

New Zealand's native freshwater fish

Native animals

New Zealand has nearly 40 native freshwater fish species, yet most of us would find it hard to name more than a couple.

Native fish are secretive and nocturnal. Half of our fish species spend some part of their lives at sea, which means they need easy passage to get to and from their freshwater habitats.

The best way to discover which native fish live in your stream is to visit it at night, with a spotlight or strong torch.

Threats to native fish

- Migratory species are affected by dams and badly made or maintained culverts, which can prevent them from migrating from the sea to freshwater habitats.
- Native fish habitat is shrinking as wetlands are drained, and streamside vegetation removed.
- Some introduced fish compete with native fish for food and space, prey on their eggs and young, or can change the quality of water.
- Contaminates such as sediment and chlorine discharged into the water can affect fish.
- Water abstraction – take too much and there might not be enough for fish to live in!

Introducing . . .

Bullies

There are seven species of bullies in New Zealand. They are found in a range of habitats; slow-moving streams and lakes are preferred by the common bully, small lakes in Marlborough are home to the tarndale bully and swiftly-flowing gravelly streams are the choice of the bluegill bully. Bullies are well camouflaged against sand and rocks, but can be seen darting in the shallows during the day.

Male redfin bullies are our most colourful native fish, with bright orange-red fins.

The upland bully and Cran's bully are non-migratory and grow to about eight cm long. The giant bully can

grow over 15 cm long, but are more secretive than others, always under cover and waiting until night to feed.

Lamprey/piharau

These fish look like slender eels with a sucker-like mouth instead of jaws. They spend most of their adult life at sea but come into fresh water to spawn in small bush streams. The juveniles (ammocoetes) live in burrows in sandy river edges. Māori consider piharau to be a delicacy.

Eels/tuna

There are three types of eel/tuna in New Zealand; the longfin eel (found nowhere else in the world), the shortfin eel and the Australian longfin eel. Commercial fishing and the loss of wetlands has reduced eel numbers. Eels are secretive, mainly nocturnal and prefer habitats with plenty of cover.

Young eels or elvers migrate from the sea into freshwater streams, where they live as adults for many years (15–30 years for shortfins and between 25–100 years for longfins) before migrating back to sea to spawn in the Pacific Ocean.

Smelt/paraki

Whitebaiters call smelt 'cucumber fish' because they smell like cucumber. The small shimmering silver fish occur in large shoals in estuaries and lowland rivers and some lakes. They spend most of their lives at sea but return to freshwater as juveniles in spring. There are two species – the common smelt is found throughout the country, and Stokell's smelt is found only in Canterbury.



Whitebait – migratory galaxiids

The small fish caught each spring by whitebaiters all around the country are actually the juveniles of five species of fish. These five are part of a group of fish called galaxiids (so called because of the patterns of their skin which look like a galaxy of stars) of which there are 20 species, the rest of which don't migrate. Īnanga are the most common species. The silvery, slender adults grow to nine cm long, with gold flecked skin but no scales. Īnanga are found in lowland slow-moving streams; they spawn in streamside plants during spring tides. When the tide drops, eggs are left in moist grasses to develop and then hatch at the next spring tide.

Kōaro juveniles are the second most common species in the whitebait fishery. They are spectacular climbers and use their flattened fins to scramble up waterfalls to reach shady forest streams. Kōaro have a distinctive greenish-brown patterning and commonly grow 16–18cm.

Banded kōkopu are often called 'goldenbait' by whitebaiters. The adult fish have numerous pale stripes across the body and can grow up to 26 cm long. The shortjaw kōkopu is the kiwi of the water world – secretive, nocturnal and threatened. It climbs up streams in search of shady places with lots of cover such as logs, large boulders and undercut banks. The fifth species in the whitebait catch is the giant kōkopu, which grows to half a metre in length. The dark-olive adults are covered with intricate gold patterns. This threatened native fish loves having plenty of cover to hide under, preferring gently flowing overgrown streams and swampy lagoons.

Non-migratory galaxiids

There are 12 species of galaxiid fish, which do not migrate as part of their life cycle. These fish are not well known with more species being discovered recently, although they are difficult to tell apart. Some species are only found in one or two rivers and all but two of the twelve are nationally threatened. The 12 species of non-migratory galaxiids are; roundhead galaxias, lowland longjaw galaxias and upland longjaw galaxias, flathead galaxias, dwarf galaxias and Eldon's galaxias, dwarf inanga galaxias, alpine galaxias, dusky galaxias, Gollum galaxias, bignose galaxias and Canterbury galaxias.

Mudfish

There are five species of mudfish; black, brown, Canterbury, Chatham Island and Northland mudfish. Mudfish look like a cigar-shaped stocky eel with slippery skin.

They usually live in weedy drains and around the edge of wetlands but they love pools in wetland forest the best. Mudfish can survive periods when the water dries up by hiding away underneath logs, debris or in hollows, emerging when rain falls. All five species are threatened by loss of habitat as more wetlands are drained.

Torrentfish

This aptly named fish is found amongst swift tumbling riffles and is related to the blue cod. Like the whitebait family, the larvae get washed out to sea and the juveniles return to freshwater in spring and summer. Torrentfish are relatively common with most adults growing to about 10cm.

How can you help native fish living near you?

- Protect streamside vegetation, fence off stream edges from stock and plant alongside streams to create a shady cool habitat.
- Make sure that culverts and weirs in your stream are fish-friendly – native fish can't jump and need wet surfaces to wriggle their way upstream.
- Think twice before killing an eel – after 25 years of growing, that big one could be just about ready to start its 1500 km journey to breed.
- Protect wetlands, particularly in lowland areas – they are valuable native fish breeding grounds. Even fencing off whitebait spawning areas for a few months each year might be enough to help them.
- It is illegal to move aquatic plants and animals between waterways, but it often happens by accident. Before you move to a new spot, make sure you clean fishing gear, trailers, boots etc. It is important to remove even the tiniest of seeds, eggs and weed fragments.

For more information

Contact your local DOC office or visit the DOC website at www.doc.govt.nz

Look up *The Reed Field Guide to New Zealand Freshwater Fishes* by R.M. McDowall (published 2000) in your local library or book shop.

Check out www.niwa.co.nz or www.nzfreshwater.org/.

Illustration: Simone End

