

Using barriers to protect native freshwater fish in Aotearoa New Zealand



Canterbury galaxias (*Galaxias vulgaris*) © Angus McIntosh

As New Zealanders, we value native freshwater fish. That's why we are working hard to protect them. But despite these efforts, many species are still declining and disappearing.

One group of fish that needs protecting are the **river-resident galaxiids**. Creating freshwater sanctuaries that protect from threats, such as introduced trout and other undesirable fish, is therefore important for their future.

Did you know?

Some species are on the brink: Some species are down to just a few small, isolated populations. If not looked after, they will go extinct.

Barriers save lives: Many native galaxiid fish populations exist only above barriers that keep trout out.

Barriers can be natural or built: Examples include waterfalls, dry stream sections, perched culverts, and conventional weirs.

Meet the river-resident galaxiids

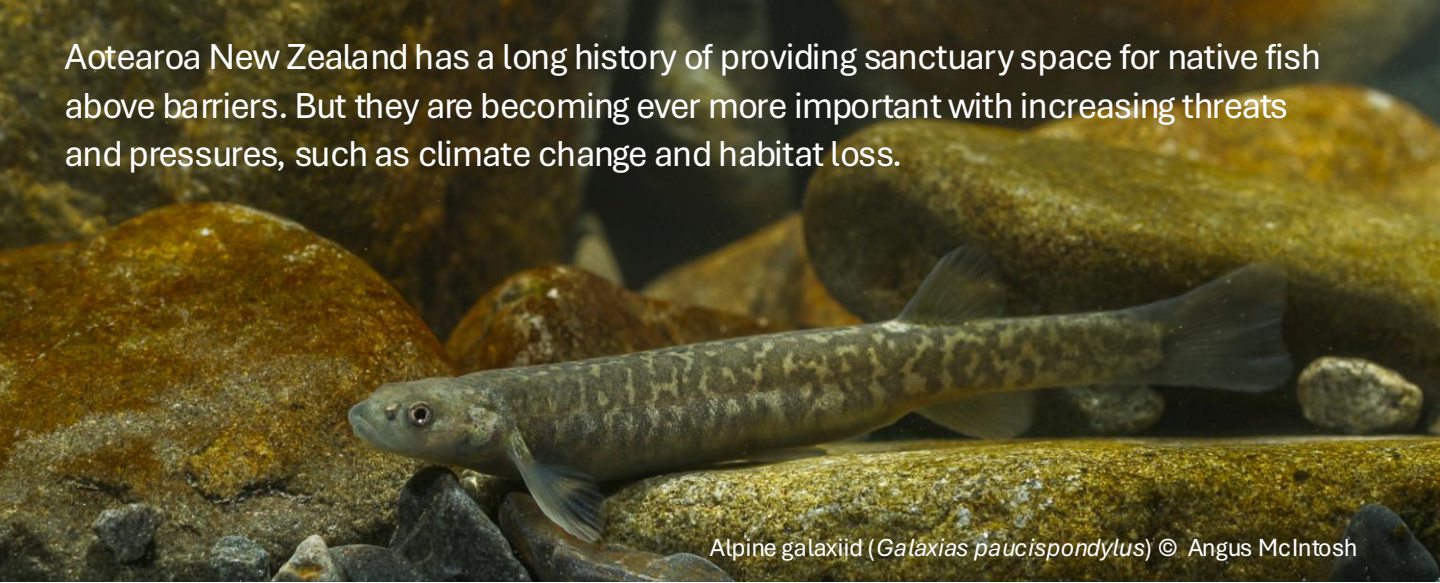


These are small, native freshwater fish unique to Aotearoa New Zealand. They are related to whitebait but spend their whole lives in rivers and streams, instead of migrating to the ocean and back.

They are part of our natural heritage – but sadly many are threatened or critically endangered. We have to protect them, because once they're gone, they're gone for good.

Clutha flathead (*Galaxias 'species D'*) © Angus McIntosh

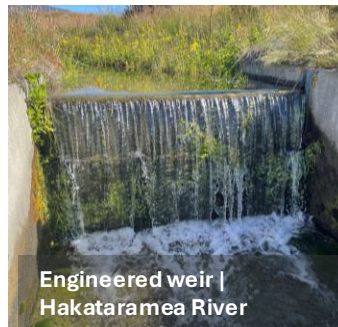
Aotearoa New Zealand has a long history of providing sanctuary space for native fish above barriers. But they are becoming ever more important with increasing threats and pressures, such as climate change and habitat loss.



Alpine galaxiid (*Galaxias paucispondylus*) © Angus McIntosh

Not all fish in our rivers are native to New Zealand. Trout were brought to Aotearoa New Zealand over 150 years ago. While valued for recreation, they eat and outcompete native fish, especially the small, species found nowhere else in the world.

Some native fish now only survive in places trout can't reach. Barriers, like the ones to the right, stop trout moving upstream, creating safe refuges for native fish. In some places, having a barrier is the only reason these fish still exist today.



Engineered weir | Hakataramea River



Waterfall | Taieri River



Anti-jump screen | Upper Waimakariri catchment



Low-head weir with perched culverts | Mackenzie Basin

What you can do to help our native fish

Support and protect fish barriers: We are still finding new areas where river-resident galaxiids occur. Help identify and maintain existing natural and built barriers that keep undesired species, like trout, out.

Work together at a catchment scale: Join/start a catchment group to restore your waterway. Or share knowledge between landowners, iwi/hapū, councils, and scientists – you can access data and resources on Land Air Water Aotearoa (LAWA).

Be careful when modifying waterways. Check before removing and/or installing perched culverts, conventional weirs, or crossings to ensure they don't allow trout access upstream.



Freshwater Ecology
Research Group

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