

NATIVE SPECIES

Common Name

Murray cod (Cod, Goodoo)

Threatened

Scientific Name

Maccullochella peelii peelii (Mitchell, 1838)



Identification

The largest Australian freshwater fish, reaching 113.6 kg and 1800 mm length. Easily identified by its large mouth, cream to white belly and green mottled pattern on the body and head. Adults have a broad head with a concave profile. The spiny front portion of the long, single dorsal fin is lower than the softer rear portion. The tail is rounded.

Biology and Habitat

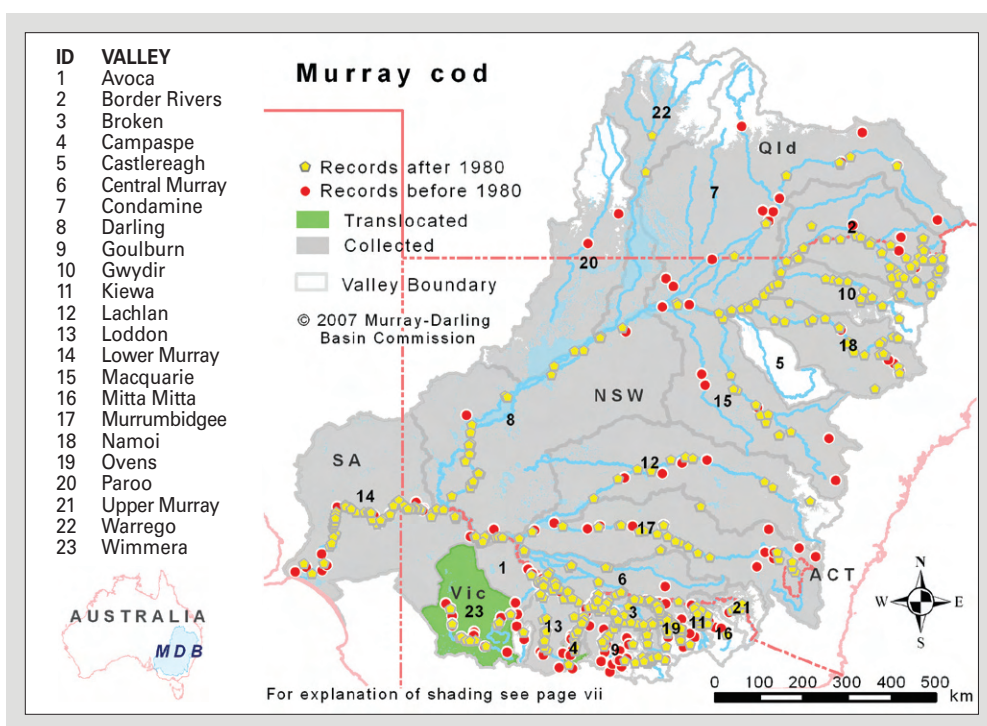
The Murray cod is an icon of the Basin and forms the basis of a popular recreational fishery in south-eastern Australia where it is often stocked into dams and lakes. The species is important in Aboriginal mythology: a huge Murray cod is responsible for forming the Murray River and all its fishes.

Generally associated with deep holes in rivers, the Murray cod prefers habitats with instream cover such as rocks, stumps, fallen trees or undercut banks. A 'sit and wait' predator, its diet contains fish, crayfish and frogs.

It has only recently been discovered that Murray cod make an upstream migration to spawn. This movement can be up to 120 km and generally occurs in late winter/early spring when river levels are high. After spawning the fish move downstream again, returning to the same area they occupied before the migration, usually to exactly the same snag.

The species matures at 4–5 years of age and 500–600 mm total length, and spawns in spring and early summer when water temperatures exceed about 15°C. Eggs are large (3–3.5 mm diameter), adhesive and usually deposited onto a hard surface such as logs, rocks or clay banks. The male guards the eggs during incubation and they hatch after 5–13 days. The larvae are about 5–8 mm long at hatching and have a large yolk sac. Larvae drift downstream for 5–7 days, particularly by night in spring and summer (late-October–mid-January, peaking from mid-November–mid-December).

Murray cod is a long-lived species: average weights for fish from rivers aged 5, 10, 15, 20



and 30 years is approximately 5, 10, 15, 20 and 36 kg respectively. The oldest cod that has been accurately aged was 48 years old, 1280 mm long and weighed 32.5 kg, but younger fish may be larger, e.g. one was 29 years and 34 kg.

Distribution and Abundance

The Murray cod was formerly widespread and abundant in the lower and mid-altitude reaches of the Murray-Darling Basin. Commercial fisheries data indicate that natural populations declined in the 1920s and then again dramatically in the 1950s. The species now has a patchy distribution and abundance across its historic range and was listed as nationally threatened in 2003.

Potential Threats

Threats include: overfishing, particularly during the breeding season when fish are aggressive and easily caught; habitat destruction through sedimentation; and, in the lower reaches of the Murray-Darling system, river regulation (altered flows and

thermal pollution) and removal of structural woody habitat (snags).

General References

Baumgartner *et al.* 2006, 2007; Ebner 2006; Harris & Rowland 1996; Humphries 2005; Kearney & Kildea 2001; Koehn 1997; Koehn 2006; Koehn & Harrington 2005, 2006; Lintermans & Phillips 2004, 2005; Rowland 1989, 1992, 1998a,b; Todd *et al.* 2005.

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Postal address: GPO Box 409, Canberra ACT 2601
Office location: Level 3, 51 Allara Street, Canberra City ACT
Telephone: (02) 6279 0100, international + 61 2 6279 0100
Facsimile: (02) 6248 8053, international + 61 2 6248 8053
Email: info@mdbc.gov.au
Internet: <http://www.mdbc.gov.au>

For further information contact the Murray-Darling Basin Commission office on
(02) 6279 0100

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