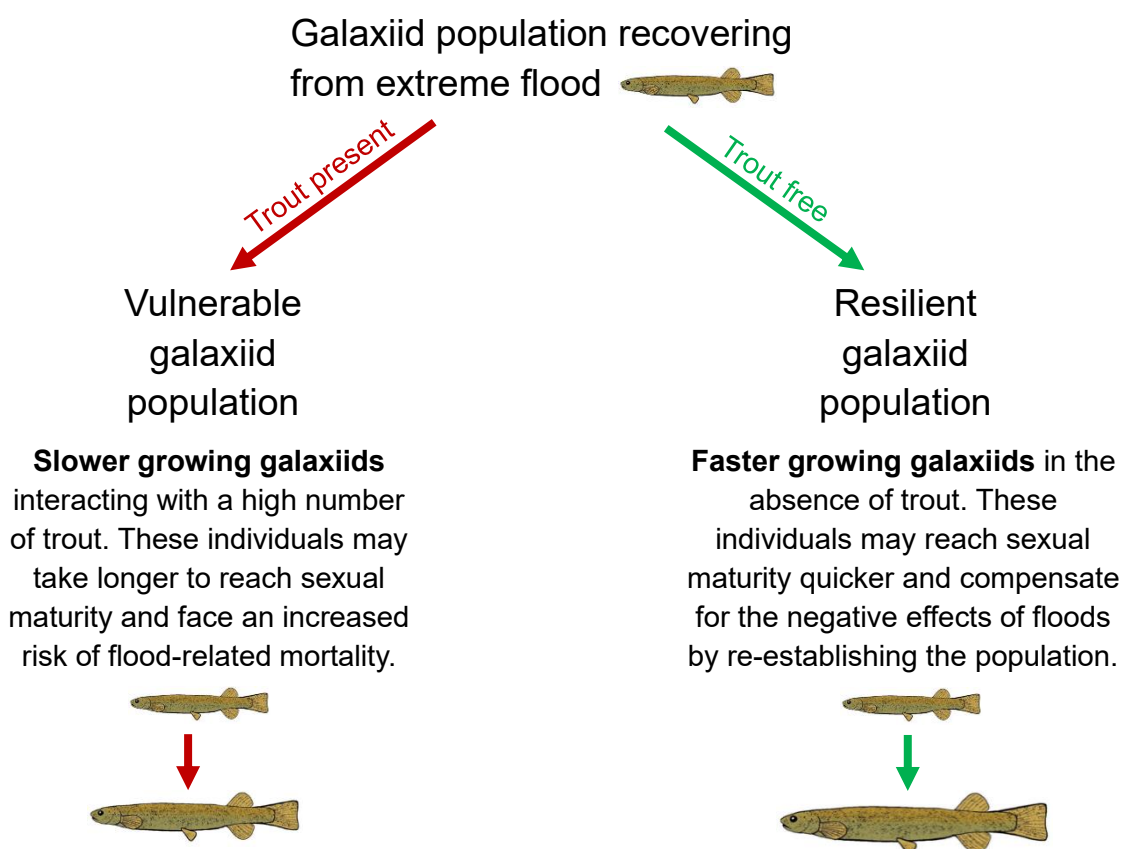
# Introduced trout hinder the recovery of native galaxiids

In high numbers, introduced trout reduced the growth of native galaxiids after an extreme flood, which may impair the natural recovery dynamics of native populations and increase their vulnerability to future floods. To protect galaxiid populations, we should therefore aim to maintain strategically placed trout-free source populations of galaxiids, and manage the negative effects of trout

## What we know

Introduced trout outcompete native galaxiids for food and habitat. Individual growth is important for fish population recovery after floods, because larger fish can be more successful breeders and more resistant to future floods. Therefore, faster growing fish can re-establish populations more effectively after flood events.

## What we found



## What is a river-resident galaxiid?

River-resident galaxiids are a group of native fish in the same family as whitebait – but unlike whitebait, they do not migrate to the sea and instead spend their whole lives in rivers and streams. As a result, they are particularly vulnerable to population fragmentation from introduced species. All of New Zealand's native river-resident galaxiids are threatened or at risk of extinction.

Alpine galaxiid - *Galaxias paucispondylus*



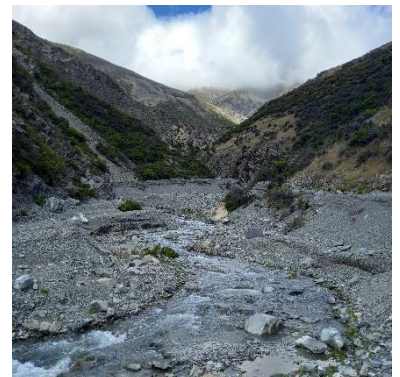
Canterbury galaxiid - *Galaxias vulgaris*



## Background

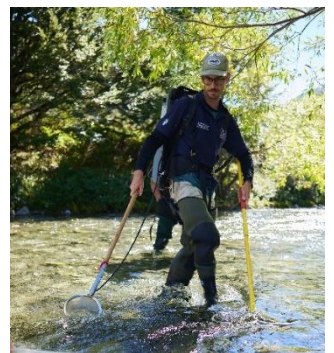
Extreme floods are predicted to intensify by an order of magnitude over the next century, so it is important to understand the recovery dynamics of native galaxiid populations that face existing pressure from introduced trout.

Images show Dry Stream (Canterbury, New Zealand) pre and post the major flood event in 2021.



## What we did

Following a major flood event in 2021, we used electrofishing surveys and mark-recapture methods to measure individual growth of Canterbury and alpine galaxiids (*Galaxias vulgaris* and *Galaxias paucispondylus*). We surveyed 12 high country streams in Canterbury over 4 sampling occasions, comparing streams with various abundances of brown trout and different magnitudes of flood.



**Research conducted by MSc student Rory Lennox, with supervision from Jono Tonkin and Angus McIntosh at the University of Canterbury, and Nixie Boddy from the Department of Conservation.**

Thank you to all the landowners and field assistants. Photos by Angus McIntosh and Rory Lennox.

A scientific paper is being prepared from this research. Please contact Rory ([rory.lennox@canterbury.ac.nz](mailto:rory.lennox@canterbury.ac.nz)) in the interim for any questions



Department of  
Conservation  
Te Papa Atawhai