

The Murray trout may swim about, With unmolested cod, And Yarra herrings from that day Need never dread the rod. * Published by Murray-Darling Basin Authority Postal Address GPO Box 1801, Canberra ACT 2601 Office location Level 4, 51 Allara Street, Canberra City Australian Capital Territory

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Front Cover: Roy & Stan Grant with a Trout cod on the banks of the upper Murray River near Burrowye c1930. Photo courtesy of Roy Grant. Rear Cover: Thomas Bryan holds a catch of cod including a Trout cod from the Goulburn River at *Prospect Hill*, Molesworth c1927. Photo courtesy of Muriel Perry.

1 Acknowledgements

Most biographers write the story of a famous person, so it seems rather strange to have written one about a fish, let alone one whose existence was disputed for over a century. Yet it is a story worth telling, not only about the chequered history of the mythical 'Trout cod' because of the interest this animal holds in the public's imagination, but also because its story exemplifies so much of European history on the Australian continent. In writing the tale of the Trout cod, the story of the other aquatic inhabitants that share the Murray-Darling Basin with it, can also be told.

My own personal journey of discovery of native fish goes back to the early 1960s for my father, Harry Trueman, was a keen angler. I still retain the indelible memory of a giant Murray cod caught by him hanging from a tree on the banks of the Goulburn River near Seymour. A little while later he was killed in an industrial accident and it was left to my uncle Bill Trueman during camping trips into the mountains of Victoria to recount the family stories of the past when the rivers held giant Murray cod, when Macquarie perch in vast numbers at times turned the rivers black and when was caught the fabled Trout cod. By that time the same rivers held only trout, which I learnt to angle initially with bait, then progressing to lures and ultimately fly fishing. So I can profess to being brought up as a trout angler and my experience would be common to most individuals in my baby boomer generation. My experience differs, however, from most people through fate when Tom Kelly, a close friend of my father, took me on a trip to the Strathbogie Ranges where I had my first encounter with the Seven Creeks. I caught Macquarie perch and Trout cod from the creek and was genuinely shocked by their angling qualities and wanted to learn more. I was befriended by a local senior angler Barney Kipping who taught me much of the district's history. In July 1983 by sheer accident I met the late Bert McKenzie of Ruffy, born in 1908, with an encyclopaedic knowledge of the history of the fish in the Goulburn River catchment. The following weekend my friend Col Luker and I returned with a tape recorder to record Bert's memories which have been published subsequently on several occasions in angling magazines.

The genesis of this project originated in 2006 when, having read a number of scientific publications questioning angler reports of Trout cod from various waters in past years, I decided to conduct an investigation to find evidence validating Bert McKenzie's stories with a view of preparing a brief scientific paper. A turning point was when I acquired a copy of retired fishing inspector Jack Rhodes' biography containing past references to Trout cod. After contacting Jack, who lamented the loss of nearly all of his historical research notes, he urged me to expand the work to cover north east Victoria and develop a detailed history of native fish in the region. Having moved to Cairns in far north Queensland over a decade earlier meant that I had to conduct much of the research by phone interspersed by trips south during my holidays, travelling from town to town locating old anglers and their photographs. I called in at the John Lake Centre at Narrandera and was urged by Dr. Dean Gilligan to expand the Project to cover the rivers of southern NSW. Finally at the end of 2007 Mark Lintermans and Jim Barrett at the Murray-Darling Basin Commission offered to publish the final work. It has grown beyond anything that I initially conceived.

I have many people to thank for bringing this work to fruition, for providing in their professional capacities generous assistance, in some instances working outside of their normal hours, to locate material. Mark McGrouther and his staff at the Australian Museum provided access to museum specimens of Trout cod and their records as well as photographing specimens. John Kean and the staff at Museum Victoria made me aware of the magnificent pieces of artwork depicting native fish in the museum's collection, as well as providing copies of early photographs. Professor Guy Duhamel and Romain Causse of the Museum National D'Histoire Naturelle in Paris were generous in providing photographs of their museum specimens as well as some background material. Dr. Jeff Williams and Shirleen Smith at the National Museum of Natural History in the

United States examined cod specimens in their collection on my behalf to identify which species they were. Ralph Foster at the South Australian Museum provided background information on the fish specimens in their collection. Dr. Daniel Pauly and Grace Ong from Fishbase also helped out with some historical material. Dr. Hannelore Landsberg at the Historische Arbeitstelle Museum fur Naturkunde in Berlin provide information on the work of Wilhelm Blandowski. Professor Tim Berra at Ohio State University who, along with Professor Allan Weatherly, ultimately identified the Trout cod as a distinct species generously provided copies of his magnificent colour photographs of the large fish he had handled plus offered his opinion on the identity of some fish in old images that I sent to him.

Jan McDonald at the State Library of Victoria managed to locate on my behalf some obscure historical works based on the limited information that I provided and in some cases translated some passages from French. Other staff members such as Gerard Hayes assisted in locating old material including photos. Kathy Bown at the Cronulla Fisheries Centre worked tirelessly on my behalf locating material held in the library and photocopying it, and was an invaluable source for old material originating in NSW. Her counterpart in Victoria, Carol Harris at the Arthur Rhylah Institute Library, also assisted. Chris Read and Joanne Cook at the State Library of South Australia assisted greatly at times with my requests, as did staff at the National Library of Australia. Graham Leith, Kevin Leamon and Bridget Reilly from at the State Library of NSW assisted in locating the original manuscripts written by the early explorers as well as photographs. Tracy Dall at the Art Gallery of South Australia generously provided access to the collection of magnificent photographs taken by Cole and Burnell of the Murray River in 1862, and staff at the University of Melbourne Archives also assisted with photographs. Professor Brian Finlayson at the University of Melbourne generously gave permission for me to reproduce the text of a letter written by Bert McKenzie shortly before his death. Amy Hankinson from the Inland Rivers Network assisted with some contacts, as well as providing a copy of an important report. Dr. Paul Frazier of the University of New England provided copies of his work on flows in the Murrumbidgee River while Dr. Andrew Boulton also provided key papers as well as encouraging me with the project. Professor Ian Clark and Professor Barry Blake provided copies of papers they published on aboriginal languages and advice on their interpretation. At the Murray-Darling Basin Commission, now the Murray-Darling Basin Authority, Matt Barwick oversaw much of the logistics of bringing the report to fruition as did Jim Barrett, Dr. Janet Pritchard, Heleena Bamford and Dr. Peter Jackson while Tim O'Donnell patiently constructed the distribution maps on my behalf. In particular I am grateful to Janet, Peter and Heleena who proof read early drafts and provided a new direction for the document.

A large number of people in a private capacity volunteered their time to assist with this project. Nick Thorne, the national secretary of Native Fish Australia, has encouraged me throughout in preparing this history as well as proof reading sections of the document. Similarly native fish ecologist Simon Kaminskas assisted with some unpublished information and also arranged for his father to translate some French publications into English, while work colleague Jennifer Pambou also assisted with the French translations. Angling writer Rod Harrison, who I have known for over 30 years, volunteered some of his memories and valuable photos as well as encouraging me to take on the project. Associate Professor Mark Lintermans of the Australian National University provided some input and critical leads on the section on the Murrumbidgee River as well as facilitating the publication of the report in the first instance. Mark's name is regularly cited in this document for he has undertaken a great deal of not only pure scientific research into the biology of native fish but also practical remedies for the many problems challenges we face in restoring populations. Similarly Dr. Stuart Rowland, Dr. Dean Gilligan, Dr. Lee Baumgartner, Jarod Lyon and Fern Hames have also provided me with encouragement and have made major contributions to restoring native fish populations.

I would like to express my appreciation to everyone involved with the Australian River Restoration Centre namely Dr. Siwan Lovett, Dr. Phil Price, Nerida Hart and Vikki Bell who not only turned my working draft into a

final quality document but created pamphlets and a website to disseminate the information to the widest possible audience. Another part of the team was Richard Snashall from Spinning Reel Audio Visual who created the website clips to provide another facet to the presentation. The final result is a testimony to their dedication and professionalism.

Within each river catchment many people assisted in locating either historical information on native fish and rivers or provided information on the local residents likely to be in possession of it. In some instances general social networking and casual conversations (sometimes pub talk!) produced excellent leads, an example being where a chat with some taxi drivers in a back street of Wangaratta resulted in the valuable nursing home interview with Bert Carmody. A number of regional historical societies generously provided valuable or rare historical records or photos and local angling clubs were a key point of contact for locating senior anglers in their area. I am sure that there will be people that I have missed in the following lists which contributed and to them I unreservedly apologize. To my family and friends who have seen little of me over the past few years as I have endeavoured to complete this work I also apologize.

In the Macquarie catchment Chris Morgan at the Bathurst Historical Society, Andrea Sauerbier and Edna Strike of the Mudgee Historical Society, Bev Holland and Sue Milne of the Orange and District Historical Society, Ken Smith, Karl Shaerf and Mark Rich were important primary contacts. People that provided information or interviews include Jim Buchan, Rick Burns, Pat Ryan, Herb Thompson, Albert Mobbs, Edna Strike, Eugene 'Goog' Sharp, Sue Milne, Rod Tonkin, Bev Holland, John Uren, Kevin Loughton, Brendan Cole, Peter Hanrahan, Doug Robbins, Sandra Smith, Peter Byrom, David Stock, Billy Sawell, Jeff Haskins, John Hadley, Carole Gass, Tom Cussack, Ian Parks, Graeme Williams, Shirley Burrows, Bruce Lee, Clive Brabham, Ian Parks, Frank Astell, Ken Jones, Norma Meadley, Noel Habberman, Henry Pearce, Brian Hodge, Ray Auld, and Ken Maher.

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In the upper Murray and Kiewa Catchments Claude Handorf, Val Swasbrick, Peter Tidd, Vic Pay, Jack Rhodes, Bill Murphy, Snow Hadley, Roy Grant and his nephews Bill and Jim Willis, Julie-May Stewart, Albert Mildren, Ken Nankervis, Tom Jarvis, Jim McGinnity, Betty Walton, Len and Betty Lebner, John Whitehead, Dianne Humphrey, Neville Hadley and Bill Murphy all generously provided information. A special mention has to go to Roy Grant for not only sharing his memories but also providing his collection of magnificent photographs. In the Riverina and Central Murray catchments Bill Mulham from the Deniliquin Historical Society and Helen Rendle and of the Echuca and District Historical Society were stalwarts who supported me throughout the project. In particular Heather had a vast array of historical material which she made available including previously unknown records on river de-snagging. Many others helped in various ways over this vast tract of country including Helen Coulson, Chris Beale, Henry Davies, Ramon Clifford, Max Clifford, the late Wallace 'Laddy' Clifford, Norm Wilson, Yvonne Church of the Cohuna Historical Centre, Tracy Searle, Evelyn at the Barham-Koondrook Historical Society, Ken Grose of the Euston-Robinvale Historical Society, Jacye Symes from the Yarrawonga Historical Society, Charlie Aitchison, Greg and Wendy McKenzie, Heath McKenzie, Greg Norris, Betty Jenvey, Julie Whateley of the Swan Hill Historical Society, Bill Lever, Ian McDonald, Don Briggs, Robert Wallace, Steve and Ken Trefall, Kevin McKinnon, Jock Nicholson, Graham Vidler, Jo Donelan of the Railway Hotel at Strathmerton, Tim Cole, Peter Web, Hugh Dick, Ron Reynolds, Grant Mitchell, Bert Roberts, Cyril and Michael Walden and Betty McGilvray. While I did not source any oral history in the lower Murray Michael Hammer and Shane Strudwick helped out in key areas including photographs.

In the Mitta Mitta catchment Beverly Stewart, Malcolm Ronan, Jack Moyle, Alec Turnball, Coral Kracke and Jeff Cooper from the Omeo Historical Society, Vince Pendergast, Graeme Pendergast, Redge and Judy Pendergast, John Yea, Tom Yea, Bill Hollands, Sonny Betts, Stan Walsh, Jean Merbach from the Tallangatta Historical Society, Collin Scales, George and Glenda Murtagh, David Evans, Les Franks, Lloyd Butler, Brett Lee, Cliff Brummel, Margaret Pendergast and Max Dyer all assisted. It is through these people that we now have a good picture of what was the highest altitude population of larger native fish in Victoria.

In the Ovens and Broken catchments Greg Dunkley, Don Burrowes, Steve Leckell, Peter Villiers, Des Mansfield, Bert Carmody, Max Suffield, John Taylor, Jennifer Williams at the Burke Museum at Beechworth, Phil Hines at the Ovens and Murray Advertiser, Val Gleeson, Tom Knox, Bill Dart, Adam Bosley, Iris Mannik, Joe Krauss, John Rutten, Lance Jarvis, Allan and Geoff Holt, Daisy Lewis, Lance White, Pat Griffin, Ian Halden, Wally Mitchell, the late Bill Ellis, Gladys Ellis, Bing Kneebone, Peter Villiers, Pat Griffin, Glenda Hall, Kathleen Woodward, Jim Masters, Walter Grattidge, Greg Daws, Sue McIntosh, Len Maples, Redge O'Connor, George and Fred Jones, Robin Sadler and Ken Whan from the Benalla Historical Society, Neil McQualter, Ambrose Doxey all assisted in writing the history of their areas

In the Goulburn catchment Collin Luker, the late Bert McKenzie, the late Barney Kipping, Peter Kerr, Don Polkinghorne, Warwick Finlay from the Murchison Historical Society, Glen Jones, Muriel Perry, Loretta McPherson from the Euroa Historical Society, Sheena Daykin from the Mansfield Historical Society, Margaret Spinks, Keith Jones, Jim Hanley, Collin Bell, Ron Bell, Wal Cubbin, Graham McLeod, Santo Rimato, Bill Morris, Lindsay McIntosh, Digger Garlick, Ray Hopkins, Yvonne Chalicki from the Jamieson Historical Society, Max Mathews, Nancy Halligan, John Royals, Frank Moore, Russell Stillman, Bruce Findlay, Ron Bain, Wes Jeffries, Robert McLeod, Bruce Nicholson, Robert Hayes, Joyce White, Yvonne Finch, John Pilkington, Darnly Montgomery and, Ron Reynolds all contributed in putting together the chapter of this work which was focus of the project when first conceived. I have to make special mention of Muriel Perry who after a phone conversation posted to me copies of photos of catches of cod that she possessed from the location where Bert McKenzie used to fish. I can still recall my hands shaking after opening the envelope and inspecting the contents. At that instant I knew that Bert had been correct all along.

In the Campaspe and Loddon catchments Ken Major, Tom Reid, Lyn Allen, Ken Read, Una Taig, John Colvin, Bill Moody, Bill Strong, Elizabeth Murfitt from the Heathcote Historical Society, Tania at the McIvor Times, Larina Strauch and Noel Davis at the Kyneton Historical Society, Ron Mudford, Margaret Harley at the Rochester Historical Society, Ken Wilson, Graham Waite, George East, Frank Buckley, Barry Crombie, Jim Tudgeon, Robert Scholes, Frank Passalaqua, Leann Streader and Graeme Weake from the Boort Historical Society, Harold Chalmers, Bill Rumbolt, Olly Jane from the Kerang Historical Society, Mick Ashton, Betty Duncan at the Clunes Historical Society, Ron Dalmenico and Arlene McDonald all helped out in what proved to be a fairly difficult region to locate material on the early fish fauna.

While I have met a lot of these people in person, there are many I have (to date) only spoken to over the phone. I am humbled that so many have been so gracious in helping me out, a total stranger, by entrusting me with their past. Some I now call friends and I have received a number of offers to visit or stay with some of the people I have acknowledged, which I will take up when I can in the future. To Jack Rhodes I hope that I have at least in part done justice to the faith you placed in me when you encouraged me to take on this endeavour. A number of people, such as Max Mathews, Russell Stillman and Walter Grattidge, have now passed away but these individuals, along with everyone else, generously shared their thoughts so that later generations would know something of a world which they will never experience. I know that recording the memories of the past became very important to many of the people that I interviewed. Thank You.

Will Trueman May 2011

2 Fishes of the Murray-Darling Basin Discussed in this Publication

The following table summarises common, scientific and some aboriginal names of native fish in the Murray-Darling Basin from the Macquarie River Catchment south. The names of native fish attributed to aboriginal people in the writings of Europeans, mostly from primary historical sources, are included. Provided in parenthesis is the likely language group from which each aboriginal name was sourced either from the accounts or from modern published language maps. Aboriginal names are provided as a historical record and contemporary dictionaries of aboriginal language should be consulted for names currently accepted by aboriginal people.

Official Common Name	Scientific Name	Other Common Names	Aboriginal Names Identified in	Origin
(from Lintermans, 2007)			Historical Accounts	
Trout cod	Maccullochella	Murray trout,	<i>Yaturr</i> (Jari Jari)	Ν
	macquariensis	Murrumbidgee trout,	Ngumel (Wemba Wemba)	
		Rock cod, Bluenose	<i>Bangami</i> (Yorta Yorta)	
			probably Inme or Inna (Yaithmathang)	
			possibly <i>Yambuwa</i> (Dhudhuroa)	
Murray cod	Maccullochella peelii	Cod,	<i>Ponkoo</i> (Morunde)	N
·		Codfish,	Ponde (Ngarrindjeri)	
		Goodoo	<i>Barnta</i> (Jari Jari)	
			Googoobul (Wiradjuri)	
			Kurrumerruck (Wemba Wemba)	
			Pandyil (Wemba Wemba)	
			Burnanga (Yorta Yorta)	
			probably <i>Mewuruk</i> (Ngunawal)	
Macquarie perch	Macquaria australasica	Mountain perch, White Eye,	probably Wanambiyu (Dhudhuroa)	N
	,	Black bream. Butterfish. Snubnose	possibly Nooraderri or Gubir (Wiradiuri)	
		perch. Goggle eves		
Golden perch	Macauaria ambiaua	Yellowbelly, Callop,	Colubco (Morunde)	N
F	ambiaua	Murray perch. Cockerling, Cockerill	Tarkee (Ngarrindieri)	
			Birnett (Wemba Wemba)	
			Pollungunder (Baraba Baraba)	
			Kaakaalain or Kookalin (Wiradiuri)	
			probably Kupe (Ngupawal)	
			probably Kongoonng (Ngurai-illam	
			wurrung)	
			possibly Murruwanba (Dhudhuroa)	
Ectuary nerch	Macauaria colonorum	Estuarine nerch	Taralaa (Ngarrindiari)	N
Silver perch	Ridvanus hidvanus	Gruptor		N
Silver perch	Biayanas biayanas	Silver broom Black broom Bidvon	Tebeeree (Ngarrindiori)	IN
		Silver bream, black bream, bluyan	Kooberry (Wiradiuri)	
			Reaguet Karpa Buruitiall Bina	
			(all lari lari)	
Changled north	Lainatharanan unicalar	Dobby and Crangled grupter		NI
Spangled perch	Leipotherapon unicolor	lowel perch		IN
Southern nygmy nerch	Nannonerca australis	Jewei perch	Collundera (Iari Iari)	N
Ereshwater catfish	Tandanus tandanus	lowfish	Pomery (Ngarrindiari)	N
Treshwater cathish	runuunus tunuunus	Foltail catfish Tandan	Ruluee (Morundo)	i N
		Eolfish	Kengru (lari lari)	
		Eellisii, Murray ling	Dundang (Miradiuri)	
		wurray ing	Manualani (Manha Mamha)	
			Dirra wil (Mamba Mamba)	
			Pirru-wii (wemba wemba)	
'Blackfish' =	Gadopsis marmoratus	Slippery.	Paltk (Jari Jari)	N
River blackfish		Slimy.	Mekunana (Diadiawurrung)	
-		Greasy.	Wuqqqr (Ngunawal)	

N = Native T = Translocated A = Alien

Official Common Name	Scientific Name	Other Common Names	Aboriginal Names Identified in	Origin
(from Lintermans, 2007)			Historical Accounts	
Two-spined blackfish	Gadopsis bispinosus	Muddy,		
		Marbled river cod,		
		Tailor,		
		Gudgeon,		
		Nikkie,		
		Grayling,		
		Blueguts		
Southern purple-spotted gudgeon	Mogurnda adspersa	Purple spotted gudgeon	<i>Kurin</i> (Jari Jari)	N
Flat-headed gudgeon	Philypnodon grandiceps	Flathead Gudgeon,		N
		Big-headed Gudgeon, Bullhead		
		gudgeon		
Bony herring	Nematolosa erebi	Bony Bream, Hairback herring,	<i>Manur</i> (Jari Jari)	N
		Pyberry,	Pyberry (Ngarrindjeri)	
		Melon fish		
Congolli	Pseudaphritis urvilli	Tupong,		N
		Sandy		
Olive Perchlet	Ambassis agassizii	Glass Perchlet	Mullapit (Jari Jari)	Ν
Murray-Darling rainbowfis	sh <i>Melanotaenia fluviatilis</i>	Crimson-spotted rainbowfish	<i>Jerrin</i> (Jari Jari)	N
Australian smelt	Retropinna semoni		<i>Turritje</i> (Jari Jari)	Ν
'Eels' =				N/T
Short-finned eel	Anguilla australis	Silver eel		
Long-finned eel	Anguilla reinhardtii	Spotted eel		
'Lampreys' =		Lamper eels		N
Short-headed lamprey	Mordacia mordax			
Pouched lamprey	Geotria australis			
Brown trout	Salmo trutta			А
Rainbow trout	Oncorhynchus mykiss			А
Redfin perch	Perca fluviatilis	Redfin,		А
		English perch, European perch		
European carp	Cyprinus carpio	Common carp, Koi carp, Carp		А
Goldfish	Carassius auratus	Common carp,		А
		Crucian carp, Native carp,		
		Old carp		
Tench	Tinca tinca	Doctor fish		А
Roach	Rutilus rutilus			А
Eastern gambusia	Gambusia holbrooki	Gambusia, Mosquitofish,		А
		Top minnow, Plague minnow		
Oriental weatherloach	Misgurnus anguillicaudatus	Japanease weatherloach,		А
		Weatherfish		

3 Imperial Units

This publication includes a large amount of historical material written at a time when the British Imperial System of weights and measures was in use in Australia. The following information identifies imperial units used and their metric equivalents:

1 ounce (oz.) = 0.028 kg 1 pound (lb. or lbs.) = 0.453 kg 1 hundred weight (cwt) = 453 kg 1 ton = 1.016 tonne 1 inch = 25.4 mm 1 foot = 0.305 m

1 mile = 1.609 km

1 pound (£) = approximately 2 Australian dollars (\$)

4 Introduction: People should know how it once was

In response to the serious decline of native fish populations, the Murray-Darling Basin Commission (now the Murray-Darling Basin Authority) prepared and released its *Native Fish Strategy 2003-2013* (MDBC, 2004). The document broadly outlined the changes that had occurred in native fish populations, estimating 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 in the basin to 60% of that prior to European settlement within 50 years.

Fundamental to realising this goal is knowledge as to the original distribution and abundance of the fish fauna of the basin. Such information is necessary to identify the magnitude of the target to be achieved within the fifty year time frame. An understanding of the changes to fish populations over time also aids in the identification of the causative agents of fish population decline, and the implementation of strategies to mitigate their effects to initiate the recovery process. Comparisons between the past and present occurrence and abundance of native fish species in specific waterways is being utilized as a direct measure of the health of the aquatic environment and will be used to indicate the success of the *Native Fish Strategy* (Davies *et al.,* 2008). The validity of such an approach is fundamentally dependent upon an accurate knowledge of the original distribution and abundance of native fish populations in the waterways being assessed.

There has been limited readily available information on the rivers and their fish populations at the time of European settlement. The journals of notable European explorers and settlers contain references to rivers and in some cases their fish. Recently some of these accounts have been compiled into an electronic resource by the Murray-Darling Basin Authority (Scott, 2005). It was not until the twentieth century that broad scale ecological study of the fish and rivers of the Murray-Darling Basin commenced. The best known is the survey conducted by Colonel John 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. Nonetheless it remains the most widely utilized historical account of native fish populations in the basin.

Many references to the rivers, and their fish, reside in the personal journals and manuscripts of early pioneers, graziers and miners. Government agencies hold in their archives old manuscripts and reports which are valuable sources of information, and are far less well known than Langtry's survey, in some cases predating it by over half a century. Newspapers contain many stories of the rivers and their fish in the early days, but to date few have been identified. Recently the *National Library of* Australia commenced a project to scan and store electronically national, state and regional newspapers which can be researched using a search engine. While the project will take years to complete it is already providing the capacity to locate accounts of fish in a large number of publications and issues. Collectively, many of these information sources remain obscure , with the accounts they contain largely unknown to scientists, fisheries managers and historians. As a consequence of the lack of readily available historical information, our understanding of the original distribution, abundance and biology of native fish in the Murray-Darling Basin is largely inferred from contemporary scientific studies of an environment that has undergone drastic change.

The only species for which attempts have been made to prepare a comprehensive history is the iconic Murray cod, *Maccullochella peelii* (Mitchell) (Percichthyidae), prepared by Dr. Stuart Rowland initially as a thesis (Rowland, 1985) and subsequently in general publication (Rowland, 1989; Rowland, 2005). The importance of the Murray cod to the community was such that the MDBA held a dedicated workshop reviewing all knowledge and issues relevant to the species (Lintermans & Phillips, 2005). These works reviewed the biology

of Murray cod in general, documented the historic decline of populations over the basin, and identified the possible factors responsible. The other Murray-Darling fish species have not been the subject of such a concerted effort to document their history. A number of authors (Cadwallader, 1981; Cadwallader & Gooley, 1984; Grumley, 1986) have published papers on the historical distribution of individual species, but these have been limited to reporting the occurrence of them within various waters without describing total or relative abundance. Recently the MDBA has initiated a number of projects to collect and collate historical information on the original distribution of native fish.

Trout cod, *Maccullochella macquariensis* (Cuvier) (Percichthyidae), are 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 Murray cod was not generally accepted by the scientific community until 1972 (Berra & Weatherly, 1972). By that time it was critically endangered, and is now considered a flagship species for the Native Fish Strategy. As a consequence of the limited records available, there has been uncertainty as to the original distribution, abundance and habitat preferences of the species. John Lake (1967b) provided the often cited comment that Trout cod were 'restricted to the cooler upper reaches of the Murray River and its tributaries above Yarrawonga'. Reinforcing this view was the persistence of a population of Trout cod in the Seven Creeks near Strathbogie in north east Victoria, a rocky upland stream which initially was the focus of research into the biology of the species (Cadwallader, 1979).

Recent authors have challenged Lake's contention, implying that the species may have been primarily most common in lowland habitat and less common further upstream in the Murray-Darling Basin (Douglas *et al.*, 1994; Brown *et al.*, 1998). This view not only differs from Lake's opinion but that reported in a number of historical sources. There have been credible accounts from anglers of catching Trout cod, referring to the fish as 'bluenose' or 'rock cod' including the recollections of the late R. D. (Bert) McKenzie (Trueman & Luker, 1992) and those recounted by retired Victorian Fisheries and Wildlife Inspector J. O. (Jack) Rhodes in his autobiography (Rhodes, 1999). These accounts, while reporting Trout cod as having being previously common in lowland waters, also describe the species being abundant in upland and even montane habitats.

Until comparatively recently such oral or 'anecdotal' accounts have 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. They provided a framework for validating the oral accounts collected from residents of that catchment, protocols, which they subsequently formalized (Roberts & Sainty, 1997). Utilising a similar approach Copeland *et al.* (2003) prepared an oral history of the fish in the Gwyder River catchment. Boulton *et al.* (2004) reviewed the work of these authors and others, giving credibility to oral history as a powerful narrative of environmental change, and highlighting the importance of multiple lines of evidence. They have termed this approach of verifying oral history as 'historical triangulation'. 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).

An initial project was commenced by the author in 2006 to validate the accounts of Bert McKenzie on the historic occurrence of Trout cod in a number of waters by collecting supporting evidence and using the process of historical triangulation. It was subsequently expanded to include evidence for the accounts published by Rhodes (1999). This included locating old photographs, written sources and further oral accounts to verify the stories. The focus of the research was the slopes, upland and montane regions of north east Victoria where the accounts of McKenzie and Rhodes originated from. Little is currently known of the early fish fauna of these higher altitude 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 Basin (Evans, 1813; Wilson, 1857) very few to date have been located, and the original fish fauna of upland and montane regions has been poorly described. An interim report outlining the type of information uncovered and discussing its implications was prepared for *Native Fish Australia* (Trueman, 2007). With support from the MDBA the project has been continued and culminated in the preparation of this document. The scope of the project has grown to attempt not only to reconstruct an accurate historical distribution for Trout cod but to do so for the other larger native fish species in the rivers of the southern Murray-Darling Basin.

Ultimately, the aims of this project were to:

- 1. Collect, collate and analyse historical information on native fish in the southern half of the Murray-Darling Basin;
- 2. Identify the original distribution and habitat preferences of Trout cod and resolve the ongoing debate on this issue;
- 3. Identify the original distribution and habitat preferences of the other large fish species, primarily those of interest to anglers;
- 4. Collect general historical information on native fish, in particular aspects of their biology;
- 5. Document changes or events that may have contributed to the decline of native fish;
- 6. Present the information collected in a format to assist scientists and managers engaged in the recovery of native fish but also accessible to the general public so as to increase community awareness of the plight of Trout cod and other native fish species.

From all of the historical sources, a wealth of information from across the basin has been collected on Trout cod, with much also on the other larger fish species. The result is that it is now possible, in at least some catchments, to confidently identify the original fish fauna and provide some indication of the relative abundance of the different species. Presented here is a large volume of information, individual pieces of which are of interest to scientists, anglers, conservationists, students and historians. Many rare or obscure historical references and newspaper stories, some of which are difficult to locate, have been published in full or at least as substantial extracts to make the information readily accessible to all those that may have an interest in their content. It is hoped that whatever the reader's interest that this material provides a greater understanding of the fish and our rivers in the past.

By collating the historical descriptions of the fish and rivers of the Murray-Darling Basin, a window into a lost world is created through which we gain an insight to our history and, hopefully, some wisdom to be better prepared for the future. Sadly some of the elderly individuals who generously shared their recollections of the fish and rivers as they once were have since passed away, but their stories survive to provide a picture of the past. As long time resident of the Mitta Mitta River 90 year old George Murtagh put it 'the way things were in the past are gone. Those times won't be back. But people should know how it once was'.

Contents

1	Ackno	owledg	ements	1-1	
2	Fishes	Fishes of the Murray-Darling Basin Discussed in this Publication			
3	Impe	rial Uni	ts	3-1	
4	Introduction: People should know how it once was			4-1	
5	A Tale	e of Tw	o Cod	5-1	
	5.1	The Se	tting	5-3	
	5.2	Discov	rery	5-4	
	5.3	Genes	is of an Argument	5-10	
	5.4	Renais	sance Under Stead	5-20	
	5.5	Returr	n to Obscurity	5-27	
	5.6	Resolu	ition	5-29	
6	The K	ey Exte	rnal Differences between Murray Cod & Trout Cod	6-1	
	6.1	Key Ex	ternal Features of Murray cod & Trout cod	6-3	
7	Meth	odolog	y: Reconstructing the Past	7-1	
	7.1	Descri	bing Fish Abundance	7-1	
	7.2	The Ha	abitats	7-2	
	7.3	Evider	nce Collected	7-2	
	7.4	Assess	ing the Information	7-4	
8	Goult	ourn Riv	ver Catchment	8-1	
	8.1	Early E	uropean Accounts	8-4	
	8.2	The Pa	ast Distribution of Fishes in the Goulburn River Catchment	8-6	
		8.2.1	The Montane Zone	8-6	
		8.2.2	The Upland Zone	8-7	
		8.2.3	The Slopes Zone	8-8	
		8.2.4	The Lowland Zone	8-10	
		8.2.5	Estimates of Native Fish Abundance in the Goulburn River Catchment at European Settlement	. 8-13	
	8.3	The Ch	nanges	8-25	
		8.3.1	Changes to Native Fish Distribution and Abundance	8-25	
		8.3.2	Changes to Habitat	8-26	
	8.4	The Cu	urrent Situation	8-29	
	8.5	Newsp	paper Highlights	8-30	
	8.6	Goulb	urn River Catchment Oral Histories	8-35	
9	Mitta	Mitta	River Catchment	8-1	
	9.1	Early E	uropean Accounts	8-4	
	9.2	The Pa	ast Distribution of Fishes in the Mitta Mitta River Catchment	8-6	
		9.2.1	The Montane Zone	8-6	
		9.2.2	The Upland Zone	8-7	
		9.2.3	The Slopes Zone	8-8	
		9.2.4	Estimates of Native Fish Abundance in the Mitta Mitta Catchment at European Settlement.	8-10	

	9.3	The Ch	nanges	8-17
		9.3.1	Changes to Native Fish Distribution and Abundance	8-17
		9.3.2	Changes to Habitat	8-18
	9.4	The Cu	urrent Situation	8-19
	9.5	Newsp	paper Highlights	8-20
	9.6	Mitta	Mitta River Catchment Oral Histories	8-22
9	Mitta	Mitta	River Catchment	9-1
	9.1	Early E	uropean Accounts	9-4
	9.2	The Pa	ast Distribution of Fishes in the Mitta Mitta River Catchment	9-6
		9.2.1	The Montane Zone	9-6
		9.2.2	The Upland Zone	9-7
		9.2.3	The Slopes Zone	9-8
		9.2.4	Estimates of Native Fish Abundance in the Mitta Mitta Catchment at European Settlement.	9-10
	9.3	The Ch	nanges	9-17
		9.3.1	Changes to Native Fish Distribution and Abundance	9-17
		9.3.2	Changes to Habitat	9-18
	9.4	The Cu	urrent Situation	9-19
	9.5	Newsp	paper Highlights	9-20
	9.6	Mitta	Mitta River Catchment Oral Histories	9-22
10	Uppe	r Murra	ay River Catchment	10-1
	10.1	Early E	uropean Accounts	10-4
	10.2	The Pa	ast Distribution of Fishes in the Upper Murray River Catchment	10-5
		10.2.1	The Montane Zone	10-6
		10.2.2	The Upland Zone	10-7
		10.2.3	The Slopes Zone	10-7
		10.2.4	Estimates of Native Fish Abundance in the Upper Murray River Catchment at European Settlement.	10-9
	10.3	The Cł	nanges	10-20
		10.3.1	Changes to Native Fish Distribution and Abundance	10-20
		10.3.2	Changes to Habitat	10-20
	10.4	The Cu	urrent Situation	10-23
	10.5	Newsp	paper Highlights	10-24
	10.6	Signifi	cant Extracts from the Annual Reports on the Fisheries of NSW	10-24
	10.7	Upper	Murray River Catchment Oral Histories	10-26
11	Kiewa	a River	Catchment	11-1
	11.1	Early E	uropean Accounts	11-4
	11.2	The Pa	ast Distribution of Fishes in the Kiewa River Catchment	11-4
		11.2.1	The Montane & Upland Zones	11-4
		11.2.2	The Slopes Zone	11-5
		11.2.3	Estimates of Native Fish Abundance in the Kiewa River Catchment at European Settlement.	11-6
	11.3	The Ch	nanges	11-9
		11.3.1	Changes to Native Fish Distribution and Abundance	11-9

		11.3.2 Changes to Habitat	11-9
	11.4	The Current Situation	11-9
	11.5	Newspaper Highlights	11-11
	11.6	Kiewa River Catchment Oral Histories	11-12
12	Ovens	River Catchment	12-1
	12.1	Early European Accounts	12-4
	12.2	The Past Distribution of Fishes in the Ovens River Catchment	12-5
		12.2.1 The Montane Zone	12-6
		12.2.2 The Upland Zone	12-6
		12.2.3 The Slopes Zone	12-7
		12.2.4 The Lowland Zone	12-8
		12.2.5 Estimates of Native Fish Abundance in the Ovens River Catchment at European Settlement.	12-10
	12.3	The Changes	12-18
		12.3.1 Changes to Native Fish Distribution and Abundance	12-18
		12.3.2 Changes to Habitat	12-18
	12.4	The Current Situation	12-21
	12.5	Newspaper Highlights	12-22
	12.6	Ovens River Catchment Oral Histories	12-24
13	Broke	n River Catchment	13-1
	13.1	Early European Accounts	13-4
	13.2	The Past Distribution of Fishes in the Broken River Catchment	13-4
		13.2.1 The Montane Zone	13-5
		13.2.2 The Upland Zone	13-5
		13.2.3 The Slopes Zone	13-5
		13.2.4 The Lowland Zone	13-6
		13.2.5 Estimates of Native Fish Abundance in the Broken River Catchment at European Settlement	13-8
	13.3	The Changes	13-12
		13.3.1 Changes to Native Fish Distribution and Abundance	13-12
		13.3.2 Changes to Habitat	13-13
	13.4	The Current Situation	13-14
	13.5	Newspaper Highlights	13-15
	13.6	Broken River Catchment Oral Histories	13-16
14	Camp	aspe River Catchment	14-1
	14.1	Early European Accounts	14-4
	14.2	The Past Distribution of Fishes in the Campaspe River Catchment	14-6
		14.2.1 The Montane Zone	14-6
		14.2.2 The Upland Zone	14-6
		14.2.3 The Slopes Zone	14-6
		14.2.4 The Lowland Zone	14-8
		14.2.5 Estimates of Native Fish Abundance in the Campaspe River Catchment at European Settlement.	14-9
	14.3	The Changes	14-12

		14.3.1 Changes to Native Fish Distribution and Abundance	14-12
		14.3.2 Changes to Habitat	14-12
	14.4	The Current Situation	14-14
	14.5	Newspaper Highlights	14-15
	14.6	Campaspe River Catchment Oral Histories	14-18
15	Centra	al Murray River Catchment	15-1
	15.1	Early European Accounts	15-4
	15.2	The Past Distribution of Fishes in the Central Murray River Catchment	15-11
		15.2.1 Upper Lowland Zone	15-11
		15.2.2 Middle Lowland Zone	15-13
		15.2.3 Lower Lowland Zone	15-16
		15.2.4 Estimates of Native Fish Abundance in the Central Murray River Catchment at European Settlement	15-18
	15.3	The Changes	15-31
		15.3.1 Changes to Native Fish Distribution and Abundance	15-31
		15.3.2 Upper Lowland Zone	15-31
		15.3.3 Middle Lowland Zone, Yarrawonga to Echuca	15-31
		15.3.4 Middle Lowland Zone, Echuca to Wakool Junction	15-32
		15.3.5 Lower Lowland Zone	15-33
		15.3.6 Changes to Habitat	15-33
	15.4	The Current Situation	15-38
	15.5	Newspaper Highlights	15-39
	15.6	Significant Extracts from the Annual Reports on the Fisheries of NSW	15-42
	15.7	Central Murray River Catchment Oral Histories	15-44
16	Loddo	on River Catchment	16-1
	16.1	Early European Accounts	16-4
	16.2	The Past Distribution of Fishes in the Loddon River Catchment	16-5
		16.2.1 The Montane Zone	16-6
		16.2.2 The Upland Zone	16-6
		16.2.3 The Slopes Zone	16-6
		16.2.4 The Lowland Zone	16-8
		16.2.5 Estimates of Native Fish Abundance in the Loddon River Catchment at European Settlement.	16-10
	16.3	The Changes	16-14
		16.3.1 Changes to Native Fish Distribution and Abundance	16-14
		16.3.2 Changes to Habitat	16-15
	16.4	The Current Situation	16-18
	16.5	Newspaper Highlights	16-19
	16.6	Loddon River Catchment Oral Histories	16-22
17	Macq	uarie River Catchment	17-1
	17.1	Early European Accounts	17-4
	17.2	The Past Distribution of Fishes in the Macquarie River Catchment	17-7
		17.2.1 The Montane Zone	17-8

		17.2.2 The Upland Zone	17-9
		17.2.3 The Slopes Zone	17-9
		17.2.4 The Lowland Zone	17-10
		17.2.5 Estimates of Native Fish Abundance in the Macquarie River Catchment at European Settlement.	17-11
	17.3	The Changes	17-15
		17.3.1 Changes to Native Fish Distribution and Abundance	17-15
		17.3.2 Changes to Habitat	17-15
	17.4	The Current Situation	17-16
	17.5	Newspaper Highlights	17-17
	17.6	Significant Extracts from the Annual Reports on the Fisheries of NSW	17-19
	17.7	Macquarie River Catchment Oral Histories	17-21
18	Lachla	an River Catchment	18-1
	18.1	Early European Accounts	18-4
	18.2	The Past Distribution of Fishes in the Lachlan River Catchment	18-5
		18.2.1 The Montane Zone	18-6
		18.2.2 The Upland Zone	18-6
		18.2.3 The Slopes Zone	18-7
		18.2.4 The Lowland Zone	18-7
		18.2.5 Estimates of Native Fish Abundance in the Lachlan River Catchment at European Settlement.	18-9
	18.3	The Changes	18-13
		18.3.1 Changes to Native Fish Distribution and Abundance	18-13
		18.3.2 Changes to Habitat	18-13
	18.4	The Current Situation	18-14
	18.5	Newspaper Highlights	18-15
	18.6	Significant Extracts from the Annual Reports on the Fisheries of NSW	18-16
	18.7	Lachlan River Catchment Oral Histories	18-18
19	Murru	umbidgee River Catchment	19-1
	19.1	Early European Accounts	19-5
	19.2	The Past Distribution of Fishes in the Murrumbidgee River Catchment	19-9
		19.2.1 The Montane Zone	19-9
		19.2.2 The Upland Zone	19-10
		19.2.3 The Slopes Zone	19-12
		19.2.4 The Lowland Zone	19-12
		19.2.5 Estimates of Native Fish Abundance in the Murrumbidgee Catchment at European Settlement.	19-14
	19.3	The Changes	19-23
		19.3.1 Changes to Native Fish Distribution and Abundance	19-23
		19.3.2 Changes to Habitat	19-24
	19.4	The Current Situation	19-25
	19.5	Newspaper Highlights	19-27
	19.6	Significant Extracts from the Annual Reports on the Fisheries of NSW	19-31

	19.7	Murrumbidgee River Catchment Oral Histories	19-37
20	River	ina Catchment	20-1
	20.1	Early European Accounts	20-4
	20.2	The Past Distribution of Fishes in the Riverina Catchment	20-5
		20.2.1 The Slopes Zone	20-5
		20.2.2 The Lowland Zone, East & West	20-6
		20.2.3 Estimates of Native Fish Abundance in the Riverina Catchment at European Settlement.	20-8
	20.3	The Changes	20-14
		20.3.1 Changes to Native Fish Distribution and Abundance	20-14
		20.3.2 Changes to Habitat	20-14
	20.4	The Current Situation	20-17
	20.5	Newspaper Highlights	20-18
	20.6	Annual Reports on the Fisheries of NSW	20-21
	20.7	Riverina Catchment Oral Histories	20-24
21	Lowe	r Murray River Catchment	21-1
	21.1	Early European Accounts	21-4
	21.2	The Past Distribution of Fishes in the Lower Murray River Catchment	21-6
		21.2.1 Estimates of Native Fish Abundance in the Lower Murray River Catchment at European Settlement.	21-10
	21.3	The Changes	21-18
		21.3.1 Changes to Native Fish Distribution and Abundance	21-18
		21.3.2 Changes to Habitat	21-18
	21.4	The Current Situation	21-21
	21.5	Newspaper Highlights	21-22
22	Wimr	nera & Avoca River Catchments	22-1
	22.1	Wimmera River	22-1
	22.2	Avoca River	22-2
23	Analy	sis and Summary of Historical Information on Native Fish	23-1
	23.1	Trout Cod, Maccullochella macquariensis	23-3
		23.1.1 European Discovery	23-5
		23.1.2 Aboriginal Names	23-5
		23.1.3 European Names	23-6
		23.1.4 Distribution and Habitat	23-7
		23.1.5 Translocations	23-10
		23.1.6 Size	23-11
		23.1.7 Historical Life History Observations	23-12
		23.1.8 Community Value	23-13
		23.1.9 Decline & Current Status	23-15
	23.2	Murray cod, Maccullochella peelii	23-22
		23.2.1 European Discovery	23-24
		23.2.2 Aboriginal Names	23-24
		23.2.3 European Names	23-25

	23.2.4 Distribution and Habitat	23-25
	23.2.5 Translocations	23-26
	23.2.6 Size	23-27
	23.2.7 Community Value	23-28
	23.2.8 Decline & Current Status	23-29
23.3	Golden Perch, Macquaria ambigua	23-31
	23.3.1 European Discovery	23-33
	23.3.2 Aboriginal Names	23-33
	23.3.3 European Names	23-34
	23.3.4 Distribution and Habitat	23-34
	23.3.5 Translocations	23-36
	23.3.6 Size	23-36
	23.3.7 Community Use	23-36
	23.3.8 Decline & Current Status	23-37
23.4	Silver Perch, Bidyanus bidyanus	23-39
	23.4.1 European Discovery	23-41
	23.4.2 Aboriginal Names	23-41
	23.4.3 European Names	23-42
	23.4.4 Distribution and Habitat	23-42
	23.4.5 Translocations	23-43
	23.4.6 Size	23-43
	23.4.7 Community Use	23-44
	23.4.8 Decline & Current Status	23-44
23.5	Macquarie Perch, Macquaria australasica	23-46
	23.5.1 European Discovery	23-48
	23.5.2 Aboriginal Names	23-48
	23.5.3 European Names	23-49
	23.5.4 Distribution and Habitat	23-49
	23.5.5 Translocations	23-51
	23.5.6 Size	23-52
	23.5.7 Migrations	23-52
	23.5.8 Community Value	23-53
	23.5.9 Decline & Current Status	23-53
23.6	Catfish, Tandanus tandanus	23-56
	23.6.1 European Discovery	23-58
	23.6.2 Aboriginal Names	23-58
	23.6.3 European Names	23-59
	23.6.4 Distribution and Habitat	23-59
	23.6.5 Translocations	23-60
	23.6.6 Size	23-61
	23.6.7 Nesting	23-61

	Index		
26	Refere	ences	26-1
25	Recon	nmendations	25-1
		24.1.3 Management Practices	24-12
		24.1.2 Stone Fisheries	24-8
		24.1.1 Boughyards in the Main Rivers	24-7
	24.1	Wooden Weir Fish Traps	24-6
24	Austra	lian Aboriginal Fisheries	24-1
		23.7.8 Decline & Current Status	23-69
		23.7.7 Community Value	23-69
		23.7.6 Size	23-69
		23.7.5 Translocations	23-68
		23.7.4 Distribution and Habitat	23-67
		23.7.3 European Names	23-66
		23.7.2 Aboriginal Names	23-66
		23.7.1 European Discovery	23-66
	23.7	River Blackfish, Gadopsis marmoratus, & Two-spined Blackfish, Gadopsis bispinosus	23-64
		23.6.9 Decline & Current Status	23-62
		23.6.8 Community Use	23-61

List of Figures

Page No

Figure 8.1	The Goulburn River Catchment showing major waterways and key localities	8-3
Figure 8.2	Historical Records for Murray cod and Trout cod in the Goulburn River Catchment	8-14
Figure 8.3	Historical Records for Native Fish Species other than Cod in the Goulburn River Catchment	8-15
Figure 9.1	The Mitta Mitta River Catchment showing major waterways and key localities	8-3
Figure 9.2	Historical Records for Murray cod and Trout cod in the Mitta Mitta River Catchment	8-11
Figure 9.3	Historical Records for Native Fish Species other than Cod in the Mitta Mitta River Catchment.	8-12
Figure 9.1	The Mitta Mitta River Catchment showing major waterways and key localities	9-3
Figure 9.2	Historical Records for Murray cod and Trout cod in the Mitta Mitta River Catchment	9-11
Figure 9.3	Historical Records for Native Fish Species other than Cod in the Mitta Mitta River Catchment.	9-12
Figure 10.1	The Upper Murray River Catchment showing major waterways and key localities	10-3
Figure 10.2	Historical Records for Murray cod and Trout cod in the Upper Murray River Catchment	10-10
Figure 10.3	Historical Records for Native Fish Species other than Cod in the Upper Murray River Catchment	10-11
Figure 11.1	The Kiewa River Catchment showing major waterways and key localities.	11-3
Figure 11.2	Historical Records for Murray cod and Trout cod in the Kiewa River Catchment	11-7
Figure 11.3	Historical Records for Native Fish Species other than Cod in the Kiewa River Catchment	11-8
Figure 12.1	The Ovens River Catchment showing major waterways and key localities.	12-3
Figure 12.2	Historical Records for Murray cod and Trout cod in the Ovens River Catchment	12-11
Figure 12.3	Historical Records for Native Fish Species other than Cod in the Ovens River Catchment	12-12
Figure 13.1	The Broken River Catchment showing major waterways and key localities.	13-3
Figure 13.2	Historical Records for all Native Fish Species in the Broken River Catchment.	13-9
Figure 14.1	The Campaspe River Catchment showing major waterways and key localities.	14-3
Figure 14.2	Historical Records for Native Fish in the Campaspe River Catchment	14-10
Figure 15.1	The Central Murray River Catchment showing major waterways and key localities	15-3
Figure 15.2	Historical Records for Murray cod and Trout cod in the Central Murray River Catchment	15-19
Figure 15.3	Historical Records for Native Fish Species other than Cod in the Central Murray River	15-19
Figure 16.1	The Loddon River Catchment showing major waterways and key localities.	16-3
Figure 16.2	Historical Records for Native Fish in the Loddon River Catchment	16-11
Figure 17.1	The Macquarie River Catchment showing major waterways and key localities	17-3
Figure 17.2	Historical Records for Murray cod and Trout cod in the Macquarie River Catchment	17-12
Figure 17.3	Historical Records for Native Fish Species other than Cod in the Macquarie River Catchment.	17-12
Figure 18.1	The Lachlan River Catchment showing major waterways and key localities	18-3
Figure 18.2	Historical Records for Murray cod and Trout cod in the Lachlan River Catchment	18-10
Figure 18.3	Historical Records for Native Fish Species other than Cod in the Lachlan River Catchment	18-10
Figure 19.1	The Murrumbidgee River Catchment showing major waterways and key localities	19-3
Figure 19.2	Historical Records for Murray cod and Trout cod in the Murrumbidgee River Catchment	19-15

Figure 19.3	Historical Records for Native Fish Species other than Cod in the Murrumbidgee River Catchment	19-15
Figure 20.1	The Riverina Catchment showing major waterways and key localities.	20-3
Figure 20.2	Historical Records for Native Fish in the Riverina Catchment	20-9
Figure 21.1	The Lower Murray River Catchment showing major waterways and key localities	21-3
Figure 21.2	Historical Records for Native Fish in the Lower Murray River Catchment	21-11
Figure 23.1	A Reconstruction of the Historical Distribution & Abundance of Trout Cod in the Southern Murray-Darling Basin	23-21
Figure 23.2	A Reconstruction of the Historical Distribution & Abundance of Murray Cod in the Southern Murray-Darling Basin	23-30
Figure 23.3	A Reconstruction of the Historical Distribution & Abundance of Golden Perch in the Southern Murray-Darling Basin	23-38
Figure 23.4	A Reconstruction of the Historical Distribution & Abundance of Silver Perch in the Southern Murray-Darling Basin	23-45
Figure 23.5	A Reconstruction of the Historical Distribution & Abundance of Macquarie Perch in the Southern Murray-Darling Basin	23-55
Figure 23.6	A Reconstruction of the Historical Distribution & Abundance of Freshwater Catfish in the Southern Murray-Darling Basin	23-63
Figure 23.7	A Reconstruction of the Historical Distribution & Abundance of Blackfish Species in the Southern Murray-Darling Basin	23-71
Figure 24.1	Brewarrina Stone Fisheries	24-9
Figure 24.2	Locations of Historical Accounts of Aboriginal Fishing Structures & Conservation Areas	24-14

List of Tables

Page No

Table 6.1	Key External Features of Murray cod & Trout cod	6-3
Table 8.1	Goulburn River Catchment Rarity Scores (Main River Channels)	8-13
Table 9.1	Mitta Mitta River Catchment Rarity Scores	8-10
Table 9.1	Mitta Mitta River Catchment Rarity Scores	9-10
Table 10.1	Upper Murray River Catchment Rarity Scores (Main River Channels)	10-9
Table 11.1	Kiewa River Catchment Rarity Scores (Main River Channels)	11-6
Table 12.1	Ovens River Catchment Rarity Scores (Main River Channels)	12-10
Table 13.1	Broken River Catchment Rarity Scores (Main River Channels)	13-8
Table 14.1	Campaspe River Catchment Rarity Scores (Main River Channels)	14-9
Table 15.1	Central River Catchment Rarity Scores (Main River Channels)	15-18
Table 16.1	Loddon River Catchment Rarity Scores (Main River Channels)	16-10
Table 17.1	Macquarie River Catchment Rarity Scores	17-11
Table 18.1	Lachlan River Catchment Rarity Scores (Main River Channels)	18-9
Table 19.1	Murrumbidgee River Catchment Rarity Scores (Main River Channels)	19-14
Table 20.1	Riverina Catchment Rarity Scores (Main River Channels)	20-8
Table 21.1	Lower Murray River Catchment Rarity Scores (Main River Channels)	21-10
Table 23.1	Definitions of Rarity Scores used in the Project	23-2
Table 23.2	Trout cod Average Rarity Scores	23-8
Table 23.3	Murray cod Average Rarity Scores	23-25
Table 23.4	Golden perch Average Rarity Scores	23-35
Table 23.5	Silver perch Average Rarity Scores	23-42
Table 23.6	Macquarie perch Average Rarity Scores	23-50
Table 23.7	Catfish Average Rarity Scores	23-59
Table 23.8	Blackfish Average Rarity Scores	23-67
Table 23.9	ASFB Conservation Status of Murray-Darling Basin Fishes	23-72

List of Photographs

Page No

Photograph 5.1	The First Trout Cod	5-9
Photograph 5.2	Blandowski's Trout Cod	5-16
Photograph 5.3	Gunther's Drawing of a Trout Cod	5-17
Photograph 5.4	Castelnau's Trout Cod	5-17
Photograph 5.5	Trout Cod or Murray Cod?	5-18
Photograph 5.6	An Artist's Work	5-19
Photograph 5.7	Oligorus gibbiceps	5-19
Photograph 5.8	The First Photograph	5-24
Photograph 5.9	Whitley's Trout cod	5-25
Photograph 5.10	A Feature Article on a Mythical Fish	5-26
Photograph 5.11	Lake Sambell Trout Cod	5-32
Photograph 5.12	Large Trout Cod from Lake Sambell	5-33
Photograph 6.1	Murray Cod and Trout Cod Compared	6-4
Photograph 6.2	Trout Cod Variations	6-5
Photograph 6.3	Trout Cod Heads	6-6
Photograph 7.1	Habitat Types of the Murray Darling Basin	7-6
Photograph 7.2	Variations in Photo Quality	7-7
Photograph 8.1	An Upland Catch	8-16
Photograph 8.2	Eildon Macquarie Perch	8-17
Photograph 8.3	Slopes Habitat in the Goulburn	8-18
Photograph 8.4	Trout Cod on a Pole	8-19
Photograph 8.5	A Morning's Catch at Alexandra	8-20
Photograph 8.6	Two Trout Cod at Molesworth	8-21
Photograph 8.7	Prospect Hill Trout Cod	8-22
Photograph 8.8	Homewood Cod Catch	8-23
Photograph 8.9	The McLeod's Livelihood	8-24
Photograph 9.1	The Big River	8-13
Photograph 9.2	Upper Mitta Mitta Trout Cod	8-14
Photograph 9.3	Mitta Mitta Cod Catch	8-15
Photograph 9.4	Big Cod from the Mitta Mitta	8-16
Photograph 9.1	The Big River	9-13
Photograph 9.2	Upper Mitta Mitta Trout Cod	9-14
Photograph 9.3	Mitta Mitta Cod Catch	9-15
Photograph 9.4	Big Cod from the Mitta Mitta	9-16
Photograph 10.1	Upper Murray Habitats	10-12
Photograph 10.2	Indi River Catch	10-13

Photograph 10.3	Towong Cod	10-14
Photograph 10.4	Tintaldra Trout Cod	10-15
Photograph 10.5	Tintaldra Cod Catch	10-16
Photograph 10.6	Trout Cod and Silver Perch at Burrowye	10-17
Photograph 10.7	Burrowye Cod Catch	10-18
Photograph 10.8	Huge Cod Catch at Burrowye	10-19
Photograph 10.9	Last Upper Murray Trout Cod	10-22
Photograph 12.1	Eurobin Catches	12-13
Photograph 12.2	Trout Cod from the Buffalo and Ovens Rivers	12-14
Photograph 12.3	Trout Cod from Lake Sambell	12-15
Photograph 12.4	Suffield Family Catches	12-16
Photograph 12.5	Last Trout Cod in the Ovens	12-17
Photograph 13.1	Broken River Trout Cod	13-10
Photograph 13.2	A Huge Macquarie Perch	13-11
Photograph 14.1	Upper Campaspe River	14-5
Photograph 14.2	Macquarie Perch at Redesdale	14-11
Photograph 14.3	Murray Cod at Redesdale	14-11
Photograph 15.1	Central Murray Beach	15-9
Photograph 15.2	Yorta Yorta Fish Traps	15-10
Photograph 15.3	Howlong Cod Catch	15-20
Photograph 15.4	Silver Perch at Yarrawonga	15-21
Photograph 15.5	Trout Cod at Tongalong	15-22
Photograph 15.6	Early Barmah Catch	15-23
Photograph 15.7	Golden Perch at Barmah	15-24
Photograph 15.8	Early Echuca Fishing Party	15-25
Photograph 15.9	Kow Swamp Catch	15-26
Photograph 15.10	Murray River Drought	15-27
Photograph 15.11	Pental Island Cod	15-28
Photograph 15.12	Trout Cod and Murray Cod near Swan Hill	15-29
Photograph 15.13	A Big Catch Near Euston	15-30
Photograph 16.1	Boort Cod Catch	16-12
Photograph 16.2	A Big Cod Shot	16-13
Photograph 16.3	A Ruined River	16-17
Photograph 17.1	Cuvier's Macquarie Perch	17-6
Photograph 17.2	Gunther's Golden Perch	17-7
Photograph 17.3	'The Forge'	17-13
Photograph 17.4	Long Point Cod	17-13
Photograph 17.5	Wellington Cod	17-14

Photograph 17.6	Burrendong Catch	17-14
Photograph 18.1	Lachlan River Trout Cod	18-11
Photograph 18.2	Cowra Catch	18-12
Photograph 19.1	William Hill's Cod Catch	19-8
Photograph 19.2	Colinton Gorge Trout Cod	19-16
Photograph 19.3	Preserved Colinton Trout Cod	19-17
Photograph 19.4	Gigerline Gorge Murray Cod	19-18
Photograph 19.5	Kambah Catch	19-19
Photograph 19.6	Murrumbidgee Trout Cod	19-20
Photograph 19.7	Hill Family Catches	19-21
Photograph 19.8	Bringagee Catch	19-22
Photograph 20.1	Mathoura Cod Catch	20-10
Photograph 20.2	Mathoura Trout Cod	20-11
Photograph 20.3	Billabong Creek Catfish	20-12
Photograph 20.4	Laddie's Catch	20-13
Photograph 20.5	Deniliquin Redfin Plague	20-16
Photograph 21.1	A Week's Work at Renmark	21-12
Photograph 21.2	A Large Catch at Renmark	21-13
Photograph 21.3	A Large Golden Perch	21-14
Photograph 21.4	Fishing Party Near Morgan	21-15
Photograph 21.5	They Call the Trout Cod the Rock Cod	21-16
Photograph 21.6	Purnong Trout Cod	21-16
Photograph 21.7	Lower Murray Macquarie Perch	21-17
Photograph 23.1	The First Trout Cod	23-5
Photograph 23.2	Big Trout Cod in the Past	23-18
Photograph 23.3	A Giant Trout Cod Today?	23-19
Photograph 23.4	The Seven Creeks: A Last Upland Refuge	23-20
Photograph 23.5	The First Murray Cod	23-24
Photograph 23.6	The First Golden Perch	23-33
Photograph 23.7	The First Silver Perch	23-41
Photograph 23.8	The First Macquarie Perch	23-48
Photograph 23.9	The First Catfish	23-58
Photograph 23.10	The First Blackfish	23-66
Photograph 24.1	Brewarrina Stone Fisheries	24-9
Photograph 24.3	Central Murrumbidgee River Stone Fishery	24-11