Australian Government

MURRAY–DARLING BASIN AUTHORITY

Native Fish Strategy

FISH FACTSHEET: CARP (EUROPEAN CARP, COMMON CARP, KOI CARP)

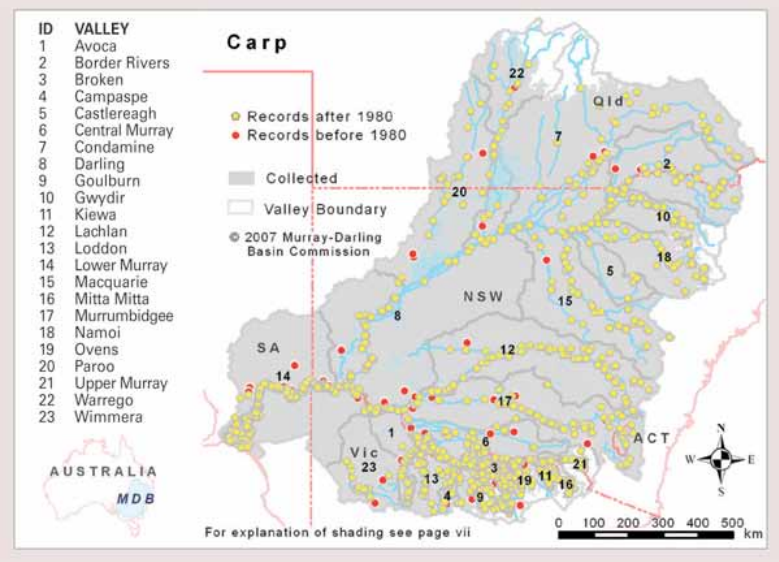
Scientific Name

Cyprinus carpio Linnaeus, 1758

photo by Gunther Schmida

DISTRIBUTION AND ABUNDANCE

Carp are native to central Asia. They were first introduced into Australia in the mid 1800s, but remained in two relatively confined locations, Sydney and the Murrumbidgee Irrigation Area. These two populations were different strains of the one species and showed no signs of spreading. In the early 1960s, a fish farmer illegally introduced a new strain, Boolarra, and it has rapidly colonised watercourses throughout Australia. A recent genetic study of Carp in Australia has identified a fourth strain. Koi, which is present in the wild in the ACT and Tas. The feral Koi strain lacks the bright orange, black or white colouration seen in aquarium Koi.



Carp are present in the majority of slopes and lowland rivers and creeks, and in upland streams as well. They often comprise between 70 and 90% of the fish biomass in lakes and streams.

IDENTIFICATION

A medium sized fish with a forked tail. Maximum 1200mm and 60kg; usually up to 4–5kg. The mouth is of moderate size, with thick fleshy lips and two pairs of barbels ('whiskers') at the corners. The single long, low dorsal fin has a stout serrated spine at the front. The scales are large and thick. Some individuals are only partly scaled, with very large scales in three or four rows ('mirror carp''), and some have no scales ('leather carp'). The back is usually olive-green, silvery-grey or brownish and the belly a creamy or silvery-yellow.

BIOLOGY AND HABITAT

The Carp is usually associated with warm, slow-flowing lowland rivers or lakes, and is rarely found in clear, cool fast-flowing streams. It is tolerant of a wide range of environmental conditions and able to survive extremely low levels of dissolved oxygen. When Carp are seen apparently gasping at the water surface, they are not taking in oxygen, but rather feeding on zooplankton. Males are sexually mature at 2–3 years (300mm) and females at 3–4 years (350mm).

Spawning usually occurs in spring and summer when water temperatures are 17–25¡C. Spawning fish congregate in shallow water with egg-laying often accompanied by much chasing and splashing as fish break the water surface with their back and tail. Eggs are adhesive and laid in clumps on freshwater vegetation, logs and submerged grass. They are 0.5mm in diameter and hatch in 2–6 days, depending on water temperature. Large wetland areas such as the Barmah-Millewa Forest and the Gwydir wetlands are thought to be significant 'hotspots' for Carp breeding.

Carp feed by 'mumbling' in the sediment on the bottom or banks of water bodies. This involves sucking in sediment, sorting the edible items from the inedible sediment, and expelling the sediment through the gill openings. Dietary items include zooplankton, freshwater insect larvae, crustaceans, molluscs and to a lesser extent plant material. Carp carry the parasitic copepod Anchorworm (Lernaea sp.), which infests a range of native and alien fish species.

IMPACTS ON NATIVE FISH

The impacts of Carp are not clear but their feeding behaviour has led to considerable concern that they may be increasing turbidity levels in waterways and undermining riverbanks. They may also be altering zooplankton levels, exacerbating algal blooms, and their high abundance in many streams and lakes indicates they are probably competing with native fish for food and space.

GENERAL REFERENCES

- Brown et al. 2005;
- Brumley 1996;
- Crook 2004;
- Davis et al. 1998;
- Driver et al. 2005;
- Harris & Gehrke 1997;
- Koehn 2004;
- Koehn et al. 2000; .
- Nicol et al. 2004;
- Stuart & Jones 2002, 2006;

PDF LINKS

Fishes of the Murray-Darling Basin: An introductory Guide;

http://mdba.gov.au/files/publications/MDBA-Fish-species-book.pdf

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