Common bully

Gobiomorphus cotidianus

OTHER NAMES:
Toitoi

THREAT RANKING
Not threatened

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 some species 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 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.

Common bullies are doting dads, guarding their eggs and keeping them oxygenated until they hatch.

Common bullies are one of New Zealand's most widespread bully species. They are a brown grey, stocky fish that can grow to over 120 mm in length. Although often seen swimming in shallow water during the day, their colouring provides excellent camouflage against sand and rocks when they are still.

They can be confused with juvenile giant bullies due to their similar size but can be distinguished by the number of spines on the first dorsal (back) fin. Common bullies usually have seven or eight spines, whereas giant bullies have six (Figure 1).

Common bullies also resemble several non migratory bully species (Figure 2), making them difficult to identify at a glance. However, common bullies have a pair of open lateral line pores pores on the top of the head, between their eyes, which are not present in non migratory bullies.

Figure 1: Common bully showing colouration and the first dorsal fin with seven spines.

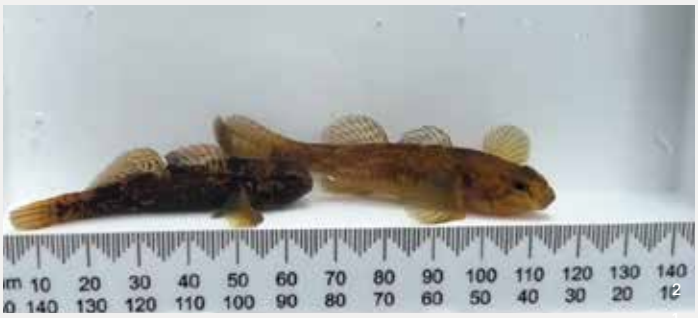

Figure 2: Dinah's bully (left) and common bully (right) showing similarities in appearance.

What common bullies need in streams

Common bullies are habitat generalists, meaning they can live in a wide range of stream types. They are often found in high densities in pastoral catchments, indicating a tolerance to modified environments. Common bullies live close to the streambed, where they spend much of their time foraging and sheltering, so maintaining stable substrates is important for their survival.

They rely on substrates such as stones, cobbles, and boulders for shelter and breeding. Fine sediment can fill the spaces between these substrates, reducing shelter and breeding habitat, while habitat disturbance or substrate removal can reduce the availability of suitable habitat.

Common bullies are opportunistic feeders, consuming a wide range of prey including insects, snails, fish eggs, and smaller fish. This flexible diet allows them to take advantage of available food. They are also an important prey species for larger fish such as eels.

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Lifecycle of the common bully

Common bullies are facultatively diadromous, meaning they usually migrate to sea as part of their lifecycle but can complete their entire lifecycle in freshwater if migration is not possible. As a result, both migratory and landlocked populations occur in New Zealand.

In migratory populations, larvae spend three to four months at sea before returning to freshwater. Where access to the sea is limited, populations can remain entirely in freshwater, with landlocked populations common in many lakes. Migratory populations are most often found in coastal rivers and streams, where access between freshwater and the sea supports this lifecycle.

Like other bully species, males establish and defend a nesting site under a rock, where females lay their eggs. In addition to natural substrates, common bullies will also readily spawn on artificial substrates (Figure 3). The male then guards the eggs, fanning them to keep them clean and well oxygenated until they hatch. During this time, males often turn very dark, from brown to completely black. After hatching, larvae either move out to sea or remain and develop within freshwater.

Common bullies are endemic to New Zealand and are widespread throughout the country, occurring in rivers, streams, and lakes across both the North and South Islands, as well as Stewart Island and the Chatham Islands (Figure 4).

They can be found from coastal areas to far inland where suitable habitat is available. For migratory bullies, their distribution within catchments depends on connectivity. Common bullies have no climbing ability, so their distribution is restricted by waterfalls and steep, high-gradient streams. As a result, access to suitable habitat can be easily blocked by instream structures such as dams or perched culverts that sit above the water surface.

Figure 3: Male common bully guarding his nest.

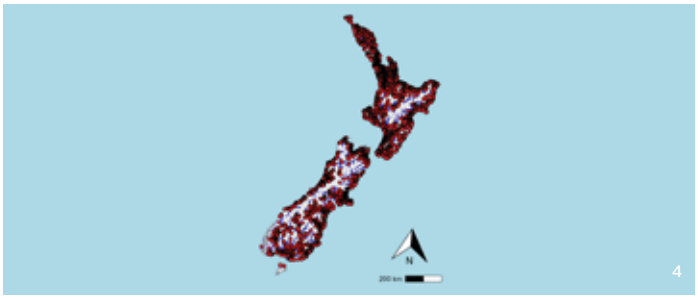

Figure 4: National distribution of the common bully. Data represent records held in the New Zealand Freshwater Fish Database (NZFFDB) April 2026.

Photo credit: Peter Williams, Cindy Baker, Robert McDowall, DairyNZ

Actions you can take to make your local stream a better place for common bullies

- 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 used by bullies.
- Retain logs, boulders and undercut banks as these provide important refuge for common bullies.
- 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 common bully movements.

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

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