

Silver Perch – *Bidyanus bidyanus*

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Threatened Species Unit, Port Stephens Fisheries Institute



Figure 1: A Silver Perch (Photo; G. Schmida)

Introduction

Silver Perch, also known as Black/Silver Bream, Grunter or Bidyan, is a moderate to large freshwater fish endemic to the Murray-Darling river system. The species was once widespread and abundant throughout most of this area, significant enough to be a commercially harvested species in the 1900s. Between 1961 and 1975, it was the fourth most important commercially harvested inland freshwater species in Australia, with NSW accounting for the largest proportion of catch. Commercial catch records show a relatively consistent decline of Silver Perch catch from the 1960s, followed by a collapse of the fishery in the 1980s. As a result, commercial fishers in NSW introduced a voluntary ban on landing the species in 1993, and in 1998 NSW DPI implemented a closure prohibiting the capture and sale of Silver Perch from riverine habitats.

The species is still absent from most of its former range and in NSW, only one large self-sustaining population remains in the central

Murray River, downstream of Yarrawonga Weir. As a result, Silver Perch is listed as a **vulnerable species** in NSW. There are heavy penalties for harming, possessing, buying or selling them, or for harming their habitat. While it is prohibited to take Silver Perch from rivers or streams in the Murray-Darling river system, it is legal for anglers who comply with the recreational fishing rules to catch and keep Silver Perch from stocked impoundments and private dams. Harvesting Silver Perch from fish farms is also permitted (see 'Legal Implications').

Description

Silver Perch have an oval-shaped body with a pointed head and snout. The shape of the body can vary with age, with adults having a deeper and more compressed body than juveniles. The mouth is relatively small and jaws are equal in length. They have a slightly

forked tail and a single, long dorsal fin, the front section of which is spiny and the back section soft. Silver Perch are generally dusky bronze, grey or greenish on the back with silvery-grey sides and a white belly; however the colour of individual fish can vary depending on water quality. Juveniles may be mottled with vertical dark bars.

Silver Perch have been recorded growing to 8 kg in weight; however they are more commonly 0.5-1.5 kg in weight and 30-40 cm in length. The maximum age recorded for an individual fish is 27 years.

Silver Perch closely resemble the Welch's Grunter (*Bidyanus welchi*) and the Barcoo Grunter (*Scortum barcoo*), which are found in adjoining drainages of the Murray-Darling Basin.

Habitat and ecology

- Silver Perch have been found in a wide range of habitats and climates across the Murray-Darling Basin. They are generally found in faster-flowing water including rapids and races and more open sections of river. Individuals sometimes form large shoals in open water.
- They are omnivorous, feeding on a variety of small prey including aquatic insects, molluscs, worms, crustaceans, zooplankton and algae.

- Males reach sexual maturity at three years of age, when around 25 cm in length, and females at four to five years, when around 29 cm.
- Adult Silver Perch can move large distances, often associated with spawning activity in spring and summer. Juveniles disperse over large distances, and are often seen at fishways travelling upstream in large schools.
- Females can lay 300,000 or more non-adhesive, floating eggs that are about 2.7 mm in diameter. They are mostly released in one spawning, and hatch after approximately 30 hours. Eggs and larvae passively drift with the river current for a number of days.

Artificial breeding and stocking

There is a substantial breeding and aquaculture industry for Silver Perch in NSW, with large numbers of fish produced each year for fish farming and for stocking into farm dams and impoundments. There is also a conservation stocking program for the species that aims to restore populations in areas with suitable habitat where the species has declined due to other causes, or to re-establish populations in areas where degraded habitats have been rehabilitated.

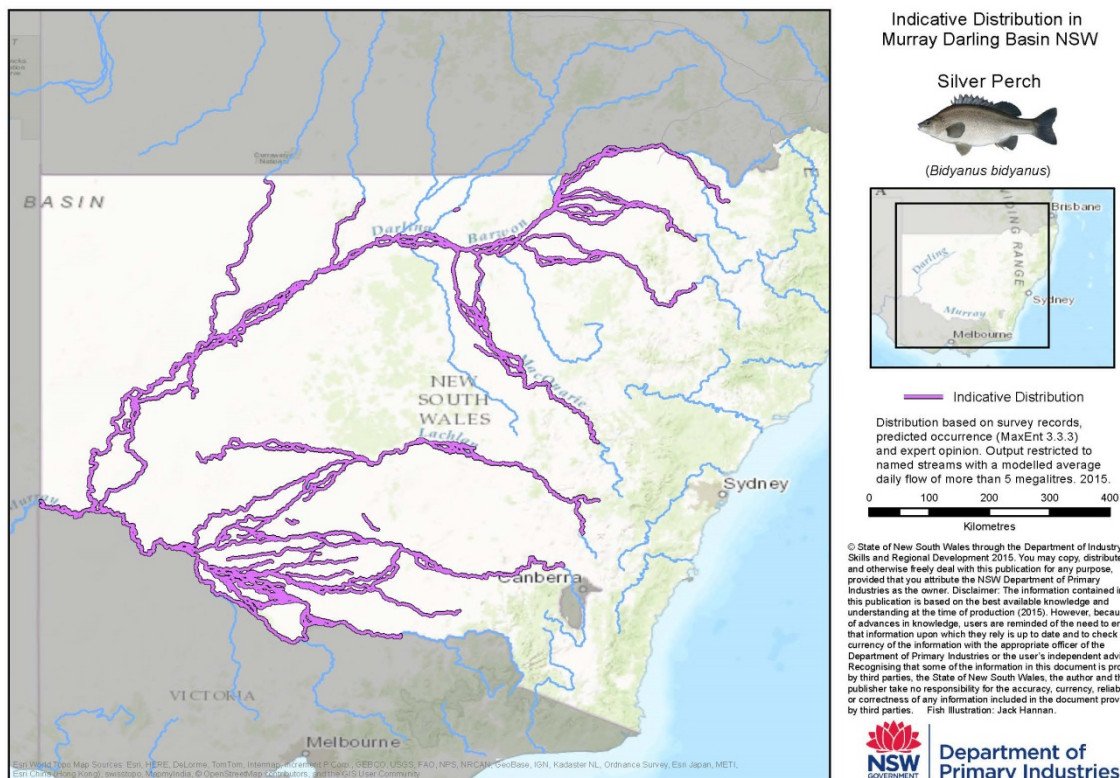


Figure 2: Indicative distribution of Silver Perch in NSW.



Figure 3: Silver Perch fingerlings produced as part of the conservation stocking program and released into the Namoi River in April 2017 (Photo: NSW DPI)

Silver Perch recovery plan

The NSW Silver Perch Recovery Plan was finalised and implemented in 2006. The overall objective of the recovery plan is to prevent the extinction and ensure the recovery of Silver Perch populations in NSW. In 2017, a statutory review of the recovery plan was completed. The review assessed the implementation of recovery actions in NSW and detailed progress made toward meeting the plan's objectives.

The review found that many specific recovery plan actions have been completed or are ongoing. Significant improvements in Silver Perch population size and distribution have occurred since 2006; however numbers are still extremely low in much of the species' historic range signifying that work is still required to fully accomplish the objectives of the NSW Silver Perch Recovery Plan.

Why are Silver Perch threatened?

- Modification of natural river flows and temperature regimes due to the construction of dams and weirs lead to disrupted cues for migration and spawning and reduce opportunities for dispersal and availability of food.
- Loss of riparian (river bank) vegetation by deliberate removal result in sedimentation,

increased salinity and declines in water quality subsequently degrading instream habitats important to Silver Perch.

- Loss of submerged macrophytes which are important nursery areas for juvenile Silver Perch and important sites for feeding at all life stages.
- Competition from introduced species such as Carp, Redfin Perch and Gambusia.
- Stocking of inappropriate genetic strains, poor quality Silver Perch or Silver Perch hybrids.
- Silver Perch are one of several native fish species found to be highly susceptible to the EHNV (Epizootic Haematopoietic Necrosis Virus) disease, which is carried by the introduced Redfin Perch.

Conservation and recovery actions

- Continue to implement the NSW DPI Silver Perch Recovery Plan which aims to recover the species to a position of natural viability within its former range.
- Maintain bans on the taking of Silver Perch (except from stocked impoundments and private lakes) and enforce compliance with fishing regulations.
- Ensure that all fish stocking activities within the natural distribution of Silver Perch comply with the NSW Freshwater Fish Stocking Fisheries Management Strategy.
- Educate the community about the protected status of Silver Perch and how they can assist with recovery of this species.
- Allocate environmental flows in regulated rivers to restore natural seasonal flow patterns, improve or maintain fish passage and reduce the impacts of cold water pollution downstream of dams.
- Prevent sedimentation and poor water quality by improving land management practices, conserving and restoring riparian vegetation and using effective erosion and sediment control measures.
- Improve the management of Silver Perch hatcheries and grow-out facilities to minimise the risk of genetic impacts on wild populations.
- Report any sightings of the species via the [NSW DPI online form](#).
- A full list of strategies that have been adopted for promoting the recovery of Silver Perch is set out in the [NSW DPI Priorities Action Statement](#).

Legal implications

It is illegal to catch and keep, buy, sell, possess or harm Silver Perch (or any other threatened species in NSW) without a specific permit, licence or other appropriate approval, and significant penalties apply. For vulnerable species, these penalties can include fines of up to \$55,000 and one year in prison.

NOTE: Silver Perch may be legally taken from stocked private dams. It is also legal for anglers who comply with the recreational fishing rules to catch and keep Silver Perch from specified impoundments (see Freshwater Recreational Fishing Guides or the NSW Department of Primary Industries website for details of the specified impoundments).

There can also be significant penalties for causing damage to the habitat of a threatened species without approval, through actions such as dredging river beds, removing large woody debris and constructing barriers that block the free passage of fish.

Clearing that constitutes a routine agricultural management activity, and certain routine farming practice activities (other than clearing) are permitted, provided the activities are to the minimum extent reasonably necessary and all other relevant statutory approvals or authorities have been obtained.

The impacts of developments or activities that require consent or approval in accordance with the *Environmental Planning and Assessment Act 1979* must be assessed and considered by consent or determining authorities. Where such actions are likely to result in significant impact on a threatened species or its habitat, a detailed species impact statement must be prepared.

Strategies to be adopted for promoting the recovery of Silver Perch are set out in the NSW DPI Priorities Action Statement and Silver Perch Recovery Plan.

Silver Perch may not be stocked into any NSW waters (other than private farm dams) without a permit issued by the NSW Department of Primary Industries.

Bibliography and further reading

Fisheries Scientific Committee (1999) *Bidyanus bidyanus* – Silver Perch. Recommendation.

NSW DPI (2006) Silver Perch (*Bidyanus bidyanus*) recovery plan. Threatened Species Unit, Port Stephens Fisheries Institute 47 pp.

NSW DPI (2017) Review of the Silver Perch Recovery Plan. Threatened Species Unit, Nelson Bay 14pp.

Threatened Species Scientific Committee (2013) Commonwealth Conservation advice on *Bidyanus bidyanus* (Silver Perch). 27 pp.

For further information

See the NSW DPI website: www.dpi.nsw.gov.au

Contact the NSW DPI Threatened Species Unit:
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Figure 4: Silver Perch habitat (Photo: NSW DPI)



Figure 5: A juvenile Silver Perch (Photo: D.Gilligan)