Restoring habitat and trapping pest animals could increase īnanga spawning in this wetland and stream in Marlborough. *Photo: Sarah Wilcox*

Improving habitat for whitebait

You can help increase the number of īnanga and other whitebait species by enhancing and protecting the habitats they depend on to reproduce and grow.

Īnanga lack safe places to reproduce (spawn)

Whitebait are a mixture of young native fish, with īnanga making up most of the catch. Populations of īnanga are in decline – a 2023 health assessment reclassified īnanga as Threatened – Nationally Vulnerable, which is one step closer to extinction than before. This updated conservation status reflects a gradual and ongoing loss and degradation of habitat. Spawning habitat is now estimated to be less than 100 ha nationally. Īnanga are also vulnerable to increased sediment and pollution in waterways, as well as eroding riverbanks and stream beds from severe weather events.

Nature is in trouble – and that includes whitebait

It's a stark reality that 76 percent of New Zealand's freshwater fish species are threatened or at risk of extinction. But helping create safe places for īnanga spawning shows you care about nature and want to see our native fish thriving into the future. Every action you take as an individual makes a difference to the nature we love and rely on. When we act together, the impact is even greater.

ALWAYS BE →NATURING

Case study: finding spawning sites in the Whanganui River

A 2019 DOC study of īnanga spawning sites in the Whanganui River found that spawning could occur from 10 to 30 km upstream of the river mouth – a total of 40 km of riverbank. But we found very few eggs in this area because the banks were too steep, grazed by stock or shaded by willows (no suitable plants can grow in their shade). We're now researching options like fencing stock out, planting with natives, reshaping steep banks and removing some willows to help restore the populations of native fish in this river.

Department of Conservation
Te Papa Atawhai

Te Kāwanatanga o Aotearoa
New Zealand Government



From left: No īnanga eggs were found on this muddy bank on the Whanganui River. Īnanga eggs developing on thick vegetation beside a river. *Photos: Jane Taylor, DOC*. Right: Trail cam footage of a rat eating fish eggs, Waipoua Forest. *Photo: Fern Donovan, DOC*

Developing eggs are in danger of being eaten, mown or trampled

Īnanga reproduce in the same places each year, so by identifying and protecting these spots nationwide, we can increase the number of eggs, juveniles and eventually adult fish. Spawning happens throughout autumn, so that's the best time to act. Here's how you can help:

Mice, rats, fish, eels, mud crabs and seagulls are all known to eat īnanga eggs. For these predators, they are like tiny protein pearls.
→ Set traps for mice and rats in spawning areas during autumn to stop eggs being eaten. Check and re-bait them every week or two.

In urban areas, cutting the grass on river and stream banks during autumn can ruin spawning habitat, and damage or kill īnanga eggs.
→ Protect developing eggs by not weed-eating or mowing grass beside streams and rivers during the spawning season. Contact your local council if public areas are being cut regularly during this time.

In rural areas, clearing out farm drains can damage spawning sites and leave adult fish stranded.
→ Avoid drain clearing from March to May in areas that are potential īnanga spawning sites. Use best practice excavation methods and contact us on whitebait@doc.govt.nz to find out more.

Livestock with access to streams and rivers can trample developing eggs.
→ Control stock access to streams and rivers, and in the longer-term plant natives like flax, toetoe, wīwī and cabbage trees next to the water. Avoid doing work that could damage spawning areas during the autumn.

Top spots for growing īnanga

Adult and juvenile īnanga love coastal creeks, estuaries, lagoons, wetlands and freshwater streams and backwaters. They're not strong swimmers and don't go far inland. Īnanga prefer shaded, slow-moving water that's clean, cool and clear.

→ You can help by planting natives beside streams and rivers to provide shade and keep the water clean and clear.

Ideal adult īnanga habitat on the South Island's west coast. *Photo: Sarah Wilcox*

Contact us on whitebait@doc.govt.nz or see www.doc.govt.nz/helpwhitebait for more information about creating good habitat for whitebait.