

# Australian Threatened Species

## Macquarie Perch *Macquaria australasica*

### Conservation Status



Macquarie Perch. Photo by Arthur Mostead

**Commonwealth:** Endangered  
(*Environment Protection and Biodiversity Conservation Act 1999*)

**New South Wales:** Vulnerable  
(*Threatened Species Conservation Act 1995*)

**Australian Capital Territory:** Endangered  
(*Nature Conservation Act 1980*)

**Victoria:** Endangered  
(*Flora and Fauna Guarantee Act 1988*)

### What does it look like?

The Macquarie perch is a deep bodied fish with a blunt snout, particularly large eyes and a rounded tail. Macquarie perch found in the Murray–Darling Basin can grow to 50 centimetres and 3.5 kilograms. They range from black to grey to green-brown in colour, but all are paler underneath. Those in coastal catchments rarely exceed 18 centimetres in length, and are a blotchy grey and brown combination.

### Where does it live?

Originally widespread through the more midland–upland streams and rivers in the south-east corner of the Murray–Darling Basin (New South Wales, Victoria and the Australian Capital Territory), the distribution of this fish is now greatly reduced and patchy. In addition to inland populations, the Macquarie perch is also found in the Hawkesbury and Shoalhaven coastal catchments. While there are clear visual/physical differences between these coastal and western populations, they are currently still considered to be the same species.

Habitat for the Macquarie perch is bottom or mid-water in slow-flowing rivers with deep holes, typically in the upper reaches of forested catchments with intact riparian vegetation. Macquarie perch also do well in some upper catchment lakes. In some parts of its range, the species is reduced to taking refuge in small pools which persist in midland–upland areas through the drier summer periods.

### Did you know...

- The Macquarie perch is also known as the Mountain perch, Murray perch, Goulburn bream, bream, black bream, white-eye, and silvereys.
- Macquarie perch don't become reproductively mature in ponds, small dams or fish hatcheries. Instead, they require natural stream flow conditions in order to mature. This means that for artificial breeding programs mature fish have to be harvested from the wild, and artificial hormones injected to collect the eggs and sperm. This not only makes them difficult to breed in captivity, which therefore hampers conservation stocking programs, but also makes the restoration of natural environmental flows a high priority for *in-situ* conservation of the species.
- Macquarie perch are not aggressive predators of fish, but mostly rely on aquatic insects or crustaceans for their diet. Their diet is very similar to that of introduced trout species which compete with the Macquarie perch for food.
- Macquarie perch are long-lived—potentially up to 20 years of age (although most fish are believed to be less than 10-years-old). This longevity enables Australian native fish to deal with our harsh, variable environment, surviving over many years to capitalise on good years where conditions for spawning and recruitment are best.

# Reduced rainfall in the Murray–Darling Basin: a major threat

## Why is less rain a problem in Australia?

Climate change is predicted to reduce winter and spring rainfall and snow levels in southern Australia. This could reduce the mean annual flow of the Murray–Darling river system by 5 per cent in 20 years and by 15 per cent in 50 years. In the upper Murray region, a key habitat for the Macquarie perch, this reduction is predicted to be up to 30 per cent. Coupled with higher temperatures and greater evaporation, water shortage will not only affect aquatic and terrestrial species, but will also impact upon human communities across Australia's greatest food producing area. Within the Basin, competition for water is likely to increase significantly, putting even greater strain upon already over-allocated river systems. The total reduction in stream flow from all of the main risks is likely to range between 10 and 23 per cent of average annual flow in 20 years time and in 50 years could be between 19 and 38 per cent.

## Why is this a threat to the Macquarie perch?

As with many declining native freshwater fish, the Macquarie perch is already under serious strain from sedimentation due to vegetation clearing and associated siltation, cold-water pollution, over-fishing, introduced species and disease. In addition, river regulation for irrigation and town water supply has led to changes in natural flows, and dams and weirs to control water have created barriers to the movement of native fish along our waterways. The timing, quantity and duration of flows and the quality of water are all important factors that can affect native fish survival.

In order to breed, this species may need to migrate upriver to clean gravel and river stones in shallow flowing areas, and fingerlings need to disperse to new habitats. Changes to natural variations in flow volume not only impact upon

The Macquarie Perch's northern Victorian habitat.  
Photo by Janet Pritchard



the triggers that native fish use to spawn and conditions for fingerling recruitment, but also reduce events such as flood episodes which flush the sediment from streams and modify and create new habitat. With decreased future rainfall, the already small upper reaches of rivers could be considerably reduced in size. Reducing the distribution, number, size and quality of habitat such as summer refuge pools could be disastrous to already highly fragmented populations of this species.

Already there is great demand for water by users, and the pressure on Australia's natural systems is likely to escalate in the future.

## What is being done?

Balancing the needs of the environment with water allocation for human uses is a major task for Australian governments and communities. Across the Basin, work is currently under way to remove weirs or install fish ladders, and water is being purchased or provided freely to improve allocations to environmental flows. Australian water consumers are learning to be more responsible and efficient in their water usage so that less needs to be diverted from the environment for human consumption. Work is also under way to improve the condition of our waterways, return stream and river bank vegetation and reduce sedimentation of our rivers.

In order to provide native fish species with the greatest chance to survive these changing conditions into the future, efforts need to continue to allocate environmental water flows in regulated rivers.

Through the National Water Initiative, a comprehensive strategy to improve water management across the country, the Australian Government and state and territory governments have agreed to take significant steps to improve the health of Australia's freshwater ecosystems. By recognising the water needs of important environmental assets such as the Macquarie perch, and addressing over-allocated rivers, the condition of our unique river and wetland systems can be improved.

## How you can help

- Learn how you can reduce your own water usage. Contact your local water supplier for more information, or check out [www.savewater.com.au](http://www.savewater.com.au).
- Fish responsibly—Macquarie perch are a protected species in most waterways. Contact your state government fisheries office to find out more.

- Increase your knowledge and awareness of native fish and catchment issues. Visit [www.mdbc.gov.au/NFS](http://www.mdbc.gov.au/NFS).
- Get involved in local catchment and environment activities such as Landcare.
- Walk, cycle or use public transport.
- Save on heating and cooling costs by insulating, draught-sealing and shading, while setting thermostats appropriately. For more information see the 'Heating and Cooling' fact sheet of the *Your Home Technical Manual*: [www.greenhouse.gov.au/yourhome/](http://www.greenhouse.gov.au/yourhome/)
- Switch off lights, appliances and equipment when they're not needed and install energy-efficient fluorescent lamps such as compact fluorescent lights.
- Minimise waste of packaging and materials—refuse, reduce, re-use, recycle.
- For other tips on saving energy around the home, go to the Australian Greenhouse Office web site: [www.greenhouse.gov.au/gwci/index.html](http://www.greenhouse.gov.au/gwci/index.html)

## Contact and references

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You can also find out more information about Australia's threatened species by visiting [www.deh.gov.au/biodiversity/threatened](http://www.deh.gov.au/biodiversity/threatened) or contacting the Department of the Environment and Heritage Community Information Unit, email [ciu@deh.gov.au](mailto:ciu@deh.gov.au), or freecall 1800 803 772.

- Risks to the Shared Water Resources of the Murray-Darling Basin [www.mdbc.gov.au/nrm/risks\\_to\\_shared\\_water\\_resources](http://www.mdbc.gov.au/nrm/risks_to_shared_water_resources)
- Climate Action Network Australia—Climate Change and Water in Australia [www.cana.net.au/water](http://www.cana.net.au/water)
- Murray-Darling Basin Commission—National Fish Strategy [www.mdbc.gov.au/NFS](http://www.mdbc.gov.au/NFS)
- National Water Commission—National Water Initiative [www.nwc.gov.au/NWI/index.cfm](http://www.nwc.gov.au/NWI/index.cfm)

