Australian Capital Territory

Nature Conservation (Silver Perch) Conservation Advice 2020

Notifiable instrument NI2020–353

made under the

Nature Conservation Act 2014, s 90C (Conservation advice)

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1 Name of instrument

This instrument is the *Nature Conservation (Silver Perch) Conservation Advice 2020*.

2 Commencement

This instrument commences on the day after its notification day.

3 Conservation advice for Silver Perch

Schedule 1 sets out the conservation advice for Silver Perch (*Bidyanus bidyanus*).

Arthur Georges
Chair, Scientific Committee
24 June 2020

Schedule 1

(see s 3)

ACT Government
Environment, Planning and Sustainable Development

ACT Scientific Committee

CONSERVATION ADVICE

SILVER PERCH – *Bidyanus bidyanus*

CONSERVATION STATUS

The Silver Perch *Bidyanus bidyanus* (Mitchell, 1838) is recognised as threatened in the following jurisdictions:

International	**Near Threatened**, International Union for Conservation of Nature (IUCN) Redlist
National	**Critically Endangered**, *Environment Protection and Biodiversity Conservation Act 1999.*
	Endangered, Conservation Status of Australian Fishes 2016
ACT	**Endangered**, *Nature Conservation Act 2014*
NSW	**Vulnerable**, *Fisheries Management Act 1994*
Victoria	**Threatened**, *Flora and Fauna Guarantee Act 1988*
	Vulnerable, Advisory List of Threatened Vertebrate Fauna in Victoria
South Australia	**Endangered**, Action Plan for South Australian Freshwater Fishes

ELIGIBILITY

The factors that make the Silver Perch eligible for listing as Endangered in the ACT Threatened Native Species List are included in the Listing Background section below.

DESCRIPTION AND ECOLOGY

The Silver Perch is a medium to large fish (maximum length of about 500 mm and a maximum weight of around 8 kg) which commonly reaches 300–400 mm and 0.5–1.5 kg in rivers. The body is elongate and slender in juvenile and immature fish, becoming deeper and compressed in adults. The head is relatively small, jaws are equal in length and eyes and mouth are small. In larger specimens the head is reduced in comparison to the body giving a humped shouldered look.

The scales are thin and small (compared to Macquarie Perch (*Macquaria australasica*) or Golden Perch (*Macquaria ambigua*)) and the tail is weakly forked (Lintermans 2007). Colour is generally silvery grey to black on the body, with the dorsal, anal and caudal fins also grey. The pelvic fins

are whitish (Merrick and Schmida 1984; Merrick 1996).

Small adult Silver Perch (Gunther Schmida)

Silver Perch are slow-growing and long-lived with records of fish living to 17 years in the Murray River and 27 years in Cataract Dam. Silver Perch mature at 3 years of age for males and 4–5 years of age for females. Silver Perch undertake a wide range of migrations as juveniles and adults and have been recorded moving over 200 kilometres (km). Adults move upstream in late spring and juveniles move upstream in late summer (Mallen-Cooper et al. 1995). The former 'run' of Silver Perch upstream from Lake Burrinjuck into the ACT has not been recorded since the early 1980s (Lintermans 2002). Spawning commences in spring to early summer, often associated with upstream migrations when large schools of fish were historically observed. Schools of fish spawn in shallow water with a preference for gravel substrate. Approximately 170,000–250,000 eggs per kg of bodyweight are laid (Rowland 2009; Merrick and Schmida 1984). The eggs are approximately 2.7 mm in diameter and semi-pelagic but will sink in non-flowing environments and hatch in 30 hours at 26°C (Lake 1967). Generation length is calculated as 5.32 years (Gilligan et al. 2019).

Silver Perch are omnivorous, consuming aquatic plants, algae, molluscs, crustaceans and aquatic insect larvae (DoE 2013). Reports suggest the species may become mainly herbivorous once they reach lengths of 250 mm (Clunie and Koehn 2001; DoE 2013), however, this may not be the case for lake populations as their diet in Googong Dam shows little change with fish size (Lintermans 2007).

DISTRIBUTION AND HABITAT

Silver Perch are endemic to the Murray–Darling Basin and were formerly widespread through the Basin's rivers and major streams (DoE 2013). They are often found in the similar habitats, of lowland turbid rivers, to Murray Cod (*Maccullochella peelii*) and Golden Perch (Lintermans 2007). The ACT is toward the upper altitudinal limits of the species distribution where they are historically known from the Murrumbidgee and Molonglo rivers, as well as, from the lower Yass and Goodradigbee Rivers in NSW. However, they have not been recorded in the ACT Government's Murrumbidgee monitoring since 1988 (ACT Government 2018b).

Silver Perch have been stocked into many impoundments in the region and continue to be stocked into Burrinjuck and Googong Dams by the NSW Department of Primary Industries (DPI) to provide a recreational fishery (ACT Government 2018b).

THREATS

While Silver Perch no longer occur as a viable wild population in the ACT, the main identified threats in the ACT Action Plan for Silver Perch (ACT Government 2018) include:

- river regulation
- barriers to fish passage
- introduced species and disease
- habitat modification
- reduction in water quality
- historical overfishing
- sedimentation
- changing climate.

MAJOR CONSERVATION OBJECTIVE

The overall objective of the Action Plan for Silver Perch (ACT Government 2018) is to assist, where possible, the re-establishment of Silver Perch in the upper Murrumbidgee Catchment by providing suitable habitat and assisting cross-jurisdictional actions to re-establish the species, should resources become available.

CONSERVATION PRIORITIES

The 2018 Action Plan for Silver Perch (ACT Government 2018b) identifies actions and the following main priorities to:

- support projects aimed at improving understanding of the biology and ecology of the species as the basis for managing its habitat,
- protect sites and habitats that are critical to the survival of the species,
- manage activities in the Murrumbidgee Catchment in the ACT to minimise or eliminate threats to fish populations; and
- increase community awareness of the need to protect fish and their habitats.

OTHER RELEVANT ADVICE, PLANS OR PRESCRIPTIONS

- ACT Aquatic and Riparian Conservation Strategy (ACT Government 2018a)
- ACT Action Plan – Silver Perch (ACT Government 2018b)
- Commonwealth Conservation Advice – Silver Perch (DoE 2013)
- IUCN Redlist species account for the Silver Perch (Gilligan et al. 2019)

LISTING BACKGROUND

The Silver Perch was initially listed in the ACT as an Endangered species on 26 October 2001 in accordance with section 21 of the *Nature Conservation Act 1980*. At that time, the Flora and Fauna Committee (now the Scientific Committee) concluded that the assessment satisfied the following criteria:

1.2 species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the near future as demonstrated by:
- 1.2.1 current severe decline in population or distribution from evidence based on:
  - 1.2.1.1 direct observation, including comparison of historical and current records
  - 1.2.1.2 severe decline in rate of reproduction or recruitment, severe increase in mortality, severe disruption of demographic or social structure
  - 1.2.1.4 very high actual or potential levels of exploitation
  - 1.2.1.5 severe threats from herbivores, predators, parasites, pathogens or competitors.

The Silver Perch is listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 21 December 2013, as it was found by the Commonwealth Threatened Species Scientific Committee to have met Criterion A2. However, the Silver Perch is on the Commonwealth's 2018 Finalised Priority Assessment List for reassessment of threatened status at the national level which is due for completion in March 2021.

A recent international assessment has listed the species as Near Threatened, because of a range of technical reasons including a lack of information on the status of the species in Queensland,

the historical nature of the decline (more than 3 generations ago), and the apparent trend of recovery of the population in the Murray River (Gilligan et al. 2019).

REFERENCES

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FURTHER INFORMATION

Further information on the related Action Plan or other threatened species and ecological communities can be obtained from: Environment, Planning and Sustainable Development

Directorate (EPSDD).
Phone: (02) 132281, EPSDD Website: http://www.environment.act.gov.au/cpr