Historical evidence of native fish in the Murray-Darling Basin at the time of European settlement —

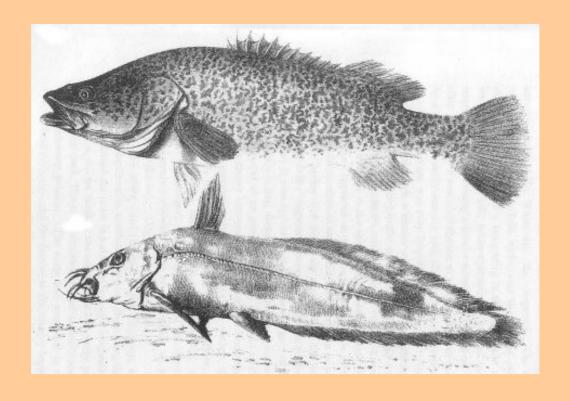
from the diaries of the first explorers

by

Anthony Scott

July 2005





The Cooperative Research Centre for Freshwater Ecology exists to help improve the health of Australia's rivers, lakes and wetlands through research, education and knowledge exchange. It was established in 1993 as part of the Australian Government's Cooperative Research Centres Programme.

The Cooperative Research Centre for Freshwater Ecology is a cooperative joint venture between:

ACTEW Corporation

CSIRO Land and Water

Dept of Environment and Conservation, NSW

Dept of Infrastructure, Planning and Natural Resources, NSW

Dept of Natural Resources and Mines, Queensland

Dept of Sustainability and Environment, Victoria

Dept of Water Land and Biodiversity Conservation, South Australia

Environment ACT

Environment Protection Authority, Victoria

Goulburn-Murray Water

Griffith University

La Trobe University

Lower Murray Urban and Rural Water Authority

Melbourne Water

Monash University

Murray-Darling Basin Commission

Sydney Catchment Authority

The University of Adelaide

University of Canberra

© CRC for Freshwater Ecology, 2005

Phone: 02 6201 5168 Fax: 02 6201 5038

http://freshwater.canberra.edu.au

Front cover: Sketches of a Murray cod (*Maccullochella peelii peelii*) and freshwater catfish (*Tandanus tandanus*) from Mitchell's journal published in (1839). The original caption was; 'Figure 1: *Gristes peelii*, or cod-perch, Figure 2: *Plotosus tandanus*, or eel-fish.'

Table of Contents

Ackn	owledgements	iv
1. Int	roduction	1
1.1	The value of environmental history	1
1.2	Aims of this study	1
1.3	Summary of historical evidence	1
2. Ge	eorge Evans and Lachlan Macquarie, 1813–1815	6
3. Jo	hn Oxley, 1817–1818	8
3.1	Oxley's first expedition: down the Lachlan River in 1817	9
3.2	Oxley's second expedition: down the Macquarie River in 1818	14
4. Hu	ıme and Hovell, 1824	16
5. All	lan Cunningham (1827)	21
6. Ch	narles Sturt, 1828–1830	23
6.1	Sturt's first expedition: westwards to the Darling River in 1828–1829	23
6.2	Sturt's second expedition: down the Murray River in 1829–1830	27
7. Th	omas Mitchell, 1831–1846	31
7.1	Mitchell's first expedition: northern NSW in 1831–1832	32
7.2	Mitchell's second expedition: the Darling River in 1835	36
7.3	Mitchell's third expedition: the Darling River and Victoria in 1836	41
7.4	Mitchell's fourth expedition: north into Queensland, 1845–1846	45
8. Ge	eorge Bennett, 1830s	51
9. Le	tters from Victorian Pioneers, written in the 1850s	54
9.1	Letter from Evelyn Sturt to Governor La Trobe, dated 1853	54
9.2	Letter from Hugh Jamieson to Governor La Trobe, dated 1853	54
9.3	Letter from William Splatt to Governor La Trobe, dated 1853	55
Doforo		EC

Acknowledgements

The information used in this study was obtained from a number of libraries, including the National Library of Australia, and libraries at the Australian National University and CSIRO, Canberra. Information was also obtained from the 'Gutenberg Project', a non-profit organisation which has converted many of the explorers' journals into electronic form and placed them on their website for public use. This has made the journals easier to access and also means that the text can be searched electronically using keywords or phrases. The Gutenberg project can be accessed at www.gutenberg.net.au.

The author would like to thank Angela Arthington, Paul Humphries, Shaun Meredith and Ann Milligan for reviewing a draft of this report and providing many useful comments.

Maps: drawn by Anthony Scott, based on the explorers' original maps.

Images: reproduced with permission from the National Library of Australia (page 40) or the

Gutenberg Project (all other images).

1. Introduction

1.1 The value of environmental history

In recent years there have been numerous reports that the health or condition of the rivers in the Murray-Darling Basin has been declining (for example, Harris and Gehrke, 1997; Thoms and Sheldon, 2000; Thoms *et al.*, 2000; Norris *et al.*, 2001). This includes a decline in the abundance of native fish, with 16 of the Basin's 35 native fish species listed as threatened and the trout cod (*Maccullochella macquariensis*) listed as critically endangered (MDBMC 2002a).

There is now a concerted effort by the Federal and State Governments to create a more sustainable riverine environment (for example, MDBMC 2002b). Although it is widely accepted that the rivers are not being restored to 'pristine' condition, knowledge about the riverine environment prior to the impacts of European settlement can provide a very useful benchmark, giving direction and specific goals for river restoration.

The difficulty facing scientists and river managers is that there are very few scientific studies or surveys that contain the baseline data describing river condition prior to the last 150 years. However, some very useful insights are available from historical documents. The earliest records are found in the journals and diaries of the first European explorers and settlers who often followed the rivers as they ventured farther inland. They describe the rivers and surrounding landscape, and also the aquatic plants and animals they observed, collected or caught during their travels.

Although much of this historical information consists of opportunistic observations and does not have the formality of a scientific approach, it still provides a useful line of evidence, and in some instances the *only* line of evidence. Scientists should treat this information like any other scientific information, not regarding any single observation as conclusive but instead seeing it as one piece of evidence. When many different sources of information tell the same story, then a strong case can be made. In this 'multiple lines of evidence' approach, historical observations resemble scientific observations.

1.2 Aims of this study

The primary aim of this study has been to collect, collate and report observations of the native fish in the Murray-Darling Basin from the diaries of the early explorers and settlers during the early 19th century. This report can now be used to compare pre-settlement and pre-river-regulation observations with those from recent scientific surveys of fish populations.

The study has concentrated on the diaries of the first explorers and settlers of the Murray-Darling Basin that have been published and are readily available in State and National libraries (and some of these are now also available in digital format at www.gutenberg.net.au). There is potential to make a more complete collection of observations by searching out unpublished diaries or original documents held by libraries, as well as information held by local historical societies or private collections.

1.3 Summary of historical evidence

In the early 19th century, European settlement in Australia was confined to a few small coastal towns such as that at Port Jackson (now Sydney). However, after Blaxland, Wentworth and Lawson crossed the Blue Mountains in 1813, the first European explorers, closely followed by the pioneering settlers, moved westward into the Murray-Darling Basin. Although the main aim of the first exploratory trips was to discover and survey new land for grazing and agriculture, the government-sponsored expeditions had a secondary aim of recording and collecting scientific information on a wide range of topics, including the weather, rock and soil types, Aboriginal life, and the native plants and animals. New species

were described and specimens collected for natural history museums. Some expeditions included a botanist whose main task was to collect and record this scientific information.

In many instances the diaries of the first explorers contain detailed descriptions of the landscape at the time of European settlement, including the major rivers such as the Murrumbidgee, Murray and Darling. Many expeditions followed these rivers for weeks or months at a time, since they contained a good supply of water, and were a valuable source of food in the form of fish and other wildlife feeding along the banks. The explorers were often delighted by the plentiful supply of large fish, and sometimes recorded details of the sizes and types of fish caught. There were other occasions when no fish were caught. This was generally attributed to cold winter weather or high flows or, in a few records, the river channel being dry. Charles Sturt explained that on one of his trips, particularly towards the end of the journey, the men did not have the energy to go fishing after a long day of exhausting travel. There were also extended periods when the explorers had no opportunity to catch fish simply because they were travelling overland and not following a river.

Some of the explorers noted that freshwater fish were an important source of food for the Aboriginal people living along the inland rivers, and they described how they caught fish with spears, nets and traps. Freshwater mussels were another important food item.

The most common fish caught by the explorers was the Murray cod (*Maccullochella peelii peelii*), which was generally called the 'cod-fish' or 'cod-perch'. On a number of occasions, fish exceeding 5 kg (10 lbs) in weight were caught. For instance, John Oxley described a 30 kg (70 lb) Murray cod that his men caught in the Lachlan River. Interestingly, Charles Sturt once described Murray cod weighing less than 3–4 kg (or 7–9 lbs) as being 'small'. The large size of Murray cod caught by the explorers is perhaps the most striking difference between past and present times. The ease and frequency that explorers caught Murray cod is also in contrast to more recent experience (e.g. Harris and Gehrke, 1997). The abundance of Murray cod has now declined to a level where it is listed as 'threatened' under the Victorian *Flora and Fauna Guarantee Act 1988* and 'vulnerable' under the Australian Government *Environmental Protection and Biodiversity Conservation Act 1999*.

Other species of fish that were caught and can be identified from the diary descriptions include the freshwater catfish (*Tandanus tandanus*), which was often called the 'eel-fish', and silver perch (*Bidyanus bidyanus*). In some instances, only general descriptions of 'perch' or 'bream' were used, and these might be a reference to silver perch, golden perch (*Macquaria ambigua*) or possibly even Macquarie perch (*Macquaria australasica*). Perhaps surprisingly, no definitive descriptions of golden perch were found in any of the explorers' journals examined for this project. There is a brief mention by George Bennett (1834) of a different 'variety' of 'river cod' in the Tumut River, and this might be referring to the trout cod (*Maccullochella macquariensis*).

The small species of native fish were not described by the first explorers, perhaps because they were targeting the larger, more edible species, generally using fishing lines and hooks. Other aquatic animals observed by the explorers included mussels, crayfish and yabbies, shrimps, turtles, platypuses and waterbirds. Table 1 summarises the freshwater fauna described in this report, and the rivers in which they were found.

Each section of the report is devoted to one or two of the explorers or settlers of the Murray-Darling Basin, in approximate date order, presenting all their published diary entries that mention fish or fishing or aquatic animals. Each section begins with a brief description of that explorer's various trips, so that the general context of the quotes can be understood.

Table 1. Summary of published observations by the first explorers and settlers in the Murray-Darling Basin, 1815-1863

River system	Common name used by explorer	Explorer's name and year	Common name used today
Balonne River	'large fishes'	Mitchell, 1845–1846	
Balonne River	Cod-fish	Mitchell, 1845–1846	Murray cod
Barwon River	Alive with fish	Sturt, 1828–1829	
Barwon River	coarse tasting fish that groans, the cod, and the eel–18fish	Mitchell, 1831–1832	silver perch, Murray cod, freshwater catfish
Bell River	'abundance of fish' and 'several fish', 1.0 to 1.5 kg weight	Oxley and Cunningham, 1817	
Bogan River	Mussels	Mitchell, 1835	mussels
Bogan River	freshwater muscles	Mitchell, 1835	freshwater mussels
Macquarie Valley, Buddah Lake	abounds in fish	Sturt, 1828–1829	
Castlereagh R.	remains of fish cooked by aborigines	Sturt, 1828–1829	
Castlereagh R.	different species of fish	Sturt, 1828-1829	
Condamine R.	anticipated some good fishing and were not disappointed	Cunningham, 1827	
Creek near Yea	Lobsters	Hume and Hovell, 1824–1825	freshwater crayfish
Creek near Yea	Lachlan cod fish	Hume and Hovell, 1824–1825	Murray cod
Cudgegong River	river cod	Bennett, 1863	Murray cod
Darling River	leaping fish	Sturt, 1828–1829	
Darling River	cod or cod-perch	Mitchell, 1835	Murray cod
Darling River	freshwater muscles	Mitchell, 1835	mussels
Darling River	Cernua bidyana	Mitchell, 1835	silver perch
Dumaresq River	'cod of all the western rivers'	Cunningham, 1827	Murray cod
Fish River	'Trout',	Evans, 1813	Murray cod
Fish River	'fine fish'	Macquarie, 1815	
Fish River	'water moles'	Macquarie, 1815	platypus
Goobragandra River	'lobster12 or 13 inches longresembles common lobster of England, except a number of carbuncles or small nobs on back'	Hume and Hovell, 1824–1825	Murray crayfish?
Goulburn River	fish similar to those caught in the Lachlan	Hume and Hovell, 1824–1825	Murray cod
Goulburn River	fine fish	Hume and Hovell, 1824–1825 trip	
Goulburn River	cod-perch	Mitchell, 1836	Murray cod
Kiewa River	Lachlan codfish	Hume and Hovell, 1824–1825	Murray cod
Lachlan River	'shrimps'	Oxley, 1817	shrimps
Lachlan River	'a hundred weight of fine fish'	Oxley, 1817	
Lachlan River	'many fish' one weighed upwards of 14 kg	Oxley, 1817	

Table 1 continued. Summary of published observations by the first explorers and settlers in the Murray-Darling Basin, 1815–1863

Lachlan River	'eighteen large fish', most weighed 12-25 kg each, one weighing over 30kg. 'resembled a cod, but speckled over with brown, blue & yellow spots.'	Oxley and Cunningham, 1817	Murray cod
Lachlan River	general descriptions such as 'small fish:, 'fish' or 'fine fish'	Oxley and Cunningham, 1817	
Lachlan valley	Eel-fish	Mitchell, 1836	freshwater catfish
Lachlan valley	Cernua bidyana	Mitchell, 1836	Silver perch
Lachlan valley	Eel-fish	Mitchell, 1836	freshwater catfish
Lachlan valley	freshwater muscles	Mitchell, 1836	freshwater mussels
Lachlan valley	crayfish and mussels	Mitchell, 1836	crayfish & mussels
Macquarie River	'Trout' up to 7kg weight	Evans, 1813	Murray cod
Macquarie River	'large fish' weighing 8 kg.	Macquarie, 1815	Murray cod?
Macquarie River	'new species of fish 4 smellers above and 4 under the mouth, hind part resembled an eel, one dorsal fin and 4 other fins, with a white belly,' length 50cm, weight 1.3kg.	Oxley, 1818	freshwater catfish
Macquarie River	'fish' and 'fish, flesh and fowl are abundant'	Oxley, 1818 trip	
Macquarie River	'several fine bream'	Sturt, 1828–1829	species of perch
Macquarie River	Muscles	Sturt, 1828–1829	freshwater mussels
Macquarie River	claws of crayfish and small shells in hollows on floodplain	Sturt, 1828–1829	freshwater crayfish
Macquarie River	fish in ponds along dried up river bed	Sturt, 1828–1829	
Maranoa River	'different kind of fish'	Mitchell, 1845–1846	
Maranoa River	eel-fish	Mitchell, 1845–1846	freshwater catfish
Maranoa River	'harlequin fish'	Mitchell, 1845–1846	
Maranoa River	Cod	Mitchell, 1845–1846	Murray cod
Maranoa River	nest of eelfish	Mitchell, 1845–1846	freshwater catfish
Molles Rivulet, near Wellington	'fish of the species common both to the Lachlan and the Macquarie.'	Oxley and Cunningham, 1817	Murray cod?
Murray River	Muscles	Hume and Hovell, 1824–1825	freshwater mussels
Murray River	cod fish	Hume and Hovell, 1824–1825	Murray cod
Murray River	In the lagoons; 'bream or carp of about two pounds and finest possible flavour'	Hume and Hovell, 1824–1825	
Murray River	fish abundant	Hume and Hovell, 1824–1825	
Murray River	abundance of fish	Hume and Hovell, 1824–1825 trip	
Murray River	'fish similar to those found in Lachlan and Macquarie' weighing 14-18 kg.	Hume and Hovell, 1824–1825 trip	Murray cod

Table 1 continued. Summary of published observations by the first explorers and settlers in the Murray-Darling Basin, 1815–1863

Murray River	common cod, bream and barbel	Sturt 1829–1830	Murray cod, species of perch freshwater catfish
Murray River	small Turtle	Sturt 1829–1830	tortoise
Murray River	small tortoise	Sturt 1829–1830	tortoise
Murray River	cod-perch	Mitchell, 1836	Murray cod
Murrumbidgee R.	'abounds in excellent fish, same species as that in the Lachlan In shape like cod-fish'	Hume and Hovell, 1824–1825 trip	Murray cod
Murrumbidgee R.	'Codfish', weighing 18 kg.	Sturt 1829–1830	Murray cod
Murrumbidgee R.	fish rolling about surface like porpoises	Sturt 1829–1830	
Murrumbidgee R.	Muscles	Sturt 1829–1830	mussels
Murrumbidgee R.	river cod	Bennett, 1832	Murray cod
Murrumbidgee R.	'perch'	Bennett, 1832	Silver perch
Namoi River	'cod of all our western rivers'	Cunningham, 1827	Murray cod
Namoi River	similar to those caught in Peel River	Mitchell, 1831–1832	Murray cod
Namoi River	Fish resembling eel, (sketch provided)	Mitchell, 1831–1832	freshwater catfish
Namoi River	cray-fish (described it as species of 'astacus')	Mitchell, 1831–1832	crayfish
Namoi River	bream (Cernua bidyana)	Mitchell, 1831–1832	silver perch
Namoi River	Cod	Mitchell, 1831–1832	Murray cod
Ovens River	'abundance of fish'	Hume and Hovell, 1824–1825	
Peel River	'Ornithorynchus or water mole'	Oxley, 1818 trip	platypus
Peel River	'turtle'	Oxley, 1818	turtle
Peel River	'cod' weighing 8 kg.	Mitchell, 1831–1832	Murray cod
Goodradigbee River (tributary)	Few fish	Hume and Hovell, 1824–1825	
Tumut River	cod fish 'closely resembled the cod fish of the Lachlan and Murrumbidgee'	Hume and Hovell, 1824–1825	Murray cod, or possibly trout cod
Tumut River	'fish of the usual description'	Hume and Hovell, 1824–1825	Murray cod
Tumut River	'varieties of river cod"	Bennett, 1832	trout cod??
Yea Creek	'fish similar to those found in the Lachlan'	Hume and Hovell, 1824–1825	Murray cod

2. George Evans and Lachlan Macquarie, 1813–1815

George Evans arrived in Australia in 1802, and in 1809 was appointed Assistant Surveyor in Tasmania. In 1813 he was recalled by Governor Macquarie to confirm and extend the recent discoveries of Blaxland's expedition across the Blue Mountains. In his first trip, Evans headed west, following the Fish River (which he so named because of the abundance of fish in it), then down the Macquarie River, past the Bathurst plains, and finally halted a further 40 km downstream. In 1815 he commenced another trip from Bathurst south to the Abercrombie River, then west to the Belubula River and Lachlan River.

George Evans was probably the first European to catch Murray cod, which at the time he called 'trout'. Evans was astonished at the abundance and size of fish his men caught in the Fish and Macquarie Rivers.

After Evans returned to Sydney, Governor Lachlan Macquarie decided to visit the recently discovered western lands for himself. He set off in April 1815, accompanied by 11 others, including George Evans and the Surveyor General, John Oxley. During this trip he travelled down the Fish River, inspected the Macquarie River and proclaimed the site of a new town called Bathurst. During this trip they caught fish (though they were not fully described) in the Fish and Macquarie Rivers, including one weighing 17 pounds. They also observed and shot 'water-moles' (platypus).

The following quotes are from Evans's journal for the 1813–1814 trip down the Fish and Macquarie Rivers, and Governor Macquarie's journal for his visit to the same area in 1815. (On his second expedition in 1815, Evans spent most of his time travelling overland between Bathurst and the Lachlan River. Although he did spend a few days travelling along the river itself, he made no mention of catching or observing any fish or other aquatic animals.)

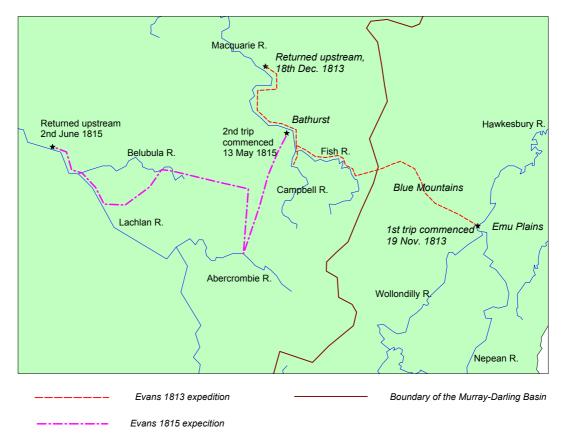


Figure 1. Routes of two expeditions by George Evans in 1813–1814 and 1815

Abundant fish in the Fish and Macquarie Rivers — Evans's journal

- 30th November 1813, in the headwaters of the Fish River, south-east of Mt Evans; 'We shot ducks and caught several trout weighing at least 5 or 6 pounds each.'
- 4th December 1813, along the Fish River; *'The dogs killed a kangaroo and the river supplies us with abundance of fish.'*
- 6th December 1813, in the lower reaches of the Fish River; 'there is game in abundance; if we want a fish it is caught immediately; they seem to bite at any time; had I brought a quantity of salt we could cure some 100 lbs of them, I am quite astonished at the number the men catch every evening, the dogs thrive on them; I shall bring one home with me to shew you.'
- 10th December 1813, in the upper reaches of the Macquarie River (near Bathurst); 'Nothing astonishes me more than the amazing large fish that are caught; one is now brought in that weighs at least 15 lb, they are all the same species*'
- * footnote added by George Mackaness; 'Mr Gilbert Whitely, Ichthyologist at the Australian Museum, tells me that Evans and his party were the first white men to catch and eat a Murray cod.'
- 21st December 1813, when the men were fishing on the banks of the Macquarie River, a small group of Aboriginals arrived; 'I think they were coming for water, I gave them what fish we had—also some fish hooks, twine and a tomahawk—which they appeared glad to get from us. Two boys ran away: the other small children cried much at first.'

Journal of Assistant Surveyor Evans, 1813–1814, reprinted in Mackaness (1965).

Fish and 'water moles' in the Fish and Macquarie Rivers — Macquarie's journal

- 2nd May, 1815, camping on the Fish River; 'Sir Jno. Jamison was lost for some hours this evening returning from fishing in the river, by missing his way in the woods, but arrived in camp about 8 o'clock with a large string of fine fish and two water moles caught in the Fish River near our present ground.'
- 5th May 1815; 'I forgot to mention in my notes of yesterday that a very fine large black swan, and also a very large water mole (or duck-bill) had been shot on the Macquarie River.'
- 10th May 1815, at the site of present-day Bathurst; *'This afternoon a large fish was caught in the river which weighed seventeen pounds.'*

Journal of Lachlan Macquarie, entitled 'Tour to the New Discovered Country in April 1815'

3. John Oxley, 1817–1818

John Oxley first came to Australia in 1802 and was appointed Surveyor-General of New South Wales in 1812. On Governor Macquarie's orders, he set out from Bathurst in 1817 to explore the Lachlan River and solve 'The Mystery of the Western Rivers'. At the time it was thought that they flowed into a large inland sea. Despite wet weather, flooding and boggy conditions, he managed to track the Lachlan River downstream, but had to return when it disappeared into swamplands (near its junction with the Murrumbidgee River).

In 1818 he undertook another expedition, this time down the Macquarie River, but again was defeated by flooding and swamps. Determined to make his expedition useful, he turned east and mapped a route across to the coast. During this trip they crossed and named the Castlereagh River and located the fertile Liverpool Plains, as well as discovering and naming the Hastings River and Port Macquarie on the coast.

It is interesting to note that there were times when very few fish were caught and this was attributed to a combination of the cold winter weather and the flooding of the river. On other occasions, however, Oxley and his men managed to catch some large fish, including a Murray cod measuring a little over one metre in length, and weighing about 30 kg (70 lbs). He also observed shrimps, mussels, turtles and a platypus.

An important aim of these government-sponsored explorations was to collect agricultural data (about soil types, climate, topography, geology and water supplies) and also scientific information about the native plants and animals. For this purpose, Oxley was accompanied by two botanists, Allan Cunningham (1817 trip only) and Charles Fraser (1817 and 1818 trips). Extracts from Allan Cunningham's diary for the 1817 trip have also been included here. Understandably, Cunningham and Oxley's diaries emphasise different aspects of the trip, with Cunningham providing much more detail about the new plant species observed.

Bogan R. Departed 19 Apr 1817, returned 29 Aug 1817 Turned back, 8th July 1817, due to extensive marshes Murrumbidgee R. Macquarie R. Departed 19 Apr 1817, returned 29 Aug 1817 Bathurst Lachlan River, 28 Apr 1817

3.1 Oxley's first expedition: down the Lachlan River in 1817

Figure 2. John Oxley's 1817 expedition; along the Lachlan River

Boundary of Murray-Darling Basin

Shrimps caught — Lachlan River downstream of Cowra

Route of John Oxley, 1817

26th April 1817; *'During the last night a few fine shrimps were caught; the soldiers at the depot said they had frequently taken them in considerable numbers.'*

Journal of John Oxley (1820)

Nearly one hundredweight of fine fish caught in the Lachlan River, near Eugowra

2nd May 1817; 'Our journey this day was very fatiguing, the grass being nearly breast high, thick, and entangled. The soil is tolerably good within a mile and a half of the banks: I rode five or six miles out, in hopes of finding some eminence on which to ascend, but was disappointed, the country continuing a dead level, with extensive swamps, and barren brushes. The timber, dwarf box, and gum trees (all eucalypti), with a few cypresses and casuarinas, scattered here and there: few traces of the natives were seen, and none recent. Upon the swamps were numerous swans and other wild fowl. In the evening we caught nearly a hundred weight of fine fish.'

Journal of John Oxley (1820)

Many fish caught, one weighed upwards of thirty pounds — Lachlan River, near Forbes

5th May 1817; 'At four o'clock we halted for the evening, after a fatiguing day's journey; the boats were obliged to cut their passage three or four times, and the whole navigation was difficult and dangerous: the current ran with much rapidity, and the channel seemed rather to contract than widen. We were obliged to stop on a very barren desolate spot, with little grass for the horses; but further on the country appeared even worse. The south bank of the river (as far as I could judge) is precisely similar to that which we are travelling down. The clear levels examined to-day were named the Solway Flats. Many fish were caught here, one of which weighed upwards of thirty pounds.'

Journal of John Oxley (1820)

Large Murray cod caught in the Lachlan River, downstream of Forbes

6th May 1817; 'Proceeded down the river. It is impossible to fancy a worse country than the one we were now travelling over, intersected by swamps and small lagoons in every direction;....... After proceeding about eight miles, a bold rocky mount terminated on the river, and broke the sameness which had so long wearied us: we ascended this hill, which I named Mount Amyot, and from the summit had one of the most extensive views that can be imagined.

If however the country itself is poor, the river is rich in the most excellent fish, procurable in the utmost abundance. One man in less than an hour caught eighteen large fish, one of which was a curiosity from its immense size, and the beauty of its colours. In shape and general form it most resembled a cod, but was speckled over with brown, blue and yellow spots, like a leopard's skin; its gills and belly a clear white, the tail and fins a dark brown. It weighed entire seventy pounds, and without the entrails sixty-six pounds: it is somewhat singular that in none of these fish is any thing found in the stomach, except occasionally a shrimp or two. The dimension of this fish were as follow:

	reet. I	ncnes.
Length from the nose to the tail	3	5
Circumference round the shoulders	2	6
Fin to fin over the back	1	5
Circumference near the anus	1	9
Breadth of the tail	1	11/2
Circumference of the mouth opened	1	6
Depth of the swallow	1 foot	

Most other fish taken this evening weighed from fifteen to thirty pounds each, and were of the same kind as the above.'

Journal of John Oxley (1820)

Cunningham's description of the fish caught on 6th May 1817 (from Lee, 1925)

'Our fishermen were uncommonly successful; they caught from 190–200 lbs. weight, consisting of 13 fish, of which the largest weighed 70 lbs. With the entrails and 65 lbs. gutted. Its length was 3 feet 5 inches, curve of shoulder 2 ft. 6 in., fin to fin over the back 1 ft. 5 in.; breadth of tail when expanded 1 ft. 1½ in., and depth of mouth a foot. It may be considered as the largest that has been caught.'

Note; The discrepancy between the number of fish caught, might be a typographical error between '13' and '18' when the respective journals were transcribed.

No fish caught in swollen river — Lachlan River downstream of Forbes

11th May 1817; 'The river rose about four feet during the night, and still continues to rise...... Since the river has been swollen, the fish have eluded us, none having been caught since yesterday morning.'

Journal of John Oxley (1820)

The river and lagoons abound with fish and fowl — Lachlan River

12th May 1817; 'The river rose in the course of the night upwards of a foot. It is a probable supposition that the natives, warned by experience of these dangerous flats, rather choose to seek a more precarious, but more safe subsistence in the mountainous and rocky ridges which are occasionally to be met with. The river and lagoons abound with fish and fowl, and it is scarcely reasonable to suppose that the natives would not avail themselves of such store of food, if the danger of procuring it did not counterbalance the advantages they might otherwise derive from such abundance.'

Journal of John Oxley (1820)

Note; The river had risen about 3 metres in depth over the previous few days and was close to flooding the adjacent plains.

Catching fish raises the spirits — lower Lachlan River

23rd June 1817; 'We resolved to try if our old friends, the fish, still continued in the streams; in the course of a short time five fine ones were caught: this most seasonable refreshment had an excellent effect in raising our hitherto depressed spirits.'

Journal of John Oxley (1820)

Cunningham's description of the 23rd June 1817

23rd June 1817; 'Our people by way of experiment threw some baited hooks into the river, and they caught five fine fish of the same kind of perch as that of the Lachlan River.'

Allan Cunningham's journal, edited by Lee (1925)

No fish caught, weather too cold — lower Lachlan River

27th June 1817; 'The fishermen were unable to secure any fish, the weather being too cold. Great abundance of black swans, native companions, (Grus australasiana) wild ducks etc., are on the lagoons. One of our party shot a pair of ducks; the bronze of their wings is exceedingly beautiful.'

Allan Cunningham's journal, edited by Lee (1925)

Only one fish caught by the men — lower Lachlan River

 29^{th} June 1817; 'Those unwearied purveyors, our dogs, provided for us two of the largest emu we have ever seen on the expedition, standing at least 8 feet high. We are not likely to starve, although our flour and pork ration is exceedingly scanty. Our fisherman caught only one small fish of $3\frac{1}{2} - 4$ lbs. weight.'

Allan Cunningham's journal, edited by Lee (1925)

More fish caught — lower Lachlan River

Journal of John Oxley (1820)

A few fish caught, 2 or 3 lbs in weight — lower Lachlan River

1st July 1817; 'The river at our encampment is 20 ft. wide, and upon sounding, we found 6 ft. to be the greatest depth. Our people caught a few fish 2 or 3 lbs. in weight.'

Allan Cunningham's journal, edited by Lee (1925)

Remains of shellfish — lower Lachlan River

2nd July 1817; 'At nine o'clock we again set forward down the stream; our course, as it has hitherto done, lay over apparently interminable plains, nothing relieving the eye but a few scattered bushes, and occasionally some dwarf box-trees. ...

By the marks on the trees it would seem that the stream occasionally overflows its banks to the depth of three or four feet; and five miles back from it small trees were seen, that had evidently stood from twelve to eighteen inches in the water. As usual we saw no recent signs of natives having visited these parts; here and there the remains of burnt muscle-shells would denote that at certain seasons the stream is visited by them for the purpose of procuring these shell-fish...'

Journal of John Oxley (1820)

Fish supplement the rations

5th July 1817; 'In order to make the most of the dry provisions we now have in casks we were obliged to reduce the ration, particularly the flour, to 2 quarts or 3 lbs. Per week per man, in order to enable us to return home to Bathurst which we calculated upon reaching the last day of August. We had, as before stated, suffered a very severe loss in our flour, and our people all saw the necessity of this reduction. Mr. Oxley likewise stated to them that in all human probability (there was a moral certainty of it) we should be relieved from this privation in two or three weeks—from the time we turn our faces eastward—by arriving at a more hilly country, which would afford us game of all kinds, and that should we continue on the river banks we should find a resource in the fish, which are large and abundant in the deeper waters.'

Allan Cunningham's journal, edited by Lee (1925)

Fishing and hunting unsuccessful — lower Lachlan River

2nd July 1817; 'Neither hunting nor fishing were successful today, but as we had become from experience not over sanguine, our expectations were not much disappointed, and the aspect of the country promised nothing.'

12th July 1817; 'The weather is far too cold for us to have any hopes of procuring fish; all our attempts to catch them for the last fortnight being unsuccessful.'

Journal of John Oxley (1820)

Few fish caught since the flood — lower Lachlan River

27th July 1817; 'A line which had last night been thrown into the stream, with little hope or expectation of catching any thing, was found when taken up this morning, to have hooked a very fine fish. Since the flood we had almost ceased to think of fish, as we never had the least success in our trials.'

Journal of John Oxley (1820)

One fish caught in Molles Rivulet, near Wellington

17th August 1817; 'We named the hill on which we stood Mount Elizabeth, and the extensive flats or plains north of it, and on the east side of the stream, McArthur's Plains. The tracks of cattle were observed in various places on these plains, some very recent, perhaps not a month old. A fish was also caught, of the species common both to the Lachlan and the Macquarie.'

Journal of John Oxley (1820)

Cunningham's description of August 17th 1817

17th August 1817; 'I accompanied Mr. Oxley and Mr. Evans to the summit of a hill of steep ascent, which has been called Elizabeth Hill, where some bearings were taken of remarkable points on the course we intended to pursue. Between a range of hills running north and south and bearing E.N.E. 10 miles, there is an appearance of a river, from the steep perpendicular banks descending to a valley or hollow, and we could trace a line of haze for a considerable length south and north, above the summits of the hills over the valley. From these appearances we are inclined to believe that the Macquarie is there situated, running northerly, and that this watercourse on which we are encamped is only a conductor of the rain in a body to the river north-westerly of us. We caught a fish in this rivulet.'

Allan Cunningham's journal, edited by Lee (1925)

Abundance of fish, mussels and ducks along the Bell River, Wellington

22nd August 1817; 'Among the other agreeable consequences that have resulted from discovering the river in this second Vale of Tempe, may be enumerated, as not the least, the abundance of fish and emus with which, we have been supplied; swans, and ducks, were also within our reach, but we had no shot. Very large muscles were found growing among the reeds along some of the reaches; many exceeded six inches in length, and three and a half in breadth. Traces of cattle were found in various places as low as Hove's Rock, which are now doubtless straying through the country.'

Journal of John Oxley (1820)

Cunningham's description from 22nd August 1817

22nd August 1817; 'Our people caught several fish of 2 or 3 lbs. weight, and our dogs secured kangaroo and 2 emu.'

Allan Cunningham's journal, edited by Lee (1925)

3.2 Oxley's second expedition: down the Macquarie River in 1818

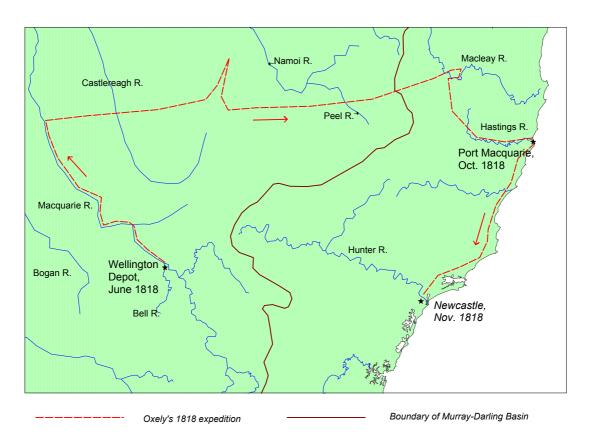


Figure 3. John Oxley's expedition in 1818, down the Macquarie River

Catfish caught in the Macquarie River at Wellington

5th June, 1818; 'A new species of fish was caught, having four smellers above and four under the mouth; the hind part of it resembled an eel, it had one dorsal fin, and four other fins, with a white belly; it measured twenty-one inches and a half, and weighed about two pounds three quarters.'

Journal of John Oxley (1820)

Kangaroos, fish and swans were the produce of the day — Macquarie River downstream of Wellington

10th June; 'Kangaroos, fish, and swans, were the produce of this day's sport, so that we enjoyed all the necessaries, and many of the luxuries of life.'

Journal of John Oxley (1820)

Fish, flesh and fowl are abundant — Macquarie River

11th June; 'After travelling six miles we came to a small river running from the eastward; there was at this time a fresh in it, so that we had to unload the horses and use the boats to transport our baggage over. It was three o'clock before we had got every thing across, we therefore halted for the evening. The country passed through was of the finest description, and apparently equally good on the opposite side; rich flats bounded by gentle hills were on each side of the small river, which received the name of Erskine River, after the present lieutenant governor of the colony. We had as yet seen no inhabitants, and very few signs that the country is inhabited at all. Fish, flesh, and fowl are abundant, but there are no human beings to enjoy them but ourselves: native dogs are in considerable numbers, and keep up during the night a continual howling.'

Journal of John Oxley (1820)

No fish caught due to cold weather — Macquarie River

25th June 1818; 'Emus and kangaroos are in abundance; but we have lately caught no fish, owing most likely to the coldness of the weather'

Journal of John Oxley (1820)

Platypuses and turtles observed but no fish caught — Peel River

2nd September 1818; 'We saw numbers of the ornithorynchus, or water mole, in the river, also a few turtle: we were not successful in obtaining any fish, so that we were unable to decide whether it contained the same species as the Macquarie.'

Journal of John Oxley (1820)

4. Hume and Hovell, 1824

In 1824, Hamilton Hume and William Hovell pioneered the overland route from Sydney to Port Phillip Bay, opening up vast tracts of grazing land to squatters and settlers. With six servants and four months supplies, they departed from Hume's station at Lake George (south of Goulburn) on the 17th October 1824. On 22nd October they crossed the Murrumbidgee River near Yass, and ventured into mountainous country to the south. The rough country necessitated leaving their carts behind and loading everything onto the bullocks. Almost a month after their departure from Lake George, they finally reached the Murray River (which they originally called the Hume River). They then headed southwest, crossing the Mitta Mitta, Kiewa, Ovens and Goulburn Rivers, and finally reached Port Phillip Bay on the 16th December 1824. Due to their longitudinal calculations being around 40 miles out, they actually thought they were at Western Port Bay, not Port Phillip Bay.

During their expedition, they reported an abundance of fish in most rivers and they regularly caught 'codfish' (Murray cod). They also caught crayfish, mussels and a 'bream or carp' in waterholes beside the main river channels.

The quotes presented below are taken from the expedition report compiled by Dr William Bland in 1831, using the original diaries of both Hume and Hovell.

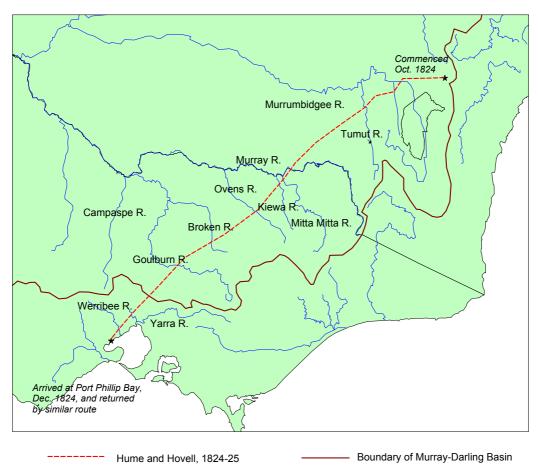


Figure 4. Route of Hume and Hovell's expedition in 1824–1825

Abundance of excellent fish in the Murrumbidgee River, near Yass

21st October, 1824; 'This river, as well as those streams which they have already crossed, abounds with excellent fish, of the same species as that in the Lachlan, and in the other streams which run to the westward. These are in shape like the cod-fish, and of a fine flavour*'

'* These fish weigh in general from five to twenty pounds; some of them even exceed the latter weight. They take bait readily.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Crayfish in the Goobragandra River near Tumut

- 1st November 1824; 'A large kangaroo was killed, and a lobster was caught in the river, twelve or thirteen inches long, and of an excellent flavour.*'
- '* In size, shape, and in every respect the same as the common lobster of England, except a number of carbuncles or small nobs on the back, cuminated, as to constitute a rough or somewhat prickly surface.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

'Cod fish' in the Tumut River

4th November 1824; 'The tea-tree grows on the sides of this river. A fish was seen in the stream, but which refused the bait. This was the first fish that had been observed in the last two rivers, and closely resembled the cod fish of the Lachlan and Murrumbidgee.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

'Cod fish', 'bream' and 'muscles' in the Upper Murray River and adjacent lagoons (upstream of Albury)

16th November 1824; 'Soon after sunrise they re-commence their journey, and having proceeded three miles and a half S. (the land gradually sloping as they advanced), arrive suddenly on the banks of a fine river.* This was named 'The Hume'.'

* The river abounds with that species of cod fish which is common in all the western rivers. In the lagoons they caught a kind of bream or carp, of the weight of about two pounds, and of the finest possible flavour. The lagoons are literally crowded with wild ducks, and in the muddy bottom near the banks, is plenty of large muscles; these are inferior to those found in salt water; the natives dive for them in the same manner as they procure the mud-oyster near Sydney, and these, with the fish caught in the river, seem to form the principal part of their food.

Their method of fishing is as follows: they select the outlet from a lagoon, which generally consists of a little stream of about two feet deep, and of about five or six feet broad. Across this, at no great distance from its junction with the river, they form a palisade with small stakes, which are driven firmly into the mud, and then carefully interwoven with wattles. Beyond this palisade, at the distance of five or six feet higher up the stream, they form a similar palisade, but leave an opening midway in its length, of about two feet wide. A dam being thus prepared, the natives go into the lagoon, where it is sufficiently shallow for their purpose, and beating the water with their wattles, and disturbing it in every possible way, drive the fish before them into the dam, which on being sufficiently full, is immediately closed, the fish in consequence falling an easy prize.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Abundant fish and ducks in the Upper Murray River

19th November 1824; 'They resume their route, (which they commenced the day before yesterday,) up the river (to the eastward). The general appearance of the country, together with that of the soil, is rich and beautiful. Fish and ducks are still abundant; they also meet with two black swans in the course of the day, the first they had seen on their journey.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

'Codfish' and 'carp' in the Kiewa River

21st November 1824; 'The natives, from the appearance of their fires, seem to be numerous, though none were seen. Two handsome large birds, termed by the Colonists, "Natives' Companions" were shot to-day, and some ducks. In the river, they caught some of the Lachlan codfish, and in the ponds, a kind of fish, similar to carp.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Fish caught in the Hovell (Goulburn) River, near Molesworth

3rd December 1824; 'On the banks of this river they remain the night, and prepare for passing it in the morning. Some fish are caught, in the course of the evening, similar to those in the Lachlan; and they kill a kangaroo. This river has been named 'the Hovell'.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Several fish caught in Muddy Creek (Yea Creek)

5th December 1824; 'Several fish similar to those found in the Lachlan were caught in the course of the day, and two of the men proceeded in quest of a dog that was missing, their swiftest and best, but who returned unsuccessful about dark.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Two 'lobsters' caught in a creek (near Yea)

10th December 1824; 'Two lobsters were caught in the creek, where they seemed numerous, but no other kind of fish.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Couple of cod fish caught (near Yea)

11th December 1824; 'Two kangaroos were killed to-day, and they caught a couple of Lachlan cod fish and destroyed a large black snake.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

On 16th December 1824 they arrived at Port Phillip Bay, near the present site of Geelong. The return journey commenced two days later.

Abundant fish in the Hovell (Goulburn) River, near Seymour

24th & 25th December 1824; 'were spent on the banks of the Hovell, in order that they might avail themselves of the fine fish which abound in its waters, as well as refresh the cattle.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Catching fish in the Ovens River

31st December 1824; 'Just before sunset they cross the Ovens and then immediately halt for the night; having travelled about fifteen miles. They caught abundance of fish in the river...'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Fish, ducks and swans caught on the Hume (Murray) River, upstream of Albury

3rd January 1825; 'Shot some black swans, and ducks, and caught abundance of fish.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Large Murray cod in the Hume (Murray) River, upstream of Albury

4th January 1825; 'They now cross the river about a mile higher up, (more to the east) than their former crossing place, travel about two miles, still upwards, along its banks, and then halt for the purposes of fishing, shooting, and refreshing the cattle. Some of the fish, which were similar to those in the Macquarie and Lachlan, described by Mr Oxley, were not less than thirty or forty pounds weight.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

More fish caught on the Tumut River

10th January 1825; 'Their course averaged to-day about a N E. direction, and they halted in the evening on the left bank of the Medway, about twenty miles N. of the spot at which they had crossed on the 3rd of November, and just below the conflux, on its right bank, of a fine little stream, which they had crossed on the 2nd of that month. The Medway here is a beautiful river winding N. through rich alluvial scantily wooded plains, known by the native name Doomot.* This stream, in its present very reduced state at the place at which it was forded, was three feet deep, and its current about two miles an hour; the bottom consisted of pebbles.Caught some fish of the usual description.'

'* The natives pronounce this word Toomot, or Doomot.'

Hume and Hovell expedition in 1824–1825, from Bland (1831)

Fish from a small stream in the Goodradigbee Valley

15th January 1825; 'To-day they rejoin their old track of the 28th of October, at the upper part of Limestone Valley, after a mountain journey, which for fatigue and intricacy, and even danger to the cattle, it would be impossible adequately to describe. Sometimes over steep crags, loose stones slipping from under their feet, gullies, and deep ravines traversed by small streams—and part of the distance along the bed of a rivulet, by which they were eventually again conducted into their former track. Out of this fine little stream they had the good fortune, in the evening, to procure a few fish. The whole of their flour was expended today.'

Hume and Hovell expedition in 1824-1825, from Bland (1831)

5. Allan Cunningham (1827)

Allan Cunningham is equally well known as a botanist and an explorer. He was sent by Sir Joseph Banks to New South Wales in 1816 to collect plants, and almost immediately joined Oxley's expedition to the west of the Blue Mountains in 1817. From 1817 to 1822 he was part of P.P. King's surveys of the Australian coastline.

Cunningham then resumed his botanical work in New South Wales and began a series of explorations. His most famous trip was to the Darling Downs in 1827. It was a journey that became the crowning point of Cunningham's career. To the exploration of inland territory which he had already made north of Bathurst in 1822, north of the Cudgegong River in 1823, and to the Liverpool Plains from Pandora's Pass in 1825, he now added a larger tract still further northward. He crossed the Namoi, Gwydir, Macintyre, Dumaresq, and Condamine Rivers, and, most importantly, the rich plains of the Darling Downs in southern Queensland.

Before he turned southward he had sighted the opening in the Great Dividing Range called after him, Cunningham's Gap, which led to the sea and provided a way of communication from the interior to the coastal districts of Moreton Bay.

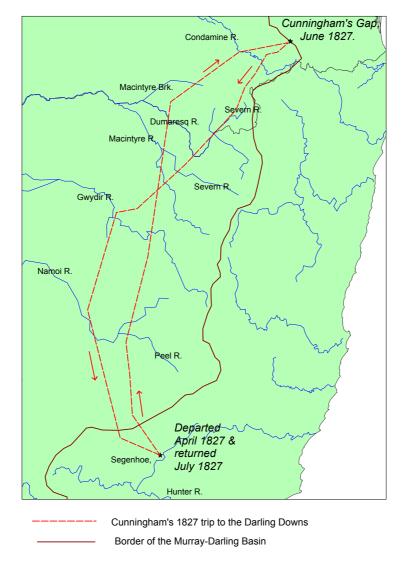


Figure 5. Route of Allan Cunningham's trip to the Darling Downs in 1827

A full copy of Cunningham's journal for the 1827 trip was not available for this project, and only edited versions by Favenc (1908) and Lee (1925) could be used, along with his report to the *Geographical Journal* which was reprinted by Scott (1916). A more complete record might be obtained by accessing Cunningham's original journals and manuscripts, most of which are held at the Botanical Departments of the Natural History Museum at South Kensington and at Kew Gardens, both in England.

'Cod of the western river' caught in the Namoi River, upstream of Gunnedah

11th May 1827; 'In a deep, weedy pond of the river beneath the tents, Cunningham's men caught several fine fish—'the cod of all our western rivers'—many of which seized the bait so eagerly that several hooks and portions of line were carried away and lost.'

Edited version of Cunningham's journal, by Lee (1925)

Fishing in the Condamine River, Darling Downs

5th June 1827; 'Upon accomplishing a journey of thirteen miles [the last one] we stopped on the left bank of a small river that comes from the S.E., which appeared likely to give us trouble to pass, as . . . there was very deep water . . . with a current flowing to the N.W.' While the men fished there during the afternoon, at a spot half a mile above the encampment, they noticed three natives in the bush on the opposite bank burning the grass.'

Edited version of Cunningham's journal, by Lee (1925)

Favenc's edited version of the same day

'On the 5th of June, Cunningham, from a small elevation, had a view of open country of decidedly favourable appearance: 'A hollow in the forest ridge immediately before us allowed me distinctly to perceive that at a distance of eight or nine miles, open plains or downs of great extent appeared to extend easterly to the base of a lofty range of mountains, lying south and north, distant by estimation about thirty miles. This was Cunningham's first glimpse of the now world-famous Darling Downs. On reaching the commencement of the great plains, they came to the 'bank of a small river, about fifteen yards in breadth, having a brisk current to the North-West.' As there was deep water in the pools of this river, the men anticipated some good fishing, and they were not disappointed. Cunningham named this river the Condamine.'

Edited version of Cunningham's journal by Favenc (1908)

Large cod caught in the Dumaresq River

2nd July 1827; 'We halted on the river at a part where the breadth across to the opposite bank (which was perpendicular and of a reddish earth) was not less than 100 yards. The flats on the opposite side were on fire, and, as we remarked patches in flames near us, it was evident there were natives in the neighbourhood. The river appears to continue its course to the southward and westward towards an obviously lower country through which our route tomorrow will lie. Our dogs caught an emu on the flats, and the anglers had scarcely cast their hooks into the river, which at this part appeared very deep, than their success commenced. Several fish of the cod of all the western rivers were caught in the course of the evening, of which one weighed 15 lbs.'

Edited version of Cunningham's journal, by Lee (1925)

6. Charles Sturt, 1828–1830

Charles Sturt undertook two major expeditions in the Murray-Darling Basin that helped dispel the myth of an inland sea.

In 1817 and 1818, John Oxley had attempted to follow the Lachlan and Macquarie Rivers westward, but in both cases had been thwarted when these rivers dissipated into large swamplands. In 1828 Governor Darling appointed Captain Charles Sturt to complete Oxley's work, with the hope that the severe drought of the previous few years might make it easier to pass through the swamplands.

Sturt left Wellington in central NSW, in December 1828, heading north-west down the Bogan River, (which was dry except for occasional pools). He eventually reached a much larger river which he named the Darling.

On his second expedition in 1829–1830, Sturt followed the Murrumbidgee River down to its junction with 'a broad and noble river' which he named the Murray. Actually it was the same river that the explorers Hume and Hovell had crossed further upstream in 1824, and called the 'Hume'. Sturt explored the Murray River past its junction with the Darling River and continued downstream to its mouth at the Southern Ocean. Sturt had finally proved that the westward flowing rivers did not empty into an inland sea.

During these expeditions the main species of fish caught was the Murray cod, although some other species were mentioned, including a 'bream' (probably a silver perch or golden perch) and a 'barbel' (or freshwater catfish). Sturt also observed crayfish and mussels. Towards the end of his trip down the Murray and Murrumbidgee Rivers, Sturt mentioned that despite the abundance of fish in the rivers, there were times when the men simply didn't have the energy or inclination to fish at the end of a long and tiring day. Sturt also commented that the Aboriginal tribes living along the rivers relied heavily on fish and mussels as a main food source.

6.1 Sturt's first expedition: westwards to the Darling River in 1828–1829

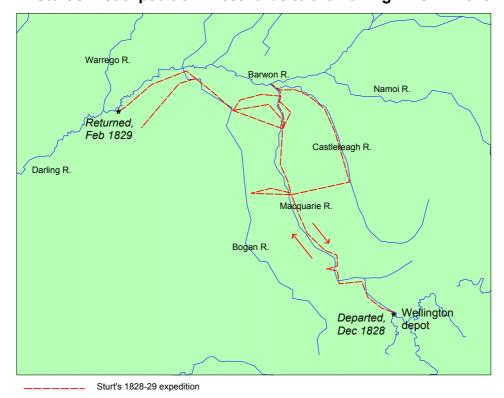


Figure 6. Route of Charles Sturt's expedition to the Darling River in 1828–1829

Buddah Lake, near Trangie, Macquarie valley

December 1828; 'We were sadly disappointed in the appearance of the lake, which the natives call the Buddah. It is a serpentine sheet of fresh water, of rather more than a mile in length, and from three to four hundred yards in breadth. Its depth was four fathoms; but it seemed as if it were now five or six feet below the ordinary level. No stream either runs into it or flows from it; yet it abounds in fish; from which circumstance I should imagine that it originally owed its supply to the river during some extensive inundation.'

Journal of Charles Sturt (1833), vol. 1

'Bream' and mussels in the Macquarie River

December 1828; 'As they were treated with kindness, the natives who accompanied us soon threw off all reserve, and in the afternoon assembled at the pool below the fall to take fish. They went very systematically to work, with short spears in their hands that tapered gradually to a point, and sank at once under water without splash or noise at a given signal from an elderly man. In a short time, one or two rose with the fish they had transfixed; the others remained about a minute under water, and then made their appearance near the same rock into the crevices of which they had driven their prey. Seven fine bream were taken, the whole of which they insisted on giving to our men, although I am not aware that any of themselves had broken their fast that day. They soon, however, procured a quantity of muscles, with which they sat down very contentedly at a fire.'

Journal of Charles Sturt (1833), vol. 1

Mussels in great abundance; anabranch of the Macquarie River

December 1828; 'It was much wider than the river, being from fifty to sixty yards across, and is resorted to by the natives, who procure muscles from its bed in great abundance.'

Journal of Charles Sturt (1833), vol. 1

Fishing unsuccessful due to low level of river, lower Macquarie River (near Mt Harris)

December 1828; 'Mr Hume had succeeded in taking some fish at one of the stock stations; but if I except those speared by the natives, we had since been altogether unsuccessful with the hook, a circumstance which I attribute to the lowness of the river itself.'

Journal of Charles Sturt (1833), vol. 1

Crayfish remains and shells — lower Macquarie River

December 1828; 'The soil was yielding, blistered, and uneven; and the claws of crayfish, together with numerous small shells, were every where collected in the hollows made by the subsiding waters, between broad belts of reeds and scrubs of polygonum.'

Fish trap in a channel — Macquarie marshes

28th December 1828; 'An almost imperceptible rise of ground was before me, which, by giving an impetus to the waters of the marsh, accounted to me for the formation of the main channel. It was too late, on my return to the camp, to prosecute any further examination of it downwards; but in the morning, Mr. Hume accompanied me in the boat, to ascertain to what point it led; and we found that at about a mile it began to diminish in breadth, until at length it was completely lost in a second expanse of reeds. We passed a singular scaffolding erected by the natives, on the side of the channel, to take fish; and also found a weir at the termination of it for the like purpose so that it was evident the natives occasionally ventured into the marshes.'

Journal of Charles Sturt (1833), vol. 1

Leaping fish in the Darling River

January 1829; '.. as I stood upon its banks at sunset, when not a breath of air existed to break the stillness of the waters below me, and saw their surface kept in constant agitation by the leaping fish, I doubted whether the river could supply itself so abundantly, and the rather imagined, that it owed such abundance, which the pelicans seemed to indicate was constant, to some mediterranean sea or other.'

Journal of Charles Sturt (1833), vol. 1

Fish is chief food of Aborigines — Darling River

February 1829; 'Their chief food is fish, of which they have great supplies in the river; still they have their seasons for hunting their emus and kangaroos. The nets they use for this purpose, as well as for fishing, are of great length, and are made upon large frames.'

Journal of Charles Sturt (1833), vol. 1

Fish exposed in shallow pool, lower Macquarie River

February 1829; 'At noon, on the 19th, we entered the plain, and once more saw them spreading in dreariness before us. While the party was crossing to the first channel, I rode to the left, in order to examine the appearance of the country in the direction of the wood, and as far as I skirted the reeds had my impressions confirmed as to their partial extension. I was obliged, however, to join the men without completing the circuit of the marshes. They had found the first channel dry, and had passed on to the other, in which, fortunately, a small quantity of water still remained. It was, however, so shallow as to expose the backs of the fish in it, and a number of crows had congregated, and were pecking at them.'

Journal of Charles Sturt (1833), vol. 1

Firing of the great marshes by the Aborigines and their hunt for food

February 1829; 'I am inclined to think that they made these conflagrations to procure food, by seizing whatsoever might issue from the flames, as snakes, birds, or other animals; for they had taken every fish in the river, and the low state of its waters had enabled them to procure an abundance of muscles from its bed, which they had consumed with their characteristic improvidence.'

No fish in putrid lagoon — Castlereagh River

March 1829; 'Whilst Mr. Hume led the party down the river, I rode up its northward bank, to examine it more closely. I found it to be a serpentine sheet of about three miles in length, gradually decreasing in depth until it separated into two small creeks. In following one of them up, I observed that they re-united at the distance of about two miles, and that the lagoon was filled from the eastward, and not by the river as I had at first supposed. The waters at the head of the lagoon were putrid, nor was there a fish in, or a wild fowl upon it. The only bird we saw was a beautiful eagle, of the osprey kind, with plumage like a sea gull, which had a nest in the tree over the tents.'

Journal of Charles Sturt (1833), vol. 1

Aborigines cooking fish — Castlereagh River

March 1829; 'Some natives had only just preceded us down it: we came upon their fires that were still smoking; and upon them were the remains of some fish they had taken, near which they had left a cumbrous spear.'

Journal of Charles Sturt (1833), vol. 1

A different species of fish — Castlereagh River

March 1829; 'A little before we stopped at the creek, we surprised a party of natives; old men, women, and children. They were preparing dinners of fish in much larger quantities than they could have devoured—probably for a part of the tribe that were absent; but the moment they saw us they fled, and left every thing at our mercy. On examining the fish, we found them totally different from any in the Macquarie, and took two of the most perfect to preserve.'

Journal of Charles Sturt (1833), vol. 1

Junction of the Darling and Castlereagh Rivers

March 1829; 'In the hope that we should fall on some detached pond, we pursued our journey on the 29th. The Castlereagh gave singular proofs of its violence, as if its waters, confined in the valley, had a difficulty in escaping from it. We had not travelled two miles, when in crossing, as we imagined, one of its bights, we found ourselves checked by a broad river. A single glimpse of it was sufficient to tell us it was the Darling. At a distance of more than ninety miles nearer its source, this singular river still preserved its character, so strikingly, that it was impossible not to have recognised it in a moment. The same steep banks and lofty timber, the same deep reaches, alive with fish, were here visible as when we left it.'

6.2 Sturt's second expedition: down the Murray River in 1829–1830

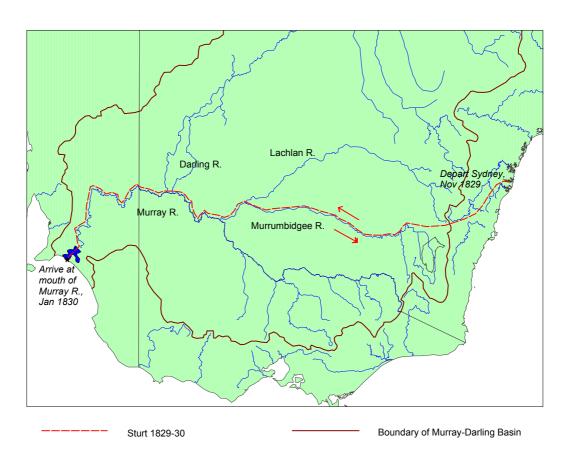


Figure 7. Route of Sturt's expedition in 1829–1830 down the Murrumbidgee and Murray Rivers



Figure 8. View of the Murrumbidgee River. Sketch from Sturt's journal for his 1829–1830 expedition (from Sturt 1833).

'Codfish' caught in the Murrumbidgee River, downstream of Gundagai

December 1829; 'It is deeply regretted that this noble river should exist at such a distance from the capital as to be unavailable. During our stay on the Pondebadgery Plain, the men caught a number of codfish, as they are generally termed, but which are, in reality, a species of perch. The largest weighed 40lb but the majority of the others were small, not exceeding from six to eight.'

Journal of Charles Sturt (1833), vol. 2

Remains of crayfish and shells, near Wagga Wagga

December 1829; '...the soil near the river, although still rich, and certainly more extensive than above, was occasionally mixed with sand, and scattered over with claws of crayfish and shells, indicating its greater liability to be flooded...'

Journal of Charles Sturt (1833), vol. 2

Fish rolling about on the surface of the water — Murrumbidgee River near Wagga Wagga

December 1829; 'The river where we stopped for the night appeared to have risen considerably, and the fish were rolling about on the surface of the water with a noise like porpoises.'

Journal of Charles Sturt (1833), vol. 2

Aborigines collect freshwater mussels, Murrumbidgee River

December 1829; 'I really thought they expected me to supply their wants, but as I could not act so liberal a scale, George McLeay undeceived them; after which they betook themselves to the river, and got a supply of muscles.'

Journal of Charles Sturt (1833), vol. 2

Little interest in fishing — Sturt's men on the Murray

January 1830; 'It will naturally be asked why we did not procure fish? The answer is easy. The men had caught many in the Morumbidgee, and on our first navigation of the Murray, but whether it was that they had disagreed with them, or that their appetites were palled, or that they were too fatigued after the labour of the day to set the lines, they did not appear to care about them. The only fish we could take was the common cod or perch; and without sauce or butter, it is insipid enough. We occasionally exchanged pieces of iron hoop for two other kinds of fish, the one a bream, the other a barbel, with the natives...'

Journal of Charles Sturt (1833), vol. 2

Note; the 'bream' were most likely golden perch or silver perch, and the 'barbel' would have been the freshwater catfish.

Dexterity of Aborigines in Fishing

January 1830: 'As they threw off all reserve when accompanying us as ambassadors, we had frequent opportunities of observing their habits. The facility, for instance, with which they procured fish was really surprising. They would slip, feet foremost, into the water as they walked along the bank of the river, as if they had accidentally done so, but, in reality, to avoid the splash they would necessarily have made if they had plunged in head foremost. As surely as they then disappeared under the surface of the water, so surely would they re-appear with a fish writhing upon the point of their short spears. The very otter scarcely exceeds them in power over the finny race, and so true is the aim of these savages, even under water, that all the fish we procured from them were pierced either close behind the lateral fin, or in the very centre of the head, It is certain, from their indifference to them, that the natives seldom eat fish when they can get anything else. Indeed, they seemed more anxious to take the small turtle, which, sunning themselves on the trunks or logs of trees over the water, were, nevertheless, extremely on their quard. A gentle splash alone indicated to us that any thing had dropped into the water, but the quick eyes and ears of our guides immediately detected what had occasioned it, and they seldom failed to take the poor little animal that had so vainly trusted to its own watchfulness for security.'

Journal of Charles Sturt (1833), vol. 2

Feast on a tortoise

February 1830; 'Beneath the cliffs hereabouts, the river was extremely broad and deep. My servant thought it a good place for fishing and accordingly set a night-line, one end of which he fastened to the bough of a tree. During the night, being on guard, he saw a small tortoise floating on the water, so near that he struck it a violent blow with a large stick, upon which it dived: to his surprise, however, in the morning, he found that it had taken the bait, and was fast to the line. On examining it, the shell proved to be cracked, so that the blow must have been a severe one. It was the largest we had ever seen, and made an excellent dish. The flesh was beautifully white, nor could anything, especially under our circumstances, have been more tempting than it was when cooked; yet M'Leay would not partake of it.'

Journal of Charles Sturt (1833), vol. 2

Men weary on return trip — few fish caught

February 1830; 'Our sugar failed us on the 18th of February, and our salt provisions, in consequence of the accident which happened to the skiff, on the 8th of March; so that from the above period we were living on a reduced ration of flour; and as we took few fish, and were generally unsuccessful with our guns, the men had seldom more than their bread to eat.'



Figure 9. Junction of the Darling and Murray Rivers. Sketch from Sturt's journal for the 1829–1830 expedition (from Sturt, 1833).

7. Thomas Mitchell, 1831–1846

Sir Thomas Mitchell, the Surveyor-General, undertook four major expeditions in eastern Australia between 1831 and 1846.

In 1831–1832 he explored the inland river systems to the north-west of Sydney. Mitchell believed that all these rivers flowed eventually into the Darling River, which Charles Sturt had discovered in 1829. He travelled north from Sydney, across the Great Dividing Range and into the valleys of the Namoi and Gwydir Rivers before reaching the Barwon River (upper Darling River) near Mungindi on the NSW–Queensland border.

On his second expedition, in 1835, Mitchell travelled north-west down the Bogan River to its confluence with the Darling, set up a base camp at 'Fort Bourke' and then travelled about 500 km down the Darling. This trip reinforced his belief that the westward-flowing rivers of New South Wales flowed into the Darling, and not an inland sea. He planned to trace the course of the Darling River downstream, but harsh conditions and fighting with the Aboriginal people forced him to eventually turn back.

In 1836 Mitchell embarked in his third and most important journey. He travelled down the Lachlan River to its junction with the Murrumbidgee River, then followed the Murrumbidgee to the Murray River. His orders were to follow the Murray downstream to its mouth, but instead he travelled upstream to a point near the present site of Kerang, then turned south into the western districts of Victoria. As he passed through Victoria he discovered vast tracts of rich grazing land which he called 'Australia Felix' — or Fortunate Australia. Finding the Glenelg River and rowing down it, Mitchell's party reached the sea at Portland Bay, on Bass Strait, on 29th August. Mitchell returned to Sydney via a more easterly route, crossing the Broken River near the site of Benalla. On his return to Sydney, and the news of a huge expanse of superb farming country, squatters immediately set off southwards following 'the Major's Track', and taking with them large flocks of sheep and herds of cows. Within a few years large grazing properties had been established across much of Victoria.

Mitchell's fourth and last expedition, in 1845–1846, took him north along the Bogan and Macquarie Rivers in western NSW, across the Darling River, then further north into Queensland via the Narran, Balonne and Maranoa Rivers, all of which drain into the Darling River system. After setting up a base camp near present-day Mitchell on the Maranoa River, he continued on his northward journey to the Nogoa and Belyando Rivers, which flow eastward to the coast. Heading further west he discovered the Barcoo River, which he mistakenly thought flowed to the Gulf of Carpentaria, but actually flows inland to the Cooper Creek system. This region of Queensland was not as rich as the land he had previously found in Victoria, but in the following decades it became important grazing country.

As an explorer, Mitchell provided some of the most accurate records of the native fish, including fine sketches (see front cover of this report), and detailed descriptions of the anatomy of the Murray cod, silver perch and freshwater catfish. On his final expedition, he observed and described the nests of the freshwater catfish and also a new species of fish which he called the 'harlequin fish'. He also described many of the different fishing techniques used by the Aboriginal communities, including the use of eucalyptus leaves to poison waterholes.

The following section describes only the fish that Mitchell and his men caught in rivers of the Murray-Darling Basin.

Some of the quotes include a cross-reference to other pages or plates. Those cross-references are in the original published diaries, and are therefore included for completeness.

7.1 Mitchell's first expedition: northern NSW in 1831–1832

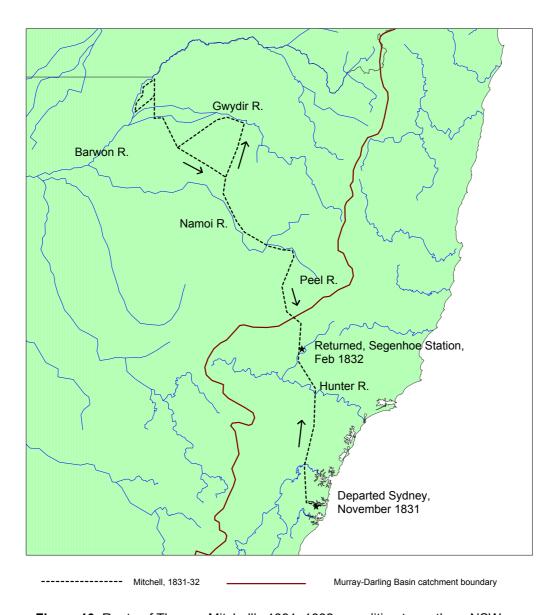


Figure 10. Route of Thomas Mitchell's 1831–1832 expedition to northern NSW

Large fish caught in the Peel River

11th December 1831; 'After a journey of thirteen miles, we reached the bank of the Peel at Wallamoul, the lowest cattle station upon this river. The river is so low that Mr White and I passed over easily on a tree which the flood had laid across it. The current, however, was strong; and the men having furnished from our stock with a few hooks and lines, caught three large fishes by sunset.'

12th December; 'At an early hour this morning, one of our men caught a fish, which weighed eighteen pounds; but according to the natives, this was no uncommon size. These fishes are most erroneously called cod by the colonists, although they certainly very much resemble cod in taste....'

Journal of Thomas Mitchell (1839)

Nine pound 'cod-perch' from the Peel River

14th December 1831; 'We encamped on the river at the foot of a small hill named 'Perimbungay'.The men were very successful at fishing; the cod-perch which they caught weighing upwards of nine pounds each (see Fig 1, plate 6 page 44). With such abundance of fish, and also the kangaroo, I hoped to feast 'Mr Brown', but he set no value on food so common to him, preferring flour to all things else...'

Journal of Thomas Mitchell (1839)

Small catch of fish from the Namoi River

16th December 1831; '...we reached the bank of the Namoi, and encamped about noon.The men threw in their lines, but caught during the day only two fishes, similar to those obtained at Perimbungay.'

Journal of Thomas Mitchell (1839)

Catfish caught in a lagoon near the Namoi River

17th December 1831; 'We encamped near this stock-yard, beside a lagoon of still water, which was as broad and deep as the main stream. The water was nearly on a level with the surface of the surrounding country, and was obviously supplied from the overflowings of the Nammoy, then at some distance to the westward. We caught some small fish, two of them being of a rather singular kind, resembling an eel in the head and shape of the tail, although as short in proportion to their thickness as most other kinds of fish (see sketch in Fig. 2. plate 6, page 44).'

Journal of Thomas Mitchell (1839)

'Crayfish' in the Namoi River

30th December 1831; 'In emptying the water out of the sunken boat, we found a cray-fish, resembling those which I had seen in the fresh water lagoons about Lake George; the remains of this crustacean were also abundant there, at places where water had been but very temporarily lodged.'

* A species of astacus, which, as far as I am aware, comes very close to the common European crayfish.'

Journal of Thomas Mitchell (1839)

More 'crayfish' from a deep pond — north-west of Namoi River.

2nd January 1832; A rather elevated, but grassy plain afforded little prospect of water being near, at the time we were about to halt and rest, after a long journey, and I had directed the men to pitch the tents, despairing of reaching water that day, when I suddenly came upon a deep pool.having directed Jones (one of the men ablest at fishing,) to try the pond, to the no small amusement of the others; he nevertheless, drew out in a short time, a good dish of cray-fish (or lobsters as they termed them).'

'Crayfish' cooked by Aboriginal group

17th January 1832; 'I perceived the fires of the natives at no great distance from our camp, and Dawkins went forward taking with him a tomahawk and a small loaf. He soon came upon a tribe of about thirty men, women, and children, seated by the ponds, with half a kangaroo and some crayfish cooked before them, and also a large vessel of bark containing water.'

Journal of Thomas Mitchell (1839)

Native weirs for catching fish — waterhole in the Barwon Valley

22nd January 1832; 'Drift timber and other fluviatile relics lay high on the banks, and several weirs for catching fish, worked very neatly, stood on ground quite dry and hard. Lower down, as indicated by the flood-marks, the banks were much more broken, and the channel seemed deeper, while enormous bluegum-trees (eucalypti) grew on the banks, and I was therefore of opinion that some larger river was before us at no great distance.'

Journal of Thomas Mitchell (1839)

Catching Silver perch, Murray cod and catfish in the Barwon River

24th 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*: secondly, the fish we had found in the Peel, commonly called by the colonists 'the cod', although most erroneously, since it has nothing whatever to do with malacopterygious fishes†: thirdly, the eel-fish, which we had caught at the lagoon near Tangulda‡.'

'Notes:

- * Family, Percidae; Genus, Acerina; subgenus, Cernua, Flem. or Ruffe; Species Cernua Bidyana mihi, or Bidyan Ruffe. Colour, brownish yellow, with the belly silvery white. The three middle pectoral rays are branched. The dorsals confluent. The first dorsal fin has 11 spines, the ventrals having 1+6 rays, and the annals 3+6. (see plate 9). Obs. Bidyan is the aboriginal name.
- † Family, Percidae; Genus, Acerina; subgenus, Gristes, Cuv. or Growler; Species, Gristes Peelii mihi, or Cod-Perch. Colour, light yellow, covered with small irregular dusky spots, which get more confluent towards the back. Throat pinkish, and belly silvery white. Scales small, and concealed in a thick epidermis. Fins obscure. The dorsals confluent. The first dorsal has 11 spines, and the caudal fin is convex. (Plate 6, fig 1, page 44)
- ‡. Family, Siluridae, Cuv.; Genus Plotosus, Lacepede, or Eel-fish; subgenus, Tandanus mihi; species, Plotosus Tandanus mihi; or Tandan Eel-fish. Colour, silvery. The dorsal fin placed half way between the pectoral and ventral has six rays, of which the middle two are the longest. (Plate 6, fig 2, page 44). Obs. This is an Asiatic form of fish; whereas the Gristes is an American form. Tandan, is an aboriginal name.'

Journal of Thomas Mitchell (1839)

Catching fish with hooks and lines — Barwon River

28th January 1832; 'We now looked with some anxiety for Mr. Finch's arrival and, in order to preserve our provisions as long as possible, I determined to make the abundance of fish available, by distributing fishing-hooks to the men, and to reduce their weekly ration of pork from 3 1/2 to 2 pounds.

In fishing we were tolerably successful; but flour was the article of which we stood most in need, and for this the country afforded no substitute, although I reduced the allowance of that also.'

Aborigines take all the fish — Barwon River

30th January 1832; 'No fish could be caught this day, and we supposed that the natives were busy taking them, above and below the camp, for, in their mode of fishing, few can escape. We had previously seen the osier nettings, erected by them across the various currents, and especially in the Gwydir, where some had been noticed of very neat workmanship. The frame of each trellis was as well squared as it had been the work of a carpenter, and the twigs were inserted, at regular intervals, so as to form, by crossing each other, a strong and efficient kind of net or snare. Where these were erected, a small opening was left towards the middle of the current, probably, that some bag or netting might be applied there to receive the fish, while natives in the river above should drive them towards it. The river continued to fall during the day.'

31st January; 'The sky overcast. A good supply of fish caught in the morning.'

Journal of Thomas Mitchell (1839)

Return to the Namoi and catching fish

23rd February 1832; 'We made the Nammoy, however, in good time..... None of the kind of fish, that we most prized (Gristes Peelii), could now be caught in this river, though abundance of that which the men commonly called bream (cernua bidyana), a very coarse but firm fish, which makes a groaning noise when taken out of the water; and here it may be observed, that the colour of the cod or Peel's perch was lighter, and that of the Eel-fish (Tandanus), darker, in the Karaula, than in any other river.'

26th February; '.....The men caught several large 'cod' (Peel's perch), one of which weighed 13 pounds.'

7.2 Mitchell's second expedition: the Darling River in 1835



Figure 11. 'View on the River Darling, near camp, 9th August 1835.' Sketch from Mitchell's journal for his 1835 expedition along the Darling River (from Mitchell 1839).

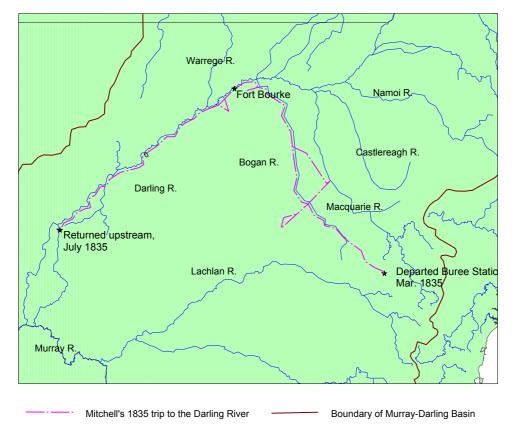


Figure 12. Route of Mitchell's 1835 expedition to the Darling River

Remains of mussel shells in campfire — Bogan River

1st May 1835; 'The party came in from tracing Mr. Cunningham's steps along the dry bed of the Bogan, and we were glad to find that the impressions continued. There appeared to be the print of a small naked foot of someone either accompanying or tracking Mr. Cunningham. At one place were the remains of a small fire, and the shells of a few mussels, as if he had eaten them.'

Journal of Thomas Mitchell (1839)

Gift of fish from Aborigines — Darling River at Bourke

29th May 1835; 'I was glad to find, that the blacks had already resumed their usual occupations. One of those, whom I saw yesterday, while passing down the river today on a piece of bark, perceived Mr Larmer fishing, upon which he approached the river bank, and after throwing to him a fish which he had caught, continued in his frail bark to float down the stream.'

Journal of Thomas Mitchell (1839)

Large shoals of fish — Darling River at Bourke

1st June 1835; '.....the water being beautifully transparent, the bottom was visible at great depths, showing large fishes in shoals, floating like birds in mid-air.'

Journal of Thomas Mitchell (1839)

Aborigines fishing in the Darling River

2nd June 1835; 'As we pulled up the river two natives appeared at a distance in one of the long reaches, fishing in two small canoes. On observing our boats they dashed the water up, paddling with their spears, and thus scudding with great rapidity to the right bank, where they left their canoes and instantly disappeared. These vessels were of the simplest construction; so slight indeed that it seemed to us singular how a man could float in one, for it was merely a sheet of bark, with a little clay at each end; yet there was a fire besides in each, the weather being very cold. A native, when he wishes to proceed, stands erect and propels the canoe with the short spear he uses in fishing; striking the water with each end alternately, on each side of the canoe, and he thus glides very rapidly along.'

Journal of Thomas Mitchell (1839)

Small 'lake' full of fish — along the Darling River

7th July 1835; 'We crossed some soft red sandhills and at 7 ½ miles passed the bank of a beautiful piece of water on which were various kinds of waterfowl. This lake was brimful, a novel sight to us; the shining waters being spread into a horseshoe shape, and reflecting the images of enormous gumtrees on the banks. It extended also into several bays or sinuosities which gave the scenery a most refreshing aquatic character. The greatest breadth of this lake was about 200 yards. It seemed full of fishes, and it was probably of considerable depth, being free from weeds, and continuing so full and clear throughout summers which had drunk up all the minor streams. After crossing some soft ground, the Darling having been in sight on our right, we encamped on its banks near a small hill overlooking the river, and a little beyond the camp, in the direction of our line of route.'

Approach of the Fishing tribe

9th July 1835; 'These two men had hung about our party several days and their intention of assembling the tribes around us for the worst of purposes was no longer to be doubted. I felt no occasion to be ceremonious with them, for I had frequently given them to understand that we did not wish their company. I immediately took several men forward with muskets to keep the tribes off while our party were encamping, but to no purpose. The natives carried a quantity of large fishes, and introduced me particularly to a very good-humoured-looking black who seemed to be chief of the new tribe, and who took some pains to explain to me that the spears they carried were only for killing fishes or kangaroos (boondari).'

Journal of Thomas Mitchell (1839)

Aboriginal mode of fishing — Darling River

10th July 1835; 'These tribes inhabiting the banks of the Darling may be considered Ichthyophagi, in the strictest sense, and their mode of fishing was really an interesting sight. There was an unusually deep and broad reach of the river opposite to our camp, and it appeared that they had fished daily in different portions of it, in the following manner. The king stood erect in his bark canoe, while nine young men, with short spears, went up the river, and as many down, until, at a signal from him, all dived into it, and returned towards him, alternately swimming and diving; transfixing the fish under water, and throwing them on the bank. Others on the river brink speared the fish when thus enclosed, as they appeared among the weeds, in which small openings were purposely made that they might see them. In this manner they killed with astonishing dispatch, some enormous cod-perch; but the largest were struck by the chief from his canoe, with a long barbed spear.'

Journal of Thomas Mitchell (1839)

Swapping clasp-knife for 'cod' fish with Aborigines

22nd July 1835; 'The wind blew very keenly all night, and in the morning the sky was cloudy, but no rain fell; towards noon the sun appeared, and the air became milder. About two P.M. I was informed that the Spitting tribe was on the riverbank, and in communication with our men in charge of the cattle; also that three had come over and sat down, asking as usual for tomahawks. These were the old man already mentioned (as wanting part of his nose) and two strong men. Our party beckoned to them to keep back, but they came over in three canoes. They had been fishing on the river, and had been roasting and eating the fish on the opposite bank. Overseer

Burnett offered them his clasp-knife in exchange for a cod* weighing about 19 pounds but they would only give a small fish weighing not above one pound; and then coolly went over and sat down to eat the fish themselves.'

(*Footnote. Gristes peelii.)'

Promise of fish from Aborigines

7th August 1835; 'We were soon hailed by some of our old friends of the Fort Bourke tribe, by far the best conducted natives that we had seen on the Darling. They asked our men for tomahawks, and I had instructed them to explain that for three large cod-perch they should have one in exchange. We could catch none of these fishes ourselves, which was rather singular as some of our poor fellows were indefatigable in making the attempt every night, with hook and line and all kinds of bait. The natives seemed to understand our wants and they promised to bring us fish in the morning. At sunset the wind changed to the south-west and the sky became overcast: the air also was cooler, and after such heat as that which we experienced today, at this season, a fall of rain might have been expected; but I felt less apprehensive here, from four months' experience of the climate of the interior.'

8th August; 'Early this morning a number of natives came near our camp, but without bringing any fish.'

Journal of Thomas Mitchell (1839)

Catching fish and birds with nets and spears, and collecting mussels — Darling River

10th August 1835; 'The natives of the Darling live chiefly on the fish of the river, and are expert swimmers and divers. They can swim and turn with great velocity under water, and they can both see and spear the largest fish, sometimes remaining beneath the surface a considerable time for this purpose. In very cold weather, however, they float on pieces of bark; and thus also they can spear the fish, having a small fire beside them in such a bark canoe. They also feed on birds, and especially on ducks, which they ensnare with nets, in the possession of every tribe. These nets are very well worked, much resembling our own structure, and they are made of the wild flax, which grows in tufts near the river. These are easily gathered by the gins, who manage the whole process of net-making. They give each tuft (soon after gathering it) a twist, also biting a little, and in that state it is laid about on the roof of their huts until dry. Fishing nets are made of various similar materials, being often very large' and attached to some of them. I have seen half inch cordage, which might have been mistaken for the production of a rope-walk. But the largest of their nets are those set across the Darling for the purpose of catching the ducks which fly along the river in considerable flocks. These nets are strong, with wide meshes, and when occasion requires, they are stretched across the river from pole erected for the purpose on one side, to some large opposite tree on the other. Such poles are permanently fixed, supported by substantial props, and it was doubtless one of them, that Captain Sturt supposed to have been erected, to propitiate some deity.

The native knows well 'the alleys green' through which at twilight, the thirsty pigeons and parrots rush towards the water; and there, with a smaller net hung up, he sits down, and makes a fire ready to roast the birds, which may fall into his snare.

.....With the toes, they gather freshwater muscles (unio) from the muddy bottom of rivers or lagoons; and heaps of these shells beside their old fire places, which are numerous along the banks, shew that this shell-fish is the daily food of, at least, the gins and children.'

Journal of Thomas Mitchell (1839)

Summary of fish at Fort Bourke — Darling River

10th August 1835; 'The species of fish most abundant in the Darling, is the Gristes Peelii, or codperch, and they are caught of a very large size by the natives. We also saw the thick-scaled mud-tasted fish (Cernua Bidyana, see page 95). We did not, on this occasion, see that remarkable fish, the Eel-fish (Plotosus Tandanus), so abundant in the higher parts of the river. The water was too clear, and the weather too cold, for fishing with bait, one of each of the two species first mentioned, caught during our first occupation of Fort Bourke, being all we ever procured.'

Quietly collecting mussels in the Darling River

12th August 1835; 'About ten a.m. the calls of natives were heard, and four or five came towards the camp asking for tomahawks. I sent two of our people to them, but they were restless and importunate; soon after I saw them running, having set the grass on fire. We sallied forth in pursuit....... I believe these were strangers, for the gins of the Fort Bourke tribe continued, all the while, quietly to fish for muscles in the river, without taking notice of them.'

Journal of Thomas Mitchell (1839)

Methods of fishing by tribes living along the Bogan River

10th September 1835; 'Unlike the natives on the Darling, these inhabitants of the banks of the Bogan subsist more on the opossum, kangaroo, and emu, than on the fish of their river. Here fishing is left entirely to the gins, but is performed most effectually and in the simplest of manner. A moveable dam of long, twisted dry grass through which water only can pass, is pushed from one end of the pond to the other, and all the fishes are necessarily captured. Thus, when at the holes where a tribe had recently been, if any of my men began to fish, any natives who might be near would laugh most heartily at the hopeless attempt.

The gins also gather the large fresh-water muscle, which abounds in the mud of these holes, lifting the shell out of the mud with their toes.'



Figure 13. Ana-branch of the Darling. [1846]. Sketch by Samuel T Gill. (National Library of Australia)

7.3 Mitchell's third expedition: the Darling River and Victoria in 1836

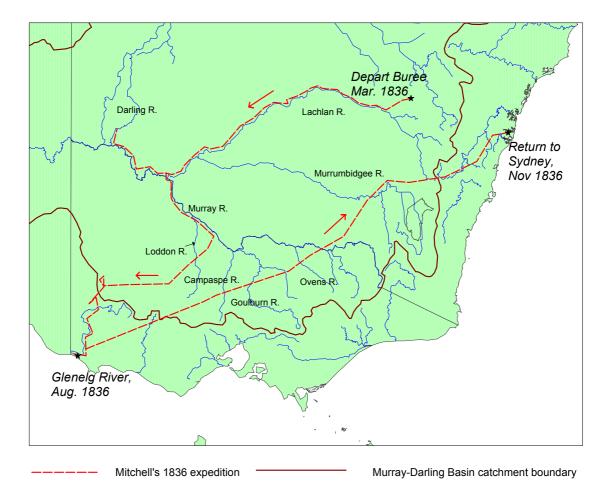


Figure 14. Route of Mitchell's 1836 expedition to the Murray River and western Victoria

Catfish caught in creek near Eugowra, Lachlan Valley

22nd March 1836; 'We continued our journey along the left bank of the creek, but with considerable difficulty and delay occasioned by the projection of the rocky escarpment of the above-mentioned extremities of Mount Marga In the creek we found ponds, deep and clear like canals; their borders being reedy and their margins green. In these ponds the natives speared several fishes which had however a muddy flavour. Among them was one, apparently the eel-fish, caught during my first expedition in the Namoi and upper Darling*. This circumstance was rather in favour of the supposition that the streams unite; but still the fish seemed somewhat different.'

"Footnote. Plotosus tandanus, see Volume 1."

Silver perch and catfish caught in Goobang Creek, east of Condobolin

1st April 1836; 'On dragging our net through the muddy pond we captured two fishes, but of monstrous size, one weighing 17 pounds, the other about 12 pounds. Although very different in shape, I recognised in them the fish of the perch kind with large scales* and the eel-fish** formerly caught by us in the Namoi. But the former when taken in that river was coarse and tasted of mud, whereas this ruffe, although so large was not coarse, but rich, and of excellent flavour--and so fat that the flakes fell into crumbs when fried. This day a bird of a new species was shot by Roach. It was of a swallow kind, about the size of a snipe, of a leaden colour, with dark head and wings.'

"Footnote. Cernua bidyana.

**Footnote. Plotosus tandanus.'

Journal of Thomas Mitchell (1839)

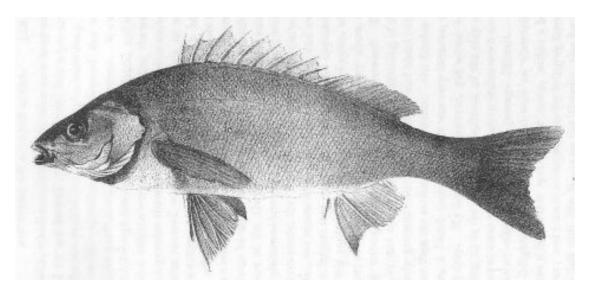


Figure 15. Sketch of a silver perch from Mitchell's Journal (1839). Original caption was; 'Plate 9: Cernua bidyana, or Bidyan Ruffe. T.L.M. del. A. Picken Lith. Day and Haghe Lithographers to the Queen. London, Published by T. and W. Boone.'

Poisoned waterhole

4th April 1836; 'We finally encamped on the Lachlan at the junction of the Goobang, in latitude 33 degrees 5 minutes 20 seconds; longitude East 147 degrees 13 minutes 10 seconds. There the river contained some deep pools and we expected to catch fish; but Piper told us that the holes had been recently poisoned, a process adopted by the natives in dry seasons, when the river no longer flows, for bringing the fish to the surface of deep ponds and thus killing the whole; I need not add that none of us got a bite. All these holes were full of recently cut boughs of the eucalyptus, so that the water was tinged black.'

Ducks and freshwater mussels in Regents lake (Lake Cargelligo)

13th April 1836; 'We found the 'noble lake', as it appeared when discovered by Mr Oxley, now for the most part a plain, covered with luxuriant grass; some water, it is true, lodged on the eastern most extremity, but no where to a greater depth than a foot. Innumerable ducks took refuge there, and also a great number of black swans and pelicans, the last standing high upon their legs, above the remains of Regent's lake. We found the water perfectly sweet even in this shallow state. It abounds with the large fresh water muscle, which is the chief food of the natives, at the time we visited it. On first approaching the lake, we saw the natives in the midst of the water, gathering the muscles (unio).'

Journal of Thomas Mitchell (1839)

Several good 'cod-perch' from the Lachlan River

1st May 1836; 'The men caught in this friendly pool several good cod-perch (Gristes peelii), a fish surpassing, in my opinion, all others in Australia.'

Journal of Thomas Mitchell (1839)

'Crayfish' and Mussels in Lake Cargelligo

6th May 1836; 'The bed of this lake had been full of the freshwater mussel; and under a canoe (which I took away in the carts) were several large crayfish dead in their holes. Dry and parched as the bed of the lake then was, the natives found nevertheless live freshwater mussels by digging to a substratum of sand. I understood that they also find this shell alive in the same manner, in the dry bed of the Lachlan.'

Journal of Thomas Mitchell (1839)

Murray cod caught in the Murray River

28th May 1836; 'The river had more the appearance of having a flood in it now, than at the time we fist made it, and here we caught some good cod-perch (Gristes Peelii), one weighing seventeen pounds. As we came along the lagoons in the morning of this day, we shot a new kind of duck.'

Journal of Thomas Mitchell (1839)

Natives fishing in 'Lake Benanee' near Euston on the Murray River

9th June 1836; 'I perceived only one or two natives fishing, and I took Piper down to the beach to speak to them, being desirous also to examine at leisure this fine sheet of water.At length, when apparently near the centre of the lake, he overtook one; and while leading him towards the shore he ascertained that the Darling tribe had returned to the lake only on the day before, having been ever since their dispersion on the 27th May until this time, on the opposite bank of the Murray. That they were then fishing in a lagoon near the river (where in fact we afterwards saw smoke and heard their voices) and that they had despatched three messengers to a portion of the tribe on the upper Darling, with the news of what had befallen them, of our progress in that direction, and requesting them to join them as soon as possible at the lake.'

Fish trap in anabranch

26th June 1836; 'Mr. Stapylton observed in the channel he traced a net or fence of boughs which the natives had that morning set up; and which showed not only that they expected a flood, but also, from the manner in which it was placed, that the water would flow first up the channel. This circumstance, as already observed, is not unusual in ana-branches where the lower end is naturally on a lower level, having been worn by the currents into a deeper channel there than at the upper end, where the water not unfrequently leaves the river by overflowing its banks in various channels of small depth.'

Journal of Thomas Mitchell (1839)

Fishing in the Glenelg River, western Victoria — differences between coastal and inland rivers

3rd August 1836; 'The ponds where we had encamped, were large and deep, and I endeavoured to ascertain whether the cod-perch (Gristes Peelii) inhabited these waters. Neither this fine fish, nor either of the two others found in the streams flowing towards the interior from the eastern coast range, have ever been seen in the rivers which reach the eastern shores; and I had now ascertained that all the waters I which we had procured the fish in question belonged to the extensive basin of the Murray. We were at length on channels evidently distinct, both from those leading to the eastern coast, and those belonging to the basin of the Murray. The beds of the rivers flowing to the east coast are chiefly rocky, containing much sand but very little mud, consequently no reeds grow on their banks, nor is the freshwater muscle found in them, as in rivers on the interior side, which in general flow over a muddy bed, and are not unfrequently distinguished by reedy banks. Judging therefore from the nature of the soil of this southern region, the fishes peculiar to the Murray might be looked for in the rivers to the south, rather than those fishes known in the rivers falling eastward. It was important to ascertain at least, what point of the coast separated the rivers containing different kinds of fish. In these ponds we caught only some very small fry, and the question could not be satisfactorily determined, although the natives declared that none of them were the spawn of cod-perch.'

Journal of Thomas Mitchell (1839)

Murray cod caught in the Goulburn River

8th October 1836; 'In this river, we caught one or two fine cod-perch, our old friends Gristes Peelii.'

Belyando R. Nogoa R Barcoo R Warrego R. Depot at Mitchell Balonne R. Maranoa R. Depot at St George Culgoa R. Gwydir R. Barwon R. ★ Snodgrass Lagoon Dec 1846 Namoi R Darling R. Macquarie Bogan R. Buree

7.4 Mitchell's fourth expedition: north into Queensland, 1845–1846

Figure 16. Route of Mitchell's 1845–1846 expedition to Queensland

Dec 1845

Murray-Darling Basin

Aboriginal 'fishing fence' on the Narran River

Mitchell, 1845-46

25th March 1845; 'I saw a continuous ridge, bare and distant, beyond what I considered the river bed, and a similar ridge to the westward. I crossed a native camp where the newly deserted fires still smoked. We saw one man at a distance, who did not mind us much; I could not have obtained any information from him, and therefore did not seek a parley. Crossing the Narran there, by a beaten track, beside a native fishing fence, I returned to the camp, on the bearing of S. S. W., and found a grassy plain the whole way back, until within sight of the tents, and a good rocky ford for the passage of the party next day.'

Diet of the Aborigines along the Balonne River

31st March 1845; 'Our guide soon overtook us, accompanied by fourteen of the strange natives, who, all curiosity, passed the night at our camp, and they brought with them a lad named 'Jemmy,' who spoke a little English, and had visited many of our cattle-stations. He was very intelligible to Youranigh, who but very imperfectly understood the language of the rest. They seemed upon the whole a frank and inoffensive race. Their food consisted of the fish of the river, ducks, and the small indigenous melon, Cucumis Pubescens, which grew in such abundance, that the whole country seemed strewed with the fruit, then ripe, and of which the natives eat great quantities, and were very fond. Latitude of camp, 28 deg. 38' 47' S.'

Journal of Thomas Mitchell (1848)



Figure 17. River Balonne. Sketch from Mitchell's 1845–1846 journal (Mitchell, 1848)

Aboriginal fishing with hoop nets — 'Cawan' Creek near the Balonne River

2nd April 1845; 'On arriving at the 'Cawan' we saw two natives fishing in a pond with hoop nets, and Yuranigh went to ask them about the 'Culgoa.' He returned accompanied by a tall athletic man; the other was this man's gin, who had been fishing with him. There he had left her to take care of his nets, and, without once looking at me or the party, proceeded to conduct us to the Culgoa.'

Fish in the Balonne River

9th April 1845; 'At length, upon turning to the eastward, I came upon the main river, where it formed a noble reach, fully 120 yards wide, and sweeping round majestically from N. E. to S. E. We here encamped, after a long journey. The banks were grassy to the water's edge. We saw large fishes in it; ducks swam on it, and, at some distance, a pair of black swans. This surpassed even the reach at camp III., and I must add, that such an enormous body of permanent water could be seen nowhere else in New South Wales save in the river Murray during its floods. The Anthistiria grew abundantly where we encamped, which was in latitude, 28 deg. 13' 34' S. and marked V.'

Journal of Thomas Mitchell (1848)

Fish not taking bait - Maranoa River, near Mitchell

19th May 1845; 'I could now venture to halt a day without any apprehensions about leaving sufficient water for the party who were following us; and I had recently obtained many angles I wished to put together, in order to learn the character of the country, which required much study. That I should have overlooked an extensive country, without perceiving any indication of a large river flowing through it, almost at my feet, seemed a singular circumstance, and I was still as little aware of its ultimate course.The marks of flood were not high. The waters were full of fish, but they would not take the bait.'

Journal of Thomas Mitchell (1848)

Different kind of fish caught — Maranoa River, near Mitchell

20th May 1845; 'Yuranigh contrived to catch three fishes, of a kind wholly different from those of the rivers in the south; leaving it doubtful, again, whether this river could belong to the system of the Barwan.'



Figure 18. View of the Maranoa River. Sketch from Mitchell's 1845–1846 journal (Sturt, 1848)

Catfish caught in the Maranoa River

3rd June 1845; 'This day one of the party caught several fishes in the river, which appeared to be of the same species as the Eelfish, or Plotosus tandanus described in the journal of my first journey (Vol. i. p. 95). It is therein stated to be an Asiatic form of fish, on the authority of Mr. Wm. M'Leay, but in other respects this was identical with one in the Barwan. The course downwards of the new river, which we even now believed to be called the Maran, from what we had gathered from the natives, was thus almost proved to be towards the southern rivers.'

'Harlequin' fish caught in the Maranoa River

15th June 1845; 'My path was thus again crossed by our river flowing northward: we had then travelled 12½ miles, and I encamped on its banks. The whole of the day's journey, with little exception, had been over heavy sand, and, but for the rain that had fallen, it must have greatly distressed the horses and oxen. As it was, they got over it wondrous well. In a pond of this river, Mr. Stephenson caught a great number of the harlequin fish, a circumstance almost proving that this was a tributary to the Maran.'

Journal of Thomas Mitchell (1848)

Murray cod in the Maranoa River

22nd October 1845; 'The information Mr. Kennedy had gathered from the natives, about the final course of the river; his surveys thereof, which, even on foot, he had extended sixteen miles (eight miles each way from the camp), and the fact, that the fish of the Balonne, Cod, or Gristes Peelii had, at length been caught in it, all led to the conclusion that this river was no other than the tributary which on the 24th, of April I at first followed up, and afterwards halted and wrote back to Mr. Kennedy about.'

Journal of Thomas Mitchell (1848)

Nest of a catfish — Maranoa River

26th October 1845; 'In a dry part of the bed of the river, I met with many instances of a singular habit of the eelfish (Jewfish) Plotosus Tandanus. [*] I had previously observed, elsewhere, in the aquatic weeds growing in extensive reaches, clear circular openings, showing white parts of the bottom, over which one or two fishes continually swam round in circles. I now found in the dry bed, that such circles consisted of a raised edge of sand, and were filled with stones, some as large as a man's closed fist. Yuranigh told me that this was the nest of a pair of these fish, and that they carried the stones there, and made it. The general bed of the river where I saw these nests, consisted wholly of deep firm sand; and that the fish had some way of carrying or moving stones to such spots, seemed evident, but for what purpose I could not discover.

* See Pl. 6. fig. 2. p. 44. vol. I. of Three Expeditions.'

Journal of Thomas Mitchell (1848)

Huge cod-fish in the Balonne River

4th November 1845; 'At an early hour we proceeded, and had the satisfaction soon to find our old wheeltracks along the bank of the majestic Balonne. This truly noble river was here as broad as the Thames at Richmond; its banks were verdant with a luxuriant crop of grass, and the merry notes of numerous birds gave the whole scene a most cheering appearance; especially to us who were again upon a route connected with home, and at a point 200 miles nearer to it, than where we had last seen that route. We had since made the discovery, and completed the survey, of the lower Maranoa, a river which had brought us in a very straight direction back to this point; and by tracing this down, we had established a well watered line of route back to the fine regions we had discovered in the more remote interior. I marked a tree at this camp (83.), which mark is intended to show where this route turns towards the Maranoa x. being marked at the next camp back along the old track. In the Balonne, huge cod-fish (Gristes peelii) were caught this afternoon; indeed, we already felt comparatively at home, although still far from the settled districts, and strangers to all that had been passing in the world during seven months.'

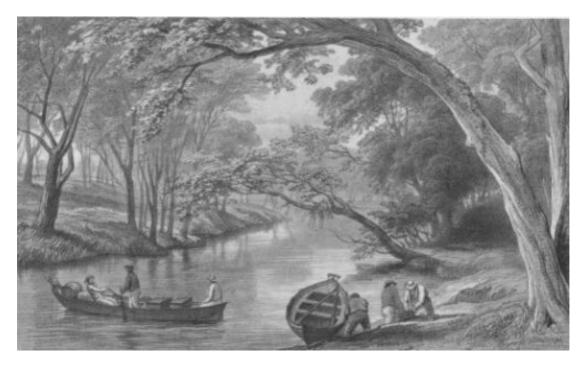


Figure 19. Mitchell's expedition on the Barwon River, 1846 (from Mitchell, 1848)

8. George Bennett, 1830s

George Bennett was a naturalist who undertook a series of scientific expeditions through the colony of NSW in the early 1830s, including the Yass Plains, Jugiong and the Tumut valley.

Large 'river cod' and 'perch' in the Murrumbidgee and Yass Rivers

'Large numbers of native perch are caught in the Yas and Murrumbidgee rivers; their flavour is delicious: their average length is nineteen inches, and the weight from three to six pounds: they have however been taken from two and a half to three feet in length, and weighing seventy pounds; and some even of the enormous size of one hundred, and one hundred and twenty pounds: the breadth is great in proportion to the length of the fish. Those I examined were a yellowish-green colour, covered with irregular black spots, with a silvery abdomen. They are named by the colonists, 'river cod', and by the aborigines, 'Mewuruk#. In the stomach of this fish I frequently found shell-fish, of the genus Unio, in an entire state. The larger kind of these shells the natives of the Tumat country call 'Nargun', and the smaller, usually found in rivulets or creeks, 'Pindaquin', or 'Bucki'. Occasionally half-digested masses of green caterpillars, and other insects, were also found in the stomach of this fish. In the Tumat country, varieties of the 'river cod', are called by the natives Bewuck, Mungee &c. Another fish of the family of perches is also caught in the Yas, Murrumbidgee, and other large rivers in the colony: it is called the 'perch' by the colonists, and 'Kupé' by the natives. I preserved a specimen, caught in the Murrumbidgee, measuring seventeen inches in length. and six inches at its greatest breadth, containing a fine roe: twenty inches was the greatest length they had as yet been taken in this river; but, like the 'river cod' it increases in breadth, in proportion to its weight, than in length. The colour of the Kupé was inclining to bronze; the ends of the scales being black, gave to the fish a checkered appearance.'

'footnotes

(George Bennett's Journal, 1832, vol. 1, pp. 179–181, published in 1834)

'Bewuck' - local name for a variety of 'river cod' in the Tumut River

'The Tumat at Mr Warby's farm was called 'Bewuck', and as a variety of the 'river cod' receives the same native name, the river might either be named after the number of fish found in it, or the fish from being found abundant in that particular part of the river; for a very short distance further up the stream, the aborigines bestow a different name upon it from the country through which it flows.'

(George Bennett's Journal, 1832, vol. 1, p. 257, published in 1834)

This fish is of the family of perches, and probably the same as described by the French naturalists, as a new genus, under the name Gryptes Brisbanii

[#] The aborigines are expert fishermen; and I have seen them capture a number of fish, when Europeans trying near them have not had even a nibble. About the Fish River, the aborigines have a novel manner of fishing — by placing a bait at the end of a spear, when the water is clear, and on the fish approaching, they transfix it with expertness.'

'Lobsters' in the Yass, Murrumbidgee and Tumut Rivers.

'In the river, besides the quantity of fish there is a small and new species of lobster, which is also procured in large quantities from the muddy ponds on the Yas Plains; they are delicious eating, and taken readily by placing a piece of raw meat on a bent pin; when one is felt at the bait, it is to be dragged gently to the margins of the pond (which is very muddy but not deep,) and taken on the back by the hand: a number can thus be caught in a short time. The Aborigines call them 'Murugonan'. They burrow deep into the mud, and the blacks capture them by thrusting the hand deep into the holes, and dragging them out, although they often extend to such a depth that the whole length of the arm is inserted before the animal is secured. The ponds in which the lobsters are taken are always full of water being supplied by springs: one of them was about fifty yards in length by twenty in breadth, but of no great depth at any part. They form a chain along the plains during the dry season of the year; but during heavy rains they unite into a running stream which empties itself into the Yas river. It is only at the season, when there is merely a chain of ponds or swamps, with but little water, that the lobsters can be caught with facility.

In the Murrumbidgee, Yas, Tumat, and other large rivers, there is a different and larger species of lobster which is frequently found in the stomachs of the 'river cod'. This kind is called 'Mungola' by the aborigines, and they are captured, measuring a foot and a foot and a half in length, and weighing three or four pounds. I examined a small one, captured in the Murrumbidgee at Jugiong; its dimensions were as follows; —

	Inch
Length of body	4
Length of the tail	4
Length of the claw	5½
Breadth of the body at the broadest part	2
Breadth of the claw	1%
Length of the anterior or external antennae	7

The colour of the upper surface of the shield was dark green, with reddish tinges on the sides, the rings of the tail studded with short, thick spines, and similar but smaller spines on the sides of the shield: the spines and claws were white: the legs having been pulled off by the blacks, to prevent their escape during the time they were employed in catching others. I could not ascertain their colour. They are found under large stones in the river, and are taken by the hand when the rivers are low. The natives seek for them in the evening or at night by torchlight, and say it is difficult to get them during the daylight.'

'footnotes

* The largest specimen measured; -

	Inch
Length of the body	4 1/2
Length of the claw	3 3/4
Breadth of shield	1 %
Breadth of claw	1 1/8
Breadth of expanded tail	1 %
Length of the anterior antennae	4 1/4
Length of the posterior antennae	1 1/3

The colour of the upper part of the body, in the large specimens, was brownish green; the upper part of the claws blueish green, occasionally mottled; under surface, whitish; joints red. The smaller specimens had the upper surface of the body of a dark green colour, claws blueish green and mottled: several of the females had a quantity of ova in the usual situation.'

(George Bennett's Journal, 1832, vol. 1, pp. 179–181, published in 1834)

Abundant fish and waterfowl in the Murrumbidgee River (at the junction with the Tumut River)

'Abundance of 'River cod' was taken from the river, and I had usually plenty of fine fish as long as I remained in this or the Tumat countries, in those parts adjacent to the fine rivers. Aquatic fowl were not less abundant, more especially the 'Black duck' of 'Buddinbong', of the natives; a species of teal, the 'Towrodey' of the natives, and 'Wood ducks', (which from their peculiar note the aborigines name Ku-naruk, resembling the sound those birds utter), all afforded an excellent meal, oftentimes even with the addition of green peas, as most of the stations have small vegetable gardens attached to them.'

(George Bennett's Journal, 1832, vol. 1, p258, published in 1834.)

Murray cod weighing upwards of 120 lbs (50 kg).

'The River cod or Cod perch (Gristes Peelii) is justly esteemed as a well-flavoured and delicate fish, and certainly merits to be the first one of the Australian fishes to which the Society should direct their attention, and aid in dispersing them over every part of the colony where they had not existed before.

I have seen the River cod very plentiful in the Yass, Tumut and Murrumbidgee rivers of both the eastern and western ranges.

It is a very voracious fish; and instances have been known of their attacking one another. Their average length is nineteen inches and the weight from three to eight pounds, and they are often captured from two and a half to three feet in length, and weighing from twenty to twenty-five pounds. Some have been taken of forty to seventy pounds, and they have even been reported as attaining the weight of upwards of 120 pounds. In 1836, an enormous head of one of these fish was presented to the Australian Museum by Mr William Bowman, and was recorded at the time in the catalogue of that institution, as follows: 'January 12th, 1836. An enormous head of the River codfish of the Colonists. This fish was found entangled and struggling near the bank in a pond of the Cudjegong River, was killed and brought on shore. It weighed upwards of 120 lbs.

(Additional information supplied by George Bennett in an article about native fish published in the 3rd annual report of the Acclimatisation Society of NSW, 1863.)

9. Letters from Victorian Pioneers, written in the 1850s

As Governor of Victoria, Charles La Trobe collected a series of letters from the first settlers which described the challenges they faced when they attempted to establish their new farms in the late 1830s and 1840s. A few of these letters make reference to the fish in the rivers of the Murray-Darling Basin, and these quotes are presented below.

9.1 Letter from Evelyn Sturt to Governor La Trobe, dated 1853

In 1837, Evelyn Sturt was appointed Commissioner of Crown Lands of the Murrumbidgee District, a vast area of mostly unoccupied land between the Murrumbidgee and Ovens Rivers. During 1839 he resigned his post and started from Bathurst with a large flock of sheep, for Adelaide. After establishing farms in the Adelaide Hills and Mt Gambier, he finally moved to Melbourne in 1849 to take up a post as Superintendent of the Melbourne and County of Bourke police, and later as Police Magistrate of Melbourne.

Fish in the Murrumbidgee and Murray Rivers

"Another peculiarity attending these rivers flowing to the north and north-west is that they abound in a fine fish, called the Murray cod. In season, these fish are very rich, and afford the chief sustenance of the natives, who spear them from their canoes, at the prow of which they have a brilliant fire of pine, which attracts the fish at night, and entices them to their destruction. Strange to say that all streams and rivers flowing to the south and south-west, though in many instances taking their source from the same mountains, are devoid of the river-cod, having only the blackfish, a peculiar kind of herring, and the eel, which run to a large size."

(Evelyn Sturt, 1853; first published by McBride, 1898)

9.2 Letter from Hugh Jamieson to Governor La Trobe, dated 1853

Hugh Jamieson and his brothers came to Port Phillip in 1839, initially settling near Seymour and then establishing themselves on a 60,000 hectare property on the Murray called Mildura station.

Immense supply of fish in the Murray and Darling Rivers for the Aborigines

'The supply of food of various sorts is here by no means precarious. During many months of the year the waters of the Murray and Darling furnish an immense supply of fish; at other seasons of the year edible roots in great variety are plentiful, even in the interior and more northern parts of the Darling.'

(Hugh Jamieson, 1853; first published by McBride, 1898)

9.3 Letter from William Splatt to Governor La Trobe, dated 1853

William Splatt was one of three brothers who bought numerous properties throughout Victoria, including the Portland Bay district, the Wimmera, the Mallee and the north-east.

Abundance of fish for Aboriginal inhabitants along the lower Murray, Victoria

'The aboriginal inhabitants of the lower Murray are more numerous and a finer race than any other native tribe I have seen in Australia. The comparatively warm, short winter of this neighbourhood, and the abundance of fish and game, may in part account for this.'

(William Splatt, 1853; first published by McBride, 1898)

References

- Acclimatisation Society of NSW (1863). Third Annual Report, Sydney.
- Bennett G (1834) 'Wanderings in New South Wales, Batavia, Pedir Coast, Singapore and China; being the journal of a naturalist in those countries during 1832, 1833 and 1834.' In two volumes. Richard Bentley, London. [Facsimile edition, Libraries Board of South Australia, Adelaide, 1967]
- Bland W (1831) Journey of discovery to Port Phillip, New South Wales by Messrs WH Hovell and Hamilton Hume in 1824 and 1825. A Hill, Sydney. [Facsimile edition, Libraries Board of South Australia, Adelaide, 1965].
- Favenc E (1908) The explorers of Australia and their life work. Whitcombe & Tombs, Christchurch. (electronic version also available at www.gutenberg.net.au)
- Harris JH and Gehrke PC 1997) Fish and rivers in stress. The NSW Rivers Survey. Published by the NSW Fisheries Office of Conservation and the CRC for Freshwater Ecology, Canberra. See http://freshwater.canberra.edu.au > publications > books and guides.
- Lee I (1925) Early Explorers in Australia: From the log-books and Journals. Methuen, London. (electronic version also available at www.gutenberg.net.au)
- Mackaness G (1965) Fourteen journeys over the Blue Mountains of New South Wales. 1813–41. pp 17–32. Number 2, 'Assistant-Surveyor Evan's Journal, 1813–1814'. Horwitz-Grahame, Sydney.
- Macquarie L (1815) 'Tour to the New Discovered Country in April 1815' from; "Lachlan Macquarie, Governor of New South Wales: Journals of his Tours of New South Wales and van Diemen's Land 1810–1822", published in 1956 by Trustees of the Public Library of NSW, Sydney.
- McBride TF(1898) Letters from Victorian Pioneers. Published for the Trustees of the Public Library, Victoria. Republished in 1983 with foreword from Helen Vellacott, by Lloyd O'Neil, South Yarra, Vic.
- MDBMC (2002a) Draft Native Fish Strategy for the Murray-Darling Basin 2002-2012. Murray-Darling Basin Ministerial Council, Canberra.
- MDBMC (2002b) The Living Murray. A discussion paper on restoring the health of the River Murray. Murray-Darling Basin Ministerial Council, Canberra.
- Mitchell TL (1839) 'Three expeditions into the interior of eastern Australia; with descriptions of the recently explored region of Australia Felix, and of the present colony of New South Wales.' Second edition, carefully revised, in two volumes. T & W Boone, London. [Facsimile edition, by Eagle Press, 1996]
- Mitchell TL (1848) Journal of an Expedition into the Interior of Tropical Australia. In Search of a Route from Sydney to the Gulf of Carpentaria. Longman, Brown, Green and Longmans, London. [facsimile edition: Friends of the State Library of South Australia, 1999] (electronic version also available at www.gutenberg.net.au)
- Norris RH, Liston P, Davies N, Coysh J, Dyer F, Linke S, Prosser I and Young B (2001) Snapshot of the Murray-Darling Basin River Condition. Report prepared for the Murray-Darling Basin Commission, Canberra.
- Oxley J (1820) 'Journals of two expeditions into the interior of New South Wales, undertaken by order of the British Government in the years 1817–18.' John Murray, London. [facsimile edition, Libraries Board of South Australia, Adelaide, 1964]
- Scott E (1916) A short history of Australia. Oxford University Press, London. 363p.
- Sturt C (1833) 'Two expeditions into the interior of southern Australia, during the years 1828, 1829, 1830 and 1831: with observations on the soil, climate and general resources of the colony of New South Wales. In two volumes. (Facsimile edition). Smith, Elder & Co., London. [Facsimile edition, Doubleday Australia, Sydney, 1982]
- Thoms M, Suter P, Roberts J, Koehn J, Jones G, Hillman T, and Close A (2000) Report of the River Murray Scientific Panel on Environmental Flows. River Murray Dartmouth to Wellington and the lower Darling River. Murray-Darling Basin Commission, Canberra.
- Thoms M and Sheldon F (2000) Water resource development and hydrological change in a large dryland river: the Barwon-Darling River, Australia. Journal of Hydrology 228: 10–21.