

# The Murray cod

*Maccullochella peelii*

Native to the Murray-Darling  
catchment in **Australia**



CONSERVATION  
STATUS:

**VULNERABLE**



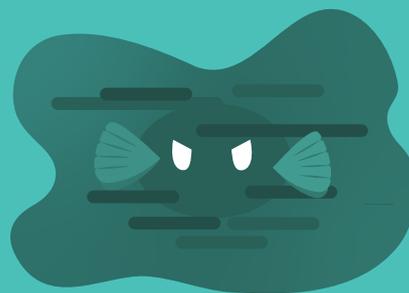
Populations are **decreasing**  
due to migratory barriers  
(dams) and habitat loss

Larger females lay up to

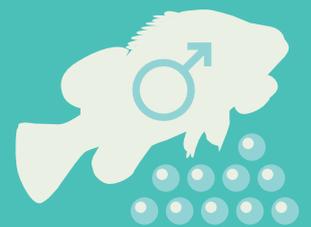
**200,000** eggs



**They are ambush predators**  
they wait for any prey to come  
near them before opening their  
mouth and sucking them in



They are highly  
**territorial**



**Males** guard the  
nest until the eggs hatch

**2kg**  
**50cm**

females are typically

**700g**  
**40 cm**

males are typically



Commercial fishery is  
closed and now  
they can only be  
**caught recreationally**

# The Murray Cod

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## Range and habitat

The Murray cod, *Maccullochella peeli*, inhabits lower and mid-altitude ranges of the Murray-Darling Basin in Australia, where it used to be widespread and abundant. Creation stories of many Aboriginal communities living in this part of Australia speak of a huge Murray cod who was responsible for forming the Murray River and all its fishes!

Murray cod live in a wide range of habitats, from rocky and clear streams to turbid rivers. They generally prefer waters up to 5 meters deep in areas sheltered with cover from overhanging banks, trees or shrubs, and rocks. Murray cod are known to be highly territorial; with many fish selecting specific snags (fallen tree) to live amongst and ambush their prey.

When they are ready to mate, Murray cod migrate upstream, travelling distances of up to 120 kilometres to reach their spawning sites. An increase in water temperature prompts spawning migrations, enhanced by increases in flow. These environmental cues usually occur in late winter and spring.

At the mating site, the Murray cod male and female meet and only spawn with each other. Egg production is generally related to the size of the female with larger females laying up to 200,000 eggs. After spawning, the large eggs stick to the submerged log or rocky substrate and the eggs are guarded and kept clean by the male. Good, clean, flowing water helps with aeration and cleaning of the eggs, aiding their survival.

After spawning, female fish move back downstream, often to the same snag they inhabited before breeding. However, males continue to guard their nest for about 5–13 days until the eggs hatch and the larvae begin drifting downstream. The adult males then also move back downstream to their home snag. Larvae drift for about five days to a week mostly during the nights in spring and summer.

## Size

This species can grow up to 1.8 meters and weigh up to 113 kilos. The oldest reported cod was 48 years! Now however, most cod caught weigh less than 5 kg and are less than

60 centimetres long. After about 4–6 years, both females and males reach maturity. The females typically weigh around 2 kilos and 50 centimetres and the males around 700 grams and 40 centimetres. However, size and age at maturity can vary throughout their range.

## Feeding

The Murray cod is a predatory fish with their adult diet consisting of invertebrates, fish, amphibians and also reptiles, birds and aquatic mammals. They are an ambush predator with an incredible sense of patience. They wait for any prey to come near them before opening their mouth and sucking in their prey. Young Murray cod forage on zooplankton—small microscopic animals.

## Commercial role/current status

During the mid to late 1800s, commercial fishing for Murray cod started to grow into a large-scale fishery. A gradual decline in catches in the early 1900s saw the fishery become unprofitable by the mid-1930s. In the 50s and 60s, a dramatic drop in abundance occurred in the state of New South Wales. Data show that in the early 1960s, the populations on average declined by more than 80%. The decline continued until in 2001 in New South Wales, and in 2003 in South Australia, officials closed the commercial fishery. Murray cod continue to be targeted by recreational fishers as one of the most prized and sought after species of sports-fish in Australia, but now catch and release forms a large part of that activity.

Until relatively recently, Murray cod were considered endangered due to overfishing; however, the species is now listed as Vulnerable at the National level. Fishery management efforts including stocking of fingerlings support fish populations, but further recovery will continue to depend on improvements in water management, habitat and connectivity, especially during and following extreme drought conditions.

## Current threats

Habitat changes and loss through removal of bankside vegetation and submerged woody habitat (fallen trees, or snags) is an ongoing threat to Murray cod. Barriers that stop their

migration within the Murray-Darling also reduce their ability to successfully reproduce. River regulation, including altered flows, loss of flowing habitat and thermal pollution change spawning cues for native fish, reduce growth rates, and can negatively affect prey species.

## Bibliography

Lintermans, M. 2007, Fishes of the Murray-Darling Basin: An introductory guide.

<https://www.fishbase.de/Summary/SpeciesSummary.php?ID=10311&AT=Murray+Cod>

Gilligan, D., Zampatti, B., Lintermans, M., Koehn, J., Butler, G. & Brooks, S. 2019. *Maccullochella peelii*. *The IUCN Red List of Threatened Species 2019*: e.T12576A103325360. Downloaded on 03 January 2020

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