



Species Summaries

Silver Perch

23 Analysis and Summary of Historical Information on Native Fish

During the course of this project a large amount of historical information was collected on the native fish of the Murray-Darling Basin. Most of this has been reviewed on a catchment by catchment basis in the previous sections. The primary aim of the project was to collect historical information and identify the original distribution and habitat preferences of Trout cod and, secondarily, the other large native fish species within the southern half of the Basin. This section provides an analysis and summary of all the information collected.

The summary is presented on an individual species basis and for each the information is discussed under the following headings:

1. **European Discovery:** A description of the earliest European encounters with each species;
2. **Aboriginal Names:** A collation of names reported for each species in the writings of early Europeans attributed to aboriginal people. The list is certain to be very limited in scope as until comparatively recently few publications documented aboriginal language;
3. **European Names:** Briefly outlined is a history of the changes and synonyms of the scientific names used for each species, followed by the common names in general use from the past up to the present. In an earlier section a lengthy review was presented, covering the history of the taxonomic argument over Trout cod that continued for nearly 150 years. While previously discussed, a brief summary of the key changes in the scientific name of the Trout cod along with the basic reasons for these changes, has been provided;
4. **Distribution and Habitat:** All of the collected information on distribution and habitat associations is evaluated to highlight general trends and provide an overall description for each species. To aid in the analysis, the rarity scores assigned to each habitat zone, as defined previously in the summaries for each catchment, were averaged on a state and basin wide basis (in the area investigated in this project). Records originating from the Australian Capital Territory were included in determining the scores for NSW. Where the author assigned an upper or lower value to a rarity score the value was increased or decreased by 0.5 to improve the accuracy of the analysis; e.g., a L3 = 2.5 while a U3 = 3.5. As the focus of the project was to resolve the debate over the original distribution and habitat associations of Trout cod, there is a discussion on the differing views on the species former distribution and a consideration of the strength of the historical data which leads to a conclusion on this issue. For the other species there is a brief discussion, comparing the historical records reported in Lintermans (2007) to those recorded in this project to reach an overall conclusion on the range and habitat associations of each species;
5. **Translocations:** Historical accounts of translocations, that took place prior to the commencement of the stocking of hatchery produced fish in the 1970s, are summarised which may aid those undertaking research into the genetics of fish populations and help explain the presence of species in some waters;
6. **Size:** For each species information is provided on the maximum recorded size or weight which is known to be of interest to anglers;
7. In the case of Trout cod historical accounts relating to general aspects of its biology are presented. For the other species miscellaneous accounts or information identified in the historical material which to date have not been widely known are presented;
8. **Community Value:** A brief summary of the historical value of each species to the community including their popularity as angling and table fish and importance in commercial fisheries;
9. **Current Status:** The current conservation status of each species is stated, along with a brief summary of the major changes to distribution and abundance based on the historical evidence collected and recent angler reports;
10. A map using the information collected during this project presents the likely former historical distribution and abundance in the southern Murray-Darling Basin of each species.

Table 23.1 **Definitions of Rarity Scores used in the Project**

Abundance	Rarity Score	Criteria
Absent	0	No credible account reporting the species former presence
Rare	1	A few individual fish could be expected to be taken by a resident angler each year
Common	3	Regularly taken by a resident angler in small numbers: a typical expected catch would be less than 5 fish per day. The species may have been patchily distributed preferring specific reaches or habitats
Abundant	5	Frequently taken by a resident angler in good numbers: a typical catch would exceed 5 fish per day. Generally found along the length of the main channel though may have exhibited some local variations in abundance.

MURRAY SILVER PERCH.

I am not very familiar with the ways of the fish called silver perch or "grunter" in the Murray. I was under the impression that it was a Lower Murray fish, but noticed last autumn that some good bags were got above the junction with the Goulburn.

In fishing for them I would suggest that M. F. Ilford try other methods than those used for either cod or Macquarie perch. Have fine tackle with a gut bottom, and wood grubs for a bait, if they are to be got. You find silver perch often in swift water, and, with the river low, I would fish at the foot of a current. Cast as far as possible upstream, and let the current carry the bait down. After a few casts in one spot it is desirable to use trout fishers' methods, and try other water.

Argus, 21 February 1928

MURRAY SILVER PERCH

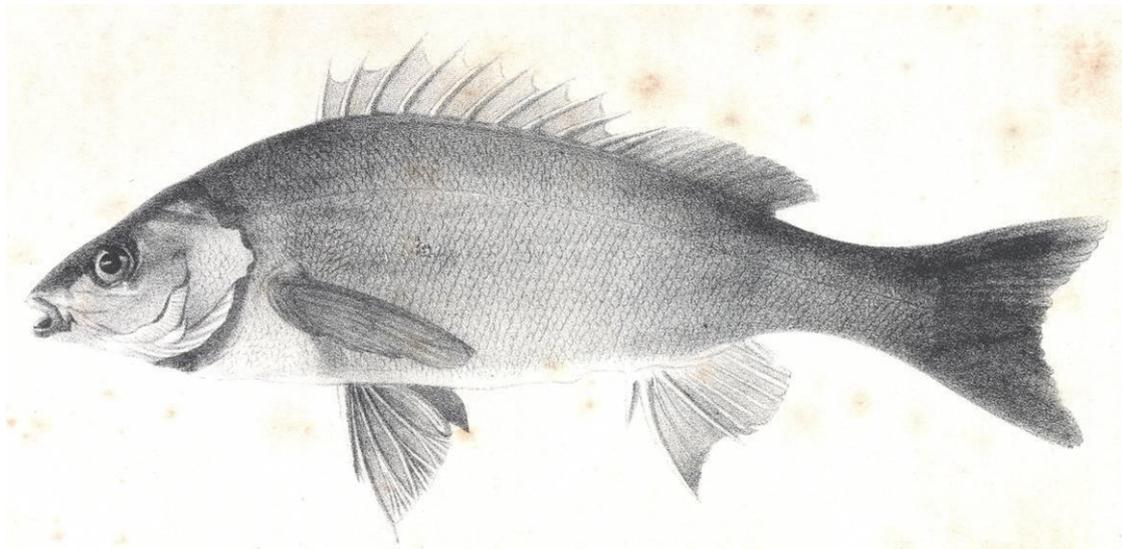
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23.4.1 European Discovery

In 1828 Sturt (1833) recorded the capture by the local indigenous people of 'Seven fine bream' from the Macquarie River near Trangie which were probably Silver perch. The first unambiguous account of Silver perch was provided by Mitchell who described and illustrated specimens he caught from the Barwon River in January 1832: 'We soon found that this river contained fish in great abundance, and of three kinds at least: viz. first, a firm but coarse-tasted fish, having strong scales; this made a groaning noise when on the hook' (Mitchell, 1838).

Photograph 23.7 The First Silver Perch



An illustration drawn by Major Thomas Mitchell of a Silver perch captured from the Barwon River in January 1832. He named the species *Cernua Bidyana mihi* (Mitchell, 1839). Image reproduced with permission from the collection of the *State Library of Victoria*.

23.4.2 Aboriginal Names

Mitchell (1838) recorded the term 'Bidyán' as the local aboriginal name for Silver perch in the Barwon River, suggesting a Yuwaalaraay or Gamilaraay origin. R. H. Mathews recorded 'Bidyin' as the name for Golden perch in the Wailwan language (immediately to the south of the Yuwaalaraay or Gamilaraay people) with 'bream' and 'silver bream' as 'Bungulla' and 'Birunge' in the Wailwan language in various publications. Mitchell did not record catching Golden perch during his expedition and as the actual fish he illustrated as a 'Bidyán' was named as such by local aborigines at that time it seems more likely that 'Bidyán' or 'Bidyin' applied to Silver perch than Golden perch. 'Kubery' or 'Kooberry' was recorded by a number of authors in the nineteenth century as being used by aborigines specifically for 'Silver perch' or 'grunter' in the central Murrumbidgee area, predating Mathews' accounts, suggesting that this was the Wiradjuri name for the species (NSW Government, 1880; Tennison-Woods, 1882; Wesson, 2001). Other aboriginal names recorded for Silver perch include 'Toorroo' (Morunde), 'Teheeree' and 'Cheerey' (Ngarrindjeri) in the lower Murray (*Argus*, 19 September 1848; Zeitz, 1902; Stead, 1903). Blandowski (1858) recorded several names used by the Yaree Yaree people in the Merbein area, the individual terms relating to the size of the fish these being 'Bagguck' and 'Karpa' for the larger individuals and 'Buruitjall', and 'Bipe Purritjall' for the juveniles.

23.4.3 European Names

Mitchell (1838) named the specimens he captured from the Barwon River *Cernua Bidyana mihi*. In 1846 Richardson published a description for the species naming it *Datnia ellipticus* and reporting it to have been collected from Western Australia (Richardson, 1846). Gunther (1859), based on a comparison of the skin of a fish collected from the Namoi River and Richardson’s specimen, concluded that they represented the same species but in another genus, naming it *Therapon ellipticus* (Gunther, 1859). Several other synonyms were published for Silver perch including *Therapon richardsonii*, *T. Niger* and *T. Macleayanus* (Ogilby, 1893) while Blandowski (1858) provided a number of names including *Cernua bidyana*, *C. Eadesii*, *C. Nicholsonia*, *C. Ifflaenisis* and *C. wilkiensis*. Ultimately the species was placed in a new genus and is now known as *Bidyanus bidyanus* (Paxton *et al.*, 1989).

The characteristic grunting noise made by the fish as described by Mitchell (1838) was eventually popularised in the descriptive colloquial name ‘grunter’. This name is still widely used, along with the ubiquitous silver or black bream (Lake, 1959) and Silver perch, the latter of which was in use by 1845 (Beveridge, 1889).

23.4.4 Distribution and Habitat

Lintermans (2007) recorded Silver perch as being historically widespread throughout the Basin, though in Victoria it was rarely recorded upstream of the lowlands. He suggested that the species was generally found in turbid, slow-flowing rivers and were absent from the upper reaches. During this project 148 locations were identified as the source of probable or certain historical accounts of captures of Silver perch, and the collected evidence on the species abundance was used to develop rarity scores. The following table provides averages for the rarity scores created in each habitat zone in each catchment for Silver perch using historical evidence in this investigation:

Table 23.5 Silver perch Average Rarity Scores

Area	Zones			
	Lowland	Slopes	Upland	Montane
NSW & ACT	4.8	4.4	2.9	0.4
VIC	4.0	1.0	0.1	0.0
SA	5.0			
Basin	4.6	2.3	1.0	0.2

The average rarity scores suggest that in NSW Silver perch were abundant in the lowland (4.8) and slopes zones (4.4), common in the upland zone (2.9) and occasionally penetrated into the montane zone (0.4). The presence of Silver perch in the upland zone is not universal as they have not been reported from this zone in the Upper Murray Catchment. Newspaper and oral accounts recorded that in the upper Murrumbidgee there was an annual migration into the upland zone suggesting that, although there were some resident fish, to some degree Silver perch abundance fluctuated seasonally. In the upland zones of the Macquarie and Lachlan Catchments there is good evidence that Silver perch were common throughout the year. The low montane score reflects a transient presence in this zone during upstream migration in the Murrumbidgee Catchment and possibly the Macquarie Catchment.

In Victoria the average rarity scores suggest that Silver perch were very common in the lowland zone (4.0) and regularly taken but comparatively rare in the slopes zone (1.0). Their reported presence in the slopes zone was linked to migrations with occasional penetration (0.1) into the lower reaches of the upland zone such as the Mitta Mitta River at Dartmouth. Silver perch are unreported from the montane zone in Victoria. The average rarity score of 5.0 for South Australia indicates that the species was abundant throughout the lower Murray River.

Silver perch were reported by Jarman (*Argus*, 11 August 1922) as being less abundant in lagoon habitats than the main river and creek channels, and this view has been supported by some anglers. There are, however, examples where significant numbers were taken from lagoons such as the 'Natures Waste' translocation activities along the Murrumbidgee River (Anderson, 1918), and they were fairly common in lagoons along the lower Goulburn River (Polkinghorne, OH 131). In the lowland rivers anglers consistently reported Silver perch to be more prevalent in areas of flowing water rather than the quieter backwaters. Further upstream in the slopes and upland zones, Silver perch were reported mainly from the larger rivers and not from creeks. Anglers generally reported a greater presence of Silver perch than Golden perch in non-lowland zones, particularly in the upland zone.

In conclusion the collective results for the Basin suggest that Silver perch, on average, were most abundant in the lowland zone (4.6) with a significant presence in the slopes zone (2.3). They were rare in the upland zone south of the Murrumbidgee but progressively increased in abundance in this zone northwards. The altitude record for the species exists in the Murrumbidgee and Numeralla Rivers near Chakola at the bottom of the montane zone at an altitude of about 700 m ASL.

23.4.5 Translocations

Silver perch were sometimes included in translocation shipments to waters outside of the Murray-Darling Basin. The most notable example of this was the shipment to the Nepean River and Cataract Reservoir in 1916 (NSW Fisheries Reports, 1914; 1923), where they continue to exist in the latter as a self-supporting population. A translocation from the Namoi River to the Hunter River resulted in a population becoming established near Singleton (*Maitland Mercury & Hunter River General Advertiser*, 3 October 1885). While they were introduced to the Yarra River in the early twentieth century (*Argus*, 24 February 1911), they failed to establish. Since the 1970s hatchery produced Silver perch have been stocked into a number of waters outside of their natural range, in some cases establishing populations (Clunie & Koehn, 2001a).

23.4.6 Size

The largest Silver perch reliably recorded was taken in April 1836 by Mitchell from the Goobang Creek near Condobolin and weighed 17 lb. (7.7 kg) (Mitchell, 1838). A newspaper account of an 18 lb. (8.2 kg) 'Macquarie perch' taken from the Merran Creek is probably a description of an extremely large Silver perch, possibly a record (*Argus*, 18 July 1924). Jarman reported taking a specimen weighing 17 lb. (7.7 kg) from the Coonang Creek near Jerilderie (*Argus*, 11 August 1922). Many anglers recalled the species as being formerly common up to around three kilograms, but it is clear that from time to time much bigger fish were taken.

Many oral accounts recall Silver perch to have formed large schools, and both recreational and commercial fishermen suggested that the species undertook migrations. At times Silver perch filled drum nets making them impossible to lift from the water due to the weight of the fish (Laddie Clifford, pers. com.).

23.4.7 Community Use

It was reported that Aboriginal people along the lower Murray River in Victoria had a cultural belief that people from visiting tribes could not touch, smell or eat the cooked flesh of Silver perch for fear of serious spiritual punishment. This privilege was not bestowed to other species such as cod, indicating the esteem in which they were held (*Argus*, 30 March 1850). While secondary in importance to cod and Golden perch, Silver perch were an important part of the inland commercial fishery, particularly in later years as cod declined in abundance. In 1948-49 about 14,472 lb. (6578 kg) of Silver perch were officially recorded as taken in NSW and significant quantities were also taken in South Australia (Hammer *et al.*, 2007).

Mitchell observed a variability in eating quality, noting that the fish he ate from the Barwon River were 'coarse and tasted of mud' whereas those from the Goobang Creek were 'rich and of excellent flavour' (Mitchell, 1838). Mitchell's observations were repeated by a number of anglers in the oral history, with Silver perch being sometimes highly regarded, with others considering it a poor eating fish, often exhibiting a strong weedy or muddy flavour.

While some anglers considered small Silver perch to be a nuisance, stealing bait intended for cod, larger specimens were universally regarded as providing excellent angling, and were probably second only to Trout cod in fighting ability. Today Silver perch have come to prominence as an important aquaculture species with artificial feeds making them highly regarded as a table fish, now being cultured widely overseas. While often overshadowed by Murray cod and Golden perch, historically Silver perch made an important contribution to the inland recreational fishery and had many admirers. Tennison-Woods, in evidence presented to the NSW Royal Commission on Fisheries in 1880 concluded that 'the 'Silver Perch' or 'Bream' (*Therapon richardsonii*) is the perfection of fishes, extremely rich and delicate in flavour' (Tennison-Woods, 1882).

23.4.8 Decline & Current Status

The historical evidence indicates that Silver perch declined in slopes habitats in Victoria after the 1920s and had become scarce in the Central Murray Catchment downstream to Yarrawonga by the 1930s, with some evidence of decline in other areas by the 1940s. The oral history indicates that since the 1950s they have drastically declined in abundance in the upland zones of the Macquarie, Lachlan and Murrumbidgee Catchments. The number of individuals moving through the Euston Weir fishway in the Central Murray River decreased by 93% between 1939 and 1992 (Mallen-Cooper, 1993) and the species has become scarce in many areas, with the most significant remaining wild population being in the Central Murray River and nearby streams below Yarrawonga. They have been stocked in many impoundments in the past with varying degrees of success (Clunie & Koehn, 2001b; NSW Department of Primary Industries, 2006b).

In NSW Silver perch are listed as vulnerable under the *Fisheries Management Act 1994*; in the ACT it is classified as endangered under the *Nature Conservation Act 1980*; in Victoria they are listed as threatened under the *Flora and Fauna Guarantee Act 1988*. In South Australia Silver perch are considered endangered, and cannot be taken by anglers, having been protected by regulations under the *Fisheries Act 2007*. In the southern half of the Basin Silver perch are now totally protected in rivers and streams. They can, however, be taken from a limited number of impoundments where they are stocked, from private dams and can be sold by aquaculture operations.

Figure 23.4 A Reconstruction of the Historical Distribution & Abundance of Silver Perch in the Southern Murray-Darling Basin

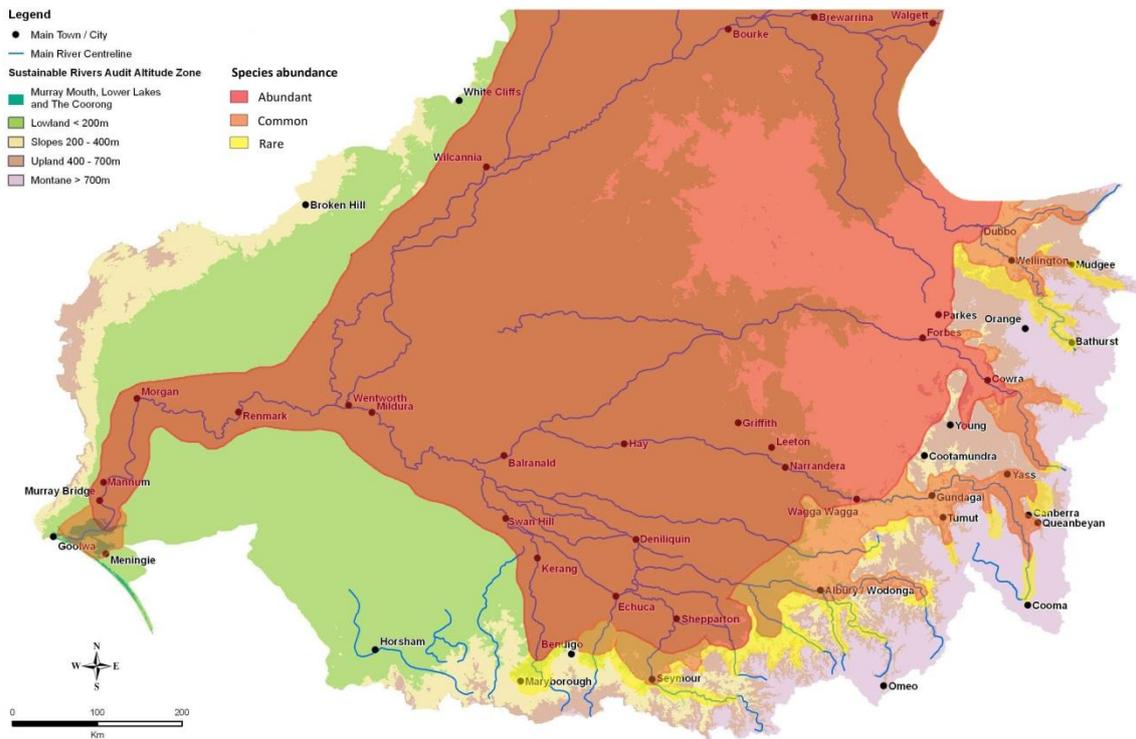


Table 23.9 ASFB Conservation Status of Murray-Darling Basin Fishes

The following table presents the most recent (2011) assessment of the conservation status of Murray-Darling Basin Fishes by the Threatened Fishes Committee of the Australian Society for Fish Biology courtesy of the Convenor, Mark Lintermans (Mark.Lintermans@canberra.edu.au). It utilises IUCN conservation categories and criteria.

Category	Scientific Name	Common Name
CRITICALLY ENDANGERED	<i>Craterocephalus fluviatilis</i>	Murray hardyhead
	<i>Galaxias fuscus</i>	Barred galaxias
	<i>Maccullochella macquariensis</i>	Trout cod
ENDANGERED	<i>Macquaria australasica</i>	Macquarie perch
VULNERABLE	<i>Craterocephalus amniculus</i>	Darling River hardyhead
	<i>Edelia obscura</i>	Yarra pygmy perch
	<i>Galaxias rostratus</i>	Flat-headed galaxias
	<i>Maccullochella peelii</i>	Murray cod
LOWER RISK – LEAST CONCERN	<i>Mogurnda adspersa</i>	Southern purple-spotted gudgeon