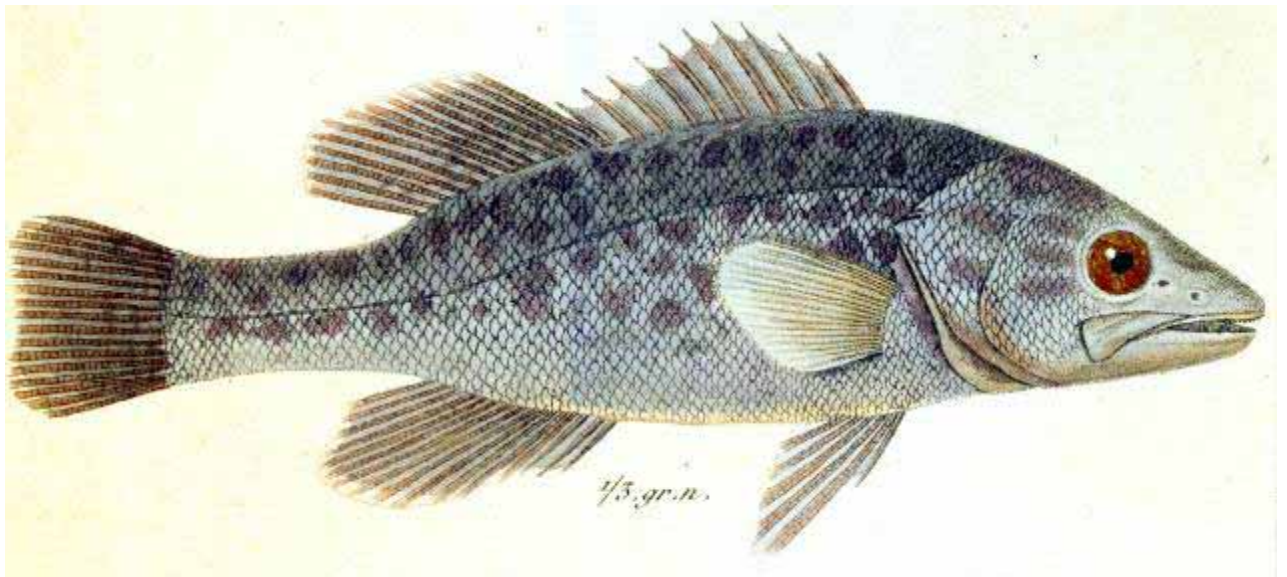


**SOME RECOLLECTIONS
OF NATIVE FISH IN
THE MURRAY-DARLING SYSTEM
WITH SPECIAL REFERENCE TO THE
TROUT COD**

Maccullochella macquariensis

**Summary & Source Material
from the Draft Publication
*Bluenose: The Lost World of the Trout Cod***



**W. T. TRUEMAN
Electronic Version June 2007
Prepared as an Interim Report for
Native Fish Australia (Victoria) Incorporated**



Preface & Errata (Electronic Version)

The electronic version of this report has been prepared in response to the requests received by Native Fish Australia (Victoria) Inc. and myself for copies. Due to the financial constraints of what is a volunteer non-profit organisation only a limited number of hard copies were prepared. Funds are currently being sought to have another run printed so that they can be more widely dispersed to government and educational institutions.

In preparing the electronic version I have taken the opportunity to correct a number of errors present in the original document. Most of these were of a minor nature and do not alter the content. Several sources cited in the text were omitted in the references section. An error was made in the writing of the spreadsheet for the bar graph in Figure 2 representing potential spawning seasons at Hinnomunjie for trout cod. The graph has been corrected in this version and the relevant text amended. For these errors I apologise but ask the reader to understand that the original document was prepared at fairly short notice to meet a deadline. There are errors in syntax in sections but I have left these unchanged to preserve the document in as close to possible as original form.

While I have collected additional information and photographs other than those previously presented I have for the most part elected not to include them. In the original version due to space constraints I omitted Bert McKenzie's recollections for the middle Murray, Buffalo and Lachlan Rivers. While they have previously been published in angling publications I have included them in the relevant sections in this document to make them more readily available to the scientific community. A number of people have sought more information on David Stead's work with the trout cod. I have included an addendum containing additional information related to Stead, the naming of the 'trout cod', translocation activities and references to artificial propagation trials with the species around the time of the First World War. Also included is an additional reference for the upper Mitta Mitta River.

In my original introduction I alluded to the loss of detail in the printing of the photographs. Compression of the photographs to reduce file size has resulted in a further reduction in resolution. The full size versions are reasonable but enlargement results in a significant loss of detail. In some cases what were fine dashes on trout cod images become blobs, making them look like Murray cod. I have elected to present a few photographs in their original colour version.

Several people have requested access to the original images and as it is the wishes of the owners that they be put to worthwhile and appropriate use I can make most of them available for scientific and government publications. Dr. Andrew Boulton has made me acutely aware of the value of the old photographs as a record not only of the fish but as a historical reference for the condition of rivers. A number of people have suggested that I should put aside the preparation of a book and for the time being concentrate on saving as many photographs and recording the oral history before they are lost to us. This suggestion has merit and I will investigate the production of a more comprehensive oral history of the fish and rivers of the Murray-Darling system. Part of such a project could entail the production of a CD preserving early images of the fish and their habitat. My current collection is somewhere between two and three hundred.

If people seek more information or access to records and photographs I can be contacted through Native Fish Australia (Victoria) Inc or by either: truemanwi@stmonicas.qld.edu.au or williamtrueman@bigpond.com

Will Trueman
June 2007

**SOME RECOLLECTIONS
OF NATIVE FISH IN
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WITH SPECIAL REFERENCE TO THE
TROUT COD**
Maccullochella macquariensis



Photo: Two unknown anglers fish the Goulburn River at *Prospect Hill* near Molesworth for bluenose (trout cod), bream (Macquarie perch) and Murray cod, January 16 1927. Not only do photographs exist as a record of the fish once present in the rivers they also provide us with evocative images of a world lost to us. We are fortunate to gain an insight into this world through the efforts of amateur photographers such as Sadie Bryan, daughter of one of the pioneers of the Molesworth district Thomas Bryan, who captured this moment in time. (Photo courtesy of Muriel Perry, Molesworth)



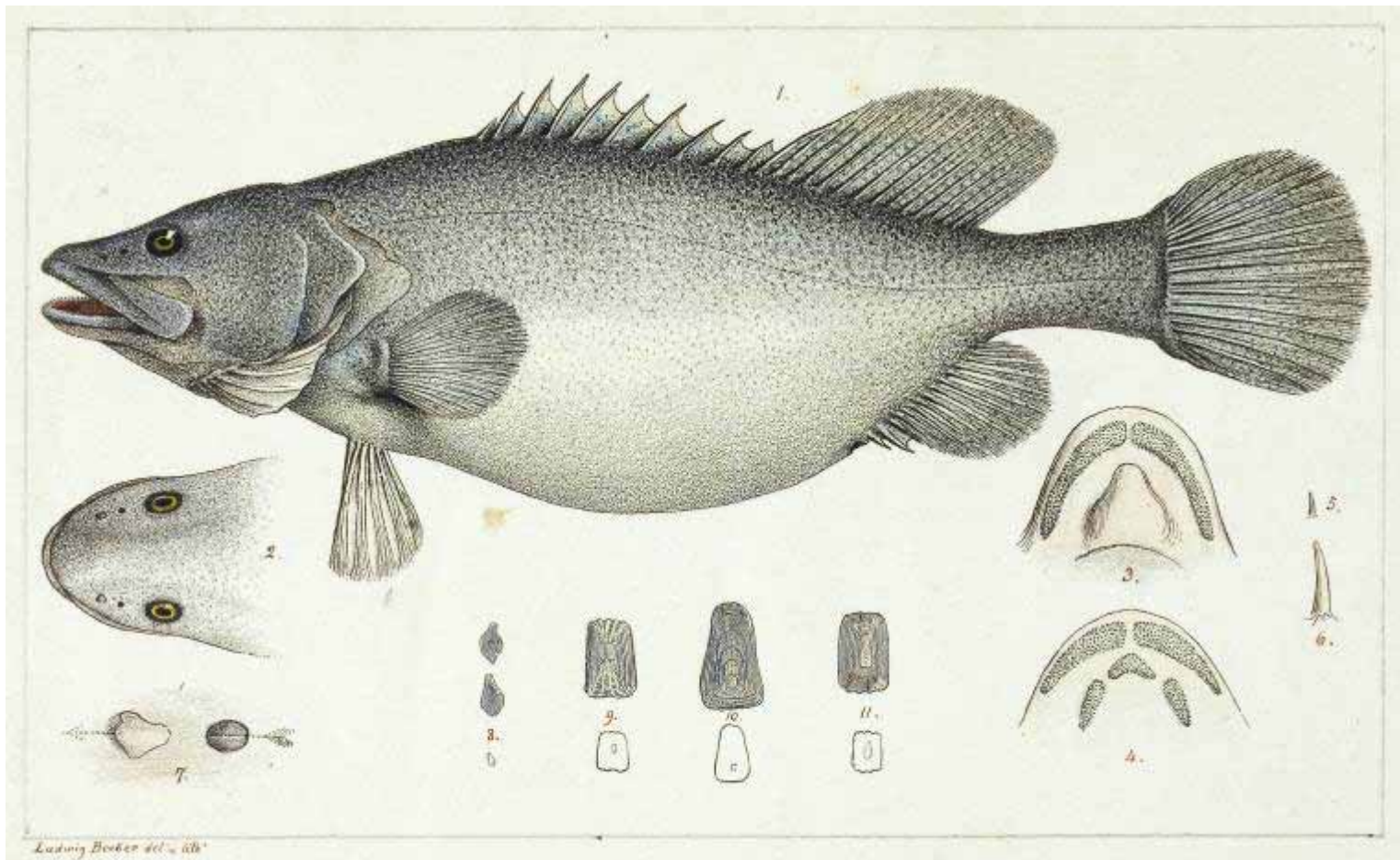
Published by:
Native Fish Australia (Victoria) Inc
PO Box 162
DONCASTER VIC 3108
Australia
E-mail: nfa@nativefish.asn.au
Web: <http://www.nativefish.asn.au>

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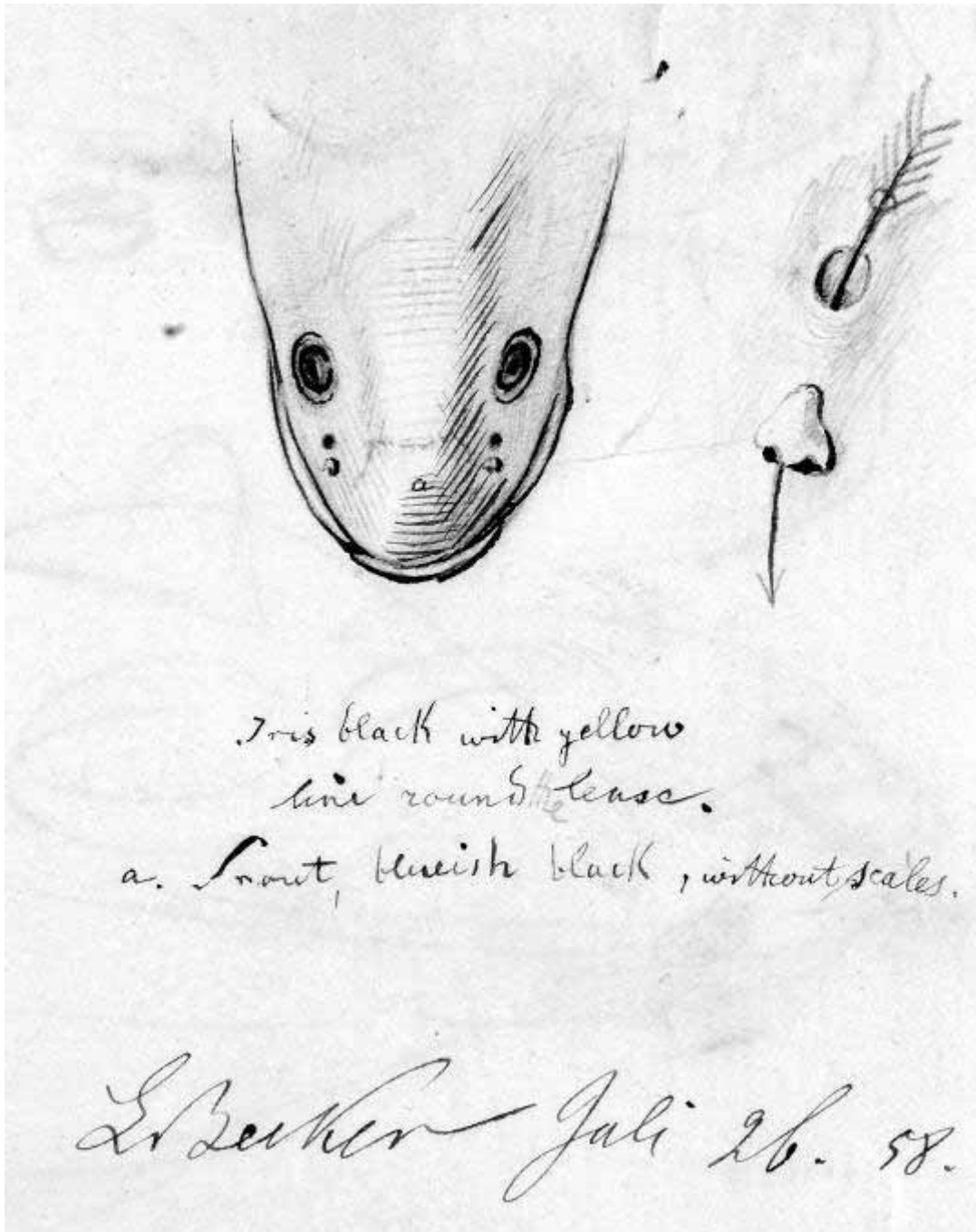
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Front cover: Lithograph of *Grystes macquariensis* the holotype for the bluenose or trout cod published in *Iconographie de regne animal de G. Cuvier, Vol 1*, in 1836. The *La Cochille*, under the command of Louis Duperry, left France in 1822 on a voyage of discovery with the ship's surgeon, Prosper Garnot, and assistant surgeon Rene Lesson being responsible for the collection of biological specimens. While based in Sydney from January 17 to March 25 1824 an expedition to the Bathurst area occurred during which the holotypes for the trout cod and Macquarie perch (*Macquaria australasica*) were collected it is believed from the Macquarie River. After his return to France Lesson in 1825 named the species *Gryptes brisbanii* and no formal description survives though a later document implies its existence. In 1829 the same specimen was named *Grystes macquariensis* and described by the French naturalists Georges Cuvier and Achille Valenciennes.

Reprinted with permission from the Rare Books Collection, *State Library of Victoria*.



Original lithograph of a cod, possibly a trout cod, drawn by artist Ludwig Becker, 1858. Becker perished shortly afterwards on the Bourke and Wills expedition. The fish was reported to have been three feet four and a half inches in length. This illustration was subsequently used in the preparation of Plate 85 in Frederick McCoy's *Prodromus of the Natural History of Victoria*, 1884. Berra & Weatherly (1972) considered the illustration to be of a trout cod though others have doubted it, mainly because trout cod have not been previously reported to grow to the size of the specimen illustrated. Certain identification of the fish as a trout cod is not possible with the mouth open. Sketchings and notes by Becker lend weight to the fish being a trout cod. The lithograph published in McCoy's work has a distinctly grey-green background colour. In this lithograph held by *Museum Victoria* the fish is distinctly blue in colour. Source: *Museum Victoria*



'Snout, blueish black, without scales'. Handwritten annotations on artist Ludwig Becker's sketch of the head of a cod dated July 26, 1858. The figure was ultimately used to prepare Plate 85 of Frederick McCoy's *Prodromous of the Natural History of Victoria*, published posthumously in 1884. The sketch may depict a fish known to anglers as a 'bluenose', 'rock cod' or 'trout cod'. If so the drawing provides the earliest reference to what was to become a trademark feature of an enigmatic fish.

Source: *Museum Victoria*.

Acknowledgements

A large number of people have contributed to the preparation of this document. Above all the many anglers who shared their memories are the principal contributors and provide all of us an insight to the world they once knew. They are acknowledged throughout but a number stand out for special mention. Roy Grant of Burrowye not only shared his stories but his beautiful photographs as did Tom Jarvis of Tintaldra and Len Lebner of Corryong. For the Goulburn River Frank Moore and Russell Stillman recalled their stories as well as providing photographs of historic significance. At Seymour Jim Hanley rounded up for me the senior anglers of the district and their photographs. Similarly Lance White of the Whorally Angling Club and Ray Hopkins of the Yea Angling Club organized interviews with senior anglers in their districts.

Two people who are non-anglers also made major photographic contributions. Muriel Perry of Molesworth shared her priceless photos of catches of cod from the Goulburn which were a great source of satisfaction in that they verified the stories of the late Bert McKenzie. Margaret Pendergast of Benambra provided a photograph of a trout cod which, while not visually the best in my collection, is one of the most significant.

Members of many local historical societies provided assistance in the research though sadly in most cases very little material exists in their files. Heather Rendell of the Echuca Historical Society has been tireless in her endeavors on my behalf while Madeleine Forgie of the Cowra Historical Society provided important contacts for me in the upper Lachlan. Max Dyer and Coral Kracke have provided key information on the Omeo district as well as background information which my research has benefited from. Julie Whateley of the Swan Hill Historical society is still hard at work for me searching and copying old photographs.

Cathy Bowen of the NSW Department of Primary Industries Library, Cronulla, assisted greatly with locating source material in old government records while native fish conservationist Simon Kaminskas sourced a number of key papers as well as encouraging me to undertake and complete the project. Dr. Andrew Boulton from the University of New England provided me with a number of papers outlining protocols for the collection and analysis of historical material. Nick Thorne, Graeme Creed and Ron Lewis from Native Fish Australia have encouraged me in my endeavors and provided the impetus in making the material I have collected available at an early date. Nick also proof read and provided advice on parts of the draft which has benefited from his input. The document was prepared to meet a strict deadline and the errors that remain are mine.

Finally I would like to express my gratitude to retired Victorian Fisheries and Wildlife Officer Jack Rhodes for his encouragement, support and advice on my endeavors. A man of great integrity he is still revered in the district he once served in and it has given me great satisfaction to find the evidence to support the stories he recounted in his biography.

Will Trueman

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Introduction

In 2004 the Murray-Darling Basin Commission released its Native Fish Strategy 2003-2013. The document outlined the decline that had occurred in native fish populations and estimated remaining communities to be about 10 per cent of that which existed prior to European settlement. The plan set as a goal the recovery of native fish communities within the basin to 60% of that prior to European settlement within 50 years.

In order to realize this goal knowledge is required as to the original distribution and abundance of the fish fauna of the basin so as to identify the target as well as to mitigate the causative agents responsible for the decline of individual species and species assemblages. In terms of detailed histories of either individual species or the fauna of particular environments or catchments the literature is fairly sparse. The most significant contemporary history so far prepared for a species is that for the well known Murray cod, *Maccullochella peelii peelii*, provided by Rowland (1989). That work reviewed the biology of the species in general, documented the historic decline of populations of Murray cod over the basin, and identified the possible causative agents responsible. A number of authors (Cadwallader 1981, Cadwallader and Gooley 1984) have published papers on the historical distribution of individual species but these have been limited to describing the occurrence of them within various waters without describing total or relative abundance.

The bluenose or trout cod, *Maccullochella macquariensis*, is one of the more enigmatic species of the Murray-Darling basin. Although first described in 1829 and widely recognized by many scientists and anglers its status as a species distinct to the well known Murray cod was not finally agreed upon until 1972 (Berra and Weatherly 1972) by which time it was critically endangered and is now considered a flagship species for the Native Fish Strategy. The name 'trout cod' appears to have been created by the Naturalist for the NSW State Fisheries Department David George Stead who in August 1909 was sent to Deniliquin to investigate reports of 'trout' being captured and sold by commercial fishermen in that region. A vivid account of the discovery and naming of the 'trout cod' was provided in the report of the New South Wales Legislative Assembly for 1910 published in 1914: *The fish taken at Deniliquin in August, 1909, locally called "trout," which were similar to specimens already received from Narrandera and Wagga Wagga, as "Murray cod" has been found to be distinct from either of the species mentioned, and has been designated "trout cod."*

As a consequence of the limited records available there has been uncertainty and some debate as to the original distribution, abundance and habitat preferences of the species. Lake (1971) provided the often cited comment that the trout cod '*is restricted to the cooler upper reaches of the Murray River and its southern tributaries*'. The well known work of Langtry has been to date been the main historic resource for the species (Cadwallader 1977). However, more recently Lake's description of the habitat preference of the trout cod has been challenged. Douglas et al (1994) considered that '*there is little evidence, not even museum and historical records, to support the suggestion.*' The information utilised by Cadwallader and Gooley (1984) in constructing their map of the historic distribution of the species was also questioned with the suggestion that some angler reports of trout cod captures may have been the result of misidentification.

In the 1990's the thoughts of these authors were reflected in a number of publications including management plans developed for the recovery of the trout cod (Brown et al 1998). The implication was that the species may have been primarily most common in lowland habitat and less common further upstream in the Murray-Darling system. Supporting evidence for this view was offered in the examples of the perceived failure of stockings of juvenile trout cod in upland streams and references to unpublished data indicating that juvenile trout cod have temperature preferenda variously quoted

at 25 °C or higher. Concurrent with this shift in thinking was intensive study of the remaining wild trout cod population in the Murray River downstream of Yarrawonga.

From my own personal experience in the 1970's and 80's I encountered many anglers with stories of capturing 'trout cod' only to find that they could not accurately describe the fish. By that time the species had achieved almost mythical status with common stories of 'the narrow gutted cod' being trout cod or that the animal was the product of a cross between a trout and a cod. I can empathize with previous authors in their frustration of trying to identify reliable reports of the trout cod from past years. It is easy to reach the conclusion that anglers may call any cod taken out of streams inhabited by introduced trout a 'trout cod' and this does happen even to this day despite the fact that detailed descriptions of trout cod are freely available to anglers.

However over the years there have been credible accounts from anglers of catching the species, referring to the fish as 'bluenose' or 'rock cod', names which predate the word trout cod. Notable are the recollections of R. D. (Bert) McKenzie (Trueman and Luker 1992) and those recounted by retired Fisheries and Wildlife Inspector J. O. Rhodes in his biography (Rhodes 1999). These accounts, while reporting trout cod as being previously common in some lowland habitats, also describe the species being abundant in some upland and even montane habitats.

Although there are some old historic references reporting the existence of cod and other large native fish in the headwater areas of the Murray-Darling system (eg. Evans 1813, Wilson 1857, Whitley 1937) the original fish fauna of upland and montane regions has been poorly described. The ravages inflicted on the environment in these areas by the gold rush and land clearing, together with the isolation and lack of transport to these areas for early naturalists have all contributed to this lack of knowledge. It is well known that the introduction of salmonids to these regions impacted on the aquatic fauna as demonstrated by declines in various *Galaxias* populations, further clouding our understanding. As a consequence today some people doubt that the larger native fish species had a significant presence in such waters.

Historic written works can provide a picture of past distribution and abundance of fish provided the account is first hand by the author and provides specific details and not generalities. Such information can be biased towards areas frequented by biologists and naturalists at the time compared to more isolated areas, or that access was gained after major changes to the fauna had taken place. The most widely utilized historical account of native fish populations in the Murray-Darling system is the survey conducted by Colonel John Osbourne Langtry for the then Victorian Fisheries and Game Department between 1949 and 1952 (Cadwallader 1977). While valuable the work was limited to lowland habitats and occurred after significant perturbations to fish populations had taken place a fact recognized by Langtry himself. More recently the Murray-Darling Basin Commission released on its website a compilation of early historical accounts from the explorers and naturalists of native fish dating from the first half of the nineteenth century (Scott 2005). Other accounts of early native fish populations survive in some old books, government records, newspaper stories and biographies.

Until comparatively recently oral or 'anecdotal' information has been considered of limited benefit to scientists due to the limitations of the experience of lay observers, the quality of their observations and the development of their own personal beliefs. Roberts and Sainty (1996) with *Listening to the Lachlan* produced a landmark work in the form of an oral history of the environment of the lower Lachlan River. These authors provided a framework for validating the oral accounts collected from residents of that catchment, protocols for which they subsequently formalized (Roberts and Sainty 1997). Utilising a similar approach Copeland et al (2003) prepared an oral history of the fish in the

Gwyder River catchment. The work of these authors has give credibility to oral history as a powerful narrative of environmental change.

Oral history sourced from anglers can provide a detailed insight into the fish fauna of the Murray-Darling basin but also presents many pitfalls to the researcher. Anglers are not trained scientific observers and may develop hypothesis or reach conclusions which are not scientifically valid. Their interest lays with the larger species or in some cases individual species and so their descriptions of local fish fauna can vary from reasonably comprehensive to highly restrictive. There is also the problem of identifying species with similar names such as the various types of 'bream' or misidentification of species as in the case of Murray cod and trout cod. Like all forms of oral history the recollections of anglers can be subject to change over time. However dedicated anglers can be excellent observers of the environment and their quarry, particularly those residing adjacent to waterways, making regular observation over a long period of time. Utilising the process of 'historical triangulation' the recollections of lay observers can be validated using evidence such as photographs, newspaper stories and supporting accounts to provide a reliable source of historical information (Robertson et al 2000).

The initial aim of my investigation was to locate evidence validating the accounts of McKenzie and Rhodes using the process of 'historical triangulation'. As a result I have conducted numerous interviews with elderly anglers, recording their personal recollections and in some instances the stories of their forefathers. The wealth of information available widened the scope of the research to attempting to reconstruct an accurate historical distribution for the trout cod and other native fish species. The research concentrated in the eastern half of Victoria in foothill, upland and montane habitats as this region was the source of these accounts of populations of trout cod, as well as to attempt to describe the early fish fauna of these habitats. However, investigations have extended downstream into the lowland region along the length of the Murray River in Victoria.

At the request of some NSW biologists information has also been sourced on some catchments in that state, notably the upper Lachlan. In terms of the distribution of the trout cod there are two river systems for which I have done little research namely the Murrumbidgee and the Macquarie. They encompass huge areas and while I am actively collecting historical material on them a thorough investigation would make an admirable project for an honours student. Similarly I have done little research in South Australia except for looking at quite a number of old photographs and locating some historical material.

From all of the sources a wealth of information from across the basin has (and is still being) collected on not only the trout cod but all of the larger fish species. The result is that it is now possible, in at least some catchments, to describe the original fauna, upstream limits for individual species and create a timeline for the decline of the fauna. My intention now is to prepare a paper describing the original distribution, abundance and decline of the trout cod in Victoria and to provide a popular historical account of the fish for the general public in the form of a book (*Bluenose: The Lost World of the Trout Cod*) the first draft of which is expected to be completed some time in 2007. Ultimately it is intended that these two projects will be pursued and completed.

A number of people including historians, scientists and the executive of Native Fish Australian (Victoria) Inc. have requested that I provide the source material in a compilation that can be rapidly accessed and provide an overview on the past distribution of the trout cod. Given the value of the information to both researchers and managers it is a request that I have acceded to and a limited number of copies of this report have been printed. It can be considered an 'interim' report on the material I have collected. However in doing so I have elected to present the material in a form which

is less formal than the report genre as such an approach has allowed me to provide 'snippets' of information and permit the expression of some personal opinion and speculation.

I have also made a commitment to a number of historical societies to prepare local histories for them and this document has been divided into river basins to facilitate the production of individual reports at the end of this year. It is for this reason that some repetition of material occurs between sections. In effect the material in this document represents much of my research notes and analysis. The material collected may have become too large to be incorporated in its entirety in a book intended for popular consumption. This will of course be decided by a prospective publisher. In the classic case of how long is a piece of string the material continues to grow with historic photographs continuing to arrive every week. I have had to leave out some material in this work to meet a deadline and to minimize its size. This includes the daily catch returns for a professional fisherman over seven years based at Robinvale in the 1950's which is of great interest. All the material will eventually be made available in some form in an updated version of this document, a book or in the local regional histories I am preparing.

For some river basins I have provided a summary of the original distribution of the native fish species based on the available historical information, the changes that took place and briefly outlined the possible reasons for these changes. This has been done in some detail for the upper Murray, Mitta Mitta and Goulburn Rivers. The information available for these systems permitted a reconstruction of the fish fauna with some degree of certainty as well as the changes that took place. They in affect are case studies which may therefore be useful models when considering other waters. The changes that have taken place to lowland habitats have been well discussed in the existing literature, though I have provided a few thoughts on such areas as well.

At the request of NFA I have prepared a map pinpointing records and describing the historical distribution of the trout cod in northern Victoria. In addition I have prepared a review of its original distribution and the types of habitat it was found in, as it was the original focus of the research. I have also discussed some aspects of it's biology and the mechanisms that may have been responsible for its decline. I will elaborate further on these areas when the work is completed. Time constraints restrict me from considering in detail the distribution and decline of other native species. I know that some of the material contained in this document may challenge theories held by scientists engaged in research on the biology of native fish and working towards their recovery. I have the utmost respect for these people and simply ask that contemporary ideas be considered in the light of the historical evidence provided by witnesses at a time when native fish populations were still flourishing. I can say in all honesty that I have had to change some of my views in light of the evidence presented.

In providing this material I request that those who access it understand that what is presented is a work in progress, but close to being completed. Additional information and photographs are likely to be sourced prior to final publication. Indeed as I write old photographs have just arrived by email and there are regions which I am still actively researching. I know that even though copyright laws exist I expect that for convenience photocopying of the material in this work will take place and understand the reasons for doing so. I do request that in deference to the people who provided photographs that they not be reproduced or transmitted. Original copies of all the photographs I have collected will be deposited in the near future with *Museum Victoria* and regional historical societies, along with relevant details, where they will be accessible to anyone with an interest in them.

Will Trueman
May 2007

Methodology

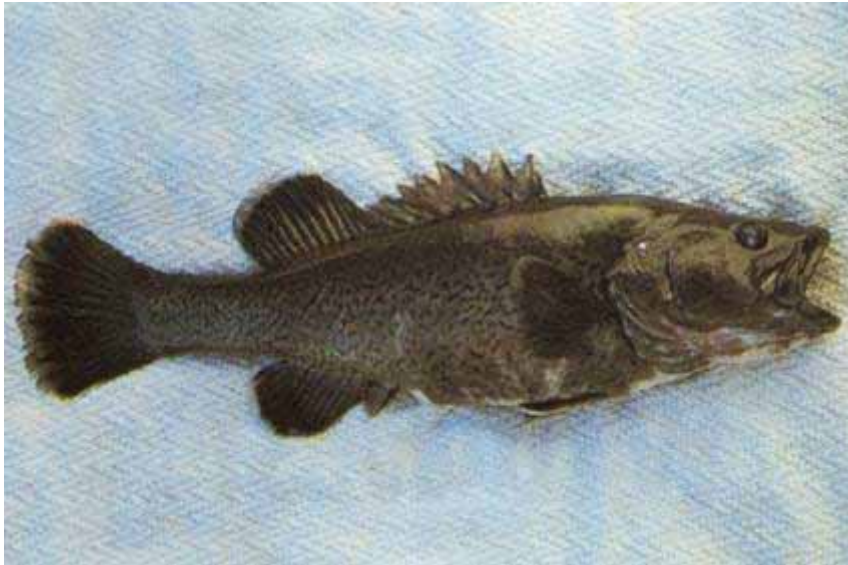
Meeting people typically of an age of 80+ years was both time consuming and rewarding, in many cases detailed memories pouring forth during interviews. Identifying individuals as a source of useful information was relatively straightforward as they were generally well known to local historical societies and angling clubs. Initial interviews with anglers in most cases were conducted by phone, but some took place in person. Typical questions included asking the person to describe their personal history, what fish they caught where, and the changes they observed over the years. For certain species such as the trout cod or 'bream' they were asked to describe the fish so as to attempt to eliminate any ambiguity as to the identity of the fish being discussed. Emphasis was placed on providing a timeframe for observations or key events either by the individual providing dates or descriptions of phases in their lives. After the initial interviews in many cases follow up interviews occurred and for those providing extensive recollections a written transcript was supplied for them to correct and add to. The responses have been most rewarding with additional information, sometimes in great detail, on occasion being supplied.

In addition a search for old records, newspaper articles and photographs from anglers, historical societies and government agencies has also been undertaken. Given the fact that I now reside 3000 kilometers north of the Murray River I cannot claim that my search was exhaustive. Photographs provide a historic record dating back over one hundred years to the mid nineteenth century with high resolution dry plate technology in the latter part of that century. Despite the availability of this resource no publication to date has extensively used this source of evidence to assist in determining native fish distribution and abundance. Significant photographs have the potential to be sourced from anglers, angling clubs, local families, books and newspapers. Disturbingly, very few photos of catches of native fish survive in the collections of regional historical societies and many are rapidly disappearing as people pass away and relatives dispose of them.

With regards to trout cod identifying them in photographs can be problematic. The single reliable apomorphic difference between trout cod and Murray cod is that in the former when the jaws are closed the upper jaw overhangs the lower jaw. Unfortunately in many old photographs of cod the fish are typically suspended by one of the jaws with the mouth open making it difficult to discern if the upper jaw would overhang in the closed position. Whitley (1937) also claimed to have examined a specimen of a trout cod in which the jaws were of equal length and it is possible that this characteristic diminishes in larger fish. Other differences such as the length of the snout and caudal peduncle, size of the eye and head slope/profile exhibit overlap to varying degrees between the two species (Berra and Weatherly 1972).

In terms of coloration and markings the two species are usually distinctive when below about 10 to 15 kg in weight. Trout cod exhibit a pattern of dark spots and dashes with brighter highlighting while Murray cod have a generally mottled appearance. However as Murray cod get larger the pattern also breaks up into a series of spots and dashes or general spotting all over the body. Some elderly anglers familiar with larger trout cod in the past have stated that these specimens can be similarly marked and this is suggested in the few photographs of larger trout cod exceeding 10 kg that have been published (Lake 1971, Berra and Weatherly 1972, Berra 1974). Similarly the presence of an eye stripe along the head is not a distinguishing feature. Certainly in most small trout cod it is distinctive in life, though may fade rapidly after death, and when present in small Murray cod tends to be comprised of a series of fine lines. In larger trout cod the eye stripe appears to be less distinctive and may be absent.

One difficulty with examining old photographs are post mortem changes which alter the appearance of the fish. Some trout cod develop dark patches or mottling over their body after death, in some cases turning almost black. Where the fish have been in contact with the ground or other surfaces they can become bleached, effectively masking much of their body markings. I have seen this for myself in years gone by and these changes are apparent in some of the old photographs of fish which are undoubtedly trout cod.



Photograph of a trout cod showing post mortem darkening and some mottling/bleaching. This fish was captured by angling writer Rod Harrison from the Murray River at Bringenbrong c1972. (Photo courtesy of Rod Harrison).

Another consideration is that like most species trout cod would have exhibited a degree of variation in their form and possibly regional variations. Members of Native Fish Australia have commented that they can differentiate between trout cod captured from the Murray River below Yarrowonga to those taken from the Seven Creeks, an observation with which I tend to concur. The contemporary Murray fish generally have very convex head profiles, few markings in the region of the head, and very long caudal peduncles, the latter feature creating a lithe-like impression. Fish from the Seven Creeks generally have flatter or more concave head profiles, shorter peduncles and are more heavily marked both on the head and generally, particularly larger individuals.

While these differences may be partially attributable to the different habitats in which the fish reside they may also be genetically based. The distinctive features seen in contemporary fish from the Seven Creeks are evident in some museum specimens and in old photographs of trout cod caught from the Goulburn River, suggesting a degree of regional difference. Recently the value of the Seven Creeks trout cod population as a genetic resource has been called into question with the suggestion made that fish from the Murray River population be introduced. Using mitochondrial DNA analysis the Seven Creeks population was found to contain only two out of eleven identified haplotypes for trout cod (Bearlin & Tikel 2002). This is not unexpected given that the population would have experienced a genetic bottleneck through the founder effect when translocated. While mDNA analysis provides a broad measure of genetic diversity such an interpretation fails to recognize the value of rare alleles present in nuclear DNA and the potential usefulness of local adaptation. As will become apparent later in this document granite streams were a type of habitat in which trout cod

were found in the past and the Seven Creeks population is likely to show adaptations suited to this type of environment. In the future the Seven Creeks trout cod population, showing specific adaptations, may be of value as a genetic resource for re-establishing populations in waters sharing some of their characteristics with the Seven Creeks.

The old photographs demonstrate variations in body morphology for both species of cod. There is a general tendency in some early photos of the trout cod to be sleek with large heads, while later photos tend to have fish with smaller heads and bodies in better condition. Some of the trout cod in Roy Grant's photographs from Burrowye in the 1930's appear to have short peduncles, plump bodies, and significant dorsal fat deposits. By comparison the Murray Cod in the same photographs look even stubbier, almost grotesque. A similar change is apparent in the appearance of trout cod in the Goulburn River from the mid 1920's to the late 1930's. This improvement in body condition may have been a consequence of these populations being in decline resulting in reduced competition for food. Angler recollections of this time recall there being a lack of very small cod in these waters.

Potential photographs of trout cod collected during the course of the research generally fell into four categories. Some images were clearly unambiguous with the fish exhibiting the key features of trout cod. Others fell into the category of probably being trout cod which if combined with a detailed, accurate description of trout cod from the angler concerned collectively were considered a reliable report. Some photographs obtained possibly contained images of trout cod but were not considered conclusive while others presented of fish purported to be trout cod were of no value in determining the species of cod in the images. Such photographs only validate the existence of either or both types of cod from that provenance. Many hundreds of photographs of catches of cod and other native fish were examined, most of which predate 1950. What has astounded me is the quality of some old prints where typically scanning at a resolution of 600 dpi reveals much detail. Some were so good that they could be scanned at 1200 dpi revealing the individual scales on the fish in the images. The more interesting or significant examples are presented in this document. In printing them there will be some loss in resolution and contrast and for some photographs I have recorded in the captions details visible in the original prints.

In general common names have been used to identify individual fish species. The names utilized are:

Trout cod (*Maccullochella macquariensis*); Murray cod (*Maccullochella peelii peelii*); Golden perch (*Macquaria ambigua*); Macquarie perch (*Macquaria australasica*); Silver perch (*Bidyanus bidyanus*); Catfish (*Tandanus tandanus*); Blackfish, either or both (*Gadopsis marmoratus/bispinosus*); Redfin (*Perca fluviatilis*); Brown trout (*Salmo trutta*); Rainbow trout (*Oncorhynchus mykiss*); Goldfish/Crucian carp (*Carassius auratus*); Tench (*Tinca tinca*); European Carp (*Cyprinus carpio*).

A Review & Discussion of Records of the Trout cod (*Maccullochella macquariensis*)

Common Names: Yaturr (Yarree Yarree people) Munjie (possibly Tumut and Omeo aborigines), cod-perch, Murray perch, rock cod, bluenose, trout cod, blue cod, trout, Murray trout, pike cod, cannibal cod.

There has been debate over the original distribution of the trout cod in recent years, whether it is a 'warm water' or 'cold water' species. These terms are very misleading when actual temperature data from various environments are considered. Evidence exists for trout cod populations historically being present from the lower Murray up to headwater regions. During the course of the research many hundreds of photographs of catches of cod were examined. A general trend was that old (WW2 and earlier) photographs of 'cod' were relatively common from lowland rivers compared to higher up in the system where they were generally rare. In the case of the latter this is probably a consequence of these areas being settled later, not supporting major commercial fisheries as existed further downstream and an earlier decline of the cod fishery. Even in areas known to have contained large populations of cod such as the middle Ovens Valley old photos are rare. Luck has also played its part in the survival of historic photographs. Quite a number of photographs dating from the 1930's back to the 1880's survive of catches of cod from around the major Murray River port towns such as Echuca, Swan Hill and Mildura.

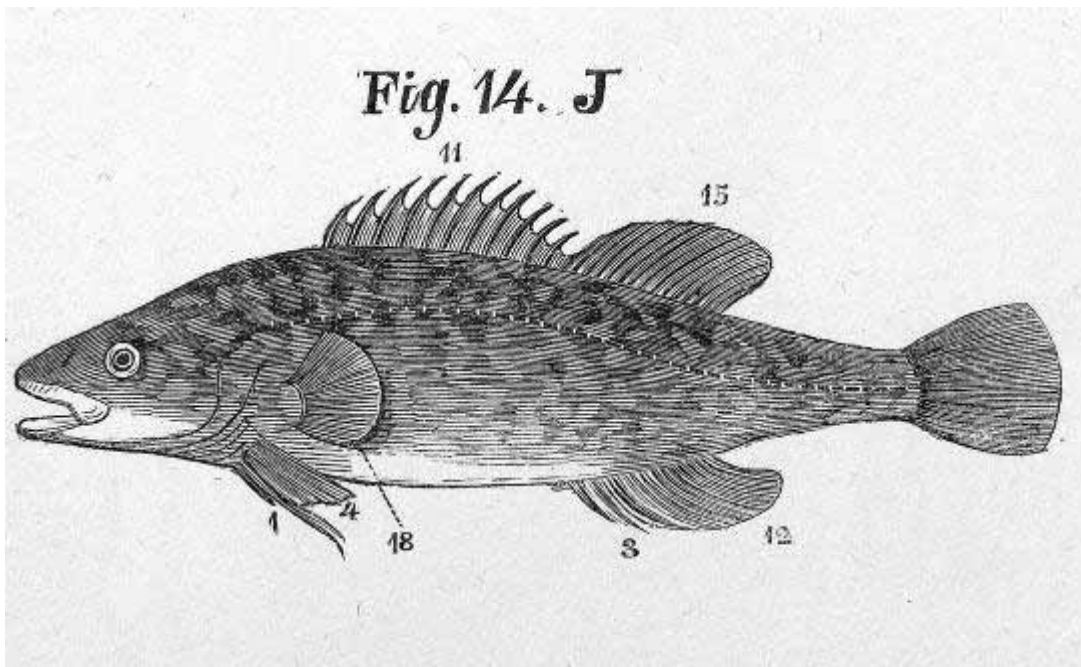
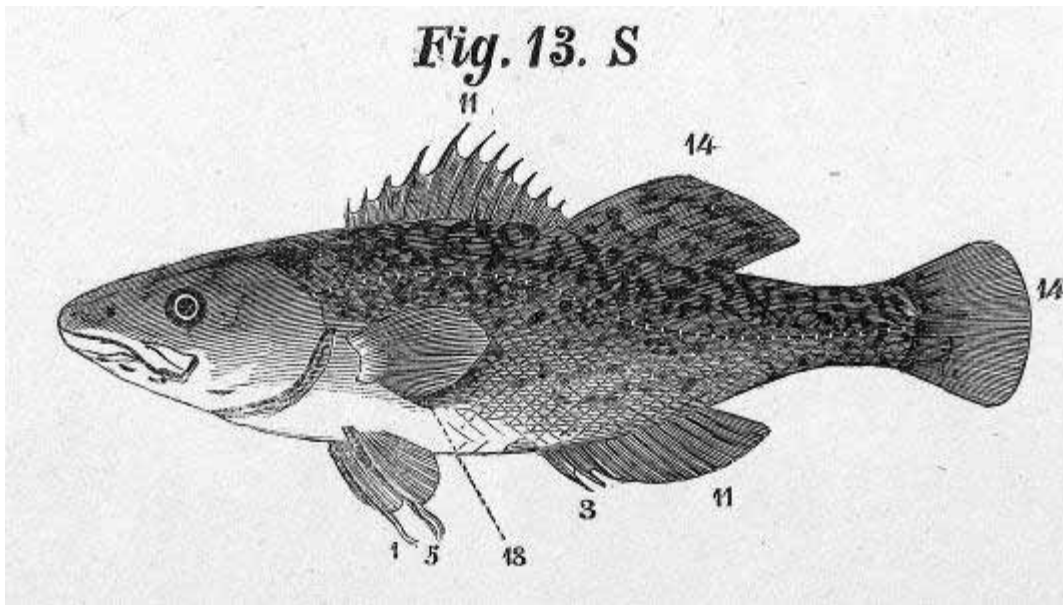
A noticeable trend was that photographs of cod were much scarcer upstream of Echuca, and even more so upstream of Yarrawonga. However, upstream of Echuca the frequency of trout cod in the photographs increased noticeably. Reasonable photographs of trout cod exist from the Echuca area, and a single photograph from between Swan Hill and Nyah contains an image of a trout cod. No prospective photographs of trout cod have been located originating further downstream despite relatively large numbers of photographs going back prior to 1900 being examined. Images of trout cod were regularly found in photographs of catches of cod from the Cobram area, the Murray River upstream of Albury and the Goulburn system upstream of Seymour. The photographic evidence going back over a century suggests that trout cod were not a particularly abundant species downstream of Echuca.

Two museum specimens from South Australia, from the Purnong/Mannum area, and one from Swan Hill confirm the historic presence of trout cod in the lower Murray. A number of historical accounts provide some insight into the early trout cod population of the lower Murray. Wilhelm Blandowski in 1858 reported on the results of an expedition to the Murray River from the Gunbower area downstream to the Darling Junction region (Blandowski 1858). He used the names *Gristes Macquariensis* and *Gristes Peeli* indicating that he was familiar with the descriptions for the two cod species. He also provided illustrations of the two types of cod and preserved a specimen of a trout cod, without providing a provenance, which survives in the collection of *Museum Victoria*. He also recorded aboriginal names for the two species. This indicates that the trout cod were caught with some regularity by the local indigenous people including the Yarree Yarree.

From Blandowski (1858):

'Gristes Macquariensis (S) "Yaturr", of the Yarree Yarree. Is of a dirty green colour and has less spots, than Gristes Peeli. In both the scales are small and covered by an epidermis. Both are characteristic forms of the Murray River and its tributaries, and the principle fishes on which the natives subsist during the greater part of the year. They grow from 36 to 40 inches in length.'

'Gristes Peeli (J) "Barnta", of the Yarree Yarree. This fish, as well as the preceeding, No. 13, have both been already observed in America.'



Illustrations of *Gristes Macquariensis* (Fig. 13. S) and *Gristes Peeli* (Fig. 14 J) published by Wilhelm Blandowski as part of Plate 133 in his work *Discoveries in Natural History on the Lower Murray*, 1858. Source: *Museum Victoria*.

The second historical account for the existence of trout cod in the lower Murray comes from Stead (1903) who participated in a South Australian enquiry into the status of the Murray River fishery in 1900. It is apparent that Stead was not at this time personally familiar with the fish termed a 'rock cod'. He relied on information provided by Samuel McIntosh, the Chief Inspector of Fisheries, who interviewed many fishermen in order to collect evidence for the inquiry:

*'Throughout the evidence reference has here and there been made to "two kinds of cod." In most cases this has reference to those Murray cod living in the still waters of lakes and lagoons – particularly Lake Victoria in New South Wales and Lake Bonney, South Australia – as compared with those living in the rivers. Now and again also a "rock cod" is mentioned. "it is not so numerous as the Murray cod and not so large (from 6 to 10 lb.)". Apparently, in appearance it is half-way between the Murray perch and the Murray cod, as some of those that have observed it fancied that it was "a cross between" those two species. It appears to be the name given to one of the varieties of Murray cod stated by Mr. M'Intosh to be *Oligorus mitchelli*.*

Confirmation of the identity of the fish as *Oligorus mitchelli* appears to have come from biologist A. H. C. Zeitz acknowledged in a footnote to the text:

'It must be stated that the information supplied by Mr. M'Intosh was obtained from Mr. A. Zeitz F.L.S. to whom we are directly indebted.'

It would appear that Zeitz had seen examples of trout cod and being familiar with Castlenau's 1873 description of *Oligorus mitchelli* had provided the identification for the 'rock cod'. In another work Zeitz indirectly provides evidence for the scarcity of trout cod in South Australia (Zeitz 1902). In his description of the edible fish of the lower Murray in the Lakes Alexandrina and Albert district he provides a comprehensive list of both freshwater and estuarine species. Included are major Murray River fishes such as Murray cod, golden and silver perch, and catfish as well as the smaller species such as blackfish, *Galaxias* and smelt. No mention is made of the second cod species or Macquarie perch indicating their absence or rarity in the region. There is no historical evidence to suggest that trout cod had any more than a minor presence in South Australia and to date examination of old photographs of catches of cod from that state have failed to uncover a single likely image of a trout cod.

Langtry reported that trout cod had not been seen in the Loch 7, 8 or 9 areas for fifty years, going back to c1900 and reported the fish to be 'extremely rare' in the Mildura area. In the Swan Hill region Henry Davies, a fifth generation professional fisherman, recounted his own experiences and that of his ancestors going back at least three generations to before 1900 (refer to lower Murray section). He reported the 'bluenose' to be largely restricted to a specific stretch of river known as 'The Willakool' at Pental Island with only incidental captures occurring elsewhere near Swan Hill. Similar reports exist further downstream from anglers indicating the presence of trout cod but certainly not in abundance. Blandowski's statement about both cod species being 'characteristic forms of the Murray River and its tributaries' does not provide an accurate provenance, as he spent time in the Echuca/Gunbower area before venturing further downstream. It appears to be a general statement but it has to be acknowledged that his account implies a significant presence of trout cod in at least some parts of the Yarree Yarree lands, ie. Robinvale to Wentworth (Tindale 1974).

From the available historical evidence one of two conclusions can be reached on trout cod in the lower Murray. The first is that the paucity of any description of trout cod being particularly abundant in the lower Murray may have been the product of a rapid decline after European settlement. The possible causative agents could have been overfishing and snag removal to facilitate passage of the river boats. However these agents were also at work further upstream and at least as severe yet trout cod were still commonly taken well into the twentieth century in both the Murray (eg Barmah, below

Yarrowonga) and the Murrumbidgee (eg Bringagee, Narrandera) Rivers as reported by Langtry and Stead (NSW LA Report 1914). The alternate conclusion is that the species was never abundant in the lower Murray.

The historical evidence implies either that downstream trout cod populations were particularly fragile or more likely they were not extensive and therefore rapidly declined in the face of pressure. On the balance of all the available evidence for the Murray downstream of Echuca trout cod populations were patchily distributed, favouring faster stretches of river, and secondary in abundance to Murray cod. Their lower relative abundance and perhaps specific habitat requirements probably made them vulnerable to overfishing and environmental change such as desnagging of the river.

In the Murray River from Echuca upstream to Wodonga angler recollections report trout cod to have been common but generally secondary in abundance to Murray cod though in individual stretches of river catches of trout cod outnumbered those of Murray cod. A number of photographs dating from c1880-1910 of catches of cod from the Echuca/Barmah area contain images of trout cod but the majority of the cod appear to be Murray cod. In the Cobram area trout cod are often present in photos dating from c1950 and earlier and one or two photos depict catches of mainly trout cod. Angler accounts describe the species as being typically more abundant in areas where flows were faster particularly where harder substrates such as clay banks or rock bars were present. Their reports create a picture of trout cod increasing in abundance between Echuca and Yarrowonga a description which matches the results of Langtry's survey. Often overlooked in recent publications is the fact that in terms of relative abundance Langtry caught more trout cod than Murray cod in the Brimin area upstream of Yarrowonga.

From the records provided by Stead in the 1914 and 1915 NSW Legislative Assembly Reports, Whitley's (1937) reference to A. K. Andersons work at Bringagee and Langtry's account a similar situation appears to have existed in the Murrumbidgee River. These sources reported that trout cod were relatively uncommon downstream of Hay but increased in abundance further upstream, so that in the Narrandera/Wagga Wagga area the species rivaled Murray cod in abundance.

Further upstream in foothill and lower upland areas angler recollections, supported by photographs, suggest that in the early days trout cod were more abundant than Murray cod. The recollections are consistent across the basin, including the upper Murray, Goulburn, Mitta Mitta, Kiewa, Ovens and Lachlan systems. Of interest are the accounts describing trout cod as having been present or abundant in major tributaries in foothill regions typically flowing over rock substrates. Reported examples include the Seven, Hughes, Cudgewa and Koetong Creeks as well as creeks in the Heathcote/Redesdale area. Evidence exists of trout cod being present in the upper Murrumbidgee, Macquarie and Campaspe Rivers but their early abundance is unclear at this time due to a paucity of records. Further research may clarify the situation in these catchments though it is likely that they too once carried extensive populations of trout cod based on the evidence from the other systems.

Recent authors have questioned the usefulness of the Seven Creeks as an example for modeling the habitat requirements of the trout cod. It is apparent that save for the height of the instream barriers present it strongly resembles some waters in which trout cod were once abundant. In many ways the habitat previously occupied by trout cod in the foothill and upland zones closely resembles that in which the Eastern Freshwater cod *M. Ikei* is found in the Clarence River system. The Seven Creeks is a distinctive environment to that in which trout cod are found in the Murray River and of equal value in identifying the habitat requirements of the species.

It is fortunate that a number of private collections of photographs dating from c1925-40 of catches of cod from foothill/upland areas have survived and create a compelling picture. For the Goulburn

River between Thornton and Homewood most photographs contain images of trout cod and in many most of the cod appear to be trout cod. This photographic evidence supports the account of Bert McKenzie for the Goulburn River in those areas in the 1920's. McKenzie provided the name of one of the properties he used to fish on the Goulburn and photos of catches of cod from that location survive and contain many images of trout cod. The inescapable conclusion is that he was familiar with the species and any first hand account provided by him must be considered reliable. A similar situation exists in photographs of catches of cod in the upper Murray between Towong and Burrowye. When you have people such as Roy Grant of Burrowye and Tom Jarvis of Tintaldra not only providing good descriptions of trout cod but presenting photographs of the animal their accounts must be considered accurate. It is notable in later photographs, c1940-50, from both the upper Goulburn and Murray Rivers that images of trout cod are much scarcer.

In higher altitude areas such as the upper Mitta Mitta River and tributaries, and major upland/montane tributaries of the Goulburn River, the surviving accounts suggest that Murray cod were relatively uncommon or absent with trout cod comprising the bulk of the cod population. In particular in the upper Mitta Mitta the historical evidence for the existence of high altitude montane populations of larger native fish species is conclusive and triangulated by multiple sources. Rhodes' (1999) recount of 'Grandpa' Pendergast catching 'bluenose' and 'white eye' in the upper Mitta Mitta/Big Rivers at the dawn of the twentieth century is supported by a 1902 newspaper story. That article described the once extensive populations of 'cod, perch and bream' in the Omeo region and their persistence at the time in the area fished by Pendergast. The only uncertainty is whether the cod were trout cod though Pendergast's use of the term 'bluenose' suggests they were and Rhodes maintains to this day that there is in his mind no uncertainty as to the identity of the fish.

The evidence provided by Margaret Pendergast from the Gibbo Park area that the cod were mainly trout cod is compelling. She recounted the stories of her relatives using the word 'trout cod' to describe the fish that were caught, that she was told that very few Murray cod were taken, and she produced a photo from c1935 of one these fish which is definitely a trout cod. This evidence, along with other angler accounts along the length of the Mitta Mitta River, taken collectively paints a reliable picture of trout cod being the most plentiful species of cod upstream of Banimboola until the 1930's with an almost exclusive presence in the upland/montane rivers of the Omeo tableland.

At the present time this collection of historical evidence permits a reconstruction of the major fish fauna of the Omeo region prior to European settlement with some confidence. It is best described as consisting of trout cod, Macquarie perch, blackfish and possibly small numbers of Murray cod being present in the rivers and major tributaries upstream to major barriers, with blackfish and a range of *Galaxias* species present in the smaller tributaries. The historical accounts for the Omeo area not just report the presence of these species but paints a picture of abundance, eg. descriptions of hundreds of fish seen 'disporting themselves' in the Livingstone Creek, a fairly small waterway. The reports of the cod and bream in the Mitta Mitta River system go into areas exceeding 800 metres in altitude and montane habitat. This altitude is not exceptional given the reports of cod and Macquarie perch being found at greater elevations in some NSW catchments. However in the Victorian context it is significant given the gradients and lower temperature regimes present compared to those found in NSW at comparable elevations.

If a high altitude assemblage comprising trout cod, Macquarie perch and blackfish existed in upland/montane waters of the Mitta Mitta River system then there is no reason to believe that the same assemblage would not be present in other systems provided that the instream barriers were surmountable and habitat suitable. In the major tributaries of the Goulburn River upstream of Eildon the angler accounts consistently describe trout cod as being present or common in these waters in the past. Similar accounts exist for the upper Murray/Indi and major tributaries such as the Cudgewa and

Berringama Creeks. Given the fact that the accounts come from anglers whose familiarity with the trout cod is validated by photographic and other evidence and that the accounts are consistent in detail there can be little doubt that they are accurate.

A number of contemporary references state that trout cod were absent from the Lachlan River system except for an 'unconfirmed' report (Douglas et al 1994, Brown et al 1998). The unconfirmed report originated from angling writer Rod Harrison whose account should have been considered reliable given his demonstrated familiarity with the species in the various articles and photographs he has published over a period of nearly forty years. He retains a colour transparency of the fish he caught from the Lachlan River at Reids Flat c1968 confirming the presence of trout cod in the upper Lachlan system. Although quite a number of family stories describe cod being abundant in the upper Lachlan prior to bushfires in the 1930's one witness, Mrs Mona Motum, from the pre-bushfire era is still alive and retains first hand experience of catching cod. Her account parallels those from other upland areas with a compelling description of trout cod being more abundant than Murray cod.

Of interest are the observations of anglers that in some foothill and upland habitats that concurrent with the decline of trout cod was an increase in proportion of Murray cod in their catches. Lintermans et al (1988) reported the observations of anglers from the upper Murrumbidgee area that they tended to capture trout cod first when both species of cod were present. This suggests that the reported changes in the proportion of trout cod in angler's catches may have been due their selective removal from the general cod population. Anglers claim that trout cod are more active and aggressive than Murray cod and continue to be caught at lower temperatures in winter when Murray cod become generally inactive. These characteristics would favour removal of trout cod from an area in which both species occur. However, given that there appears to be a significant overlap in the habitat requirements of the two cod species and that some degree of competition is likely to exist, removal of trout cod could generate an increase in local Murray cod populations where both species are present. Similarly vacated habitat could result in Murray cod penetrating further upstream than previously into areas where trout cod were formerly present.

Given the evidence for the prevalence of trout cod in the upper reaches of four major rivers (Mitta Mitta, Goulburn, Murray and Lachlan) it seems likely that a similar situation would have existed in comparable rivers elsewhere in the southern half of the Murray-Darling basin. Contrary to some published statements that no evidence existed for trout cod being more common in the cooler, upper reaches of the Murray-Darling system anglers and professional fisherman consistently have maintained this to be the case. Langtry in his survey of c1950 worked closely with the commercial fishermen and drew upon their collective experience. Men such as William Hill of Bringagee, George Clark of Barmah and William Davies of Swan Hill had first hand knowledge of the fishery back to the post World War one era and could recall the knowledge of previous generations of fishermen not only in their areas but along the length of the rivers. Langtry ultimately reached the conclusion: *The distribution of Murray cod and trout cod differ.....Much is said about the fact that trout cod prefer faster water and will travel further upstream than Murray cod, hence its slimmer and more active appearance when compared with Murray cod.* It is also true to say that the trout cod while being found further upstream than Murray cod was also a common species in some lowland habitats.

Lake's use of the terms 'preference' and 'cooler' has probably created a great deal of misunderstanding and confusion. While species may have a preference for environmental optima it is usual for them to be found within a zone of tolerance for any environmental parameter. To date no work has been published on the temperature tolerances or preferenda of the trout cod. Brown et al (1998) cites an unpublished record of juvenile trout cod exhibiting a preferendum of close to 25°C without description of the methodology or actual data. Certainly simple experiments can be

conducted investigating the affect of temperature on activity but determining actual preferenda is a difficult process, complicated by the fact that preferred conditions can change through the lifetime of an animal. Activity in itself may also be a misleading indicator, as shown by Lake's (1967) work where some native fish species exhibited greatest activity at temperatures approaching their lethal limit.

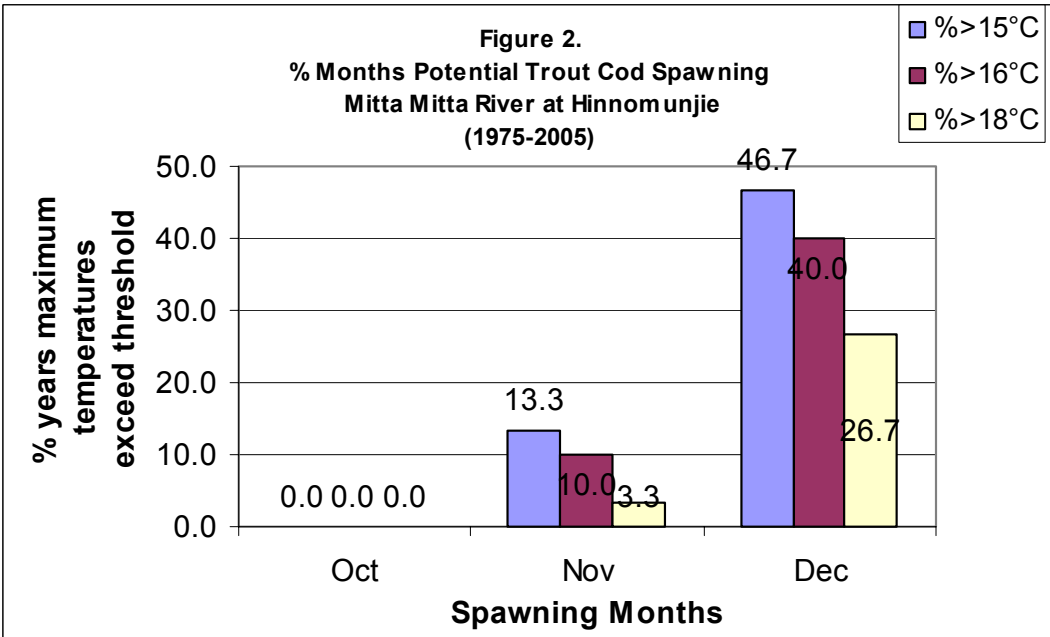
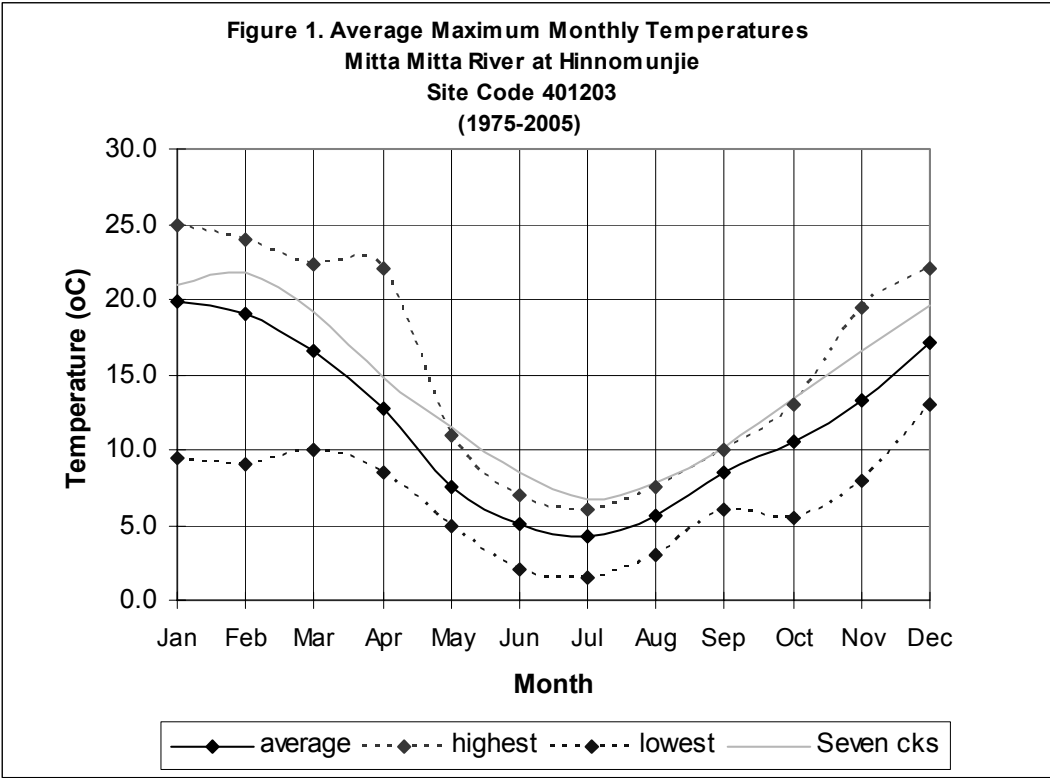
It is known that captive trout cod held by NFA members in aquaria have survived over a temperature range of 4-30 °C and that similar extremes have occurred in the Seven Creeks without causing extinction (Victoria Water Warehouse Data). Anglers report catches of trout cod downstream of Yarrowonga during winter when Murray cod become very difficult to catch and trout cod held in aquaria by NFA members have continued to feed at temperatures as low as 5 °C albeit with reduced activity. In my youth I certainly was able to reliably angle trout cod from the Seven Creeks during the middle of winter when water temperatures were around 7 °C, particularly at night. It is possible that the physiological capability of the trout cod to remain active at these lower temperatures may have been a greater determinant of its distribution than an upper lethal limit, given the fact that temperature records indicate that even high altitude Australian streams can reach elevated temperatures periodically.

While the temperature preferences and range of tolerance of the trout cod remains unclear a great deal of information has been collected on the conditions necessary for spawning. This information is based on data collected from artificial reproduction of the species and studies of the Yarrowonga population. It appears that spawning takes place at temperatures exceeding 16 °C with an optimum around 18 °C (Holder et al 2005). One published model, based on studies of the Yarrowonga population outlines a spawning season from late September through to late November (Treadwell 2006).

The studies of Anderson at Bringagee (Whitley 1937) and Tubb at Barmah (Cadwallader 1977) suggest that trout cod are physiological capable of spawning earlier than the limit described in contemporary reports. Similarly I have seen evidence first hand that trout cod can and do spawn into the month of December. In late December 1980 I captured a trout cod at the Gooram Falls on the Seven Creeks which had a flaccid abdomen suggesting that it had recently spawned. An ovarian sample obtained with a catheter when examined microscopically revealed the presence of numerous empty follicles and a few mature oocytes undergoing atresia confirming that it was a recently spent female. Temperature records for the Seven Creeks in 1980 indicate that maximum temperatures in that water failed to exceed 15 °C until December.

In the light of what is known of the requirements of trout cod for spawning it is useful to assess what the conditions were like in higher altitude waters previously inhabited by the species. Thirty years of temperature data exists for the Mitta Mitta River at Hinnomunjie on the Omeo tableland (Victoria Water Warehouse), an area in which historic accounts report both trout cod and Macquarie perch to have been previously common. Figure 1 illustrates variations in the maximum temperatures between 1975 and 2005 while Figure 2 describes the percentage of months exceeding a number of potential spawning threshold temperatures over the same period.

Monthly maximum temperatures at Hinnomunjie are typically 2 °C lower than the Seven Creeks though summer temperatures often reach or exceed 20 °C. The data indicates that in 13.3% of years maximum temperatures at Hinnomunjie in November reach the reported minimum of 15 °C for trout cod spawning and the figure climbs to 46.7% for the month of December. The reported optimum temperature of 18 °C is occasionally reached in November and in 25% of years for the month of December. It is apparent that suitable temperatures for spawning, while not occurring every year, do occur regularly in such higher altitude habitats. Perusal of data from other upland and montane rivers



reported to previously contain trout cod indicates that conditions suitable for spawning regularly occur. Temperature is not the only factor important for spawning and recruitment of trout cod with other factors being implicated (Koehn & Harrington 2006). However the data does demonstrate the potential for at least pulsed spawning and recruitment of trout cod in higher altitude habitats without dependence upon migration from lower altitudes to maintain populations.

The maximum size to which trout cod grow has been generally reported as 16 kg the origins of which can be traced back to Lake (1971). Lake deposited a 630 mm specimen captured in the Yarrowonga area in 1962 with the Australian National University without recording the weight of that specimen. Slightly longer specimens collected by Berra and Weatherly from Lake Sambell in July 1970 did not exceed 12 kg in weight so it is unlikely that Lake's upper limit was derived from his specimen. It is probable that Lake was aware of Langtry's manuscript and may have used this source for the upper limit which he provided. Langtry quotes George Clark, a local professional fisherman and fishing inspector at Barmah, as stating that he had taken a trout cod weighing 32 pounds. Langtry personally captured specimens up to 25 pounds in the Burramine area and it appears up to 14 pounds at Bringagee. Also referred to was the work of J. A. Tubb at Barmah in 1937 who apparently did not capture any trout cod exceeding 25 pounds. It may well be that Lake's 16 kg upper limit may have been either an estimate or an approximation of the 32 pound specimen quoted by Langtry.

Both professional and amateur fisherman claim in past years to have captured trout cod exceeding 16 kg in weight. McKenzie recounted the capture of a 66 pound specimen from the Cobrawonga Creek in 1944 and while he possessed a photograph of the specimen it was of poor quality. Roy Holt of Beechworth is known to have captured a 50 pound specimen from Lake Sambell which was seen by many local people, weighed and sold, as well as catching a number of specimens over the years exceeding 30 pounds. Professional fishermen Walter 'Laddy' Clifford of Barmah and Henry Davies of Swan Hill claim to have captured specimens exceeding 60 pounds and the latter saw a specimen that was considerably larger. Both were familiar with the species and their accounts must be considered credible. In the upper Murray Roy Grant and Tom Jarvis captured or saw large examples of 'rock cod' with Roy personally capturing a 53 pound specimen c1940. Given that both men have supplied photographs of trout cod their accounts must also be viewed as credible.

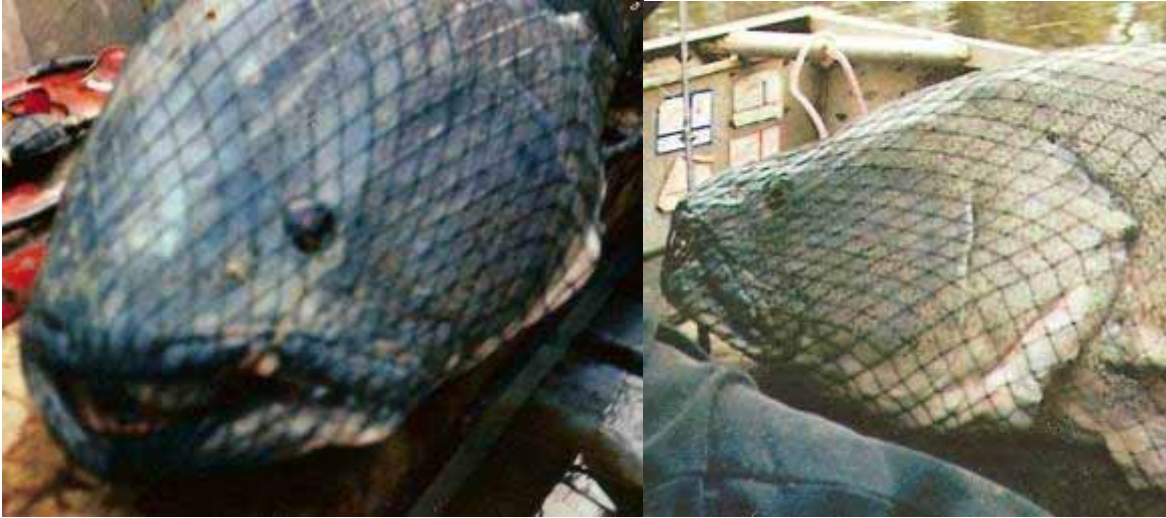
Identifying large trout cod in old photographs is problematic but a number of historic photographs have been supplied that could be images of large trout cod. Although not conclusive they are suggestive of being images of the species. Albert Roberts claims to have caught a 58 pound 'rock cod' from the Murray River at Bruces Bend in 1952 and the photograph suggests that it may well be a trout cod. Albert also claims to have captured an 82 pound specimen in the Cobrawonga area as recently as 1980. The McKenzie family of Kyabrum recalls their relative the late Redge Redrop catching a number of large trout cod over the years including a pair of fish weighing 72 and 70 pounds from the Murray River at Browns Camp downstream of Ulupna Island c1974. Although photographs of these fish have not survived a pair of colour photographs depict what appears to be a large trout cod, certainly exceeding 20 kg, being weighed.

I regularly receive reports of contemporary captures of large 'trout cod' and in nearly every case they have proven to be erroneous. Some of the trout cod stocked for conservation purposes are approaching 20 years of age and there are reliable accounts supported by a few photos of these fish approaching or exceeding 10 kg in weight. However a series of photographs of a cod of 1.5 metres in length caught and released by Heath McKenzie of Kyabrum in 2000 from the Cobrawonga Creek may be contemporary images of a very large trout cod.



Left Photo: A 'rock cod' (= trout cod) weighing 58 pounds caught by Albert Roberts (left) with John Cooper on a twin blade spinner from the Murray River, Bruce's Bend, 1952. Although not conclusive the body shape and the relative length of the head and upper jaw suggests that it is a trout cod. Albert's best 'rock cod' weighed 82 lb and probably represents a species record. (Photograph courtesy of Albert Roberts, St. James)

Right Photo: The late Redge Redrop weighs a large trout cod from the Murray River downstream of Tocumwal. One of two colour photographs in which the steel blue appearance of the head is quite striking. In the original photos small black dashes were also apparent and the features in general suggests that the fish could be a trout cod. The McKenzie family of Kyabrum claim that Redge caught a pair of trout cod exceeding 70 lb from the Browns Camp area. The photo lends credence to the claim, not only to Redge's familiarity with the trout cod but the fact that the fish were weighed. (Photograph courtesy of Greg and Wendy McKenzie, Kyabrum).



This cod was captured, carefully handled, photographed and released by Heath McKenzie from the Cobrawonga Creek in December 2000. It is the only photographic evidence seen by the author that could be a contemporary capture of a giant trout cod. In the original colour photos the head region was a distinctive blue. The snout is strongly pointed and the upper jaw appears to overhang the lower jaw. The fish is covered in black spots and dashes not unlike those seen in images of large trout cod caught from Lake Sambell published by Tim Berra. (All photographs courtesy of Heath McKenzie)

Given the fact that the captures by Roberts and Redrop come from an area which historically was a stronghold of the trout cod and that photographs exist of captures by both men of what appear to be large specimens their accounts must be considered reliable. Although there are suggestions that larger specimens may have been captured I consider that the record for the species is at this time the 82 pound specimen captured by Albert Roberts. Most contemporary references quote the species record for Murray cod being 250 pounds. The original source for this fish is an article in the Sydney Morning Herald in which a correspondent, former policeman W. G. Noble of Coogee, reported seeing the specimen at Walgett in 1902. Given the fact that Albert Roberts is still alive and can provide a detailed description of a trout cod and that a number of witnesses of the Redrop captures still survive their claims for a species record are just as credible as the Walgett specimen for the record for Murray cod.

Contemporary works report that early workers considered trout cod to at times be migratory. The principle source that suggested this was William Dakin and Geoffrey Kesteven's report of their work on the artificial report of Murray cod at Bringagee (Dakin & Kesteven 1938):

'It has been stated that there are two species (Maccullochella macquariensis and M. mitchelli) but Whitley ("), after careful consideration, does not accept this and so far as we know at present there is no reason to suppose there is more than one species. Certainly colour variations are present – possibly due to habits associated with the breeding season. Thus two distinct colour varieties were brought before our notice in the course of the work to be described – they were spoken of as local and traveling fish, the former had the apparently "normal" characteristic marking on a greenish background, whilst the latter were grey and the markings much less distinct'.

Langtry's comment about the species traveling further upstream than Murray cod also is implicit of migration. To date the evidence which caused these workers to reach this conclusion has been unknown and a number of contemporary studies, while indicating that trout cod at times may travel, have failed to find evidence for a mass movement or migration.

Professional fisherman 'Laddy' Clifford of Barmah in 1983 in an interview may have provided an explanation why the earlier workers considered the trout cod to be 'travelling'. Clifford personally knew and admired Dr. H. O. Lethbridge of Narrandera who was involved in the early work conducted by H. K. Anderson at Bringagee. Apart from investigating the artificial propagation of native fish tagging experiments were also undertaken, with some results reported in the 1919 NSW Legislative Assembly report. Some later publications refer indirectly to this work reporting the capture of a tagged Murray cod near the railway bridge at Narrandera. Clifford recalled that Lethbridge had told him that the cod that were tagged at Bringagee and caught at Narrandera were in fact trout cod. Given that Dakin and Kesteven worked later at Bringagee they may also have been told this which may have caused them to reach their conclusion. Similarly Langtry may have become acquainted with this information. As to whether trout cod migrate or travel long distances Clifford and other professional fisherman believed that this at times did take place, describing a wave of catches of trout cod and Macquarie perch moving upstream from lowland areas into the foothills during the spring months.

The factors responsible for the decline of trout cod populations have been discussed by various authors. The recent draft NSW Recovery Plan (Holder et al 2005) states: *There is also no definitive research to determine the fundamental cause(s) of decline. It is likely that a range of factors, have contributed to the species decline, and that some of these factors have a greater importance in different locations and/or habitats. The processes thought to be primarily responsible for the species' decline include habitat degradation (removal of snags, alteration of river flows, barriers to fish migration, water extraction), illegal fishing and impacts of introduced species.*

This is in contrast to the national trout cod recovery plan for 1998-2005 (Brown et al 1998) which stated *'the identification of the critical habitat requirements for trout cod (Brown & Nicol, 1998) leaves little doubt that the major cause of decline has been the desnagging of waterways, which will have preferentially destroyed the prime habitat of adult trout cod in its position towards the centre of the river, close to the deep, fast flowing water.'* Preliminary studies of the Murray River population indicated that trout cod preferred snags away from the banks in the flow of rivers. Such snags were removed in the early years to facilitate passage of river boat traffic and later to improve irrigation flows and therefore may have had a greater impact on trout cod than Murray cod (Brown & Nicol 1998). Subsequent studies have indicated that while trout cod do utilize snags well away from the bank more than some other species they also make extensive use of those close to the bank (Nicol et al 2005). Traditionally anglers that fish the Murray River downstream of Yarrowonga maintain that they frequently catch trout cod adjacent to the bank in areas of high flow.

It is apparent from historical records that the species remained common in some areas after early desnagging activities well into the twentieth century, such as the Murrumbidgee at Narrandera c1910 and the Cobram/Barmah area until c1950. In addition from the historical accounts trout cod disappeared over much of its range in areas that did not undergo desnagging or prior to desnagging activities associated with irrigation schemes in the middle of the twentieth century. Desnagging was undoubtedly a factor in the decline of trout cod populations in lowland habitats but does not account for its disappearance from other habitats frequented by the species in the foothill and upland zones. The statement published in the NSW Recovery Plan presents a balanced view of the overall situation.

There has been much speculation on the impact of introduced species on trout cod, along with Macquarie perch and river blackfish, with trout and redfin having been implicated in their demise by various authors in the 1970s and 80s. Recent publications have placed less emphasis on introduced species impacting upon trout cod or fail to mention the possibility at all. This probably reflects the prevailing thinking on the original distribution and habitat preferences of the trout cod. Rowland (2005) suggested there was a body of historic evidence correlating the decline of Murray cod in some areas with the proliferation of populations of redfin. A perusal of the historic accounts presented in this document strongly suggests that the arrival of redfin coincided with a rapid decline of populations of Macquarie perch and catfish which is repeated across river systems, notably in foothill habitats. A concurrent but slower decline in populations of both species of cod is also suggested. It is apparent from the recollections that anglers at the time viewed the arrival of redfin with some apprehension. Some NSW Legislative Reports from the 1920's clearly consider the arrival of redfin in various waters a disaster and one describes the species as 'outlawed'.

Of particular interest is the example of waters in the upper Murray where post c1920 catches of small cod became rare. During this era there is evidence of overfishing which gradually reduced the cod population. However, the absence of the numbers of juveniles reported in earlier years suggests strongly that some form of reproductive failure was occurring and must be viewed as the primary factor in the long term decline of these populations. Photographs from the era demonstrate the existence of sufficient numbers of mature cod capable of reproducing. Although changes to habitat were undoubtedly occurring the upper Murray did not experience the perturbations to flow or temperature regimes generally associated with impairment of the reproduction and recruitment of cod until the 1950's. Some form of negative interaction with introduced fish species, possibly predation, appears the most plausible explanation.

In the Indi River and upper Cudgewa Creek the introduced species was brown trout which proliferated post World War One while both trout and redfin became common in the Murray River

and adjacent creeks during the same period. Similarly changes to species assemblages occurred in the Mitta Mitta, Ovens and Goulburn systems with the arrival of the exotic species though in the latter the construction of the Sugarloaf (Eildon) Weir in 1927 makes the situation less clear in the Goulburn River itself. There is body of strong circumstantial and historical evidence implicating the introduction of trout in foothill, upland and montane habitats as being in part responsible for the decline of species such as trout cod, Macquarie perch and river blackfish. Redfin are also implicated in the foothill habitats.

Given the weight of evidence suggesting that introduced fish have played a role in the decline of species such as trout cod and Macquarie perch a putative mechanism needs to be identified. Rhode's account for the Kiewa River reports an environmental disturbance in the form of bushfires precipitated the changeover from native species to trout populations. Drought may also be implicated in the upper Murray, notably in the changeover of lagoon fish populations from being dominated by catfish and other native species to redfin. Copper sulphate poisoning of the Hume Weir and Murray River downstream c1930 resulted in native fish becoming scarce in these waters while redfin and trout became abundant.

It appears that transient perturbations may initiate these species changeovers in habitats which overall were still suitable for native species after these events. Stocking of trout species provided them with an advantage during the recovery phase in these environments and probably facilitated the succession process contributing to the decline of native fish populations. Of course examples exist of environmental degradation by mining, poor land use practices and thermal pollution creating environments less suitable for native species and providing an advantage for introduced species. Examples include the Livingstone Creek and the upper Ovens and Buckland Rivers. On the other hand, examples exist where no significant disturbance can be identified and there appears to have been a fairly rapid succession as in the Indi River which was remote, lightly populated and did not experience significant degradation through mining or land clearing activities prior to the decline of native fish populations.

There are historic accounts of trout extensively preying upon native species, including that of Langtry who reported that blackfish were the main part of the diet of trout in the upper Ovens River. Similarly the recollections of anglers reported herein give examples of trout preying upon Macquarie perch and blackfish. In the case of trout cod the only account of predation by trout was reported by Butcher (1967) which is believed to be derived from specimens collected from the Seven Creeks c1960 (the late Barney Kipping, personal communication). Given the general opinion that the trout cod itself is a ferocious predator some would find it hard to believe that trout through predation could have an impact upon the species. I can recall the example of a trout cod being placed in a drum for transport to the Melbourne Boat Show along with four river blackfish when upon arrival at the destination ninety minutes later it was discovered that the trout cod had eaten the blackfish.

A potential mechanism by which trout could have a predatory advantage over trout cod and other upland native species is by alterations to swimming speed or capability brought on by lower water temperatures. Swimming speed and escape responses to predators varies between fish species, and within species, and can be influenced by size, body shape, the presence of slime and environmental parameters such as temperature and period of acclimatization to an individual temperature regime (Webb & Weihs 1983). The experience of myself and other anglers is that while trout cod and Macquarie perch can be taken by angling during winter the speed and vigor with which they fight is significantly reduced. A potential mechanism exists by which under winter conditions diminished swimming capabilities could make native species particularly vulnerable to predation by trout which are capable of maintaining rapid acceleration at low temperatures (Webb 1978). Some preliminary research indicates that trout may have a speed advantage over Murray cod and the two species of

blackfish (Lyon 1999) but to date no investigation has been undertaken on the swimming capabilities of trout cod which are generally regarded by anglers as a much faster animal than Murray cod.

Reduced swimming and avoidance capabilities of trout cod and Macquarie perch under cool conditions provides a potential mechanism by which trout could negatively impact upon these species through predation. Similarly at lower altitudes such a mechanism could also account for the demise of native fish populations after the arrival of redfin. It is possible that the rapid declines of catfish populations in foothill areas after invasion by redfin was created through reduced avoidance capabilities in the cooler months. The predatory effects of redfin may have been less severe on catfish populations in many lowland habitats where temperature regimes may have been less variable or milder in winter.

Another potential mechanism by which introduced species may have impacted upon native species comes from temporal and size advantages in their mode of reproduction. At the completion of yolk sac absorption trout alevins are substantially larger than the larvae of both trout cod and Macquarie perch. Further, large numbers of trout alevins/fingerlings produced by winter spawnings are present in many streams in late spring and summer when the fry of native species have just completed yolk sac absorption. The size advantage of the trout could facilitate their predation of the native fish larvae/fry. This may explain why blackfish populations have fared better in upland streams, despite evidence of predation, in the presence of trout compared to cod and Macquarie perch. Blackfish eggs and larvae are substantially larger than those of cod or Macquarie perch and may therefore experience lower predatory pressure from trout fry. Similarly the early spawning and emergence of redfin may provide that species with a predatory advantage in lowland and foothill habitats. Competition for food resources between larval/fry stages of trout/redfin and native species is another mechanism by which the introduced species may have impacted upon juvenile native fish. It has recently been suggested as occurring between European carp and juvenile Murray cod and golden perch (Tonkin et al 2006).

There are historical correlations between the arrival of trout in montane, upland and foothill habitats and the decline of native fish populations in these areas. A similar correlation between the arrival of redfin and declines in some native fish species also exists in foothill and some lowland habitats. For trout cod and Macquarie perch these habitats encompass the bulk of their original distribution. While some may argue for more proof of trout having been a major factor in the decline of populations of trout cod and Macquarie perch in at least some waters, it cannot be provided without contemporary research.

Urgent work is needed to clarify the interactions between native species formerly found in upland habitats and trout. Laboratory studies on swimming speed and larval/fry interactions are fairly straightforward and would quickly identify whether negative interactions could take place. It is acknowledged that trout represents a species important to many anglers and such studies should not be viewed as a threat to trout continuing to provide recreational angling. At the very least a comprehensive understanding of the nature and extent of the impact of trout will permit those charged with managing recovery programs and recreational fisheries to make informed decisions so that any negative interactions can be mitigated. Similarly studies of the interaction of redfin with native species are also needed. They too appear to have played a major role in the decline of some native fish populations and while the species is generally less abundant than in previous decades the potential for redfin to proliferate again still exists.

The stronghold of the trout cod appears to have been the faster sections of lowland rivers, the foothills where the rivers were confined to valleys and lower upland habitats. In these areas angler accounts report the species to have been generally plentiful and that they grew to their greatest size.

There is a consistent pattern of an increasing proportion of trout cod in angler's catches relative to Murray cod with increasing altitude. Consideration of the temperature data in these areas suggests that the species potentially could reproduce more or less annually.

The historical evidence from the Omeo region demonstrates the past existence of a high altitude native fish assemblage best described as consisting of trout cod, Macquarie perch, blackfish and possibly small numbers of Murray cod along with a range of *Galaxias* species. Evidence exists for this assemblage also being present in the upper Murray and upper Goulburn catchments. Collectively this evidence supports the very old historical accounts of larger native fish species being present in the early days of European settlement in some headwater areas. At the top of the upland zone and in some montane rivers these species were, in the absence of significant barriers, present and sometimes common. Temperature data suggests the potential for these populations to be at least partially-self supporting through reproduction in favourable seasons and such populations could have been supported by upstream migration from those at lower altitudes.

Overall it must be concluded from a significant body of historical evidence that in the upper reaches of the foothills zone and in upland/montane areas the trout cod together with Macquarie perch and blackfish, and some waters Murray cod, formed a unique species assemblage which now is virtually extinct. In some cases massive habitat destruction at the time of the gold rush combined with the need of miners for food in these areas caused their extinction at an early date leaving little evidence of their passing. In other areas the assemblage persisted into the twentieth century. Given the likelihood that reproduction was sporadic and that the gradients in these areas restricted migration, these high altitude populations would have been highly susceptible to disturbance, fragmentation and local extinction.

Ebner (2006) described the Murray cod as being an apex predator in the lowland rivers of the Murray-Darling Basin but speculated that in habitats where trout cod were present that the two cod species could share that description. Certainly in the foothill and upland zones trout cod appear to have exceeded Murray cod in relative abundance and certainly rivaled them in size in these habitats. At the top of the upland zone and in some montane habitats Murray cod were in at least some waters rare or absent and trout cod were clearly the apex aquatic predator. In recent years significant stocking of some foothill and upland rivers and streams with juvenile Murray cod for recreational fishing has taken place. Examples include the Kiewa and Buffalo Rivers and the Cudgewa Creek. The historical evidence suggests that in the early days trout cod were more abundant in these waters than Murray cod. Given the fact that these waters have potential for the re-establishment of trout cod populations the stocking of Murray cod should be reconsidered. The stocking of Murray cod in these areas could be viewed as a threatening process towards the recovery of trout cod in these waters given the demonstrated potential for competition and hybridization. A pragmatic approach would be to stock trout cod and provide some form of limited angling for the species.

Recovery programs for trout cod have had some success in re-establishing populations in some lowland and foothill habitats. The challenge now is to re-establish self-supporting populations in at least some upland and possibly montane habitats. The effort to date in elucidating the habitat requirements and developing models for the species in lowland rivers needs to be repeated for the other habitats in which trout cod were once an abundant and characteristic component of the aquatic fauna. If conservation programs for the trout cod, and the other species comprising the higher altitude native fish assemblage, are to fulfill their ambition of allowing them to realize their evolutionary potential then managers need to identify, set aside and rehabilitate such habitats in order to restore these unique high altitude native fish populations.

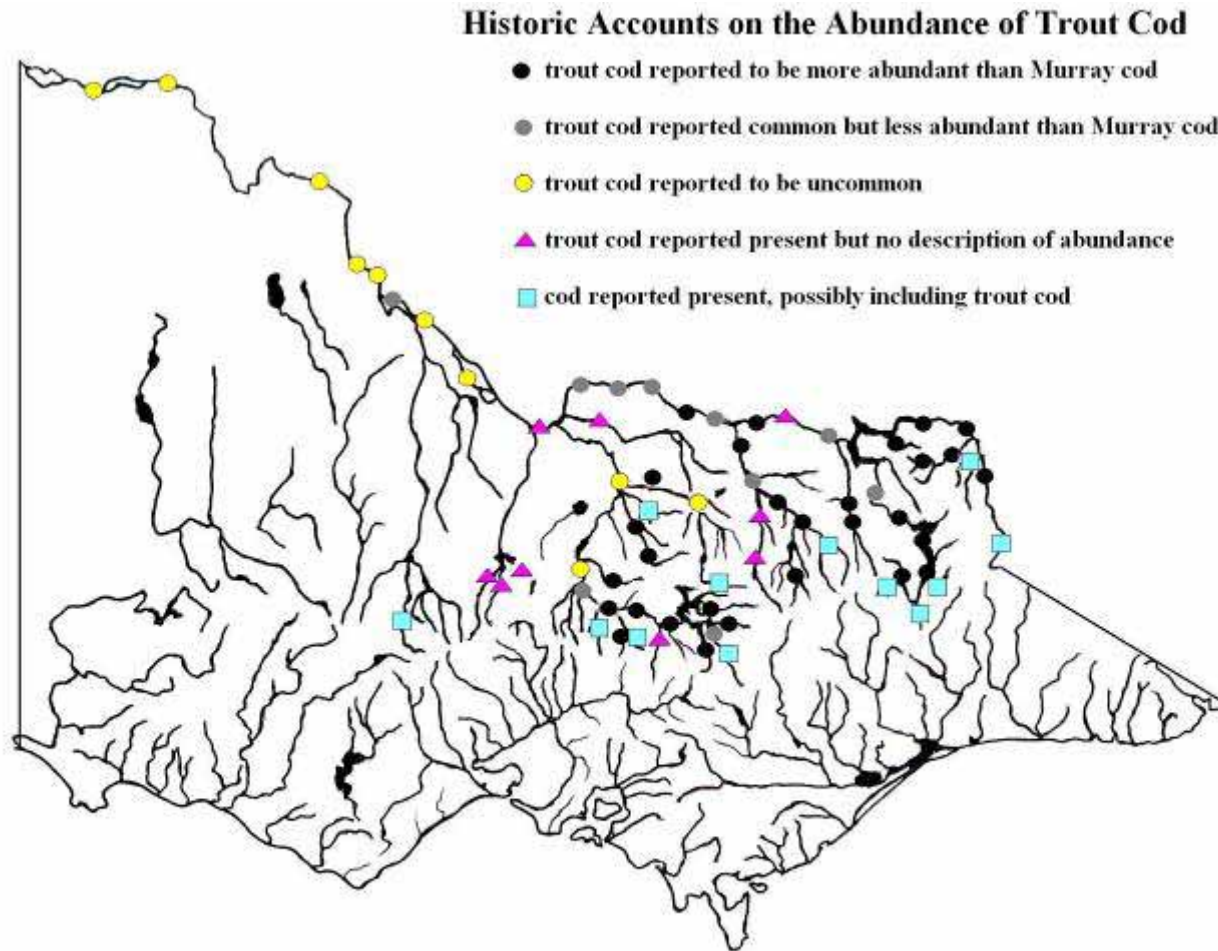


Figure 3. A reconstruction of the distribution and abundance of trout cod in Victoria based on historical accounts

Golden perch (*Macquaria ambigua*)

Common Names: yellowbelly, golden perch, callop, Murray perch

Golden perch were historically widespread throughout lowland habitats and penetrated upstream into foothill habitats but were never reported to be common in the latter. In the upper Murray the species was common in the river and lagoons of the Wodonga area and while present further upstream was not common. The upstream limit for the species was the Towong area with occasional captures in the lower reaches of some tributaries, eg. Mannus Creek. There are no historical accounts of golden perch in the Kiewa or Mitta Mitta systems though small numbers are likely to have been present in the lower reaches in these rivers and their billabongs.

In the Ovens system golden perch were reported to be present in the Ovens River in Wangaratta area but more abundant in the billabongs c1925. There are no accounts of the species in the Whorouly/Myrtleford area and so the upstream limit was probably around Tarrawingee where occasional captures took place from the Ovens. Golden perch probably also had a minor presence in the lower King River. In the Goulburn River golden perch were caught upstream as far as Seymour in small numbers though a couple of reports suggest that the occasional fish was present in the Thornton/Eildon area.

Macquarie Perch (*Macquaria australasica*)

Common Names: Macquarie perch, maccas, bream, black bream, silver bream, mountain perch, white-eye, goggle eyes, butterflyfish

Macquarie perch were present along the length of the Murray in Victoria into major headwater streams up to major barriers and steep gradients. The species was reported to be rare in South Australia at the start of the twentieth century but was regularly taken in small numbers in the Swan Hill area up till c1950. Macquarie perch were relatively common in some lowland rivers in the faster stretches, notably the Murray from Barmah upstream, the Goulburn in the Shepparton area and the lower Ovens River. Surprisingly Macquarie perch are reported as commonly being taken from billabongs in the foothills zone, eg. Eildon to Seymour, Wodonga area.

Langtry reported the species to be absent from the Loddon system, though his account probably related to the lower reaches. To date no capture of a Macquarie perch can be confirmed from the Loddon. However an article in the *Clunes Guardian and Gazette* dated April 19 1930 recounts the presence of 'bream' in the Tullaroop Creek by a correspondent who was present in the area during the 1850s prior to the gold rush. The habitat in the upper Loddon is comparable to that in the adjacent Campaspe system and Macquarie perch had access to it via the lower Murray River. It is probable that the bream referred to were Macquarie perch with the population being extinguished during the gold rush era.

Silver Perch (*Bidyani bidyanis*)

Common Names: silver perch, grunter, black bream, silver bream, bidyan

Upstream limits for this species appear to have been in the foothills or lower uplands zone. In the Ovens River this was the Rocky Point area, in the Mitta Mitta River near Banimboola and in the Goulburn River Seymour/Traawool. In the Murray it was present at least up to Burrowye.

Catfish (*Tandanus tandanus*)

Common Names: catfish, cattie, eel tail catfish, jewfish, jewies

Clunie and Koehn (2001) described past records of the catfish in the Murray-Darling Basin. Generally the species has been associated with lowland habitats though populations on the east coast in Queensland may be found in pool/riffle situations. Recent research has suggested that these east coast populations may be genetically distinctive.

The historical accounts indicate that significant catfish populations were originally found in the foothill sections of rivers to the bottom of the upland zone and in adjacent billabongs. Typically the habitat in these areas resembles that of the east coast populations, consisting of long pools of sand, gravel, mud or rock substrate interspersed between runs or riffles. Bert McKenzie's account of catfish in the Goulburn River downstream of Eildon has been confirmed by two photographs from the Alexandra area. The species can be considered to have been abundant in the Goulburn River upstream to Eildon, the lower Yea River, the Mitta Mitta River upstream to Banimboola, the upper Murray/Indi area to Towong Upper/Khancoban and the Ovens River upstream to at least Myrtleford.

Clunie and Koehn in their review of knowledge of the catfish identified introduced fish, notably the European carp, as potentially having impacted upon the species. They suggested that while there was anecdotal evidence for implicating redfin in the decline of catfish there was insufficient evidence to support that conclusion. In particular catfish populations persisted in many lowland habitats after the appearance of redfin. From the historical accounts collected there appears to be a pattern with catfish populations in the foothill sections of rivers rapidly declining coinciding with the arrival of redfin.

Bert McKenzie reported that mass death of catfish in lagoons along the Goulburn River in the early 1930's attributing the incident to disease. Further historical evidence implicates disease as causing the death of native fish in the Sugarloaf Weir at this time. Rowland and Ingram (1991) suggested that the death of freshwater catfish in the Macquarie River may have been caused by the protozoan *Chilodonella*. A preference for the static waters found in billabong habitats may have made populations of this species more susceptible to local extinction through protozoan outbreaks than species which had significant populations in the adjacent river.

Blackfish (*Gadopsis marmoratus/bispinosus*)

Common Names: blackfish, greasies, slipperies, slimies, grayling

From the historical accounts the surprising finding is just how abundant blackfish were in lowland rivers and lagoons, habitats in which the species is today generally rare. Zietz (1902) records blackfish being present in the lower Murray in South Australia.

UPPER MURRAY DISTRICT INCLUDING THE KIEWA RIVER

A. System Summary

The earliest account of the fish found in the region comes from the expedition of Hume and Hovell who passed through the Wodonga area twice in 1824 and 1825 and described the fish as being abundant. Specific references to types of fish are made for the Murray River and adjacent billabongs describing the presence of cod and possibly Macquarie perch or catfish: *The river abounds with that species of cod fish which is common in all the western rivers. In the lagoons they caught a kind of bream or carp, of the weight of about two pounds, and of the finest possible flavour.... Some of the fish, which were similar to those in the Macquarie and Lachlan, described by Mr Oxley, were not less than thirty or forty pounds weight.* They also reported the capture of similar species from the Kiewa River: *In the river, they caught some of the Lachlan codfish, and in the ponds, a kind of fish, similar to carp* (Scott 2005).

Rhodes (1999) provides a detailed account of the fish fauna of the Murray River and adjacent Billabongs in the Wodonga area as recalled by Alf and Rusty McFarlane. The recollections dating back to c1900 include dates for the arrival of a number exotic species and changes observed to both the environment and fish populations. ‘Bluenose’ are described as being present but caught in lesser numbers than Murray cod, with Macquarie perch, silver perch, golden perch and catfish also being present. This account is validated by the results of a fish survey conducted at Albury in 1928 by the NSW Fisheries Department (NSW Legislative Assembly 1929) where numbers of trout cod were captured each day as well as most of the other species. There is no doubt that the McFarlane brothers were familiar with the trout cod and their accounts can be considered reliable. Also of note are the details of the fish kills caused by copper sulphate treatment of the newly constructed Hume Weir c1928. This is supported by accounts of kills in the Legislative Assembly reports (1930) and Langtry’s report (Cadwallader 1977). To date no photographs of fish captured from the Albury area prior to 1928 have been located.

The McFarlanes also provide a description of their catches from the Kiewa River in the Tawonga/Dederang area from 1928 onwards. The species most commonly taken were Macquarie perch and trout cod, with river blackfish and Murray cod also being present. Also described are the changes to the fish populations after the 1939 bushfire. This account is supported by the recollections of George Grattidge of Myrtleford who fished the Dederang area before and after the bushfire. Grattidge named the cod a ‘Pike cod’, described them as having blue in them, and in his account for the Goulburn River at Tallarook provides a good physical description of a trout cod. Neither the McFarlanes or Grattidge gave details of fish populations further upstream in the Kiewa River. However, a compelling account has been provided by Keith Burrows of Wodonga that a small population of trout cod and Macquarie perch survived in the west branch of the Kiewa River near Mount Beauty in the 1950’s (S. Kaminskas, unpublished interview). Although no photograph has been located of cod taken from the Kiewa River prior to the 1939 bushfires there can be little doubt that trout cod were once abundant there given the credibility of these witnesses.

Rhodes provides an account about ‘the man from Tom Groggin Station’ recalling catching ‘bluenose’ and ‘white eye’ in the Indi River prior to the First World War. The person concerned has been identified as Charlie Mildren who worked at Bringenbrong Station and the account provided probably describes the Indi River fishery in the Bunroy to Brigenbrong area adjacent to the station. Bert McKenzie of Ruffy recalled seeing a number of trout cod taken from the Indi River c1948. Although not described as trout cod Len Lebner’s account provides a vivid account of significant populations of cod and Macquarie perch in the Murray and Indi Rivers and adjacent creeks. Large numbers of cod were taken in the Bunroy area prior to World War One as well as catfish in the lagoons at Towong Upper and Khancoban. A number of photographs survive of catches of cod from the Indi River dating from the 1920’s onwards and the

features of some of the fish suggest that at least some are trout cod. An unmistakable photograph survives of a Macquarie perch from the Indi. Confirmation of trout cod being present in the area comes from the photo of a fish taken by angling writer Rod Harrison just downstream of the Brigenbrong bridge c1972. The upstream limit for trout cod in the upper Murray remains unclear. Ken Nankervis recalled cod being taken downstream of Tom Groggin post 1950 while contemporary catches of Murray cod still occasionally take place in the Murray Gates and Biggara areas.

Roy Grant of Burrowye and Tom Jarvis of Tintaldra have provided recollections recalling that the 'rock cod' was the most commonly caught species of cod in the Murray River between Burrowye and Towong up to the 1930's. Similarly the stories of the late Jack Smerdon of Tintaldra also recall large numbers of trout cod being present in the region. Their familiarity with the trout cod is demonstrated by good descriptions of the fish and validated with photographs which clearly contain images of trout cod. A number of the photographs suggest that trout cod did comprise a significant proportion of the total catch of cod though a decline is apparent by the Second World War. Of interest are their recollections of their parent's stories of large numbers of catfish in the Burrowye and Towong areas with Grant witnessing the last reported capture c1935. There is a suggestion that a small population may have persisted in a billabong near Khancoban into the 1950's (refer to recollections of Greg Norris, Middle Murray). Their accounts also indicate the presence of a significant Macquarie perch population and small numbers of golden perch being present in the early days of the region. The photograph provided by Grant of a silver perch taken at Burrowye confirms the presence of this species in the upper Murray.

Rhodes in his book provides an account of Joe Otty of Berringama recalling Macquarie perch and blackfish being present in the Berringama Creek, a headwater tributary of the Cudgewa Creek. In addition he has personally recounted Joe Otty's stories of 'bluenose' being caught occasionally from the Berringama Creek but more so from the Cudgewa Creek at Kalangee. Carmody (1981) provides a description of the construction and use of aboriginal fish traps constructed on the Cudgewa Creek at Kalangee and other local streams, indicating the presence of a significant early fish population. Both Roy Grant of Burrowye and Walter Grattidge of Myrtleford have provided accounts dating to the 1930's of trout cod being common in the Cudgewa Creek, the former indicating that this was the case in other local streams such as the Koetong Creek. Since the 1970's the only confirmed captures of cod from the Cudgewa Creek have been of Murray cod, which at times have erroneously been called 'trout cod' by local anglers. However, given the demonstrated familiarity of Roy Grant with trout cod, Rhodes' accounts for the Cudgewa Creek can be considered validated. It can be concluded that trout cod were originally abundant in the creeks inflowing to the upper Murray, and penetrated upstream to major barriers such as the Berringama Falls and the falls near Flat Rock on the Koetong Creek.

For the upper Murray sufficient information exists to construct a description of the original fish fauna and subsequent changes. The oral accounts provide considerable detail and are validated by photographs and some written records. Both types of cod were found at Wodonga, with Murray cod being the more abundant species. From Burrowye upstream trout cod were prevalent in the Murray and Indi Rivers and penetrated into feeder streams up to major barriers. Murray cod were present and secondary in terms of numbers taken by anglers to trout cod though some large specimens were regularly captured. Cod were common upstream to at the least the Bunroy/Murray Gates area prior to World War One. Macquarie perch were also abundant in the rivers and creeks as were blackfish. Silver perch and golden perch while common at Wodonga steadily decreased in abundance in the Murray upstream to Towong with small numbers being taken in the lower reaches of feeder creeks (eg. Mannus Creek). Catfish were present in the lagoons to Towong Upper and Khancoban along with many of the other species. A similar situation to that in the upper Murray River appears to have existed in the Kiewa River System, though the upstream limit for cod and Macquarie perch in this river remains unknown. It is likely that trout cod, Macquarie perch and river blackfish penetrated some distance into at least the lower reaches of the east and west branches of the Kiewa River.

Goldfish were present in the Wodonga area by 1908 with redfin appearing in 1912 and subsequently penetrated upstream. By 1921 redfin were recorded as being present in great numbers at Corowa and Albury (NSW Legislative Assembly 1922) and were common in the Murray River, billabongs and the lower reaches of the inflowing creeks in the Tintalra/Towong area by the 1930's. Brown trout were first caught near Bringenbrong in the Indi c1918 and the Berringama Creek at about the same time. Subsequent to the arrival of trout declines are reported for the trout cod and Macquarie perch populations in these areas. Given the remoteness of these areas major habitat change is unlikely to have been the principle cause. The most plausible explanation for the decline of these populations is overfishing and interaction with brown trout with the reported drought around this time reducing native fish populations and providing an enhanced opportunity for trout to colonise these waters.

During the drought of c1920 catfish were reported to die and this appears to delineate a change in the fauna of regional billabongs from one being dominated by catfish and other native species to introduced species, with redfin, tench and goldfish proliferating. A concurrent decline in the Macquarie perch population took place in the Murray River and the lower reaches of inflowing streams, coinciding with the arrival of large numbers of redfin and trout. Work commenced on the construction of the Hume Weir at the end of the World War One and was completed by the late 20's isolating the fish populations above this barrier from the rest of the Murray-Darling system. This may have been partially or wholly responsible for the subsequent decline of the golden perch and silver perch populations upstream. However the man made isolation of the upper Murray can be ruled out as the principle cause for the decline of upstream populations of trout cod, Murray cod and Macquarie perch. In the Goulburn system, construction of the Goulburn Weir near Nagambie c1890 isolated the cod and perch populations in the top half of that river which continued to thrive at least until the early 1930's (refer to the section on the Goulburn River).

The newly created habitat in the Hume Weir appears to have provided ideal conditions for redfin and may have facilitated their expansion upstream. Treatment of the weir with copper sulphate decimated native fish populations in both the weir and the river below with fish kills reported as far downstream as Barmah. Subsequent to the copper sulphate treatment redfin and to a lesser extent brown trout dominated the fish fauna as far downstream as Corowa according to the angler recollections and Langtry's report (Cadwallader 1977). Given the fact that substantial populations of Macquarie perch, trout cod and to a lesser extent Murray cod survived in the adjacent Kiewa River at the time the failure of these species to recolonise the Murray downstream of the Hume Weir requires explanation. The most likely causes were either or both changes to the flow regime and water temperatures produced by the commissioning of the Hume Weir and negative interactions with the introduced fish species.

By the early 1930's in the upper Murray populations of catfish, golden perch and silver perch were almost extinct. The Macquarie perch population had undergone a significant reduction and continued to decline becoming virtually extinct by 1970. In the early 1930's the species most commonly taken from the upper Murray River were trout cod, Murray cod, river blackfish, brown trout and redfin. The prevalence of larger cod in superb condition may have been indicative of a population in decline. The cod population in the region appears to have been heavily overfished during the depression of the 1930's with the proportion of trout cod taken steadily declining. However, the absence of the numbers of juveniles reported in earlier years suggests that some form of reproductive failure was occurring and is the most likely to have been the primary cause for the decline of cod populations in the Murray and Indi Rivers. Some form of negative interaction with the introduced species, possibly predation, appears to be the most plausible explanation.

Further declines of the cod fishery in the region coincided with major bushfire events in 1939 and 1952 killing fish directly and modifying the aquatic habitat. In particular the 1939 bushfire was a turning point in the Kiewa catchment fish fauna, initiating a dramatic changeover from native species to salmonids.

The inability of native fish populations to recover significantly after this event suggests that the trout had a competitive advantage. This may have been in the form of nursery areas in the headwater regions for recruitment. With the decimation of native fish populations downstream of the Hume Weir there may not have been comparative resource for the native fish to recruit from. Trout liberations may also have facilitated the change in species composition. Subsequent further modifications to the Murray and Kiewa Rivers occurred in the 1950's with the enlargement of the Hume Weir, construction of the Kiewa hydroelectric dams, snag removal activities, and changes to the flow and thermal regimes associated with the Snowy Mountains and Kiewa Schemes. By the early 1970's the native fish population of the region was restricted to relatively small numbers of river blackfish and relic populations of Murray cod.

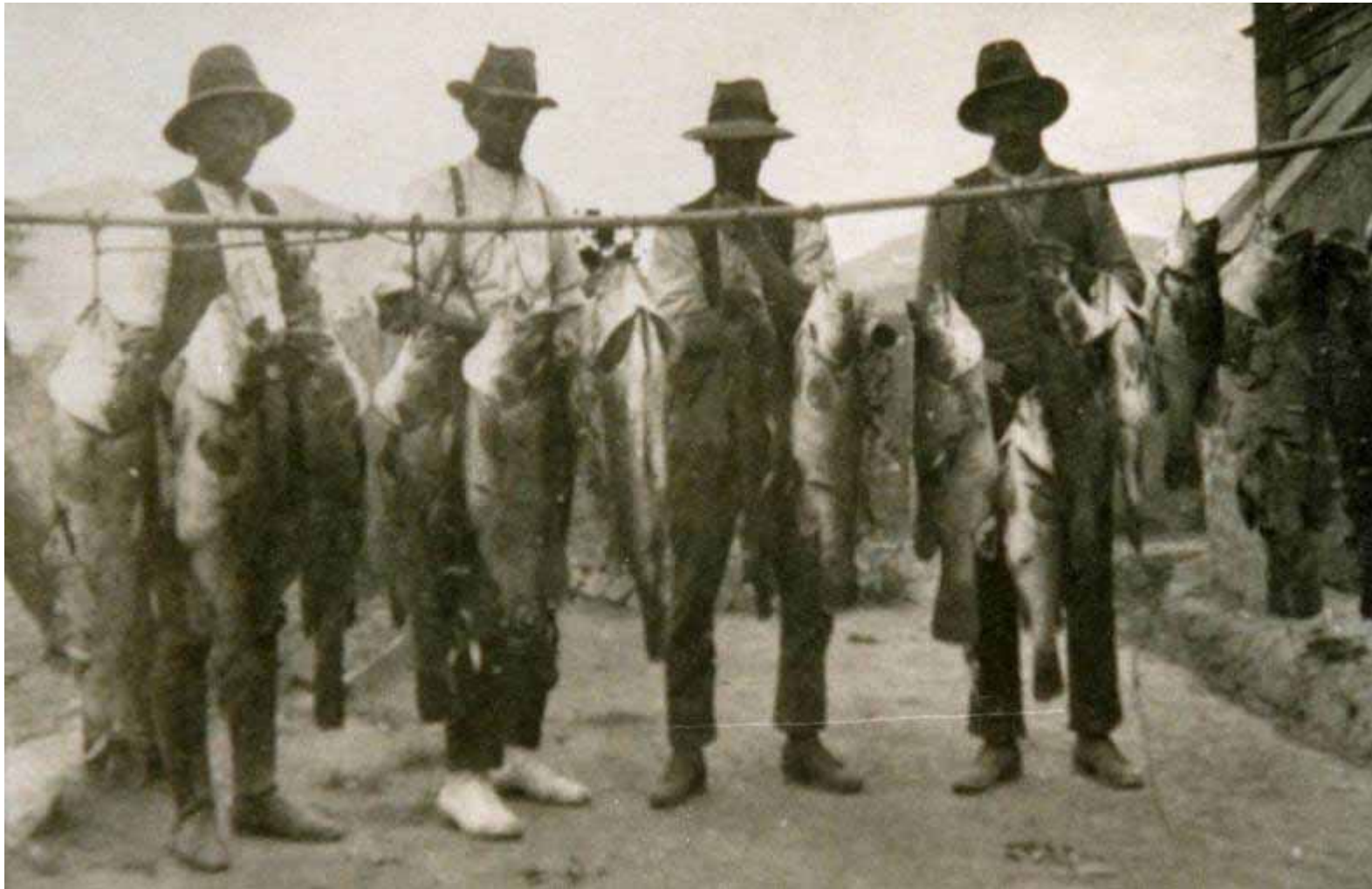
B. Some Recollections of J. O. Rhodes

J. O. (Jack) Rhodes joined the Fisheries and Game Department as an inspector in September 1956 and was stationed at Wodonga from December 1959 until December 1977. During that period he interviewed many old residents about the history of the fishing in his district. Tragically most of his notes have not survived, apart from those which he published in his book *'Heads or Tails: Recollections of a Fisheries and Wildlife Inspector'* published in 1999. In that work he provides a comprehensive account of the fish fauna of the Wodonga area at the dawn of the twentieth century and the subsequent changes that took place, including dates for the arrival of a number of exotic species. Also of great interest are accounts of populations of native fish, including trout cod and Macquarie perch, in upland and montane habitats within the region.

Even though most of his original notes have not survived Jack has provided some additional information on the bluenose or trout cod in past years as a personal communication to the author. He first encountered 'the bluenose' with his brother Phil at Gooramadda on the Murray River opposite Howlong in the mid 1940's. On one occasion in 1944 he can still recall catching two of them. A few years later Jack regularly visited Beechworth where his father lived and used to fish Lake Sambell. He recalled how he used to *'catch small bluenose in the lake while using a bait net to capture Crucian carp for bait. Jack also 'angled bluenose from the lake and in 1948 angled during an all night fishing session a 20 inch specimen' of which he still has a photo. 'The overflow of the lake was changed around 1960 which resulted in the lake level stabilising. Prior to this the lake level used to fluctuate considerably throughout the year, with a noticeable rise in spring. After the lake level stabilised the bluenose population went into steady decline'* Macquarie perch were occasionally caught by Jack in the 1970's in the Mitta Mitta River at Tallandoon.

In his book Jack recorded the conversation he had with Joe Otty of Berringama who caught white eyes and greasies in the Berringama creek. Jack recalled that *'Joe Otty also caught a few bluenose in the Berringama Creek up until after World War 1, as well as catching bluenose at Kalangee (Cudgewa Creek) around 1920.'* Recalling his interview with 'Grandpa Pendergast', Jack stated that the particular location Pendergast referred to was *'the Big River near Omeo. He said how he used to travel 21 miles out from home to get to the Big River. There he caught bluenose and white eye in abundance'*.

In a letter received by the author in September 2006 Jack recalled that there was no uncertainty that the people who recalled their stories of catching 'bluenose' as to the identity of the fish. *'In reply to your questions concerning my past conversations with Jack Pendergast and Charlie Mildren, I can state quite positively that each used the term 'Bluenose' when talking of what they had caught in former years. They also described Macquarie Perch as 'White-eye'. It was a feature of our conversations to have established mutual understanding of exactly which fish we were talking about.'*



A weekend's catch of 17 cod from the Tintaldra area, 1910. Although the photograph lacks sufficient clarity for positive identification it is thought that the catch includes many trout cod. In particular the two fish in front of the angler second from left display pointed snouts and may possess overhanging upper jaws. Strongly pointed snouts are also evident in fish in front of the two anglers on the right. Other fish display features such as large eyes and long caudle peduncles creating the impression that they could also be trout cod. (Photo courtesy of Dianne Humphrey, Corryong)

C. Extract from *Heads or Tails* by J. O. Rhodes (Rhodes 1999)

Jack Rhodes has kindly provided permission for these pages from his book to be re-published.

THE CHANGING SCENE

Lingering in my mind over many years has been the question of whether some poaching activities really mattered. However, to retain, if not improve, our wild populations the law of the moment must be enforced. Fortunately, there is a growing recognition that for the wellbeing of all creatures, including man, we must restore and maintain all habitats at the best possible levels and reverse poor environmental practices. It has been almost as though we have believed that apart from our own little project area, nothing would be affected or changed regardless of whatever we did. Now there is abundant evidence that this is not true. These observations are born of that clearest of all vision, 'hindsight', which together with long-term observations creates a realisation that there have been serious changes. For fish and wildlife, the changes to original populations in some cases have been so slow and subtle as to be almost unnoticed, in others sudden and dramatic.

There is something of a parallel in what we each experience by looking at our image in a mirror on a day to day basis and then at the photograph of years ago. Each day we appear exactly as we did yesterday, however the photograph shows the accumulated change.

After hearing older men talk of the changes to the fish and wildlife populations and habitats in the north-east of Victoria, I set out to solicit and record the information. Although only anecdotal it was all first hand, but I was disappointed that what I compiled did not survive in the records of the department, either in Melbourne or Wodonga. So, I am left to rely only on a few scraps of my original notes.

Of immense value in particular were two brothers, Alf and Erskine (Rusty) McFarlane. It was the very good fortune of the Rhodes family to become close friends. Each born before the turn of the century, they spent the early years of their long lives on a hill property near the top of Ingrams Road at Wodonga West. Excellent bushmen, they were extremely observant and through necessity and circumstances, not to mention natural inclinations, were born fishermen and hunters. Having been taught by their elders, they brought forward a glimpse of yet an earlier generation.

In fishing, Alf and Rusty had the guidance, when boys, of a man of German origin named, Louie Haeusler. Louie also lived at Wodonga West and manufactured the fishing lines they used out of strands of horsehair, pulled only from the tail of a stallion or gelding. He would take the boys back into the hills to select long, thin stringy-bark saplings which when barked, stacked straight and dried, become their fishing poles. The lines were tied directly to the end of the poles and all fishing was with a float using worms, freshwater mussels, or cockchafer grubs for bait. Fishing mostly in lagoons, the bait was cast just beyond the band of aquatic plants that formed the universal margin of several metres around all flood plain lagoons before the appearance of European carp in the early 1970s. When hooked, small fish up to a kilo or so were subjected to an up country swing and a flight to the bank, while larger fish were dragged through the waterweed. If a very large fish was hooked, the rod was tossed onto the water allowing the fish to tow it around until it tired. The rod was then retrieved and the fish pulled to the bank.

Bearing testimony to environmental change in the Murray Valley over countless centuries, is the mining or extraction of the very extensive and deep water worn gravel and sand deposits across the valley floor. Situated below several metres of overburden, the deposits extend deeper than the thirty-metre level to which they are usually worked. Below that level problems associated with the watertable and buried ancient timbers are two factors affecting the economics of extraction. Extracted in open pit style of

operations the deposits support an industry supplying materials used in road-making, concrete mixing and building and site foundations.

As an example of relatively recent change, it is difficult to imagine, when standing on the concrete bridge over the top end of Travellers Creek at Wodonga West, that this creek did not exist until a flood in 1917. Until that time, there was a chain of lagoons along the future course of the creek. From upstream these were Woodlands, Travellers, Rushy, Scott's, Noxall's, Willow Tree and Mother Langheim's Hole. The 1917 flood, which connected these lagoons with an at first small creek, was apparently recorded as being 25mm (one inch) higher than a very big flood in 1870. Until the formation of the creek, Alf and Rusty's father hauled red gum logs from the river flats up to the main road with a team of horses.

Successive floods and high irrigation levels in the river after the construction of Hume Dam, have enlarged the creek until it now diverts a very significant percentage of the Murray River's total flow for a distance of about five or six kilometres. There has been a need to build larger and better bridges where the concrete bridge now stands. Previously the structures had been of timber, and several alterations took place after I arrived in Wodonga.

Little evidence of the original chain of lagoons now remains. But they, along with the still existing Rushy, Horseshoe, Edwards and Circular Lagoons of that area, as did the other lagoons on the Murray flood plain, carried a variety of native fish – Murray cod, callop (yellow belly), Macquarie perch (white eye), Silver perch (grunter), and catfish. In the Murray River the predominant fish was the Murray cod with a smaller number of trout cod (blue nose), and a significant number of Macquarie perch, silver perch and callop. Goldfish carp was first seen in the lagoons in about 1908 – this was an estimated time by Alf and Rusty, but it was before the recorded date of 1912, when Alf caught his first English perch (redfin) in the Murray River.

After completion of the Hume Dam when the reservoir started to fill, the rotting vegetation of the flooded forest created a problem by generating hydrogen sulphide. An attempt to solve the problem was made in 1932 by treating the reservoir with copper sulphate. This caused enormous fish kills down stream in the river and anabranches, then later in the lagoons when swept there by floods. Alf and Rusty helped to remove from some lagoons the many tons of dead native fish before the water became undrinkable to stock. By 1937, brown trout and redfin had become the predominant fish in the down stream waters below Hume Dam. Alf had a record of taking one brown trout weighing 5.4 kg (12 pounds) in that year. Until 1940 all the trout they caught below the dam, with the exception of one rainbow, were brown trout.

In about 1940, Alf and Rusty saw a tench taken from Rushy Lagoon near Travellers Creek. It was the first fish of this species they had seen. Then in 1942, during World War II, Rusty caught a callop from the Murray River at Dights Hill. Other than an occasional Murray cod from the river, they never again saw or heard of any native fish being taken from either the lagoons or the river.

However, from 1928 when Alf bought a Chevrolet truck, they enjoyed magnificent fishing in the Kiewa River on white eye and blue nose, mainly at Indians Hole near Red Bank and Keegans and Mongans bridges. In 1939 after bushfires in the Kiewa River catchment, heavy rains brought ash into the river and many fish of all species died. Noticeable in the mortalities was a larger number of both spiny crayfish and Murray cod than had been thought to exist in the river. From that time in the Kiewa River the small northern blackfish (greasies) recovered in number, but the only other native fish ever caught there by Alf and Rusty was a small number of Murray cod. The white eye and blue nose were gone, and the river became noted for the excellence of its brown and rainbow trout.

When boys, Alf and Rusty had seen koalas (monkey bears) in the red gums along the Murray flood plain at Wodonga West. They had known men who shot them for their skins, from which they made rugs. Joe

Ottey of Berringama, told me of catching Macquarie perch and blackfish in the Berringama Creek from 1910 until about 1930 after which time brown trout, which had first appeared not long after World War I, took over completely.

I regret not knowing the name of the man I met at Tom Groggin Station, a Victorian property on the Indi River near Mt Kosciusko, who told me that he worked at Tom Groggin before he enlisted in the army and went to the first World War¹. He had fished the Indi before he left and it carried a great number of bluenose, white eye and greasies. While he was at the war, he even dreamt about fishing the Indi. When he came home he returned to his old job at Tom Groggin and announced that before he did any work, he wanted to go fishing. Very quickly he caught a fish about a foot (30cm) in length, the like of which he had never seen before. So intrigued was he by this strange spotted but nicely shaped fish that he immediately took it to the homestead thinking it was something quite unique. At the homestead, he was told it was a brown trout.

From that time both the white eye and the blue nose numbers went into decline, while the number of brown and rainbow trout increased. To my mind, this man did do something remarkable, he had set a very positive time frame of a change over of fish species in the Indi River.

“Grandpa” Pendergast was over ninety years of age when I called to talk to him in Wodonga. I was greatly encouraged to be told that I would find him down in the shed making something, as I have always been able to talk to people who make things. This man was no exception. I had expected that we would talk, if he was a fisherman, about the west side of the mountains and reinforce what others had said. How wrong I was, Grandpa Pendergast had fished out of Omeo in the Big River or headwaters of the Mitta Mitta River, to the eastern side of the mountains². The expeditions in his youth had been by horse-drawn vehicle in an area where even summer temperatures at night can produce ‘brass monkey’ conditions. He said they would get to the river on the first day and sometimes catch enough blue nose and white eye on the first night to be on the way home in the pre-dawn chill of the next day. He said, as any old white eye or cod fisherman might say, “You know they bite best at night”.

Although I had never caught many bluenose, I had as a youngster, fished for white eye with my brothers by the light of a hurricane lantern in the Yarra River at Heidelberg. When I left Grandpa Pendergast, we had re-lived some of his youth and, figuratively speaking, he had a fair heap of scales to clear up before he got on with his job.

Footnotes

1. The unidentified angler from Tom Groggin Station was Charlie Mildren. Charlie spent the latter years of his life at Tom Groggin but during the period around World War 1 was employed as a rabbit trapper at Bringenbrong Station immediately downstream from Tom Groggin. His descriptions of the fishing in the Indi River are likely to be for the Towong Upper/Biggara area.

2. ‘Grandpa’ Pendergast has been identified as ‘Swampy’ Jack Pendergast by relatives and historians.



Len Lebner's mother Nell Garing (background) is in this portrait containing two fish caught from the Indi River at Brays Point, near Towong Upper, c1927. The fish on the left is a Macquarie perch while that on the right may be a trout cod, based on the rounded tail and the markings visible. This photo may capture images of what once were the two most abundant fish species in the Indi River.



Len Lebner's father with two cod captured from the Indi River at Brays Point c1935. The photographer has omitted the head of Mr. Lebner, making the fish and river the subject of the scene. Both fish may be trout cod as although they are covered in sand some dashed markings are visible on the fish in the original print. The fish on the left displays a strongly pointed snout. The heads of both fish are suggestive of having overhanging upper jaws.

(Both photos courtesy of Len & Betty Lebner, Corryong).

D. Extracts from the Annual Report on Fisheries for the Legislative Assembly of New South Wales

Report for 1921, Published in 1922, P4

'English Perch and Carp

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.'

Report for 1928, Published in 1929, P7

'Depleted Waters- Reiterated statements were received from shire and municipal councils and anglers that the Murray River was sadly depleted; few fish could be caught, and prohibition of net-fishing was urged. The anxiety so often expressed was proved to be groundless; investigations conducted by the Department in about 4 miles of the Murray River below Albury, in waters that have been consistently worked by net-fishermen for twenty years, resulted in the capture in thirty-six days of 756 fish, most of which were returned to the river after examination. No fish under lawful length were taken – they would, of course, escape through the 4-inch mesh nets employed; several Murray cod exceeding individual weight of 25 lb. And large numbers from 5 lb. upwards were captured. Macquarie perch were found to be plentiful.

Artificial Propagation of Western Fishes was the primary objective of the above investigations, which were undertaken during the close season – October and November. Almost every day Numerous Murray cod and trout cod, and at intervals golden perch, were caught in the nets, many of the females being ripe and actually extruding their eggs, but no ripe males of either species were taken. In the case of silver perch eleven ripe males were caught in one net, yet no ripe females were captured. Attempts were made to fertilise the ova of trout cod with milt from male silver perch, but without success. No ripe Macquarie perch of either sex were captured. Operations were abandoned on 30th November, as the river had run down to the very low level and funds were not available for continuance.'

Report for 1929, Published in 1930, P6 -7

'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.

... Fish such as the 120 lb. Murray Cod taken from the Murray River near Corowa late this year (1929) – there are thousands of them in our great rivers – could swallow at one gulp a 15 to 20 lb. cod and feel hungry very soon afterwards. The great fish referred to was seen floating down the river, and believed to be a human corpse, hence the local police investigated, collected the cod and weighed it.’

Report for 1930, Published in 1931, P4

‘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.’

E. Recollections of the Late Bert McKenzie of Ruffy

Bert McKenzie was born in 1900 and when interviewed in 1983 resided at Ruffy. Presented below are his recollections on the upper Murray River. Refer to the sections on the Goulburn and Middle Murray regions for further recollections.

‘I fished the Murray from locks eight and nine right up to the bridge over the Indi River. A cousin and I went right up to the top of the Indi as far as we could get by road and we camped there¹. I had scrubworms and an eight pound breaking strain line and it was only the other side that stopped it. I would gradually work him back in. I had nearly half an hour on it when he was sliding along the top towards the boat and there was a twig sticking up and he felt it and woof he broke the line. It was a big cod, a Murray cod, he was deep and a green colour. I saw a couple of trout cod that were caught up there that were about six to seven pounds. That was about 1948-50. I met a chap that had been up there, carted his boat along; and went spinning and they caught a lot around sixteen and seventeen pounds. They would go up to one big pool and put the boat and outboard in. Away they’d go spinning and they had quite a good haul of cod. That’s hearsay of course but I think it was correct’

Footnote:

¹ Although Bert did not specify the precise location on the Indi River where he fished local knowledge sourced from Mr. Len Lebner of the roads in the area at the time suggests Bert fished in the Biggara or Bunroy areas. The highest bridge upstream was located at Biggara and reasonable road access existed into the Bunroy area.

F. Recollections of Roy Grant of Burrowye

Roy Grant was born in October 1916 and when interviewed in May 2006 resided at Burrowye on the upper Murray River then moved to Albury where he celebrated his ninetieth birthday. He was cared for by his nephews Bill and Jim Willis. Roy could recall the upper Murray River fishery back to the late 1920's.

'I was born at a place called Linton, near Talmalmo. My father, George Grant, when he was young lived in Albury. He used to fish with a lantern, caught a lot of catfish, that was around Doctors Point. Then we moved over to Burrowye, but on the NSW side of the river. The river in an ordinary season when I was young it would run a banker in spring, but in a flood it went all over the paddocks. There were a lot of logs in the river from the trees and lots of gravel, beaches of it with deep holes.

At Burrowye my mother told me about the big flood in 1912, my brother Stan was born in 1920 and at that time there was the big drought. Smithicks lagoon went dry and she told me there were thousands of dead catfish. That happened about when Stan was born, so it puts a date on it. I saw the last catfish that was caught opposite the Burrowye cutting, on Bob Smithicks Talmalmo Station, in a big lagoon, about 3 pound I reckon, in a gill net. That was in 1935 and the last one I saw, actually the only one I saw up there.

In 1930 when we were going to school, over at Talmalmo school, we would grab a Stringybark sapling with a chord, hook and sinker and away we would go down to the river with a few worms. We would get two cod nearly every evening. Cod was what we caught most at Burrowye. There was a 45 pound cod caught by an Uncle, Jordie Butt, at Linten on a Rabbit. We would get both types of cod, the Murray cod and what we called the rock cod which they now call a trout cod. They were mostly called rock cod back in the 1930's though some people called them a trout cod, never heard of them being called bluenose. The rock cod was darker and looked slimier, shiny looking. The heads were different, pointed in the rock cod, and the top lip was longer than the jaw. Sometimes they were nearly black, with little spots on them, but commonly a grey, maybe even blue, but definitely darker.

When I was a boy the rock cod was very common, even more common than the Murray cod. The rock cod were throughout the river, in the same places as the Murray cod, but sometimes in the faster water, very common at Burrowye. They were about the same to eat as the Murray cod. They were commonly caught around the 15 pound, but were caught well over 20 pound. They went right up the river and into the creeks, They were caught up through Corryong and Bringenbrong. They were very common in the Cudgewa Creek. I saw one rock cod caught out of the Cudgewa that weighed 45 pound, yes it definitely was a rock cod. The biggest rock cod I caught out of the river on a fishing rod was at the mouth of the Burrowye Creek, in about 1940, it went 53 pound. Well I had him tethered in the mouth of the creek for 3 days and he never stopped moving, just backwards and forwards, not like a Murray cod, they would just lay quiet. That was the biggest. My biggest Murray cod was 81 pound, but my brother Stan beat me, he got one that was 83.

By the late thirties we caught less rock cod, maybe the same number of both types. There was a professional fisherman, Tom Brown who had a camp at Thologolong and you could buy fish off him at anytime, he was alright. But there was a fishing party with Allan Brown and his brother Jack, they fished a lot of the cod out. The Browns came from Brown's Island near Albury and they stayed at Riverlea, at Fred Dick's camp at Riverlea. They used a special decoy made by a bloke, a chemist in Albury to lure the cod, mixed things, I know it had black tailed grubs in it, and it was deadly. They took out a heap of cod in 1936. In one trip they put 43 cod on a truck to Melbourne, there was a lot of rock cod in them. Allan Brown got bitten by a brown snake on that trip. The truck broke down and they all went rotten, they had to tip them out in the creek here. But the kept coming back and they were successful, I last saw them



In this evocative image Stan Grant holds a 'rock cod' (= trout cod) weighing about 17-20 lb. Photo taken at Riverlea near Burrowye 1930-32. Note slightly agape mouth revealing overhanging upper jaw and convex head profile. The fish is in superb condition, with fat layers visible in the dorsal region. By the early 1930's Roy Grant recalled an absence of small cod in the upper Murray, a view supported by Tom Jarvis of Tintalra and Len Lebner of Corryong. This was indicative of a population in decline. (Photo courtesy of Roy Grant, Burrowye)



Photo of a catch of cod, many believed to be 'rock cod' (= trout cod) taken at Fred Dick's camp, Riverlea near Burrowye, c1936. Some of the fish exhibit a strongly pointed snout typical of trout cod (eg 1st from left), while the fish third from left presents a ventral view with what appears to be an overhanging upper jaw. Markings in the form of spots and dashes are apparent on some fish in the original photo, particularly the fish at the extreme right. Roy Grant recalled that about this time were the last big catches of cod in general, but particularly the 'rock cod'. (Photo courtesy Roy Grant, Burrowye).

about 1939, that was the last of the big catches. They never really got over it the cod, we never saw the cod in those numbers again, though we still caught plenty for ourselves, but not those big catches. By the 1950's the rock cod had become scarce, less than ten percent of the cod were the rock cod or trout cod. The last two trout cod I caught weighed about 10 pound each and were taken on cicadas. That was about 1970 at Burrowye.

The white eye bream, I caught one in the Burrowye Creek, and I gave it to Jack Sutherland. Years before they were very common, caught up to 6 pound my father said, but I saw very few and really only remember catching that one. There were a few caught later and they were all gone by 1970. There were supposed to have been a few grunter in the river, but they disappeared by 1935, maybe earlier. Stan got one here in 1951, we didn't know what it was! The yellowbelly had never been a common fish in the area, though there were a few caught. Dad got one that was 23 pound. There were cod well up the Koetong Creek, as well as trout. Yes there was a lot of cod well up the Koetong Creek, Jingellic Creek and Horses Creek. In the Koetong they went up past Jim Star's place 3 or 4 mile up to about flat rock, they were mainly rock cod in there. Just below Bluff Road, in the Cudgewa Creek down from Cudgewa my mate threw in a little spinner, he yeld 'come quick, come quick!' he played it in. He thought it was the biggest trout, but it was an 18 pound Murray cod. The native spotted mountain trout, Stan and I used to catch them right up Harveys Creek, and in the Burrowye Creek.

About 1930, 32 I remember all the algae in the old weir, the ducks were spreading the algae everywhere. They put the bluestone in and it killed everything, all the fish in the weir. The bushfires killed a lot of fish. We found one 37 pound cod dying below Thulingolong from the ash on a beach after the 39 fires. But the 52 fires were worse, there was an 81 pounder found dead at Kennedy's and Stan saw one lying on top of the water with its nose poking out, opposite the home. It was well over 100 pound, and he was saving the cod, getting the ash out of their gills. The 52 fire killed all the native mountain trout out of the creeks. After that all we caught in them were redfin and trout.'



Photo of three cod, 9 lb, 71 lb, 21 lb being weighed, caught by Roy Grant at Burrowye 1940's. L to R = Roy Grant, Jack Cambell, Ron Earsman. (Photo courtesy of Roy Grant, Burrowye)



Photo of fishing party with Bill Willa (1st left) and Mr. Wilson (2nd left) holding a catch of cod taken at Fred Dick's camp, Riverlea near Burrowye, c1936. Some of the catch are 'rock cod' (= trout cod) including the first fish on the left whose mouth is closed revealing an overhanging upper jaw. The fish third from left displays the strongly pointed snout and has markings in the form of dashes and spots characteristic of trout cod. The fish second from right is a Murray cod and in the original photograph displays the typical mottled pattern for the species. (Photo courtesy of Roy Grant, Burrowye)

G. Recollections of Tom Jarvis of Tintaldra

Tom Jarvis was 77 years old when interviewed in October 2006. Tom had grown up in the Towong area as did his father before him. He arrived in Tintaldra about 50 years ago.

'My father had told me how he used to go and fish in the Jeremal and always, well mostly get 3 to 4 cod on a spinner. He grew up at Towong. I grew up around there, ended up down here (at Tintaldra). He always talked about when he was young how he used to catch a lot of catfish. Always talking about them. Yes lots of catfish around Towong. If he were still alive he would be 99. I've never seen one here, or the grunter.

I used to fish with the school teacher, George Downing. I left school when I was 12, so that tells you how long ago that was. Any of the creeks up here, if there was a hole 6 foot deep there was cod in them. If there was a willow tree or logs you were sure to catch a cod in them. The Jeremal, Cudgewa, Corryong, they all had cod in them. The locals talked about all the cod and bream in the Mannus falls. I've caught cod up to 9 pound out of the Mannus. I've caught cod years ago all the way up the Swampy Plains, nearly to Khancoban. Up the top of the Murray I've caught cod at Biggara, in a big long hole. That's a long way up, you have a look on a map and see where that is!

The cod here, well we thought there were three types. There was the normal Murray cod, the usual green colour. Then there was the "mud cod" which was similar but a lot fatter and stumpier, with a blunt nose. And there was the "rock cod". You could pick them in the water as they had big white edges on their tails. Lots of white. And the head, well the nose was longer than the other cods, darker and pointier. There was plenty of them here, hundreds. We used to get hundreds of the rock cod here, down at the reserve here in Tintaldra. They were caught up to 20 to 30 pound, bigger. I once saw a big one lying on a sugar bag, a rock cod.

The cod were common when I was a kid. Up to 20 pounds, some up to 60. I've got a photo from about 65 years ago when we caught 6 cod from 35 pound down to 6. All strung along a pole. Caught a lot of cod using a long cane rod, on an aeroplane spinner with the feather on it. We used to set springers, used the carp that came in different colours. The old carp. And yabbies. My best cod went 78 pound. We never really caught small cod, down to 3 to 4 pound, got one that size we threw back the day we got the six in the photo. No, didn't ever get the very small ones like they used to talk about.

The slipperies, well they were something slippery, like an eel! We used to get a few small ones. I've seen the odd eel up here in the past too. The bream? Which one do you call the bream? Well the Macquarie perch. I've never caught many of them. Hardly ever, be a long time ago. I've caught plenty of redfin, going back 60 years. They've always been common, heaps of them, going back as far as I can remember.

When the snowy scheme came in, well the water was too cold, and got too cold too quick. The cod can handle the cold if given the chance. It needs to get warmer in summer. Look at where we used to catch them! And the snags, well they pulled them out for the Snowy scheme, now they want to put them back in! When the water got cold, the trout, well that was nearly all you could catch. I used to catch a lot of trout on the spinners. Then the carp came in. The water used to be clean here. I've been on this property for fifty years. Now the water is dirty, you have to boil it to drink it. Never had to do that in the past. Some blamed the dams for the dirt, but that didn't happen. The water went dirty after the carp.

Hume, well that became a breeding ground for the cormorants and pelicans. Its not natural to have them like that. At Granya, I used to watch the cormorants driving the fish. The pelicans would follow and clean up the big fish that the cormorants couldn't finish off. They would be fighting over them.'



Tom Jarvis (centre) with his father Ivan Jarvis and six cod caught from the Murray River between Towong and Tintaldra, near the Jeremal Creek Junction c1943. The large fish on the right weighed 35 pounds, while the smallest fish weighed 6 pounds. Tom reported much of this catch to be 'rock cod'. The second, fourth and fifth fish from the left are trout cod, distinguished by their long, strongly pointed snouts, long caudal peduncles and displaying dashed markings in the original photo.. The blotches seen on the three fish on the left are mud and grass, this being more apparent in the lower photo. (Photo courtesy Tom Jarvis, Tintaldra)



Left Photo: Tom Jarvis' brother Joe Jarvis (right) and Ian Russell (nephew of Tom Jarvis) with 3 cod caught from the Murray River at Tintaldra c1953. The fish on the right is definitely a trout cod with the prominent eye and eye stripe visible. Even though the mouth is agape the top jaw is clearly longer. By this time trout cod, while still regularly captured, had undergone a significant decline in abundance in the region. (Photo courtesy of Tom Jarvis, Tintaldra).



Right Photo: Silver Perch captured by Stan Grant at Burrowye c1951 labelled as 'unknown fish' on the original photo. The photo demonstrates the occurrence of the species in the upper Murray and indicates the persistence of a relic population into the 1950's. (Photo courtesy of Roy Grant, Burrowye)

H. Recollections of Len Lebner of Corryong, formerly of Towong Upper

Len Lebner of Corryong was interviewed in December 2006 at an age of nearly 80 years.

'I was born in 1927, so I am nearly 80. I grew up in Corryong, we had a property at Upper Towong. My father, when they were boys in the early 1900s, well they leased a bit of land there. They were off to do some fishing and they thought they would check their drum net. It was a home made job, not real strong. When they pulled it out there were 2 cod in it, one was 20 pound and the other about 4 pound. They put it back in the river to keep the cod alive. When they dragged it back out on the Saturday the little cod was gone. They thought, well the drum net was not well made and so it must have worked out how to escape. When they cleaned the big cod they found the little one in it!

Dad told me that when they were boys, in the evenings, you could catch heaps of little cod, 6 to 8 inches long. Two or three or four of the boys would be fishing and the little cod were very plentiful. But from 1935 on it was unusual to catch the small cod, I never caught many, caught 3 to 4 pounders, but not many of the small ones. Back then you were aware there were the two types of cod, with the thinner ones in the moving water. But we never took much notice, they were all cod to us. There was an old fellow that lived next to us, Aussie Rickson, a stockman, he told us how he used to catch the cod at Bunroy, that's up past Biggara. He used to go out there helping 'Lightwood' Bill Pendergast on a grazing lease and he would go fishing on his way home on Saturday afternoon. They used a Stringybark pole with a spinner which they used to leave hidden in the trees. The cod he told me weren't very big, up to 10 to 12 pound, but he got plenty of them. He lived at Biggara then with his parents, that was well before 1927, probably before the first world war when they were doing that.

Dad used to catch the catfish out of the lagoons, he said once to me 'I wonder if there are any of them left in the lagoon? I used to stand on the bank and you could see the nest, where there was a slow flow, where the water came into it, out at Towong Hill'. But I've never caught one. Frank Anderson told me that the catfish used to be quite common in the backwaters at Khancoban Station, he was there before the first world war, they later had the post office at Khancoban. When we were kids we could catch the redfin by the thousands, you would get sick of catching the things. The biggest 6 inches, down to 2 inches. In the Thowgla Creek, down near the junction of they Corryong Creek. One day I caught a Macquarie perch, about a pound, in amongst those things.

The perch, the Macquarie perch, we used to catch a few in the early 1930's, but we caught more cod than perch. My father said he would go down in the evening off a sandbank and with worms you could catch a sugarbag full. In the earlier days, up to the twenties, they were common in all the creeks around here. Bob Whitehead of Lighthouse told me he was once riding along the river bank and in the shallows on a beach he found a drum net. It was a seething mass of perch, he couldn't lift the net so he dragged it out, rolled it onto the shore. It was half full of perch! He took some home and to the hospital, the rest I think he let go. That was in the Murray at Lighthouse. They were much less common when I was a boy, nowhere near as common as the old bloke said they used to be. I reckon back then one 2 to 2 ½ pound was a good one. I saw two caught up at Bunroy about 1980, one of the girls that went with us caught two, out of a backwater. They were the first I had seen in a long time.

The greasies were common everywhere, even in the mountain creeks. You would catch them towards sundown. I was told there was an occasional golden perch caught, not many, possibly up to the 1930's. I think the Cudgewa Creek was the best cod creek, and the Corryong Creek. We caught cod out of the Thowgla but it was not so good as it is only a small creek. There was a father and two sons down Granya

way named Brown, he was a pro fisherman. This young fellow, one of the sons, told me if you wanted nice fish you could get 4 pound cod in the Koetong Creek, that they were beautiful fish out of there.

We used to go out fishing on the farm in the evenings, we would put a dozen set lines in. In the 1940's you would always get four cod, up to about 12 pound. Later I caught a 50 pounder in the same area, that was my biggest, though I got plenty around 20 to 30 pound. For the cod we used to use the yabbies and the old carp, and the aeroplane spinner. Sometimes we used worms. Parrot was a favourite. I remember catching one on half a parrot, that was 4 pound, in the fast water at Tintaldra. I think that was a trout cod. Old George Loyd told me that in the old days that the best time to catch cod was when the wattles were flowering, but that was the closed season. The cod are coming back, particularly in the Cudgewa Creek, they are catching quite a few.'

I. Recollections of Betty Walton of Tintaldra

Betty Walton of the Tintaldra General Store was contacted by the author in September 2006 in an effort to locate photos of catches of cod from the upper Murray River in past years. Betty had operated the store for over 30 years and was actively involved in recording and preserving the local history.

Betty recalled that 'the late Jack Smerdon passed away in 1998. He was the local expert on the fish here. Spent time in Changi during the war. He could go a long way back, to the twenties. He often talked about catching the trout cod in the Murray and the creeks upstream around Towong, prior to World War 2. He said they were prevalent, and could be reliably caught under the wattle trees, that's where the birds used to be. His theory was that the trees or the bird droppings attracted them. Jack told me that the normal Murray cod were more often caught further down the river, but are found further up near here today. Jack said that the trout cod were prevalent up past here where the water was faster, Towong and further up, that they were a lot smaller than the normal Murray cod. He talked about how the trout cod used to be so common up here, then disappeared. He could have told you all about them'

J. Recollections of Jim McGinnity of Tooma

Jim McGinnity of Tooma was interviewed in November 2006 at an age of 70 years. He recalled some of the memories of the early fishery of the Tooma area as told to him by his grandfather and father as well as some of his own.

'For most of my life in the Tooma River there has been mainly trout and redfin. I'm on the Mannus Creek, and my grandfather's house is further down the creek. Going back to the 30s and 40s in the creek were trout, redfin, bream and the odd cod. In the early days my grandfather used to go cod fishing in the creek all the time, there was plenty of them. He caught one that was 60 pound, out of the Mannus. The cod and bream were common in amongst the falls between here and Tumbarumba and they went right up above the falls.

I can remember catching the odd bream in the Mannus from Tooma back up into the hills. They weren't big bream, and I believe there is still the odd one caught further up. My father had said originally that there had been the odd yellowbelly in the creek too. There used to be beautiful trout fishing here, though it slackened off about 20 years ago. There is still the odd cod about 4 pound.'

K. Recollections of Ken Nankervis, formerly of Tom Groggin Station

Ken Nankervis was contacted by the author in June 2006 to try and identify the unknown man recalling the fishery of the Indi River in Jack Rhodes' book. Ken operated Tom Groggin station from the 1950's to the early 1970's. Ken recalled that *'cod were common in the upper Murray and it was widely known that the trout cod was also caught'*. In his time the cod *'were generally caught downstream of Tom Groggin'* as he thought it was too cold for them further upstream. Cod were common in the Cudgewa Creek and *'some are still caught'*. After the Snowy Mountains Scheme the cod declined as *'the water became too cold and the Murray was desnagged to help the flow'*.

When told Jack Rhodes' story of the unknown man from Tom Groggin station Ken quickly identified the individual as Charlie Mildren. Charlie worked on Tom Groggin station in the latter years of his life in the 1950-60s. Ken recalled that while Charlie finished up on Tom Groggin station that he had in fact worked as the rabbit trapper on the next station downstream, Bringenbrong, prior to World War 1. His bother worked on the neighboring Khancoban station. It is at Bringenbrong that the Indi and Swampy Plains Rivers converge to form the Murray River. Ken recalled that Charlie had been to the first world war and after his return told the story that he *'caught the first brown trout from the river and took it up to the homestead to be identified'*. Charlie had told him how *'the river used to be full of perch (Macquarie) as well as cod. In the Nariel creek he used to light a fire to attract the perch and could net them from the bank'*.

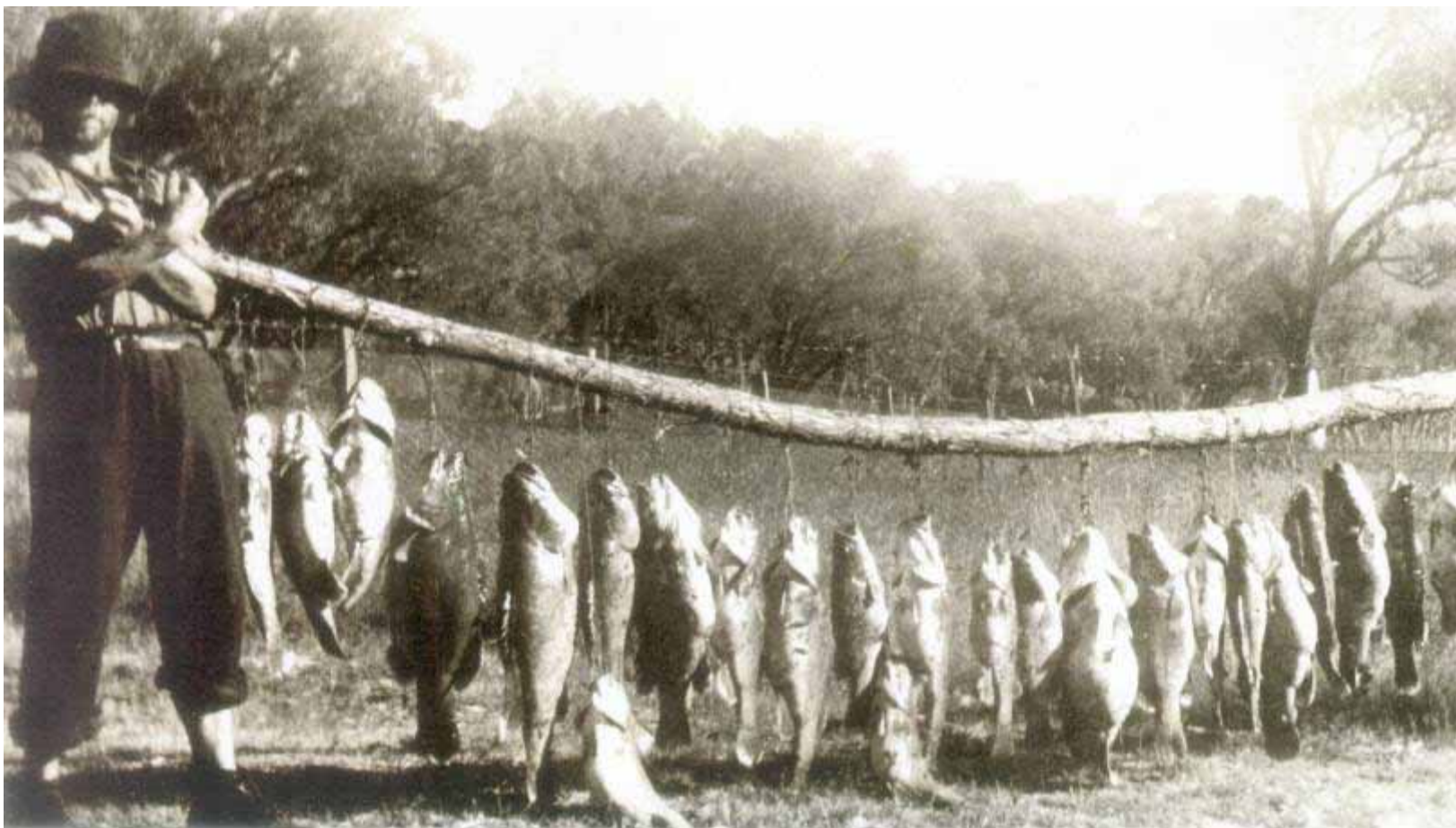
L. Recollections of Albert Mildren of Corryong

Albert Mildren was contacted in July 2006 as a member of the Corryong Historical Society. It was subsequently determined that Charlie Mildren was his uncle. Albert, who was 78 years old, recalled that Charlie passed away in the early 1980s. He confirmed that Charlie Mildren had worked at Bringenbrong station prior to World War 1. He went away to the war in 1915 and won the Military medal in Belgium. After the war he returned to his old job at Bringenbrong. Albert recalled how *'Charlie loved his hunting and fishing'*.

M. Recollections of Walter Grattidge of Myrtleford

Walter Grattidge was interviewed in January 2007 at an age of 95 years. Presented below is part of the interview with Walter referring to waters in this region. Refer to the section on the Ovens System for the full interview.

'The Cudgewa Creek, I had a friend that had a farm up there, we quite often got a cod 14 to 15 pound. They were definitely the Pike cod, that's all we caught out of the Cudgewa at the time, that would be well over 30 years ago, more like 50 years ago, at least. The Kiewa, there was a power of fish in it, I used to fish it near Dederang. The cod out there before the fires, they had no green in them, they were more the colour of the greasies, silvery, had blue in them, Pike cod they were. They were lovely eating cod out of the Kiewa. This old chap, Kurt Case was out there when it happened, he told me there was a big bushfire and a storm, it washed all the ash in, that was in 39. Well it killed everything, the fish were far too gone to eat. The next year we caught little cod, Murray cod, all less than 3 pound, that was just below Dederang. After the fires well years later there were some big ones caught, up to 90 pound, and a lot of trout.'



Jack Brown holds a catch of 24 cod, including both Murray cod and trout cod. Roy Grant identified the dark fish, facing side-on, 4th from left as a 'rock cod'. In the catch Murray cod can be identified by their flattened, rounded heads, while the trout cod can be identified by their strongly pointed snouts (eg. 2nd and 4th from right), long upper jaws and relatively long caudal peduncles. Photo taken at Riverlea near Burrowye, 1939/40. Roy recounted this to be the last of the big catches of cod of either species, with the proportion of 'rock cod' having been in decline for a decade. (Photo courtesy of Roy Grant, Burrowye)



Left Photo: Stewart Drage (left) and Jack Humphrey with a cod captured from the Cudgewa Creek near Cudgewa c1960. It is believed that the large fish may have been a trout cod, displaying a long pointed snout, large eyes, eye stripe and fine markings. Unfortunately the fish is suspended by the lower jaw which appears broken and twisted preventing confirmation of its identity. The small fish exhibits some markings in the form of dashes suggesting it could be a trout cod but being suspended by the lower jaw it's head too is distorted and it's identity cannot be determined. (Photo courtesy of Dianne Humphrey, Corryong)

Right Photo: A trout cod captured by angling writer Rod Harrison just downstream of the Bringenbrong Bridge near Towong Upper c1972. The capture of this fish was reported in the October 1976 edition of *Fishing World* magazine with the capture site being given as Hume Weir to mask the location of what was a relic population. This fish represents the last authenticated capture of a trout cod from the upper Murray. (Photo courtesy of Rod Harrison).

MITTA MITTA SYSTEM

A. System Summary

The most startling of the accounts provided by Jack Rhodes is the story of ‘Grandpa Pendergast’ who reported catching bluenose and white eye bream in the upper Mitta Mitta or Big River upstream from Omeo. This source implies that these fish species were abundant in montane rivers in the region at altitudes approaching or exceeding 700 meters. A number of very old accounts report ‘cod’ being present in headwater areas of the Murray-Darling in the early years of European settlement. Wilson’s account (1857) of the translocation of cod from the headwaters of the King Parrot Creek to the Plenty River demonstrates the existence of cod populations in such habitats.

The presence of trout cod, as well as Murray cod, Macquarie perch and river blackfish, in the Mitta Mitta River was confirmed in 1978 as part of a pre-impoundment environmental study of the potential impact of the Dartmouth Dam then under construction. During the course of surveys of the fish population three trout cod were captured. One fish 9.7 cm in length was taken by the survey team from the Mitta Mitta River just upstream of the Dart River junction in 1973. Two fish were captured by local anglers and recorded by the survey team. The first measured 16.7 cm and was caught several kilometres further upstream while the second fish 9.4 cm in length was captured from the Mitta Mitta River just downstream from the Watchingorra Creek junction near the town of Mitta Mitta. In addition it was recorded that local anglers had reported catching two adult trout cod from the Mitta Mitta River upstream of the Dart River Junction (Tunbridge 1978).

The best known historical reference describing the fish of the region is contained in *Pioneers of the Omeo District* by Jane Pendergast (Pendergast 1968) which provided an account of the early fish populations present in the Benambra/Omeo area:

Fish, mainly perch and a small blackfish, known locally as a ‘greasy’, inhabited most of the streams and, for some miles up most of the larger creeks that flowed eventually into the Mitta Mitta River, a small and medium-sized Murray Cod could be found. Recalling the recollections of the pioneer John Hyland who settled the district c1837: This was a stretch of country now known as Murphy’s Forest, with a deep waterhole in Morass Creek, at the lower end of the valley, later known as Murphy’s Waterhole. This hole used to be full of Murray Cod fish, the highest spot on the creek at which they were to be seen.

‘Grandpa’ Pendergast’ has been identified as ‘Swampy’ Jack Pendergast, believed to have been born in 1879 and arriving in Benambra in the 1890’s and married around 1906. He spent the latter years of his life in Wodonga with his son Reg Pendergast Snr. and ultimately Bairnsdale. Recounting his meeting with ‘Grandpa’ Pendergast, Jack Rhodes reaffirmed that the fish were described as bluenose and white eye by the former. In addition Jack also recalled Pendergast stating that it was a 21 mile journey from home to where he caught the fish. A former Benambra resident, Hughes ‘Sonny’ Betts, recalls stories of ‘Swampy Jack’ heading ‘*out the back of Omeo*’ to go fishing.

Confirmation of the existence of significant populations of cod and bream in the Omeo district at the time of European settlement comes from the story published in the Omeo Standard on the second of December 1902. It provides a vivid, detailed description of local rivers and streams containing an abundance of cod and bream in the early days, with many cod up to 13 pounds being captured from the Livingstone Creek in Omeo itself. The article goes on to describe the decline of the fish population due to mining activities, stating that by that time *there are only a few left in the Mitta, the Morass and the upper waters of the Victoria, Cobungra and Wentworth rivers*. The report for cod

and bream in the Wentworth River is erroneous as this river lies in the Mitchell river catchment. Later newspaper accounts report the ongoing capture of cod from the Morass Creek. There is no doubt that significant populations of cod and Macquarie perch existed in the upper Mitta Mitta River and its major tributaries. In addition the recollections of people such as Bill Hollands and Max Dyer describe cod being present upstream of the limit provided by Jane Pendergast on the Morass Creek. Given the account of the fish being present in the Mitta Mitta, Victoria and Cobungra Rivers in 1902 there can be little doubt of their presence in the adjacent Big River at the time when the story of Jack Pendergast originated.

As to the type of cod present in the upper Mitta Mitta River the evidence that they were largely or entirely trout cod is compelling. Apart from Jack Pendergast's nomination of the fish being 'bluenose' the family stories recounted by Margaret Pendergast of the Gibbo Park area recalling nearly all of the cod to be trout cod are supported by an unambiguous photo of that species provided by her from c1935. Another photograph of a trout cod captured near Hinnomunjie in the 1940's which I saw twenty years ago has not been relocated. Further down the Mitta Mitta River in the Dartmouth/Banimboola area George Murtagh and Stan Walsh provide compelling accounts of 'bluenose' or 'rock cod' being more abundant than Murray cod during their youth as well as stories of the species dominating the catches of the early settlers.

From the evidence it is possible to provide a reconstruction of the original fish fauna of the Mitta Mitta River system and the changes that took place. In the Mitta Mitta River downstream of Banimboola were trout cod, Murray cod, Macquarie perch and river blackfish, with small numbers of catfish and silver perch also being present. Catfish were common in the billabongs along with some of the other species. In the smaller tributaries blackfish and Macquarie perch were present (e.g. Snowy Creek) and probably cod as well close to the river. The upstream limit for catfish was in the Mitta Mitta area, with Banimboola being the upstream limit for silver perch. Although unreported golden perch were probably present in low numbers downstream from Eskdale, more so near the junction with the Murray River.

From Banimboola upstream there appears to have been a decreasing relative abundance of Murray cod compared to trout cod. Margaret Pendergast's account indicates that Murray cod were present but uncommon in the Gibbo area c1900-1935 compared to trout cod. In general trout cod, Macquarie perch and river blackfish were abundant along the length of the river upstream into its major tributaries (eg. Livingstone & Morass Creeks) as far as major barriers (e.g. Victoria Falls). In the smaller tributaries blackfish and Macquarie perch were present (e.g. Larsen Creek). Two compelling accounts supported by a small number of very rare photos suggest that the bulk of the cod population in the upper Mitta Mitta system were probably trout cod.

From the newspaper accounts it appears that the primary causes of the decline of trout cod and Macquarie perch in the upper reaches of the system was habitat destruction caused by mining activities combined with overfishing. At these altitudes the temperature regimes may have only allowed sporadic or 'pulsed' spawning and recruitment to occur in favourable years. In addition the gradient and numerous small instream barriers would have impeded upstream movement from populations downstream. For these reasons such high altitude native fish populations were probably sensitive to fishing pressure, with recovery being slow, and easily fragmented. The final demise of the populations of trout cod and Macquarie perch in the region was most likely due to the combined effects of ongoing fishing, siltation of holes caused by grazing and bushfires and competition/predation with trout which flourished in local streams after their introduction in 1902.

Early in the twentieth century native fish populations were in serious decline over much of the upper Mitta Mitta River system, with notable populations remaining in the Morass Creek and the Mitta

Mitta downstream of Hinnomunjie. Significant pockets survived in other waters, notably in the Anglers Rest area. By the 1930's cod were only regularly taken from the Gibbo area downstream with Macquarie perch still being present in the Morass Creek. After the Second World War isolated catches of cod and Macquarie perch took place from time to time into the 1970's, but were considered exceptional.

In the lower half of the Mitta Mitta River major perturbations to the fish population had occurred by the early 1930's. Coinciding with the arrival of redfin downstream of Banimboola was the disappearance of catfish and silver perch and a significant decline in the population of Macquarie perch. There appears to have been a reduction in both cod species though the cod fishing was still considered to be good up to the late 1950's. The accounts of Stan Walsh and George Murtagh imply that small cod were less common in the Banimboola area after the 1930's suggesting that their reproduction or recruitment had been impacted upon. Ongoing fishing pressure may have also reduced local cod populations, with the proportion of trout cod in catches starting to decline in the 1930's. It appears that the local anglers exhibited great anxiety at the arrival of redfin believing that the species would impact on their fishery. The historical evidence suggests that redfin may have had a severe impact on local Macquarie perch and catfish populations. The arrival of brown trout in the late 1920's also aroused concern with the local anglers. The trout population rapidly expanded, with catches being commonly taken from both the river and adjoining billabongs.

Completion of the Hume Weir around this time isolated the fish population of the Mitta Mitta from downstream populations but is not considered to be a primary factor in the decline of fish populations in the system. Populations of trout cod, Murray cod, Macquarie perch and catfish continued to flourish in the Goulburn River upstream of the Goulburn Weir after its construction demonstrating that the persistence of these species in a similar habitat was not dependant upon access to lowland habitat. In the case of silver perch and golden perch isolation from lowland habitat may have been a factor.

There is no evidence that redfin reached the Banimboola/Dartmouth area probably explaining why Macquarie perch were still commonly caught in the area into the 1950's. From the 1930's onwards there appears to have been a steady retreat downstream of cod and Macquarie perch populations from the Toke/Gibbo area so that by the 1950's these species were only common from the Dart/Larsen Creek area downstream. The historical accounts suggest that native fish populations continued a slow decline, being impacted upon by events such as bushfires, ongoing fishing and interaction with trout. By the 1970's relic populations of Murray cod, trout cod, Macquarie perch and river blackfish survived prior to the construction of the Dartmouth Dam.

B. Recollections of ‘Grandpa’ Pendergast (from Rhodes 1999)

“Grandpa” Pendergast¹ was over ninety years of age when I called to talk to him in Wodonga. I was greatly encouraged to be told that I would find him down in the shed making something, as I have always been able to talk to people who make things. This man was no exception. I had expected that we would talk, if he was a fisherman, about the west side of the mountains and reinforce what others had said. How wrong I was, Grandpa Pendergast had fished out of Omeo in the Big River or headwaters of the Mitta Mitta River, to the eastern side of the mountains. The expeditions in his youth had been by horse-drawn vehicle in an area where even summer temperatures at night can produce ‘brass monkey’ conditions. He said they would get to the river on the first day and sometimes catch enough blue nose and white eye on the first night to be on the way home in the pre-dawn chill of the next day. He said, as any old white eye or cod fisherman might say, “You know they bite best at night”.

Although I had never caught many bluenose, I had as a youngster, fished for white eye with my brothers by the light of a hurricane lantern in the Yarra River at Heidelberg. When I left Grandpa Pendergast, we had re-lived some of his youth and, figuratively speaking, he had a fair heap of scales to clear up before he got on with his job.’

Footnote:

1. ‘Grandpa’ Pendergast has been identified as ‘Swampy’ Jack Pendergast by relatives and historians.

C. Omeo Newspaper Records

Omeo Standard 2/12/1902

‘OMEIO FISH SOCIETY

It is easy to distinguish a visitor from Omeo at a Bairnsdale or Melbourne hotel dining table by the constant demand he makes for fish; he asks for it for breakfast, dinner and but the small waiter who is looking after his capital welfare makes it his business to see that a portion of the much coveted luxury is kept back for his customer. The tinned varieties and occasionally during the winter some fresh fish at some of the Omeo hotels is all that the Omeoite knows of the succulent food until he goes down the Tambo Valley.

In the early days the rivers and creeks around Omeo were stocked with bream, cod and perch; the streams were so clear and limpid that the fish could be seen in hundreds, disporting themselves in the many huge waterholes, most of which have ceased to exist. Even in the Livingstone Creek, when it was a pretty green-banked stream, in a waterhole which existed just in front of the township, it is recorded that a 13 pound cod was once caught, besides numbers of smaller weight. But the advent of the miner changed this; the streams were rendered turgid and muddy with the hundreds of sluice boxes and cradles that were winning the gold from the wash, and the fish were naturally checked in their abundance by the muddy waters in which they had to live.

From that time the fish have been decreasing until there are only a few left in the Mitta, the Morass and the upper waters of the Victoria, Cobungra and Wentworth rivers¹. Some thirteen years ago Mr. Easton tried to restock the streams by getting some salmon ova, but there was difficulty in getting them up with sufficient care and placing them in the streams. But still, some of them survived as one

was caught at the outlet of the race from the Omeo Park to the creek and some tourists caught a couple of dozen at the Cobungra bridge about two years ago.

However, the attempt now made by the Omeo Fish Acclimatisation society is likely to meet with more success, and after two or three years are over there may be a chance of seeing a nice dish of locally bred trout on the breakfast table. There has been much talk for several years past as to the desirability of forming a society, but nothing was until Mr. A. Scott and a few other enthusiasts of the line and hook got together and started a subscription list. This met with such success that enough money was found to get up 5000 fry in October and place them in several streams of the district, the expenses of the society to date having been £23 19s 6d and there is about another £1 left in hand. Mr. J. Poulson went to the Geelong breeding grounds to take charge of the fry and a buggy was sent to Bairnsdale to meet him so the fish could be kept thoroughly aerated whilst on the road.

The buggy was timed to arrive in Omeo on the afternoon of October 22 and the local inspectors were waiting to take the supplies for several districts, but as the fish did not arrive until 10 o'clock several cans could not be distributed until the next day. Mr. G. Fitzgerald waited for his can and started off with it through the darkness, carrying the can in front of him on horseback, and Mr. J. Fitzgerald did the same thing with the Upper Livingstone consignment. Cr. Brumley, after waiting several hours, had to go home that night but returned early next day for the Mitta can, and Mr. Poulson's supply for the Morass did not get to water until that afternoon. The inspectors are enthusiastic about their work and are watching their little charges to see how they are getting on; they report that those that are seen look healthy and well while Mr. Symonds, of Cobungra, has his piscatorial family pretty well under control by feeding them regularly. Two kinds of trout were brought up.....'

Footnote: 1. The report for cod and bream in the Wentworth River is erroneous as this river lies in the Mitchell river catchment. At the time the quality of available maps may have caused this confusion.

Omeo Standard 21/11/05

'They are in a hurry to commence fishing for cod in the Morass, not waiting for the season to open on the 1st of next month. If the local constable kept his eyes open he would get a good haul – not of fish but of men. The fish protection society, with Mr. Scott, president, went to Cobungra to try the trout. They returned on Monday with 14 lovely fish weighing 27 lbs cleaned. The largest fish weighed 4 lbs (within a fraction) cleaned.'

D. Recollections of Margaret Pendergast of Benambra

Margaret Pendergast was interviewed in December 2006. She, her mother and grandmother before her had been born at 'the goat farm' at 'Gibbo Park' near the junction of the Gibbo and Mitta Mitta Rivers.

'My mother, Dorris Gould, was born and grew up at Gibbo Park. Mum was born in 1920 and talked about the stories of her childhood in the 1930's while my grandmother, born in the 1880's could go back a lot further.

Mum said the boys would go out fishing and usually catch trout or cod. The cod were not the normal Murray River cod, they were called a trout cod. Granny said the only real cod was the Murray cod, they were much nicer to eat, she always referred to the local cod as a trout cod. Mum always said the same thing, the better eating cod were the Murray cod. Granny said the Murray cod was a big, pot bellied fish that just laid under a log and ate the tucker as it went past, while the trout cod, in the swifter rivers, he had to chase his food. She said "the Murray cod is much better to eat than these local things, these trout cod, which are just too dry". Whenever we went to Albury we had to have a feed of Murray cod, my mother and grandmother loved the fat in it. I only had it once, I couldn't stand the fat!

I was told how the boys used to go out fishing and the trout cod they would sometimes get 3 or 4, up to 20 pound. My uncle, Gordon Toland caught the trout cod in the photo near Gibbo Park, down in the Mitta, I think about 1935. They were nearly all trout cod, though apparently a small Murray cod was caught occasionally I was told. That was in the Gibbo Park area in the twenties and earlier. They were more common in the Mitta than the Gibbo. I was shown, just above the junction in the Gibbo a ledge or fall, a large drop, which the cod and bream could only get past in a flood, it was after a flood that the cod were apparently caught in any numbers above this fall. In latter years Granny talked about how the boys would ride for miles to try to catch a cod, off to Italian Point or Port Cirelle, by then the cod weren't caught much above the junction, that is the Mitta and the Gibbo. That would have been by the late 30's or early 40's.'

E. Recollections of Hughes 'Sonny' Betts, Formerly of Benambra

Sonny was 90 years old when he provided his recollections in July 2006. He recalled that there were 'lots of cod in the Gibbo in the late 20s to 30s. Lots of small ones, around 2 to 3 pound was common. The 1939 bushfires went all through Omeo and Benambra. By then they had got scarce, but that seemed to finish them off. The bream, what they called the Macquarie perch, well there was heaps of them in the Morass. Any of the deep holes had them. The biggest were up to 3 to 4 pound though I did see a 5 pounder. They pretty well had disappeared around the war, by 1945.

I used go up the Morass at Beloka, it was in a valley but all scrubby. You couldn't fly fish it. I used to cast a bait up into the holes, that would be where the trout were waiting. Or a silver or gold spoon, something like that. Used to catch lots of trout up to 12 lb. That was a brown. The best rainbow was 7 ½ pound, caught that in the Morass up at Beloka too.

Chalie Boucher hung a dead sheep on a wire over a deep hole in the Morass Creek below his house. All the maggots fell into the stream. Well he eventually got a 20 lb cod on maggots. That was the biggest cod caught in the district. Everybody was talking about it. I can remember "Swampy Jack" Pendergast used to go out the back of Omeo, right up, and catch the cod and bream. He moved back to Benambra, caught cod down below in the Mitta. At the time there were a lot of greasies around. They did get used for bait'.



Perhaps the most historically significant photo of a trout cod located by the author to date. Gordon Toland, uncle of Margaret Pendergast, at 'the goat farm', Gibbo Park, holds a trout cod caught from the Mitta Mitta River near Gibbo Park c1935. The fish is definitely a trout cod displaying a sharply pointed snout, longer upper jaw and an eyestripe is just visible along the head. Margaret recalled the stories from her mother and grandmother of trout cod dominating the Mitta Mitta River in the Gibbo Park area with very few Murray cod being taken. Together with the recollections of Swampy Jack Pendergast and early accounts from the *Omeo Standard* a picture emerges of the montane rivers and streams in the Omeo and Anglers Rest area supporting significant populations of trout cod, Macquarie perch and river blackfish prior to settlement by Europeans. (Photo courtesy of Margaret Pendergast, Benambra).

F. Recollections of Mr Max Dyer of Bairnsdale, formerly of Uplands

Max Dyer was interviewed in December 2006 at an age of 78 years.

I grew up on the Morass Creek at Uplands. The only cod I ever saw was one that I saw feeding in "a big fish hole" above Taylor's Crossing. It gave me quite a shock. I didn't know what it was. This thing was swimming around, a cod of ten to twelve pounds, a dark greeny colour with a head a lot darker. Although I didn't catch any cod, I was told many stories about them by my family and friends when I was young. I was told when my brother Steve was about six years old, he caught a big cod in the Mitta. My dad used to laugh about how my brother used to thread the worms, he was so young he didn't know any better. Well the one he caught was too long to go in a sugar bag. That was out in front of Fisher's Hut, two miles below Taylor's Crossing about 1927. There were cod caught out of the Morass at Poulson's old place. There was an eighteen pounder caught out of it by Dave King on Good Friday about 1908-9. The fish was caught by Dave just below the old "Wombat Crossing", it was a crossing on the Morass Creek that the miners used when they were going to "The Wombat".

Gordan Toland's father, Johnnie Toland spoke of catching cod near Springvale Homestead. Springvale was one of the first homesteads built on the Morass Creek, it was about three miles upstream from Murphy's Waterhole. He used to catch cod near where the bridge was eventually built. There is a hole on the Mitta Mitta River known as "the big fish hole". Will "Weary" Pendergast went down there with a horse and gig down to the Mitta and called in on the way back to show dad what he had caught. He had a cod that wouldn't fit in a flour bag. Actually he had trouble fitting it on the floor of the gig. Dad said it was over three feet long. It's tail was bent up a bit on the floor of the gig. He had the head preserved at "Leinster". That was about 1928-29. That spot became known as "The Big Fish Hole", below Taylor's Crossing, half a mile upstream from Chinaman's Spur. Below Ben Buckley's place. It's roughly two thirds of the way between Hinnomunjie and the Gibbo River junction.

My dad used to go down to the mouth of Toke's Creek. Tom Toke had the first store on the river there, opposite Italian Point. He was killing Chinamen and selling it to the miners as "Pork". But they never got him for it. Later on old Cirelle moved into the store. It was later known as Port Cirelle. About a mile and a half above Toke's Creek Junction. Tom and Violet Stevens used to go to school with me and they told me how they used to catch cod there. They used to reckon that it was the highest point on the Mitta where you could reliably get the cod. That was about 1935-36. Just above "The Wombat" is a long hole with a limestone bluff. They were still catching cod there at the time too.

I was told about the day when dad went down to the mouth of Toke's Creek and didn't catch any cod. An aboriginal woman lived there and she told him he would do no good; that the best time was in a few weeks and she told him the date the moon would be right. Well he went back and fished when Black Annie told him to and he filled his sugar bag with cod. Black Annie lived with Jack Forest and was well respected by everyone. She acted as a midwife for many of the local women, kept his house as clean as a whistle. One day she got wet after falling in the river. This brought on a chill that turned to pneumonia and she passed away in the Tallangatta Hospital.

An old Omeo Standard of 1904 tells us that a lot of fish were dieing at the mouth of "Ferris Creek" and that Mr. Tom Ferris had captured a 12 pound cod from the sick ones.¹ My three sisters aged 14, 12 and 8 went fishing for perch just above the Morass Bridge on the Corryong Road. They caught enough to fill a baby's bath. The last perch I saw come out of that creek was caught by Fred Sargeant in the corner hole below that bridge. That was in 1937. There is a "Cod Hole" on the Morass Creek and it is in Alan Rundell's paddock a good half mile below the Tablelands Bridge.

This cod hole was where old Uncle Ned Clarke always opened the Duck season. What a wonderful old fellow he was! He never shot anymore than four ducks, and was well satisfied with those. What a pity there weren't more like him.

Alex Fraser lived beside the Mitta River at what was known as the "The Dog Fence" on a property owned by the late Pat Kelly. He was a complete alcoholic, but kept himself and his hut spotlessly clean. He had the best stack of wine bottles that anyone in the district had ever seen. One morning in 1949 we met him walking up the road toward the Kelly home. We were on horseback and on our way to Quartpot to muster cattle. Alex was carrying a rolled up sugar bag under his arm, and in that bag was a huge fish. He was using a long thin stick for a walking stick. This was in his right hand and the bag containing the fish was under his left arm.

We stopped and talked to him for a few minutes and Alex in his old peculiar lisping voice said, "I've got a blooming nice fish here, that I'm taking up to Mrs Kelly. You know she's an invaleed (invalid)." We rode off and dad said "That was a codfish that old fellow had in the bag. Didn't you see the rounded tail that was sticking out of the bag?" It appears that Alex used to have set lines in the big hole in the Mitta behind his hut. This is about a mile and a half below Hinnomunjie Station or two miles below Hinnomunjie Bridge.

The last place the locals talked about being sure fire for cod was at Port Cirelle, they were caught there into the 1940's. Odd fish turned up after that. I can vaguely remember that there was a cod caught I think by Bob O'Dea from Swifts Creek up in the Beloka in the early 50's, it was considered very unusual at the time.'

¹ Ferris Creek was on the Morass Creek at Tom Ferris' property, later known as Poulson's. Poulson's Hole was located about 400 meters above the Morass Creek Bridge on the Benambra-Corryong Road. Many thanks to Mr. Brett Lee of Gibbo River for identifying this location.

G. Recollections of Reg Pendergast of Wodonga

Reg Pendergast was interviewed in September 2006.

'My old man was Reg Pendergast, he was born up at Benambra in 1906, died in 1983, and my grandfather was 'Swampy' Jack Pendergast, he come from Benambra. There's been a few fishermen in my family, my uncle 'Cor' (Cornelius) Pendergast he was fishing crazy, he knew all about the fishing up the top of the Mitta Mitta. And George Murtagh, he's an uncle. Johnny Yea's old man used to catch cod between Eskdale and Mitta, at Easter, every Good Friday morning, he would go down and catch a cod, 20 to 30 pound, up to the late 1950's. Then they got scarce. The Mitta Creek back then was absolutely full of the greasies, they were only about 6 to 7 inches long, I was only about 10 at the time, I'm 67 now. You could catch them like buggery, then they just disappeared. Old 'Lightwood' Bill Pendergast, he was out at Khancoban, he used to come home with these eels, out of the creek at Khancoban. When I was a kid he had them for tea, he'd come home with these eels, as well as the trout and the rainbows. Then they disappeared too.

I can remember the bream that we caught at Banimboola, there was 'the perch hole' at Springpole, my old man owned that, they were caught there up to maybe the early sixties, they were still there in the fifties. There was some caught further downstream but they had got pretty rare upstream. My old

man talked about years ago catching them right up through 'the Wombat', and the cod they were right up through there. They were caught up to 40 pound up that way. There was supposed to have been cod and bream in all the rivers up that way, up past 'the Wombat' and through Benambra way.

I worked for the Forestry Commission, we used to go up and look after the houses up through the 'Blue Duck', up to Glen Wills, we used to go up there and paint them. At the pubs there was always fish being brought in, fish heads there, mainly the rainbows and the browns. But there was a few cod caught up there, that was the last of them that were caught, up in the 'Blue Duck' in the 1950's. There was supposed to have been a fair few of them up there a long time ago, but odd ones were still being caught. The ones I saw were about 5 to 6 pound, no bigger, definitely cod, I saw them. They caught the cod just up the other side of Glen Wills in the Big River, odd ones, and I saw some that were caught just below the bridge at Glen Valley, in the 1950's, that was the finish of them up there. I never saw or heard of anyone talking about catching a perch up there, there was only the rainbows and browns and these few cod'.

H. Recollections of Bill Hollands of Omeo

Bill Hollands of Omeo was interviewed in July 2006 at an age of 90 years.

Bill grew up in the Benambra area and can still recall that 'as a 3-4 year old on Boxing day my family catching cod and black bream in the Morass Creek. The cod went a long way up the Morass, well up to McKinnons, in the big holes, up past "The Brothers", 6 to 7 miles north of Benambra. The cod were still being caught in the Morass at Uplands in the 1920's. I used to fish the holes in the Gibbo for the Macquarie perch in summer and autumn; if you caught one you'd throw in again and always get more.

I once saw 'Swampy Jack' Pendergast in a buggy, catching greasies for bait, and then coming back in the buggy and having a big cod in the back. He'd been down to the Mitta, near where the Gibbo comes in, where the Wombat comes up. He used a light to attract the cod. I used to catch big blackfish up near the head of the Tambo river, sit up all night catching blackfish. They were commonly 13 or 14 inches long, sometimes bigger. My father was involved in the first releases of trout in the Benambra area'.

I. Recollections of Vince Pendergast of Benambra

Vince recalled that *'there was a series of deep holes in the Morass Creek in which cod were caught before World War I. After that they silted up from the cattle. Cod were caught in the Toke-Gibbo area of the Mitta Mitta by cattlemen on their drives from the 1920's to the early 1960's'.*

J. Recollections of Graeme Pendergast of Benambra

Graeme recalled that in the Morass Creek that there is today a hole still known as *'the cod hole' about 6 km out from Benambra on the Tableland Crossing Road, just below the bridge over the Morass. Years ago a dead roo was hung on a wire over the hole so that the maggots would attract the cod. A 20 lb. cod ended up being caught on maggots'.*

K. Recollections of Stan Walsh of Tallangatta, Formerly of Mitta Mitta

Stan Walsh was 84 years old when interviewed in September 2006. He grew up in the Mitta Mitta area and used to run cattle through to the Eustace Creek/Wombat Creek area upstream of the present Dartmouth Dam. Stan not only provided his recollections but those of the early history by members of one of the original settler families, the Murphys.

The old people at Banimboola, Mr. James Murphy an original settler and his son Jack provided Stan with instructions on angling from an early age. Stan knew James Murphy whilst a child, James passing away in 1954 at an age of 89 years. His son Jack died from cancer in 1945 and Stan spent a great deal of time with him in his last months. James and Jack Murphy passed onto Stan stories of how things were in the past.

'In the early days the Murphys used to fish with poles. They had a thick line. They used for bait worms, bardi grubs and yabbies. The marrow out of the middle of a bullock's back was a good bait. Parrots and small birds were used for the cod. Greasies were used too, in my time; a good bait for cod. The biggest greasy I've seen is about 9 inches. They are nowhere near as common as they used to be'.

When asked *'have you ever heard of a bluenose?'* he replied *'Oh I know about the bluenose alright! It was James Murphy that showed me my first blue nose. A lot of the locals called them a rock cod. The bluenose had a different shape. It had high shoulders, was pointed in the head. The colour was different too. Often it was a lot darker on the head, a black or blue. The bluenose were a lot drier to eat too. James said in the early days there was plenty of blue nose, they were very common. More common than the normal cod in the Mitta. The cod was always considered special by the settlers. They only took what they needed. They were so common that James said they could catch one anytime. James said the bluenose used to spawn earlier than the normal cod.'*

By my time the bluenose were less common, though I did catch quite a few when I was very young, up till I was 14 to 15, then they became scarce. Mr. Murphy told me that the Murray cod had taken over from the bluenose. As the bluenose got caught the Murray cod being bigger was the boss. He moved in, took over. James said that the Murray cod ate the spawn of the bluenose as he was bigger. I agree, I think the Murray cod took over. The Murphy's were religious people. I saw James Murphy catch a 70 pound cod and release it. He let the bigger breeders go to keep the river stocked. Kept the smaller ones of 12 to 15 pound. Just what he needed.

I used to catch plenty of cod in the Mitta Mitta, mainly Murray cod, though I did catch bluenose as well particularly around Banimboola. Just before the dam was built maybe 1 in 50 or 60 of the cod was a bluenose, you knew straight away as they were very good to catch. They were a much faster fish in the water than the Murray cod. You mainly caught the bluenose in the ripples just like you catch rainbow trout in the ripples. The moving water at the top of the hole or near the rocks. Cod were caught up to about 80 pound further down the Mitta, the biggest bluenose which I caught weighed about 20 pound. At Springpole there were lots of big rocks and I would dive under the rocks and see up to nine cod at a time. Sometimes they were in pretty shallow water. I saw cod caught up as far as the Wombat but after the war they were mainly caught up as far as the Dart River.

There were some silver bream (grunter) in the early days, I saw a few when I was very young, and plenty of the Macquarie perch bream. I know the silver bream. I once fished at the Junction of the Lachlan and the 'Bidgee. Caught 15 in a half hour around dark on worms, all about 2 pound. Could have caught a lot more. Never heard of a yellowbelly in the Mitta Mitta in the early days. Hear of a

few now in the river coming out of the lake (Hume) as they are stocked. There were some catfish in the lagoons. The lagoons that stayed connected to the river from Mitta Mitta downstream were full of cod and greasies. Also had lots of trout too, in the lagoons.

Up to the 40's there were plenty of Macquarie perch in the area. I once saw a shoal of bream that might have been 2-3000 moving up the Larsen Creek on their spawning run that turned the water black, with their backs nearly out of the water. On one occasion about this time I saw a bream taken by the local doctor on a fly at the Dart river junction. I had never thought about using flies for them. Mostly the bream were around the 2-3 pound mark.

The Soldiers and Tokes creeks had the native Loch Leven trout. They are a solid little fish up to about 10 inches. Real deep, with the most beautiful round red spots. Never saw Macquaries in those two creeks, they were just too small for them'.

L. Recollections of George Murtagh of Mudgeegonga, formerly of Dartmouth (Dart Junction)

George Murtagh was interviewed in October 2006 at an age of 90 years. George grew up in the original town of Dartmouth, situated at the Junction of the Dart and Mitta Mitta Rivers.

He recalled 'the big water race from the mines in front of our place, at Dartmouth. We kept the fish alive in the old water race, until we needed them. We lived off the fish and the rabbits. The river was full of cod and bream. You could catch them all year round, though they bit in some months better than in others. We used to catch a lot of cod between Murphy's place and where the dam is now. Anything was used as bait for cod back then. Livers and kidneys out of rabbits. I've seen them shoot sparrows for bait for the cod. I used worms, just roll the logs over and get the bush worms, no digging. If the cod and bream were biting, you could catch all you wanted. You would get sick of eating them. There was one old fellow working with my father. Well we were all sick of the fish, he was the only one that would fish for them. Eventually he got sick of them too, he threw all his rods in! I reckon I've got here by eating all that fish!

Back in the twenties, when I was young, we used to get both types of cod. The second type was darker and longer, usually thinner without the gut of the normal cod. It had a pointed head, often black on the head. Didn't have the patches on it like the normal cod. It was marked finer, like a trout. We called them "rock cod" though some called them "trout cod". My father called them a rock cod. Haven't heard them called a "bluenose", that would have been before my time. They were pretty common, when I was young more common than the normal cod. They were often in the same places, the two types together. In other places the rock cod was more common, particularly around the rocks. They always seemed to be feeding in those places around the rocks. The biggest was about 12 pound, most were about 8 to 9 pound. Most of the cod I caught, both types, were about that size at Dartmouth. The biggest Murray cod I caught was 15 pound. The rock cod, they were the first fish that started to disappear. Later on you would put lines in and get one of each type, early on you would get more rock cod. The rock cod seemed to disappear during the 1930's, certainly by the 1940's. After that they were less seldom caught, mainly the normal cod. One now and then.

There were big cod caught in some of the deep holes around Mitta North. The best was close to 100 lb. I caught good cod at Tallandoon, put crosslines in and got 10 pounders. I saw one out of the Hume weir that was over 100 lb. In the early days I heard of a few grunter caught in the river. I heard of the catfish in the Mitta Mitta area too, in the lagoons and the river. All the little creeks were

full of the greasies. The creek here (at Mudgeegonga) too had them, though I think all of the spraying for the blackberries may have got rid of them. About twenty years ago I saw two 6 pound trout come out of the creek here.

I've certainly caught cod and bream in the Mitta up as far as Eustace Creek. Used to run cattle up through the hills. The bream I caught up to Tokes Creek. I used to fish a lot at the Dart River junction and in a hole about a mile downstream where there was a whirlpool. Caught a lot of cod at both places. The Macquarie perch would come on the bite for a while about ten in the morning, and again about four in the afternoon. You got sick of catching them. I've caught the bream 8 miles up the Dart River, they were up to 2 pound in weight. In the Dart River I was shown how to tickle trout, my brother was the tickler, though I didn't have the touch. I saw one trout tickled that was 3½ pound. The biggest bream I saw was about 5 pound, down below where the pondage is. I always caught them on the bush worms, though I know others have caught them on the spinners.

The first trout was caught at Dartmouth when I was about 6 years old. The locals didn't think much of them, they thought they were killers, they didn't have a high opinion of them. I saw trout used as bait for the cod. Later, when the cod and bream got scarce people started fishing for them. I remember in the late 1920's, certainly by the early 1930's big shoals of hundreds of redfin coming up the river, all 6 inches long. The locals went mad about the redfin as they thought they were eating all the other fish out. The 1939 bushfires killed a lot of fish. A big storm washed down all the charcoal, washed down all the fish. You could see all the dead cod and bream on the bottom, and washed up on the ripples. Then afterwards there was a drought, the water became so shallow, it killed cod, bream and trout. After that they never really came back in the numbers.

In the 1950's I moved over to here, to Mudgeegonga. Do you know Boyd's Bridge, on the Kiewa? Used to fish it a lot for about a mile downstream. I caught a lot of cod, the normal cod. You were very unlucky if you didn't get at least one. They were mainly 6 to 7 lb. My son got one here that was 47 pounds. I saw one cod caught that was hanging over a man's shoulder touching the ground. For its length it was pretty poor. It only weighed 70 pound. I never saw a bream caught out of the Kiewa. In the Kiewa the cod were inside the hollow logs. Some of the locals used to go belt the logs with a hammer to wake up the cod. They reckoned that sometimes they would sleep for days. Then the river was snagged which wrecked things for the cod, plus the big dams for the irrigation. In the Mitta too, the cold water for irrigation. When they were snagging the Kiewa, they pulled out the logs. A couple of times they could here a flapping inside the logs. There were cod in them.

I fished above Myrtleford in the Buffalo. Went right into the hills, very steep and hard to get into. My knees are no good now. Went into this rough country at Abbeyards. I caught the bream, lots of them, only small, up to about a pound and a half. I didn't catch any cod though others spoke of them up there. That would have been over 25-30 years ago, maybe longer'.

In a moment of reflection George said 'The way things were in the past are gone. Those times wont be back. But people should know how it once was.'

M. Recollections of Tom Yea of Wodonga, Formerly of Mitta Mitta

Tom Yea provided his recollections in June 2006 at an age of 79 years and was still a keen angler.

He recalled that 'as a 5 year old we used to fish around Springpole, between Dartmouth and Mitta Mitta. Used to catch stacks of cod and white eye. When I was young we caught Macquarie perch in the west branch of the Snowy Creek. In the perch hole at Springpole there was a rock bar in the river which the perch could not get over till it flooded. You could see hundreds of white eye, this small fall blocked their way. The Macquarie perch were common at the Possums Point beach until about 1950, then they disappeared. About that time swarms of millions of redfin were seen in the river, about the time the Macquaries disappeared. The trout may have affected them as they moved down the river too.

We used to catch the cod up to about where the wall of the dam is now, maybe a bit further. Between Possums Point and Coleman's we used to catch cod from about 12 to 18 pound on spinners. Coleman's gardens were about where the Dartmouth pondage is now. We used to catch the cod at Springpole in a backwater on rabbit head. 18, 14, 12 pound were common. In the faster water we caught the trout cod. I've caught them in recent years below Yarrawonga. They are also now doing real well above Hume.

Back then when I was young in the faster water in the Mitta maybe half the cod we caught were trout cod. Magoora Gap was a great spot for cod. Some of the locals used to roll rocks into the river to wake up the cod before fishing. Back then I used to use a carbide light at night to attract the trout. The trout would come to the light'.

N. Recollections of John Yea of Mitta Mitta

John Yea was 70 years old when interviewed in June 2006. He recalled how he caught '*heaps of cod between Mitta and Dartmouth, up to the 6 mile Creek near the Dart River Junction. There was heaps of them 50 to 60 years ago, even up to 40 years ago. They were common from 10 to 30 pounds. The greasies in the Mitta were a great bait for cod. You could catch 3 to 4 cod a night up to 30, even 40 pounds. The aeroplane spinners were tops too. By then the Macquarie perch were scarce'.*

O. Recollections of Collin Scales of Dartmouth

Collin Scales was 80 years old when interviewed in July 2006. He recalled how in his youth Billy Yea, Tom Yea's father, had '*shown him the other type of cod. It was longer and sleeker fish, bluer in colour and spotty. They were caught up to about 12 pound. Maybe 10% or more of the cod caught were these "trout cod".*'

'Forty years ago wed used to catch cod up above the junction of the Dart, right through down past Possums Flat. That was its correct name. The biggest cod I caught was 35 pound on a red carp, though they were caught up to 80 pound down Eskdale way. When we were kids we used to get lots of cod about 4 pounds as well as the bream. We also caught a few grunter when I was a kid. I caught the Macquarie perch in the Snowy Creek and the Dart River years ago. The Macquarie perch were up to about 3 pound in the river in the 1950's.

P. Recollections of Les 'Brickie' Franks of Tallangatta.

Les Franks was interviewed in December 2006 at an age of 67 years.

'My father was Jack Franks and we used to fish the river a lot, around Eskdale. My old man used to say there used to be plenty of catfish, around Mitta, Eskdale, in the river. They used to get them above Old Tallangatta. Then he said they just disappeared, I never saw one. The rock cod, they were common around Banimboola, with odd ones further downstream, when I was fishing. The old timers reckon they could get the bream any time. There was one hole this side of Banimboola and they used to call it the 'bream hole'.

The old man said when he was young they'd tie lines to 4 gallon drums and find them way down the river. Another trick was they used to put an old rabbit in a tin full of holes and the maggots used to fall in the river and attract the cod. Years ago every cocky had wire drum nets in the river, they pulled them out with the tractor to check them. And a fair bit of crosslining went on too. One day I was in the boat with the old man and he had his lines rolled up under his shirt. We saw this boat coming up the river and it was Jack Rhodes, the fishing inspector. He talked to us, but if he had asked the old man to stand up they would have fell out of his shirt and he would have got us!

Februrary and March was the best time for the cod in the Mitta with the old aeroplane spinner, that's all they used. We would put parrot feathers on the hooks on the spinner. The feathers was to cover up the hook, they were tied on with cotton. We used to catch them up to 20 to 30 pound on the spinners. Andy Boran, out at Yabba found one dead that was 90 pound. The biggest the old man caught was 64 pound out of the river, on the aeroplane spinner. And heaps of trout, there was a lot of trout around then. The sand was white like snow and the rocks and stones were nicely coloured in the river.

Number 2 was the size of the aeroplane spinner. If the water was a bit dirty we would use the copper one. All this spinning was done by hand and even though my dad had bad arthritis he did all the rowing. If a lightning storm came up we would pack up and head for the other car. It used to take us about four and a half hours to spin from car to car. If we lost one on the spinner we would give him a week and go back and set a line and catch him. Most of our fishing was done around Noorongong and Tallandoon. Them days there was plenty of snakes, you could not put your hand on a log to push the boat off, there'd be a tiger snake on it! When setting lines bardi grubs was the best bait.

Later on the river trust pulled the logs out of the river, the old man went mad about it. But once the green slime got into the river from Dartmouth, well the old man said it was bugged, the sand used to be white. I could write a book about the things we did and saw in the river. It was a beaut river years ago and brings back many memories.'

Q. Recollections of David Evans, Formerly of Mitta Mitta, now residing in Yea

David Evans was interviewed in October 2006. David grew up in Eskdale area, before arriving in Yea in 1950. *'In the Little Snowy Creek I used to get lots of trout. I can just remember the catfish in the lagoons around Eskdale. They went a long time ago. There were certainly cod caught in the Mitta, Paddy Walsh used to catch them. In the Mitta was the odd bream, off the sandbanks.*

I heard of the bluenose being mentioned at the time. Apparently they had been common, but by that time they were an unusual catch around Eskdale. I can remember as a kid my dad catching what he

called a 'trout cod' in the Murray at Gunbower on a mussel. Back then, in that spot, we used to get ten to a dozen cod a day, 6 to 7 pound in the Murray. I can remember it was long, he pointed out the blue nose, and different markings to a cod. It was an unusual catch for that area, but my dad knew what it was.

I arrived in Yea in 1950. Jacky Tosh had the Shell service station in Yea. He used to talk about the catfish, how in the past around Yea you could hear them chomping at night in the lagoons. They used to talk about that at Eskdale too. I never saw one at Yea. At that time in the Yea you got the odd little bream and the slimmies. About 1950 it was known that there was a good cod hole in the Goulburn at Woodlands, down near where the King Parrot comes in'.



Left: Photo of a cod, possibly a trout cod, caught from the Mitta Mitta River by Jack Franks near Mitta Mitta c 1955. (Photo courtesy of Les Franks, Tallangatta).

Right: Photo of a cod caught by John Yea from the Mitta Mitta River near the town of Mitta Mitta c1960. (Photo courtesy of John Yea of Mitta Mitta)



Left Photo: Jack Franks with dog 'Mick' in a boat on the Mitta Mitta River at Erinbank near Tallandoon, c1960 Right Photo: Jack Franks with a 40 pound Murray cod caught from the Mitta Mitta River near Tallandoon 19/12/1964. (Both photos courtesy of Les Franks, Tallangatta)

GOULBURN RIVER

A. Introduction

The Goulburn River has the greatest flow of the Victorian tributaries of the Murray and effectively bisects northern Victoria. As a consequence of its size and proximity to Melbourne it historically has been one of the most popular angling waters in the state. The earliest account of the fish found in the system comes from the expedition of Hume and Hovell who passed through the Molesworth/Yea/Seymour area in December 1824. For the Goulburn River near Molesworth:

Some fish are caught, in the course of the evening, similar to those in the Lachlan; and they kill a kangaroo; The Muddy (Yea) Creek: Several fish similar to those found in the Lachlan were caught in the course of the day. Near Yea: they caught a couple of Lachlan cod fish.

Major Thomas Mitchell in 1836 passed through the Seymour area and for the Goulburn River reported: *In this river, we caught one or two fine cod-perch, our old friends Gristes Pealii.* (Scott 2005).

Wilson (1857) described the translocation of cod and bream (Macquarie perch) from the upper reaches of the King Parrot Creek to the upper reaches of the Plenty River. In his account Wilson stated that movement entailed transporting the fish a distance of ‘*not more than 17 or 18 miles*’ to one or two miles upstream of Whittlesea, indicating that the fish must have been sourced upstream of Hazeldene. Given the fact that in excess of 60 cod and 37 bream were collected in three trips the two species must have been abundant in the upper reaches of the King Parrot Creek at that time. It has generally been assumed that it was the translocation of these fish that established the populations of Murray cod and Macquarie perch that persist in the Yarra catchment until the present time. However Wilson himself suggested that more fish may have been required for the project to be successful: ‘*is very false economy to limit the operation to what may be barely sufficient for the purpose. If we attempt to supplement Nature, we ought to imitate her in one of her most striking attributes – profusion*’.

It has been documented that substantial numbers of Macquarie perch were subsequently translocated to the Yarra system after these initial activities from a number of waters involving in excess of 21,000 fish (Cadwallader 1981). A story recounted by a number of railwaymen residing in Seymour in the 1970’s told to them by colleagues and ancestors suggests that the King Parrot Creek translocations may not have been solely responsible for the creation of the Yarra River cod population. Reportedly after the opening of the north east railway to Seymour in 1872 drums containing live juvenile cod caught from the Goulburn River were railed to Melbourne for stocking the Yarra River. McCoy (1884) reported the presence of cod in the Yarra at that time but does not describe them as being common: *The Acclimatisation Society many years ago introduced it for the first time into the Yarra, where it is now established, but does not thrive....*’

Pilkington (1996) described the fishing practices of the Taungerong people of the upper Goulburn in his history of the Darlingford and Enochs Point areas. He recounted the stories of the European settlers including the observation that ‘*Fishing in the Goulburn and Big rivers was another pastime and good cod and perch were regularly caught. The huge hauls of cod of the early days were becoming a thing of the past, although in 1877 a son of William McMartin managed to land a 68 pound codfish in a lagoon close to the Goulburn River, after a great struggle during which the monster fish almost pulled the boy into the water.*’ The latter account probably originates from the Darlingford area.

Pilkington also described the early attempts at the introduction brown trout. William Lovick of the Merrijig Hotel introduced trout to the Delatite River so that by the 1890's trout were being caught up to 6 pounds from that water. Early attempts to introduce trout to the Jamieson River were a failure and fish were translocated from the Delatite River to the Jamieson River in 1903 and 1906. The *Jamieson Chronicle* of 23/6/1911 describes the stocking of 500 brown trout and 500 rainbow trout into the Jamieson River. Subsequent newspaper accounts report further liberations so that within two years trout were being caught up to 7 pounds in weight (*Jamieson Chronicle* 5/12/1913). Pilkington also cites the *Jamieson Chronicle* of 29/4/1910 reporting that a number of large fish were caught by anglers from the Big River four miles from Darlingford which he assumed to be trout. I have been unable to locate this news item suggesting that the date is incorrect. The assumption that the fish caught were trout is questionable, given the fact at that time the species had not become established in adjacent waters such as the Jamieson River.

The Goulburn was the subject of the state's earliest attempts at an irrigation scheme with the construction of the Goulburn Weir near Nagambie occurring between 1887-1891, diverting water to a downstream irrigation channel system. Construction of the weir effectively isolated the downstream fish populations from the upper half of the catchment and may have had an early impact on species distributions. Towards the end of World War One construction commenced on the Sugarloaf (Eildon) Weir, completed in 1927 and subsequently enlarged by the Big Eildon Dam in 1956. Today the Goulburn River is probably the most regulated waterway for irrigation purposes in the Victoria.

Langtry (Cadwallader 1977) provided a brief account on the Goulburn River fishery c1950 reporting that it carried the best population of native fish in the state at that time. He relied on second hand reports from fishing inspectors and anglers in his description. He reported that large numbers of cod were being caught at that time below the Goulburn Weir while upstream of the weir were present golden, silver and Macquarie perch and catfish. He also stated that Macquarie perch were more abundant below the weir at that time.

A detailed account of the fish of the upper Goulburn River and some of its major tributaries in the first quarter of the twentieth century was provided by angler R. D. (Bert) McKenzie. Bert, long time resident of the Ruffy area and former secretary of the Ruffy Angling Club, lived next to the Hughes Creek. He recalled in detail the fishing in various waters back to 1908. Having met Bert quite by accident, Col Luker and myself returned the following weekend with a tape recorder to record his recollections. These were subsequently published in *Freshwater Fishing* magazine (Trueman and Luker 1992). Some original notes of his recollections recorded from our first meeting have survived and are presented later.

Bert provided a compelling account of 'bluenose' being common in the upper reaches of the Hughes and Seven Creeks upstream to major barriers, being present in the Big River above Eildon Weir, and being abundant in the Goulburn River between Thornton and Molesworth in the 1920's. He provided a detailed description of the trout cod and had in his possession two old photographs which he claimed to be of trout cod. One was of a cod taken from the Hughes Creek c1925 which almost certainly was a trout cod and the second was of a 66 pound fish caught near Cobram which could not be identified with any certainty. Unfortunately neither photo appears to have survived.

One of the aims of my research was to try to locate evidence to validate Bert McKenzie's recollections and he left one clue of great assistance. Bert recalled that he used to fish on a property near Molesworth which in latter years was owned by Ian Perry. Ian has passed away but his wife Muriel Perry still resides on the property, known as *Prospect Hill*, formerly owned by the Bryan family. Through good luck Muriel had in her possession a photographic collection created during the

1920's and 30's by Sadie Bryan, a keen amateur photographer, who recorded daily life on the property. In the collection are a number of photographs of catches of cod and many of the fish are unmistakably trout cod. A photo obtained from Yvonne Finch of Yea of a catch of cod from another property in the Homewood area at this time also contains images of trout cod. This evidence alone validates McKenzie's recollections of the Goulburn River, demonstrating beyond doubt his familiarity with the trout cod and confirms his status as a reliable witness. It is a perfect example of historical triangulation when his personal account is combined with photographs and the fact that the cod translocated from the area to the Seven Creeks have proven to be trout cod. It can therefore be concluded that any first hand account provided by McKenzie of trout cod in any water is accurate.

Additional recollections of the Goulburn River fishery have subsequently been collected further supporting Bert McKenzie's accounts plus providing information on the presence of trout cod and other native fish species in other waters of this catchment. In some cases physical barriers representing upstream limits for the major native species have been identified. Ron Bain of Seymour has provided an almost identical account of the Goulburn River fishery downstream of the Eildon Weir, supported by recollections from Russell Stillman and Frank Moore. Max Mathews of Jamieson with Frank Moore have provided detailed descriptions of fish populations in the feeder streams of the Eildon Weir based on their personal experiences and the stories of their relatives. Senior anglers in the Yea, Seymour, Nagambie and Shepparton areas have also provided their stories and photographs, allowing a reconstruction of the fish populations in the Goulburn River system subsequent to the completion of the Goulburn weir.

For the Goulburn River sufficient information exists to attempt to provide a description of the original fish fauna and identify changes which impacted upon them. It is possible that construction of the Goulburn Weir near Nagambie from 1887 to 1891 distorted the distribution of fish species in the Goulburn River system from that early date. The two species which this probably had the greatest impact upon were golden perch and silver perch which require extensive floodplain habitat for their reproduction and recruitment. Golden perch were reported to still be present in the Goulburn Weir in the 1920's in newspaper accounts describing the translocation of fish from that water to the upper reaches of the Hughes Creek. Bert McKenzie reported the subsequent capture over the years of a small number of golden perch from the upper Hughes Creek. The only first hand account surviving of seeing golden perch further upstream than Nagambie comes from 93 year old Collin Bell who could just recall a few in his youth being caught in Seymour dating the report to the 1920's. Bert McKenzie while not having seen a golden perch from the upper Goulburn reported he had been told that some existed in the Thornton area though he thought the account was incorrect. Max Mathews recalled that he was told when the Sugarloaf Weir first filled that a few golden perch were caught out of it.

In the case of silver perch Collin Bell recalled in his youth regularly catching small numbers in the Seymour area c1920's. It is the only surviving first hand account of the species upstream of the Goulburn Weir, their presence upstream of Nagambie being mentioned by Langtry. In other Victorian rivers silver perch historically appear to have been present in foothill habitats and upstream to low barriers or the transition to upland habitat with golden perch being present in these areas in much lower numbers. Examples include the presence of silver perch up to Banimboola on the Mitta Mitta River and Rocky Point on the Ovens River. In the case of the Goulburn the Traawool Gorge just upstream of Seymour may have presented a significant barrier to the upstream movement of silver perch and golden perch. At this point it appears that silver perch were probably present up to Traawool with lesser numbers still of golden perch. It is possible that both species may have had a presence up to the Eildon area prior to European settlement but were impacted upon by the Goulburn Weir. Both species had virtually disappeared from the upper Goulburn by 1930.

The historical accounts suggest that downstream from Seymour/Traawool that Murray cod, Macquarie perch, golden perch, silver perch, catfish and river blackfish were abundant in the Goulburn River and its major tributaries. Trout cod were regularly taken in relatively low numbers and bony bream were present at least upstream to the Shepparton area. Adjacent billabongs are reported to have contained large numbers of catfish, Macquarie perch and blackfish with the other species also present. The scarcity of trout cod is demonstrated by their absence in photographs of catches of cod. It is somewhat surprising that trout cod were reported to be uncommon downstream of Nagambie given their reported abundance in the nearby Barmah area and their successful re-establishment in the Murchison area in recent years. It is possible that the Goulburn Weir may have made conditions less suitable for trout cod or that the environment in the lower Goulburn was not particularly suitable. McKenzie reported the species to be common in the faster sections of irrigation channels near Shepparton in the 1920s. Newspaper reports and the accounts provided by Bert McKenzie and some Seymour anglers suggest that in the major foothill tributaries such as the Seven, Hughes and Creighton Creeks that Macquarie perch, trout cod, Murray cod and blackfish were present in abundance upstream to major barriers.

From Traawool upstream the major species present were trout cod, Macquarie perch and blackfish with lesser numbers of Murray cod and catfish present in the river. These species are reported in many accounts and their presence triangulated by photographs. The prevalence of trout cod in this section of the Goulburn River in the 1920's to early 30's has been described in detail by two anglers whose accounts overlap, namely Bert McKenzie and Ron Bain. Photos of catches of cod at this time consistently show many images of trout cod and serve to validate these accounts. Murray cod were also regularly taken including large examples but trout cod appear to have been prevalent in angler's catches. The upstream limit reported for catfish appears to have been the billabongs in the Thornton area and they were reported to be very common in this habitat in the Alexandra area. It is possible that catfish may have penetrated further upstream but no account survives. They probably had a presence in the lower reaches of the major tributaries up to Thornton and there are multiple accounts of them being taken from the lower Yea River, including that of Hume and Hovell. Catfish historically appear to have been a key component of billabong fish populations from Thornton downstream along with Macquarie perch, blackfish and some cod.

The two cod species along with Macquarie perch were also present in the major tributaries of the Goulburn River in this section. Wilson's account from 1857 demonstrates that cod and Macquarie perch penetrated to the headwaters of the King Parrot Creek. It has been assumed that the cod present in the upper King Parrot Creek were Murray cod as trout cod have never been reported from the Yarra system. However given the reported abundance of trout cod in the adjacent Yea River it is probable that they were present in the King Parrot Creek. Trout cod were reported to be common in the Yea River in the Devlins Bridge area, presumably with Macquarie perch, with at least one photograph confirming their presence in the Yea system. A single account describes cod being taken from the Murrindindi River upstream to the cascades area, which based on the evidence for the Yea River were probably mainly trout cod.

Macquarie perch are reported in angler recollections to have been common in other major tributaries of the Goulburn along with some cod. These include the Home Creek, Conellys Creek and the Acheron and Rubicon Rivers. Cadwallader (1981) identified the Stony Creek as the source of Macquarie perch that were translocated to the Faithfuls Creek indicating their abundance in this water. Given the wealth of evidence of trout cod being prevalent in the Goulburn River it is likely that many of the cod in these waters were trout cod. Bert McKenzie stated that the cod present in the Acheron were 'bluenose' the information being provided to him by an uncle. The single photograph located to date of a cod from the Acheron River is probably an image of a trout cod. Upstream limits are uncertain though cod and Macquarie perch are reported to have been caught between Taggerty

and Buxton in the Acheron River. A tourist brochure prepared by an unknown author for the Victoria Railways in 1945 and frequently reprinted in angling publications in the 1960s and 70's reported the lower stretches of the Acheron and Taggerty Rivers as containing Murray cod and Macquarie perch at that time (Hungerford 1976).

From the available historical evidence the principle fish species present in the Goulburn River catchment upstream of the Eildon area were trout cod, Murray cod, Macquarie perch and river blackfish. Cod and bream penetrated upstream in the rivers and larger tributaries to major barriers where suitable habitat existed. In general most accounts describe 'bluenose' being common or more abundant than Murray cod in the early days up to the mid 1930's. The principle exception appears to be the Goulburn River near Jamieson where Max Mathews recalled Murray cod to have been more abundant. Even in this case Mathews referred to comments from his father of the 'bluenose' being more common in that water in the past. It is possible that, with the Jamieson area having a significant population due to the mining activity, the trout cod population had been severely overfished by Max's time. Alternatively the habitat provided by the Sugarloaf Weir may have favoured the proliferation of Murray cod and enhanced upstream populations. Cod are reported to have been abundant in the Knockwood area prior to the First World War and penetrated further upstream with both cod and Macquarie perch being present in some major tributaries. Max Mathew's description of the cod and bream going up the Goulburn no further than the Dempsey mine due to a barrier is in fact a description of Gaffneys Creek, a major tributary near where the mine was located.

In the Jamieson River Max Mathews recalled cod and Macquarie perch being present in numbers up to a major barrier in the Mitchells Creek area with 'bluenose' being most common though Murray cod were also present in the lower reaches. Similarly in the Howqua River Max recalled the accounts of his relatives of cod being caught in numbers from the Sheepy Flat area and could just recall seeing the fish personally, indicating their presence up to c1930. He reported Macquarie perch being abundant further downstream in latter years. This account is supported by the recollections of Frank Moore of catching the cod and perch in the Tobacco Flat area about the time of the Second World War. In the Big River both Bert McKenzie and Max Mathews described the presence of bluenose and Macquarie perch, the latter including his father in law's recollections of the fishery prior to the First World War. Both, along with Russell Stillman recall Macquarie perch being prolific in this water. Pilkington (1996) confirms the existence of huge catches of cod in the early days of Darlingford which was located on the junction of the Goulburn and Big rivers. At this point the upstream limit for trout cod and Macquarie perch in the Big River remain unknown but both species were present to at least the Enoch's Point Area.

Within the upper Goulburn River system the factors which probably impacted on native fish populations in the upper Murray and Mitta Mitta systems are also suggested by the historical accounts and for the sake of brevity will not be elaborated on. However within this system some historical evidence suggests that a disease epizootic may have impacted upon fish populations in some waters. Bert McKenzie recalled mass deaths of catfish in lagoons along the Goulburn River in the early 1930's. Russell Stillman's account reports the deaths of large numbers of cod and possibly Macquarie perch in the Sugarloaf Weir around this time. Within my own family stories of this latter occurrence survive. A story from my father who was an active member of the Sunshine Angling Club has been recounted by my uncle. My father Henry Trueman witnessed the deaths of large numbers of Macquarie perch in the weir at this time and enquired to the then Fisheries and Game Department by the angling club received a response. Apparently the belief was that an outbreak of 'white spot' was killing the fish and occurred after 'Crucian carp' were introduced to the lake to boost food resources. A protozoan parasite could have caused the kills in the lake and downstream billabongs where static waters would have favoured their proliferation and infestation. We will probably never know.

B. A History of the Seven Creeks Fishery

Before providing the angler recollections of the Goulburn River system I wish to diverge for a moment and discuss a water of historical significance with respect to the trout cod which is the Seven Creeks. This stream supported the last significant Victorian population of trout cod created through the translocation activities of the Strathbogie Angling Club in the 1920's. While an outline of the history of these activities has been previously reported (Cadwallader 1979; Cadwallader & Gooley 1984) many of the details are not well known. In the past the Seven Creeks population was the focus of a great deal of research, however more recently its value has been questioned (Douglas et al 1994; Brown et al 1998). Trout cod have survived and flourished in the Gooram Falls section of the Seven Creeks since their translocation in 1921-22. A number of authors have repeatedly referred to the Seven Creeks population as having originated from fish translocated from the Goulburn River. This is not strictly true as the section of the creek below the Gooram Falls was the source of at least some of the fish translocated upstream onto the Strathbogie tableland.

At the time of European settlement there was an absence of fish of significant size in the Seven Creeks upstream of the Gooram Falls though 'cod and bream' were caught in number up to this barrier. The motivation of the anglers involved in the translocation activity was provided by the limited angling opportunities then existing on the Strathbogie tableland in terms of 'greasies' or river blackfish (*Gadopsis marmoratus*) which were small in size and a limited trout fishery established in 1886 which was dependant upon ongoing stocking (Halsall 1979). It remains unclear whether the blackfish were originally present upstream of the Gooram Falls or were themselves translocated in earlier years by Europeans or the local indigenous people.

Discussion as early as 1903 occurred about officially forming an angling club along with references to an active angling club existing in the early years of the twentieth century (Halsall 1977). A newspaper account reports that in 1920 the Strathbogie Angling Club was formed. It remains unclear if prior to this date a formal angling club undertook the stocking of trout in the Strathbogie area or if the activity was an informal but well organized exercise: *For years Strathbogie streams have been the favoured holiday haunts of piscatorial artists and about a year ago an Anglers club was formed there to forward the interests of those enthusiasts and to look after the stocking of the streams and protection of fish (Euroa Gazette 22/2/1921)*. In early 1921 a public meeting was held in Strathbogie to make arrangements for the procurement of 'cod and bream' (Macquarie perch) for release in the Seven Creeks and to discuss the possibility of stocking the Sheans Creek with cod and bream. At that meeting the decision was made to source the fish from the Goulburn River (*Euroa Gazett. 8/2/1921*).

A well known local identity was C. C. (Barney) Kipping who operated the Angling Club's trout hatchery on his farm for many years and assisted Berra and Weatherly in the collection of specimens of trout cod from the Seven Creeks for their study. Although not involved in the translocation activities of the angling club in the 1920's Barney knew personally some of those that were directly involved and in the 1970's recounted background information on their actions which is now outlined.

The release of cod and bream at Strathbogie was in the hope that they would establish breeding populations to support angling on the tableland without the need for ongoing stocking as well as providing angling diversity. Apparently at the time there was some discussion as to where the fish should be sourced from and initially cod and bream were translocated from the Seven Creeks itself, being sourced below the Gooram Falls downstream to Euroa. These early efforts involved the local postman collecting special cans, supplied by the Fisheries and Game Department, containing the fish left at pick-up points between Euroa and Gooram and delivering the fish to Strathbogie. These activities were ongoing and predated the translocation of fish from the Goulburn River.

Apparently while small numbers of fish were obtained the results were considered unsatisfactory causing the local anglers to look to other waters. Barney recalled that at that time Strathbogie anglers traditionally ventured to the Goulburn River in the Wharing/Murchison area where good sized cod were regularly captured. An annual social trip also took place to the Goulburn River at Cathkin but that area was less popular with the anglers as the cod were generally small. Initially the Murchison area was favoured for the collection of the cod but the story, as recounted by Barney, was that the cod at Cathkin were the same as the cod in the Seven Creeks itself and it was reasoned that they would do better at Strathbogie than the cod obtained from Murchison. In addition the prolific numbers of small cod present at Cathkin was considered an advantage.

This story suggests that the Strathbogie anglers were aware that there were different types of cod and is further supported by the recollection of a number of elderly residents of the Strathbogie district in the 1970's that, a few years after the liberation of the cod at Strathbogie, a 'proper Murray cod one of the original fish' was captured from the creek. Also implicit in the stories recounted by Barney Kipping was that the type of cod found in the Seven Creeks below the Gooram Falls was the same type commonly caught from the Goulburn River at Cathkin. Bert McKenzie, provided an account for the 1920's of the Seven Creeks from 6 miles below Euroa upstream to the Gooram Falls containing an abundance of 'bluenose' as did the Goulburn River at Cathkin (Trueman and Luker 1992). Compelling photographic evidence survives of trout cod commonly being captured from the Cathkin area during that era.

Newspaper accounts from the time provide some support for the stories recalled by Barney Kipping. Items in the Euroa Gazette provide reports of local anglers venturing to the Murchison area and this is quite apparent in a history written of sport in the district (Halsall 1979). Although no account survives for the preliminary translocation activities they are implied in some later stories published, with passing reference to the anglers '**again tried**' in the Seven Creeks. This suggests that the initial fish translocated were from within the Seven Creeks system. The first translocation from Cathkin occurred on 23/4/21 with successful collection of fish from the Seven Creeks occurring on 30/4/21 as described in the *Euroa Gazette*:

3/5/1921

*Another link to the district's history was added on Saturday, 23 rd April when, through the agency of the local Anglers Club, the first consignment of Murray Cod and Bream was liberated in the Seven Creeks. A party of ten anglers made the trip to the Goulburn river at Cathkin and by means of light hooks and a lot of hard work secured a nice lot of young fish ranging in weight from two pounds down to three inches in length. They were transferred by means of special cans (supplied by the Fisheries Department) and arrived in good condition with no losses. **Several members again tried their luck below the Gooram Falls on Saturday last but, so far the result is not known.***

17/5/1921

Those fishermen who tried for young fish below the Gooram falls on April 30 th were fairly successful and brought back about fifty nice little cod and bream which were duly liberated. On the same day, Mr. E. Charman of Euroa, promised to try also and two fish cans were sent to him. He secured about a dozen fish, seven of which were well grown, and bream quite large enough for the fry pan. He left the can on the creek opposite his house to be picked up and brought back to Strathbogie by the mailman. Before Mr. Hinton picked them up, however, some despicable thief had fished the cans and the seven nice bream were missing.

21/3/1922

On Saturday (11th inst) a party of three car loads from the local anglers club went to the Goulburn at Cathkin for the purpose of securing further supplies of young cod and bream for liberation in the Seven Creeks. As a result about 200 young fish were safely transferred to the government fish cans which had been lent by the Fisheries Department. A few nice sized cod were also taken and the party had an enjoyable outing.

This dispels Keam's (1994) implication that the fish were sourced from the Goulburn River due to a scarcity of fish within the Seven Creeks at the time and concern for the Goulburn River population being adversely affected by the newly completed Suggarloaf (Eildon) Weir. Perusal of newspaper stories dating back to the 1890's indicates that although concerns were expressed for the fishery from time to time the virtual disappearance of the cod and bream population below the Gooram Falls reported in the newspaper accounts of the late 1930's were not evident in the early 1920's. Similarly the capture of Macquarie perch from Stony creek for translocation into the local Faithfuls creek was done as part of a social event, the marriage of a relative in the Yea area, and the horse and drays were convenient transport for both the celebrants and the fish (C. C. Kipping, pers. comm. 1983).

McKenzie's (1992) observations of large numbers of blue nose cod immediately below the Gooram Falls in the early 1920's supports the proposition that this section of the Seven Creeks has been continuously occupied by trout cod prior to and since the translocation activity. Limited numbers of trout cod have been captured by anglers in the heavily degraded habitat between the Galls Gap Road bridge and Euroa up to the present time (C. C. Kipping, pers comm 1977, W. Trueman pers. obs.)

The largest cod reported from the Seven Creeks was taken by Bill Shelswell at Miepoll in 1926 and weighed 56 pounds a photo of which was published in Halsall (1979). It is believed that this was the fish referred to by Bert McKenzie which reputedly when cleaned was found to contain a rabbit trap.

C. Recollections of the Late Bert McKenzie of Ruffly on the Goulburn River System

Below in point form are the notes I recorded of comments made by Bert McKenzie at our first meeting. The following weekend during a tape recorded interview he elaborated on many of them but a few points were not discussed again. In particular these relate to fish in the Buffalo, Yea and Acheron Rivers and some memories of catches of trout:

- *Caught trout cod from the Hughes Creek at Dropmore in 1908 when 8 years old. Father called the fish a 'bluenose'.*
- *When he was young there was a pro in Avenel that used to catch heaps of bream and cod and send them to Melbourne*
- *Bluenose disappeared from the creek in the 1920s after it silted. Macquarie perch were still caught at Tarcombe, odd ones caught at Dropmore*
- *Biggest trout taken from Hughes Creek was 12 pound, used to get a lot fly fishing. Best catch of trout was 100 up to 7 pound out of Eucumbene*
- *In the 20s the angling club shifted cod, yellowbelly and bream from Nagambie and released them at Ruffly*
- *The Goulburn at Molesworth, Cathkin, Alexandra and Thornton was full of bluenose. Used to fish it with uncles in the 1920s.*

- *Yea, Acheron, Rubicon had a lot of bream and cod were caught. Big bream were caught from the Yea, and catfish. Uncle fished at Glendale Road at Taggerty before the war (first) caught bream and a few bluenose there.*
- *The Big River had bluenose in it and a lot of bream, fished it from the weir up to the Jamieson Road*
- *Bluenose in the Goulburn were common from six inches up to about ten pounds, lots of small ones. By the war (second) the small bluenose and bream were gone, big cod were caught, mainly Murray cod.*
- *Biggest bluenose from Goulburn caught in the 20s was 20 pound. Later one or two up to 50 pound were seen. Biggest blue nose from the Murray at Cobrawonga Creek in 1944, weighed 66 pound. When bluenose get big covered in lots of small spots, like big Murray cod, head still different, snout sharp and longer than jaw, blue or grey/green sometimes black*
- *Caught bluenose from Buffalo River in the 30's. At Nug Nug caught both types of cod, up further cod were mainly bluenose*

Below are the recollections of Bert recorded the following weekend for the Goulburn River system which was later published (Trueman and Luker 1992):

The cod were down in the Hughes Creek. When I was eight years old (1908), my father took me down on horseback and he caught some to four pounds that particular day. Blue nose cod they would have been, they were all blue nose down there, except one, a six pounder, I think was a Murray cod, a much deeper fish in the body than the blue nose. And little ones well they would tig tig tig away on the worms. I must have got twenty or thirty on that particular day though I only kept two that were over a pound in weight. Apparently the hole I was fishing in wasn't any good for bigger trout cod.

I had several trips down there that was about two miles above Dropmore Station. But everybody fished it, they were caught up to twelve pounds there and all on bait at that time. I don't think the aeroplane spinner had come in till about 1920. One old chap told me that it started from somebody crumbling up a jam tin lid and throwing it on a line with hooks on it. That could be hearsay. We would go down there on and off and we never came back without cod. But we never caught any bream there. The bream didn't get up further than Tarcombe.

The trout cod was present in Hughes Creek up till about 1923-24. A flood had gone through the beautiful holes, stretches of them, I suppose as nice a creek as you could possibly have for trout cod, you know with deep rocky holes. There was a terrific rain storm up here and it took out every fence between here and Avenel and also cut a gutter from the falls down below here right through to Dropmore and into the Tarcombe area. And of course that probably did away with the breeding grounds that were down there. There would have to be a breeding ground there somewhere for them. That was the beginning of the end for them. They didn't last more than four years after that.

Later on I brought seventeen trout cod over from Gooram on the Seven Creeks and let them go in my dam over here. I put them into the dam to start off with but it burst and let them go into the Hughes Creek. They stayed around there for two years and I would only use a fly when I fished that area and I remember one little chap would come out from the water only about three feet deep and he would come out from under a ledge. I would throw a fly in and boom and then let him go again. He never learnt and would still get caught again. And another one further down got caught several times as well as others. I caught them on the red tag which seemed to be one of the best flies up here.

I caught a cod of six pounds down at Molesworth on the Goulburn River and I tethered him up down there and I put him in two wet bags to bring him home. I had the idea that I'd let him go in the creek and tethered him up in the pool in my paddock and he was lively as a cricket, so I released him. Whether he is still there in the stream or someone caught him or someone caught him I don't know. My parents rented a farm about six miles below Euroa and the Seven Creeks there was full of little blue nose and the Macquaries. One was caught that weighed fifty pounds and had a rabbit trap inside him. The poor rabbit must have pulled the trap free of the stake and fallen in the creek and the cod got him. I don't know whether that was a Murray cod or a trout cod.

I can't guarantee they were all blue nose as it didn't matter much at the time. Blue nose was the title we used for the trout cod back in the twenties. That seemed to be commonly used blue nose cod and Murray cod. And they were all the way right up Seven Creeks to the Gooram Falls just as they were right up to the falls in the gorge of Hughes Creek. At Hughes Creek there was a whole series of steep falls up to ten feet high which they never negotiated. Except the first fall which was only a few feet high which a few fish would get into.

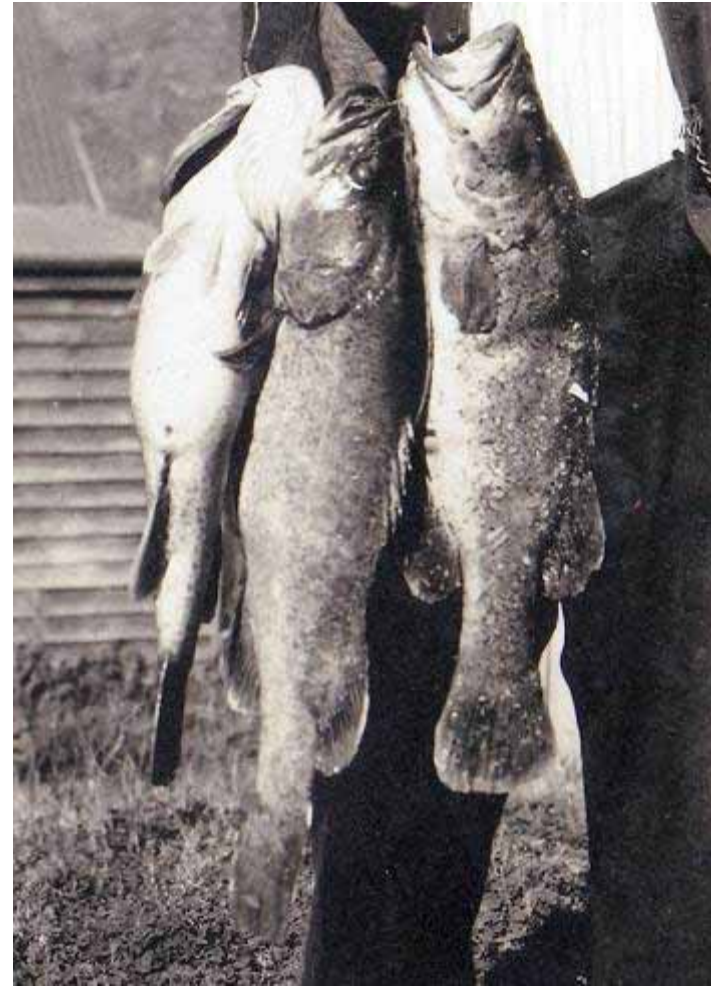
It was about 1921 that the Strathbogie crowd took their wagons and all, cream cans and everything, down to the Goulburn at Cathkin and angled a whole lot of trout cod and some Macquaries and released them at 'Bogie'. It was 1927 that I first caught them there down below Polly McQuinn's, a dozen to fifteen little chaps on the grasshopper. And didn't they take it! Later on I went into the Seven Creeks where the Euroa waterworks pipe comes out and I didn't have any bait with me. It was just a spur of the moment thing that I went in. But I had the spinning rod with me and I had with me the silver Mitchell spinners with the two wing things on them. Didn't I have sport! They were up to about three pounds. Sometimes away they would go and you wouldn't hold them on the trout tackle. They would hit it so hard and you could only break it if you tried to put the strain on. That was the best fishing I ever had I think. I never kept one because the silly twenty one inch size limit was on them. Everyone else took them at any age. I was the secretary of the angling club over here so I didn't want to get caught with undersized fish. Later on I went down and angled with bait for them and got seventeen. I hadn't kept any the other time as I wasn't prepared. I had only gone up as I had heard about them up there. You have got to believe that the trout cod is the fastest there is on your line at the start.

In the early twenties the angling club brought loads of cod over from Nagambie to Terrip. I didn't see the actual fish but I believe there was also quite a number of yellowbelly and bream with cod up to four pounds. I later caught yellowbelly from three and half to four and a half pounds and quite a number of bream which established themselves all up these tablelands. They just seemed to follow up somewhere to go and down through here. And one yellowbelly of twelve pounds was caught a few years later. It had stopped in one of the pools in Hughes Creek.

It would not have been till about 1921-22 that I fished the Goulburn. Prior to that my uncles fished the Goulburn at Cathkin very solidly. I hadn't been there, I was too young at the time I suppose to risk the river. It took them nearly ten years before they got a twenty pounder on the spinner. It was a blue nose and I saw it, it was a beautiful fish. Of course the river was so full of cod, small stuff at the time. The food supply was good and they should have been able to gobble other cod. There didn't seem to be any great big fish like there was in later years. I went down to Molesworth where Ian Perry has the property now and I didn't go too well that time as I caught quite a few small ones and had one line broken. I had put a green frog on that line and the line wasn't good enough! They were blue nose cod, they were nearly all blue nose upstream from Molesworth. That would have been about 1922-23.



This image provides a detailed study of the features of trout cod from the Goulburn River. Photo of a young unknown visitor to *Prospect Hill*, Molesworth, with two trout cod caught from the Goulburn River c1927. Both fish display strongly pointed snouts, large eyes, eye stripe and a general pattern of spots and dashes on the body. Of particular note is the flattened/concave head profile when compared to contemporary fish found in the Murray River downstream of Yarrowonga. The photos in the Perry collection validate Bert McKenzie's accounts for the Goulburn River confirming his familiarity with the species and his status as a reliable witness. (Photo courtesy of Muriel Perry, Molesworth).



Thomas Bryan, original settler of *Prospect Hill*, Molesworth, with three cod caught from the Goulburn River c1927. The middle and right fish are trout cod. The large eyes are apparent in both fish while the middle fish displays the long, strongly pointed snout. Both fish display markings in the form of spots and dashes which extend onto the head. The middle fish has a bleached/mottled area on its flank through contact with the ground or the other fish. Spots and dashes still remain visible in the dorsal region A less convex head profile and extensive markings on the head appears to be a consistent feature of fish from the Goulburn system, including Seven Creeks fish, when compared with those in the contemporary Murray River Population. (Photo courtesy of Muriel Perry, Molesworth)

It was about 1927 that all the channels around Shepparton were full of small cod and catfish. We had sheep over at Dhurringile where we had a hundred acres rented around the big house and in the evenings I would go up to the national channel and I would fish under the drop bar and get quite a lot of blue nose cod or as you know them the trout cod. The national channel was so fast you wouldn't think it was possible for cod to stay in it. But half way up it there must have been a ledge or something, probably a step and I would fish in that with a great heavy sinker. If I got a four pounder cod on I would have to go down to the bottom to land him so that the weight of him would not break the line. And that was like that in all channels around Shepparton at that particular time. The blue nose were in the fast running water but there was also the ordinary Murray cod and catfish.

Something happened to the catfish. A disease or something wiped them out in one season really. There were dead catfish everywhere. They built the Goulburn Weir at Nagambie first then the Eildon Weir (The first Eildon Weir was constructed in 1917 – WT). In the Nagambie lake the fish just bred up. It was just ting ting ting with bites from catfish and cod. The uncles used to fish it and I saw the fish they caught. I think that most of them were Murray cod. Of course Mulwala lake on the Murray did the same sort of thing when they built that Yarrowonga Weir.

I missed out on that one too. The people that were fishing it were getting twenty or thirty cod on the spinners to about seventy pounds. That was the pattern at Nagambie too. These patterns are weird. Whether the spreading out of the water over shallow ground created temperatures that were conducive to cod breeding I don't know. I think that's what happens. When they built the big Eildon and Hume Weirs that breeding pattern ceased altogether (Eildon Weir was enlarged in 1956).

The old Eildon Weir used to go up to the Big River which was one of my fishing spots. We used to use bardi grubs for the trout as using worms the little bream about four to five inches long would just bang bang and you would have no worms left. So apparently there used to be a breeding spot in the Big River for the Macquaries. There were some blue nose caught there as well. I fished the UT creek at the time of the old weir and the young cod five to six inches long were thick. You would always catch a dozen in the evening. You didn't seem to catch any trout because they would not come around to where the cod were feeding. And quite a few other places were the same in the weir. But as soon as this later weir was put in it stopped all the breeding, both in the weir and in the Goulburn downstream though I believe there is still a bit of breeding that goes on in the Delatite at the moment though not much. In the Big River there is now no small bream being caught that I've heard of and no small cod, There were a couple of cod caught at Bonnie Doone which must have bred up about four or five pounds. They could also have been bred up on the Merton Creek.

The era I remember is about 1924. The old weir was really a bonanza as far as trout went. The brother-in-law and myself were on the way up to the weir one trip and we stopped at Thornton to boil the billy and have some dinner. I was looking over in the water and I saw a big four pound rainbow trout come swimming up. I called my brother-in-law over and we caught four good fish there. They were all rainbows and we saw a couple more. We then went on up to the weir. That was in the Jerusalem Creek that night. We didn't catch any bream there or cod. I believe there was big breeding grounds they had a bit like the salmon, that they had to come back to get the urge to breed. What ever it is I don't know. While the old Eildon Weir was going apparently the conditions were still right for Macquaries to breed and right for the cod that were there too; they were blue nose but I am not saying that the Murray cod were not there because they should have been.

There were also catfish all the way up to Eildon in the lagoons near the Goulburn. All those were full of catfish. One old chap; Christie from Thornton, was telling me that the yellowbelly were up there. I never saw a yellowbelly in that area. He told me about a sheep dying on the bank and maggots rolling down into the water and floating away and he'd say that there would be five

hundred yellowbelly coming along feeding on these maggots. I've never sent the yellowbelly there, Macquaries yes. He might have been mistaken though the yellowbelly's a pretty distinctive fish in the water. If you can see him in the water he's a dark colour whereas the Macquarie was really white up in the Thornton area.

Above Thornton in the rapid waters the small blue nose were just as thick there as they were at Cathkin and I caught them there about 1924, I took some Melbourne visitors staying up there and take them around to the Eildon Weir which of course was the show place, and we would always go fishing on the way back. Several times I stopped at this particular rapid, and I still fish it too as a matter of fact for trout and it was the same there as at Cathkin. Small cod in abundance. If you can get the cod breeding they'll overwhelm every other fish in the streams. The cod at Thornton, they were all trout cod.

In the 1950's there were quite a few big cod caught up at Jamieson and of course quite a lot of good bream. I've seen several four and a half pounders come out at Jamieson and also the Howqua and at Bonnie Doone. I caught two myself one trip. I thought I had a six pound trout on! A four and a half pound bream takes some landing. Macquaries I suppose I should say. The cod at Jamieson were mostly fifty to sixty pounders and I would say that they were from the old weir.

Both of the Yea and the Acheron rivers were known as good bream rivers, that's the Macquaries actually, and some cod but I didn't fish them much. I've fished the Acheron down there where it runs into the Goulburn, a beautiful hole there, and I stayed there to try and catch trout. I was a trout man then actually. I used to catch trout, browns and rainbows, near the bridge for the Taggerty - Alexander road. That was a great spot for trout.

I believe that the breeding grounds have been destroyed. In Eildon it is too deep and the Goulburn of course is now too cold. This I do believe. If given the chance to acclimatise they'll breed in colder water You'll have to establish breeding grounds for the Macquaries up in the Big river and in all the others. The same will have to apply for the cod too, where the water is warmer. I think that the trout and redfin are a factor, a big factor. I'd say it's the trout more than the redfin. I think the redfin feeds mainly on baby redfin and school whereas the trout's a nomad, he moves everywhere. Any predator in a pool and you're going to have less fish aren't you? That's just simple arithmetic. So the release of lots of trout may have affected the blue nose in the stream.

D. Recollections of Max (Darb) Mathews of Jamieson

Max Mathews was interviewed by the author in November and December 2006 at an age of 82 years. Max provided additional thoughts and memories in January 2007 before passing away in February 2007.

'I'm the oldest one left in the town. The others, 87, 90, 93, they're all gone, I'm the last. Born in this house in 1925, with a midwife. I got the nick name 'Darb' off an old aboriginal bloke, his name was Darb. I left in 1960 to educate my kids, went to Melbourne, then came back. Still got a house there in Croydon. In the rivers around Jamieson were the cod, silver bream, black bream and the slimmies. The silver and black bream were crosses of the same, Macquarie perch.

I saw my father catch cod, some were on the saddle, with their tails on the ground. That was out of the Goulburn here, and out of the Howqua. Back in those days a horse was the only way you could get around. You could catch the big cod on parrots. We used killed sheeps heads that were fly-blown to attract the cod. Hang them over the water, the maggots brought them in. My father did that. Then

you would use the parrots for the big ones. The smaller ones wouldn't touch it. For them you would get them on the crabs for bait.

In the Goulburn I caught cod up to the one mile peg, not much past there, as far as I know, didn't go much up there. The older people talked about a lot of cod caught around Knockwood before the lake first filled. There was a waterfall on the Goulburn there, just up past Dempsey mine, past Trentfield's house¹. The cod and bream didn't get past there. The Goulburn is a cold river up there, through the forest it runs in shade. And there weren't many deep holes, the cod needed them. Maybe the mining filled the holes, I don't know.

The Jamieson was different, I fished it a lot. It was warmer, a lot warmer, it had lots of sun, and plenty of deep holes. The cod and the bream they went right up to the start, up to Mitchells Creek. I used to go up there mustering, about when I was 14. They went up that far, caught plenty there, but they couldn't get up the 11 foot waterfall². Later on when they were put in, some of the trout made it up there, past the falls. The bigger ones did, the rainbows used to climb better than the spotted. Laurie Hoskins and I used to fish it a lot. His father had the homestead there.

My father grew up at Aberdale Station, up at Sheepyards Flat, on the Howqua. My grandfather was up there too. The Howqua was the same, in fact it had more cod and bream in it than just about any of the other rivers around here. They were all the same, full of the cod, silver and black bream, and the slimmies. They used to catch big cod right under the Howqua bridge. Further up the river, at Oleary's, there was a lot of sticks and timber, and I used to get a lot of the silver bream and the black bream up there.

Around Jamieson the cod, you could catch them all year round. In the winter, anytime. They bit well in spring, in the spawning season, but then they brought in all the rules about 1934, like they had for the trout, so you had a season on them then, you couldn't fish for them. The biggest cod I caught in Jamieson was 27 pound at Kewshwin's Hole, Frank Galbally the solicitor was with me, though when I was a kid I saw 50 pounders caught. I saw Mark Foots and Webby Foots catch them. The biggest cod I saw was caught by Max Sullivan, out of the Delatite in 1943, it was 108 pound, it was in Nolan's butchers shop for months. He caught that below Brack's Bridge, it took him three hours to land it. He thought he was going to run out of line!

The other type of cod the bluenose was caught in Jamieson. Very different head, looked like a cannibal, different colour and markings, a long dark nose that was blue, like the name, and marked different. My father showed them to me first, when he caught a couple that were 15 pound. They were caught up to 20 to 25 pound, but they were tougher to eat. They were not that common in the Goulburn here as far as I remember, not as common as the Murray cod. My father told me that they used to be very common in the Goulburn here, the most common cod caught, before the weir got built. Maybe the weir affected them, the still water might have helped the Murray cod move up here. They were a lot faster than the Murray cod. The Murray cod liked the big holes in the river here, there weren't many big holes past here in the Goulburn. With the Murray cod it was a case of keeping the pressure constant on them, bring them up and burst the air sac. But I had a bluenose straighten a hook out, near Kewshwin's holes.

My father in law, Percy Newman, was born on the Big River, one of four brothers, they were all born there. He showed me the old wheel tracks of where they used to go in and out, bringing in the flour and other things. It was cleared then, you wouldn't know it now. They grew oats in there in one spot. There are trees now as wide as the wheel tracks! That's near where the Taponga comes in, at the Taponga junction. Showed me where the old antimony mine was. He talked about catching lots of the cod, the bream and the slimmies, there were no trout in the river back then. He talked about a lot of

bluenose, in the Big River, they handled the faster water. That was back before the weir went in. The cod, bream and slimmies went all the way up to Enochs Point, I caught them there, the blue nose, plenty of them! And there was heaps more there when Percy was young. When I was a kid I saw them slip over the rapids, moving between holes. That was right, the bluenose and the bream were so common there.

The bluenose were more common, very common in the Delatite, than in the Goulburn in Jamieson, it was a smaller river. That's where I met my wife. I caught cod below where Brack's Bridge is on the Delatite up past the main road. That's near where Newman's house was Bracks Bridge, they moved over there from the Big River, my wife's a Newman. They were all good fishermen. There were bream there too, the Murray cod and the slimmies. The cod high up the Howqua and Jamieson might have been mostly bluenose too, but I was a kid back then, it's a long time ago. My father talked about them up at Sheeppyard Flat as bluenose, but I can only just remember them being cod. I think there were plenty of bluenose up at Mitchells Creek too, I remember some of the fish, though I am sure we did get some Murray cod closer to Jamieson. But in the Big River and the Delatite well there was heaps of them, definitely.

The black and silver bream were all through here. The silver bream, there were a lot around 9 to 10 inches long, but when I was a kid I caught a hell of a lot of the black bream around a pound and a half. They were crosses of each other and different sizes. They were very fat, but had awful fins, could do some damage. They used to come up the river out of the weir, yes, heard the stories about them stopping the stage coach. In the new weir, well they came out of it and up the river, they used pitchforks to fish them out. Had my neighbor, Henry Brooks, borrow a pitchfork! He was throwing them up on the bank. My dog Darkie, he could smell them, he was trained to find them, then he would bark like buggery, gospel truth! Poor old Darkie, he is dead now, but he could find them. When there were the big runs out of the new weir, even the people could smell them. In different years they went to different holes, one year at the hole at the junction, the next year to Italian Camp on the Goulburn, the next year they were in the swimming hole in the Jamieson.

I've got pictures of them building the old weir, that's from 1916. It only backed up the water up to Peechy's Bridge at Darlingford, on the Goulburn. There was a lot of cod caught out of it after it filled. There were no yellowbelly or catfish caught here in Jamieson, though a few yellowbelly did come out of the old weir early on. In 1933 they started putting a lot of brown trout in. Up at Laidlaws Road, up past the cemetery there was a working bee, that's where they made the hatchery. There was Dick Dale, he paid for it, John McCormick, 'pop' Hoskins and my dad John Mathews. Dad didn't too much on it, he leant them his scoop, showed them how to use it. They built a dam, lined it with saplings, had trays to hatch the eggs. They did everything themselves, had to use the bush materials, what they had. They released them there. Later on they brought in the rainbows.

When they let the trout go, when they were let in they were a cannibal fish, well that eventually did away with the bream, and the slimmies, in the rivers here, well mostly, though they were still in the lake. You would clean the trout and they would always have the slimmies in them, and sometimes the bream. They were only little bream, about 6 inches long, but I did see a lot of them in the trout. I didn't see many small cod in the trout, maybe odd ones. They were full of small crays, and sometimes even birds. I was told there were trout in the river before the hatchery, but after the hatchery was put in the bream got scarce, saw them mostly when they came out of the weir. There were still big holes in the river then, down below here that suited them, but they became less common.

After the second weir filled there was just a few yellowbelly caught, they came out of the farm dams, along with the redfin. The State Rivers were going to poison the dams to kill the redfin, but the water came up too quick. It came up so quick there were water tanks, fuel tanks, even tractors floating

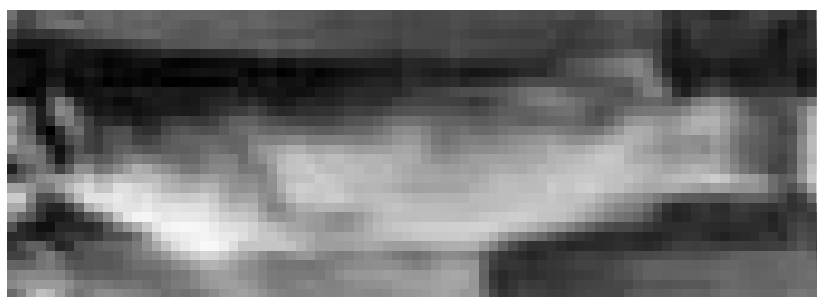
around. The crabs weakened the walls with their digging and they let go, putting the redfin in. The redfin helped the cod and bream disappear. But the cod liked the running water with the big deep holes, and the weir covered most of them.'

¹ The Dempsey mine was located on the east bank of Ryans Creek, near its junction with Gaffney's Creek, about 600 m south west of the township of Gaffneys Creek.

² The falls discussed by Max in the Mitchells Creek area have not been visited by the author. Examination of topographic maps suggest that they may be located approximately 2 km downstream of the junction of Mitchells Creek with the Jamieson River.



Photo of a large trout cod (top) and Murray cod (bottom) caught from the Goulburn River at Thornton in 1938. (Photograph courtesy of Frank Moore of Max Cove)



A few days before this report went to the printers I received an email of a photo of a cod caught on a family picnic to the Howqua River in 1928. The photo is a low resolution scan of a copy of the original. The image is suggestive of a trout cod with a large eye, eye stripe and long upper jaw discernable. If the original can be located a high resolution image will be provided in a later publication to confirm the identity of the fish. If the fish is a trout cod it will confirm the presence of the species in the Howqua river as reported by Max Mathews and Frank Moore. (Photo courtesy of Bob Jones)

E. Recollections of Frank Moore of Max Cove

Frank Moore was interviewed in December 2006 at an age of 82 years as well as providing letters outlining some of his memories. Frank has an excellent knowledge of the angling in past years in the Goulburn system going back to the early 1930s. He is currently putting pen to paper to record his many memories. He has shared the following recollections of the Goulburn and other waters, his stories in many areas matching those of the late Bert McKenzie, Ron Bain, Max Mathews and Russell Stillman.

I grew up early on in the Wimmera, my brother was 20 years older. We started off fishing the Wimmera area, later on moved on, fished quite a few other areas. Lived around Bonnie Doon, Barjarg, been in the Delatite area more or less since 1948, fished in and around this area before and since, just about every bloody inch of it! When I was a boy I used to see native cats, I'd get them in the rabbit traps, they gave me hell. I suppose I was one of those that knocked them on the head, but really what did them in was the change of conditions through intense farming.

When I was a kid we used to get big blackfish out of the Sassafras Creek, that was about 1935/36, and I've caught good ones out of the top of the Dandenong Creek as well as nice ones at Wesburn and the Doone Reserve. I've caught them to 2 pound, maybe more out of the Britannia Creek. Norm McLeod and I used to give them buggery, blackies and trout, in the Tarago River. That was later, 38/39 right up till about 1948, apart from the war years. The biggest blackie was about 4 pound out of the Sassafras, my grandson got a good one last year in the Woori Yallock Creek near Macclesfield, about 4 pound. Norm and I used to get some good bags of them, from about 2½ pound to 4 pound from the upper Thompson, around 'Swindlers', 'Napping,s' and 'Bell's Flat', old mining towns. We would always get them in the evenings, from say 7 p.m. to about 11 p.m., and good bags too! Up to 20 fish, but then you could catch them in plenty of places. My dad and brother frequently caught them, as well as cod, in both the Yarra, and the Plenty River.

We used to get catfish out of the lagoons along the Goulburn, when I was a kid in the mid 1930s, at Thornton, Alexandra, around Cathkin and Molesworth, no worries. Actually I've caught some out of the Yea River itself. They varied from 2 to 6 pound, we used to like eating them, they were as good as cod. My brother used to get a lot of bream at 'The Breakaway'. We caught plenty of cod out of the Goulburn along there too. We camped out there at Thornton with Harold Sweeny, Jack Bliss, used to catch the cod and pack them in damp sawdust. Harold used to get the cod frozen at Sennet's ice cream works. Once the cod had nearly thawed out we would get them sawn up into chops at the butchers. Old Dr. Box used to fish with us, he knew all about the two types of cod there. He showed me how he could pick them from slight differences in the tail as well as all the other differences.

Jacky Stillman, born and bred at Crystal Creek, he cleaned a 27 pound cod and it had a 2 pound bream in it! Got a photo of him with a 23 pound cod out of the Acheron in 1938. He got it on a green tree frog on a handline, next to Pat Noonan's place down towards 'the Breakaway'. I've caught cod in two foot of floodwater, pulling an aeroplane spinner over the paddocks. I've caught little ones, which were taken by the big cod! We used to get a lot of good cod out of the Delatite arm of the old weir. My father and my father in law Syd Moss caught heaps, lots of good ones.

I used to get the cod and the perch out of the Howqua. At the time they went up as far as the big holes below Tobacco Flat. The original Bridge at Sheepyard Flat had washed away once, and I used to go down through Whiskey Flat and at the end of Tobacco Flat is Weirs Creek. Down a little I caught the cod, downstream from Weirs Creek to Dry Creek. From Dry Creek down there were hellish big cliffs, and from there down there were some excellent holes. Mostly the ones I caught, I suppose a good one was 10 pound, mostly 7 to 8 pounds. We also caught what I called yellowbelly

back then, though others called them perch. They were mostly a small fish, about a pound and a half, though I know blokes that got bigger ones up there. In the top of the Howqua 10 to 12 pound was the biggest cod. They didn't really go up further than those holes near where the cliffs were, not when I fished it. A few redfin and tench got up there too, and the slimmies, well we used to catch a lot of them. For the cod, we nearly always got them on scrubworms, though we used cockies breasts too. They probably bit at all the shrimps on it.

In the Delatite we got a lot of perch up to 3 to 4 pound, in the good holes, where there were 3 or 4 good bends between Piries and Delatite. You could almost always be assured of getting one. And the trout too, there were lots of them. We caught a lot of cod too, but not the big ones. The common size was about 8 pound, though we got broken off by bigger ones. In the Delatite, that was before the mid 1950's, before the new weir went in. The Delatite now is nothing like it used to be back then. The river was deeper and had much greater flow, maybe the flow was 25 times what it is now. It's changed all right, it used to be pretty much gravel and sand. A lot of it is now mud and big boulders. You look at it and its not the same river any more.

In the Broken I caught the cod and the perch way up past Nillahcootie, up around Stockyard Creek, up from Barwite. It used to be a bloody good river, that was not long after the war. The cod weren't big, a big one was maybe 15 pound, with a few at 8 to 10 pound. You didn't catch a lot of them, didn't catch hundreds of them. During the season, in three days, you would catch maybe a cod, maybe not. The perch were about the same, you'd get one like the cod. They were up to 4 pound. Some holes were much more productive than others. But as the river shrank so did the fish, not just in weight but in numbers.

Other places, well in the Indi we used to catch a lot of trout and in the pools the Macquaries. At Tahbilk in the Goulburn we caught lots of cod, Macquaries, lots of cattiees. And in the Majors Creek too I caught a cod once, perch and 3 or 4 nice cattiees.

The cod we got out of the Howqua and the Delatite well they were different to those in the old weir. They were a dirty sort of a grey colour, not like the ones in the weir which were a lot brighter green, the proper Murray cod. No they were like the ones we used to get in the Goulburn, like in the photo with Jack Stillman, the heads were different. Others called them bluenose or rock cod but they were just cod to me. I suppose they were all trout cod in those rivers, different to the normal Murray cod. I feel really bad, people are going to blame me for wiping them out. But I honestly think it wasn't the fishing, it was what we did to the rivers. We only kept the fish we needed to eat, so it wasn't the fishing. It was what we did to the rivers.

The native fish lasted so well until we came along. When I was very young we used to get lots of little ones, then they just disappeared. You would get the bigger ones, 8 to 30 pound, but the little ones were gone. They tried to turn the rivers into channels, pulled out the snags. They tried to charge me a levy for pulling out the snags, but I refused to pay. And then the redfin and trout were put in, and later on the carp. It's no use blaming what happened, in a lot of cases it was sheer ignorance, not knowing a new country. When you look at the rivers and see whats happened, well, they're not the same. I think we need to fix some of the rivers for the natives. One man can't make a difference, but a lot of men can.'



Photo: Jack Stillman of Crystal Creek holding what is believed to be a 23 lb trout cod caught from the Acheron River near 'The Breakaway', Taggerty, 1938. The fish is in superb condition, the head being relatively small compared to those fish depicted in the Perry photos over a decade earlier. The fish can be identified as a trout cod as even though the head is small, it shows conformity with the features of the trout cod from Molesworth evident in the Perry photographs. Similarly photographs of trout cod from the Thornton area about the same time also have smaller heads than those in the earlier photographs. The fish displays a strongly pointed snout, eye stripe, long caudal peduncle and markings in the form of spots and dashes which extend onto the head. (Photo courtesy of Frank Moore, Max Cove).

F. Recollections of L. R. (Russell) Stillman of Alexandra

Russell Stillman was interviewed in February 2007 at an age of 90 years. Russell also provided further recollections in a number of letters.

'Dad's Ford agency garage was originally my granddad Stillman's stables and coaches. My dad, William Lesley (Les) Stillman, at 17 years old drove a coach with six in hand loaded with passengers and food and supplies for the gold fields at Big River. The trip from Alexandra took in Thornton, Eildon, Darlingford, Jamieson, Gaffneys Creek, Woods Point and back through Mansfield – a weeks trip. I remember when I was very young my father used to go on Sunday mornings down to Magee's Beach on the Goulburn here and in no time he would have a collection of cod and Macquarie perch, a dozen or more of them. The old brown photo is my dad and the kid me, about 1924. Dad went to Magee's Beach on the Goulburn just below the bridge one Sunday morning and was home by one o'clock. He angled this bunch of small cod and bream on worms.

We used to get the catfish out of the lagoons, they'd get in the reeds and pull very hard, we used to get a few in the river too, but they were very common in the lagoons. When I was 8 or 9 years old I got a big catfish, it would have been 6 to 7 pound. I can remember about that time my father and his mate went down to Hall's Flat on the Goulburn. In the floods the water would go all over the flats, the lagoons would fill with water. This Sunday they went down to this hole in the lagoon, its still there, I look at it all the time. After a while we got a 3 pound Macquarie, then another good one, be a good 3 ½ pound, and others. They would have got washed in there in the floods because it flooded nearly every year. They would have been there a year or two because they were very black. Floods were a problem. If the weir was holding good water and some years with heavy rain the overflow went over the spillway, sometimes two feet of water. As a result all the flats from Thornton to Seymour went under water and I remember some years Alexandra was cut off for a few days when Home Creek at Cathkin flooded the road.

In the river you used to get a lot of small cod, 3 to 4 pound, but you would catch big ones if you set lines for them. I remember my father set some lines and got a 12 pound cod and tethered it. When he went back he pulled in the line and there was a 40 pounder on it, he had eaten him! I went down to Brook's cutting with Ollie Johnson and pretty early on heard this wallop, it was a good cod feeding. Well I chucked in this line with a frog on it and got this fish, it was pulling hard. Ollie had to hang onto me, but eventually he broke the line. Back then in the Goulburn you mainly got the cod and the Macquaries, with an odd catfish, and there were greasies or slimies too. I never saw any yellowbelly or grunter out of the Goulburn, never saw them till I went fishing out past Conargo.

There was a good fishing hole in the Goulburn on Ollie Johnson's property known by him and us as "the stump hole", near where the Dry Creek runs in before the road climbs to Brook's Cutting. When the floods receded and the top of the stump showed was the best fishing time. Ollie would ring and leave a message for me and after school I'd ride the bike down, about 2 miles. One evening I was fishing and I caught some nice bream and a cod about 10 pounds. Ollie arrived and fished the fast water off a gravel spit at the head of the pool. He told me he was off to Melbourne the next day and wanted a nice eating cod about 9 or 10 pound for some friends. He was courting a lady, who he later married. Using scrub worms he caught a 6 pounder which he put back. Then he got a good 20 pounder, which went back. After a bit of time his next bite was what he wanted, a good 10 pounder, and off he went.

Ollie was my dad's best fishing mate, lived on a big holding of river flats on the Goulburn and hill country, originally the Hoglington selection. He had ferrets and would catch a dozen or so rabbits, tie them in a bundle, and from his flat bottomed boat suspend them from the trees over a favourite

hole for a few days. On Sunday Ollie, dad and I would fish the hole and catch a nice lot of mostly bream, sometimes a small cod. The maggots in the water brought in the fish.

With the Macquaries the average ones out of the Goulburn would have been 1½ to 2½ pound, with the big ones being 3 pounders, though out of the lake I did get 4 pounders. There was a lot of them in the Big River too. I remember once the week before the season opened I went up there one Saturday, I'd been told you could see the bream in there, there was supposed to have been that many of them. About three weeks before then a 34 pound cod had been caught there, that was in the Big River near Two Bridges. It was crystal clear and I was on a sandy bank under the teatree, and there was a gravel bank on the other side, so I threw out towards it. Then I looked over and the gravel bank was gone, the bank was a heap of 3 pound Macquaries, it had been a shoal! That was about 48 years ago, my son was with me. I can remember up at Jamieson Ron Henderson who worked for the CRB using a rake to rake them out of the Goulburn, that's how thick they were when they were spawning.

The greasies we used to get out of the Goulburn, and they were in the weir, I've caught them out of the old weir up to 15 inches long, they're beautiful to eat. When I was a teenager my father took me fishing up to the weir. He believed the Macquaries bit best on the full moon, though later on I reckon they bit best when they were spawning. It was near dark and I had a scrubworm on a big cod hook, sat the rod down in a forked stick. Anyhow it was dark and I checked my rod and the reel had been pulled up to the fork and the stick bent over. When I wound it in there was no fight but there was a greasy on the end of it, about a foot long, it had been part digested, he was all soft and white. A big cod had grabbed him!

The cod and Macquaries went up the Acheron, I used to fish it about ¾ of a mile up from the 'Breakaway' and got them there, but they went up further. I had a friend Wilfred McColl, he used to catch them out of Conelly's Creek, used to catch the Macquarie perch and cod in this hole on the farm, that's up past Acheron, they were common up at least that far, and as far as I know they went up past there. We caught bream up the Acheron on a property owned by Dad's mate Bill Keen, later known as "Squires", about 2 miles up from "the Breakaway" where the Acheron joined the Goulburn.

Once we camped in Keen's hay shed and fished at night. We could handle the mossies but the tiger snakes were a different proposition. They came out at night and there were so many of them we gave that away! Snakes were everywhere on the flats in those days. You would see half a dozen on the walk in and had to be careful fishing the bank. There was no development. Tea tree, rubbish, tussocks, thistles 6 feet high, everywhere. Now it's all ploughed, cleared, and cropped, and the poor old snake has nowhere to hide and breed. Ollie Johnson told me one flood time he was rowing the flattie over Magees Flats opposite his home getting flood rabbits hiding in the tussocks. In a hollow where the flood stream went through there was a wire netting fence across the stream. He counted about 200 half drowned snakes hanging in the netting! We gave that fishing area a wide berth that summer!

There was a bloke here, Eric Milroy a railway ganger, he was a really keen fisherman. He invented the first bubble, got a bit of beeswax, made it as big as marble, he could cast a mud-eye out into the lake where the trout were feeding. He had a flat bottomed boat tied up at the bridge down there near Molesworth. He always had three or four setlines in tied to the Wattle trees with goldfish for bait. Every week he would catch two to three cod, 30 to 40 pound cod, that was back just after the war in the late 40's.

The dark square photo has a story. The fish were caught on McRae's Bend on the Goulburn, in from Whanregarwen Road. A share farmer and his sons said they had a spare weekend on the property

and would set a few lines on the bend to see if the cod were biting. They sure were! Comparing the size of the man there would be a couple around the 60/70 pound mark. The bait was yabbies, scrub worms and a couple of parrots. The same people caught a 60 pounder another time and when cleaned a tiger snake was in its belly. They refused to eat it and boiled the fish up in a drum and fed it to the chooks!

We used to catch a lot of river cray in the Goulburn between Alexandra and Thornton, my memories are about 1929 to 1932. Each year after the floods when the river got back into its banks but still running yellow, my dad got some sheeps heads off butcher Bill Barton. Dad made some big mesh drop nets from twine or hay band around 3 to 4 feet across. Cut a few 8 to 10 foot suckers growing on the river bank as handles and dropped the nets of high banks. He would get 3 to 4 every lift and have several chaff bags full. Cooked up in a copper and kerosene tins and were delicious.

Work was started on the weir in August 1914 and finished in 1928. It was done with horses, drays and scoops, and fork and shovel. After the weir filled about 1927 for a year or so the water was black from the submerged eucalypts. We used to get a lot of cod out of the old weir, they bred up in there, and the Macquaries. About 1929 or 30 a rabbit trapper, Jonesy, who lived in a hut on the waters edge near the site of Coller's house, Fraser Park, came into my dad's garage on his monthly trip for a tin of kero. "Les", said Jonesy, "What sort of fish is this?" producing a 3 pound Macquarie perch, bream we called them back then. With great purpose and excitement my dad said "That's a bream". "Well" says Jonesy "One evening out from the hut on the flat I saw a few fish taking insects. I threw a line in with two hooks and caught two like this. Good eating too!"

Next Sunday dad, a couple of his mates and me (about 12 or 13 years I think) made the tough trip over the rough access track. We fished what is now known as Picnic Point. We caught about 17 bream, which was a poor result back in those days. The next Sunday we fished further round in the bay opposite Picnic Point where the original road before the weir crossed the hill. A 40 odd result wasn't bad but the next Sunday we ventured further around Cooks Point to what is now known as Italian Gully. The result is seen in the photo. We got 117 Macquaries out of the weir as well as a cod and two trout each about 8 pound. I recall the full catch was 117 because we had given away a lot before the photo was taken. The picture was in the book "The Whole Dam Story". The fishing was about from 10 am to 3.30 pm. A local old time photographer with the camera on a trestle and black cloth over his head! The back drop was the garage doors and a few car lights as you can see. The two eight pound trout I tossed behind a log because I didn't want them in the bag with the good bream. The cod was caught by Ollie Johnson in the mouth of a seasonal creek which ran into the lake, the Mountaineer.

I can remember when the cod were dying in the weir, I reckon it was about 1932/33. I used to troll in the lake, rowed for them in the boat, there was only about three boats on the lake back then. I would have had to have been 12 or 13 when I had the boat. I remember seeing the carcasses in the lake, out near Forsyth's all along the bank, they'd been dead for a few weeks. I remember seeing numbers of them, the ones I saw were cod though I think Macquaries died too. They were all over 10-12 pound, up to 30 to 40 pound, I saw 6 to 7 dead another day too.

I remember about 1937/38 a workmate told me a couple of years prior a group of fellas gathered after work for a barbeque and booze up at Picnic Point at Fraser Park on the old weir. They put in a gill net to get a feed and camped the night through. In the morning they couldn't retrieve the net – reckoned it was snagged. They backed the car down near the water and towed it. My mate reckoned every second mesh had a fish! What sort, I asked? "Don't know, all colours and shapes, I was just the car driver, not interested in fishing'.

I used to catch cod in the lake, not many, but you'd get them with the aeroplane spinner if you kept at it. Best run I had was in the old weir, I leant my boat to a friend of my dad's who camped at Picnic Point for three weeks every year. He fished around the big trees and a few days later I got a message from the butter factory from this bloke "the cod are biting". He had sent in a couple of nice cod for the factory cool room. The next seven or eight Sundays I fished the aeroplane spinner and caught a total of 13. Funny thing is they were all about the same size – 11 pounds. A bloke named Sonneting from Bonnie Doon was fishing at the same time and way as me, but in a different area. He was getting big ones often, 30 pound, in a very snaggy spot which I was avoiding.

The blurry photo of the cod I caught with bait one evening. The larger one weighed 10 pounds but just made the legal length of 21 inches! I reckon the still lake water didn't give them enough exercise, no current to swim against. I've caught 3 or 4 by chance on a small "Reflex" Devon, with one set of treble hooks, when trout trolling. The one on the boat with the Sugarloaf background was one. Also one year when the weir was low I caught those two 3 pound Macquaries on the same Devon over Savage's Flats in about ten feet of water when trolling for trout. That was in the late 30's, about 1938 I think.

The cod and bream were still fairly common up until the new weir was built, then the cold water affected them, they rapidly disappeared. And the river going up and down for the irrigation. The redfin, well we never used to get them out of the river until the new weir went in, though we got them in the lagoons going a fair way back. The redfin in the river happened more recently.'

G. Recollections of Ron Bain of Seymour

Ron Bain was interviewed in January 2007 at an age of 88 years.

'I was born in Seymour, grew up and went to school here. I was the youngest, one of ten. I started work at 14, did my time as a plumber with the railways. My dad, John Edward Bain, he knew the Hughes Creek backwards. He used to say about the cod and the bream being thick, around about Kulabah, used to go up through Tarcombe, that was a bit before World War 1. They weren't big cod. We knew all the people up around Habbies Hoe, old Dick Webb bought the property during the wool boom, 9000 acres, between Dropmore and Tarcombe. The cod weren't big up there, dad said, and different to those in the Goulburn here. They put it down to the clearing of the land and the rabbits, and the creek the holes filled up with sand, they were up to 20 feet deep. I think it was back in the 1920's, I can just remember the change in the creek, we used to have picnics out there, further down the creek, just this side of Jeffries'.

We had bamboo growing in the yard, we would cut them down to make poles. Dad would tie a chord and a hook, and a cork for a floater. We'd go out on Telegraph Road, in the lagoons which went all the way around to the Traawool bridge, and we used worms for bait. They were full of catfish, bream and the greasies. The greasies we loved the best, up to 9 to 10 inches long, they were beautiful. The catfish, all about the same size, about 14 inches, you could easy fill a sugarbag with them, no worries they were thick. We scunned them. The catfish disappeared out of the lagoons towards the end of the twenties, maybe the early thirties. There was a cod or two in the lagoons, but we didn't worry about them much or never bothered much with the river. The bream, that's the Macquarie perch, were all the same size, no more than a pound and a half. A local butcher brought in a hundred pounder, a cod, mum put it in the bath till dad got home to clean it.



Contained in this historic photograph are images of all the larger native fish species once common in the Goulburn River at Alexandra. Dating from 1924, young Russell Stillman is present with his father Les Stillman on the right who angled these fish in one morning at Magee's Beach. Also present is Hector George on the left and Dorothy Fitzroy (Hill). Quite a number of Macquarie perch are visible on the left, with a single catfish present between Hector and the Dorothy. The catch contains a mixture of trout cod and Murray cod, the former are most apparent in front of Dorothy with their overhanging upper jaws, long pointed snouts and eye stripes visible. Once again the relatively flat head slope of Goulburn River trout cod is apparent. Some larger trout cod are present with Murray cod exhibiting their blunter heads. Russell recalled this catch to be typical at the time. The inset shows a close up image of the catfish from a second photo of this catch, to date the only surviving images of catfish from the upper Goulburn River. (Photo courtesy Russell Stillman, Alexandra).



Top photo: Part of a catch out of the original Eildon (Sugarloaf) Weir near Italian Gully by Ray Deal, Olly Johnson, Les Stillman and Russell Stillman from 10 am to 3.30 pm about 1930. In the photo are 61 Macquarie perch, 2 trout of about 8 pounds and a Murray cod. Large catches of Macquarie perch in latter years on their spawning migration out of the inflowing rivers into Eildon were legendary with catches at times being measured in tonnes. This photograph demonstrates that in the early years the Macquarie perch fishery in the weir was also prolific. Bottom photo: A catch of trout and two 3 pound Macquarie perch caught on a Devon spinner at Savage's Flat, old Eildon Weir by Russel Stillman c1938. The lady on the left is Jane Mitchell. (Both photos courtesy of Russell Stillman, Alexandra).

In the early thirties we used to go on holidays, dad made three flat bottomed boats. We'd go up to Alexandra by truck. We'd take two weeks, two in each boat, to get back home, fish all the way, spin and fish. We'd camp on the Islands, near Alex and along the way. At Alexandra we got mostly cod and the odd bream along the way. We never heard about many big cod up that way and never saw a yellowbelly. They were nearly all the bluenose cod up there, the biggest we ever got up there was 10 or 12 pound as well as smaller ones. The bluenose has a pointy nose, where the head on the Murray cod is like a shovel. The nose was a lot longer too, and darker, sometimes almost blue, but not always. What I noticed about them, they were darker, with spots similar to the trout we used to catch. The eyes were different, they sort of protruded more, and they were more of a greeny grey colour than the Murray Cod, and the Murray cod were lighter in the belly. They were really common down to Kerrisdale with the odd Murray cod amongst the bluenose, but you hardly noticed them. They used to get gold at Kerrisdale, there was a race, they'd wash for gold in there.

The bream were usually a pound to a pound and a half, no bigger, never saw a decent sized one. They were very common, though they were more common in the lagoons near home in the early days. We took my future brother in law from here to Alex. He took a kerosene tin with cowdung to keep the mosquitoes away. We used to sleep on the gravel beaches, we would catch a couple of rabbits, we loved the holidays! The bluenose were not as fat and greasy as the Murray cod in Seymour, we use to get big slabs of fat out of the Murray cod, it was a lot thinner in the bluenose. I thought they were better to eat.

I'd say Kerrisdale was the start of the changeover, you got both types of cod there in fair numbers. The Murray cod at Kerrisdale, well the biggest one I saw, the caretaker of the property he caught a huge one on a crossline made of electrical wire, it was 117 pound. It was bought up to the Kerrisdale railway station to weigh it on the platform scales, I saw it there. The Murray cod, well once you went much below the Traawool bridge that's all I remember ever seeing, there might have been an odd bluenose amongst them, but not many. Once I started work I started fishing the Goulburn a lot. Dad built me a boat, a double pointer. We used to shoot Darcy's rapids, just down from the Traawool bridge. I used to fish a lot from the willows at the back of Tallarook up towards Landscape, there were big holes in the river there. We used to get the big crays up there too. We'd go up to the slaughteryard, get a sheep's head, we made a drummy, and we'd get 20 to 30 big crays, no worries.

I mostly got cod out there, 40 to 60 pound, I was a bit of a terror, and 'ding dong' (Ron) Bell he was up that way too. I used to get little greasies and put them on, in later years bardie grubs and small reddies. And the crosslines, well you had to sink them at a sharp angle so that the aeroplane spinners wouldn't catch up on them. Being a plumber I made up special weights for them. Even though I was a bit of a poacher I always threw the small ones back. I had a mate, we would go out with aeroplane spinners. The best way was one casting in the front out towards the logs, and the other trailing. You would always get some parrot feathers to tie on them. We'd head out there all the damned time. You could really guarantee a cod, all year round. We used to go up behind the homestead at Finley's, just behind there was an island in the river. We would go up there in the faster water, we hooked into one that was about 20 pounds, we were only kids then.

In the Yea River there were good cod. In the King Parrot I've only caught trout in there, but the old blokes told me that there were cod and bream in the early days right to the top of it. The redfin started about then in the thirties, they were first caught towards Nagambie, then came up the river. In the Sunday Creek, I caught the best redfin I ever caught. I got about ten of them, 6 pound and a bit over, every one, they were magnificent. There had been cod in it too, actually all the creeks in the district, well I was told in the early days they were full of cod and bream, up into the hills. The bream here got scarce about the war, and the cod fishing had started to back off. But the new weir



A catch of trout cod and Murray cod from the Goulburn River at Thornton c1938. The markings of spots and dashes are clearly seen on the flank of the fish second from the left while the fish third from the right displays a strongly pointed snout, eye stripe and similar markings in the top photo. Some of the other fish appear to have speckled markings. The fish first and third from the left are Murray cod. Bert McKenzie recalled how around 1924 the small bluenose were as thick upstream from Thornton as they were at Cathkin. By the late 1930's the small cod had virtually vanished with mainly larger cod being taken. (Photographs courtesy of Frank Moore).

was the biggest change. The river changed altogether, even in its appearance. We used to swim all of the year, now its too cold, damned if I could get in it'.

H. Recollections of Ray Hopkins of Yea

Ray Hopkins was interviewed in October 2006 at 77 years of age.

Ray recalled how 'cod were caught in the Goulburn River near Yea, outside the rowing club, up into the 1950's. The biggest was 52 pound. My grandfather talked about how when he was young how he could catch the black bream up at Cathkin by the sugarbag. That's the Macquarie perch. That would be going back a while, yes, World War 1.

The black bream, well the Yea River used to be full of them. Old Con Hildebrand used to talk about up the river. He lived near Devlins Bridge, opposite it. He talked about how any Sunday they could go down to the rocky pools up from Devlins Bridge, up through Glenburn way and catch the trout cod, up to 5 pound, catch a 5 pound trout cod any time. They were the trout cod, lots of them, up to the 1930's. And the black bream in the rocky holes. They talked about the catfish being around Yea too.'

I. Recollections of Norman 'Digger' Garlick of Yea

Digger Garlick was interviewed in October 2006 at nearly 80 years of age.

'My old man grew up in the area. He talked about catching the catfish in the Yea River, and a lot in the lagoons. But I have never seen one here, or caught one at all. He talked about the cod and the bream or Macquarie perch being common in the Yea. When I was growing up there were all sorts of fish in the Yea, cod, redfin, trout, graylings. I never caught a lot of the Macquarie perch in the Yea, just a few, once in a while. Caught one not long ago, that was a shock. When I was young they were common in the Goulburn, only 4 mile from here. You could catch them in the morning or the evening, they were up to 3 to 4 pound. They were still caught till the weir got raised in 1956.

I did catch the Macquarie perch in the King Parrot too, my brother was on a farm out there. They were only small ones out there. It was a great place for the graylings, or some call them greasies or slimies. They are not the blackfish, they're on the other side of the divide. Don't grow to any size. They were common in the Yea and the Murrundindi.

The redfin in those days, well they would get into the lagoons in the floods in spring. In summer when they got low we would mud up the lagoons, get in there and stir them up. The redfin would come up, and we would stick them in a cage in the river to clean them up.

The cod in the Yea, the old man talked about catching lots. Any amount, any time. They were still around in the 1940's, most common about 3 to 4 pound. The biggest I saw was 12 pound. They went right up the Yea, way up, and up into the Murrundindi, way up, up to the cascades. There was a good one caught in the Murrundindi on a springer up past the Murrundindi Mill, but the cod were common in the Murrundindi a long time ago, back in the 20's. The cod when I was young were more common in the Goulburn. We used to fish from Molesworth down to Traawool, used to go a bit down Tarrangaville way. The biggest cod I caught out of the Goulburn was 63 pound, others I think might have caught bigger than that. The old man talked about seeing one swim over one of the sandbanks, talked about it being like a big pig.



Photo of Nancy Halligan and Bill Ellis with a trout cod caught from the Yea River at the Providence Bridge, Yea, c1944. The fish displays the long, strongly pointed snout and dashed markings typical of trout cod. Also apparent are the markings on the head and the flatter, more concave head profile of trout cod from the Goulburn system. The flank of the fish is bleached from contact with the ground. The head shows conformity with those in the Perry photos from the 1920's. Stories passed down from Con Hildebrand of Devlins Bridge suggest that trout cod were once abundant in the Yea River with this photo supporting his account. From this picture it is easy to understand why some anglers considered the trout cod to be a 'cannibal' for this fish displays a truly fearsome countenance. Henry Davies of Swan Hill once made the off the cuff comment that they had the eyes of a killer. (Photo courtesy of Nancy Halligan and Gladys Ellis).



Left: Photo of a catch of cod from Bryant's property, Homewood early 1930's. On right is Arthur Bryant while the person on his left is a member of the Draper family. The light coloured fish is a trout cod which displays spots dashes and an eye stripe, as is the next fish to the right, which has a very long top jaw and faint speckling. The other fish appear to be trout cod, those on the left displaying strongly pointed snouts while those on the right presenting a ventral view exhibit obvious overhanging upper jaws. The entire catch appears to be trout cod. From this photo it appears that small trout cod were abundant in the Homewood area at the time as they were at Molesworth, Cathkin and Thornton. (Photo courtesy Yvonne Finch and Ray Hopkins, Yea).

Right: An unknown visitor to *Prospect Hill* Molesworth with two trout cod caught from the Goulburn River c1927. (Photo courtesy of Muriel Perry, Molesworth)

I didn't know about the trout cod back then, though I know about them now. I've caught plenty of them at Murchison in recent times, they've got the longer nose. We were working at Molesworth about 1945-46, and I remember we caught on a springer this 'cannibal cod', it was long with a huge head with the nose, about 5-6 pound. It was a trout cod, they were there, but we didn't take much notice back then. We caught trout at Molesworth too, plenty of them, and in the Yea.

The last cod I saw come out of the Yea was about thirty years ago, and that was the first for a while. When they raised the weir in 1956, well that bugged it for the cod in the Goulburn. It got too cold. All you could catch was trout. But that doesn't explain why they disappeared out of the Yea does it? They were going before then, and the Yea never turned cold. Then the carp came in, though there's fewer around now, but bigger. At the same time the cod have come back recently in the river down at Undera, down Shepp way. We caught 70 in four days, from about a foot up to the 60 centimeters. And the grunter, they're great bait stealers. But hardly any yellowbelly. Caught lots of grunter in the Edwardes these days. The old man never talked about seeing yellowbelly or the grunter in the Yea area.'

J. Recollections of Bill Morris of Molesworth

Bill Morris was a former publican at Molesworth and was interviewed in October 2006 at 80 years of age. He had resided in the area for over 60 years, arriving in 1945.

He recalled that at the time he arrived in the area 'there were lots of redfin and tench in the lagoons. When I first came here you could put a big drum net in the lagoons and catch lots of tench and redfin. The catfish, well by then there were one or two, not much to talk about. Apparently there used to be quite a few around here in the lagoons. That was about the end of them. At the time the bream in the river, there were a few. You would fluke them. Just a few, nothing worth talking a lot about. They were caught on and off. At the time they were starting to get a few trout here.

By 1945 the cod, well there were not many cod, just the odd ones. It was not like you caught them all the time. You had to work for them. Some were a fair size. I saw Jack Roberts catch a big one. Yes, about 50 pounds. With the weir, it stopped the floods. The cod would move into the lagoons and breed up, and leave. The last of the big floods were in the 1950's. The Yea River, well by 1960 there was just about only trout and redfin in it.'

K. Recollections of Bruce Nicholson of Home Creek

'About 1948 the Home Creek still had cod in it. We had a farm, 3 miles up the creek from Cathkin. I mainly got trout and redfin out of it. I once got a cod, be about 8-9 pound out of it, below Nicholsons Road out of the swimming hole in a drum net, that was the only one I caught. There used to be bream in it, but I never caught one. My grandfather settled it, and he used to say how years ago that before tea he could get a sugarbag full of the bream, in an hour before dinner.'



Left Photo: Two large cod caught from the Yea Rowing Club area, Goulburn River, c1937. (Photo courtesy of Ray Hopkins, Yea).



Right Photo: Bill Bryant with a cod, thought to be a trout cod, caught from the Goulburn River near Yea, 1959. (Photo courtesy Yvonne Finch, Yea)

L. Recollections of Collin Bell of Seymour

Collin Bell was interviewed in September 2006 at nearly 93 years of age. Collin recalled that his father *'was a mad fisherman and took him down to the Goulburn (at Seymour) when he was 5 years old'*.

'At Seymour 80 years ago we caught the catfish, mainly in the lagoons, but I caught them in the river as well'. When asked what size they were Collin replied 'We didn't have scales to weigh them'. I asked him if he caught them up to 2 pound in weight he said 'No bigger than that'. I asked if they were up to 3 to 4 pound he said 'Yes, the biggest would have been that'.

'We would catch the bream, they used to be very common. They would start biting early, before my birthday in October. We also caught the grunter around Seymour. They were fairly common. They were caught in early September, though nowhere near as common as the black bream, the Macquarie perch. I think we caught a few yellowbelly, not many. We would occasionally get a trout'.

'The cod were abundant. We caught two types, the normal Murray cod and the smaller type which was a different colour and markings and very different in the mouth. I think we called the smaller type "trout cod". We mainly caught the normal Murray cod, not a lot of the smaller type, just some. There was a lot more of the smaller type further up the river. At one time my father was at Molesworth, we owned land over the bridge, I think the property was called Fernside. I saw a lot more of the smaller type of cod up there with my father. I remember my grandfather went up there for a week, up past what became the Perry's property. Father rode up there on the Bridle Track. That was 80 years ago, I remember having dinner with my grandfather.'

'I've fished down to Hughes Creek near the mouth, caught there mainly the bream and some cod'.

'In 1934 I played in the football and we won the premiership. In 1935 I went away from Seymour, came back in 1946 after the war. The catfish had disappeared, there was a lot of the redfin around. The raising of the weir in 1956 was the beginning of the end for the cod'.

M. Recollections of Ron Bell of Seymour

Ron Bell was interviewed in September 2006 at an age of 83 years. Ron recalled that *'when I was kid the black bream were in the river in droves. I caught them up around 1½ pounds though I saw them caught up to 3 pounds. When I was about 20 they got replaced by the redfin.'* I never saw grunter in the river here, though I caught plenty below Shepparton way, down near Wyuna. At Wyuna I used to catch lots. The first time I saw a yellowbelly here was two years ago. That's the first time in my lifetime, here in the river. I remember when I was a boy the lagoon near the old weighbridge, it was a big lagoon when I was a boy. A fire had burnt the place out, then a thunderstorm washed all the ash in. I saw them cart all the dead cod out of the lagoon, they used pitchforks, used drays. Years ago the lagoons were full of catfish. They disappeared within a space of 2 years. All the little creeks around here were full of greasies.

In the river here were the two types of cod, but mostly the Murray cod. Up at Molesworth when I was a kid in the old times we used to row boats down the river catching cod. Take 2 or 3 days to get to Seymour. Up at Molesworth we caught only cod, never big ones, not bigger than 20 lb though we

may have got busted off by bigger ones. I can remember clearly one fish that was 15 pound. It was definitely a trout cod.

Around here the biggest cod I remember seeing was caught by a local engine driver, Mick Lee, it was 96 lb. Can't remember the date but it would have been more than 45 years ago. I think I saw a 106 pounder in the butter factory with my son 40 years ago. He remembers it. The big cod were taken up to the butter factory as it was the only place back then that could keep them cold. Most of the cod I caught were on carp, yabbies, greasies, tench. Any small fish. At Findlay's just north of Seymour I tied up my tinny to a snag about 10 yards from the bank. I used bardi grubs and within 7 minutes I caught two cod, the first 22 pound and the next 54 pound. Had them both in the boat by 5.05 am!

I had an old neighbour that told me that he used to catch cod in the Hughes Creek, but that was before my time. In the Sunday Creek there were cod and bream. They were caught as far as four to five mile up from the Goulburn. When I was a kid you could catch stacks of shrimp, big shrimp. But by the early 1950's, even before the new weir went in, there were not the small cod in the river like there once was.

In one day I once caught three redfin over 4 pound, the biggest was four pound fifteen ounces. It was weighed on the greengrocer's scales. That was in Maar's Lagoon, near Dysart. The trout fishing, I used to do it in the hot months, I would spin for them, catch them 2 to 3 pound. My old boss was a fly fisherman, I cleaned them up on the flies!

N. Recollections of Keith Jones of Seymour

Keith Jones was interviewed in September 2006 at an age of 74 years. Keith recalled his 'father telling him that prior to the 1914-18 war that there were tonnes of cod in the river around Seymour. He told me the story about going up to the "Leg of Mutton" hole in the Hughes Creek below Ruffy. It was nearly dark, on dusk, and he threw his line in. He couldn't see how deep it was. Next morning he caught a cod, a 14 pounder and in the daylight he could see that it wasn't real deep, fairly shallow. He thought he had caught Goulburn Jack in that shallow water! He told me he used to catch a lot of cod up there, all small cod.

Prior to the 1914-18 war my father worked at Northwood Park stud. He used to go to work on Monday and stay the week there, come home on the weekend. He would hop in the boat on the river there and row up and down the river. He did it for 2-3 weeks and one evening caught 14 cod, all caught on an old spoon. The last cod crumpled the spoon! He used to catch lots of the bream and the catfish. He never mentioned catching grunter or yellowbelly here. He used to tell the story of catching a 60 pound cod out at Northwood at Aublong's, and it spat out a platypus!

50-60 years ago I saw some blokes fishing in the river here and as you do I asked if they had caught anything. They had caught a catfish, the only one I ever saw caught here. I used to fish a lot around here. Caught lots of cod, mainly Murray cod. For every 10-15 normal Murray cod you would catch one of the "blue cod". They were smaller. The normal cod were up to 80-90 pounds. The blue cod were up to 40 pounds, maybe to 50. I fished a lot from Seymour down to Northwood. I used to fish mainly behind the pubs here for the next 2-3 mile downstream. That's where I caught the blue cod'. He recalled that "McClarty's", between the Hughes Creek and Tahbilk, 'was famous for cod. In the Goulburn below Wahring, down to Murchison I caught Murray cod, yellowbelly, redfin and the silver bream. I had never caught a blue cod in the past down there. This past summer (2006) after a

release of water from Nagambie the cod went mad. I first heard of it from a friend of mine, he had 5 mates, caught 40 for the day, they had 3 boats. His boat managed 3 keepers, this was at Toolamba, all caught on cheese. After that I fished at Arcadia, caught a mixture of blue and Murray cod, mostly undersize, I managed to hook one good fish. Using 30 pound line, had trouble turning him or lifting him off the bottom. The usual story! Yes, he got into a nest of snags and eventually broke off.

My nephew has caught odd cod at Tintalra on the Murray. Years ago I used to go fly fishing up that way. At the time there was a lot of cod in the Cudgewa Creek. When I used to go fly fishing up there the locals told me there was a lot of cod in the area, mostly up to 15 pound, and how they used to move out of the Murray and into the creeks for spawning’.

In recent years Keith has ‘*caught the trout cod down at Murchison’*. He has seen the odd yellowbelly turn up in the river ‘*as far upstream as the mouth of the Hughes Creek. The catfish may be coming back in the weir. I have heard of people fishing the backwater at Chateau Tahbilk at nighttime and catching catfish’*.

O. Recollections of Jim Hanley of Seymour

Jim Hanley was interviewed in September 2006 at an age of 65 years. He is a well known identity in the town having owned a small hardware store. On a board in the shop were displayed catches of fish from the local area.

Jim recalls that around 1951 that his father ‘caught a “rock cod” at Coomb’s, that’s between here and Nagambie. It was a blue colour. Fifty years ago we used to catch a lot of cod here. I used to catch a lot of Macquarie perch in the Hughes Creek, and they are still there! The biggest Macquarie perch I saw caught was at Murchison East. They were up to four pound there. We used to catch them consistently at Smith’s property. Robert Smith now has it. Used to catch a lot of Murray cod there, the grunter too. I used to catch a lot of redfin, and a few trout there.

The last Macquarie perch I caught there was back in 1972. That was also when I had my last good catch of grunter there. One was 3 1/2 to 4 pound; after that they declined. I previously used to catch Macquarie perch from the same hole. There was a sandy beach off the beautiful deep hole. I spun that Macquarie perch on a Mitchell spinner near some logs. It grabbed it near the bank and was about 2 pound. That was the last one I saw there. After that time everything declined, that was about the time the carp arrived. Since then the silver bream have come back there but not the Macquarie perch. In April 2006 I saw cod being caught again at Murchison east. I know of catfish being caught from the backwater at Tahbilk. That’s the only spot. I’ve never heard of one from the river.

In the 70’s, there’s an anabranch out of the Goulburn, on a property called ‘The Prim’ owned by the Andersons on Ghin Ghin Road. We were fishing for trout in a row boat, and on worms we caught about half a dozen Macquarie perch. We normally caught lots of trout out of there, and the old man got a 35 pound cod out of it. More recently, about 6 – 7 years ago, Bob Homewood put a dead yabbie on lost a big cod, he said about 45 pound, out of there.

Henry Royals, a train driver, was the last consistent cod fisherman in Seymour. He gave it away in the 80’s, he said the trout were taking all the Bardies. Even Neil Attwater had given it away by then.’



Left Photograph: Jack Pullin with two cod caught from the Goulburn River at Kerrisdale c1933. The Kerrisdale area once supported a superb mixed fishery of trout cod, Murray cod and Macquarie perch. Ron Bain considered the area as the start of a changeover from dominance by trout cod upstream to dominance of Murray cod from Seymour downstream. (Photo courtesy of Bruce Findlay, Seymour).



Right Photo: 70 lb Murray cod caught from the Goulburn River near Seymour by Henry Royals 1967. "Tiny Hansen" (left) and Henry Royals in photo holding the boat oar. The Goulburn River in the Seymour area was once a prolific fishery for Murray cod, Macquarie perch, catfish and some trout cod. The catfish vanished during the 1930's and the Macquarie perch by 1950. Construction of the big Eildon Dam in 1956 was the final blow so that by the late 1960's catches of cod had been reduced to small numbers of relatively large fish. (Photograph courtesy of John Royals, Seymour).

P. Recollections of Graham McLeod of Nagambie

Graham McLeod, former professional fisherman, was interviewed in Nagambie in January 2007 at an age of 84 years.

'I was born in 1922, the McLeods came to Australia in 1835, they arrived in the area not long after near Kirwans Bridge, named after Joanna Kirwin. They built the weir here in 1898, that backed up the lake here. My father, Andrew McLeod was a professional fisherman, there was no greater fisherman than dad. He told me in past years here there were Murray cod, catfish, yellowbelly though not much, the black bream were around. I did hear of a few grunter here, but never saw one. All the cod we caught here, they were the normal Murray cod. The other type was further up the river, we never saw them here in the lake. We fished all the backwaters, knew every stick, every log, fished up as far as where Mitchellton is now.

The catfish there were a fair few around, quite a lot, beautiful to eat, they'd average about 4-5 pound, about 10 pound was the biggest we got. There were still quite a few around in the 40's, they got scarce after that. The black bream was also a good fish, we got them up to 4 pound. The Murray cod, we went after them with the spinner. Our market was for the Murray cod, didn't have to take any away to Melbourne, they were all sold locally. Mum was the fastest cleaner and scaler of fish. Mum used to lug them up and down the bank, after washing them. We caught them, the common size was 10-20 pound plenty of them, but we got them up to 70-80 pound. The biggest cod taken was 110 pound, but that is going back a long while. When the winter came it wasn't so good, you would catch the odd one, but not like you would catch them in summer. In 1916 there was the greatest flood in Nagambie. When there was a flood the cod could get all the tucker they wanted, they were harder to catch.

You could catch them any hour of the day. Dad went down early one morning, straight away he got a 37 pounder to start the day! That was our means of living. At lunch we would put a handline over the side, with a yabbie. That was the best bait for the cod, and the redfin. I actually preferred the redfin. Real early on there were no redfin in the lake. It wasn't too many years later they came on the scene, they were cursed by the cod fishermen as before that there was so much feed for the cod. In the cod, well they ate yabbies, mainly, they would have small fish in them. They were cannibals, redfin and blackfish were in them. You'd get tench, sometimes a bird in the cod. Got one with a snake in him one time. The cod used to scoop out hollows in the lake, near the willows, at the back of my place. We liked the windy days to spin for the cod, it broke the sunlight up under the water. That's how got most of the cod, on a spinner with a feather on it. You could catchem any time of day.

I gave it away in the early 80s, I was still catching cod then.'

Q. Recollections of Ken Trefall of Shepparton

Ken Trefall of Shepparton was interviewed in February 2007 at an age of nearly 80 years.

'I'm nearly 80, grew up here, same with my old man. He said how he used to be able to catch more fish than they wanted. When I was young the most common fish in the Goulburn here were the cod, the Murray cod. They were up to a hundred pound, back then you could get any size you wanted, there aren't so many big ones around now. They'll eat anything, golfballs, I've seen them with water rats in them. The trout cod, they've always been there in the Murray, round Barmah, though years

ago there was more Murray cod there than the trout cod, a lot more. The biggest ones I saw there myself were 30 to 40 pound, though I've heard of them being caught bigger than that out of the Murray. Now there's too many trout cod in the Murray, they've been stocking them. I only ever saw very few out of the Goulburn here when I was young, just odd ones. Since they stocked them they're catching them down here too, there was one caught a while back.

The yellowbelly were also very common, we used to get them out of the Nathalia Creek up to 13 pound. There was a ton of them here in the Goulburn. They had an open season on themselves, depending on the flow. You could catch any amount of them when they were on, from a pound up to 10 pound. The grunTERS were here, they were carpet sweepers. And they are worse now than they were back then. One fish I haven't seen for 30 years is the goggle eyes bream, they've died right out. They used to be in the Murray, and in all the creeks, up to 2 or 3 pound. They used to be common in the Goulburn here, they were real good to eat, not like the black bream or grunter. My old man said the goggle eyes was the best of the lot to eat.

The catfish, there are still a few around in the Columbo Creek. You don't see them very often now around here, there used to be a lot of them in the lagoons, we used to get them up to 3 or 4 pounds, and in the channels. But they've drained everything out, emptied all the lagoons. The slipperies, when I was young they used to be common in all the channels around here, but they're not like they were. We got one that was stuck in the foot valve of a pump in a channel recently. The redfin, well the river used to be lousy with them, there used to be thousands from 2 to 3 inches long up to 4 or 5 pound, but there hasn't been the floods for them to breed. We never got many of the bony bream or herrings here, only a few, though there was plenty of them up in the Billabong Creek. There are still a few tench around, not as many as there were, there another useless fish. And those things a bit like a slippery, the loaches, well there's plenty of loaches in the channels'



Two Murray cod caught by professional fisherman Graham McLeod from the Goulburn Weir c1940-50. The cod fishery in the weir was once so prolific that the McLeod family could earn a full time living through angling. (Both photos courtesy of Graham McLeod, Nagambie).

OVENS RIVER DISTRICT

Langtry (Cadwallader 1977) provided a few observations on the Ovens River district in 1948. He reported that Murray cod were not being taken upstream of Eurobin and that 'native perch and bream' were 'being taken only occasionally, mainly in the upper reaches of the Buffalo River'. He also described the results of the stomach analysis of trout in the area which indicated that blackfish formed a large part of the diet of trout. Langtry reported on the results of drum netting in the Ovens River by Inspector Howe taking 1 Murray cod, 5 trout cod, 5 Macquarie perch and 14 redfin. Although not providing a location the late Walter 'Laddy' Clifford a professional fisherman of Barmah who met Langtry at the time informed me that the drum netting took place in the Peechelba area. Langtry provided a general account of the Ovens between Wangaratta and Yarrawonga Weir reporting the presence of both cod species, Macquarie perch, redfin, tench and occasionally silver perch. He noted the absence of golden perch and the prevalence of trout cod.

A. A History of Trout cod in Lake Sambell

Lake Sambell is a water of interest given the fact that it contained one of the two translocated populations of trout cod in Victoria and one of the last significant populations. A search of historic material has revealed information of interest in terms of the creation and decline of the trout cod population in the water. In the nineteenth century the Rocky Mountain Mining Company had excavated an area around Spring Creek on the outskirts of Beechworth for gold extraction purposes. In the 1920's Beechworth won the 'Ideal Town Competition' two years running for a total prize of £400 and the funds were put towards building the dam that formed lake. It was named in honour of the man who oversaw the project Mr. L. H. Sambell.

The *Ovens and Murray Advertiser* of 28/4/28 reported on the progress of the construction activities and that the Fisheries Department had given approval to stock the lake with Macquarie perch and Murray cod who issued permits to source the fish from the Ovens River. There was obvious concern at the possibility of redfin entering the water: '*In fact one misguided enthusiast liberated two redfins from Lake Kerford. Our vigilant foreman rescued one and if any further attempts are made to "queer the pitch" action will be taken*'. In the same issue is a public notice calling a meeting to '*make arrangements for stocking the new lake with Macquarie perch and Murray cod from Ovens River*'. Another news item in the same issues provides the source location for the fish: '*A number of volunteers have agreed to visit Everton at the week end to angle for the necessary number.*'

The issue of 2/5/28 of the *Ovens and Murray Advertiser* described the actual translocation activity: '*About 70 fish had been caught in the Ovens River and set free in the lake the previous night, and more that afternoon. The men were going fishing again and probably 200 or 300 bream and cod would be put in the lake which would be closed against fishing for 12 or 18 months. He also warned anyone who dumped redfins into this lake that they would be dumped in themselves.*' Also published is a notice for a meeting to be held on May 4 to form an Angler's club and '*to organize in regard to the stocking of the new lake with Murray cod and Macquarie perch.*' This suggests that translocation activities continued for some time after the initial activities and this is supported by a subsequent news item on the 9/5/28.

A news item many years later on 13/7/60 reports the views expressed of two visiting Fisheries and Game officers on the uniqueness of Lake Sambell as a breeding area for cod. It is probable that during this visit that the four trout cod from Lake Sambell deposited in the Australian Museum on August 25 1960 were collected. I suspect that much of the interest in Lake Sambell at this time may have been stimulated by the completion of Langtry's draft report on his survey which expressed the

view that all the cod in Lake Sambell were trout cod. Ultimately it is believed that Alfred Dunbavin Butcher provided the impetus for the resolution of the existence of the two species of cod which culminated in the study by Tim Berra and Allan Weatherly over 1969-1970. It was no coincidence that these researchers concentrated their efforts on Lake Sambell and Seven Creeks as both waters were discussed by Langtry.

The demise of the trout cod population in Lake Sambell appears to be linked to a series of events. Redfin appeared to have entered the lake some time during the late 1950's as estimated by the Holt brothers of Beechworth. Jack Rhodes cannot recall redfin being caught from the lake in the early 1950's when he fished and there are no newspaper accounts reporting their presence prior to the 1960's. The *Ovens & Murray Advertiser* of 22/4/64 reported the damage caused to the outlet valve by a large uprooted pine tree and collapse of the outlet tunnel for the lake necessitating the lowering of the water level to effect repairs. It also outlined plans to raise the retaining wall 6ft 6in to enlarge the area of the lake from 28 to 37 acres while water levels were reduced. Although concern was expressed about the fish population it was thought that they would survive in the deep channel present in the lake bed. Subsequent news items appear on the 6/5/64, 3/6/64, 24/6/64 and 15/7/64 describing contingency plans for removal of fish by the Fisheries Department, surveying activities taking place and the failure of surveys to catch many fish. The last article reported the views of members of the Beechworth Angling Club that '*few Cod or Redfin remain in the lake.*' and their request that the lake be stocked with trout.

Reports of 2/9/64 and 4/11/64 describe progress and completion on the construction works. A number of local residents have told me they saw a number of large cod held in tanks near the lake at this time. A story in the *Ovens & Murray Advertiser* of 31/1/68 discussed the breeding status of the cod in Lake Sambell: '*Observations by keen fishermen point to the continuance of Murray Cod breeding in Lake Sambell. Some catches of Cod, up to 10 to 12 inches indicates that the long-established stock in the Lake have spawned in the last 12 months. A survey by Fisheries and Wildlife officers some two years ago revealed the breeder Cod had not released fry. This, the officers contended, was due to the no-longer fluctuating level of the lake.*' The *Ovens & Murray Advertiser* of 30/7/70 reported the visit of Dr. Tim Berra, his capture of five trout cod from 17 to 20 pounds and his belief that the fish were a new species, the trout-cod.

A news item of 12/9/70 reports the death of cod in Lake Sambell as well as some opinions on the cause: '*Since first discovered on Monday of last week, 11 large Cod, up to 30lb weight, have been found dead....Shire engineer, Mr. D. Pope, said yesterday that all the fish were females, and of those examined, all carried large quantities of eggs.....One popular theory on the deaths is that the female cod, unable to release her eggs, has died from infection. It is known that for the Cod to breed in waters such as Lake Sambell, the conditions have to be right This includes the fluctuation of the water level at the time of breeding. Since the Lake water level was pegged some four years ago it was believed the cod no longer spawned.*'

Over the years two hypothesis have been suggested as causing the demise of the Lake Sambell trout cod population. One explanation was that the raising of the water level of the lake flooded old mine tailings, releasing toxic substances which killed the fish. Another possibility was that the increased water levels may have caused the death of aquatic vegetation producing eutrophic conditions. These explanations can be dismissed as the death of the cod occurred some six years after the retaining wall was raised. In addition only the cod died and if such agents were at play it would be expected that other species such as redfin would have also suffered. The alternate explanation of the fish becoming eggbound is not supported by contemporary understanding of the reproductive biology of cod species. Despite numbers of cod being held in hatchery ponds they do not die through becoming 'egg bound'. If conditions are unsuitable for spawning resorption of oocytes takes place.

The decline of the trout cod population is most likely to have been caused by three or four agents working in succession. The arrival of redbfin in Lake Sambell in the 1950's is associated with a decline in the abundance of small trout cod. While there were no obvious deaths of cod when the lake was lowered for outlet repairs in 1964 it is probable that most of the smaller cod travelled out of the lake through the outlet during draw down operations. After the filling of the new lake conditions may have been less suitable for spawning and recruitment though there is evidence that some was taking place. The most plausible cause of the death of the trout cod in September 1970 was probably an outbreak of a disease such as *Chilodonella*. This parasite is known to have caused the deaths of broodstock cod in hatchery ponds during the spawning season when the fish are under stress (Rowland and Ingram 1991). It is possible that the organism may not have been previously present in the lake and may have been introduced in water diverted from the Spring Creek or with trout that were stocked into the lake. A number of other organisms could also cause such a kill. It is apparent from Joe Krauss's account that the kill decimated the trout cod population.

The fish kill did not completely extinguish the trout cod population in Lake Sambell as demonstrated in a news item in the *Ovens and Murray Advertiser* of 22/4/71. It reported the results of a recent angling club outing including the story the capture of two cod weighing 5lb 8oz and 6lb 2oz the latter which won the angling competition. The last authenticated capture of a trout cod from Lake Sambell was a 16 pound specimen caught by John Rutten in October 1979 which was identified by locals and photographed. Local anglers maintain that one or two large cod still persist in the lake.



Left: An unknown angler holds a large trout cod. This photograph was published in 1976 in *The Complete Book of Australian Fishing*. The editor Roger Hungerford informed me that the photo had been supplied by angling writer Lance Wedlick who I contacted. Lance supplied me with a copy and told me that the fish had been caught from the Ovens River near Peechelba. (Photograph courtesy of the late Lance Wedlick). Right: Bill Surrey of Beechworth holds a 19 pound trout cod taken from Lake Sambell in February 1969. The story of its capture was reported in the *Ovens and Murray Advertiser* on 13/2/69 including its length of 31½ inches and the fact that the fish put up a 'terrific fight, tearing about the lake up to 75 yards out'. This photo was published in the paper the following week. Note the absence of an eye stripe in this specimen. (Photograph courtesy *Ovens & Murray Advertiser*).

B. Recollections of Tom Knox of Wangaratta

Tom Knox of Wangaratta was interviewed in October 2006 at 93 years of age. *'I was born in Wangaratta, on the river, in town. The bream were in plague proportions. Back then they weren't known as Macquarie perch. In the early morning you could see them swimming around. You could catch them on worms, any amount off the sandbanks. There wasn't a lot of interest in them. That's 70, maybe closer to 80 years ago. They were up to a couple of pound. And they used to go right up to at least Whitfield in the King. I caught them up there.*

We were coming back from trout fishing and we pulled in at Fletchers Bridge on the Buffalo. You could see the bream swimming around in the rock holes above the bridge, near where the Buffalo dam now is. The water was that clear, you know it was the mountain water. They wouldn't come near a line with a sinker. We threw in lines with worms and they would suck on it and you wouldn't see the line move. We caught three or four up to about 2 pounds. Went back a few times, but they were hard to catch.

The catfish were here, in the big lagoons. There is none left of those big lagoons due to all the levy banks. There was plenty of them, up to 2 ½ pounds, but none since I was young. I used to fish the Horseshoe lagoon in the police paddock here. We had beer bottles with a cork in them with a line, baited up with worms. That's how we caught the catfish.

The grunters were in the Ovens. They were around, but not very common. If you got one you got a few. They were up to about 2 pound. They just disappeared. I used to catch them at the lock at Torumbarry, you could fill an icebox with them, but they weren't much good to eat. The yellowbellies, well we never caught many in the river. There were more yellowbellies in the lagoons. There's more now in the river from the stocking than back then when I was young.

The cod in the Ovens they went up to at least Myrtleford. There was plenty of them up that far. And they went right up the King to Cheshunt, though not as common as further down. My best cod out of the Ovens was 90 pound, it was taken by angling on a bardi grub. That was back about 1980. When I was young there was plenty of them, plenty of big ones. We used to set lots of night lines back then, that's how we got them. We'd go down the river with 30 set lines. Back then you hardly saw anyone on the river. Not like today, there are boats everywhere! Got a few 40 and 50 pounders. I had the first motorboat, had it out at Bundalong. When Mulwala first filled, for the first 5, 6, 7 years, I used to go out with the old propeller spinner. That's the aeroplane spinner. You had no trouble catching 14 – 20 cod a day. They were all the normal Murray cod.

We got the trout cod in the river here, though we didn't call them that back then. We just thought they were some funny looking cod, a strange cod. I might of heard of them being called a bluenose. They certainly had a blue colour about them. They were not as common as the Murray cod. The biggest ones were about 9 or 10 pound.

When I was young there were no redfin back then. The first redfin I saw was taken from the 3-mile creek. It was on display in Lindner's Jewellery store when I was a kid. It was in a jar in a window with a label, "English perch". It was a novelty. Then they exploded, they took over everywhere.'



Both these photographs are captures of two species reported to be once common in the Ovens system. The top photo is of a 2 ½ lb Macquarie perch caught from the Ovens River at Eurobin, Christmas 1947. The second photo is of a 5 lb cod, which from the body markings and head appears to be a trout cod, caught in the same area Christmas 1948. (Both photographs courtesy of Jim Masters of Myrtleford).



The Buffalo River was reported to have been a stronghold of the trout cod up into the 1960's. The species finally disappeared in the water during the drought of the early 1980's. In the top photo a cod hangs from a clothes line. It is believed that the fish is a trout cod but the photo does not show sufficient detail to confirm it's identity. It was caught by Percy Lewis from the Buffalo River near Johnson's Bridge c 1962. (Photograph courtesy of Daisy Lewis of Myrtleford. The bottom photograph is of a trout cod caught whilst fly fishing in the Buffalo River near Abbeyard in December 1980. (Photograph W. Trueman).

C. Recollections of Walter Grattidge of Myrtleford

Walter Grattidge was interviewed in January 2007 at an age of 95 years.

'I arrived in Myrtleford in 1928, we come as a family from Bacchus Marsh. We used to fish the Goulburn, camp up the river from Tallarook. In the river there we used to get both the Murray cod and the other type which we called a 'Pike cod'. The Pike cod had a different head, it looked savage, it had a long sharp head, big eyes. The colour was sort of grey and it had a pattern, lines and spots on it. They were in the Goulburn, my dad would camp at McCormick's out towards Tallarook, and we caught plenty of them there. There was a cod caught where we camped, on the Goulburn, by Mick Davey a pro, there on one of the nightlines. And it had a greyhound pup in it.

The people here told me in the Valley Creek, they said there was a lot of cod there in the real old days, but I caught a few. In the Barwidgee Creek, it was full of cod and bream in the early days. In Myrtleford, there was plenty of cod here, early on there was a lot of them, and not real big, from about 1930-40, they were common about 14-15 pound, with an odd one bigger. And the Pike cod were here too, my word they were, plenty, the most common, but both types. The depression bugged them, they all started fishing and catching rabbits to eat. Later on, after the war, they were fewer and bigger. I more or less fished mainly around Ovens, though I know the cod, odd ones, were being caught up around Eurobin in a big hole. I got bream, the Macquarie perch, and I got them a couple of times in the Valley Creek, as well as a 13 pound and a 17 pound cod. I caught bream in the Buckland near Walsh's, below the big cliffs, that's up past Porepunkah, about 4 mile up. We went up one Sunday, we caught half a dozen of them. A bloke told us he could get a dozen of them up there anytime. That was just after I was married, about 1934. The ones we got, they'd be a pound and a half.

The catfish is one of the best eating freshwater fish, a 2 pound catfish would give you more eating than any other fish at that size. I caught them in the lagoons at the Rose White, that's the Valley Creek. I never saw yellowbelly around here, only after they put them in the dam here. I've caught plenty out of the Yanco, they're good eating. I never saw grunter here, no. Dad used to go somewhere down in a big lagoon near Whorouly, there he caught grunter. Down there, there was a lot of catfish in the lagoons down there. The redfin there, they bugged them up at Doug's place, Doug Hamilton. There was good water down there, yes there was a lot of catfish down there, and some grunter. And some tiger snakes! The redfin, they just landed, well one came in and one went out, prior to that there was lots of catfish.

In the Buffalo River the cod were very dark. At Dandongadale, at the SEC line, that's where I caught cod in the Buffalo. We once took a boat up there and rode it down. We got 3 one night, not one over 3 pound, you would catch a trout up there too. Way up the river, near the scout camp, you could see the cod lying in there, 5 to 6 miles up past Dandongadale. Although I never caught them, there were bream all the way up the Buffalo. Wally Mitchell told me how he used to be able to catch a bream any time, after the cows crossed the river, that stirred them up! When he told me that, it would have been 50 years ago, and he was fishing for them 30 years before that. I saw him pull a drum net out, full of them, up near Abbeyards.

The Cudgewa Creek, I had a friend that had a farm up there, we quite often got a cod 14 to 15 pound. They were definitely the Pike cod, that's all we caught out of the Cudgewa at the time, that would be well over 30 years ago, more like 50 years ago, at least. The Kiewa, there was a power of fish in it, I used to fish it near Dederang. The cod out there before the fires, they had no green in them, they were more the colour of the greasies, silvery, had blue in them, Pike cod they were. They were lovely eating cod out of the Kiewa. This old chap, Kurt Case was out there when it happened,

he told me there was a big bushfire and a storm, it washed all the ash in, that was in 39. Well it killed everything, the fish were far too gone to eat. The next year we caught little cod, Murray cod, all less than 3 pound, that was just below Dederang. After the fires well years later there were some big ones caught, up to 90 pound, and a lot of trout.

We used to use the old carp for bait. If we couldn't get a carp we would use yabbies, but carp were the best bait. And small redfin about 6 inches long, they're good bait, but don't last on the hook long. The cod bit best after the first flush of water in autumn, but you could catch them all year round, though they don't bite as much in winter. Back then I could get a cod pretty well when I wanted one, about 7-8 pound. I did a lot of cross lining in New South Wales and we would never get the cod out in the middle. The blokes that knew set them along the banks. Some blokes did a lot of spinning, they would stir them up, then I would catch them.

In the Rose White there were a lot of trout, I got one 7 pound, gave him to the bank manager. Stewart Cambell got one 8½ pound. I saw one 13¼ pound trout out of the creek, he was shot by the brother in law, Mick Broadbent. He borrowed my 303. He rang me up, told me to come along to see a decent fish. It was 32 inches long, 9 inches deep. The top of the Buffalo River never changes, it all rock. I remember old Eddie Walker, from the Ovens River Trust, they pulled all the old logs out. Well the holes filled up. That bugged some good cod holes in the Ovens.'

D. Recollections of Bing Kneebone of Whorouly

Bing Kneebone was interviewed at Whorouly in December 2006 at an age of 76 years.

'I can remember old Dave Brown, an ex butcher, used to bring the cod home on a pushbike, used sparrows for bait. He would get them with a shanghai, then pluck them. That was out on the river here, at Whorouly. In the Whorouly Creek, it used to be full of catfish, in the 40's, we used to catch them, used to get them up to 5-6 pounds. They were plentiful, common around 3 pound, that would be a good average size. And the bream, in the creek too, the Macquaries, before the redfin got in. We used to catch the bream, catchem around 2 pound, under the Willow trees with a floater and a stringy bark sapling. Got odd ones up around 3-4 pound, they were bloody good eating! After the bushfires, well it wiped both of them out, and the redfin. The big rains after the fires washed in the ash, the fish were swimming on top of the water gulping for air. Once the reddies got in they seemed to wipe everything out.

We used to catch the little greasies, stacks of them, up to a foot long. That's in the creek, and I caught a few cod out of it too, you only got them out of there up to 8-9 pound, though old Sherridan got a big one in Bassil's hole. Jack Dick from Wangaratta got a Murray cod that was caught up in the mesh of his gate, during a flood. That was a good story! I've never ever caught yellowbelly here in the past, I fished the Ovens a lot, it was only 4 to 5 years ago I caught my first one here. In the old days you never saw them up here, further down yes, a few, but not up here. We caught an odd yellowbelly around Wangaratta. They used to go behind the showgrounds in the old days on the sandbars and caught good yellowbelly.

I once got a 76 pound trout cod, years ago, below Yarrawonga, I wasn't too sure what it was. I showed the photo to Pat Sherridan, the inspector, and he identified it. He told me "You should know what they are, they're in the Ovens!" Before they put the Buffalo Dam in, they used to get a lot of cod up past Dandongadale. Years ago they pulled the big old snags out. The old holes, below the bridge here, they filled up with gravel, now you can walk around it.'

E. Recollections of Gary Daws of Rocky Point near Myrtleford

Gary Daws was interviewed in January 2007 at an age of 56 years.

'I was born in Echuca, grew up at Gunbower, mum's family grew up around Gunbower. My old man was a fanatical fisherman and so was my mother. I came here in 1969, the first fish I ever caught here, on a Celta spinner, was a 9 pound Murray cod. It was my revelation, I thought it was a trout water! I got to know a lot of the old blokes that fished this stretch, heard their stories. There was very few fishing for cod in the 70's, we more or less had a hole each, there was three of us from here to Rocky Point. The river has changed that much, it's static level has dropped maybe 4 feet. Its silted a bit, but the summer levels are lower. Back then, when I first came here, there were less cod but they were bigger. About 1983 there was 43 cod taken out of one hole in one season, the Rocky Point hole, that's when they started to get more common. The 74 flood did a lot of damage to that hole, it widened it, the gravel washed out of the banks. The 93 flood exacerbated that, it removed a lot of structure out of the main part of the hole and it silted up further down.

Below Rocky point my father in law, Pam's father, Abe Phillips, he always had a drum net in near a big log. He said at times he would curse this drum net because he was trying to get cod and it would be full of small grunter. That would happen only at certain times of the year. That would be back in the late 20's and early 30's. They weren't Macquarie perch, he knew the difference, he caught them as well. I caught one down here at Rocky Point 2 years ago, a grunter, he was as black as ink. As late as the early 1950's there were catfish here in the lagoons at Rocky Point, old Abe told me. There was a lagoon that ran through an old fellas property here in the paddock near the road, they were common in that lagoon, that was the last place. He said as the redfin became more prolific the catfish just disappeared. I never remember about anybody telling me about yellowbelly here, Macquaries and grunter yes, as well as the cod. The population of blackfish here was phenomenal.

My mother in law was born and bred at Dandongadale. She told me that the most prolific fish in the Buffalo were the Macquarie perch, but there were cod up there too. That was pre World War 2, in the 30's. There are some now up the river, well above the scout camp. I camped up there 2 years ago and in the decent holes there were decent maccas in them. They would follow the lures, but wouldn't take it, the best one would have been 3 pound. I walked up to Camp creek and they were right up there. Just before the dam was built, there were maccas still in good numbers in the upper Buffalo. Old Sam Lewis talked about all the cod that were in the Buffalo before the dam.

The biggest silver perch I've seen, my old man got one that was 9 pound, out of the Murray, below Torrumbarry, for my sister's wedding in 1959. I'll never forget it, I had all my worms taken by the little ones, and he got this huge thing! It was good eating, how you handled them was important for the eating. When we were kids we would fish on the sandbanks there, we would mainly get silver perch, they would knock off the worms, but we also got yellowbelly and small cod. The silver perch, the little ones were shocking, there was so many of them!

My old man caught a lot of cod below Torrumbarry, but 3 or 4 times he caught a bluenose. I can remember him saying it to me, he was pretty much matter of fact about it, that was in the late 50's. They were there, but not in numbers, they knew what they were, but they were not commonly caught. I remember the first one I saw him catch, he couldn't get this bloody thing up, it was close to 30 pounds. He would get it up near the boat, it would go back straight to the bottom, it just wouldn't give up. The bluenose, they wouldn't capitulate at all, he was sometimes disappointed because they weren't as big as he thought they would be. That was a phenomenal fish, the others he caught there

would have been under 10 pound. They put them here in the Buffalo Creek and at the time there was a lot of poaching and spotlighting that went on, they got them.

The old man, he would drag chains over the logs to wake up the cod, and then drag the area with an aeroplane spinner. He caught one yellowbelly, trolling for cod on an aeroplane spinner, about 1958, it was like a giant football, it weighed 34 pound. That was around Katy Malone's Bend, about 5-6 kilometres below Torrumbarry, he liked that bend a lot. I don't remember catching catfish then in the river itself, but near Master's Bend there was a creek or a channel that always had catfish in it. It ran into Pig swamp. And the Gunbower Creek always had catfish in it, they were easy to catch with a beer bottle, a bit of string, a worm dropped off along the edge of the cumbungi. They were generally about 1 – 2 pound, got an odd one up to 4 pound. They are just the best eating!

F. Recollections of Geoff Holt of Beechworth

The late Roy Holt was a well known cod fisherman in Beechworth. His son Geoff was interviewed in October 2006.

'My father knew that there were two types of cod, but believed that only the one type, the trout cod, was present in Lake Sambell. His biggest was a 50 pounder, caught around 1952. In the morning he caught one that was 21 pound and went back that night and caught the big one. He caught good ones every year, always caught some from 20 to 30 pound each year. He fished for the big ones, and always caught them on bait such as yabbies or worms. The smaller ones were good to eat, but that big one he sold as he thought it would be too fatty. There are still cod in the lake, in the last few years I know of someone that bumped into a big one when they went diving in there.

Back in Lake Sambell in the forties and into the fifties there were mainly the trout cod and the greasies. We would occasionally catch small cod that we threw back. They did put trout in but they never did any good, there would only be a few caught. When we were kids fishing in the lake there were no redfin, they would have arrived some time in the fifties. He used to get the trout cod in other places, he did catch a lot at Docker out near Moyhu, that would have been in the mid to late forties, he caught a couple of nice ones there that would have been in the twenties (pounds). Back then he had an old Dodge car, we had to push it all the time to get it started. He used to catch trout cod down between Everton and Tarrawingee on a property that would let him in, they were anything from 8 pound on. There was a few golden perch caught there, up to about 3 pound. The Macquarie perch by then were scarce, I don't recall catching a lot of them there. The redfin were explosive in the late forties and early fifties, at Brimin, in the Ovens. We got sick of catching them, even though they were good eating, you would have two hooks and you would get two of them. Now you hardly ever see them.'

G. Recollections of Allan Holt of Beechworth

Allan Holt is another son of Roy Holt and was interviewed in October 2006.

'The biggest trout cod my father got out of the lake went just over 50 pound. He had got one 21 pound that morning and got the big one that night. He said the cod in Lake Sambell were trout cod, he knew about them because he used to go to other spots to catch them. We used to go camping with our father on the Buffalo, camp at Abbeyard, and further down. He used to catch both trout and the trout cod together up there in the Buffalo, that would have been in the late forties. He also mentioned I think catching trout cod up at Cheshunt, but that would have been a long time ago, and that he

used to get a few trout cod at Peechelba, but mainly Murray cod there. That would have been the early forties when he talked about catching them there. In the sixties he fished the Kiewa, that was the Murray cod he got there. And Brimin on the Murray, he said he caught a few trout cod there, but mainly Murray cod. He always said that in most places you got mainly one sort of cod or the other, that one would dominate. The only place he ever talked about catching good numbers of both Murray cod and trout cod was at Cobram, you got the two types of cod together there.'

H. Recollections of Lance Jervis of Beechworth

Lance Jervis of Beechworth provided his own recollections of the cod in Lake Sambell in October 2006.

'As a teenager I fished in Lake Sambell. We caught numerous small cod in the lake fishing with worms and wood grubs. They were around half a pound or so. That was in the early fifties. We just called them Murray cod. I remember Jeff and Allan Holt's father, Roy Holt, catching big ones out of the lake, certainly up to 50 pound and other big fish. The lake used to supply water to the tannery on the other side of town. There was a tunnel under the town that drew down the water. About 1960 the creek was diverted into the lake, to keep it full. It was about then that the small cod disappeared'.

I. Recollections of Joe Krauss of Beechworth

Joe Krauss grew up living next to Lake Sambell in Beechworth and was interviewed in October 2006 at 52 years of age.'

'I saw a cod caught in the lake about 36 years ago, it was weighed and was 68 pound. There were odd ones caught from time to time. About 1969 they were floating in the lake dying and blown up, but not dead. That was about the first time I ever saw them, floating to the top upside down. The theory was that the trout cod hadn't been able to spawn for a few years and it killed them. They were still alive when we dragged them out, many of them 25-30 pounders at least. We must have dragged about 40 out of the water and hung them up in the trees. There were dozens and dozens of them'.

'Prior to that I hadn't caught a cod, though I had been broken off a few times, got towed around. There have been a few photos of them in the local newspaper, the Ovens and Murray Advertiser. The last one was at least 15 years ago. It was caught by John Rutten and was 16 pound. There was a report of two small ones caught recently, in the last few weeks'.

J. Recollections of the late Bert McKenzie of Ruffly on the Buffalo River

I fished the Buffalo River at Myrtleford. Like a lot of other streams it was all silted with shallow pools and you could wade through them. You would wade up and you wouldn't see a fish in the day time. We had our tent right on the edge of the water. We heard fish playing around in the shade of the trees. We set a line there and got Macquaries and a couple of cod. I would say they were trout cod but it's a long time ago¹. That would have been 1932 actually. I only had two lines set there and there was sometimes two fish on the lines but always one. They were beautiful eating. I had the trout rod with me but you could not get anything in the daytime or see anything. But they were there.

1. In our first meeting the previous week Bert indicated that he fished the Buffalo River at Nug Nug and further upstream. In the Nug Nug area he reported catching both

types of cod whereas further upstream he stated that the majority of the cod taken were trout cod.



Roy Holt was a very well known cod fisherman who lived in Beechworth and regularly captured large trout cod from Lake Sambell. His sons recall the stories of him catching both species of cod from other waters. In the top photo Roy holds a 23 ½ lb trout cod caught from Lake Sambell, Beechworth in 1950. In the bottom photo the Holt boys hold another capture from Lake Sambell in 1952 weighing 25½ pounds. (Both photographs courtesy of Geoff Holt of Beechworth).

MIDDLE MURRAY DISTRICT

A. Recollections of Charlie Aitchison of Yarrawonga

Charlie Aitchison of Yarrawonga was interviewed in October 2006 at an age of 87 years. Charlie grew up on the Murray River at Yarrawonga, the site now drowned under the waters of Lake Mulwala.

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 redgum forrest, 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 drumnets. 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 slimmies 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.'

B. Recollections of Albert (Bert) Roberts of St. James.

Bert Roberts 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 40's, 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.

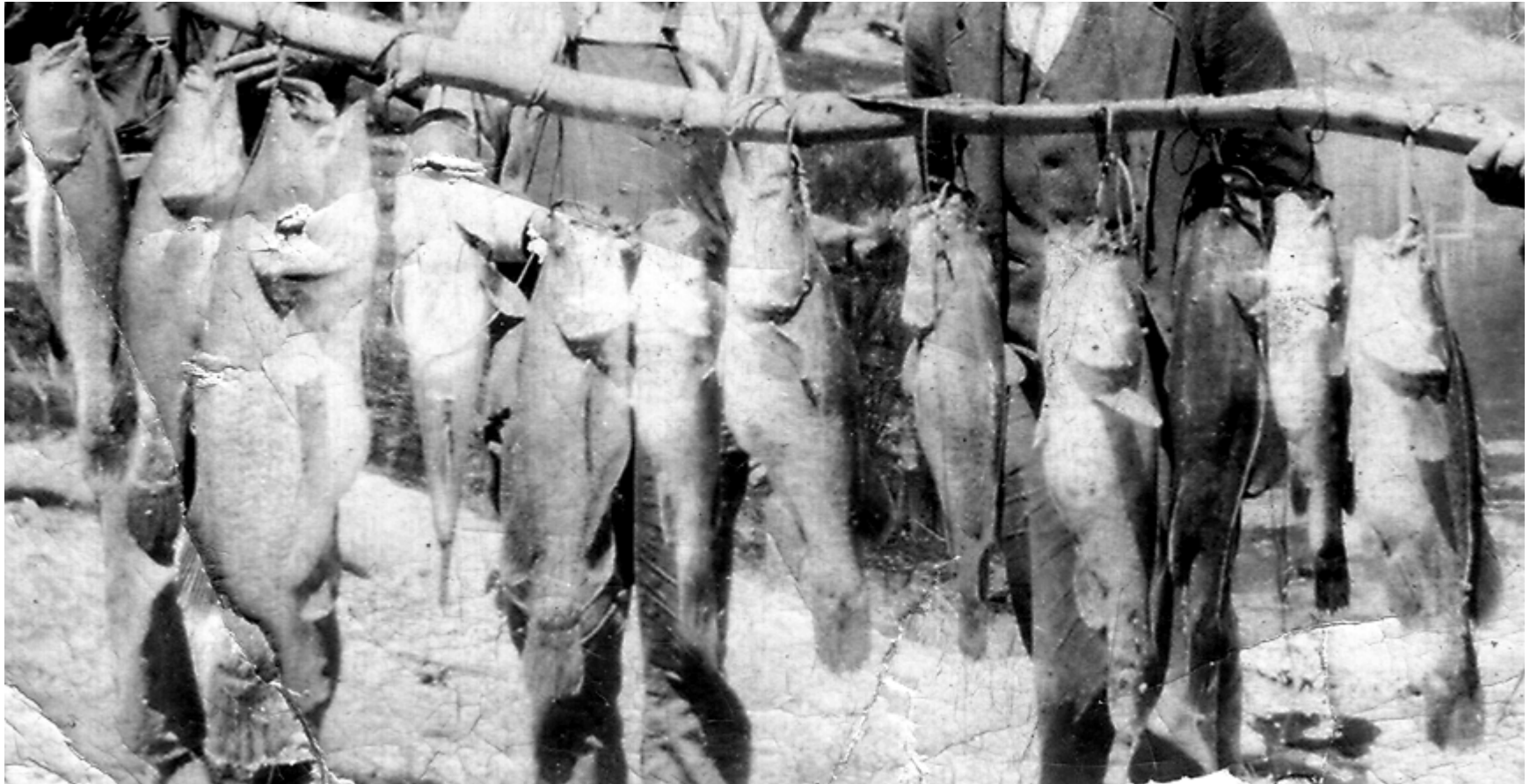
The Macquarie perch in the Murray, you'd get an odd one, up to about 30 cm, fairly regularly up to about 1938. I caught the last one there just after the war, about 1946. When Eildon first filled in 56, in the dark up to about 10 p.m. you would get a bundle of them. The biggest ones out of the lake were 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 30's and 40's 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 bardi 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 bardi 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 60's.'



Top photo: Catch of silver perch from the Murray River at Bruce's Bend, Christmas 1951. (Photo courtesy of Jim Masters, Myrtleford). Bottom photo: Catch of Murray cod and trout cod from the Murray River between Yarrowonga and Cobram c1925. Left to right are Eric Nunn, Cyril Walden, Ernie Walden, Bernie Cooper and Bert Fell. (Photo courtesy of Cyril & Michael Walden).



This closeup of the previous photo of the catch below Yarrawonga in 1925 allows some of the individual fish to be identified as trout cod and Murray cod. In some fish the typical markings of trout cod in the form of spots and dashes can be seen, most noticeable on the fish on the extreme left and right and 3rd from right. The difference in the relative lengths of the jaws is also apparent, as are differences in the heads. It would appear that four or five of the fish out of the catch of thirteen are trout cod, supporting anglers accounts that trout cod have always been common in the area but secondary in abundance to Murray cod. (Photo courtesy of Cyril & Michael Walden).

C. Recollections of Ernie Jones of Tocumwal

Ernie Jones as interviewed in January 2007.

'We got a mixture of the two types of cod here. They grey ones, the trout cod, pettered 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 50's.'

D. Recollections of Graeme Vidler of Tocumwal.

Graham Vidler 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 slimie, 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.'

E. Recollections of Hugh Dick of Tocumwal.

Hugh Dick 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.'



Photo of a catch of cod from the Murray River at Tongalong Beach near Bearii 1938. On right is Keith Renyolds, on left is a member of the Ballantyne family. From left 1st fish is a Murray cod 2nd and 4th fish are trout cod. It is thought that the 3rd and 5th fish were also trout cod. (Photograph courtesy of Tim Cole, Strathmerton).

F. Recollections of Jock Nicholson of Tocumwal

Jock Nicholson 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 cant recall many catfish and cant recall any Macquarie perch. I was with dad in about 1950 at Yarrowonga, at the mouth of the 'dead river' about a mile below the weir, and he got a pair of Macquarie perch in the gillnet. 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 Yarrowonga. Never seen one since. There were catfish in a lagoon on the northside of the river below the spillway at Yarrowonga. 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 its 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.'

G. Recollections of Don Briggs of Shepparton, formerly of Barmah.

Don Briggs 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, its still called 'the Bowyards', 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 Columbo 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, its 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 40's. 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 they 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.'

H. Recollections of Greg Norris, Secretary of the Kyabram Angling Club

Greg Norris provided his recollections in October 2006 at an age of 65 years. Greg from his youth had fished the Barmah Lakes area and the rivers in the vicinity.

'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 Columbo Creek on Columbo 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 70-80's. 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.'

I. Recollections of the Late Bert McKenzie of Ruffy of the Middle Murray

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 blue nose as that particular pool had both of them in it. That was during the 1950's. In Cobrawonga Creek in 1944 I caught a sixty six pound blue nose. 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 blue nose 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 blue nose and the Murray cod was the shape. The blue nose was often longer and had an ugly pointed head whereas the Murray cod was usually in better condition. The blue nose 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 blue nose 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 expand more energy to stay put.

I used to use in the Murray, trout tackle for the blue nose 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 blue nose. I caught two about thirty pounds on the spinner behind my boat with aeroplane spinners in the Murray below Yarrowonga 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 Yarrowonga 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 blue nose 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.



This photograph contains images of several major native fish species. Believed to date c1890 from the Barmah area visible is a cod, a golden perch and several catfish near the top of the A-frame. A silver perch (forked tail) and either a golden perch or a Macquarie perch lay near the top of the right flap of the tent. (Original photograph from the Sinclair family, courtesy of Helen Coulson of the Echuca Historical Society)



Photo of the Rice family with a catch of fish, including cod held by the participants near the first wine shop building, Echuca, c1880. The inset is a close up of the fish held by the gentleman 4th from the left. The fish appears to be a trout cod with what appears to be an overhanging upper jaw and a suggestion of dashed markings. Examination of the photo suggests that the fish held by the first man on the left is also a trout cod while that held by the 3rd angler is definitely a Murray cod with the bottom jaw longer. (Photograph courtesy of Bill Vickers and the Echuca Historical Society)



Photo of a fishing party at Echuca c1890. Lying on the ground near the centre of the photo is Dick Greville. The catch includes Murray cod with some trout cod. The inset is a close up of three fish towards the right of the photo. The centre fish displays the head of a trout cod, with an eye stripe just visible. Its head differs noticeably with that of the Murray cod on its left. Another trout cod lies between the legs of the man sitting on the ground on the extreme left. Trout cod appear regularly in photographs of catches of cod from around Echuca prior to the First World War though images of Murray cod are far more common. (Photograph courtesy of the Echuca Historical Society)

LOWER MURRAY DISTRICT

A. Recollections of Ian McDonald of Murrabit

Ian McDonald 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 crossline. 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 fishermen 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 neighbor 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 Cambells 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. Thats 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 cattiees 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 cant 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 enset of the redfin happened when the cod disappeared. The redfin proliferated in the wet seasons in the 40's 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.

B. Recollections of Mick Ashton of Kerang

Mick Ashton was 77 years of age when interviewed in November 2006. Mick recounted the stories from his youth of the freshwater fishery of the Kerang area and those stories of his father.

'My father was a ganger on the shire tramway from Kerang to Koondrook. When I was 9 or 10 years old I remember the big cod that he got sitting on our verandah, it was 124 pound. I sat in front of it with my boots in its mouth, I will never forget it! He was the ganger on the tramway, used to set off in the mornings and meet his mate from the other end. One morning from the tramway bridge they saw this big bow wave coming up the Barr Creek. It was this big cod, it swam up and lay in the shade under the bridge. It used to go out at night and hunt for food and come back in the morning to the shade under the bridge. Well to start with they tried to catch it on bait. They set a big yabby up on a line, and it would come out and smell it, but it then went back to the shade. They tried every bait but it did just the same thing.

Well they decided next morning that they would try to shoot it. The bloke from the other end brought a shotgun. My father borrowed a 303 from the rifle club and they waited for it. Eventually they saw the bow wave coming up the creek and just before it got to the bridge the other bloke couldn't fire the shotgun as the cod was down too deep. My father was waiting on the other side and when it stuck its head out he plugged it right between the eyes. They hooked it out with a pole and took it up to the butter factory where it was weighed. It was put on the train to Melbourne and it sold for sixpence a pound.

The Loddon River, when I was 7 or 8 years old, we used to camp on it. It was clear, you would drink it, now it is just a mud hole, you wouldn't think about it. Further down, below where the Pyramid Creek comes in, it's a bit better, but nothing like it used to be. In the river and in the Barr Creek there were catfish, cod, yellowbelly, grunter, redfin and tench. In the Barr Creek, well in the 1930s it was just the best creek, it was sensational! There was any amount of cod in the creek. My father used to troll with an aeroplane spinner, with the line wrapped around his knee. Once he got dragged out of the boat by a cod, but he made it back.

The other fish in the area, well there were yellowbelly, they were common, up to 10 to 12 pounds. The bream were pretty common, if you got a big one they would go on your line, they were excellent to catch. We caught them up to 4 to 5 pound, it was no trouble to get one that size. When you got them out onto the bank they would grunt. They were not a good eating fish. We used to go out to the Wakool, out through Murrabit, and we used to catch a lot of greasies in that river. A long time ago we used to catch quite a few, but all of them were small, none of them would have been over a foot long. Over 50 years ago my father told me there was a second type of cod, the trout cod, in the Kerang area. I've never seen one in the area, though they are common now up towards Yarrowonga way. Apparently they had always been very scarce in the Kerang area, never common in the rivers here, that's what I was told. And the Macquarie perch, no one ever talked about seeing one around here.

The catfish were very common, they were commonly around 3 to 4 pound, with the biggest ones around 5 to 6 pounds. We used to go down to the Barr creek on a Saturday morning, my father, brothers and I, with a sugarbag each and a bamboo pole with a hook on the end. We used to walk along and you used to see the catfish sleeping on their sides against the bank. We would hook them out and fill the sugarbags, have them on the train to Melbourne that morning. I would have been 8 to 10 years old at the time. A few years later the catfish became scarce throughout the area, you never saw them in the same numbers, not many. Years later they turned the Barr Creek into a channel, well that broke your heart, when you knew what it used to be like.

I used to love the redfin, but cant find them now, though they still catch them in Lake Charm. I can remember when they were thick around here, in all the lakes and rivers around. The biggest was about 7 pound, while the average big one was 3 to 4 pound. There was a pro chap here who used to gill net the big ones. I used to get them on the bobbers and the hogback spinners. I used to go out to Reedy Lake using the hogback spinners and find the holes in the reeds. I would throw it out 3 times into a hole and if I didn't catch anything I would move onto another hole. I once got 23 redfin in 23 casts in Racecourse Lake, real good fish. I cleaned them and then went home for lunch. I went back after lunch and I caught none, they had moved on.

Out through Murrabit the Wakool was always good for yellowbelly and redfin mainly, but more of the redfin. I used to get some good cod out there too. It was no good getting out there before 4 o'clock. There was one big hole, well every time I went out there you could throw in and fill a potato bag with redfin. I went out there one day and there was this ute pulled up, I knew the ute, the owner was a bit of a poacher. I was down the river and there was a hell of a blast, he had blown the hole. We never again caught a fish out of that hole.'

C. Recollections of Henry Davies of Tyntynder South

Henry George Washington Davies, 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 Picanniny Creek at Cow 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 blue nose, 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. Its on the NSW side of the river, where an anabranch comes out of the Murray on Pentel Island, actually at Milool. 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 butterflyfish, 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 crossline, we were allowed four back then, and they would follow up the bait on the crossline. 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 Yarrowonga 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 Bailif 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.'

D. Recollections of Bill Lever of Wentworth

Bill Lever, 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 crossline. 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 Yarrowonga right down past Wentworth. Old Ray used to tell me how he used to get the trout cod when he worked out of Yarrowonga, 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 Tibaburra 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 wont 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 70's 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.'

E. Recollections of Redge O'Connor of Benalla, formerly of Niah West.

Redge O'Connor was interviewed in March 2007 at an age of 85 years.

I grew up at Niah West and I can remember at Niah and at Vinifer the paddleboats. Dad would say "lets 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 Niah, I've caught them at other places but not there. My grandfather Vernon at Niah 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 floppys, I have still got some floppys. At Niah 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

McQuinns Weir near Strathbogie. At Niah and Polly McQuinns 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.'

F. Recollections of Gary Daws of Rocky Point near Myrtleford

Gary Daws was interviewed in January 2007 at an age of 56 years. This is part of his interview which is reproduced in full in the section on the Ovens River.

'I was born in Echuca, grew up at Gunbower, mum's family grew up around Gunbower. My old man was a fanatical fisherman and so was my mother. The biggest silver perch I've seen, my old man got one that was 9 pound, out of the Murray, below Torrumbarry, for my sister's wedding in 1959. I'll never forget it, I had all my worms taken by the little ones, and he got this huge thing! It was good eating, how you handled them was important for the eating. When we were kids we would fish on the sandbanks there, we would mainly get silver perch, they would knock off the worms, but we also got yellowbelly and small cod. The silver perch, the little ones were shocking, there was so many of them!

My old man caught a lot of cod below Torrumbarry, but 3 or 4 times he caught a bluenose. I can remember him saying it to me, he was pretty much matter of fact about it, that was in the late 50's. They were there, but not in numbers, they knew what they were, but they were not commonly caught. I remember the first one I saw him catch, he couldn't get this bloody thing up, it was close to 30 pounds. He would get it up near the boat, it would go back straight to the bottom, it just wouldn't give up. The bluenose, they wouldn't capitulate at all, he was sometimes disappointed because they weren't as big as he thought they would be. That was a phenomenal fish, the others he caught there would have been under 10 pound.

The old man, he would drag chains over the logs to wake up the cod, and then drag the area with an aeroplane spinner. He caught one yellowbelly, trolling for cod on an aeroplane spinner, about 1958, it was like a giant football, it weighed 34 pound. That was around Katy Malone's Bend, about 5-6 kilometres below Torrumbarry, he liked that bend a lot. I don't remember catching catfish then in the river itself, but near Master's Bend there was a creek or a channel that always had catfish in it. It ran into Pig swamp. And the Gunbower Creek always had catfish in it, they were easy to catch with a beer bottle, a bit of string, a worm dropped off along the edge of the cumbungi. They were generally about 1 – 2 pound, got an odd one up to 4 pound. They are just the best eating!'

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Date	Number Boxes or Baskets Received	Class of Fish	£	s	d
<i>Feb 16</i>	<i>2 Boxes</i>	<i>1) 49 lbs. Golden Perch (1 fish)</i>	<i>1</i>	<i>16</i>	<i>9</i>
		<i>2) 24 " " " (1 fish)</i>	<i>1</i>	<i>1</i>	
	<i>1)</i>	<i>70 " " " (1 fish)</i>		<i>10</i>	
	<i>4)</i>	<i>9k " " " (1 fish)</i>		<i>9</i>	<i>6</i>
	<i>5)</i>	<i>54 " " " (1 fish)</i>	<i>2</i>		<i>6</i>

The receipt proving a species record. The receipt for the sale of the 54 pound golden perch caught by William Davies from Kow swamp near Cohuna c1937 to agents at the Melbourne Fish Market. (Courtesy Henry Davies, Tyntynder South).



Ian McDonald was a two month old baby in the buggy right of centre when this photograph was taken in 1914 of the Murray River at Myall during a severe drought. (Photograph courtesy of Ian McDonald of Kerang)



Left: A young Mick Ashton poses with his father and the 124 pound Murray cod shot with a .333 rifle in the Barr Creek near Kerang c1937. A neat bullet hole can be seen between the eyes. (Photo courtesy of Mick Ashton of Kerang).



Right: Catch of cod Gunbower Creek, Leitchville December 5 1938. (Photo courtesy of Frank Moore of Max Cove)



Photo: Florence Jude and Peggy Jude with a cod caught from the Murray River between Swan Hill and Nyah c1927. Although the mouth is open it would appear that the top jaw would overhang in the closed position. The shape of the head, large eye, presence of an eye stripe and a hint of dashed markings suggests it is a trout cod. So far the examination of many photographs from the Swan Hill area dating back to 1890 has only unearthed this one good candidate of an image of a trout cod. A pair of photographs of a catch cod caught at Pental Island in 1926 may also contain an image of a trout cod. No photographs to date have been located of catches of trout cod further downstream despite many photographs being examined. This suggests that the species was never very abundant below the Swan Hill area. (Photo courtesy of Julie Whateley, Swan Hill Historical Society).

UPPER LACHLAN DISTRICT

A. Recollections of Mrs Mona Motum of Tanilba Bay

Mona Motum was interviewed in February 2007 at an age of nearly 92 years.

I'll be 92 in September, I grew up at Reids Flat, on the Lachlan river. My father come from around Bigga, my mother herself was from Reids Flat, so we were all from around there. When I was young we fished and caught nice fish, we always had nice fish, there was plenty of fish in the Lachlan.

I remember mum said one afternoon to us kids, that we were going down to the river fishing, I was about 6 or 7 years old. There were no rods or reels, we just had a pine fishing rod with a chord, float, sinker and a hook. We went over to the river, we sat down and fished where there were three logs and put worms on the hook. In no time we had three beautiful cod, they were about 2 to 3 pound. We went back home then, that was enough for us, there were no refrigerators back them to keep them.

The 3 cod that we caught were the streamlined cod. We used to catch two types of cod, the streamlined cod and the stumpy cod, but really they were all cod to me. The streamlined cod were more common than the stumpy ones, they had a pointy head and it wasn't as big or flat like the head of the stumpy ones. They were different in colour too, though its been years since I have seen one. The streamlined cod they were a grey sort of colour, while the fat ones were a darker colour and green. And the streamlined ones didn't have the fat in them like the stumpy ones, they were better to eat. But really both were beautiful to eat. With the fat ones my mother would fry them, then cook them in the oven over a pan, that took all the fat out of them.

Most of the cod were a nice size to eat, though some of the cod were bigger. After a flood, at the racecourse above the bridge, the flood used to wash them out onto the racecourse. My father and uncle used to pick them up and put them back in the river, there were some mighty ones they put back. They looked after the cod, we only took what we needed. But then there was a bad fire, it nearly burnt us out, they stopped it at Bakers Creek, it happened well before the war. And before that there were two blokes who were dynamiting the river. The cod used to float up for days after, we couldn't stand the smell, it cleaned out a lot of the fish. After that there were very few cod seen out of the river.

Apart from the cod we used to get at Reids Flat the yellowbelly, they were a good size, and the bream, they were a good size too. One fish was a feed. The bream were a lot more common, they used to swim around in schools, you could sit on the bank and watch them. The bluebellies, you could catch them all the time. A cousin of mine, Bill Norris, he was like my brother to me and I was like a sister to him. He used to catch them, they'd be 6 to 8 inches long, little slimy things, they were called slipperies too. They were as common as can be, you'd get 3 to 4 every time, then they disappeared overnight. It was the same further up the river, on the farm up at Battery Crossing, a few miles above Reids Flat. There were the same sorts of fish, it was no bother catching them, bream, yellowbelly, bluebellies and both cods.

In Wyangala Dam there was plenty of cod, bream and yellowbelly when I was young. There was grunter too, oh yes, they were in Wyangala, in the dam you didn't have any trouble catching them, but I never saw one in the river at Reids Flat. And the catfish, you could catch them easy. I remember one day later on we went down to Wyangala, my husband and I, and we weren't catching anything. It got dark and we had our lines out. I shone a torch and they were right in front of us

where we were fishing, not out where we had our lines. We threw out our lines in front of us and we caught a lot. I don't remember catching one at Reids Flat.

After the fires and the dynamiting I used to go down the river once a week with handlines and worms, by then there was only bream. When I became a teenager I left Reids Flat, went to Sydney. You could still catch a bream, over 20 years ago. Then they put the trout in and they started to die out. I haven't been back permanently to the area and I don't go back today. Its not the same place.'

B. Recollections of Dick Elvins of Lemon Tree Passage

Dick Elvins was interviewed in February 2007 at an age of 62 years. He has also provided written recollections of his own experiences and the stories of his relatives.

'The cod in the upper Lachlan, that is from the top end of Wyangala Dam and up, were something of a mystery. I can recall as far back as 1952. There were a lot of tales around about the cod that used to be caught in the river in previous years. Some of these were caught by my grandfather, his sons and daughters, one of which is my mother who is alive today at the age of 92 and has clear recollections of the fish that inhabited the river system.

My grandfather had a property on the Lachlan above Reids Flat, he had about twenty odd miles of river front, I didn't live far from him. His main residence though was at Reids Flat. He and my uncles used to come home on weekends if it wasn't flooded. He used to talk about how in the past how he used to catch there catfish, yellowbelly, Murray cod, the Macquarie perch and the blueguts or slimmies. He said he used to be able to catch a cod or a yellowbelly anytime. His best cod was 80 pound, though he got plenty over 40 and lots of smaller ones. My grandfather used to take me fishing a lot in my younger years, he used to live about ½ a mile from the river. We used to walk along the Lachlan and he used to show me the holes where he used to get the cod. He would take his pole with a line attached, pole usually being about a 10 to 12 foot long Stringybark sapling, with a line the same length and a cork on the line. It used to astound me how he could tell the difference of a bite from a shrimp to the bite of a Macquarie perch or black bream as we called them.

We would sit on the bank at the Reedy Hole and while he fished he would tell me about the fish he used to catch there. The cod were in plentiful supply back then. He would and had caught them up to 80 pounds, the biggest was caught just above where we were fishing. Back then and until just recently we all thought they were Murray cod, but when I think about it both he and my mother said that the long thin cod were better eating the short fatter ones. Obviously the thinner ones could have been trout cod. The first time I had heard of the trout cod was back in the late fifties when me, my father, grandfather and uncles were fishing in Burrinjuck Dam and my father caught a cod of about 30 pounds. It fought and looked a bit different from the other cod, that was in late 58 or 59. My grandfather knew all about the trout cod or bluenose. He said it was a trout cod and was great eating as they were not as fatty, but said they liked the faster flowing water, to live in. And they go a lot harder than the normal Murray cod.

Mum told me that after the big floods my grandfather and his brothers would go along the river and get all the big cod caught in the gilguys and billabongs and return them to the river. She said it was silly trying to keep them because they had no refridgeration and the fish would go bad.

I have not fished in the Abercrombie as I have the Lachlan. I do know that the black bream used to be more prevalent there than the other streams, that was because it was a faster flowing river with

plenty of rocky holes. Back in the gold rush days around Tuena most of the miners lived on rabbits and fish. From what my grandfather said his brother, who was on the goldfields, said that there was good cod and bream in the river. I do know that back in the late 40's and early 50's, even as late as the sixties they used to get bream in Tuena Creek, but I think it only has trout in it now. The old blokes talked about the cod and silver perch being common up from Bathurst in the early years. And the top of the bidgee, they used to get cod up from Canberra. My grandfather had a mate that used to fish the bidgee up from there for cod.

Anyway back to the type of fish that were caught in the river system. There was no shortage of black bream, cod, slippery, Crucian carp and catfish. I can recall my grandfather coming home one afternoon in the mid sixties and telling us that he was astounded, that while he was fishing down at a hole known as the Green Bank that afternoon. He walked onto the top of the bank and there were three yellowbelly sunning themselves on the surface. He swore that they had to be over 30 pounds each. So my father and I went down about a week later to see if we could catch one. We were using yabbies and worms and we set four handlines along the bank one of which was beside a log about twenty feet from us, as we were bobbing with worms. As we were sitting there we heard a whack near the log. We went there and the line had been shattered. The lines were all 45 pound breaking strain, that was because my father always said you never know what you are going to hook when fishing. But I don't think it was a yellowbelly that broke it.

In the early 50s in the afternoon you could go down to the river and catch half a dozen Macquaries, not a problem, that would be our fish for the week. We used to get them up to 3, 3 ½ pound. And the catfish, well the dam was full of them, but you would get one occasionally, up to about 3 pound, maybe one every six month at Reids Flat. Another good place to fish was Taylors Creek as we knew it, above Reids Flat, but its real name was Kallaba Creek. It was the home of the black bream and was one of our favourite creeks for Maccas, the holes were 7 to 8 feet deep, in between the rapids, they were in all the creeks as well as the river. You could look in the holes and see the Macquarie perch, mum, dad, and all the kids swimming around the hole. My father and mother used to take us fishing there when we were kids. It was quite common to catch anything up to a dozen bream.

It would have been in the late seventies when my cousin Phillip Roberts and myself were at the hole above Green Bank known as the Pumpkin Paddock. We had been shooting ducks further up the river and came back to the car to pluck them. As we sat on the bank of the river there was an almighty splash and bang under a willow tree on the other side. This poor old wood duck came out honking, feathers going everywhere and had an injured wing and could not fly. Although she could see us she preferred to be over our side as over there. A couple of minutes later as we were watching the Willow a cod swam out from under it. You could actually see his fin sticking out of the water, he would have to have been well over a meter in length. He swam about half way across and then disappeared, that was the first one I had actually seen there.

I often fished the Reedy Hole and Supples, but it was such a long walk from my grandfather's farm house, but I still used to do it. It was about six or seven k's to Reedy Hole from the farm house. Supples and Hogans holes were another of my grandfathers favourite fishing holes as well as my own. He used to catch cod and bream, but all I caught was trout and the occasional bream. One of the best streams for bream was used to be Mulgowrie Creek. We used to walk up above Rosewood Station and watch the bream swimming around in the rocky holes, but we never ever caught any as we thought it was probably the only stronghold they had left. As far as I know they should still be there, unless someone has got them. The only thing I used to take out of there was the bloody trout. It is probably full of European carp by now which is a shame. They like the trout have caused a lot of damage to our native species. Take the bluegill or slippery for instance, the last one of those I caught

was in 58 or 59. I blame the trout for their demise. They were there like the bream before the trout but did not last long after they arrived.

There were other creeks around that contained good stocks of bream in those days, such as Bramah Creek, Mulgowrie Creek and the Crookwell River. I don't know much about the Crookwell River as it was a bit past my fishing grounds. But I fished the Lachlan from Wyangala Dam to what we know as Sounding Rock just below the entrance of the Crookwell River. The only time that I have fished above Sounding Rock was once with my grandfather and uncle. We were fishing up above the junction of the Crookwell River at a place called Fords Crossing above Koala Station towards Rugby. That would have been in the late fifties or early sixties. We had gone there to catch bream, it was beautiful water, deep with lots of logs. That night we heard four big wallops, my grandfather told me it was a cod feeding. He and my uncles always said that they thought that there was still cod at the Sounding Rock, at that time parts of the hole were very deep and so was the deep hole just below it.

Another river known as the Boorowa River used to hold yellowbelly and cod back in the fifties. I can recall once when my father and a farmer who lived at Frogmore, he owned the land around Roaring Rock which is a series of deep granite holes. I was only about 8 or 9 years old when we went up there for the weekend, mum and us kids stayed at the house for the weekend. Saturday night dad and Eric came home from down at the river and had half a dozen nice yellowbelly, the biggest being around 8 pounds. Next morning they went around their lines and came back with a few more yellowbelly and two bream. Dad was saying that they had two lines broken through the night. As I said before my father never fished lighter than 45 lb line. After that time it was only good for trout fishing further up.

Wyangala Dam has gone through several stages. Back in the 50s and 60s it was full of catfish and bream. We used to call them white eyes or pygmy bream, but they were actually baby maccas. Then when the trout and the carp built up numbers the disappeared. Gone from cant keep a bait on because of small catfish and bream to not losing a bait or catch a carp. On one occasion while they were working on raising the wall at Wyangala I recall watching with a couple of workmates a very large cod which used to patrol one certain stretch of a bay every day about the same time. He did this for about three days and then we did not see him anymore. He would have been 80 pounds or more, that was back about 63 or 64. So there was obviously still some cod still around in the dam. But they were obviously not breeding or if they were they were not surviving. I do recall that the Bigga Fishing Club along with the fisheries stocked it with big cod caught at Burrinjuck, It was in the late 70s I think. Just how many I am not sure.

The only time I caught a cod from the Lachlan was back in 1982 when I landed a 56 pound fish were the river met the backwater of the dam. At that stage there were no carp in the system. I went back four months later and I caught a European carp in the river just above the headwaters of the dam at what we called George Smith's and it weighed in at sixteen pounds and was full of roe. Twelve months later the system was full of carp. The last cod caught in the river to my knowledge was caught just below Reids Flat by my cousin Phillip Roberts. Since then my cousin has found three breeding pairs above that and protect them. He has vowed never to keep another big fish after that one. He also told me that one of Tony Taylor's sons was spinning for trout just below the bridge last year and a couple of cod around 20 pound followed his celta in.

The tales told and from some of my experiences seems to lead to the fact that that a lot of the demise of the bulk of the fish types in the upper Lachlan and for that matter the Abercrombie was caused mainly by bushfires and man himself along with trout and European carp. My mother told me that there were thousands of fish killed and left to rot by indiscriminate dynamiting of the holes in the

ivers, the bulk of it by two men in particular. She said for weeks after they did it you could not get near the river because of the stink of dead fish. These holes would have taken years to rehabilitate.

Grandfather told me there was a massive fire in the upper Lachlan in the late 30s or early 40s, it started over near Rugby and burnt across through to Crookwell before they got it under control. About a week later it rained and brought in all the ash into the river, then it flooded. He told me the floods washed all of the bodies away, the cod were getting washed up and hung up on the fence at the old Reids Flat racecourse. The fire pretty well wiped the cod out, though I may have heard of odd ones around there, maybe up to the 60's, but I never saw one myself. My grandfather thought that some had survived, in the creeks above where the fire went through. I remember we were fishing one night, up above Rugby, and there were four big wallops, my grandfather told me that it was a cod feeding, that was back in the early 60s. The Macquaries and the blueguts had survived in some of the creeks away from the fire, and they later came back.

The trout first hit Reids Flat about 55/56, they were a bit like the European carp today, they had just been put in. They went up every creek, every pot hole, they grew fantastic. Well that was the end for the other fish. I can remember the first time I caught a rainbow trout, I was 12 years old. We went to Taylor's Creek fishing for bream and we ended up catching about thirty "bloody trout" as my father said. He said it would be the end of the fishing there, and he was right. I fished that stream for several years after and only caught one bream, while I must have caught 200 trout. Gone were the days of watching the bream swim around. It was amazing to watch how they swam around as a family group. I sat and watched one group for two hours one day and it was amazing how mum and dad herded the troupe up. One little hint of danger and the little ones would dive under the bank, then mum and dad would come out, swim around, and if all clear out would come the littlies and either mum or dad at the rear. I actually saw one of the old ones catch a shrimp and break it up. All the little ones came around and feasted on the scraps. Alas gone are those days.

And the same with the blueguts, I was told they used to be really common, that they were a great bait for the cod. We used to still get them when we were kids, a few a month, then the trout picked them off. The blueguts have been wiped out for years, since the late 50s, the last one I saw would have been in 58 or 59. I know there still are a few Macquaries in the Abercrombie but the only place I've seen them doing well in recent times is in Cataract, and the silver perch there's heaps of them in there, as well as Murray cod and trout cod. The native fish have got it all to themselves in Cataract, there's no trout, redfin or carp and they're doing really well. That's how it should be.'

C. Recollections of Eric 'Sugar' Beer of Wyangala Dam

Eric Beer was interviewed in January 2007 at an age of 70 years.

I was reared on the upper Lachlan, the old people called it the Fish River. There was two stories I was told about the cod in the river here, up above the dam. A big bushfire went through, before my time, above Rugby. They reckon there was that much charcoal washed in the river, well the gases killed them. The other theory was that they got a gill bug, and that killed them. When that happened, what killed them, they said you could nearly walk across the river on the cod. They told me that when I was a kid, 60 years ago. There was supposed to have been cod in the Abercrombie, there had to have been. The first cod I saw up here was 49 pounds, out of Wyangala, in the old dam. They finished the dam in 32 or 33, and I was 10 or 12 years old when I saw the cod. The dam was

increased in the sixties. I didn't see another cod until they stocked them. The Bigga Fishing Club put them in, and then the Wyangala Club put more in, I was the President of the Wyangala Club. The Bigga Club went to Burrinjuck and netted some cod, they had permission, and brought them back, that was the early to mid 70s. Then we bought fingerlings over from Narrandera, not long after.

I used to catch a lot of Macquaries over at Reids Flat, they were still up there till about 55, though not that many by then, they were starting to reduce in number. The Macquarie perch, my stepfather used to catch the buggers there, plenty, from ¾ to 1½ pound. Anything bigger was exceptional. I blame the trout for wiping the Macquaries out. They put the trout in, well within a couple of years you could see the change, the Macquaries got real scarce. We still get an odd little Macquarie in the Abercrombie Arm of the lake. Speaking for myself, before the trout, Macquarie perch were the dominant fish, and the freshwater blackfish which we called the 'blueguts'.

The last I seen of the blackfish was in the creeks up near Rugby, they were common, they called them 'sprats' up there. Those creeks, they had stacks of them, 8 – 9 inches long, I was 15 to 16 at the time. You are looking at about 1952. They were apparently the ideal cod bait up there, they told me in the old days you had to stand behind a tree when you put them on the hook! I don't know of them up there now. I heard of one from below the dam, I didn't see it but it was positively identified, would have been over 20 years ago.

There used to be nice little holes at Reids Flat, 300 to 400 yards long, 6 to 8 feet deep, that's when the river was low. And then the 50 and 52 floods virtually leveled it, two whopping floods. I didn't see a redfin until I got out to Bland Creek, that was my first, near West Wyalong. I've never seen one above the dam, heard of them but seen no proof, but there used to be plenty of them below the wall.'

D. Recollections of John Bryan of Cowra

John Bryan was interviewed in January 2007 at an age of 79 years.

My father owned 'Glenogen', about 7 miles out of Cowra and I was up at Bennet Springs 40 years ago. I have never seen one, a cod, out of the Lachlan at Cowra. They were here over 80 years ago, my father caught a big cod, dragged it onto a sandbank about 1910. I remember him telling me how this cod was gasping and the boys were frightened by the mouth! He said they used to catch Yellowbelly, grunter. There's always been a fair bit of yellowbelly about.'

E. Recollections of Les Croker of Golspie

Les Croker was interviewed in March 2007. His ancestors settled the upper Abercrombie district and could recall some of their stories of the early fishery.

'They settled the property in 1882 that was my grandfather. My grandmother was born in 1865, about 1881 they set up a house at Pine Grove on Phil's River. My father was born in 1902, my grandfather died in 1927, I was born in 1944. I used to get all these stories from the past as bedtime stories. My family, they used to be keen fishermen, they'd fish the Abercrombie every two to three weeks through summer. Back then the river didn't have any of the rubbish in it like it has now. I was told that originally there was all big Oaks in the paddocks and along the river. You could walk right along the river. Today there is lots of small Oaks and the rubbish like the blackberries, all since the big trees have gone.

They told some wonderful stories a lot of the family members, they would go out fishing and stay the night. In this creek where we live today, the Boree or Burra Burra, they said the cod were that thick you could catch them by tying a hook on a stockwhip and using a bit of red flannel to catch them. The cod were in the Abercrombie, the Boree which was also known as the Burra Burra, they were particularly thick in that, there was no sand in there, just big rocks. There were cod in the lower parts of the Bolong. There was a wall or rock bar about thirty feet high on the Bolong, none of the native fish were caught above that. There was only trout above that. Years ago you could see the trout die in the Boree and the Bolong from the heat in summer. They would just go still in the holes and then they would just disappear. The Macquarie perch, well they were the black bream here. They were so thick I was told you had a job to keep the bait away from those that were three to four inches long. They were caught up to about 3 pound or a bit better. Dad got one in the Abercrombie about 3 pound the last time he went out, that was in the early 70's.

My grandfather and a brother in law one day hooked into a good cod at Scrammies waterholes, named after a man with a "scrammy" or withered hand. They both held onto the line, it was a set line, to try to land this fish, but it broke away, he said it was as big as a pig. Another story was that one fellow got himself a cod, but it tied itself around a stump or tree. They found him some time later all rotted with the jaw still with the line on the tree. The cod well I think they got quite a few around the 5 pound mark, the biggest one known was 25 pound out of the Big Hole in the Abercrombie. My father never said that yellowbelly had been caught here, there was the gudgeon, the black bream and the cod from the early 1900's up to the 1930's, and catfish. On one occasion my father caught a 5 pound catfish and my grandfather a 5 pound cod. Apparently there had been quite a few catfish, they would come and go, but that was before I went out there. My grandfather put trout into Phil's River, I don't know what was in there before then. My dad's brother apparently was skinning rabbits out there and threw some legs in and these fish that were about three feet long and thin, well they ate them. They could have been cod.

I can remember my father, we went down to Francis's Crossing, but when I got bigger he brought me up here. There was a big hole, there was a big rock above Cameron's Hole, a wonderful spot for the Macquarie perch. Up above there was Scrammie's Hole then Pete's Hut. One night we caught 27 Macquarie perch, in Cameron's, that was in the early 1950's. They would have been from 10 to 14 inches long. The big hole by then was a disappointment, it had been cut in two, it had silted up from the erosion. I was told that there had been plenty of cod and the catfish out there, but the Macquarie perch were still there. There was a fish like a gudgeon, the slimy, the slimies are still out there, I caught a few there with my son out there at Reedy Gully Hole about six years ago. In the old days the bait for the cod was the oak grub, out of the tree, and crayfish. The bait for the bream or Macquarie perch was worms.

The cod were pretty well gone before the war, though there were odd ones around. There was a big hole in the Bolong, with a big cod in it. The trout were plentiful, and the bream, up till the 1960's. Back in those days there was such a flow in the Abercrombie you couldn't cross it in summer without getting wet. I think now its gone twelve months without running. The only one that continually runs is Phil's River. In the Myanga Creek there's a lot of sand, it filled the Abercrombie, below the junction of the Bolong there's a lot of sand, up above there is a lot of gravel. Dad thought it was caused by all the rabbits. Every sheep dip when they started dipping sheep was built on a waterhole, all the arsenic drained into the river. I think that destroyed a lot of the fish. There was also a lot of rabbits poisoned with the phosphorus, I think that went down into the river too.

After reading Jack Rhodes' stories, which I found extremely interesting, I have this to add. Uncle George Smith and my grandfather William Croker that hooked onto the biggest cod ever seen in the Abercrombie were using a horse hair line (as mentioned in Jack's stories), and I heard uncle George

make the remark that was the only fish he ever knew of to break a horse hair line. Also with reference to the “up country swing” and a “flight to the bank” uncle Johnny Weekes was the most notorious fisherman of this style – he tore the gills out of the first trout caught in the Abercrombie which then floated to the surface.’

F. Recollections of the Late Bert McKenzie of Ruffy on the Lachlan River

Below Bert’s recollections of fishing the Lachlan River. Although it deals with lower Lachlan it is included here for the sake of completeness and to make the information more widely available.

The Lachlan in 1925 well you could write your own ticket there, catch seven or eight cod, eight, nine, ten pound any morning. They were the dinky die Murray cod in the Lachlan. We had been trapping and we found the Currajong full of wood grubs. In September you could just dig a stick into the bank and you had all the worms you wanted. And the fish loved them too! I think that was the reason they were biting so well. We never caught any other fish there. That was the last week of September.



Photo: Respected angling writer Rod Harrison captured this trout cod while spinning for trout in the Lachlan River at Reids Flat c1968. Rod also played an instrumental role in the discovery of the trout cod population and hybrids in the Cataract Reservoir near Sydney. The photograph confirms the historic presence of the species in the upper Lachlan and supports the account of Mona Motum that the species was once prevalent in those waters. (Photo courtesy of Rod Harrison)

BROKEN RIVER DISTRICT

A. Recollections of Ambrose Doxey of Benalla

Ambrose Doxey of Benalla, formerly president of the Benalla Angling Club, was interviewed in October 2006 at an age of 86 years.

He recalled 'In the river upstream from Benalla years ago the three most commonly caught fish were the bream, the cod and the blackfish. All three went up past Nillahcootie. The bream were very common. Mostly the Macquaries were up to about 2 pound. Two of the biggest I caught were over 3, nearly 4 pound. They were caught out in front in the old weir. You would get them in the spring and again in the autumn. In the summer the water was too low.

Up past Nillahcootie, that was THE home of the Macquaries. Big, long, sandy stretches. Just after the war, about 1946, we fished up above William's Bridge (Williams Bridge is a few kilometers downstream of the now present Nillahcootie Dam wall). That was a long trip up there. Back then it was a dirt road! It was a Friday, about 4 o'clock and there was a big storm. We got 23 fish, mostly Macquaries up to about 4lb, fishing off a bank about 4 feet high. One would be on top of the bank fishing, the other at the bottom to land them.

Good cod were caught up past Mansfield. Up past Barjarg there were some good cod spots, really good holes. There were two types of cod, though we didn't take much notice back then. I think the second type were called bluenose, in amongst the normal cod. Around Benalla very few really, at least in my time. You saw them but you didn't take much notice. In my younger days Alf Smith the railway ganger, well he was a beauty on the cod. He caught one near the railway bridge in town with a rabbit down it's throat. I saw one caught that was 75 pound caught out of the lake outside the angling club rooms.

Other fish at Benalla, well there were yellowbelly. I can't remember any grunter being caught. The catfish were caught in the river, but I haven't seen one now for over 50 years. The redfin turned up between the wars, at the time the lakes got built. The native fishermen thought the redfin were rubbish, though some blokes got good money for them. The carp turned up in the seventies. The trout arrived here in between. Well after the war the Macquaries got scarcer, more so after the dam got built.'

B. Recollections of Redge O'Connor of Benalla, formerly of Niah West.

Redge O'Connor was interviewed in March 2007 at an age of 85 years. This is part of the interview relating to the Broken system. For the full interview refer to the section on the lower Murray.

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.'

C. Recollections of Frank Moore of Max Cove

Reproduced below are Frank Moore's recollections of the upper Broken River. For the full interview refer to the section on the Goulburn River.

In the Broken I caught the cod and the perch way up past Nillahcootie, up around Stockyard Creek, up from Barwite. It used to be a bloody good river, that was not long after the war. The cod weren't big, a big one was maybe 15 pound, with a few at 8 to 10 pound. You didn't catch a lot of them, didn't catch hundreds of them. During the season, in three days, you would catch maybe a cod, maybe not. The perch were about the same, you'd get one like the cod. They were up to 4 pound. Some holes were much more productive than others. But as the river shrank so did the fish, not just in weight but in numbers.

ADDENDUM

A. Additional Records for the Upper Mitta Mitta River

Historical researcher Mr. Brett Lee from the Gibbo River near Benambra has drawn to my attention further references to cod in the upper reaches of the Mitta Mitta River for which I am grateful.

George Augustus Robinson, Chief Protector of Aborigines of the Port Phillip District, visited the Omeo region in 1844 and Brett has pointed out the following entries in his journal:

Friday 28th June 1844.....Mr Crooke caught a codfish weighing 8 pounds.....Crookes Creek runs into or as I believe the Mitte Mitte River.....perch-cod is found at the source.

Edward Crooke owned *In.mi.mun.ji* (later Hinnomunjie) Station on the Mitta Mitta River (Clark 2000). The entries confirm the presence of cod in the Hinnomunjie area. The reference to the 'perch-cod' being found at the source was undoubtedly sourced from Edward Crooke himself, a pioneer of the district. It identifies the presence of cod in the headwater areas of the Mitta Mitta River upstream of the Anglers Rest or 'Blue Duck' area at the time of European settlement which, as I pointed out in the section of this report on the Mitta Mitta River, the evidence suggests they were mainly trout cod.

There is as comprehensive body of evidence of cod, and specifically trout cod, having extensive populations in montane cold water habitats such as the headwater areas of the Mitta Mitta River system. It is possible that such populations may have been more cold adapted and reproduced at lower temperatures than their contemporary survivors in the Murray River. Certainly such evidence should suggest as inappropriate the classification of trout cod as a 'warm water' species. Many thanks to Brett Lee for pointing out to me these journal entries.

B. Additional Historical References to Trout Cod

Several people have enquired as to aboriginal names for the trout cod and other historical references. Blandowski (1858) provided the name "*Yaturr*" as the Yarree Yarree people's name for the trout cod. George Bennett (1834) in his account of the fish of the Yass and Murrumbidgee Rivers, while discussing the "river cod", mentions '*In the Tumut country, varieties of the "river cod" are called by the natives Bewuck, Mungee, &c.*' suggesting that the indigenous peoples of the Tumut valley were aware of the existence of two types of cod. This claim was repeated by Bennett later (1864) adding that the two were varieties or species of the 'river cod': *In the Tumut country, there are supposed to be varieties or other species of the River Cod, named by the blacks of that district, 'Berwuck' and 'Mungee'*.

Bennett's (1834) writings report a footnote: '*This fish is of the family of perches, and probably the same as described by the French naturalists, as a new genus, under the name Gryptes Brisbanei*'. This suggests that an early formal description may have been provided by Rene Lesson. It may well be that Lesson did provide some sort of description prior to that published by Cuvier and Valenciennes's 1829 of *Grystes macquariensis* which to date has not been located. Alternately contemporary naturalists may have accepted Lesson's initial naming of *Gryptes brisbanii* in 1825 and subsequent description published in 1831 as having priority.

The indigenous people of the upper Mitta Mitta Valley may also have used the term 'munjie' for the trout cod. Various sources have provided origins for the meaning of the locality called Hinnomunjie on the Mitta Mitta River near Benambra as being lack or abundance of fish. The oldest surviving

account for the origin of the term Hinnomunjie comes from the journal of George Robinson who while visiting the Omeo region in June 1844 recording details of local aboriginal customs and dialect. He recorded the name of Edward Crooke's station on the *Mitte Mitte* River as *In.mi.mun.ji* which he interpreted, along with other localities incorporating the phrase 'munjie' as being places where fish could be had (Clark 2000). Whether the fish referred to were specifically trout cod or fish in general will probably never be known.

Major Thomas Mitchell provided numerous accounts of the fish encountered during his four expeditions into the Murray-Darling basin. His journal of 1839 contained an excellent illustration of the Murray cod and in a footnote provided a brief description, naming the species *Gristes Peelii mihi*. This is recognized by contemporary taxonomists as a formal description for the Murray cod: 'Family, Percidae; Genus, Acerina; subgenus, Gristes, Cuv. or Growler; Species, Gristes Peelii mihi, or Cod-Perch. Colour, light yellow, covered with small irregular dusky spots, which get more confluent towards the back. Throat pinkish, and belly silvery white. Scales small, and concealed in a thick epidermis. Fins obscure. The dorsals confluent. The first dorsal has 11 spines, and the caudal fin is convex (Scott 2005).

Berra and Weatherly (1972) alluded to the fact that Mitchell may have been aware of the differences between the fish he encountered in the western rivers and the description provided by Cuvier and Valenciennes though they found no evidence for it. They were unaware of Mitchell's original description. Mitchell's direct use of the genus *Gristes* and the reference 'Cuv.' leaves no doubt that he was aware of the description of the Bathurst trout cod holotype and their erection of the genus *Gristes*. Given the fact that he traveled through the upper Macquarie it is probable that he was familiar with the trout cod, recognized that there were two distinctive fish and accordingly provided a separate name and description.

George French's 1877 account '*Down the Murray from its Source to the Sea*' names the Murray cod as *Grystes peeli* and provides a drawing of a 'Murray Cod', thought to be from the Echuca area. It is apparent that during the mid-nineteenth century there was an acknowledgement of the existence of two forms or species of cod in the Murray-Darling system with at least some references from this period correctly applying the appropriate species names to the two types. The taxonomic confusion over the existence of two species of cod can be traced back to the 1870's. Count Frederick de Castelnau (1873), either unaware or ignoring the details of Cuvier and Valenciennes original description, provided a detailed physical description of the trout cod based on two specimens, one large (30 inch) and one juvenile. He named the species *Oligorus mitchelli*. In addition Castelnau provided the first reported use of a common name distinctive to the trout cod being 'Murray Perch'. His physical description is almost identical to that used by biologists today:

*'The genus Oligorus is thus restricted to the Murray Cod, but I believe that two distinct species are confounded under this name. The head much broader; the eye considerably larger, being contained only six times in the total length of the head and twice in in the length of the snout to the anterior edge of the eye. The upper profile is more convex than in the usual sort. The upper jaw is longer than the lower jaw... The caudal is rather longer and more rounded. The colour is a livid grey, covered entirely with small round obscure spots. The fishmongers consider this fish as distinct, and give it the name **Murray Perch** (not the Golden Perch, which is a Dules)'*

Of interest is the reported use in the late nineteenth century of 'Murray perch' for the trout cod instead of *Macquaria ambigua*, the latter reported to be marketed as 'golden perch' at the time by professional fisherman. It warrants caution in examining catch returns lodged by inland fisherman for *M. ambigua* and implies that some catch data collected at this time may in fact represent catches of trout cod. It is possible that with the decline in trout cod catches in many areas in the first half of

the twentieth century that the names have been transposed resulting in contemporary use of the name 'Murray perch' for *M. ambigua*.

In a classic example of 'crying wolf' Castelnau's description of the trout cod may well have been the genesis of the confusion around the status of the species that subsequently persisted for nearly a century. While providing a valuable contribution to knowledge of Australian fish his excesses in describing and assigning species status to a myriad of forms may well have precipitated a backlash from his contemporaries which clouded the issue of the existence of two types of cod. Another example is Macleay's (1885) description of a single juvenile fish collected from the Murrumbidgee River near Yass resembling a trout cod. The specimen was discussed by Whitley in 1937 as 'teratological or pug-headed' with a deformed upper jaw and yet Macleay assigned it to species status with the name *Oligorus gibbiceps*.

Frederick McCoy, director of the Museum of Victoria, in 1884 published his *Prodromous of the Natural History of Victoria* in which were contained many notes, descriptions and colour lithographs of the Victorian fauna. In this work McCoy discussed the two forms of cod:

'There is a very common opinion among the fish dealers and other observers that there are two distinct species confounded under the name of Murray Cod, the one with a narrow snout, and the other with a broadly-rounded blunt one, and it is easy to sort the two forms when a heap of fish is sorted. I am convinced, however, that the difference is sexual...'

McCoy apparently reached the latter conclusion based on the examination of five fish, two of similar size examined internally being male and female. In addition to the notes McCoy published two colour plates of cod, one of which was of a small (1 feet 7½ inches) specimen of a Murray cod drawn by Andrew Bartholomew. The other plate was drawn in 1858 by artist Ludwig Becker who perished the following year on the ill-fated Burke and Wills expedition. This illustration was of a male specimen three feet four and a half inches in length reported to have contained twenty full grown Murray crayfish. Berra and Weatherly (1972) suggested that the illustration may have been of a trout cod though I am aware that some biologists have doubts, partially because the size of the specimen exceeds the maximum size for the species reported to date.

John Kean of *Museum Victoria* has undertaken considerable research into the illustrations of Becker and has sourced some information on this particular drawing. The provenance of the fish remains unknown and the specimen is distorted having had its neck broken. The head does show a resemblance to a trout cod and its form suggests that if the mouth were closed the upper jaw may overhang the lower. Of interest are some of Becker's original sketchings of the head which show the eyes placed on the side of the head. Becker recorded in his own hand that the snout of the fish was 'blueish black'. If the specimen was a trout cod then this may be the first reference to what would become a well known feature of the species leading to the colloquial name 'bluenose'.

The next historical account for the existence of two types of cod comes from David Stead (1903) the Naturalist for the New South Wales Department of Fisheries who participated in a South Australian enquiry into the status of the Murray River fishery in 1900 as I discussed in the introduction. Stead (1908) later published *Edible Fishes of New South Wales* in which he made no reference to the existence of a second cod. Stead's unfamiliarity with the trout cod was about to dramatically change.

In August 1909 Stead was sent to Deniliquin to investigate reports of 'trout' being captured and sold by commercial fishermen in that region. No doubt the matter was considered serious with the implication that the iconic introduced fish brown trout, *Salmo trutta*, acclimatized through great effort and receiving total protection from commercial fishing was being captured. The 'discovery' of

the trout cod heralded the arrival of a golden era of work on the species. The period from WW1 until well into the depression years, in hindsight, can be viewed as the only period during which extensive investigation into the biology of the trout cod occurred while it remained abundant in some of its former habitat, albeit often as an adjunct to research on Murray cod. Under Stead's stewardship research on the reproductive biology of native fish including the trout cod was undertaken, as well as studies of migratory habitats, on the Murrumbidgee River at Bringagee by H. K. Anderson assisted by Dr. H. O. Lethbridge and professional fisherman W. J. Hill.

Live trout cod were forwarded to the government trout hatchery at Prospect Ponds near Sydney and held for quite a number of years but failed to reproduce. A scheme termed *utilization of nature's waste* was employed whereby fish including trout cod were captured from drying-up waterholes and conveyed to permanent waters. Target waters for these translocation activities included Cataract Reservoir and the Nepean River near Sydney and the newly constructed Burrinuck Dam on the Murrumbidgee River (NSW Legislative Assembly Report 1915). In the late 1920's construction took place of a native fish hatchery at Burrinjuck Dam and an attempt was made to artificially propagate the trout cod utilizing wild fish captured from the Murray River near Albury (NSW Legislative Assembly Report 1929).

Howard Joseland (1921) in his angling guide makes passing reference to Stead and the trout cod as well as providing information on Macquarie perch including translocation work with the latter: *The Trout Cod Mr. Stead places as a species distinct from the Murray cod. It is a handsome fish resembling a well-grown Leven trout in colour, but heavier in build.*

Stead (1932) provided a photograph and description of the trout cod as follows: *TROUT COD: This is *Oligorus mitchelli*, a near relative of the Murray Cod, with which it is frequently confused. Note long upper jaw and spotted side. Attains 20 lbs. weight. Murray cod always has mottlings, and no spots. Lives more freely in open stretches of river, and not such a "lurking" fish as the Murray Cod.*

As late as 1933 Stead republished the same photograph and provided a basic description for anglers (Stead 1933): *The Trout Cod of the Murray River System. This is a near relative of the Murray Cod, with which it is often confused, though it is much smaller, has spots and no mottlings, and a longer upper jaw.* However, the status of the trout cod in the eyes of the scientific community was about to change. The subsequent confusion over the existence and taxonomic status of the trout cod can be traced to two events which conspired to create it. Whitley having identified the genus *Oligorus* as preoccupied by a species of beetle erected the genus *Maccullochella* for the Murray cod. Subsequently after examining museum specimens of cod and reportedly finding small trout cod in the collections and no juvenile Murray cod he concluded that the trout cod was the juvenile form of the Murray cod (Whitley 1937).

As a consequence he combined the two species into one as a footnote to his bibliography of the Murray cod, despite being aware of and quoting the reproductive differences reported by H. K. Anderson in a manuscript he possessed. The biological species concept, invoking reproductive isolation, was not formalised by Ernst Mayer until 1943. However the biologists of Whitley's time did have an understanding that reproductive differences were important in discriminating between similar species according to the concepts of natural selection elucidated by Charles Darwin. Curiously in the main text Whitley suggested that if further evidence were to be found that the two types of cod be assigned form or sub-species status. Such evidence could have been obtained through an attempt at the collection of juveniles of the Murray cod form.

In effect Whitley drew his conclusion on the basis of museum specimens ignoring advice from those that worked with the living animal. The action of his footnote, probably combined with the

disappearance of the trout cod from much of its former range at this time and subsequently, can be identified as the source of confusion as to the existence and status of the fish. Gilbert Whitley to this day remains greatly admired for his work with Australia's fish and is honoured with an award commemorating his work presented each year by the Australian Society for Fish Biology. However, his action on the issue of the two species of cod was perhaps his greatest blunder.

Whitley's influence on contemporary biologists was considerable. The following year William Dakin and Geoffrey Kesteven (1938) in their report on the artificial propagation of the Murray cod cited Whitley and concluded that the trout cod was a migrating variant of the Murray cod. Others were clearly less certain about Whitley's conclusion. Ian Munro in his *Handbook of Australian Fishes* (Munro 1938) accurately described the trout cod: '*A bluish or white colour variety with spotted sides and a dark stripe along the head, and a projecting upper jaw is sometimes recognized as a distinct species known as the Trout Cod, M. mitchelli (Castlenau 1873).*' At about this time J. A. Tubb working in the Barmah Lakes region recorded differences in the spawning season of the two cod species and attempted the artificial propagation of the trout cod (Cadwallader 1977).

In 1949-52 Colonel John Langtree as part of a survey of the commercial Murray River fishery commissioned by the then Victorian Fisheries and Game Department collected data on the distribution, abundance and biology of the major fish species including the trout cod. Langtry, using his observations and those of Tubb, Lethbridge and professional fisherman, listed in detail the key physical and reproductive differences between the Murray cod and trout cod as well as providing descriptive and numerical data on distribution and abundance of both species. While limited copies of his report were circulated in 1960 it was not freely available until 1977 (Cadwallader 1977). The delay in preparation of the report and the failure to disseminate this information at the time was an opportunity lost not only to clarify the taxonomic status of the trout cod but to take affirmative action to conserve the species while some significant populations were still extant.

A number of contemporary sources have stated that trout cod were widespread in the Murray River during 1949-50 from Mildura upstream to Yarrowonga Weir. In fact the only locations known with certainty where trout cod were actually captured during the survey were from Burramine to Corowa in the Murray River (with first hand reports from Barmah), and the Ovens River near Peechelba. Langtree himself using his own data combined with reports from the fisherman who participated stated: '*that the numbers of trout cod taken increase from one or two fish at Swan Hill to a maximum below and above Yarrowonga weir*'. Langtree's data does not suggest that trout cod were widespread in the Murray River at the time but that significant populations existed only downstream and upstream of the Yarrowonga area and in the adjacent Ovens River.

Langtry's manuscript did initiate some action on the case of the trout cod. John Lake (1971) suggested it likely that the trout cod was a distinctive species based upon a single large specimen collected in the Murray River near Yarrowonga in June 1962. He clearly relied upon Langtry's manuscript in reaching that conclusion and his often quoted statement about the habitat preferences of the trout cod. Lake is also believed to have relied on information collected from professional fisherman in reaching his conclusion, a close confidant being William Davies of Swan Hill who was familiar with the species. He once again used the name *M. mitchelli* for the trout cod.

The dynamic head of the Victorian Fisheries and Game Department, Alfred Dunbavin Butcher, organized the collection of specimens of cod from Lake Sambell near Beechworth and the Seven Creeks near Euroa around 1960 which were subsequently lodged in museum collections. In particular local newspaper accounts from the mid 1960's indicate that the Department showed considerable interest in the management of the Lake Sambell cod fishery. Butcher himself published

a paper making reference to the trout cod including observations sourced it is believed of specimens obtained from the Seven Creeks (Butcher 1967, the late C. C. Kipping personal communication).

Ultimately it is believed that Butcher provided the impetus for the resolution of the existence of the two species of cod which culminated in the study by Tim Berra and Allan Weatherly over 1969-1970. It was no coincidence that these researchers concentrated their efforts on Lake Sambell and Seven Creeks. Using physical characteristics of living and museum specimens combined with electrophoretic data the two species of cod were separated as the Murray cod, *Macchollochella peeli*, and the trout cod, *M. macquariensis* (Berra & Weatherly 1972). By that time living specimens of the later were sourced only from the Seven Creeks, Lake Sambell near Beechworth and the Murrumbidgee River near Angle Crossing in the ACT.

Since 1972 additional electrophoretic plus mitochondrial DNA studies supported by knowledge gained about the reproductive biology from hatchery production have confirmed the trout cod's status as a distinct species from the Murray cod. Ironically most of this information, save for the recent developments in electrophoresis and DNA characterisation, was certainly known by the third decade of the twentieth century and much of it in the late nineteenth century.

C. Additional NSW Legislative Assembly Reports Extracts

Report for 1910, 1911, 1912 and 1913, Published in 1914

P 13

*The fish taken at Deniliquin in August, 1909, locally called "trout," which were similar to specimens already received from Narrandera and Wagga Wagga, as "Murray cod" has been found to be distinct from either of the species mentioned, and has been designated "**trout cod**." The Naturalist¹ is of the opinion that in the **trout cod** has been discovered the long-lost "*Oligorus mitchelli*" of Castelnau, the very existence of which has been generally doubted.*

P12

*In regard to size, the Naturalist inclines to the belief that the average female Murray cod becomes sexually mature and bears ripe eggs at a length of from 18 to 19 inches, and of a weight of a little over 2 lb., and that the average length of **trout cod** at maturity is 10 inches, with a weight of about 6 oz.;*

P 12

*Dixon's dam was visited by the Naturalist, the late Chairman of the Fisheries Board, and the Inland Commissioner, and it was found that it was heavily stocked with Murray cod and other native fishes, and that **trout cod** is as abundant in the Murrumbidgee as is the Murray cod.*

¹The 'Naturalist' referred to was David George Stead the then naturalist for the NSW State Fisheries Department

Report for 1914, Published in 1915

P 14

During the process of constructing the drainage trenches, &c., it was necessary to run the water off each pond in turn. The fish in the ponds, which had not been drained for some years, with

approximate weights, are 40 Prussian carp, from 2 inches to 15 lb. in weight; 638 Australian bass, from 6 inches to 2½ lb. in weight, 4 Murray cod up to 25 lb.; 11 trout cod up to 10 lb.;

On 31st December the disposition of the fishes in the Observation Ponds was:-

...No. 11 Pond, 11 trout cod up to 10 lb.,

There was no natural increase among the indigenous fishes – Murray cod, trout cod, or Australian bass – at the Observation Ponds; that is to say, on draining the ponds in early December, in order to positively identify ascertain this, no fry were found.

During the spawning season, September, October, and November, the ponds were visited at intervals of about a fortnight. On each occasion a number of bass, trout cod, and Murray cod were netted from their respective ponds, and examined in the endeavour to ascertain when they would spawn, with a view to securing some ova to treat at the Trout Hatchery. On each occasion a couple of fish were opened and the condition of their ovaries, &c., recorded, but no satisfactory conclusion was arrived at. These fish have been mature for some years, and might reasonably be expected to have spawned twice since being put in the ponds.

.... A number of large and permanent lagoons and waterholes in the anabranches of the Murrumbidgee were visited, also many smaller lagoons, &c., which were fast drying up, and in some of which thousands of fish – Murray cod, trout cod, Golden, Silver, and Macquarie perch and catfish – were already dead or dying, illustrating the appalling waste of valuable food perpetuated by nature in dry seasons.

(Note: the precise locations along the Murrumbidgee River were not given but the author discusses his 'Personal investigations' as occurring from Gundagai to Carrathool)

P 15

A scheme for the utilization of nature's waste has been outlined and will be put into operation next season. It is intended to collect from drying-up waterholes as many as possible of the young of various food fishes – Murray cod, trout cod, golden, silver, and Macquarie perch, &c., - and convey them to the nearest permanent water, where they will be liberated. A trial is to be given to this project early in the new year.

*Arrangements have been perfected for the transplantation early in the new year of the Murray cod, golden and silver perches to the **Cataract Reservoir** and the Nepean River, at Penrith and Wallacia, when a number will also be obtained for liberation in the Prospect Inlet Observation Ponds.*

Report for 1917, Published in 1918

P12

Upwards of 90,000 fry of valuable food fishes from 1 to 13 inches in length, including Murray Cod, Golden, Silver, and Macquarie Perch, Catfish, and River Blackfish, were rescued from overflowed lands on the Murrumbidgee River Flats and liberated in permanent waters at a cost of less than £100.

P13

During the month of February the fish in the Inlet Ponds were classified, and the following is a list of those placed in the various ponds:-

..... No.11 Pond:- 8 **Trout Cod** from 19 to 23½ inches in length.

Report for 1918, Published in 1919

P 12

Upwards of 30,000 fry of Murray Cod, Golden, Silver, and Macquarie Perch, Catfish, and River (?), and 1,638 mature fishes of the same kinds were rescued from over-flowed lands on the Murrumbidgee River flats and transplanted in Burrinjuck reservoir.....

During May and June upwards of 45,000 small Murray Cod, Golden, Silver, and Macquarie Perch, Catfish, and River Blackfish, and over 2,000 mature fishes of the same species were rescued from the overflowed lands at Bringagee, and transferred to the permanent waters of the Murrumbidgee River.....

A Murray Cod, which was marked for identification with a disc bearing the No. 522, on 11th October, 1917, near Bringagee, was recaptured close to Narrandera on 11th December, 1918. Another Marked murray Cod, No. 502, liberated near Bringagee on 23rd October, 1917, was recaptured near Narrandera on 18th January, 1918. Two Murray Cod marked at about the same time and place, Nos. 534 and 538, were recaptured within two miles of Narrandera in November and December, 1917.

P 13

The fish in the Inlet Ponds (Prospect Inlet Ponds) were reclassified early in the year, their arrangement being as follow:-

..... No. 11 pond – 3 **Trout-Cod**, up to 24 inches;

.... *There was no natural increase from the fish at Inlet Ponds.*

Report for 1923, Published in 1924

P4

*Investigations show that the Murray Cod and other Western fishes released in **Cataract Reservoir** in 1916 are now acclimatized and reproducing naturally; these fish are numerous all over the reservoir.*

C. A letter from Bert McKenzie

Jennifer Davis and Brian Finlayson (2000) in a report on the granite creeks in north-east Victoria published as an appendix a letter written by the late Bert McKenzie recounting some of his memories of the fish and streams of the region. Dr. Finlayson has kindly granted permission for me to reproduce the text here of which I am most appreciative:

The following letter was written by Bert McKenzie, who resided on the Strathbogie Ranges for most of the 20th century. The original letter was handwritten and difficult to read. Question marks indicate that a word or phrase could not be deciphered. Italics indicate words added by the translator.

Recollections of Streams in the North East Victoria. By Mr Robert (Bert) McKenzie

Years 1906 to 1913

All the creeks of the Tableland (i.e. Terip, Ruffy, Dropmore, Caveat, Tarcombe and Kobyboyn) were packed with Black fish and Silver minnows. All were crystal clear and it was possible to see to the bottom, down to six or eight feet at midday and (as a cousin and I used to do), it was possible to grind up a few worms with sand and drop them in the pool. We would fish for the bigger ones. Fourteen inches was our best. Most of our haul would be round 13 inches down to 9 inches. However, someone caught one 15 inches.

In 1912 or 1911, Mr Jimmy Hobart acquired, from Ballarat, 2000 brown trout and, from somewhere, 6 tench which were all released at the Boathole, Hughes Creek, Ruffy. They spread and bred rapidly down stream and were being taken up to seven pounds by 1914. In 1912, 2000 rainbow (trout) were released. In the spring of 1914, I landed my best some twenty yards behind me and about the same height...??¹ and by the autumn was handling fish up to four and a half pounds. Prior to this, in 1903, my father had taken me down twice to the Dropmore on the lower Hughes Creek, just a mile above the Homestead, and using worms and caught small cod (Trout Cod) up twelve inches and saw my father take several of two and three pounds. On a later trip with a party of four, everybody caught cod up to six pounds and every hole had six to ten inch fish galore if worms were used. Our next trip in 1913 was a disaster. A cousin was killed and virtually ended our Cod trips.

The Hughes Creek for two miles above Dropmore up until 1916 was a slow running stream with a series of very deep holes mostly edged with Capungi (Phragmites?) reeds. In 1916, a flash flood ripped through and tore the creek bed down to bedrock and left a long channel of sand and in my opinion swept away the Trout Cod breeding grounds in those Capungi edged pools for the whole of the Hughes Creek. Whether or not that flood carried the whole of the Cod population down into the Goulburn and the Nagambie Lake area, I do not know. But around 1918 to 1924, Nagambie was the Mecca for Cod fishermen from all over and in that period and was probably the supply area for all the Trout Cod that inhabited the National Channel which filled Waranga Basin and the Wilson Channel feeding Shepparton, Tatura, etc. Even the smaller channels carried small Cod and an occasional four pound Catfish. I had Cod to Four and a half pounds from both the National and Wilson.

Old Nagambie residents could probably supply the exact dates of this era when suddenly the whole catfish population were wiped out in the Goulburn River system. The same thing happened in the Murray River system, I think after the second stage of the Hume Weir or when???

Anyhow that flash flood was the end of the Trout Cod in the Hughes Creek in the Dropmore area. I certainly caught a few while fishing for trout in 1919 to 1934 or 1924. These were mainly around the four to five and a half pound weight and an odd two pounder, suggesting that there may have been some fluke breeding.

In 1920/21 we had one hundred acres rented around the Dhuringile Homestead, Toolamba, hence the fishing in the channels. At the same time the home base was one farm on the Sevens Creek followed by one on the Castle Creek in the Branjee area. The Castle Creek had quite a lot of Macquaries and Blackfish and the Seven Creeks, from the farm, five miles from Euroa was loaded with small Trout Cod, Macquaries and Blackfish. The Seven Creeks in drought years often stopped running from Euroa down, concentrating the fish in the deeper pools and for a few weeks the fishing was fast and furious. Fish in the main were Trout Cod and Macquaries to two pounds. In those days there were miles of those waters, all heavily stocked with trout cod (small) and Macquaries likewise.

In those days it seemed impossible that mere fishing would overtake supply in the Goulburn River which I fished at Molesworth, Cathkin, Alexandra and Thornton. In these stretches of the Goulburn in those days at Christmas and Easter, it was estimated that the campers numbered 500 to the mile of river. They came from Melbourne by train and the local farmers carted their camping gear to the river and I have no doubt profited considerably by doing just that. It would seem at the time that it would be utterly impossible to eliminate the Trout Cod and the Macquaries from the waters they inhabited. But around 1922 or 1923, the old Eildon Weir was built and acted, I believe, as a settling dam and the water became crystal clear and I believe the smaller fish became easy prey for the large Trout Cod and Redfin then inhabiting the river.

In the Eildon itself, various stretches were teaming (Big River) with small Macquaries and in the UT Creek area, I landed at least 20 small cod proclaiming at least two breeding grounds for Trout Cod and Macquaries. The Cod fishing deteriorated in the Goulburn and the Macquaries to a lesser extent, but after the greater Eildon Weir was built in the late Forties, both fish have been practically wiped out, at least as a fishing proposition. In so far as the Macquaries are concerned, the breeding grounds have been destroyed by the colder water or siltation. I believe that where the main streams enter our reservoirs, new breeding grounds will have to be established not by releasing fry but establishing natural breeding places by the use of spawn or eggs in a natural setting in the river beds to which mature fish will return when their turn comes to drop their spawn.

From what some of the older residents have told me in the Riverina, streams completely dried up in severe droughts (before Samuel McCackie spelling built dams on them) but the small cod and big appeared back in the streams as soon as those streams began to flow again. Their breeding grounds would be headwater streams that did not stop flowing.

1. I can recall Bert telling me at our first meeting that the largest trout he personally caught from the Hughes Creek weighed seven pounds. The term 'similar height' may actually have been 'similar weight' in reference to the previously described capture of a seven pound trout.

D. News Article Deniliquin Pastoral Times 23 September 1969.

Bill Mulham of Deniliquin has supplied the following text published as an article in the *Deniliquin Pastoral Times* on the 23 of September 1969 of which I am most appreciative. The article is of interest for a number of reasons. The author describes the capture and sale of 'trout' from the area around 1916, which he probably sourced from newspaper stories at the time. It is probable such accounts a few years earlier led to David Stead's investigation of such reports. Also of interest is his account of the impact of redfin on catfish and other native fish.

Will the Murray Cod become a Memory?

(By Austin Eastman, "Bingel", Deniliquin)

Sir, - Permit me to express an opinion on the disappearance of the Murray Cod from the inland streams and what I consider should be done to try to restore their numbers.

In doing so, permit me to go back at least 50 odd years in order to state a few facts and in so doing, I hope to prove my point of view.

*During the floods of 1916-17-18, the Edward River was a popular stream for net fishermen, especially between Deniliquin and Moulamein. Large quantities of cod, **trout**, perch and bream were caught and sold on the Melbourne market. Curry and Rice came from Barham in their boats, which were cut out of gum logs and driven by a small motor. They had a team of fishermen on shares, with 20 drum nets each. Bob Irvin and Sons of Deniliquin also fished with 60 nets, and I remember Irvins used to catch up to 8 cwt-baskets of fish every week.*

During the summer months cross lines, gill nets and spinners were used by fishermen, and they also caught plenty of fish. As school boys we used to go for a days fishing with boys from "Moonah Cullah", who taught us how to dive for lobster, and mussels to use for bait. Spinning home behind the boat we often caught so many cod that we were able to pick and choose, throwing back any that were not the size we wanted.

In recent years, when September was added to October and November for the spawning closed season, many fishermen gave drum netting away, because September was by far their most profitable month.

I think it was about 1930 when we first began to catch English perch, better known as redfin, and they soon took control of inland streams. The first to suffer were the slower-moving catfish which had been very plentiful; there were times when the other fish were not biting and it was then that we caught catfish by the dozen.

No longer do we see the basin-like shallow holes in sand beaches about three feet wide where they had their spawn in flood time and swam around the small fish to protect them from intruders. Obviously redfin had no respect for such protection.

When the Stevens Weir first came into operation (c 1935) the down stream side was naturally at a low level during the irrigation season. However, at weekends when Wakool irrigators had least use for water, more would be released at Stevens Weir, causing the river to rise up to 2 feet or more and fall again quickly, early in the following week. The lobsters took exception to this sudden variation and disappeared. I understand they travelled down stream.

The last time small cod were plentiful was about 46-'47, when they were easy to catch on a spinner behind a boat. Since then they have become increasingly scarce and it seems that only a few big, old fish are left. Before 1950 it would be safe to say 70 per cent of the cod caught would be young fish less than 10 lbs; now they are almost non-existent.

Eight floods in ten years in the '50s should have been the best decade for spawning conditions for fish in the last 70 years. With the added protection of the banning of cross lines and nets of all kinds in the middle '50s, by now the Edward River and its tributaries should be teeming with fish of all kinds, with cod up to 20 lbs in weight. I'm sure that all anglers will agree that except for small redfins, river fishing has never been worse.

Last year, the only licenced fisherman left in the district was forced to seek another occupation, in spite of high prices for fish, simply because he could not catch enough to live on. During the last drought two neighbours on the Colligen tried to irrigate portion of their properties from the creek, which had been getting a raw deal from available water supplies and had not flowed for many months. In doing so, the water supply soon ran out of the hole, which could only support three redfin. A few years previously, the same hole had been a reliable fishing place for cod.

Following the '55 and '56 floods, the river was teeming with small fish in early '57. At that time I was crossing the river by boat four times a day for several months, so was able to get a close-up view of shoals of tiny fish being constantly chased and devoured by bigger fish. If they were close enough to the bank when an attack occurred, some of them jumped out of the water on to the bank and stayed there for a few seconds until the attackers swam away.

On one occasion an attack took place beside the boat in mid-stream so I was able to get a close-up view. About 10 redfin, 4 to 5 inches long, rushed into a shoal of small fish at terrific speed, many of which jumped out of the water in trying to escape; one landed in the boat; it was a cod about two inches long.

Anglers will recall how plentiful and hungry small redfins were in '57; countless thousands were caught in all streams. However; a year or two later, it was almost impossible to catch any worth taking home.

I haven't the slightest doubt that the general shortage of fish is brought about by attacks on small fish by redfin; their greater speed cannot be matched by any other freshwater fish.

Permit me to comment on some of the "Rafferty's Rules", called Fishing Regulations, which were obviously designed to discriminate against anyone living on the river bank, and especially landowners with miles of river or creek frontage.

They were not permitted to use a net of any kind to catch a fish for their own use, while at the same time a licenced fisherman could come any distance and fish for market with 10 nets in the same water!

In my case, I had been a part-time fisherman for 25 years - it helped to make an otherwise untaxable income more respectable. I had used six drum nets in flood time, and seven cross lines for about six weeks before every Easter. The new regulations prevented me from continuing to fish because I was not a full-time fisherman!

In 1954 I helped neighbours construct an embankment on the junction of a two-miles long lagoon, which was once the river course. With a concrete pipe inlet, the water supply from the river was controlled by a hinged door, expertly designed, constructed and fitted by Jock Robertson. However, the record '56 flood of seven months duration, plus yabbies which tunnelled along the concrete pipes, just about wrecked our irrigation storage. It meant digging the pipes out and re-laying them in a bed of sand to stop the yabbies. Neil Ross helped yours truly do the job, which was well completed by Tony Haustofer's bulldozer

The new water storage soon became an ideal lagoon for redfin; on many occasions anglers have had good catches from it when they had failed to get any fish in the river. It would be safe to say "Moonyah" lagoon would be worth at least \$100 a year to the Fisheries Branch in revenue, judging by the number of anglers who fish there.

I pointed out this fact to the Chief of the Fisheries Branch, Mr. Kingsmill, and what it had cost me, and requested permission to set a net in the lagoon for my own use. He informed me that the Chief Inspector of Fisheries would call on me to discuss the matter. As I had anticipated, he did not show up - afraid of losing face no doubt! How miserable can they be?

During the '58 flood I released 42 fish in the lagoon hoping they would stay and add variety for angling. However, as far as I'm aware, none were caught, so presumably they preferred the running water and swam back into the river. They comprised 30 perch up to 11 lbs and 12 cod from 10 lbs to 35 lbs.

I feel it is high time local anglers woke up to the fact that they are getting a very poor deal for their \$4 licence fee, and should demand that inland streams should be stocked with cod and perch big enough to survive redfin; fingerlings would only feed the redfin, waste time and their money.

I understand they prefer to call the Narrandera Hatcheries a Research Station, In 1960, when I decided to try breeding cod in a Commission-filled dam, I had no 'research' to help me - only hollow logs.

However, in seven years I had produced cod weighing 10 lbs each.

In conclusion, may I suggest that irrigators breed their own cod; there is nothing to it, provided you keep out shags and redfin. What would be wrong with a few 10 lb. cod that you could not eat at Easter, selling for say \$5 each?



This is one of my favourite images. Roy Grant on the left stands next to his brother Stan who holds a 'rock cod' caught from the Murray River at Burrowye, c1930-32. Not only does the image record the fish but the environment at the time. The Burrowye Creek can be seen on the left flowing into the Murray River (Photo courtesy of Roy Grant, Burrowye)



Yea anglers fish for 'bluenose' and 'bream' on the Goulburn River at Homewood's property, Homewood in the 1920's. (Photo courtesy of Yvonne Finch, Yea).

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