

Fisheries Scientific Committee

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Ref. No. PR37
File No. FSC 99/20

PROPOSED DETERMINATION

Macquaria australasica – Macquarie perch

The Fisheries Scientific Committee, established under Part 7A of the *Fisheries Management Act 1994* (the Act), is proposing to omit *Macquaria australasica* – Macquarie perch from Part 1 of Schedule 5 Vulnerable Species of the Act and insert *Macquaria australasica* – Macquarie perch into Part 1 of Schedule 4 Endangered Species of the Act. The amendment of the threatened species lists is provided for by Part 7A, Division 2 of the Act.

The Fisheries Scientific Committee, with reference to the criteria relevant to this species, prescribed by Part 11B of the *Fisheries Management (General) Regulation 2002* (the Regulation) has found that:

Background

1. Macquarie perch, *Macquaria australasica* Cuvier, 1830 is a valid, recognised taxon and is a species as defined in the Act.
2. *Macquaria australasica* is a member of the family Percichthyidae, and is known by the common names Macquarie perch, silvereye, white-eye, mountain perch, Murray perch, grunter, bream and black bream.
3. *Macquaria australasica* is endemic to the southern tributaries of the Murray-Darling River System, and is also found in the Hawkesbury-Nepean and Shoalhaven river systems in the eastern drainage in New South Wales. Some fish were translocated from the Murray-Darling River System and stocked into parts of the eastern drainage in the early 1900's. Despite these translocations, it is thought that *Macquaria australasica* may be endemic to one or both of the eastern river systems. The taxonomic relationships between the populations in the western and eastern drainages are uncertain, and a review is currently underway. It is possible that there is a "western" and "eastern" species, and/or subspecies in one or both drainages.
4. *Macquaria australasica* is a moderate-sized percichthyid growing to 460 mm and 3.5 kg, but is usually less than 1 kg. Its colour varies from black to silver or bluish grey, to green-brown dorsally and lighter ventrally. Small specimens may be mottled. It has large, distinct scales and prominent fins. It is a relatively fecund, fast growing and early maturing species, which spawns in spring and deposits adhesive eggs in stones and gravel in riffle areas. It is a popular angling species, that is highly regarded for its sporting and edible qualities.
5. *Macquaria australasica* has the following conservation status:
 - i. NSW *Fisheries Management Act 1994*: Vulnerable;
 - ii. IUCN 2000: Endangered;
 - iii. Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*: - Endangered;
 - iv. Victoria *Flora and Fauna Guarantee Act 1988*: Endangered;

- v. ACT Nature Conservation Act 1980: Endangered;
- vi. ASFB: Endangered.

6. *Macquaria australasica* is part of the Endangered Aquatic Ecological Community in the Natural Drainage System of the Lower Murray River Catchment.

Criteria – reduction in abundance, geographic distribution or genetic diversity (Regulation clause 340F)

1. Historical records show that *Macquaria australasica* was widespread and abundant in the upper and middle reaches of the Murray and Murrumbidgee rivers, and the upper reaches of the Lachlan River and their tributaries in NSW, although the distribution did not extend to the sources of the rivers. The distribution in the Murray and Murrumbidgee rivers extended into western New South Wales. *Macquaria australasica* was recorded passing through the fishway at Euston Weir on the Murray River in the late 1930's, and small numbers were sampled in scientific surveys and regularly caught by some commercial fishers in the Murray River below Yarrowonga Weir up until the early 1980's. *Macquaria australasica* was regularly recorded in the Murrumbidgee River around and below Wagga Wagga in the early and mid 1900's. *Macquaria australasica* was abundant in the upper reaches of Hawkesbury-Nepean and Shoalhaven river systems in the eastern drainage.
2. There has been a significant decline in the distribution and abundance of *Macquaria australasica* in all river systems in NSW. The species has not been sampled at many locations in the Murray and Murrumbidgee rivers over the last two decades, including locations where it was reasonably abundant and captured regularly in the period between the 1930's and 1980's. *Macquaria australasica* may be extirpated in the lower Murray and Murrumbidgee rivers. The remaining populations in the upper reaches of the Murray, Murrumbidgee and Lachlan rivers, above the major impoundments (Hume Weir, Burrinjuck Dam and Wyangala Dam respectively) are all relatively small, restricted and fragmented. The species is now uncommon in the eastern drainage, and no longer found in some rivers.
3. In light of the above, the Fisheries Scientific Committee has found that the species has undergone a very large reduction in abundance and a very large reduction in geographic distribution within a time frame appropriate to the life cycle and habitat characteristics of the taxon; this meets the criteria of Endangered, but not Critically Endangered.

Criteria – threatening processes (Regulation clause 340G)

1. The causes of the decline of *Macquaria australasica* include: reduction in suitable spawning areas caused by siltation and construction of dams and weirs; barriers to migration and recolonisation caused by the dams and weirs; spawning and recruitment failures due to river regulation; overfishing; the viral disease Epizootic Haematopoietic Necrosis, which is carried by the introduced species redfin perch (*Perca fluviatilis*); habitat degradation, particularly siltation and snag removal; pollution from domestic, agricultural and industrial sources; and competition with

and predation by exotic fishes, particularly brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*) and redfin perch.

2. In light of the above, the Fisheries Scientific Committee has found that most of these threatening processes continue to operate throughout the geographic distribution of the species, and existing reserve systems or other forms of refuge do not protect the species.

Conclusion pursuant to section 220F(3) of the Act

In the opinion of the Fisheries Scientific Committee:

- a. *Macquaria australasica* is facing a very high risk of extinction in New South Wales in the near future, as determined in accordance with the criteria prescribed by the Regulation as discussed above; and
- b. That it is not eligible to be listed as a critically endangered species.

The species is eligible to be listed as an ENDANGERED SPECIES.

Sources and Links

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Dr Patricia Dixon
Chair
Fisheries Scientific Committee