

Shortjaw kōkopu

Galaxias postvectis

OTHER NAMES:

Whitebait

THREAT RANKING

Threatened: Nationally vulnerable

Sharing Pastoral Streams with Native Fish

New Zealand's long isolation has created a unique freshwater fish fauna with many species found nowhere else on earth. Our freshwater fish are taonga (treasures), and species that constitute our whitebait play an important role as mahinga kai, holding significant cultural, ecological and environmental value. In our streams, native fish rely on healthy, connected habitats that extend from shaded headwaters through to lowland waterways. This connectivity is important not only for species that live within pastoral environments, but also for those that need a clear pathway between freshwater and the sea to complete their life cycles. Farm waterways are a key part of this network, providing habitat for spawning, feeding and growth, as well as the connections between these areas. Understanding which fish live in your waterways is a rewarding first step toward sharing these spaces and supporting healthy, thriving fish communities.

Shortjaw kōkopu are named for their unique short lower jaw, which helps them pick aquatic insects from rocks on the streambed!

Shortjaw kōkopu are one of five migratory galaxiid species found in New Zealand. Along with inanga, giant kōkopu, banded kōkopu, and kōaro (and with common smelt in some regions), their juveniles make up what is commonly known as the whitebait catch.

Adult shortjaw kōkopu are easy to recognise, with a large blue black patch behind the gill opening (Figure 1). As their name suggests, the lower jaw is much shorter than the upper jaw. However, juveniles can sometimes be confused with kōaro due to similar markings.



Figure 1: Shortjaw kōkopu with distinct blue-black colouration behind gills.

Where do shortjaw kōkopu live?

Shortjaw kōkopu are endemic to New Zealand and have a patchy distribution (Figure 2). They are most widespread in the North Island and northern South Island and are uncommon or absent from much of the east coast of both islands. They have not been recorded from offshore islands.

Shortjaw kōkopu are strong climbers and can reach inland habitats above steep waterfalls. However, they do not typically penetrate as far inland as species such as kōaro or banded kōkopu. Access to suitable habitat can also be limited by instream structures such as dams or perched culverts that sit above the water surface.

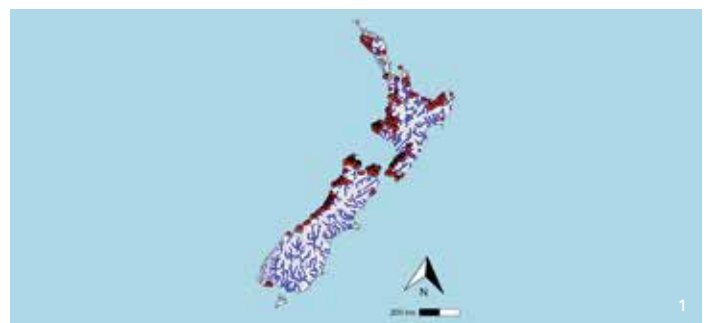


Figure 2: National distribution of the shortjaw kōkopu. Data represent records held in the New Zealand Freshwater Fish Database (NZFFDB) April 2026.

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Figure 3: Lifecycle of the shortjaw kōkopu.

Lifecycle of the shortjaw kōkopu

Shortjaw kōkopu are amphidromous, meaning their larvae are washed out to sea soon after hatching and return to freshwater a few months later as juveniles, known as “whitebait” (Figure 3). This lifecycle is shared with giant kōkopu, banded kōkopu, and kōaro. Īnanga follow a similar pattern but use different spawning habitats.

Once back in freshwater, juveniles migrate upstream to find suitable habitat where they grow to adulthood. Eggs are laid among leaf litter and gravel on streambanks during periods of elevated flow, where they develop out of the water. Subsequent high flows are then needed to inundate the eggs and trigger hatching.

What shortjaw kōkopu need in streams

Shortjaw kōkopu prefer cool, clear streams with moderate to fast flow and plenty of instream cover. They are most often associated with reaches that include well-formed pools adjacent to runs or riffles, particularly where coarse substrates such as cobbles and boulders are present.

They rely on instream features such as boulders, undercut banks, and woody debris for refuge, along with good riparian and canopy cover. Pools provide important areas for resting and feeding, while nearby faster-flowing habitats support high densities of aquatic invertebrates.

Shortjaw kōkopu are mostly active at night and hide during the day, so instream cover is essential for protection from predators and conserving energy (Figure 4).

Shortjaw kōkopu feed largely on aquatic invertebrates living on the streambed. Their short lower jaw is thought to be an adaptation that allows them to pick or scrape insects from rocks. They also feed on terrestrial invertebrates that fall into the water from surrounding vegetation.

Clear water and low sediment levels are particularly important, as deposited sediment can fill the spaces between rocks, reducing both available habitat and food resources.

Shortjaw kōkopu are more closely associated with flowing, boulder dominated habitats than other kōkopu species and are less commonly found in lowland pastoral waterways.



Figure 4: Shortjaw kōkopu spotted hunting at night.
Photo credit: Michele Melchior, David Rowe, Cindy Baker

» Actions you can take to make your local stream a better place for shortjaw kōkopu

- Fence streams to exclude stock and reduce bank erosion and damage to streambeds.
- Plant and maintain native riparian vegetation to provide shade and keep stream temperatures cool. Riparian planting also stabilises banks, adds habitat complexity (such as roots and woody debris), and supplies organic matter. Shading can also reduce nuisance weed growth and the need for mechanical channel maintenance, which can disturb benthic habitats.
- Retain logs, boulders and undercut banks as these provide important refuges for shortjaw kōkopu.
- Improve fish passage at instream structures such as culverts, weirs and floodgates. Ensure structures are correctly sized and installed so they do not create drops, barriers, excessive water velocities or scouring that restrict shortjaw kōkopu movements.

Refer to regional DairyNZ guidance & NZ Fish Passage Guidelines for more information