

15 Central Murray River Catchment

It was on my great day that I paddled, or rather drifted, down the Murray one mild, cool January morning. Above me an opal sky, below the rushing stream, there brawling over a shoal, here crisping to a vagrant breeze, there running smooth as glass over a deep pool, never still, never silent, always sucking and gurgling, bubbling and sighing, whispering its messages to the vacant fancy.

It was a voyage of discovery. Never before had I wetted line in the reaches I was about to fish. I was breaking ground for a friend who was to join me a few days later on. The river, low and clear, served my purpose well. For most of its width and much of its length, hard clay shelves spread out an inch or two below the surface. Here the current ran like a mill-race, spots to avoid on the return upstream. Every quarter-mile or so was a long hole, 50 yards by 10. Here the full measure of my longest paddle, plus the arm plunged shoulder deep, would sometimes fail to get a sounding. I mark these spots down and take their bearings, for in the main river, traversed here by steamers, snags are few and far between; the big fish, in search of shade and coolness, must lurk under the shelving edges of these channels. I anchor, and from one of these holes I take a couple of clean-run Murray trout, averaging about 5lb., good fellows to fight, and the very best size for the table.

Argus, 18 January 1913

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Figure 15.1 The Central Murray River Catchment showing major waterways and key localities



15.1 Early European Accounts

The Central Murray River catchment comprises the Murray River and a number of anabranh systems including the Edward, Wakool and Little Murray Rivers, as well as the Yulupna and Gunbower Creeks. It roughly encompasses the stretch of the Murray River where it leaves the foothills of the Great Dividing Range near Albury, to where it encounters its last major tributary, the Darling River, near Wentworth. Dotted along the course of these streams are wetlands. These include Lakes Moira, Barmah, Kow Swamp, the Kerang and Hattah Lakes, as well as innumerable small lakes and billabongs. Near Echuca, the Murray River originally flowed a little to the north of its current course, with the Goulburn River following the present course of the Broken Creek. Uplifting at the Cadell Fault about 15,000 years ago resulted in various changes to the nearby rivers, including the formation of a very large lake near Barmah which became the confluence of the Murray and Goulburn Rivers. At this time the Murray River was diverted further north, roughly following the path of the Edward and Wakool Rivers, re-joining its present course downstream of Swan Hill. Eventually, the Goulburn River was diverted west and flowed through Echuca to join the original Campaspe River. About 8,000 years ago the Murray River broke through the lake near Barmah, at a site now known as the 'choke' or 'narrows', to follow the path of the Goulburn and assume its present location. The 'choke', along with the silts deposited in the lake, has effectively made the Murray River upstream higher than the surrounding plain. For some distance it is perched in a natural levee bank. It also means that considerable water is diverted out of the Murray River into the Edward-Wakool anabranh system (Gippel & Lucas, 2002).

By the late 1820s the question of the ultimate destination of the inland rivers remained unresolved. Did they nurture an inland sea or terminate on the coastline? In 1829 Captain Charles Sturt led an expedition down the Murrumbidgee River by boat in order to determine its fate. On the 14th of January 1830, Sturt's party reached 'a broad and noble river' which Sturt named in honour of Governor Sir George Murray (Sturt, 1833). Continuing downstream, on the 9th of February 1830 the expedition reached Lake Alexandrina and finally solved the riddle of the destination of the inland rivers. In perhaps the greatest feat of exploration of the inland, the members of expedition rowed their boat from the Murray mouth back upstream along the Murray and Murrumbidgee Rivers to near Narrandera. They replenished their supplies and returned to Sydney (Sturt, 1833).

Sturt made a few references to the fish he encountered during the expedition such as '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' (Sturt, 1833). The two latter species named by Sturt were probably Silver perch and Catfish. Six years later, Major Thomas Mitchell on his third expedition traced the Murray River upstream from the Darling River and somewhere between that point and Robinvale recorded (on the 28th of May 1836) catching 'some good cod-perch (Gristes Peelii), one weighing seventeen pounds' (Mitchell, 1838). Mitchell also recorded there were large plains of reeds that existed near Swan Hill, named as a consequence of the calls at night of large numbers of birds nesting on the reeds and preventing his sleep. It was in stark contrast to the timbered country he traversed elsewhere on the Murray (Mitchell, 1838). During 1838 Sturt, overlanding stock to Adelaide, followed the Murray River from Albury downstream, and as a consequence demonstrated that it was the same river as that which the Murrumbidgee flowed into. Along the way he passed through the two largest stands of red gum forest in the Murray-Darling Basin, namely the Barmah and Gunbower Forests. His journal records considerable detail about the environment and the indigenous people who were suffering from the ravages of small pox at that time (Sturt, 1990).

From the 1840s squatters took up land along the Central Murray, one of the earliest being Edward Curr near Barmah in 1841. Curr published a biography describing the environment, the indigenous people and their fishing practices of the Barmah region, including the construction of extensive wooden fish traps (Curr, 1883). The traps resembled the wooden pens used to contain stock and Thomas Mitchell, who first observed them near Swan Hill in 1838, called them 'boughyards'. This name was later applied not only to these structures, but to a locality near Barmah where they formerly existed (Mitchell, 1838; Briggs, OH 70; Don Briggs, pers. com.). Further downstream the scene described by Mitchell greeted Peter Beveridge when he settled at 'Tyntyndyer' near Swan Hill in 1845:

In the Swan Hill district the Murray River runs through an immense area of reedy plains. On the immediate banks of the river, for as far as these reedy plains extend, there is an artificial looking dike, having an elevation of three or more feet above the plains which shelve away behind it, consequently when the whole of these plains are inundated (which they are five months every year, from August to January inclusive) the dykes referred to act the part of dams, and so prevent the water from receding too rapidly / Whilst the waters cover the reedy plains for miles on every side, the various kinds of fish find delectable grounds in the shallow, semi-tepid fluid wherein to pursue the prey upon which they feed / When the waters have receded from the reedy plains behind every weir, fish of all kinds are left by thousands to rot and fester in the sun / (Beveridge, 1889).

Beveridge wrote an extensive account of his experiences near Swan Hill, providing great detail on the early environment and the customs and lifestyle of the aborigines, including their fishing practices. In local lagoons he observed the indigenous people hauling nets writing 'We have on many occasions seen as much as half a ton weight of fish drawn from Murray lagoons at one haul, consisting of cod, perch (golden and silver), cat-fish, blackfish, and turtle'. From regional lakes he observed them capture perch, Catfish and 'occasionally a monster cod'. In the Murray River itself they caught either by spear or line fishing 'the voracious codfish, the brilliant golden perch and his silver-scaled congener, together with the ugly, but at the same time the lusciously oleaginous catfish' (Beveridge, 1889).

Following the squatters were naturalists such as Wilhelm Blandowski, zoologist for the Victorian Museum of Natural History, who journeyed down the Murray River from Gunbower to Wentworth, establishing a camp at Chaffee's Landing near Merbein in 1857. He lodged the specimens he collected with the museum and presented his findings to the Philosophical Society of Victoria in 1858. He published an account of the nineteen types of fish he encountered during the expedition, including some detail on their habits (Blandowski, 1858). Of the larger native species he provided good descriptions of Murray cod, Trout cod, Golden perch, Silver perch, Catfish and Blackfish. His description of the smaller native species, including rainbowfish, Galaxiids, perchlets and hardyheads remains an invaluable early record. In 1862, George Burnell and Edward Cole, two failed miners on the Bendigo goldfield, sought an alternate means of income by creating photographs of residents and scenes along the Murray River and selling them. Travelling in an open boat from Echuca to Goolwa they created 60 pairs of stereoscopic images, most of which have survived and reside in the Art Gallery of South Australia (*Stereoscopic views of the River Murray*). The photographs preserve scenes of the Central and Lower Murray River prior to significant changes by Europeans. One image is probably the oldest photo of fish from the basin and contains what is likely to be a pair of Murray cod (*Stereoscopic Views of the Murray River*, No. 60, Artist's Boat).

Initially used as a direct source of sustenance by the squatters, some people eventually adopted the career of being commercial fisherman, supplying fresh fish to people in the growing townships. The formation of the Moira Lake Fishing Company (later known as the Murray River Fishing Company) by Joseph Waldo Rice in 1855 started broad scale commercial operations to supply distant markets, initially Bendigo (Priestley, 1965). An

early newspaper article provided a snapshot on the diverse types of fish captured in the region worked by the company:

Herring, silvery white, shape of dace; cockerling, like bream in body, with head like cod – this fish sometimes reaches eleven or twelve pounds in weight; jew-fish, catfish, or eelfish found mostly in lagoons and branches; black-fish; turtle; Murray cod, three species, different shapes; bream, two varieties, gold and silver; lampreys, scarce; lobsters; prawns (*Sydney Morning Herald*, 14 November 1868).

The Murray River Fishing Company eventually diversified its activities, including harvesting medicinal leeches and supplying juvenile native fish to acclimatisation societies for translocation elsewhere. In 1862, 200 cod were transferred from the Murray River to the Nepean River near Sydney (*Sydney Morning Herald*, 19 December 1862). Following Edward Wilson's initial translocations of cod and Macquarie perch into the Yarra Catchment, more cod were sought to help establish the population. Large numbers of 'codfish' were obtained from the Murray River and placed in the Yan Yean Reservoir on the Plenty River near Melbourne, and some were forwarded to England (Acclimatisation Society of Victoria, 1864; *Argus*, 18 February 1864, 11 March 1873). Other translocations of native fish from the area included Bony Herring and Murray crayfish to the Yarra River (*Argus*, 4 July 1861, 17 September 1920), Murray cod, 'trout' (Trout cod), 'bream' and 'perch' to the Avoca River (*Riverine Herald*, 9 March 1870; *Argus*, 16 November 1870, 14 April 1873), cod and perch to mining dams near Castlemaine (*Riverine Herald*, 23 March 1864), and native fish to Lake Wendouree near Ballarat (*Argus*, 30 May 1876) and Tasmania (*Riverine Herald*, 30 March 1864). In the twentieth century, thousands of juvenile cod, perch and 'bream' trapped in waterholes along the Spurr Creek on Gunbower Island were relocated to other unidentified waters (Marett, 1943) and in 1957 540 Golden perch were transferred from the Murray River at Euston to Chiffley Dam near Bathurst (Lake, 1959).

While the Murray River Fishing Company developed the transport of fresh fish from the Murray River to distant towns, many fishermen worked the river to meet the local populace's needs for fish. The activities of both commercial and recreational fishermen were frequently recorded in regional newspapers indicating an astonishing abundance of fish in the early years. At Wahgunyah the Murray River was described as being:

literally alive with codfish, bream, perch, and a small fish much like a schnapper. Mr. Coombs, an enterprising man, has made a start in the matter, and as fast as he can, single-handed is supplying these diggings with fish. He brings them in every Thursday evening, and, as may be supposed, there is a rush for them, particularly the small fish, bream, perch, and schnapper, weighing from 1lb. to 4lb (*Argus*, 2 November 1860).

The Central Murray was a Mecca for anglers from an early time. In 1913, a lengthy article described the joy of a day's fishing on the Murray River including the capture of Trout cod, Silver perch and Murray cod:

I anchor, and from one of these holes I take a couple of clean run Murray trout, averaging about 5lb., good fellows to fight, and the very best for the table. / Light rod and small hooks are brought into play: the bait is shrimp and worm. Again I draw a prize; is it not my great day? I spend a rapid half hour with Murray bream up to a couple of pounds. Bit and dash and wriggle, jump and dive, and away again; then yielding up the ghost in the bottom of the boat with their peculiar grunt. / Hardly is this line rebaited than it is taken freely and well; and a hundred heartbeats later I have landed a nice cod of about 7lb. weight (*Argus*, 18 January 1913).

When the fish were biting, angling parties took catches weighing hundreds of pounds. In 1927, one group landed 200 lb. (90.7 kg) of 'Murray cod, grunter, golden perch and Macquarie perch' (*Argus*, 1 January 1927). Another party in 1954 at Barmah landed 600 lb. (272.2 kg) of fish, of which 300 lb. (136.1 kg) were cod and the balance 'perch' and 'redfin'. The largest fish was the famed 'Bow Yard Annie' a 110 lb. (49.9 kg) Murray cod

well known to Barmah residents (*Riverine Herald*, 7 December 1954). Apart from the river, prolific fish captures also occurred from the various lakes swamps, billabongs and creeks adjacent to it. At Lake Moodemere near Corowa, one person in 1895 took a 'barrow load' of fish in nets (*Argus*, 11 January 1895). In one month at Kow Swamp, commercial fisherman F. J. Marett landed over 4000 lb. (1814.4 kg) of Murray cod up to 95 lb. (43.1 kg) in weight. On another occasion, in five days, he caught twelve fish averaging 50 lb. (22.7 kg) (Marett, 1943). Kow Swamp was also notable for producing large Golden perch, including the largest ever recorded weighing 54 lb. (24.5kg) cleaned, which was taken by professional fisherman William Davies in February 1938 (Roughley, 1955).

Towards the end of the nineteenth century concern was expressed for the Murray River fishery and various investigations took place reviewing its status. In the 1890s Victoria ended the commercial fishery in rivers, though it continued in lakes until the late twentieth century. In 1900, an inquiry in South Australia and a meeting held in Melbourne between representatives from South Australia, New South Wales and Victoria collated the known information on the biology of native fish such as the size at sexual maturity and spawning seasons. As a result, regulations were introduced across the three states encompassing size limits and closed seasons to conserve native fish stocks with some variations between the states reflecting local conditions (Dannevig, 1903; *Sydney Morning Herald*, 25 April 1903). In 1901, NSW State Fisheries introduced size limits for all native and introduced freshwater fish species. Subsequently a three month closed season from September to November was introduced, when the inland native species could not be kept (NSW Fisheries Reports, 1901, 1904, 1907). Local permanent closures to commercial fishing also occurred near towns, to placate the concerns of recreational anglers; other sections of the river were later closed to provide protected breeding areas for the fish (NSW Fisheries Report, 1892; *Sydney Morning Herald*, 2 September 1904; Cadwallader, 1977). Further interstate conferences on managing the fishery were held in Melbourne in 1905 (*Argus*, 5 August 1905), Wagga Wagga in 1907 (*Argus*, 28 October 1907) and in Melbourne in 1936 (*Adelaide Advertiser*, 7 October 1936, 10 October 1936).

The Central Murray became the focus of research on the biology of native fish by Victorian investigators with the support of NSW State Fisheries. In 1937, John Tubb conducted survey work in the Barmah Lakes area, as well as attempting the artificial propagation of a number of species. He stripped and fertilised the eggs of Murray cod, Trout cod and Macquarie perch (Cadwallader, 1977). Tubb succeeded in producing a total of four juvenile Murray cod, and his success prompted proposals to utilise the Barmah Lakes as a source of broodstock for the artificial propagation of native fish (*Argus*, 4 December 1937, 14 January 1938, 4 October 1938, 6 May 1939, 19 December 1939). Apparently the commencement of the Second World War led to the abandonment of the Barmah project. After the war further efforts were made, and in 1954 Murray cod were captured near Mildura and flown to the Snobs Creek Hatchery near Eildon in an attempt to strip eggs from the fish (*Argus*, 19 October 1954).

Between 1949 and 1952 Colonel John Langtry conducted an extensive survey of the fish populations of the Central Murray (Cadwallader, 1977). He recorded the state of the fishery, relying heavily on information sourced from commercial fishermen, Inspector Arnold Arentz at Swan Hill and George Clarke at Barmah. Clarke had been a fishing inspector and commercial fishermen, with experience going back over thirty years. In addition, Langtry conducted netting surveys in the Murray River and nearby lagoons from Corowa downstream into South Australia. Langtry's work was not published until 1960, and then only as an internal manuscript which was circulated to a few government employees. In his report Langtry reached the conclusion that Trout cod was a separate species to Murray cod. John Lake received a copy of Langtry's report and relied heavily upon it in formulating his research on the biology of native fish. In 1977 an edited version of Langtry's report was published and became widely available (Cadwallader, 1977).



Photo UMA/I/5112. A group fishing a beach on the Murray River c1920 probably in the Yarrawonga area. Beaches of coarse sand were a prominent feature of the rivers of the eastern lowlands such as the upper Central Murray River. Reproduced with permission from the W. J. Howslip Collection, *University of Melbourne Archives*.



Photo MR106. For thousands of years the indigenous *Yorta Yorta* people lived near Barmah sustained by the rich resources of the river. They constructed elaborate structures to collect fish described as 'bough yards' when observed by Sir Thomas Mitchell near Swan Hill in 1838. This term gave rise to the name of one location on the river near Barmah where some were located. Don Briggs, a *Yorta Yorta* elder, whose father worked as a professional fisherman, created this picture from his boyhood memory of how the bough yards were constructed. Painting courtesy of Don Briggs.

15.2 The Past Distribution of Fishes in the Central Murray River Catchment

Due to the length of the Murray River, the *Sustainable Rivers Audit* (Davies *et al.*, 2008) divided the river into three separate catchments. The Central Murray Catchment was nominated as the area existing downstream of the wall of Lake Hume, encompassing the river and its anabranches to Lock 10 near Wentworth. Along its length this section of the river flows at an altitude below 200 m ASL, identifying it as lowland habitat, though some tributary streams upstream of Walbundrie exceed 200 m ASL, placing them in slopes habitat. The audit divided the Central Murray Catchment into three zones (upper, middle and lower) based on how the waterways were managed, rather than altitude or habitat differences. The map published in the audit did not clearly delineate the boundaries for these zones - they were an upper zone roughly upstream of Yarrawonga, a middle zone between Yarrawonga and the Wakool River junction, and a lower zone downstream from the Wakool River to Lock 10. From the map in the audit it was not clear whether the 'upper' zone included the Murray River, or simply the tributary streams forming the headwaters of the Billabong Creek to the north of Albury.

The Murray River upstream of West Wodonga flows through a confined valley with extensive coarse gravel substrates indicating the commencement of slopes type habitat at this point. The short section upstream of West Wodonga to Hume Dam was reviewed in the section on the Upper Murray River Catchment. The discussion that follows relates to the lowland habitat from West Wodonga to Lock 10, though some descriptions of fish populations in the Albury area have been included to help clarify species presence and abundance in the upper Central Murray. The northern anabranch system encompassing the Edward and Wakool Rivers and their tributaries the Billabong and Yanco Creeks are discussed separately in the section on the Riverina Catchment. The rarity scores used in the audit for the upper zone appear to apply to the upper Billabong Creek, and so have not been used here. Historical evidence suggests that distinctive changes occurred in the abundance of some fish species downstream of Echuca and, as a result, the central lowland zone has been divided into eastern and western sections for the purpose of allocating rarity scores. Overall, four zones have been used in the following discussion: an upper lowland zone (Wodonga to Yarrawonga), an east middle lowland zone (Yarrawonga to Echuca), a west middle lowland zone (Echuca to the Wakool River junction) and a lower lowland zone (Wakool River junction to Lock 10).

The information presented below was sourced from many detailed newspaper accounts, information recorded in the Annual Reports of NSW State Fisheries, museum records, the works of early naturalists and the observations recorded by Tubb and Langtry (Cadwallader, 1977). An extensive oral history was collected for this catchment (OH 61-77), with most of the research concentrating in the area between Yarrawonga and Swan Hill. Valuable information obtained from commercial fishermen during the early 1980s, namely Bill Ellis at Borrrhaman, Wallace 'Laddie' Clifford at Barmah, and members of the Beggs family near Robinvale have also been included. A significant number of old photographs of catches of native fish in this catchment have been located. Further work collecting oral history from the lower reaches of this catchment is warranted.

15.2.1 Upper Lowland Zone

The Murray River downstream of Albury experienced an environmental catastrophe during the early 1930s when copper sulphate treatment of the newly constructed Hume Weir caused repeated massive fish kills. It was reported that after this treatment native fish populations were essentially exterminated near Albury (Rhodes, 1999). Langtry recorded that as far downstream as Brimin, native fish were affected. As late as 1950 some species had not recovered, while others remained diminished in abundance compared to their levels prior to the treatment (Cadwallader, 1977). Due to the drastic change to fish populations that took place in

this reach c1930, assessment of species abundance in this zone highlights accounts of the fish fauna originating prior to this time.

Cod were originally abundant in the upper Central Murray River and supported a significant commercial fishery. Near West Wodonga cod were the type of fish most frequently taken by anglers (McFarlane, OH 53), and at Wahgunyah the river was described as being 'literally alive' with cod (*Argus*, 2 November 1860). Large numbers of cod up to 120 lb. (54.4 kg) in weight were taken at Corowa (*Sydney Morning Herald*, 8 November 1875; NSW Fisheries Report, 1929) and at Rutherglen (*Argus*, 24 March 1896). Fish up to 82 lb. (37.2 kg) being caught near Howlong (*Argus*, 9 April 1938) and one of 105 lb. (47.7 kg) near Gooramadda (*Argus*, 18 May 1912). In lagoons in the Wodonga area Murray cod were common (McFarlane, OH 53; *Sydney Morning Herald*, 8 February 1907; *Argus*, 16 February 1912; NSW Fisheries Report, 1929), and at Hawkesview Lagoon near Albury cod as large as 40 lb. (18.14 kg) were present (NSW Fisheries Report, 1929).

During a survey in 1928 'almost every day numerous Murray cod and trout cod' were captured, and running ripe female Trout cod were stripped of their ova (NSW Fisheries Report, 1928). A good quality photograph of a catch of six cod taken just upstream of Howlong c1930 includes Trout cod which may have been half of the catch (Photo MR71). Their presence is recalled in oral history at Wodonga (McFarlane, OH 53), Howlong (Handorf, OH 61; Rutzou, OH 40) and just upstream of Yarrawonga (Aitchison, OH 62). In 1950, Langtry collected Trout cod at three locations between Corowa and Brimin. At one site, the number of Trout cod taken exceeded that of Murray cod (Cadwallader, 1977). During the early 1960s, John Lake captured a number of Trout cod from the Murray River near Brimin (Vick Pay, pers. com.) and a photo was subsequently published of one fish (Lake, 1967b, 1971). The available evidence suggests that both Murray cod and Trout cod were abundant in the upper Central Murray River from West Wodonga to Yarrawonga, though Trout cod were absent in lagoons (McFarlane, OH 53; Cadwallader, 1977).

Macquarie perch were described as 'plentiful' during the survey near Albury in 1928. Golden perch were recorded as being caught 'at intervals', and catches of up to 11 Silver perch a day taken. On one occasion, at one location, 20 adult Macquarie perch were taken (NSW Fisheries Report, 1928). In the 1890s at Wodonga West in the Murray River and lagoons, Golden perch and Silver perch were recalled to have been present in 'significant numbers' (McFarlane, OH 53), though Macquarie perch were considered to be more common (Jack Rhodes, pers. com.). A very early newspaper account described the Murray River near Wahgunyah as 'alive with codfish, bream, perch, and a small fish much like a schnapper' the latter probably referring to Macquarie perch (*Argus*, 2 November 1860). Silver perch were regularly taken near Howlong up to the early 1930s (Handorf, OH 61). Macquarie perch were specifically recorded near the Ovens River junction in a newspaper account, along with Silver perch up to 7 lb. (3.2 kg) in weight (*Argus*, 14 January 1939). A single Silver perch was taken by Langtry near Brimin in 1950 (Cadwallader, 1977). At Yarrawonga all three perch species were present (Aitchison, OH 62). Between Albury and Yarrawonga there are significant variations reported in the relative abundance of the three types of perch. Overall, the evidence suggests that Macquarie perch had been abundant, and that Golden perch and Silver perch were common in the upper reaches of the upper Central Murray River near Wodonga. In the lower reaches near Yarrawonga, all three species were very common to abundant.

A newspaper account recorded Catfish being present in lagoons near Albury (*Sydney Morning Herald*, 8 February 1907), and oral history recalls captures in the river itself at Doctors Point near the town (Grant, OH 55; Roy Grant, pers. com.). Catfish were present in lagoons near Wodonga West (McFarlane, OH 53) and were taken in the Barnawartha area (*Argus*, 7 March 1935). Catfish up to nine pounds were abundant in lagoons near Yarrawonga, where nests were observed amongst reeds, but were rare in the river itself (Aitchison, OH 62). Overall, Catfish were comparatively rare in the main channel of the upper Central Murray River, but

abundant in lagoon habitats. The only written account of Blackfish in this zone was provided by Ogilby (1913) who reported that they were common in lagoons near Albury. In the early twentieth century they were common in the river itself near Wodonga (Jack Rhodes, pers. com.), and as they were considered to be very common downstream in the Tocumwal area (Vidler, OH 66), they were probably originally common in the upper Central Murray River.

An unusual fish reported at Corowa in 1914 was probably a Spangled perch (*Argus*, 24 April 1914), while another account records the capture of a Bony Herring between Howlong and Albury which the oldest residents had not seen previously (*Argus*, 3 June 1864). A newspaper account suggested that Lampreys, probably Short-headed lampreys (Lintermans, 2007), may also have been present near the Ovens River junction, though there is no conclusive evidence (*Argus*, 12 April 1921). A colony of seals was present at Lake Moodemere near Corowa (*Argus*, 29 April 1865).

15.2.2 Middle Lowland Zone

Cod were abundant in the middle Central Murray with fish as large as 250 lb. (113.4 kg) being reported (*Argus*, 20 May 1857), and in 1868 a large cod at Tocumwal attacked a person swimming in the Murray at night, nearly drowning him (*Argus*, 7 May 1866). In the winter months the catch of fish in the Barmah area was about 'ten hundred weight a week', but in the warmer months two to three tonnes per week was the expected catch (*Argus*, 29 July 1862). In one day half a tonne of cod was delivered to the market in Melbourne (*Argus*, 14 August, 1857). Near Cobram a commercial fisherman is recorded to have taken out of the Murray River 160 Murray cod up to 125 lb. (56.7 kg) in weight in a single season (Dick, OH 68). At Beveridge Island, downstream from Swan Hill, the Davies family captured 346 Murray cod in one season (Davies, OH 75).

Cod were also abundant in the creeks adjoining the river. During a three week survey in October 1937, 152 Murray cod were captured in the Budgee Creek near Barmah (Cadwallader, 1977). Murray cod were abundant in the Gunbower Creek with fish up to 100 lb. (45.4 kg) being taken (*Argus*, 31 May 1911, 7 March 1935), cod up to 90 lb. (40.8 kg) were caught from Gap Creek near Cohuna (*Argus*, 16 February 1938), and very small cod were abundant in ephemeral creeks on the Gunbower Island such as Spurr Creek (*Argus*, 21 March 1935). In the Eagle Creek near Barham, a photograph records nine large Murray cod captured with pitchforks when a hole was pumped dry for irrigation (Barham Historical Society collection). They were common in irrigation channels near Swan Hill (*Argus*, 7 July 1922) and abundant in the Merran Creek (McDonald, OH 74; *Argus*, 12 August 1924). On one occasion, a net dragged through a small hole in a creek about two feet deep on Murray Downs station near Swan Hill captured 12 cod weighing a total of 90 lb. (40.8 kg) (*Argus*, 30 June 1922, 12 August 1924). Cod were present in lagoons near Swan Hill (Beveridge, 1889) and regional swamps and lakes such as Kow Swamp supported big populations including large fish up to 105 lb. (47.6 kg) (*Argus*, 21 August, 1937, 13 January 1938; Marett, 1943).

Aboriginal people along the Central Murray recognised that there were two types of cod and used different names for them. In the Wemba Wemba language of the Swan Hill area, the Murray cod was known as 'Pandyil' and very large specimens as 'Kurumerruck', while the 'Murray trout' were referred to as 'Ngumel' (Hercus, 1992). Further upstream in the Barmah area the Murray cod was known as 'Burnanga', while the 'trout' (Trout cod) was known as 'Bangami' (Bowe & Morey, 1999). An extensive body of evidence from a variety of sources indicates that Trout cod were abundant upstream of Echuca. From an early date newspapers record the existence of 'Murray trout' or simply 'trout' in the Barmah fishery (*Argus*, 13 September 1859, 25 July 1888), and in 1897 'trout' were listed as one of the regular species taken in the Barmah region (NSW Fisheries Report, 1897). One good quality photo records their capture between Tocumwal and Barmah (Photo: MR27), with another poorer quality image possible recording their capture near Cobram (Photo: MR29). The oral history

recalls that Trout cod had been very common near Barmah (Clifford, OH 72; Norris, OH 71; Laddie Clifford, pers. com.) and they were captured by Tubb in the nearby Budgee Creek in 1937 (Cadwallader, 1977). Further upstream between Yarrawonga and Tocumwal, in preferred locations of faster flowing water, Trout cod matched Murray cod in abundance (Roberts, OH 63; McKenzie, OH 64; Norris, OH 71). Aboriginal people considered the species to prefer the habitat well upstream of Barmah (Briggs, OH 70). Langtry described Trout cod as being 'reasonably plentiful' near Barmah; while further upstream at Burramine, the catch rivalled that of Murray cod, with fish up to 25 lb. (11.3 kg) being taken in his survey in 1950 (Cadwallader, 1977).

Below Echuca one Trout cod museum specimen was sourced near Swan Hill in 1877 (Berra, 1975) and four others were collected in that area around 1950 (*Australian Museum* database). The latter were captured by professional fishermen William Davies and Bob Brutten at the request of NSW State Fisheries inspector Arnold Arentz who forwarded them to Theodore Roughley (Henry Davies, pers. com.; Roughley, 1955). Newspaper accounts reported 'Murray trout' being taken or present near Kerang and Swan Hill (*Argus*, 3 March 1911, 15 October 1920). Oral history recalls that Trout cod were less common below Echuca than upstream (Clifford, OH 72; Jones, OH 65; Laddie Clifford, pers. com.), though in specific reaches of river they were locally very common. Regular captures occurred near Torrumbarry (Daws, OH 99), Cohuna (Wilson, OH 73), Murrabit (McDonald, OH 74), Nyah (O'Connor, OH 111) and Wood Wood (Davies, OH 75), and they were fairly common at Pental Island upstream of Swan Hill (Davies, OH 75). While present in the nearby Murray River, Trout cod have not been reported from the Gunbower Creek (Wilson, OH 73).

In 1950, Langtry concluded that at that time 'the numbers of Trout cod taken increase from one or two fish at Swan Hill to a maximum below and above Yarrawonga weir' (Cadwallader, 1977). During the early 1980s a number of old commercial fishermen informed the author that Trout cod around the First World War had a patchy presence downstream of Echuca where they were always reported being captured in faster stretches of water running over what were described as rocky reefs. Specific locations mentioned were Murrabit, Pental Island, Vinifer and the 'Bitch and Pups' (just upstream of the junction of the Wakool River). Collectively the evidence suggests that Trout cod were abundant upstream of Echuca and less so downstream, though they were common in the lower reaches of this zone in preferred habitat.

Upstream of Echuca Macquarie perch were very common to abundant. They were regularly taken near Tocumwal (Vidler, OH 66), and were considered to be very common at Yulupna Island (Reynolds, OH 69) and at Barmah (Briggs, OH 70; Norris, OH 71; Laddie Clifford, pers. com.). Langtry reported the species to be 'reasonably plentiful' at Barmah in 1950; that large numbers were present in the Gulf Creek; and, during netting in the Murray River near Burramine, Macquarie perch were the second most commonly captured species, also being present in adjacent lagoons (Cadwallader, 1977). John Tubb stripped and artificially fertilised eggs from running ripe Macquarie perch captured near Barmah between September and November 1937 (Cadwallader, 1977), and they were observed to spawn on the coarse sands and cobbles in creeks near Barmah including the Gulf Creek (Laddie Clifford, pers. com.). The evidence of Tubb and Clifford suggests the Barmah Lakes population may have been self-supporting.

Below Echuca a newspaper account reported that a 'Macquarie perch' weighing 18 lb. (8.2 kg) was taken from the Merran Creek (*Argus*, 18 July 1924, 7 July 1925) but the correspondent may have confused the species with Silver perch so the record is uncertain. A fish taken at Koondrook in 1931 was confirmed as a Macquarie perch, with a museum identifying the specimen. The account implies that this was not an isolated capture (*Argus*, 18 December 1931). They were regularly taken at Pental Island, with occasional captures occurring at Beveridge Island, downstream of Swan Hill (Davies, OH 75). In 1950, Langtry wrote that 'Torrumbarry Weir seems to be the downstream limit of Macquarie perch' though he noted that near Barham, Cohuna and Gunbower 'it is said that Macquarie perch are returning to the area'. He concluded that from Torrumbarry

‘they gradually increase in numbers upstream to just below Yarrawonga Weir’ (Cadwallader, 2007). Roughley reported an increase in the number of Macquarie perch being caught between Torrumbarry and Swan Hill during the early 1950s, speculating that heavy rains had flushed them out of lagoons and into the river (Roughley, 1955). Overall, Macquarie perch appear to have been very common to abundant between Yarrawonga and Echuca, but downstream of Echuca, while regularly taken were comparatively scarce.

Golden perch were common near Yarrawonga (Aitchison, OH 62; Charlie Aitchison, pers. com.), and at Burramine they were the most abundant species taken in the river in one survey. They were also recorded in lagoons (Cadwallader, 1977) and were commonly captured near Cobram (Dick, OH 68; Vidler, OH 66). After floods they were abundant at Yulupna Island (Reynolds, OH 69). At Barmah, large catches were taken with fish up to 32 lb. (14.51 kg) being reported (Briggs, OH 70; Clifford, OH 72; Photos: MR37, 38, 45, 97, 101). Fish up to 34 lb. (15.4 kg) were captured near Torrumbarry (Daws, OH 99). Langtry considered the species to be plentiful at Barmah, though less so towards Yarrawonga (Cadwallader, 1977). Blandowski (1858) recorded that Golden perch were found both in the river and billabongs in the Gunbower area. They were abundant in the Gunbower Creek near Cohuna, with fish up to 17 lb. (7.7 kg) being taken (Wilson, OH 73). Small Golden perch were present in the nearby Spurr Creek (Marett, 1943). In Kow Swamp, fish up to 54 lb. (24.5 kg) were taken (Davies, OH 75; Roughley, 1955). Beveridge (1889) recorded the species to be abundant in the Murray River near Swan Hill, and large numbers were present in lagoons. In the Merran Creek near Swan Hill, Golden perch from eight to ten lb. (3.6 to 4.5 kg) were very common, and fish up to 16½ lb. (7.5 kg) were captured from Murray Downs Lake near Swan Hill (*Argus*, 18 July 1924). They were reliably taken in the Murray River near Nyah (O’Connor, OH 111). Overall, Golden perch were abundant in this zone of the Central Murray.

Silver perch were captured in surveys by Langtry in the Murray River near Burramine, and were common in the nearby lagoons (Cadwallader, 1977). At times, large catches were taken just downstream of Yarrawonga (Photos: MR31, 32, 73, 74), near Cobram (Dick, OH 68; Vidler, OH 66; Lever, OH 77), at Yulupna Island near Tocumwal (Reynolds, OH 69), and at Barmah (Briggs, OH 70). On one occasion a single drum net set near Stewarts Bridge upstream of Echuca captured 126 fish (Clifford, OH 72). Silver perch were present in the Spurr Creek near Gunbower (Marett, 1943) and in Kow Swamp (Photo: MR53). Large schools at times congregated at the base on Torrumbarry Weir (Cadwallader, 1977). Small Silver perch were present in such large numbers downstream of the weir that they were considered to be a pest (Daws, OH 99). Silver perch were abundant in the Murray River near Cohuna (Wilson, OH 73), at Murrabit (McDonald, OH 74) and at Nyah (O’Connor, OH 111). Beveridge (1889) recorded the species to have been abundant in the Murray River and nearby lagoons near Swan Hill. The evidence indicates that Silver perch were originally abundant along the length of the middle Central Murray River.

Catfish were recorded as being caught by aboriginal people near Barmah in 1838 (Sturt, 1990). They were very common in lagoons near Burramine and the nearby Cobrawonga Creek, a small anabranch of the Murray River (Roberts, OH 63). A very early newspaper account reported the capture of a large specimen of a Catfish from the Murray River near Echuca, noting that the species was ‘very seldom found out of the backwaters and lagoons’ (*Argus*, 15 January 1864). A latter account similarly reported that ‘jew-fish, catfish, or eelfish’ were ‘found mostly in lagoons and branches’ (*Sydney Morning Herald*, 14 November 1868). An early photograph records two Catfish taken from the river near Barmah (Photo: EHS3), and Langtry reported the presence of large numbers of juvenile Catfish in the Gulf Creek in the same area (Cadwallader, 1977). Oral history recalls the species to have once been abundant in the Barmah Lakes, and in the swamps near Barmah nests were regularly seen (Briggs, OH 70; Clifford, OH 72).

Catfish were regularly taken in some backwaters of the Murray River near Cohuna, and were very common in the Gunbower Creek (Wilson, OH 73; Daws, OH 99) and in creeks near Pig Swamp (Daws, OH 99). They were

also abundant in the Kow Swamp (Wilson, OH 73; *Argus*, 8 March 1927). At Murrabit, Catfish were regularly taken in the quiet backwaters of the river and were very common in the adjacent creeks (McDonald, OH 74). Near Swan Hill Beveridge recorded Catfish to have been abundant in lakes and lagoons, and witnessed captures by local aboriginal people in the Murray River (Beveridge, 1889). A newspaper account recorded captures out of the Murray River near Swan Hill of fish up to 8 lb. (3.6 kg). In the Merran Creek this size fish were common, with a 14 lb. (6.4 kg) fish being taken (*Argus*, 18 July 1924). They were also very common at Vinifer (O'Connor, OH 111). It appears that the abundance of Catfish in the middle Central Murray River varied along its length, the species being more prevalent in the slower reaches downstream of Echuca where it was most common. Upstream it was regularly taken in the river, but scarce. In lagoons and lakes Catfish were abundant throughout the middle Central Murray.

Blackfish were very common near Tocumwal (Vidler, OH 66), common in the Barmah Lakes (Laddie Clifford, pers. com.; Cadwallader, 1977; Clifford, OH 72) and were recorded near Echuca in 1868 (*Sydney Morning Herald*, 14 November 1868). Blackfish were common in creeks and were regularly taken in the Murray River at Murrabit (Ian McDonald, pers. com.). Beveridge (1889) recorded captures of Blackfish from lagoons near Swan Hill, though did not report taking them out of the river itself. A newspaper account reported that they were present in the river near Swan Hill, though were considered to be unusual (*Argus*, 30 January 1925). At times they were caught in large numbers from nearby irrigation channels (*Argus*, 7 July 1922). Overall, Blackfish appear to have been historically very common in the upper reaches of the middle Central Murray, though they were less prevalent in the lower reaches of the river. Throughout the middle Central Murray, Blackfish were very common in lakes and lagoons.

Newspaper articles indicate that Lampreys, probably Short-headed lampreys (Lintermans, 2007), were found inside snags near Tocumwal and downstream near Swan Hill (*Argus*, 7 July 1905). They were present at Barmah (*Argus*, 26 May 1866) and were considered to be fairly common in the middle Central Murray, along with occasional eels (*Argus*, 12 April 1921). It is likely that they were Short-finned eels (Lintermans, 2007). An eel was angled in the Gunbower Creek (Wilson, OH 73) and eels were also reported from Murray Downs Lake near Swan Hill (*Argus*, 9 November 1920).

15.2.3 Lower Lowland Zone

Murray cod are universally reported to have been abundant in the lower Central Murray River. At Chaffey's Landing Blandowski recorded cod to have been the main fish upon which the aborigines subsisted. He described their fishing practices including how they located them at night with fire and speared them (Blandowski, 1858). Fish up to 146 lb. (66.2 kg) have been reported from near Euston (Davies, OH 75), and catches of 500 lb. (226.8 kg) a day are recorded in the fishing receipts of the Beggs family near Robinvale (Trueman, unpublished data). Twenty five miles downstream of Mildura, four anglers caught 230 lb. (104.3 kg) of cod in a day (*Argus*, 1 February, 1923). Cod were also common in Lake Mournpoul with fish up to 60 lb. (27.2 kg) being present (*Argus*, 13 January 1930).

Blandowski described the two species of cod as being 'characteristic forms of the Murray River and its tributaries', implying that the Trout cod was, like the Murray cod, widespread and common (Blandowski, 1858). The Yarree Yarree (Jari Jari) people near Merbein referred to Murray cod as 'Barnta' and Trout cod as 'Yaturr' (Blandowski, 1858) demonstrating their familiarity with the species in their lands, which encompassed the region roughly from Robinvale to the South Australian border. Stead described Trout cod as having been 'abundant' near Wentworth around 1910 (Stead, 1929b). A newspaper account records Mildura anglers stating the fish's existence in the district (*Argus*, 3 March 1911). Another newspaper account recorded the capture of a 'Murray trout' near Narrung (*Argus*, 16 May 1935). Retired commercial fisherman in the 1970s informed the

author that regular captures of 'rock cod' (Trout cod) had taken place up till the 1920s at McGraths Island near Kulkyne, and other stretches of faster water near rock bars. Langtry described the Trout cod as being 'exceedingly rare' between Euston and Mildura, and 'occasionally taken' at Boundary Bend, but did not personally capture any specimens in his survey in 1949 (Cadwallader, 1977). The evidence on the past abundance of Trout cod in the lower Central Murray is contradictory, but the early accounts suggest that the species was locally very common in areas of preferred habitat.

Newspaper articles reported the presence of Macquarie perch near Merbein, though their failure to record Silver perch suggests that it may have been a misidentification (*Argus*, 18 July 1924; 7 July 1925). Blandowski did not record their presence near Chaffey's Landing (Blandowski, 1858), and Langtry failed to catch any in the lower Central Murray River c1950 (Cadwallader, 1977). During the late 1970s, a number of retired commercial fishermen, including members of the Beggs family of Robinvale, recalled stories to the author of regularly catching small numbers of 'white eye' or 'butterfish' between Robinvale and Renmark, providing accurate descriptions of the species. Records of fish movements through the Euston Weir fish documented the passage of hundreds of Macquarie perch upstream during the period around World War Two (Cadwallader, 1977; Mallen-Cooper & Brand, 2007), and they were taken by members of the Davies family just below the weir (Davies, OH 75). Overall, on the limited evidence available, Macquarie perch appear to have had a small but significant presence in the lower Central Murray.

Golden perch and Silver perch were abundant in the river and adjacent lagoons in the lower Central Murray. Large numbers of both species used the fishway at Euston, with a total of 4,278 Golden Perch and 11,530 Silver perch being recorded between May 1938 and November 1942 (Cadwallader, 1977). At Correna Bend near Euston, a photo records a large catch of fish which includes many Silver perch (Photo: Museum Victoria, MM002624). Both species were abundant near Boundary Bend, with Golden perch comprising up to 75.6% of the catch in a survey in 1949 and Silver perch 14.3% (Cadwallader, 1977). Blandowski noted the presence of Silver perch both in the river and billabongs, and recorded three aboriginal names for the species being used for fish of different sizes (Blandowski, 1858). Both Golden perch and Silver perch were present in Lake Mournpoul (*Argus*, 13 January 1930).

Catfish were taken by Sturt's party near the Murrumbidgee River junction in 1830 (Sturt, 1833), and Blandowski captured them at Chaffey's Landing, recording fish up to 8 lb. (3.6 kg) in weight. He reported that the Catfish 'lives here in the Murray and in Billabongs' (Blandowski, 1858), indicating that the species was historically common in both types of habitat near Merbein. They were abundant in Lake Mournpoul where nests were observed (*Argus*, 13 January 1930; O'Donahue, 1915), and Langtry recorded Catfish being present in the Benanee and Dry Lakes near Robinvale, as well as in irrigation channels near Mildura (Cadwallader, 1977). One angler reported catching hundreds of Catfish from lagoons near Mildura (*Argus*, 26 February 1918). There are other accounts recording the species to have been abundant near Merbein at Cowanna Bend in both lagoons and in the river (*Argus*, 2 February 1922; 7 July 1925). Overall, Catfish were abundant in the lower Central Murray.

Blandowski recorded Blackfish being present at Chaffey's Landing and considered them to be principally found in lakes and lagoons rather than the river (Blandowski, 1858). They were recorded in newspapers as being present in lagoons at Cowanna Bend near Merbein (*Argus*, 7 July 1925), with captures from the river itself near Merbein, though this was considered unusual (*Argus*, 2 February 1922). Overall, in the lower Central Murray, Blackfish were comparatively rare in the river, but very common in habitats away from the main channel such as lagoons.

15.2.4 Estimates of Native Fish Abundance in the Central Murray River Catchment at European Settlement

Presented are the rarity scores used in the *Sustainable Rivers Audit* (Davies *et al.*, 2008) which were developed by an expert panel using historical evidence available prior to 2008. They indicate the probability of capturing a particular fish species using standardised survey techniques such as electrofishing. They are compared to those developed in the *True Tales of the Trout Cod* Project that uses more recently obtained historical evidence and are based on the typical size of angler catches in the oldest accounts.

Table 15.1 Central River Catchment Rarity Scores (Main River Channels)

Species	Lowland* (Wakool River junction to Lock 10)		West Middle† Lowland (Echuca to Wakool River junction)		East Middle† Lowland (Yarrawonga to Echuca)		Upper Lowland* (Wodonga West to Yarrawonga)	
	SRA	True Tales	SRA	True Tales	SRA	True Tales	SRA	True Tales
Trout cod	3	3	5	3	5	5		5
Murray cod	5	5	5	5	5	5		5
Golden perch	5	5	5	5	5	5		U3
Silver perch	5	5	5	5	5	5		U3
Macquarie perch	1	1	3	L3	3	5		5
Catfish	5	5	3	U3	3	3		L3
'Blackfish'	3	1	3	3	3	3		3

Key

0 = Absent: no credible account reporting the species former presence

1 = Rare: a few individual fish could be expected to be taken by a resident angler each year

3 = Common: regularly taken by a resident angler in small numbers

5 = Abundant: frequently taken by a resident angler in good numbers

L = abundance at the lower end rating

U = abundance at the upper end rating

Ratings in bold type supported by multiple accounts or lines of evidence e.g. oral history, newspaper accounts, photographs

* Note: The actual boundaries of this zone as published in the *Sustainable Rivers Audit* are uncertain as it is unclear whether it includes the Murray River itself or just the headwaters of the Billabong Creek to the north. For this reason the rarity scores used in the audit have not been reproduced.

† Note: The middle lowland zone used in the *Sustainable Rivers Audit* has been divided into eastern and western halves in recognition of distinctive changes in abundances of some species.

Figure 15.2 Historical Records for Murray cod and Trout cod in the Central Murray River Catchment

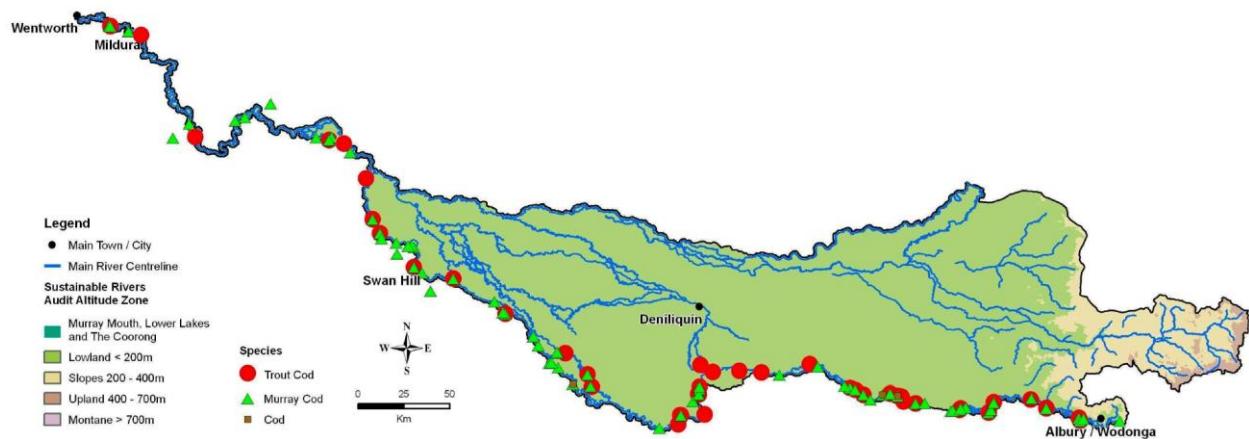
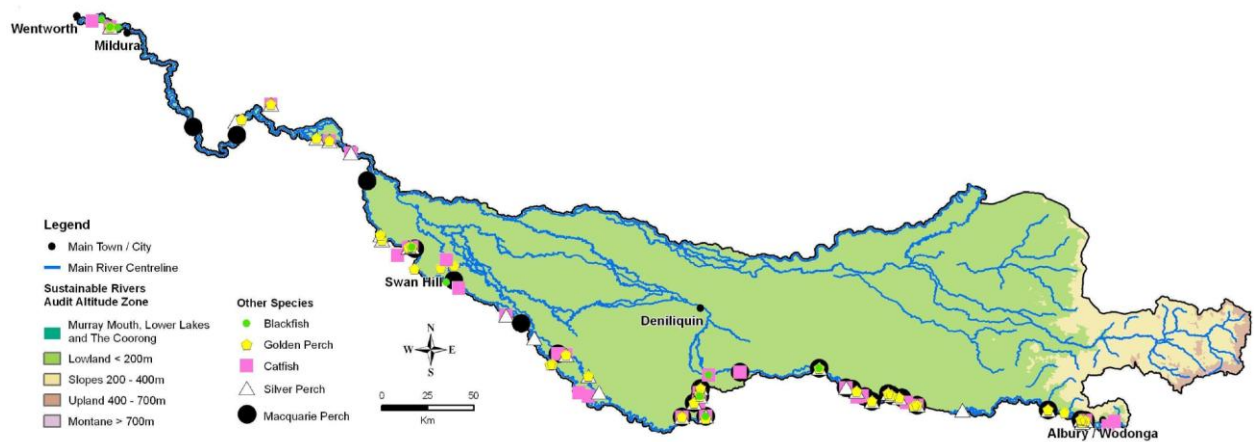


Figure 15.3 Historical Records for Native Fish Species other than Cod in the Central Murray River



Photograph 15.3 Howlong Cod Catch



Photo MR71: A catch of Murray cod and Trout cod taken from the Murray River upstream of Howlong c1930. Eddie Handorf is on the left with friends. The two largest fish are presented in the lower photos, the top fish being a Murray cod and the lower one a Trout cod. The fish 2nd and 6th from left are covered with spots and dashes and together with their body morphology suggests that they too are Trout cod. This photograph demonstrates that Trout cod were once at least very common in the upper Central Murray River prior to native fish populations being decimated by copper sulphate treatment of the Hume Dam. Photo courtesy of Claude Handorf.

Photograph 15.4 Silver Perch at Yarrawonga



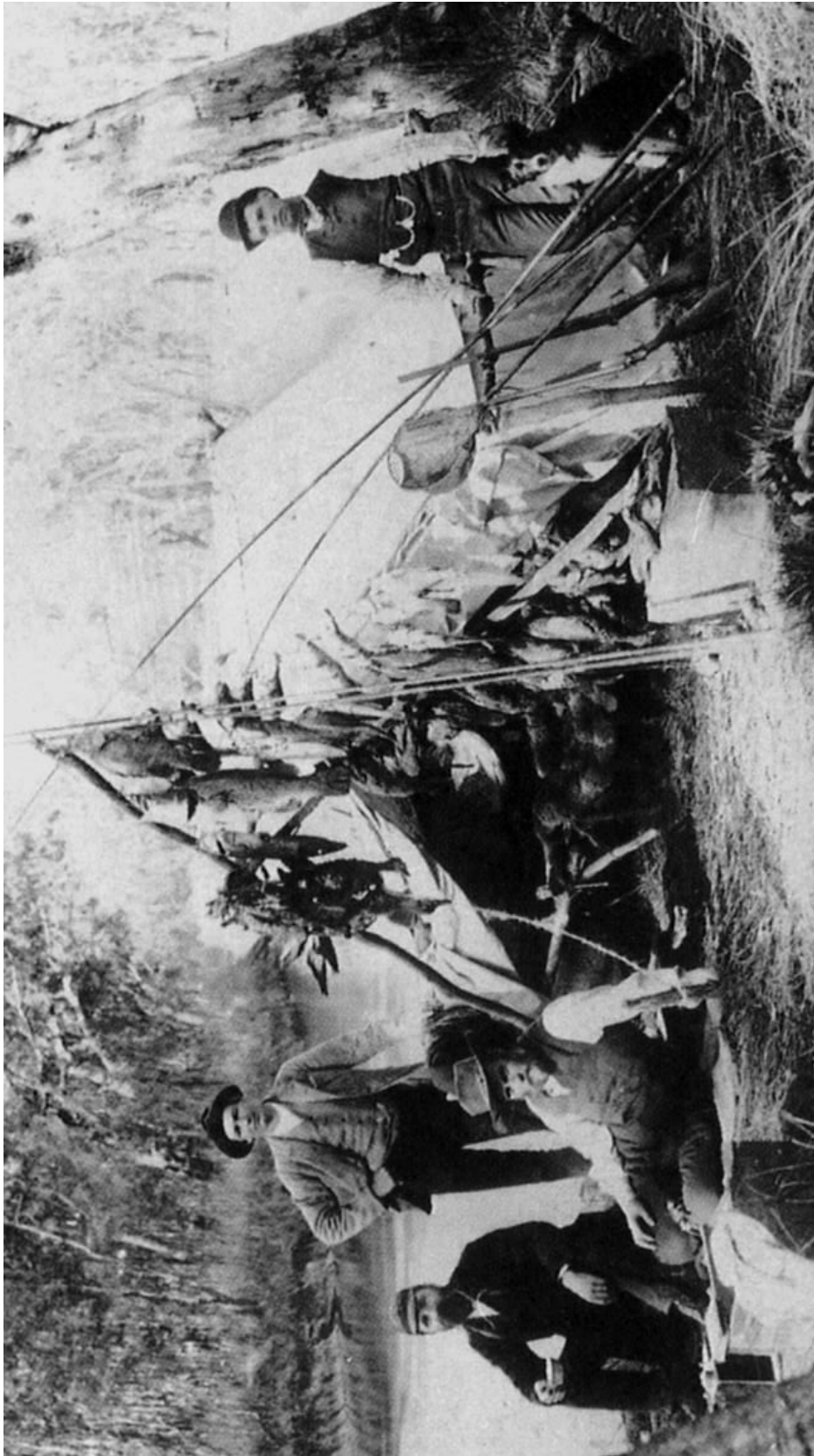
Photo MR31. Silver perch, commonly known as grunter or silver bream, were once abundant in the Central Murray. Many people did not favour them as a table fish as their edible qualities were highly variable. Commercial fisherman Wallace 'Laddie' Clifford referred to them as the 'shit of the river' because of their scavenging feeding traits and as a nuisance in netting operations. The fact that they were less sought after than Murray cod or Golden perch resulted in them being rarely photographed. This catch was taken from the Murray River at Bruce's Bend near Yarrawonga in 1951. Today Silver perch fed on high quality diets are a highly valued aquaculture fish. Photo courtesy of Jim Masters.

Photograph 15.5 Trout Cod at Tongalong



Photo MR27. Left: A catch of cod from the Murray River at Tongalong Beach, near Bearii, 1938. At right is Keith Renyolds while on the left is a member of the Ballantyne family. Below: Close up of part of the catch. Two of the fish, 1st and 3rd from the left in the right photo, display the markings of Trout cod, the former exhibiting distinctive body morphology. Photo courtesy of Tim Cole

Photograph 15.6 Early Barmah Catch



This photograph contains images of at least four native fish species. Believed to date c.1870 from the Barmah area, visible is a cod, a Golden perch and several Catfish near the top of the A-frame. Silver perch lie near the top of the right flap of the tent and on the box at the lower right (forked tails). The photo also depicts the habitat and natural state of the river at an early date with perhaps the only major change being the recent removal of snags from the river. Original photograph from the Sinclair family, courtesy of Helen Coulson of the *Echuca Historical Society*.

Photograph 15.7 Golden Perch at Barmah



Photo MR38. A catch of Golden perch from the Murray River just downstream from Deep Creek near Barmah c1955. Golden perch were abundant in most the Central Murray River including lakes and lagoons. They were a staple of the amateur and commercial fishery but disappeared upstream of the Yarrawonga Weir after its construction in 1939. Photo courtesy of Ramon and Max Clifford.

Photograph 15.8 Early Echuca Fishing Party



Photo EHS 1. Photo of a fishing party at Echuca c1890. Lying on the ground near the centre of the photo is Dick Greville. The catch appears to consist primarily of Murray cod though the head of one fish held by the man behind the boy at left has features suggesting that it could be a Trout cod. Image courtesy of the *Echuca Historical Society*.

Photograph 15.9 Kow Swamp Catch



CHAS. A. HILL Pty. Ltd.
 Wholesale and Retail Commission Agents
 FISH, CRAYFISH, PRAWNS, RABBITS, OYSTERS, and all classes of SMOKED FISH
 8 FISH MARKET, MELBOURNE

All Letters and Telegrams Promptly Attended to

Auctioneer — CHAS. A. HILL
 Fish sold on Account to M. J. Davies
 Phone — Cent. 8532
 For Week ending Friday, 1938

Date	Number Boxes or Baskets Received	Class of Fish	£	s.	d.
Feb 16	2 Pkgs	1) 49 lbs. b. M. cod (1 fish)	1	16	9
		2) 24 " bld. " "	1	1	
	1) 70 " " " (1 fish)			10	
	9 1/2 " " " (1 fish)			9	
	54 " " " (1 fish)		2		

Top: Photo MR53. This catch of fish consisting of mainly Murray cod, a few Golden perch and a Silver perch was taken from Kow Swamp near Cohuna c1955. The larger lakes and swamps along the Central Murray once contained phenomenal quantities of native fish as evident from Peter Beveridge's writings for the Swan Hill area and F. J. Marett's account for Kow Swamp. Photo courtesy of Ron Mudford.

Bottom: Photo MR41. One notable fish from Kow Swamp was a Golden perch taken by professional fisherman William Davies in February 1938. It weighed 54 lb. (24.5 kg) after it was cleaned and represents the current record for the species. This receipt documents the sale of the fish at the Melbourne Fish Market. Photo courtesy of Henry Davies.

Photograph 15.10 Murray River Drought



Photo MR43. Severe drought has occurred in the Murray-Darling System regularly since European settlement. This photo is of the Murray River at Myall during the short but extreme drought of 1914. The owner of this image, Ian McDonald, was present as a two month old baby in the buggy on right. The fish were adapted to the boom bust cycle and could quickly recover when flooding occurred. Photo courtesy of Ian McDonald.

Photograph 15.11 Pental Island Cod



Photo EHS 9 of four Murray cod caught in the Little Murray River at Pental Island near Swan Hill in 1926. Oliver Burton (left) and J. B. Rankin are in the photo. Of significance is the lack of trees lining the river with a similar scene recorded in 1862 in *Stereoscopic views of the River Murray* published by Edward Cole and George Burnell. The photos demonstrate that the Central Murray River was not uniformly lined with red gums and filled with snags but that parts of it, as described by Charles Sturt, Major Thomas Mitchell and Peter Beveridge, were surrounded by forests of tall reeds.

Original photograph from Joy Bickford, courtesy of the *Echuca Historical Society*.

Photograph 15.12 Trout Cod and Murray Cod near Swan Hill



Left & Centre: Photo MR46. Florence Jude and Peggy Jude with what is probably a Trout cod caught from the Murray River between Swan Hill and Nyah c1927. Enlargement of the fish (centre) reveals that it is likely that the top jaw would overhang in the closed position. The shape of the head, large eye and a hint of dashed markings suggests it is a Trout cod. Photo courtesy of Julie Whateley.

Right: Photo MR42. Henry & Joan Davies with a 98 lb. (44.6 kg) Murray cod captured near Euston in 1958. Henry was a fourth generation professional fisherman who resided at Swan Hill. His father, William Davies, caught the record Golden perch from Kow Swamp, supplied specimens of Trout cod to NSW State Fisheries and assisted John Lake. Photo courtesy of Henry Davies.

Photograph 15.13 A Big Catch Near Euston



Photo Museum Victoria mm002624. This catch, which includes Murray cod and Silver perch, was taken at Correna Bend near Euston in 1928. Photo reproduced with the permission of *Museum Victoria*.

15.3 The Changes

15.3.1 *Changes to Native Fish Distribution and Abundance*

15.3.2 *Upper Lowland Zone*

Newspaper accounts suggest that there was a reduction in fish stocks between Wodonga and Yarrawonga by the early twentieth century, with concern expressed about the effects of overfishing and pollution at Rutherglen and Corowa (*Argus*, 24 March 1896; *Sydney Morning Herald*, 18 December 1902). In 1928, a survey taken over thirty-six days near Wodonga, recorded the capture of 756 native fish including Murray cod, Trout cod, Macquarie perch, Golden perch and Silver perch (NSW Fisheries Report, 1928), indicating that substantial populations still existed at that time. Local reductions due to fishing pressure were acknowledged (NSW Fisheries Reports, 1920, 1921).

After the fish kills that occurred between 1929 and 1934 and which were caused by copper sulphate treatment of the Hume Weir, native fish were very rare near Wodonga (McFarlane, OH 53). By 1935 at Barnawartha, Golden perch and Catfish had completely disappeared, juvenile native fish were absent, and only a few cod were taken (*Argus*, 7 March 1935). In 1937, anglers between Albury and Corowa reported the catch rate of cod to have dramatically fallen to one a month (*Argus*, 3 July 1935). At Howlong there was a serious reduction in cod numbers by the mid 1930s, though small numbers of both Murray cod and Trout cod continued to be regularly captured, along with a few Silver perch. By that time Macquarie perch were rare, Golden perch very rare, and Catfish absent. All three types of perch had disappeared by the 1950s (Handorf, OH 61; Claude Handorf, pers. com.). Golden perch became extinct upstream of Yarrawonga Weir, with the last reported captures near Wodonga in 1938 and 1942 (Cadwallader, 1977; McFarlane, OH 53).

Downstream between Corowa and Yarrawonga, Macquarie perch were described as 'scarce' near the Ovens River junction in 1939 (*Argus*, 14 January 1939), though regular captures continued around that time (*Argus*, 26 February 1938). With the construction of the Yarrawonga Weir in 1939, native fish populations upstream became isolated, and by 1950 only the two cod species were found in any quantity above that point, with the river and lagoons being dominated by Redfin perch, Goldfish, trout and Tench (Cadwallader, 2007). Catfish had undergone a major decline in lagoons in the Yarrawonga area by the 1930s, with a relic population surviving in Ball's Lagoon until c1980 (Aitchison, OH 62). Fair numbers of both species of cod were present between Corowa and Brimin up till the 1950s, but the fishery declined after that time and Macquarie perch had completely disappeared by the 1970s (Cadwallader, 1977; Bill Ellis, pers. com.). Murray cod remained common near Brimin, though a decline was evident during the 1960s. Murray cod were present in very good numbers in Lake Mulwala, though smaller cod were scarce and occasional Trout cod were taken from the lake up till the early 1980s (Bill Ellis, pers. com.).

15.3.3 *Middle Lowland Zone, Yarrawonga to Echuca*

As early as 1892, an assessment of the fishery near Barmah concluded that it had been severely overfished resulting in a general reduction in fish populations (NSW Fisheries Report, 1892). By 1926, it was reported at Echuca that the typical angling catch rate in past decades of 40 to 50 lb. (18.1 to 22.7 kg) of fish in a few hours, had seriously declined (*Riverine Herald*, 7 January 1926). A 1937 newspaper account indicated that a decline was generally acknowledged in the cod fishery near Tocumwal, and this was associated with overfishing and introduced fish (*Sydney Morning Herald*, 24 September 1937). Returns from commercial fishermen suggest that there was increased catches of Murray cod between 1940 and 1951 in NSW (Rowland, 2005) which was also reflected in the Barmah Lakes fishery at that time (Laddie Clifford, pers. com.). Langtry concluded that by

1950 the Barmah fishery, while still productive, had severely declined compared with that in the past. Murray cod were very common between Yarrawonga and Barmah, though small cod were scarce, and Trout cod relatively common particularly towards Yarrawonga (Cadwallader, 1977). After 1950, anglers recall Trout cod to have undergone a serious decline so that by the end on the 1960s they had become generally rare. Murray cod, while still common, had undergone a further reduction in abundance. The only area that produced regular captures of Trout cod into the early 1970s was between Yarrawonga and Cobram, though by that time they were not considered to be particularly common (Claude Handorf, Bert Roberts & Bill Ellis, pers. com.). A 6kg fish was captured in a drum net in the Murray River downstream from Barmah in 1982 (Laddie Clifford, pers. com.), and was the last report from that area for nearly two decades. After floods during the mid-1970s, small Trout cod were regularly taken by anglers and became common downstream to Cobram (Author's pers. obs.).

Macquarie perch were common between Yarrawonga and Tocumwal until about 1950, then declined in abundance (Cadwallader, 1977; Handorf, OH 61; Vidler, OH 66; Nicholson, OH 67). At Barmah, a noticeable decline in catches commenced just after the Second World War (Briggs, OH 70; Laddie Clifford, pers. com.). Commercial fishermen returns recorded 1807 kg of Macquarie perch captured in NSW in 1965, the majority probably sourced from the Central Murray region, with a reduction down to 223 kg by 1973/74 (Harrison, 1977). While some of this catch may have included Silver perch, small numbers of Macquarie perch were taken near Barmah by commercial fishermen until the late 1970s, at least partially validating the commercial returns (Laddie Clifford, pers. com.). Macquarie perch were captured below Yarrawonga Weir by commercial fisherman Bill Ellis until the early 1980s (Bill Ellis, pers. com.). His catch on two occasions contained four and six Macquarie perch respectively in the length range 31 – 45 cm (Stuart Rowland, pers. com.). Occasional catches also occurred in irrigation channels near Berrigan in the late 1970s (Alf Wessel, pers. com.), but by the end of the 1980s Macquarie perch had vanished from the middle Central Murray.

As early as 1930, there was a reported reduction in the abundance of Golden perch upstream of Barmah (NSW Fisheries Report, 1930). The recollections of commercial fishermen suggest that Golden perch underwent a slow general decline between Yarrawonga and Echuca after the Second World War (Laddie Clifford & Bill Ellis, pers. com.). Very good catches were taken at times (Cadwallader, 1977; Photo MR38), but less frequently than in the past and were usually associated with flood events (Reynolds, OH 69; Lever, OH 77; Bill Lever, pers. com.). By the late 1970s they were scarce in the Cobram area (Claude Handorf & Bert Roberts, pers. com.; Author's pers. obs.). During the 1960s, near Cobram, there was a noticeable decline in Silver perch (Handorf, OH 61), though they remained common near Barmah, with large catches taken at times (Clifford, OH 72; Laddie Clifford, pers. com.). Catfish were common in the middle Central Murray River in the 1920s, but by the 1930s became rare in the river. They were still found, however, in the Barmah Lakes and lagoons (Laddie Clifford, pers. com.). They disappeared from lagoons and the Cobrawonga Creek near Cobram during the 1940s (Roberts, OH 63) and became scarce at Barmah around the same time. By 1950 the fish had virtually disappeared (Cadwallader, 1977; Briggs, OH 70; Norris, OH 71). Blackfish disappeared in this section of the Murray River by the 1940s with rare captures taking place after that time (Clifford, OH 72; Laddie Clifford, pers. com.).

15.3.4 Middle Lowland Zone, Echuca to Wakool Junction

In the Gunbower area Trout cod had disappeared by the early 1960s, though Murray cod remained common (Wilson, OH 73; Daws, OH 99; Garry Daws, pers. com.). At Murrabit, a decline in the cod fishery took place around the Second World War, and Trout cod had become rare by that time, with few subsequent captures (McDonald, OH 74). In 1950, Langtry described Murray Cod as being 'not in short supply' near Swan Hill, though did not consider them to be as abundant as further downstream (Cadwallader, 1977). Fish up to 100

lb. (45.4 kg) were regularly captured (Roughley, 1951). Trout cod were common at Pental Island during the 1950s, but by the 1960s they had virtually disappeared, with only occasional captures into the 1970s (Davies, OH 75; Henry Davies, pers. com.).

Roughley (1955) reported Macquarie perch to have become 'greatly depleted' by the 1950s, though he stated that there was a small increase in captures around that time between Torrumbarry and Swan Hill. Langtry also considered them to be rare below Echuca by 1950 (Cadwallader, 1977), and they are not recorded in the oral history. At Swan Hill Macquarie perch were scarce by the 1950s, though they were regularly captured at Pental Island and Wood Wood. They had completely disappeared by the 1970s (Davies, OH 75; Henry Davies, pers. com.). By the early 1970s a serious decline had occurred in the catches of Golden perch in the Murray River near Cohuna, and Bony Herring had disappeared from the Gunbower Creek (Wilson, OH 73). Silver perch were 'fairly abundant' in the Murray River below Torrumbarry c1950 (Roughley, 1955; Cadwallader, 1977), and large catches were taken up to the late 1970s. After that time a decline was evident (Author's, pers. obs.). Similarly, near Murrabit they were abundant in the 1950s, but during the 1960s a major decline occurred (McDonald, OH 74).

Roughley, in 1946 made a general comment that in the Murrumbidgee and Murray Rivers Catfish were 'almost extinct' (*Canberra Times*, 26 June 1946). In 1955, he stated that 'in most parts of the Murray River it is now rare where at one time it used to swarm' (Roughley, 1955). Langtry reported Catfish to be absent at Swan Hill around 1950, though he indicated captures occurred between Torrumbarry and Barham (Cadwallader, 1977). By the 1970s, Catfish had disappeared from Murray River near Cohuna and from Kow Swamp (Wilson, OH 73). Catfish and Blackfish become scarce near Murrabit by the 1930s, with these declines being linked to the proliferation of Redfin perch (McDonald, OH 74).

15.3.5 Lower Lowland Zone

While acknowledging that some reduction in the fishery had occurred, Langtry in 1950 reported that excellent fishing for Murray cod existed between Euston and Mildura, along with Golden perch and Silver perch, but that Trout cod were 'exceedingly rare' (Cadwallader, 1977). He noted the presence of large numbers of small Catfish in irrigation channels near Mildura, stating that they were 're-establishing themselves', implying that they had previously undergone a decline. Upstream of Mildura at Boundary Bend, Catfish were scarce by 1949 (Cadwallader, 1977). At Merbein in 1857, Blandowski had reported the presence of Blackfish in lagoons, and newspaper accounts record their presence during the 1920s (*Argus*, 2 February 1922, 7 July 1925). Langtry reported Blackfish to be absent in the lower Central Murray by 1949 (Cadwallader, 1977). By the 1960s at Wentworth, small Murray cod were scarce and Trout cod were completely absent and had been so for many years (Lever, OH 77).

15.3.6 Changes to Habitat

From the 1860s, there are accounts reporting the overfishing of native fish in the Central Murray River. In 1869 at Barmah, the catch of fish, principally cod, averaged 3 tonnes per week (*Illustrated Australian News*, 23 March 1869), and at times illegal nets completely blocked all fish passage upstream (*Echuca and Moama Border Post*, 4 January 1893). Commercial catches of fish of up to two tonnes per day were recorded from Echuca (*Argus*, 17 November 1868), with a total of 147 tonnes being dispatched from Moama in 1883 (Rowland, 2005). On one occasion, 18 tonnes of fish were delivered to the rail head at Swan Hill by paddle steamers (*Argus*, 17 August 1895) and as late as 1924, 6 tonnes a week was regularly dispatched from that town (*Argus*, 29 September 1924). Until the introduction of the closed season, large numbers of fish were

caught at spawning time. At Corowa in 1875, one angler expressed concern for the future of the fishery due to large numbers of fish with roe being taken (*Sydney Morning Herald*, 8 November 1875). Even after the introduction of closed waters and the closed season, illegal take of native fish continued (NSW Fisheries Report, 1908; *Sydney Morning Herald*, 19 December 1903, 17 November 1905, 8 December 1921).

In 1915, by which time the fishery was already reported to be in decline, takings from the Barmah region was recorded as being 193 tonnes of fish, from Tocumwal 20 tonnes, Picola 31 tonnes, Koondrook 124 tonnes, Swan Hill 714 tonnes and Mildura 913 tonnes (NSW Fisheries Report, 1915). As late as the 1930s, individual daily shipments out of Mildura - as large as four tonnes a day - were reported (*Argus*, 3 February 1938). By the 1930s, the commercial catch was in serious decline (Rowland, 1989). Many other fish, possibly the majority, went unreported, having been transported from smaller centres, sold locally, taken by recreational anglers, or captured by illegal operators. Explosives were used widely to catch fish (*Argus*, 8 February 1930). When the Yarrowonga Weir was drained for maintenance in 1949, up to 1000 lb. (454 kg) of cod per week was taken (Cadwallader, 1977). The use of illegal drum nets was also linked to the loss of platypus in parts of the river (*Sydney Morning Herald*, 28 July 1947). The commercial fishery in NSW was closed in 2001 (Rowland, 2005).

In 1853, the paddle steamers *Lady Augusta* and the *Mary Ann* travelled up the Murray River from South Australia, the former reaching Maiden's Point (Echuca). They ushered in the era of river boat traffic with Wahgunyah, Echuca, Swan Hill, Robinvale and Wentworth being established as major ports on the Central Murray. A Royal Commission in 1867 recorded that downstream of Mildura, passage was possible in most seasons throughout the year, but that upstream the Murray progressively becoming shallower. Above Echuca, the traffic ceased in most years for several months due to low river levels. Snags proved to be a hazard to the traffic, and wherever the paddle steamers travelled extensive desnagging of the waterway took place. Government records indicate that it was the upper reaches of the Central Murray where the river was narrow and flowed through dense red gum forests, particularly in the Gunbower and Barmah areas, that experienced the most extensive snag removal. Other areas where red gums were largely absent, such as near Pental Island and the Swan Hill Flats, had fewer snags and did not require extensive desnagging (Victorian Government, 1867).

Between 1864 and 1869 the Murray between Albury and Echuca, including the Barmah Lakes, was desnagged. In a typical year like 1865, over 3,000 large snags were removed. In some stretches all of the submerged timber was removed, as well as many bankside trees in danger of falling into the river. Immediate changes in the structure of the river bed were observed (Public Works Department Victoria, 1865, 1867; Victorian Government, 1867; *Argus*, 18 February 1869; *Riverine Herald*, 19 June 1869). During 1865, over 600 snags were removed from the Coghills Bends area between Swan Hill and Robinvale, and 3000 were removed by 1869 from Campbells Island downstream of Barham (Public Works Department Victoria, 1865, 1867; *Riverine Herald*, 19 June 1869). The Murray River was cleared of the worst of the snags by 1880. The snagging boats continued to operate, however, as snags were considered to exacerbate flooding by restricting flow. The last dedicated snag boat, the *Melbourne*, operated on the Central Murray until 1924 (Mudie, 1961).

Further desnagging of the upper Central Murray River was carried out to facilitate delivery of the extra water available with the enlargement of the Hume Dam, and the construction of Dartmouth Dam on the Mitta Mitta River. Records of the Murray-Darling Basin Commission indicate that between 1976 and 1987, 24,500 snags were removed between Albury and Howlong (Gippel *et al.*, 1992). Snags play a key role in the ecology of rivers, and recent studies have suggested a strong association of Trout cod in lowland rivers with woody debris in areas of flowing water. Desnagging has been suggested as playing an important role in their disappearance (Brown *et al.*, 1999).

The Great Flood of 1870 caused enormous damage to settlements along the Murray (*Argus*, 19 September 1870), the immediate response being to construct levee banks and plug the gaps in natural levees to prevent future flood events. By 1898, extensive work between Echuca and Swan Hill blocked flood water on the Victorian side of the river. Similar work had also taken place further upstream in the Tocomwal area (minutes of the Barham Progress Association, August 1898). The levees eliminated much of the wetlands and billabongs, described by early observers such as Peter Beveridge as once containing an abundance of fish, and reduced the frequency of replenishment of many others both in terms of water and fish. As the river became increasingly regulated and levee banks were constructed on the floodplain, many of the billabongs themselves disappeared, becoming permanently dry. Some billabongs were levelled or ploughed to provide additional agricultural land. By 1950, over a third of the former extensive wetlands along the Central Murray River had been lost (Cadwallader, 1977).

In 1887, George and William Chaffee initiated large scale irrigation in the Mildura region. A meeting convened in May 1902 between the then Prime Minister of Australia, Edmund Barton, and the Premiers of New South Wales, Victoria and South Australia, recommended action for the storage of water for irrigation and the improved navigation of the river. This led to the River Murray Agreement being ratified by the Commonwealth and the State Parliaments in 1915. Irrigation along the Murray expanded, resulting in the construction of diversionary weirs and locks, commencing with the Torrumbarry Weir in 1919. This was followed by the Euston Weir and Lock 11, the latter converting nearly a hundred kilometres of riverine environment into a lake. In 1917, construction commenced on the Hume Weir and was completed in 1936. The weir had sufficient capacity to provide some flood mitigation, as well as storing water for summer irrigation and partially regulating the flow of the river. Yarrawonga Weir was constructed downstream in 1939 to divert the releases from Hume into an extensive channel system (Eaton, 1945).

The weirs provided significant obstacles to fish movement, and only the Euston Weir incorporated a fish ladder. The loss of Golden perch populations in the upper Central Murray and Ovens Rivers was later attributed to the construction of the Yarrawonga Weir (Lake, 1959; Cadwallader, 1977). Aboriginal people at Barmah believed that the weir also impeded migrations of Trout cod and Macquarie perch (Briggs, OH 70). Enlargement of the Hume Dam in 1961, combined with diversions from the Snowy Mountains Scheme and later Lake Dartmouth on the Mitta Mitta River, resulted in increased regulation of the flow of the Central Murray River (Thompson, 1994) and significant thermal pollution of the water downstream Albury (Ryan *et al.*, 2001).

From an early date there are accounts of fish kills in the Central Murray attributed to natural phenomenon such as droughts, 'black water' flooding events, and bushfires. In July 1865 it was reported that after rain near Euston 'the lagoons, lakes and creeks that are not running are literally teeming with dead fish. 'Great and small, all seem to have shared the common fate' (*Sydney Morning Herald*, 24 July 1865). Later that year basin wide kills were reported and attributed to an 'epidemic' killing the fish (*Deniliquin Pastoral Times*, 9 September 1865). In the following decades kills linked to the activities of humans were documented. A Rutherglen angler reported that at times cod were killed in the river and adjacent creeks by wool washing and 'boiling down' activities (*Argus*, 24 March 1896). At Mildura large numbers of juvenile cod, Golden and Silver perch, and Catfish were regularly killed by stranding during irrigation pumping (*Argus*, 8 September 1922). Water diversions in the Gulf Creek at Barmah stranded large numbers of Macquarie perch and Catfish (Cadwallader, 1977). Very large kills of Catfish occurred in the Central Murray River during the mid-1920s. These were investigated by the Victorian Fisheries and Game Department who concluded that a disease 'epidemic' was responsible (*Argus*, 20 November 1929). Large numbers of cod died in the Gunbower Creek during the early 1950s (Wilson, OH 73) with ash from fires affecting fish and crustaceans in the Cohuna area around 2003 (Wilson, OH 73).

Due to concern over algae levels tainting the water in the Hume Weir during its initial filling, the water was treated with 'bluestone' (copper sulphate) commencing on the 14th of January 1929. Additional doses were applied at varying times between the months of November and March up till 1934 (Cadwallader, 1977; *Sydney Morning Herald*, 29 November 1933, 10 February 1934). In late 1929, it was found that the initial copper sulphate treatment caused extensive corrosion of the steel sluice gates of the Hume Weir necessitating their repair. Draining of the weir commenced and was completed by April 1930 (*Sydney Morning Herald*, 2 April 1930). Water released from the weir caused enormous fish kills in the Albury area, with contractors hired to remove the rotting fish (McFarlane, OH 53). Coinciding with the draining of the weir in November 1929 it was reported that an 'epidemic' was sweeping down the river killing large numbers of Murray cod at Albury, Mildura and into South Australia (*Argus*, 20 November 1929; *Adelaide Advertiser*, 5 December 1929). The extent of the kill prompted a comment that the cod fishing had been ruined (*Sydney Morning Herald*, 28 November 1929, 30 November 1929; NSW Fisheries Report, 1929).

At Torrumbarry large numbers of dead cod were seen, crayfish crawled out of the river, and mussels and shrimps were affected. At one bend near Gunbower, 500 dead fish were counted (*Argus*, 28 January 1930, 30 January 1930), while near Perricoota thousands of dead 'cod and bream were packed-tightly along the river banks' (*Barrier Miner*, 30 January 1930). Further downstream, in July 1930 extensive cod kills were reported in South Australia (*Adelaide Advertiser*, 30 July 1930). There were reports of fish littering the banks of the river near many towns with fish in the river behaving strangely as though they were 'doped' (*Argus*, 8 February 1930). Ongoing kills continued in the weir and downstream, up to the cessation of the treatment in 1934. The worst years were 1929-30 (*Sydney Morning Herald*, 17 January 1933; Jack Rhodes, pers. com.). It was suggested that the water from Lake Hume had decimated the crayfish population (*Argus*, 1 May 1936). The treatment was also linked to the death of large numbers of waterfowl (*Sydney Morning Herald*, 19 December 1932).

Sturt (1833) described the Murray at the Murrumbidgee junction as clear, but the activities of Europeans led to a decline in water quality. In 1907, it was reported that sludge from mines on the Kiewa River had caused extensive discoloration of the Murray, as well as affecting the fishery between Albury and Corowa (NSW Fisheries Report, 1907; *Argus*, 28 October 1907). Mine workings in the Ovens catchment resulted in large volumes of silt entering the Murray River near Yarrawonga, so that by 1907 holes that had been 12 feet deep had been reduced to as little as three feet from the silt. The discharge from the mines discoloured the Murray River down to Echuca (*Adelaide Advertiser*, 2 May 1907). It was reported in 1937 that clearing of vegetation had resulted in sections of the river being muddy 11 months of the year (*Argus*, 24 August 1937). In 1951, Langtry recorded the changes that had occurred to the Murray in the Barmah area. His writings are supported by the stories from senior residents recalling the 1920s to 1950:

The situation before the advent of the Hume Weir / Although discoloured at flood time, the water was extremely clear, and the bottom could be seen at 6 to 8 feet / There were many large, deep holes throughout the river and the great difference between summer and winter levels allowed the clay banks to harden. / (The) transparency is such that it is difficult to see the end of a 12 – inch paddle. / the banks of the Murray have steepened and become concave in many cases. / It is suggested that it is the lessening of the extreme levels between summer and winter that has caused the softening of the banks around the trees, and thus aided erosion. In this stretch of river deep holes have disappeared (Cadwallader, 1977).

Since European settlement a number of exotic fish species have established a permanent presence in the Murray River, mostly through deliberate introduction directly into the water way or its tributaries. Goldfish were reported in the Barmah area in 1873 (*Castlemaine Mail*, 26 April 1873) and moved both upstream and

downstream, reaching the lower Murray during the 1890s (*Adelaide Register*, 18 May 1907) and Albury c1900 (McFarlane, OH 53). By the 1930s they were present in huge numbers in the Central Murray, accumulating below weirs such as those in the Gunbower Forest (Marett, 1943). The species was recalled as being common along the length of the Central Murray, as well as in the adjacent creeks and lagoons during the lifetimes of all persons interviewed during the author's research. English Tench were introduced to the Campaspe River in the nineteenth century (Clements, 1988) and were present in the Murray River near Swan Hill by 1924 (*Argus*, 18 July 1924). They were reported as becoming common in lagoons near Mildura in 1928 (*Argus*, 13 November 1928), and had reached Wodonga in 1940 (McFarlane, OH 53). Langtry reported Tench to be widespread and common by 1950, particularly in lakes and lagoons, and considered Goldfish and Tench to have displaced native fish in these habitats (Cadwallader, 1977). English Roach were reported near Swan Hill in 1905 (*Argus*, 22 December 1905) and near Albury in 1923 (*Argus*, 23 January 1923) but did not develop significant populations.

Redfin perch were introduced by acclimatisation societies during the late 1870s into the Campaspe and Loddon Rivers (Clements, 1988), both of which discharge into Central Murray River. The Victorian State Water Supply Department introduced them into irrigation channels near Mildura to control crayfish in the 1890s (*Argus*, 22 February 1893). Redfin perch were reported to be common in the Murray and nearby creeks in the Gunbower area by 1911 (*Argus*, 17 February 1914), and were becoming common in lagoons near Mulwala at the same time (*Argus*, 26 June 1914). They reached Wodonga in 1912 (McFarlane, OH 53) and had become abundant at Albury, Corowa and Swan Hill by 1921 (NSW Fisheries Report, 1921; *Argus*, 22 December 1922). Newspaper accounts suggested that the arrival of large numbers of Redfin perch was associated with a significant decline in the native fishery and they were considered to be a major pest (NSW Fisheries Report, 1921; *Argus*, 22 December 1922, 3 July 1935, 8 November 1935). Langtry believed Redfin perch in the Central Murray to be a serious problem, reporting that in 1949 both the river and billabongs above Torrumbarry contained large numbers, but that downstream they were mostly confined to the billabongs and channels. He suggested that recent declines of Catfish had taken place in lakes and lagoons subsequent to the arrival of Redfin perch (Cadwallader, 1977).

Trout were introduced to the Murray-Darling Basin in 1872, with stockings becoming widespread in Victoria in the 1880s, and in New South Wales in the following decade (Clements, 1988). Brown and Rainbow trout became very common in the Murray River immediately downstream of Lake Hume. They were regularly captured down to the Yarrawonga area, and at times caught along the entire length of the river (Cadwallader, 1977; *Riverine Herald*, 30 August 1892; Davies, OH 75). Langtry considered Brown trout and Redfin perch to have displaced native fish between Albury and Corowa (Cadwallader, 1977). European carp may have had a minor presence in the Central Murray from the late nineteenth century, after the species was introduced to the Murrumbidgee catchment in 1907, and perhaps as early as 1875 (Stead, 1929a; *Yass Courier*, 24 December 1875). After the release of a different strain into Lake Hawthorne near Mildura around 1964, and their escape into the Murray River in 1968, carp proliferated and spread along the river, reaching plague proportions during the 1970s. European carp have been suggested as modifying aquatic habitats and are implicated in the declines of some native fish species in a number of areas (Koehn *et al.*, 2000). Since 1984, the Oriental weatherloach has appeared in the Central Murray probably inadvertently introduced through the disposal of unwanted aquarium pets (Lintermans, 2007).

15.4 The Current Situation

The *Sustainable Rivers Audit* concluded that the:

Central Murray Valley fish community was in Poor Condition. The intrusion of alien species was moderate compared to some other Valleys, and native fish were relatively abundant, but only 40% of predicted native species were found. Substantial species richness had been lost (Davies *et al.*, 2008).

While the Central Murray is considered by many anglers to be a good fishery, particularly for Murray cod, the *Sustainable Rivers Audit* reported that three large native fish species had not been detected during recent surveys. These fish are River blackfish, Catfish and Macquarie perch. Blackfish are occasionally caught by anglers, particularly upstream of Echuca, though are rare. Catfish have a presence in the lower reaches near Mildura and in the Gunbower area, but along most of the Central Murray are very rare. There have been a handful of reports by anglers of captures of Macquarie perch in the Central Murray since the 1980s, but the species is effectively extinct in this catchment. Golden perch remain widespread in the Central Murray, though appear to be less abundant upstream of Echuca. Silver perch are universally reported to have been common below Torrumbarry Weir up to the late 1960s. Subsequently they became scarce, and are now a prohibited take by angling. Recent reports indicate that they may be undergoing a significant recovery, particularly downstream of Torrumbarry. Most native species are scarce upstream of Lake Mulwala with the exception of Murray cod which have a modest presence.

With the disappearance of Trout cod populations in the Murrumbidgee and Ovens catchments by the 1980s, the Murray River between Yarrawonga and Cobram contained the last remaining wild population of the species. During the mid-1970s, the Trout cod population started to recover, becoming very common down to Tocumwal by the early 1980s, and Barmah by the late 1990s. Trout cod are now abundant down to Barmah with anglers recently confirming captures near Torrumbarry, Murrabit and Swan Hill.

The Central Murray River in the Barmah area has been the focus of research on the biology of native fish with investigations into floodplain inundation and larval fish recruitment to develop protocols for environmental flows. In 2001, the Murray-Darling Basin Commission initiated the *Sea to Hume Dam Fishway Program* with the goal of restoring continuity of fish passage upstream over man-made barriers - including locks and weirs - from the Hume Dam downstream to the Murray River mouth. As part of the Murray-Darling Basin Authority's *Living Murray Initiative* hundreds of snags consisting of large red gums salvaged from road works have been placed in the Murray River between Albury and Yarrawonga.

15.5 Newspaper Highlights

Argus, 2 November 1860.

Contemplated Fishing Company. – We learn that it is in contemplation to form a joint stock company for the purpose of supplying the Wahgunyah diggings, and we presume other localities, with fish from the River Murray. We hope the project will succeed, and that it will be speedily carried into effect. At present there is on these diggings but a scanty supply of fish, notwithstanding that the Murray is close to us, and the river is literally alive with codfish, bream, perch, and a small fish much like a schnapper. Mr. Coombs, an enterprising man, has made a start in the matter, and as fast as he can, single-handed is supplying these diggings with fish. He brings them in every Thursday evening, and, as may be supposed, there is a rush for them, particularly the small fish, bream, perch, and schnapper, weighing from 1lb. to 41b.

Riverine Herald, 17 February 1864

Exploitation of Murray Fish. The Murray Fishing Company has just completed an order of the Melbourne Acclimatization Society, for one hundred and fifty young codfish and fifty golden perch, for shipment to England by the Lincolnshire. / They averaged from 1 ¼ to 3 ½ inches in length

Riverine Herald, 23 March 1864

The Company has made an offer to the Municipal Council of Sandhurst to stock one of their public reservoirs with river fish. After the next month it will be impossible, we are told, to supply any orders until next season. On Thursday three loads of fish will be taken to Sandhurst, to meet the increased demands of the market on Good Friday.

Riverine Herald, 30 March 1864

We mentioned in our last the failure of the Murray Fish Company to convey a consignment of live fish to Melbourne for the Acclimatization Society, for transmission to Tasmania. Last week, however, another attempt was made, which proved perfectly successful, the fish having arrived in capital condition in Melbourne on Saturday.

Argus, 7 May 1866

A short time since a bullock driver belonging to one of the snagging parties a short distance above Tocumwal was swimming across the Murray at night when his foot was seized by a large codfish, which nearly pulled him under water and from which he had much difficulty in extricating himself. His foot was badly scratched by the teeth of the fish.

Sydney Morning Herald, 14 November 1868

Fish in the Murray A Melbourne journal states that the following is given as a list of the fish which is to be found in the Murray:- Herring, silvery white, shape of dace; cockerling, like bream in body, with head like cod – this fish sometimes reaches eleven or twelve pounds in weight; jew-fish, catfish, or eelfish found mostly in lagoons and branches; black-fish; turtle; Murray cod, three species, different shapes; bream, two varieties, gold and silver; lampreys, scarce; lobsters; prawns.

Riverine Herald, 9 March 1870

We are informed that five hundred Murray cod and trout were forwarded by Mr Pascoe to Avoca on Monday. Mr Lewen went down as far as Castlemaine in the train in charge of the fish, and report that they all arrived alive and in excellent order. They were taken on to Avoca in a conveyance, and, we are told, were placed in the water in a most satisfactory condition yesterday. The fish were supplied by the Murray River Fishing Company.

Echuca and Moama Border Post, 4 January 1893

. . . we heard that all the outlets and water races of Lake Moira were blocked by nets, traps and boxes of the Victoria fishermen, so much so that the most expert of Isaac Walton's of Echuca and Moama found it almost impossible to hook a fish from Barmah to below Echuca! Let us say at the outset that we found common report fully proved, and that something should be immediately done by the Governments of Victoria and New South Wales to legislate in such a practical manner as to prevent the wholesale destruction of Murray River fish, i.e., cod, bream, cockerill, silver and golden perch, classes of freshwater fish, which for quality and commercial value are unequalled in the colonies. / At break of day Mr. Manton and the party started again, and at the upper end of the little river behind tree 264 we came across one of the largest bag nets ever seen on the river. Mr. Manton seized the net, which upon being examined contained large quantities of cod, perch, and cockerill fish. Upon the left bank of the creek there were two deep fish boxes full of heavy fish, old and young, large and small, containing about 4 cwt. of grand fish. So completely did the net block the passage of the fish that it was impossible for any to pass.

Argus, 3 March 1911

"Murray Trout". "Nearly all the anglers I have met here," writes Mr. R. W. Harvey (Kerang), "as well as those in the Mildura District, declare that there is a fish in the northern rivers which they call 'Murray trout.' They describe it as resembling the Murray cod, but the markings are different. The fish is a finer shape, and, without doubt, a garner sporting fish.

Argus, 17 February 1914

English Perch In The Murray. Referring to a late note on the subject, an old bushman and valued contributor, Mr. H. W. Ford, says: - "In 1911 there were thousands of these fish in the Murray River. The finest English perch I ever saw - 4lb. weight - was caught in a drum net while I was camped on the river bank. Just below the weir on Gunbower Channel hundreds of small English perch could be seen at favourable times. I have speared some of these myself for bait for cod-fishing."

Argus, 26 June 1914

Perch in the Murray. "H.B." (Mulwala), commenting on a note last week with reference to English fishes in the Murray, says that quite lately some of his grandchildren were fishing in a lagoon in the locality, and the little girl brought home a very fine English perch. Up to that moment he had no idea that these fishes were either in the lagoons or the river, but he has since made inquiries, and found that English perch have been frequently caught.

Argus, 15 October 1920

Mr. Pennycook adds that all the lakes and streams in the Kerang and Swan Hill districts are infested with cormorants / One of his fishing friends told him that he recently saw a big black cormorant struggling with a 3lb. Murray trout.

Argus, 2 February 1922

Mildura and District. Merbein:- Mr. G. Hodson caught a 9in. blackfish in the Murray at Merbein. It has been contended that there are no blackfish in the Murray in the vicinity of Merbein.

Argus, 18 July 1924

Murray Perch. On the subject of Murray perch, and more particularly golden perch, "177" (Swan Hill) reminds me that he had a note on the subject about three years ago. In the Murray Downs lake, which is just across the river from Swan Hill, Mr. C. Picken once got a golden perch of 16½lb. and Mr. T. King got one weighing 14lb. 14oz. These are two largest of which the writer has heard, although Mr. Picken saw a fish dead in a tank which he thought might have been heavier than either of them. The lake bed is still under water, and there is an abundance of feed for the perch.

On the Merran Creek, where he lived for some years, "177" says it was quite an ordinary thing to get golden perch up to 8lb. and 10lb. Mr. Picken once got a Macquarie perch weighing 18lb. / Mr. Frank Singleton, of Swan Hill, confirms the statement elsewhere as to the weight of the golden perch caught by Mr. Charles Picken, while a friend of his got one 15lb. The Merran River, more than once mentioned lately, seems to be famous for its big fish. The catfish there run up to 14lb., and Mr. Singleton mentions that in using a bait net last year he and Mr. Wilson got one of 8lb. in the Murray, also a tench of about 5lb.

Argus, 30 January 1925

Blackfish In The Murray. Mr. Frank W. Singleton says that fishing in the Murray, above Swan Hill, Mr. Bob Wilson and he caught a blackfish, and a few days ago, when collecting bait with a net, they got two small rainbow trout. Both fish are, in their experience, unusual in that part of the Murray.

Argus, 7 July 1925

Small Murray Fish. Some little time ago I published a note from W. G. Bennet (Merbein) about great numbers of small fishes which he and others of a fishing party had noted in the waterhole. As I expressed a wish for further information it is now supplied. The fish described were taken from a small waterhole near the Murray, and about 18 miles from Merbein, on May 2. They included Murray cod, Macquarie perch, bony bream, catfish, and carp, from 1in. to 2in. in length; blackfish from 1in. to 1½ in.; English perch, from 2in. to 3in.; and native trout about 4in. long. The hole was between the Murray and a large billabong. The river had been high for some time up to March, so that it would overflow into the billabong, and, when the waters receded, left these holes full of small fish. A Yearly Occurrence. The writer of the note explains that at Cowana Bend, about two miles from his house, the same thing occurs almost every year, and millions of young fish perish.

Argus, 13 November 1928

Murray Tench. / "I have just had a letter from a fisherman who fishes just this side of Mildura. He tells me that tench are increasing very fast in these waters, and in another five years will have complete control of the lakes there.

Argus, 13 January 1930

Dead Fish In Lake. Hot Weather Thought to be Cause. Mildura, Sunday.- Hundreds of dead fish are floating on the surface of Lake Mournpoll, near Hattah. The fish comprise Murray cod, perch, bream, and catfish. Some of the cod were estimated to weigh at least 60lb. The lake is about 40 acres in extent, and the water 18in. deep. It is considered that the water became over-heated during the recent hot weather.

Argus, 28 January 1930

Pollution Causes Mortality. Bendigo, Monday, – Anglers who returned to Bendigo today from fishing trips on the Murray River in the Gunbower district stated that the river is strewn with dead fish. At a bend in the river more than 500 fish, weighing up to 45lb., were washed upon the banks. It was believed that the mortality was due to some pollution of the stream on its higher reaches.

Argus, 18 December 1931

Macquarie Perch. It was a surprise to find that a strange fish caught at Koondrook was one of the best known perches of the Murray – or to be more exact, its tributaries. Mr. E. S. Peck sent one of the fish which I passed on unseen to the National Museum, where they recognised it as Macquarie perch, a very good angler's and table fish, though in the last recommendation not quite comparable with the golden perch.

Argus, 7 March 1935

Referring to a recent paragraph in Notes for Boys Mr. H. Pooley (Barnawartha) says that no one along his part of the Murray – say for 100 mile – has been so unsporting during the last five or so seasons to keep undersized fish. Indeed no juvenile native fish of any kind have been caught during this time. An occasional large cod has been landed and a few medium sized ones but anything under 3lb. is a rarity. Even the catfish has disappeared and that fine sporting fish the golden perch is now merely a memory.

Argus, 16 May 1935

General Topics. A Twice-caught Fish. A good fishing yarn, which should interest both men and boys, is told by Mr. Albert Dettmann, of Woomelang. He relates that when fishing on the Murray near Narrung he tried to release a companion's line from a snag, but the line broke off and the fish got away. Next morning he found one of his own lines snagged, and with a fish on it. / The fish was a Murray trout weighing 3lb.

15.6 Significant Extracts from the Annual Reports on the Fisheries of NSW

1907

Information was received from the Corowa Anglers' Club, that the waters of the Murray River were being polluted to such an extent by mining operations on the Mitta Mitta and Kiewa Rivers—tributaries of the Murray flowing through Victoria—as to cause the destruction of fish-life, and representations were made to the Victorian Government by the Premier of this State with a view to having the nuisance abated.

1921

Great numbers of English perch and carp were netted in shallow waters near Corowa and Albury, while indigenous fishes were in negligible quantities. The voracious English perch is rapidly increasing in numbers in the Murray River and adjacent creeks, &c., and becoming a serious menace to the fishery.

1929

Fish Mortality and Pollution of Waters at Hume Weir, due to sudden submersion of lands hitherto untouched by floods, and release of silt from lagoons within this submerged area, is believed to have been the cause of considerable mortality among indigenous fishes in Hume Reservoir which occurred during November. Exhaustive inquiries and investigations at twenty-eight centres along Murray River showed that no serious mortality occurred between Hume Weir and Wentworth; dead fish were seen floating past Cal Lal in considerable numbers, but no information could be obtained as to whence they came; it is considered that the cause of death was merely local and confined to a small area. / Murray River was very seriously polluted due to Hume Weir storage, but fish were not affected thereby. Some mortality occurred due to muddy effluent after storms. / Many fish, estimated at 2,000 lb. aggregate weight, were destroyed presumably by explosives in Hawkesview lagoon. Among the dead fish were Murray Cod up to 40 lb. individual weight.

1930

Inspector's Report- / The quantity of fish consumed in Albury was between 300 and 400 lb. per week. No locally captured fish was consigned to markets / Murray cod and perch were generally plentiful; English perch were very numerous in Murray River. / During the year Hume Reservoir became seriously polluted by algae, but this did no harm to the fish. Owing to the financial position but few patrols were made: unlawful fishing was very prevalent. Several muddy freshets occurred, but without injury to the fishery and enabled fish to move upstream. Fisheries conditions at the end of the year were satisfactory. No diseases or pests were observed. Some very large Murray cod were caught by anglers – largest reported weighed 75 lb. English perch have become very numerous - more so than for some year; anglers report capture of as many as 200 in a few hours, up to 4 and 5 lb. weight. No golden perch are known to have been taken above Tocumwal for a number of years – these fish do not appear to travel above Moira Lakes. Since water has backed up by Hume Weir, cormorants have collected in great numbers, and new rookeries have been observed. These birds appear to destroy large numbers of the outlawed English perch.

15.7 Central Murray River Catchment Oral Histories

The following oral histories (OH 61-77) mostly discuss the Central Murray Catchment.

OH 61

Claude Handorf of Burrumbuttock was interviewed in March 2008 at an age of 70 years.

I'll be seventy on the 19th of April, I've been all my life in Burrumbuttock, me dad was born in this area. They used to go out to the Billabong Creek fishing; they used to get the cod and the Blackfish or greasies. As a kid I went out there that was about eight to ten mile above the Walbundrie Weir, between there and Walla, my uncle lived out there. We often used to go out there and it was no problem to catch eight or ten Blackfish, ten, twelve up to fourteen inches long. Me uncle and me dad, they used to get small cod out there, it was no trouble to get cod there for tea, but that was before my time. They also used to get out there what they called the silver eyes or white eyes, in the same area, there used to be quite a few about, but that would have been in the 1920s. They were a beautiful eating fish, many years later they, the Macquarie perch, exploded in Dartmouth, they had a beautiful flesh. Now there's a bag limit of one on them up there so it's not worth going up there for them.

My dad used to fish the Murray a lot at the old creamery reserve, just above Howlong. I can remember as a kid I went out there with him, they used to set these lines with big cow bells, each one was different, so they'd know when they had a fish. I remember me dad mentioning they put the bluestone in the weir years ago to clear the water, and how it virtually wiped out everything in the river. He was with me when I spun a seventy pounder on a floppy. He never spoke about big fish, five, seven pound seemed to be the common size, up to twenty or twenty five pound was one of his biggest fish. I've got a photo of him, it would be in the 1930s, with some cod from there in front of the truck and none of them are big fish. I can remember him talking about a rock cod; he did mention there was two types of cod.

We also caught the silver eyes in the Murray down near Howlong, but the grunter were more common. Really we very seldom would get the white eyes and the last ones would have been in the early fifties. In the latter years there was a lot of redfin, we used to get a lot. And yellowbelly, we used to only get the occasional one, they were rare. Dad never mentioned catching Catfish out of the Murray. We used to go out to Urana, out on the Colombo Creek at the Koorong Bridge and the Catfish there were very common. We brought small Catfish home and put them in the dams, and now they're breeding in my dams. I never saw a Catfish out of the Murray, the only other place I saw them was out of the Darling.

We used to fish down below Yarrawonga, that was where you'd get more of the white eyes and a lot of the grunter or silver bream, up to about 1960 we caught the white eyes there then they were pretty well gone, but you'd still get the odd grunter. There were more yellowbelly down there too. And now well there's a lot of small Trout cod down there. I've caught them up above the Hume Weir too. We used to have a combined clubs trip up at Dora and five or six years ago you'd get four or five Trout cod every trip, from a pound up to three pound. The biggest one was one in this rocky hole, I've seen him a few times, he'd be twelve to fourteen pounds. In the last couple of years they've declined a bit, you might get one or two; I think people might be keeping them.

OH 62

Charlie Aitchison of Yarrawonga was interviewed in October 2006 at an age of 87 years.

I grew up on the river, fished it all along, up past where the top of the lake is now, never in the Ovens. The river flats were lovely red gum forest, lots of lagoons. I knew it all could find every creek or run into the river, even in the dark! But the weir drowned it all, wrecked it. We used to get the redfin, Catfish, cod, yellowbelly, Silver perch and the black bream. The Catfish were good to eat; nearly all the lagoons had them. They were up to 8 to 9 pound, not quite 10 pound, commonly 3, 3½, 4 pound. Used to get a lot in the lagoon behind the slaughterhouse. We never caught them in the river, only the lagoons. The best way was to fish at night on the full moon. They were good to eat, we used to scald them and scrape them. Others skinned them. Only had one

main bone in them. We used to see their nests in the weeds, big spawns. After the weir filled they disappeared. They hung on in Ball's lagoon that was the last place, not many. The last one was caught there about 25 to 30 years ago.

The cod were common, most cod caught angling were about 5 to 6 pound. The bigger ones were caught on crosslines and drum nets. When I was 4 or 5 year old there was one caught that was 103 pound, by the French bloke Luke Dukai, don't know how you spell that. It was caught opposite the Yacht club, on the other side in the deep end of the river. We mostly used yabbies and mussels for bait. Got good cod on centipedes, sparrows, rabbit gut, anything.

Before the weir there were what they now call the Trout cod. We never called them that, they were called bluenose cod, had the little pointy mouth and the dark blue head. We got one now and then, not as frequent as the Murray cod, the biggest I caught was about 5 to 6 pound; that was about the size of them. They were good fighters. They were lovely to eat, better than the Murray cod, sweeter than them.

There was not a lot of yellowbelly around, just the occasional one. There were very few black bream in the river, just odd ones. There were a few more of the grunters or silver bream, but they were no good to eat. The tench, I never caught one, though lots of others said they did. The redfin have always been common, they were up to 4 or 5 pound, mostly 2 to 2½ pound. Never saw slimies here. I did catch a few brown trout, after the weir filled. I remember I caught a couple in the lake just after the war that were about 4 to 5 pound.

OH 63

Bert Roberts of St. James was interviewed in February 2007 at an age of 87 years.

I started fishing in 1934, 35 in the Murray around Cobrawonga. I grew up in the Devenish/St James area, live in St. James now. In 34/35 I can't remember any yellowbelly. We got Catfish out of the lagoons and the Cobrawonga Creek; you wouldn't get one till evening. The Catfish were about 3 pound, that was about the size of them, I saw the last one there about 1946/48. There are still odd ones in the lake; I saw one caught there last year. We used to get a lot of Catfish in the Broken Creek, about the same size, some a bit smaller. They finished in the Broken Creek in the 1943/44 drought, there was only two holes left near here. Prior to that in the Broken Creek there were beautiful Blackfish, up to 18 inches long. You could go out of the evening and get a feed of them, but they disappeared in the 40s, though little ones are now coming back. I don't think there were any Macquarie perch in there, but there were a few bream or grunter. There were cod in the Broken Creek too, but only the Murray cod.

The Macquarie perch in the Murray, you'd get an odd one, up to about 30 cm, fairly regularly up to about 1938. I caught the last one there just after the war, about 1946. When Eildon first filled in 56, in the dark up to about 10 p.m. you would get a bundle of them. The biggest ones out of the lake were about 5 pound; you'd get them on worms. There was a lot of grunter in the Murray back then; we never used to keep them. We got them up to 4 pound. When the war broke out, in the war I used to go fishing every evening at Cobrawonga. I was working there burning wood for charcoal, back in 1940. All we had was a bit of a sapling out of the forest, a bit of chord and a mussel for bait. What we caught we ate, so we didn't want anything bigger than about 6 to 7 pound. There was an old Swede bloke out there, he had a dog that would go out and dig out the crays. In those times you could see the big cod cleaning themselves on the sandbanks. One day the old Swede wanted to get this big old cod that was there in one hole. He got 6 carp, in those times it was legal to set setlines. Monday evening I went down to see him and all his meat had gone rotten. I saw him on the Wednesday laughing; he said "I got him. It was 106 pound and I took him into Cobram and sold him in the hotel. I booked into the pub, had a hell of a time!" When the war finished I got married, but fishing was my main sport. I used to go out to Cray Point a lot.

The other cod we called the rock cod, also they were called a bluenose. Back in the 30s and 40s the Murray cod would have been a bit more common, only a bit more than the rock cod. We always knew when we had one of them on, they pulled harder. The blue hole was always known for the rock cod, it was known for them. Back in the war we were getting these rock cod on aeroplane spinners for 3 days in one stretch of river, with a few Murray cod amongst them. Nobody wanted them, I gave a few away. This old bloke was a real bardie grub man; he would get them and put them in the lagoon. I've got a photo of a 42 pound rock cod I caught back in 1940 on an aeroplane spinner, at Cobrawonga; I caught a lot of fish that time.

I got another big rock cod that was 82 pound; I think the year was about 1980. He was got one evening about 10 o'clock on a bardie grub. I had a steel rod holder and it was bent flat on the ground. I picked the rod up, Christ this fish took off! I yelled to my mate, got in the boat to chase him. I had a gaff hook and I kept winding him in. I drifted towards this sandbar and I jumped out of the boat and gaffed him. I kept him alive for 4 days in a cage we built in the water to show people, then I let him go. He was nearly black in colour, and somebody must have lost him a while back, his top lip was torn. If you went down the river, after you left Cobrawonga, you didn't catch as many rock cod. We used catch both rock cod and Murray cod up at Granya, we used to camp on the Country Roads Board's place, we used to fish on this beach. We caught a lot of rock cod there up to the early 60s.

OH 64

The Late Bert McKenzie of Ruffy was interviewed in July 1982 at an age of 82 years (From Trueman & Luker, 1992).

I've got one pet spot in the Murray at Cobram. Back at the time when they had that silly twenty one inch size limit. One bright moonlit night I was angling from a sandbank and I caught twenty seven cod and I kept three of them and those three were half an inch undersize. Those were both Murray cod and bluenose as that particular pool had both of them in it. That was during the 1950s. In Cobrawonga Creek in 1944 I caught a sixty six pound bluenose. I caught quite a few thirty pounders in Cobrawonga Creek. We caught them on the aeroplane spinner mainly. The thirty pounders were wicked to land! Even a twenty pounder was wicked.

I caught a twenty pound bluenose in Mulwala Lake. By golly did he rattle! Murray cod will hit hard but in two minutes he is giving it away and will float in to you. The Trout cod, he's still fighting. I caught one while I was fishing in twenty five feet of water for yellowbelly. I got that fish up to the boat twenty times I would say and zzzzzz you would have to let him go right to the bottom again. He was ten pounds and I got him on worms. I was never so sick of a fish in all my life! I wanted him to get away but I also didn't want to lose him. No, anyone that wants real sport, take him to some Trout cod water and just angle with worms. You may not get a bite as fast as you think you should but when you get your fish you've got to get him in. I could take you to three pools they were in and one further down though they were mainly Murray cod in that one. I was catching eight or ten of an evening four years ago up to about a pound, though I caught one seven pounder on a spinner and I got sick of him too!

I was in a lot of logs and he hit it and I had to hang on and he burnt all my fingers. I had to give him line. I was using sixty pound breaking strain line. I had kept the engine running and I set off for the other bank and he had to come to for a while. He would then lay doggo on the bottom and he wouldn't shift. Then he would get going again, he'd regain his wind and boom I was in trouble all the time. I had to keep the outboard going all the time as it was rapid water with plenty of logs to tip you over. I got to the sandbank on the other side and got out on the sandbank and got him in. I got a couple of five pounders too that trip. They were all Trout cod. In that particular area there was only Trout cod.

The most predominant difference between what we called the bluenose and the Murray cod was the shape. The bluenose was often longer and had an ugly pointed head whereas the Murray cod was usually in better condition. The bluenose was variable in colour as you could take one from out of a very deep hole and he's practically black but tether him up on a white sandbar and in half an hour he is white. He'll change his colour according to the background. The bluenose had a mottled pattern whereas the Murray cod is more heavily marked and is a lot more variable. Colour we used to go on a lot and the shape of the mouth of course. I think the Trout cod were thinner because they used to live in the faster flowing water and would have to expend more energy to stay put.

I used to use in the Murray, trout tackle for the bluenose and I could handle the bigger ones up to ten pounds. I got my rod tips broken, my ferrules split, made a real mess of my trout tackle when you got onto a bluenose. I caught two about thirty pounds on the spinner behind my boat with aeroplane spinners in the Murray below Yarrawonga and they towed me all around the hole for quite a while. You're disappointed when you find they're only thirty pounds! In the Murray of course I would poke around with a big bamboo rod with only a short line on it and toss into the whirlpools close to the bank and take a lot that way, and could do it still. But I can't walk around the banks now like I used to be able to then.

In a place near Yarrawonga there was quite a steep rapid up there and the first time I went up it a nineteen pound Trout cod hit me and went down those rapids and I went as fast as I ever have been in a boat! I got him! I very rarely went through that rapid without getting a six, eight, ten, or eleven pound Trout cod out of it, but always half way up the rapid on aeroplane spinners. That would have been from 1936 to 1938. The bluenose is still breeding at Cobram. I haven't fished up near Yarrawonga but they used to breed there, heavily. And there is no doubt about it; the cod is the fastest fish to put on weight there is - both cods.

OH 65

Ernie Jones of Tocumwal provided these comments in January 2007.

We got a mixture of the two types of cod here. They grey ones, the Trout cod; petered out below the Barmah Choke, up from there you got a mixture. I saw odd ones caught up to 60 pounds, the Trout cod. That would have been back in the 50s.

OH 66

Graham Vidler of Tocumwal was interviewed in January 2007 at an age of 63 years.

My dad was born in Tocumwal in 1919. He said the river used to be that clean, and he always came home with fish. They fished for the Blackfish or slimy, they used to catch them; he reckoned they were the sweetest of the lot of them. Murray cod, Macquarie perch he would catch, yellowbelly were also common, grunter or black grunters they were common too. They would grunt after they were put on the ground. And crayfish. Catfish, not from the Murray, he never spoke of them from the Murray. He didn't talk about redfin in the early days, but in the 40s and 50s you could catch a bag of them.

When I was young I had heard of some cod being called a bluenose, but I didn't know much about them. They used to catch tench and a different type of carp. The tench wasn't a bad meat, but it was bony and slimy. I can remember the Macquarie perch being quite nice to eat like a cod; they were pretty common here when we were kids. You could go down when I was a kid and catch redfin, yellowbelly, cod, the odd grunter, now and then catch quite a few Macquarie perch. You'd be talking about the 1950s. The Macquarie perch disappeared probably just after that.

OH 67

Jock Nicholson of Tocumwal was interviewed in January 2007 at an age of 77 years.

Dad was born and bred in Heathcote, one of four boys. I lived out at Trentham for a while. When we were young blokes and we would go for a drive he used to point out a couple of sanded up creeks between Heathcote and the Campaspe. He would say how he used to catch cod out of them when he was young. He also mentioned the Trout cod being there, how they were different, out there and in general. He was a fettler on the railways, got gassed in the First World War.

I was born at Bendigo, we moved to Gulpa, then Mincha near Pyramid Hill, I came up here over 30 years ago. At the Gulpa, you name it; all sorts of fish were caught in those days. I remember them putting out rabbit nets in the floodwater and they were gilling the bream. I can't recall many Catfish and can't recall any Macquarie perch. I was with dad in about 1950 at Yarrawonga, at the mouth of the 'dead river' about a mile below the weir, and he got a pair of Macquarie perch in the gill net. They would have been 2 ½ or 3 pound. We used to camp on the Berrigan turnoff, where the pro Paddy O'Brien was, and I caught one small one in the gill net there. That was about 1956, as well as another one below Yarrawonga. Never seen one since. There were Catfish in a lagoon on the north side of the river below the spillway at Yarrawonga. I'm talking about back in the 50s. There used to be a lot of trout, brown trout, in the river, particularly in the dead river, up to 15 pounds, and the odd ones here too.

The bream in the Gulpa, they were around the 2 to 3 pound mark, no great big whoppers. The yellowbelly were similar. The locals were always chasing cod; they were anglers, dad and dad's brother. The cod well they didn't fish big, so they got a lot around 6 to 7 pound, they never got any big ones, but there were a fair few of them. I've got no recollections of the older people out there talking about two types of cod, a Trout cod or a rock cod. But the blokes at Rutherglen, Wangaratta, Yea, they would talk about them in the 50s. Then I started catching them myself, when I first came here they weren't common. I remember I got one a pound and a half. Now it's no problem catching a dozen of the little things. There was always a fair few cod here, got a couple of big ones, on the crosslines and the springers.

OH 68

Hugh Dick of Tocumwal was interviewed in January 2007.

When I first sold the farm, between Yarrawonga and Cobram, we caught 160 odd cod, the biggest 125 pound. That was upstream from Barooga, caught in the hole right opposite, back about 93. There was an old fella who used to live below our homestead, when I was young he used drum nets, I can remember them hanging off the tree. Then you would see the cod on that cart going off to Melbourne. In the 50s and 60s we used to have a light on the front of the boat, you could see the Murray crays, we got cod spearing up to 100 pound on dark nights, wouldn't see anything when the moon was out. There was heaps of yellowbelly and grunter, identical in size, about 4 to 5 pounds. We used to get them off the sandbars on certain nights. We caught mostly cod, never thought much about the two types of cod, though we knew the Trout cod were there. The biggest Trout cod I ever saw back then was 11 pound. The other fish that was there was the tench, particularly in the creeks. I can go back 60 to 65 years, back to the 50s. In those days you could use the mussels in those days. The fish won't touch the mussels now, nothing will, it might be the pollution in them. The biggest change I have seen is the ribbon weed disappearing, and the slime. The carp ate the weed. The big fellas used to live under the weed, the cod.

OH 69

Ron Reynolds of Shepparton was interviewed in January 2007 at an age of 73 years.

I was born in 1935, my father Keith Reynolds was a keen fisherman. So was my grandfather. When my father was 8 years old he went out fishing with my grandfather up the Murray. My grandfather had a heart attack, the boat got tipped over, and sunk, they got the body later. That was up at the 'green engine'. Well he didn't go

fishing for about 5 years after that. The river from Yulupna Island through to 'the steps', just past where the Tongalong Creek comes in, well we knew that like the back of our hand. Old Percy Lucknan was a pro out there; he lived in a tin shed, made out of old kerosene tins all by himself. My father caught lots of cod out there, both types. The second type was the Trout cod, longer in the body, which made its gut look stumper, and the nose was pointed and sort of purple. We caught a fair few in the 50s and 60s; the average was 15 to 20 pound, though they were caught up to 30 to 35 pound. I've never seen or heard of one out of the Goulburn, till they put them in up at Murchison East. There's plenty of small ones in the river between Yarrawonga and Tocumwal, where they have the closed season for them to breed. After the 56 flood, we caught lots of yellowbelly, the biggest went 10 pound 5 ounces. We also got a lot of goggle eyes, that's the Macquarie perch, all about 10 inches long. And a hell of a lot of grunter, 3 to 4 pound, the biggest 6 pound. But they're no good to eat, they feed on the weed. I've never seen a Catfish out of the Murray.

OH 70

Don Briggs of Shepparton, a Yorta Yorta elder, was interviewed in January 2007 at an age of 70 years. *I've just gone 70, was born and bred in the Barmah Forrest. My father was born in 1895, started fishing when he was 16 or 17. He mainly fished in the Barmah Forest, would go up the river as far as Yulupna Island. But when the water would drop, they would go up the Edwards; the river was smaller and kept higher. Dad used to fish with old Jim Rice, used to go from Barmah in dug out boats for 3 months, in the late 20s and early 30s, go from Barmah down the Edwards, fishing with drum nets. He would go up the Edwards once or twice every four to five years. Dad used to send me around the farms to swap the fish for a chook or a leg of lamb. The fish from the forest used to feed all of us Yorta people. There was a place, it's still called 'the Boughyards', our people used to build a little set across a little gutter, in a flood it would have 6 foot of water in it. They built it out of branches and leaves; they would catch yellowbelly in it. These were the stories handed down to me.*

Dad used to take me out into the swamps and show me the nests, the nests of the Catfish, in the backwaters of the Barmah Forest. They would heap up the weeds; dad would show me every day, you'd see the fish. They were over a foot long, three to four pound, then they would be gone, dad would tell me they had hatched and left the nest. They were common when I was a kid, not quite to my teens, then they disappeared very quickly, I've never seen once since there though others say there have been odd ones caught. That was up to the time the redfin became common. The last time I caught a heap of Catfish was out of the Colombo Creek, we could get up to 70 a night, on bottles for floats. But once the carp came in, well, all the Cumbungi fell over, the Catfish needed the Cumbungi. After the carp they got scarce there.

The Macquarie perch were around at the same time as the Catfish, they lasted a bit longer. They were called a butterfish or a goggle eyes, they were beautiful to eat, the best in the river. We used to get them in the Murray up to five pound. They were common but not in big numbers, we used to get 2 or 3 a week in the drum nets. They lasted until I was a teenager; we were getting them like that certainly in 1944/45. There was an abundance of yellowbelly, dad would sometimes catch 40 to 50 in a drum net, couldn't pull the net out! There were floods back then, they needed it for their reproduction, it's totally different now. They were common at 5, up to 7 pound. The biggest was 32 pound, out of the Barmah Lakes, when I was kid; it was like a huge ball. We used to catch a lot of black bream, the grunters. When they are small they are silver, but when they get big they'd turn black. We used to get them in the gill nets, out in the forest. Dad used to mark the trees before the flood, where the fish would travel. When the flood came up, he would put in the gill nets, you'd get that many, they'd start getting in the net straight away. You had to pull the nets out. And plenty of yellowbelly too. After the war the people used them in stews, prior to that nobody wanted them, people said they were too tough.

The Murray cod were very common, the biggest I've seen was about 150 pound, when I was about 5. There was a drought about then, in the early 40s. The only way they could shift it was in a dray! To weigh it they cut it up and weighed the pieces. He fed all the people in the mission. In those days they would get the female cod in the

breeding season and if they had the eggs, they would squirt the eggs out of the female into some logs and get the milt out of the males and put it on the eggs. They'd make up a yard out of the logs; protect it with branches, in a foot or so of water, only if the temperature was right. After 28 days the eggs and young cod would be gone. The old people did that for years. That was before any of the inspectors were doing it, in the 20s, dad told me about it. It had to be done at the right time during the floods, the fish used to go out there and do it themselves.

My dad caught what he called a Murray trout, not the proper brown or rainbow trout. He talked about them in the Murray, he'd seen quite a few earlier; they were on the way out when I was young. The Murray trout was not green like a Murray cod; it was a dark blue on top and more motley on the sides than the Murray cod. He had a little beak for a nose, that went over the top of his bottom lip. The biggest ones were nearly all blue on top, darker on the back. In the big ones the markings were nearly the same as the Murray cod. The ones I saw were quite short and fat, I only saw a few. The biggest I saw was about 45 pounds in the Murray at Thistlebed near Picnic Point. I remember dad always used to say if they could get back up the river to the cold water they'd do better, they were more common up there. He did tell me he got a 42 pounder from Barmah out of a net, he never spoke of them being in the Edwards. The biggest one I got on a fishing line was a 20 pounder, the line was humming through the water, they just don't give up! They fight a lot harder and faster than the Murray cod that will lie there, even give up when you get him up off the bottom. They were the same to eat as the Murray cod. I got a few others when I was young that were smaller, I would have only got about three.

We used to get the tench, haven't seen one for years, though they tell me they get a few still around Picola and in the Broken Creek. Mum used to soak them in the vinegar to soften the bones, then you could eat them no worries. When I was young I can't remember any redfin, then the redfin came later, in my teenage years. When they first came the people were throwing them up the bank, they wanted the native fish. But then they got common, you couldn't get the native fish, so they had to eat the redfin. The brown trout we would get in the nets up to 7 to 8 pound, but after Hume filled we never saw them much after it filled. Maybe Yarrawonga too, the weirs stopped them moving, and the Macquarie perch and the Murray trout, everybody said those fish went up the rivers, and the weirs stopped all that. Into my teenage years well the river was green and clear, you could see the logs in 10 to 15 foot in the water. Now you can't see that. They took away all the swamps that cleaned out the sediment, put drains through the middle of them, and the water runs straight in. All the holes are filling up with the sediment; I can see the banks going in from all the boats around Echuca.

OH 71

Greg Norris of Kyabrum was interviewed in October 2006 at an age of 65 years.

Stan Green told me a lot about the past, he had worked on the river boats. I reckon I was young and keen, so he taught me a lot. Pop Green talked about how before the regulators went in on the rivers at 'the Gulf'; how they used to use sheep wire to trap fish in the creeks as the river went down. The large cod used to punch huge holes through the wire. He said they weren't caused by logs but by the animals. He was on the paddleboats. In 1914 the Murray went dry and the boats stopped. The fish were trapped in the mud holes. He talked about how the cows that came down to the water got bogged. The silver bream ended up eating the bogged cows to the bone. When I was young the silver bream or grunter were common in the Goulburn near here. Used to catch lots.

Stan used to talk about how common the white-eyed fish used to be. That's the Macquarie perch. Always talked about them. I've never seen one out of the river at Barmah, or anywhere along the Murray. The only place I have ever caught them was at Dartmouth. The Catfish, well I saw them caught at Picnic Point just after we got our licenses, would have been 18 or 19. About 1954/55 I saw some small Catfish at Galbray's property near the Swampy Plains River, just before the snowy scheme started. They were definitely not slimies; they were Catfish 4 to 5 inches long. The last Catfish I caught was in the Colombo Creek on Colombo station near Urana.

Stan was the first bloke to show me a bluenose. Prior to that I had caught a few and thought they were different. That's what the old blokes called them. I have heard them called a rock cod too. Over 40 years ago they were pretty common, from the Gulf down to Barmah. Then they got pretty scarce, but they started coming back in the 70-80s. They were caught from 35 – 40 pounds fairly regularly, as well as smaller ones. They had a different head to the Murray cod. Longer and the different jaws. The markings in the small ones were different to the Murray cod. When they got big in both types they are covered in small spots. The dashes you see in the small ones disappeared. We used to get them on the aeroplane spinners and on mussels. One of the school teachers, Laurie Bernard, had a new V-bottom boat. He caught a bluenose that was the full width of the boat, over four foot in length; I saw it, which he let go. He already had enough fish. They were caught to well over sixty pound.

The Winton Swamp was pristine before Mokoan. The water was crystal clear, and the redfin and Murray cod would swim past you while you were shooting ducks. After Mokoan it all changed.

OH 72

Max Clifford was interviewed at 'The Gulf' near Barmah in January 2008.

I'm only a lad, born in 1949, and me father was Laddie Clifford and my grandfather was Frederick J. Moloney. They were professional fishermen, my grandfather he died about when I was born. The Moloney's had the first store in Barmah, and the punt, they were here and started the pub, the store and the post office. My grandfather Clifford and my father wound that punt across the river from 1920 to 1942, every day. The people that wanted to cross they'd ring the bell; he'd go out in the middle of the night to bring them across. That was Jimmy Clifford, my grandfather. My grandfather Moloney used to put his twenty nets in, he'd work them for a week with a dug out red gum boat and a pushbike. He would row the boat downstream from Deep Creek at morning to Cape Horn with his nets and pushbike in the dug out boat and set his nets on the way down. Once he got to Cape Horn he would leave the boat there and ride the pushbike home. The next morning he would pushbike back to the boat, load it in and row upstream towards home checking his nets along the way collecting the fish. He used to send the fish to Melbourne, in cane baskets with wet gum leaves. They'd give him a green ticket saying half of them had gone off, he was being had. He bought the first Ford in Echuca in 1938 and started selling fish in Shepparton to stop being had.

I saw a lot with my old man. Nearly everything was here, he told us, slipperies, the ordinary bream, the goggle eyes or white eyes or butterfish. I remember seeing the Blackfish when I was a kid, we didn't know what they were. June's father told us what they were when we caught a couple. The goggle eyes and the Catfish I've never seen them here, seen the Catfish up in the Edwards, I caught one at Weman, but the old man said they used to get a lot here. The fish that I can remember was thick when I was young was the tench, and reddies. Old Laddie once got 128 bream, I was with him, I was only a kid. He had a dug out red gum boat and he couldn't pull the drum net in it was so full of these bream. He had to jump in to the freezing cold water and open the net to let them out, he used to go bloody crook when he got them! I remember seeing them up to 3 or 4 pound but my old mate Colin Walker said they would get them up to 6 or 7 pound.

The old man used to fish all year round, cut paths through the snags when the river was low. He said the cod used to travel up the river to spawn, up into the lakes, they definitely did. I've seen them crossing the sandbars myself. He used to put a cross line across the entrance with four hooks and every night he would have four cod on it. What they called 'The Choke' now is 'The Narrows' and the lakes, the old bloke said the proper choke was at Barmah, that was where the water slowed up. The yella's were thick at Barmah, more in times of high water. One day the nets would be full of bream, the next they would be full of yella's. The old man got a 24 or 25 pound yellowbelly in the Serpentine, him and old Eddie Major, June's uncle, over Pyramid Hill way, in a gill net.

It was as deep as it was long, it was a rare looking fish, it looked like a flounder. I got one 15 pound myself right near the Barmah Lakes.

The old bloke called the Trout cod a 'bluenose', he said they used to be thick here and upstream, and he got a few there out in the Goulburn too, at Stewarts Bridge. He used to seem to think there weren't as many further down the river, the river slowed down there; he reckoned they liked the faster water. He said there used to be some in the Edwards, but not a lot there. No, they were common from here up. Scobie Hand got one 65 pound up around here years ago. They're beautiful to eat, a lot sweeter than the cod, really good eating. A lot of the old blokes said they ate themselves out; they were biting all the time, not like the cod that would stop. They love the grubs, I got one with June's father one night, took all night to get him, he would pick away at the bait like a bream. He weighed 24 pound and there was a dozen grubs in him. The bream will do that too. The bluenose, when they're little, they've got lots of little spots, but when they get bigger the spots are further apart.

The Billabong was a good river for cod, yella's, Catfish and I also remember the grunters there years ago. Laddie said it was a good river to get cod from 5 to 30 pound and at times some very large cod were caught in the creek. It was also full of yella's and Catfish were common. The Catfish were mainly caught in gill nets, never in drum nets much, and Laddie never sold the Catfish. The cod hanging on the truck at Drac's were mostly caught in the Edwards River at Murgah Station. Laddie would fish about 15 mile up and downstream of Murgah. He said the Edwards was the best fishing river in NSW. When he first went to Murgah in about 1960/65 most of the cod caught were large. As the larger fish thinned out he started to catch smaller cod from 5 to 50 pound. Laddie also fished the Billabong Creek at Murgah and said it fished very well when it had water in it. The problem with the Billabong was getting to it. If it rained you couldn't drive on the black soil to get anywhere near the creek.

When I was young there used to be a slime in the river, it would pull your line in until your bells went in the water and then snap your pegs off if you didn't clean it every couple of hours. You knew when you had a fish on before you got to it because they would shake the slime off the line. They reckoned it was a filter that kept the water clean. Then, when the carp came it disappeared, the river turned muddy, bloody oath! Now it gets a bit clearer. The sandbars, there's very few below the lock at Torrumbarry, there's odd ones down there, but they're miles apart. It's up here and further that you get the sandbars.

OH 73

Norm Wilson of Cohuna was interviewed in January 2008 at an age of 79 years.

I was born in 29, back then it was no problem getting fish, I fished here all my life. When I was young the Gunbower Creek was full of redfin, they were caught up to 6 pound, and it was full of cod. We'd just go out with a bag of mussels, that's all you needed to catch cod. These days I use bardies they're the best bait, cheese is not bad, and the shrimps is about the best for the yellowbelly. The cod won't look at the mussels now, even the yabbies. Yes we'd go out with a bag of mussels and you'd catch cod mostly about 3 to 5 pound. I've seen them up to 70 pound out of the Gunbower Creek. About 1953 or 54 most of the cod died, they were floating up, still just kicking, we were pulling them out, we pulled them out up to 60 or 70 pound.

In the Murray down here every now and then you'd pick up one of these funny shaped cod, they'd be up to about 30 pound. They were known round here as a rock cod. The rock cod had an undershot jaw, and they were spotty, a bit like a cod but more spotty. I just got the book from the Murray Darling Basin Commission and tried to look up the rock cod but it wasn't there. They were like that Trout cod in the book, but they were never called that here. You'd get one now and again, in the Murray here at Cohuna, never saw one in the creek. I never saw small ones, the smallest would have been 15 pound, they weren't common just odd ones, nobody said they'd

ever been common round here. They had died out by the 1950s, I don't think there was any caught by the 60s. And the Macquarie perch or white eyes I never saw one and can't remember anyone talking about them.

The yellowbelly have just about disappeared, you get an odd one. We used to get hundreds of yellowbelly, we used to go down to 'the Cuts' where all the floodwater drains into the Murray, straight out from Cohuna, we'd take a four litre tin of worms, we'd get plenty around two and a half to three pounds. The biggest yellowbelly in the Gunbower Creek was 17 pounds. I saw a photo of the big one that come out of Kow Swamp it was caught by 'Fishy Davis', it was at the Koondrook Hotel I think, one of the pubs there years ago. I think the yellowbelly they've got scarce because we haven't had a decent flood in the river for fifteen years. Or the Darling, you get a big flood out there and the yellowbelly breed up and fill up all the rivers. The bony bream we'd now and then get one where we got the yella's at 'the Cuts' every now and then you seem to get them, you'd see them up to a pound and a half, even two pounds, though they're big ones. The Gunbower Creek used to be full of the buggers, they're gone now.

The grunter, there's more grunter around here than anywhere; we catch them up to two and a half pound. We used to get bigger ones up to five and a half to six pounds. They're no good to eat, nobody ate them, they used to throw them up the bank. They put up a good tussle, I throw them back. The Catfish they were common. I was talking to a mate and a while back he caught two out of the river so they still must be around. Oh yeah, Kow Swamp was always full of them, the Wakool was a great river for cattles, not so much in the Gunbower Creek, more so in the Murray here. They died out, there were some good ones, two to three pound was a big one. I seen two cattles in the last 20 year. Minnows there used to be a lot of them along the bank, the little cod used to live on them. It's been a long time since I've seen them, a long time ago, at least 30 years. The water's dirtier now; maybe you just can't see them. We caught an odd trout, 3 or 4 lb, once in a blue moon. A mate of mine two years ago caught a big eel, it was huge, he put it back in the creek

The redfin disappeared here overnight, and the tench the creek was full of tench they were thick here. I reckon they might have got a disease they went so quick, the redfin they just turned to jelly. The redfin and tench are gone, and the bony bream. We used to be able to get them by the truckload. Droughts, I've seen some bloody beauties! I reckon I've seen the river with hardly any water when I was out duck shooting just after the war. The early eighties was pretty bad too. Two to three years ago there was a big fire up in the hills, a lot of fish, and the yabbies crawled out on the banks. But the cod, it's the best I've ever seen for small ones, if you can't catch five or six of them there's something wrong, all undersize, but it's going to be good fishing in the future, I hope I'm going to be around to see it. A few years ago the cod disappeared for two or three years, then you started to get them again. There's still a lot of big ones around, the river up here is now full of weed, but I had a big bugger on I reckon he was forty to fifty pound, he was a beauty, but he got off, that's not long ago.

OH 74

Ian McDonald of Murrabit was interviewed in November 2006 at 93 years of age.

The biggest cod I've heard of in the district was caught by one of the fishermen out of one of the lakes, it was 163 pound. My brother saw it at the station in a basket on its way to Melbourne, with its tail hanging over the side of the basket! The Kerang lakes had lots of big cod in them. I went to school with a lad who fished all the time at Reedy Lake, he used to get them all the time 40 to 50 pound on a cross line. In the end the fishermen with a license netted them out as I don't think they bred in the lakes. I think they used to come into the lakes on the floodwaters.

In the Murray River at Murrabit there were lots of cod, any amount. When I was a kid the river was full of cod and the small ones well you could catch them on a piece of tomato, a red rag, anything. In the Merran Creek I used to catch a lot of cod, the biggest was 75 pound, though I got plenty from 40 to 60, any number. Got them there all on bait, carp, frogs, but mainly yabbies. The cod were common up to about the time of the war. Old

Jack Stewart had a fishing license, he was a top fisherman and a good bloke, he used to take me out fishing with him. He would get two cod for every one I caught! The cod in the Barr Creek, well he quite commonly caught 90 pounders out of it, and it really is only a small creek. It was pretty weedy creek at the time, but they dredged it into a channel and of course the cod went.

At Murrabit there was another cod, a blue coloured fellow, the Trout cod. He was slightly more pointy in the head than the normal cod and had grey markings. I only ever caught them in the Murray at Murrabit, never caught or heard of one out of the Loddon. I used to get the odd one, they were never common here, would have been lucky to get one of them for every twenty Murray cod though I was told they were common up in the Ovens, I had relatives that used to up there. No one ever talked about them ever being common around here. They didn't grow as big as the Murray cod, commonly 3 to 5 pound, the biggest one I saw was old Bill Ashwin my neighbour caught it, it went 14 pound, that was on a spinner. Thinking about it I only got them in the shallow faster water where it was a bit rocky, here in Murrabit. That was way back before World War 2, in the thirties when I was getting them, then they disappeared. During the war I caught one, that was the last.

Another one that disappeared off the radar screen was the little Blackfish, 7 to 8 inches long they were. There were lots of them in the Loddon, they were good to eat. I've not seen one since the war. I've never heard of the Macquarie perch here, no one has talked about them. There used to be hundreds of grunter in the river, and there were still here in big heaps in the 50s, then they declined after that though they are now catching small ones again. After the war we set a gill net in a backwater off Campbells Island and it ended up full of the damn thing! You couldn't eat them, they were just too weedy. The bony bream was another useless one to eat that was around. The yellowbelly have always been plentiful and there is now just as many around as ever. Well before the war they were usually caught from ½ a pound up to 4 to 5 pound, the biggest ones were up to 8 pound. In the dry spells they were always full of eggs.

The Catfish were so common in the Murray and in the smaller creeks. My brother caught one that went nine pound, but they were usually about 2 to 3 pound. That's another one that pretty well disappeared, though not completely, just before the war, at least in the river. I reckon the redfin had a lot to do with it. In 1936 we pumped out the big lagoon here and there were lots of redfin in it. A few years later we pumped it out again and there were catties in it, and the next time there were small cod in it. But most of the time in the lagoons well there was naturally a lot of redfin. A few years back we put some cod fingerlings into the lagoon and they did well, they grew up to 20 pound. The lobster, well I've been around the world and that is about the best fish to eat. These days you don't see the big ones, except for the females and you can't take them.

When I was a kid we used to spear the redfin in the channels, they were that clear. There was an old German fisherman, old Alf Hammel, he had a license and I saw him catch out of one the lakes some redfin that were 7 to 8 pound, they were monstrous things. In 1955 we had a fair flood and in 56 a monster flood. Well in the river the redfin bred up, you could fill a bag with them. The fishermen with a license used to get lots of tench, then they disappeared, the last I heard of them was in the late 50s. I reckon the locks might have had something to do with the cod becoming scarce as they couldn't migrate to spawn, but I think the redfin were the biggest factor, for all the fish, from the 30s on. The thing that has stuck in my mind was the onset of the redfin happened when the cod disappeared. The redfin proliferated in the wet seasons in the 40s and again in the 50s, and after that you didn't see a small cod for years. They are coming back, there must have been enough big ones left, and they have accounted for a lot of carp which are nowhere near like what they used to be.

Henry George Washington Davies of Tyntynder South, a former professional fisherman, was interviewed in November 2006 at an age of 69 years.

There have been six generations of fishermen in my family here, starting with my great, great grandfather(Henry Davies), who came out from Wales, my great grandfather(George Washington Davies), then my grandfather (Francis Henry), my father, myself and my son, all been fishermen for a living. I've got photos of each us holding a big cod, 70 to 100 pound. There's one with my wife and I holding one that was 90 pound. My father, William John Davies, helped John Lake breed the first cod in New South Wales. They had concrete troughs that had been sprayed with diesel and the cod wouldn't use them, so they got some hollow logs and dragged them into the ponds. That's when they started to breed. Not long after that he had a heart attack and died, he is buried out there at Narrandera. My father caught the biggest yellowbelly, 54 pound cleaned near Piccaninny Creek at Kow Swamp about 1937. He got 2 pound sixpence for it.

When I was a kid we used to get the Trout cod around here. Bluenose was the common name for the Trout cod, that's what the old blokes called them then. They had a different head, big eyes, a dark bluenose, often the head was darker. Sometimes they had a stripe through the iris. Their colour, well they would go from a white, to a blue, to a dirty green to a dark blue, depending on the colour of the river and where you caught them. But mainly they were a darkish blue, particularly on the cheeks and between the eyes. The smaller ones tended to be whiter and more spotted. In the bigger ones the spots became more mottled, actually in both cods, but you could still pick them from the head and usually the colour.

They were only caught in two places around here, up at Willakool and at Wood Wood. Willakool is about 15 mile up the river from Swan Hill. It's on the NSW side of the river, where an anabranch comes out of the Murray on Pental Island, actually at Mellool. I left school when I was 14 to fish so that tells you how long ago it was, about then. They were considered the same to eat as the Murray cod, actually classed as the best, they were often long and skinny, and didn't have the fat in them as in the Murray cod, the old blokes preferred them. Back then well you usually didn't see a lot of people on the river, but you would see all these old blokes heading up to Willakool, they would say they were going to get themselves a bluenose. Yes, they thought they were about the best. You might go up there and see 40 or 50 of them along that stretch of the river, all the old blokes.

At Willakool up to 10% of the cod were the Trout cod, may be less, 8%. The river up there was a bit different, it was faster, they liked the faster water, they would come out of the big holes to feed in the shallows, off the sandbars, always in the moving water. Back in those days, just where the current slowed down a bit. Even though there were big holes in the river there, the water moved fast. We used to be drumming and you would always get them in the faster water, very fast. We used to hang the gill nets at the entrance to the lagoons, and you would pick the odd one up there too, just off where the fast water stopped.

We caught them at all sizes, the biggest ones I caught with my father were 60 to 70 pound, certainly that size. I saw one bloke catch one, old Jack Critchley, he had one bluenose in the boat and it was absolutely huge. He was shaking terribly, had the shakes real bad, we thought he was going to have a heart attack; it had given him a hell of a tussle. We used to sell our fish by the pound so we knew what they weighed, but this bluenose was bigger than anything we caught, it would have been 80 to 90 pound, certainly. Another unusual fish we caught back then at Willakool was the Macquarie perch, we used to pick up a few at 3-4 pound, maybe saw one that was 5 pound. My father called them the butterfish, they were never common. I saw odd ones caught at Beveridge Island below Swan Hill, but it would be well over 30 years since I saw one of them.

The other place in the Murray where we caught the Trout cod was at Wood Wood, down past Nyah. We used to pick up a few at Wood Wood, most were from 10 to 20 pound, the biggest went 28 pound there. We really only got a few there, saw more up at Willakool, but it was the same story at Wood Wood, the river was

shallower and faster there. The bluenose were so easy to catch, very inquisitive and cheeky. You would set a cross line, we were allowed four back then, and they would follow up the bait on the cross line. Sometimes they would take it, other times they just kept doing it. Up at Willakool we picked up a few trout, from time to time. Same thing, in the faster water there. My father caught a common trout, the brown, that weighed 26 pound, it was displayed in the town, but he wasn't allowed to sell it. We used to catch a few, but the trout were terrible eating.

With the Trout cod, well I am talking about over 50 years ago. We really only saw them in those two spots in the Murray. In one year we took out 354 cod at Beveridge Island and not one of them was a Trout cod so that tells you that they really were only in those spots, that type of water. We did a lot of fishing at Boundary Bend, Robinvale and Euston and in that time I didn't see a single Trout cod in those places. The only one I saw anywhere else was in the Murrumbidgee at Balranald. Back about 1980 in the Redbank Weir I caught one while I was setting a gill net. Well, all of a sudden there was a commotion but I got him in, he was about 6 pound, that's the only one I saw out of the Bidgee. Actually I used to pick up a fair few trout, browns and rainbows at Balranald. I did hear of Trout cod, odd ones, being caught up at Wellington recently.

The Trout cod disappeared years ago. I reckon it was the change to the flow for irrigation. Back then the river used to race through the holes, that's what they liked. But with the irrigation the river got slower and more constant. But recently there were 3 Trout cod caught near here, only about 3 to 4 weekends ago that were about 4 to 6 pound. They've come back in the river further up, between Yarrawonga and Echuca, and there's talk that people might eventually be able to fish for them again.'

The biggest cod I know of was 340 pound. It floated into a regulator at the north end of Kangaroo Lake, that was about 1948-49. My uncle was the one who found it, the water Bailiff Gordon Spark. I got one that was 146 pound cleaned below Euston in 1956, in the early months. It had its head stuck in the funnel, in the drum net. It was no problem getting it into the boat, it never even blinked. The old bloke in the boat with me, he nearly fainted, he thought I had a body! But then, when I got it out of the net it started jumping 3 feet high in the boat! Just before the 56 flood hit, the big cod knew it was coming, it was nothing to find big holes punched through the nets, they were all moving up towards it. I caught one in the Darling, in 1955 the only year it was open to fishing, out of the Darling, it was poor as anything, and it was over 8 feet long.

We used to get the Catfish out of Yanga Lake, they were usually from one to 8 pound, but we got one big one that went 20 pound. You could see their nests out in the sand. Early on you got less for the Catfish than you did for the cod, but later on when we skinned them and sent them to Melbourne, you would get 2 pounds for the cod and 3 pounds for the Catfish.

OH 76

Redge O'Connor of Benalla, formerly of Nyah West, was interviewed in March 2007 at an age of 85 years.

I grew up at Nyah West and I can remember at Nyah and at Vinifer the paddleboats. Dad would say "let's go get a cod" and we would go fishing and get cod all the time. Out there in the Vinifer swamp there were lots of clay banks, bridges and holes in which the fish lived under. We'd go to different places to catch the different fish, callop in one place; cod in another, the grunter were in other spots. You never really caught them all together, they were in different places. We never caught a Catfish at Nyah; I've caught them at other places but not there. My grandfather Vernon at Nyah got a cod that went 122 pound; he got it on a centipede. We used to go out where the sleeper cutters were cutting the sleepers for the railway. There would be big rolls of bark and you would get the centipedes in them. My grandfather would cut the head and tail off them so they couldn't bite you and stick them on a real hook, a big one.

The callop and the grunter were plentiful, we weren't so keen on them to eat, the callop. And the grunter were very ranky, they had a strong fishy taste. You got the callop, got them both up to 3 pound, the callop 3, 4, 5 pound. The grunter were up to about 3 ½ pound, it got me with a spike, I got a poisoned thumb from one, had a day off school. The cod we used to catch anything 6, 7, 8 pound, 22 pound, used to throw a lot of small stuff back. I remember once I fished at Patcha, well I swam across the river; I had a handline tied to my belt with a yabby on it. I set it up on a springer, went to the toilet and when I got back I had a 6 pound cod on it. Back then there were no spinners, as I got older the aeroplane spinner came in, and then the floppies, I have still got some floppies. At Nyah we used to get a rock cod, they were very scarce, hardly ever saw them. I thought they were a deformed cod. Later on when I moved over here from Bendigo, about 1950, they were in the Polly McQuinn's Weir near Strathbogie. At Nyah and Polly McQuinn's they weren't very big; a couple of pound was what you saw. The redfin they were in the Murray as far back as I can remember, when I was a boy. They were only small, there'd be shoals of them, tap, tap, tap, they'd go; they'd get the bait before the bream could. They were more or less a cannibal fish, they ate everything.

When I came over to Benalla the Broken here was full of the bream, the Macquarie perch, and cod. I remember there was lots of them in the Hollands branch and Ryans Creek as well as the river. They were pretty well originally everywhere in the river and the creeks right up into the hills, the bream and the cod. There was a little creek just out of town over Sherwell's Bridge; years ago it had the bream in it, and the cod, and beautiful Blackfish. I remember my son once said he was going to catch a bream; he only grabbed a landing net. The bream were going up the Hollands branch to spawn and they were that thick he brought home a couple he caught in the landing net. They were about 2½ to 3 pound. But when they put the channel from Nillahcootie to Mokoan, they broke into the Hollands branch with a pipe, used it as channel. When the bream tried to go up they couldn't get past there, well that stopped them breeding. They are coming back we are getting them now at the junction of the Hollands and Ryans and up at Williams Bridge.

There was one old timer here Frank Cook, he just passed away recently, I used to visit him, he was 97. He told me that when he was a boy back then all the creeks around here were full of cod slimies and the Catfish. He said the Ryans Creek, the Hollands Branch and the Back Creek had those fish in them and lots of bream. He said the Baddaginnie Creek was the same back in the 20s, he got Catfish and cod there too as well as slimies. And Myrtleford, he mentioned catching Catfish in the Ovens River in Myrtleford. And Little Back Creek, one lady told me that her grandfather used to catch cod there many years ago.

OH 77

Bill Lever of Wentworth, a professional fisherman, was interviewed in January 2007 at an age of 80 years. I've just turned 80. I was born in Albury, moved to Melbourne, then Numurkah. I was fishing out of Cobram from 1954 to 59, then fished Wentworth and Robinvale. Around Cobram there were not many yellowbelly, it was just about all cod. There were some Macquarie perch, they were not really common then, you would pick up odd ones in the drum nets, but mostly on the cross line. They were usually around 2 to 3 pound. There were not that many Catfish, you picked up the odd ones in gill nets. There was bloody heaps of grunter, we got them up to 6 to 7 pounds.

Most of the fish I caught I sold in Shepparton. The Cod were up to 30 to 40 pounders, not many small fish. I remember some of the blokes in the area calling some of the cod bluenose; I did catch a few but didn't take much notice. I used to know old Ray Wilson; he fished the river from Yarrawonga right down past Wentworth. Old Ray used to tell me how he used to get the Trout cod when he worked out of Yarrawonga, but he never ever saw one down Wentworth way. He'd be close to 95 if he were alive now, so that's going a way back. What he said would be right, he was a real good drum net man, one of the best. Henry Davies knew him too, he'd tell you the same thing.

Those days the rivers were just teeming with redfin, they cleaned up all the fingerlings. After the 56 flood I fished the 'Bidgee in the Redbank weir, could easily fill up a ute with redfin! After I moved over here I fished out at Lake Benara, it was full of yellowbelly, grunter and Catfish, and heaps of tench. There were not many cod in the lake, but plenty of cod in the river. Down here we used to be able to drum net here all year, the Darling in the summer and the Murray in winter. But in the last 15 to 20 years the cycles have changed, Menindee holds the water back, then lets the shit water out. But we're not allowed on the river now.

The biggest yellowbelly I got was 20 odd pound at Beredee, got plenty of 10 to 15 pounders back in the 70s, up from Tibooburra out from Broken Hill. The Catfish, we usually got them about 2 to 3 pound, but down in Frenchman's Creek they'd be a bigger pest than the carp! Catfish are the best fish, good for children, only a few rib bones, babies won't get a bone in the throat. I think the carp did in the Catfish; the carp ate all the mussels and water snails. Before the carp your net pegs would be encrusted with the snails. The carp cleaned them up; the snails were the main food of the Catfish. And the mussel beds are all gone. The only odd thing I ever found in a cod, well I found one with a brand new golf ball in it, just before we got the old sack off the river! In the cod I found mainly yellowbelly and yabbies. The only other thing, a while back in the Frenchman, was half a perch of about 4 to 5 pound. He'd been scaled and bitten, a dirty big cod bit him in half like a shark!

When I first came down here they were all big cod, 35 to 40 pound plus, hardly ever got a little one. But after the 70s we saw a bit, then after the 91 flood, about 93 to 94, the next few years you'd get 15 to 20 small cod in a gill net. They were just undersized, every season after we went up an inch in mesh. They came from everywhere, plus heaps and heaps of perch.

