

# 2016 MURRAY CODFERENCE

## CONFERENCE PROCEEDINGS

Sunday 11th December, East Side Conference Centre, Shepparton



Target One Million  
*More Victorians fishing, more often*

Fisheries  
Victoria



## Partners



**Target One Million**  
*More Victorians fishing, more often*



Department of  
Primary Industries

## Editors

Taylor Hunt, John Douglas and Anthony Forster, Freshwater Fisheries Management, Fisheries Victoria

## Contact Email

[taylor.hunt@ecodev.vic.gov.au](mailto:taylor.hunt@ecodev.vic.gov.au)

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## Foreword

Murray cod are probably Australia's most iconic native fish with deep indigenous connections and a rich social and economic history. Fishing for Murray cod is a special opportunity for us to spend precious and quality time with our friends and families in our beautiful rivers and lakes. I'm proud to say that whilst Murray cod fishing has undergone significant changes in the past, in recent times in Victoria it's been getting better and better!

The Andrews Labor Government values the significant social and economic importance of Murray cod fishing in Victoria. For this reason we are doing some exciting work under our \$46 million Target One Million plan which aims to get more people, fishing more often. This is a record investment in recreational fishing in Victoria. We are busy improving recreational fishing by investing in projects that will make a real difference, such as installing and enhancing fish habitat, increasing fish stocking to build existing and new fisheries, improving angler access and providing \$2,000 grants to support angling clubs. With strong scientific evidence, we are trialling year round fishing access to the fabulous Lake Eildon Murray cod fishery and of course, this year we are holding our inaugural Murray Codference!

I'm sure you will enjoy this great initiative aimed at celebrating our fantastic Murray cod fishery, learning more about their recovery and importantly, how to be even more successful in catching (and releasing) them. With your help, we can all look forward to some amazing Murray cod fishing for our and future generations.



**Jaala Pulford, MLC**

Minister for Agriculture



# Target One Million


## *More Victorians fishing, more often*

Recreational fishing is important to our social and economic well being. It is one of the most treasured pastimes, contributing significantly to families and communities.

By working with fishers, Target One Million will grow recreational fishing, get more families outdoors and increase participation to one million anglers by 2020.

## To do List – **all on track**

The State Government has committed to delivering its Target One Million plan for recreational fishing, which will get more Victorians fishing more often.

- ✓ Ban commercial netting in Port Phillip Bay
- ✓ Local advisory committee for Lake Toolondo
- ✓ Establish a marine stocking program
- ✓ Open trout cod fisheries at Beechworth
- ✓ Stock barramundi into Hazelwood Pondage
- ✓ Remove boating restrictions at Blue Rock Lake
- ✓ \$2,000 grants to fishing clubs
- ✓ School education and children's fishing programs
- ✓ Growing the trout opening festival
- ✓ Better fishing facilities program
-  Increase stocking from 3 to 5 million fish a year
-  Ban netting at Gippsland lakes' river mouths
-  Make Fisheries Victoria a statutory authority



# Conference program

9.00 am Registration & coffee

9.30 am Conference launch - Target One Million Travis Dowling, Fisheries Victoria

## SESSION 1: Looking back (Chair, Anthony Forster)

9.45 am Welcome to country & Murray cod dreaming - Indigenous connections performance Yorta Yorta Nation

10.15 am Keynote address: The iconic Murray cod - Reflections from the past to the present Dr Stuart Rowland

10.45 am Morning tea / coffee

## SESSION 2: Driving Recovery - Fisheries Management Strategies (Chair, Brian Mottram)

11.00 am Fish stocking - VIC & NSW outcomes Anthony Forster, Fisheries Victoria  
Cameron Westaway, NSW Fisheries

11.30 am Habitat restoration, fishways, e-flows & cod outcomes Jarod Lyon, ARI  
Emma Coats, VEWB

11.55 am The slot limit revolution John Douglas, Fisheries Victoria  
Taylor Hunt, Fisheries Victoria

12.10 pm Countdown to carp control Matt Barwick, NSW Fisheries

12.25 pm Blackwater & cod Luke Pearce, NSW Fisheries

12.40 pm Questions to panel All

1.00 pm Lunch

## SESSION 3: On the hook - Fishing for Murray cod (Chair, Rob Loats)

1.45 pm Murray cod fishing - How things have changed Rod Harrison

2.05 pm Targeting big Murray cod Rod MacKenzie

2.25 pm Toward better handling practices - A Vet perspective Dr Paul Hardy-Smith

## SESSION 4: Working together - Open session (Chair, Travis Dowling)

2.45 pm From the floor - Questions & answers All

3.45 pm Conference acknowledgments & close Travis Dowling, Fisheries Victoria





Photo Credit: John Cahill



Lubin Pfeiffer with an Owens River Murray cod caught in March 2015



# Indigenous connections - Make and practice a dynamic culture

**Michael Gilby**

Aboriginal Project Officer, Fisheries Victoria

## Overview of presentation

Aboriginal culture is not static. Aboriginal knowledge is integral to the survival of traditional Aboriginal identity but so is the renewal and reinvention of culture through contemporary art, dance, music and storytelling.

Aboriginal people have a very long association and intimate connection with freshwater habitats. This connection

also includes the iconic Murray cod species that occupy these habitats and the surrounding connective landscape, known as “Boorinawa” in parts of the upper Murray in Yorta Yorta country, and elsewhere as “Guddhu” or “Ponde”.

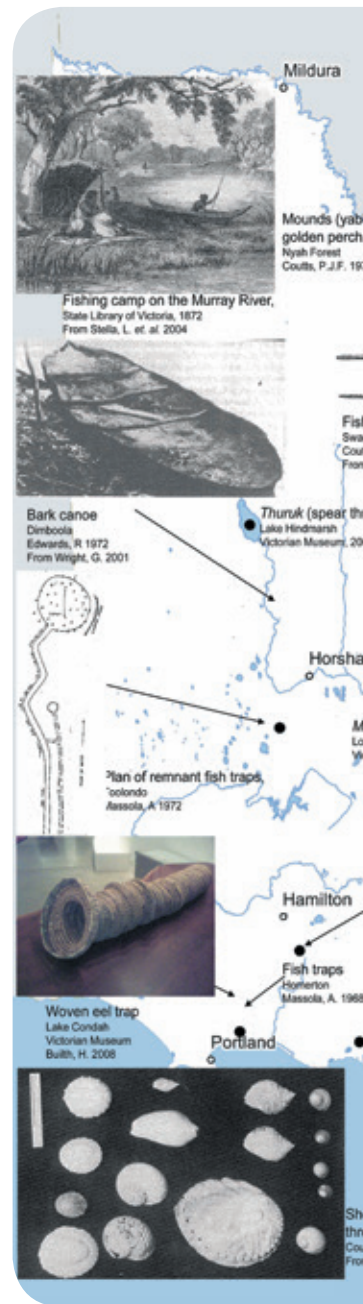
The Murray cod (*Maccullochella peelii*) is recognised as the Dominant Murray River Dreaming story, and is a central entity in traditional Aboriginal culture and creation stories.

The Dreaming Story of the lower Murray Rivers creation by a giant Murray cod Ponde, pursued by the creation hero Ngurunderi, and widening the river with sweeps of its tail. Ponde was finally speared in Lake Alexandrina and cut-up by Ngurunderi to create new fish, both fresh and salt water species, from each piece.

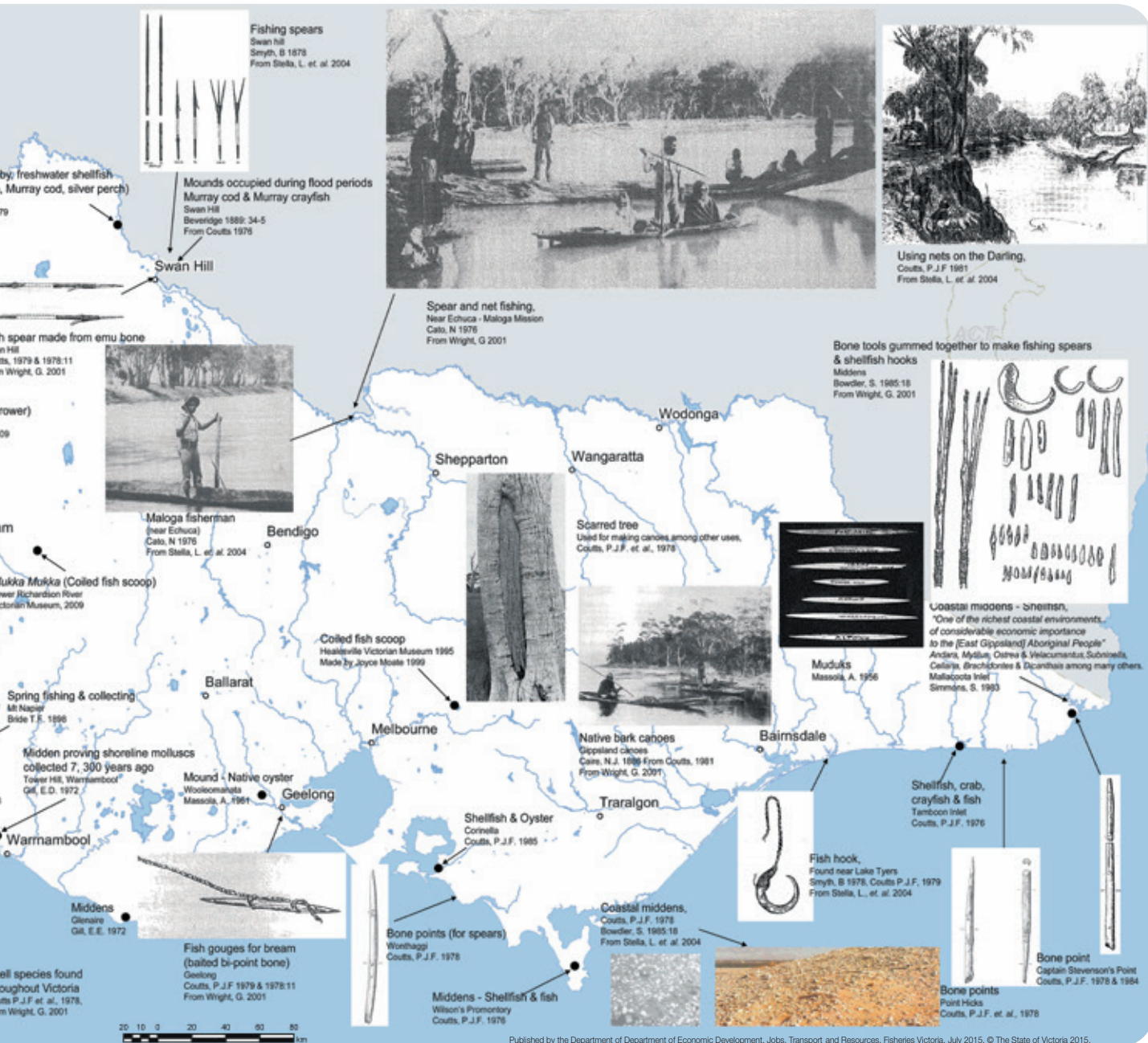
Indigenous connections theme of the 2016 Murray Codference is delivered in partnership with Yenbena Learning Centre, Yorta Yorta traditional owners (Uncle Col Walker - Yorta Yorta Elder, Uncle Norman Stewart - Yorta Yorta Elder, and Shane Charles - Yorta Yorta Performer) and, Fisheries Victoria.



Image credit: Uncle Ron Murray







# The iconic Murray cod *(Maccullochella peelii)*

## Reflections from the past to the present

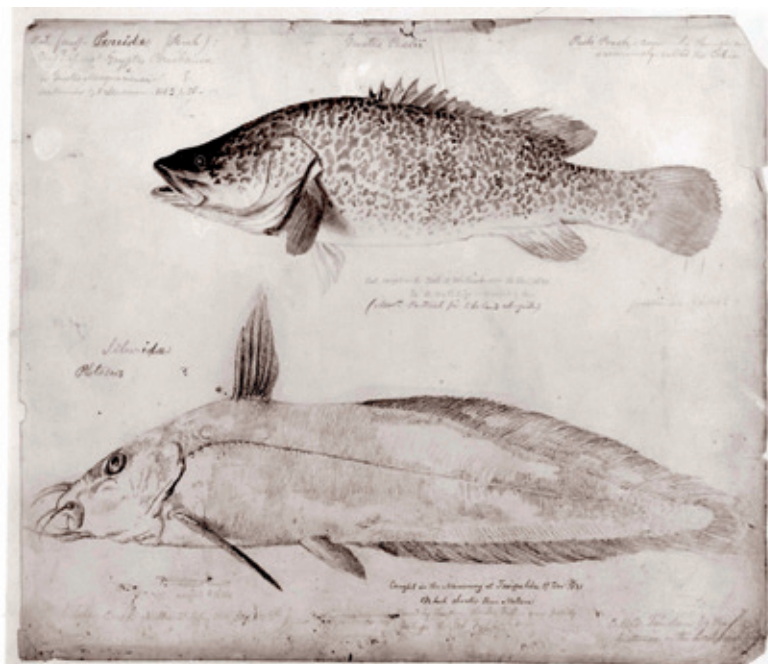
**Stuart J Rowland**

Principal Research Scientist (Ret.) NSW Fisheries

### Overview of presentation

*No fish is more Aussie than the Murray cod: it is endemic only to Australia; adapted to the harsh inland environment of floods and droughts; fossils that are tens of millions of years old; prominent in the mythology and culture of Aborigines; caught and eaten by explorers; scientifically named after the Peel River by Major Mitchell in 1831; a major food item and revered by early inland settlers; the basis of Australia's first large-scale commercial fishery and an extremely popular recreational species; the subject of tall tales and folklore; a large, aggressive, green and gold, apex predator that is a key part of inland aquatic ecosystems, with an aura that makes it "the fish" and the icon of the Murray-Darling River System.*

According to Aboriginal mythology, the Murray cod "Ponde" was responsible for the formation of the Murray River and was the origin of all native fish in the Murray-Darling River System (MDRS). Murray cod grows to in excess of 100kg, and its size and abundance amazed early explorers and settlers. A large commercial fishery commenced in the mid-1800s, based mainly on the Murray and Murrumbidgee rivers; however, concerns about cod were expressed as early as 1880 and the fishery declined to low levels by the 1960s. The distribution and abundance of cod were significantly reduced, and the species disappeared from some rivers



Sketch of Murray cod and catfish from Major Mitchell's field note book, dated 13 December 1831. Mitchell named the cod *Gristes Peelii* after the Peel River, near the present site of Tamworth (Photo David Rodgers, courtesy Mitchell Library).

and areas (e.g. Northern Tablelands of NSW). To re-establish populations, increase abundance, enhance fishing opportunities and provide a basis for long-term management, research into the hatchery production and biology of Murray cod commenced in the late 1970s in NSW and Victoria.

Research findings suggested that the following factors contributed to the decline of Murray cod: overfishing between the late 1800s and 1930s; fish kills resulting from the use of toxic chemicals such as arsenic in the early and mid-1900s; predation by, and competition with redfin (*Perca fluviatilis*) in the 1950s and 1960s in southern tributaries of the





Recreational fishers, the late Ike Rowland and the late Gus Yates both of Tamworth with their catch of Murray cod from the Barwon River in 1962.

MDRS; reduced survival and recruitment of larvae and juveniles due to the effects of river regulation since the 1950s; and general habitat degradation.

Murray cod is found naturally in habitats ranging from small, clear, rocky streams on the Tablelands to the turbid, slow-flowing rivers, creeks and lakes of the inland. There are at least four genetically-distinct populations throughout the MDRS. Murray cod is a long-lived species. Otoliths and opercular bones were used to age individuals; growth in length is asymptotic, whereas growth by weight is linear. Growth is similar between males and females, and between rivers (roughly 1kg/year), but significantly faster in impoundments. In rivers, males and females mature sexually at 4 or 5 years-of-age, when 50-60 cm in length and 2-4kg. There is some evidence of senescence in large cod (> 1m and 35kg). Murray cod has a complex

reproductive strategy involving: annual breeding and contributions from many year-classes each year; site selection and preparation by males; movement by some adults (up to 200km); spawning of large (3mm), adhesive eggs on hard substrates, generally in sheltered "nests" during spring when water temperatures rise from 16C to around 20C; paternal protection of eggs and larvae (probably involving learning and experience); a relatively short breeding season (4-6 weeks) that varies latitudinally commencing in August in the northern border rivers region and as late as November in the south; and recruitment enhanced by high river levels and floods. Hatchery techniques were developed at government hatcheries in the early 1980s, and then transferred to a new commercial industry. There are established standards for hatchery best practices, and for health and genetic management. Commencing in 1978, many millions



of Murray cod fingerlings have been stocked throughout the MDRS by NSW Fisheries, Victorian Fisheries and numerous stocking groups. In 1992, fisheries regulations were introduced in NSW and then other states (closed season of September to November, bag limits, size limits) and in 2001, the NSW commercial fishery was closed.

Numbers began increasing in the mid-1990s, and over the last 20 years there has been a significant recovery of Murray cod in many parts of the MDRS; much of its distribution has been restored and it is now very abundant in areas where it was once extirpated! We now have a magnificent, high-profile and economically-valuable recreational fishery that is based on catch-and-release; a dramatic change from the old “meat fishery” of past decades.

The recovery of Murray cod is a fisheries research and management success story, and

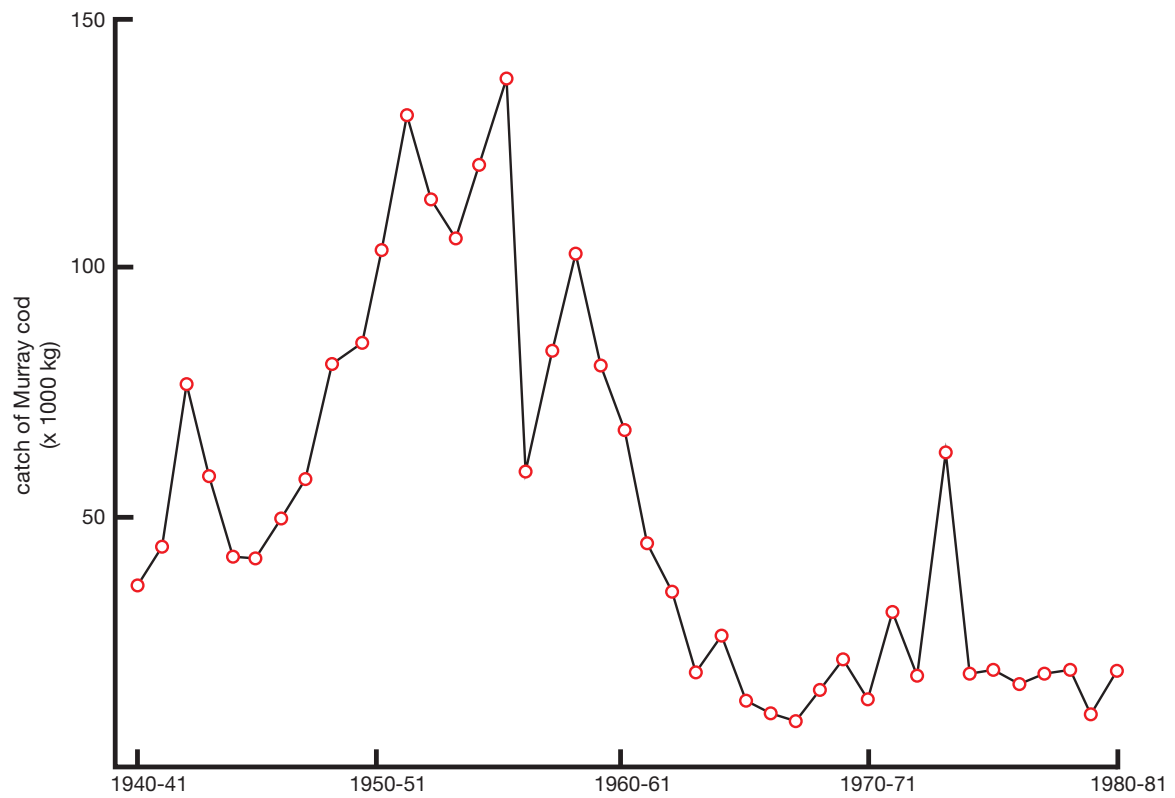
demonstrates the value of vision, long-term planning and commitment, and co-operation between government agencies, recreational fishers and the public.

However, there are still some areas of concern e.g. very low abundance and abnormal size structure in the lower Murray River in South Australia, poor stocks in some regulated, degraded rivers, and periodic fish kills. The long-term survival and evolution of Murray cod, and the maintenance of healthy fisheries depend on: (i) regular stocking in impoundments, in regulated, altered and degraded habitats in areas where cod are not breeding or recruiting successfully and where cod are rare or absent; and (ii) continuing efforts to rehabilitate habitat, modify temperature regimes below impoundments, provide fish passage, minimise pollution and reduce exotic fishes.



Sampling Murray cod in northern NSW in 1982 with the help of recreational fishers; (L-R) the late Kevin Mephram, Dr Stuart Rowland (with a cod), the late Gordon Winter (standing), Col Graham and Kevin Clarke. (Photo Ray Mephram).





(Source: annual reports, N.S.W. State Fisheries Department)  
Total annual commercial catch of Murray cod from inland waters in NSW from 1940 to 1981



Murray cod recovery is a fisheries research and management success story. Photo Credit: Robbie Alexander

# Murray cod stocking - The Victorian story

**Anthony Forster**

Manager of Freshwater Fisheries, Fisheries Victoria

## Overview of presentation

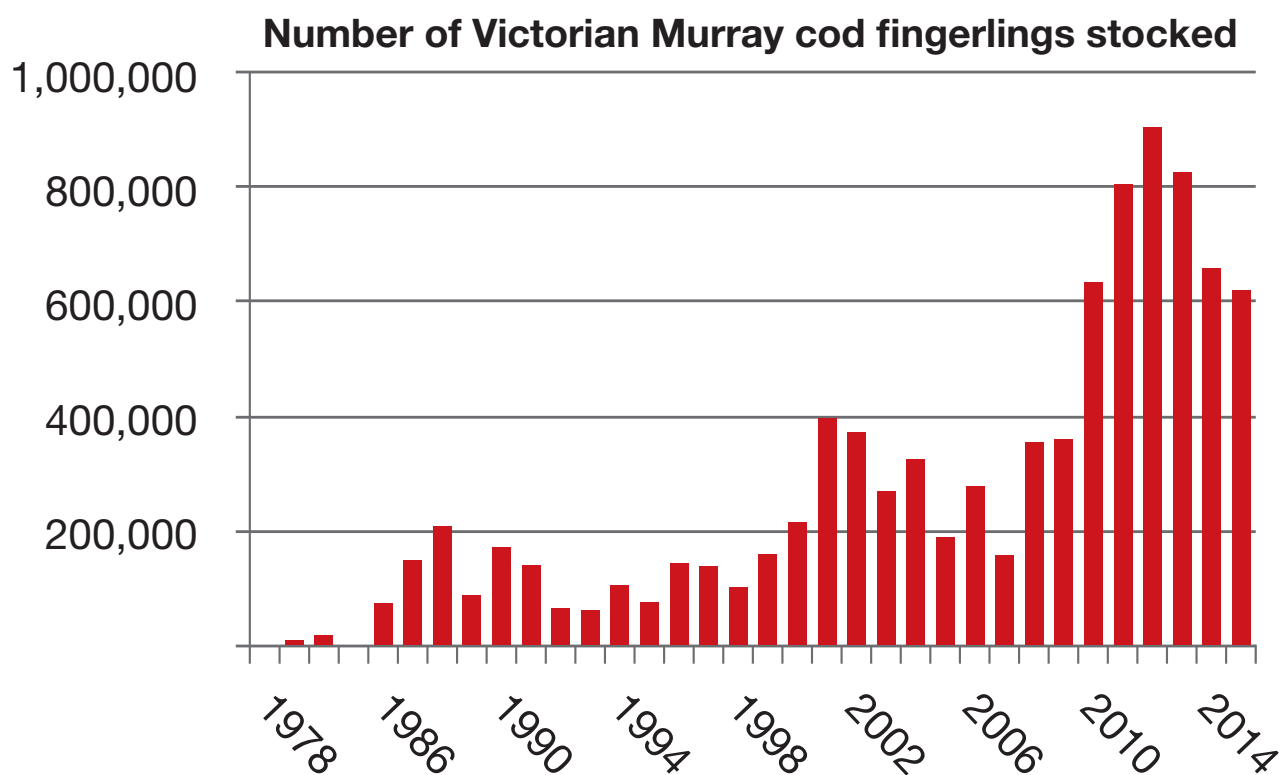
### Our fish stocking journey

It wasn't until the 1970's and 80's that reliable methods for breeding Murray cod were developed at government hatcheries like Snobs Creek (established in 1957). Before then, anglers, masquerading as acclimatisation societies, caught and transported wild Murray cod in milk vats by horse and cart and stocked them throughout Victorian waterways. Some of these translocated populations still thrive today in waters outside their natural range, such as the Yarra River. These days, Fisheries Victoria stocks more than 600,000 Murray cod fingerlings a year into around 30 waterways including lakes and

rivers north of the Great Dividing Range. Most of these fish are bred at Snobs Creek hatchery.

### Why stock Murray cod?

Our stocking effort acknowledges the diminished capacity for Murray cod to breed in our highly modified waterways, many of which are impacted by ongoing habitat degradation. Large water storages stop fish migration, cause siltation, change water temperature and reduce the frequency of flooding. Irrigation demand reverses seasonal flow patterns and de-snagging has removed critical woody habitat. Add to these aquatic pests like carp and its clear, environmental impacts





combine to reduce native fish breeding, survival and migration of Murray cod. Most of our key native recreational fish, including Murray cod are listed as threatened nationally and in Victoria. In this context, stocking of native fish is an important tool to preserve fish populations while we invest in the slow journey of reversing two centuries of environmental mismanagement.

Beyond our aspirations to recover wild Murray cod river populations, we also stock Murray cod solely to improve recreational fishing, particularly in lakes and impoundments. Over the last decade, many of these waters have yielded great Murray cod fishing and represent an extraordinary fisheries management and angling success stories. For example, between 2011 and 2013, Fisheries Victoria

stocked more than 1 million Murray cod into Lake Eildon. This “Million Murray cod project” success story has also played in other stocked water including: Kangaroo Lake, Lake Nagambie, Lake Nillhacootie and others. Fishing for Murray cod in Victoria has come a long way in the last decade and the fruits of this labour are only starting to come through in the catch rates of recreational fishers.

### **The fish stocking & habitat synergy**

Some old school conservationists believe stocking “masks” the need for habitat restoration, but the reality is, fish stocking and habitat restoration are both important strategies, in fact combined they are even more powerful. Others highlight the risks of fish stocking; disease transfer, impact on genetic integrity and stocked fish eating threatened species.



The Ovens River doesn't need Murray cod stocking because it has natural flows, great habitat and good connectivity.



These issues are important and are effectively managed through national and state translocation guidelines and protocols, independent evaluation panels, hatchery accreditation programs and ongoing scientific review. By using the progeny of wild sourced Murray cod brood stock, Murray cod populations are recovering and are readily able to capitalise on habitat restoration outcomes that improve connectivity and restore snags that cod so desperately need to feed and breed. Through careful hatchery management, hatchery reared cod are indistinguishable from wild stocks.

### **Smarter stocking**

Fish stocking is popular among anglers and government alike but it's an expensive business. To ensure value for money and better return for anglers, Fisheries Victoria is working to better

understand and maximise returns from Murray cod stocking. After stocking more than 1.3 million Murray cod in Lake Eildon over a three year period, we know 99.6% of Murray cod surveyed from this water were from fish stocked in the those three years and not from wild populations. Fisheries Victoria is also working closely with other Fisheries jurisdictions on a basin-wide proposal to establish a genetic library of hatchery native fish brood stock. This will enable us to take a fin clip from a river fish (rather than killing it) to determine if it's naturally bred or was once reared in a hatchery. With this, we can better evaluate the effectiveness of stocking and stock where it works best.

### **Target One Million**

The State Government has shown unprecedented support for fish stocking through its Target One



Lake Eildon is following on the footsteps of Copeton Dam (NSW) as a premier fishery for big Murray cod. Photo Credit: Josh Trew



Million commitment to increase fish stocking from 3 to 5 million fish a year by 2018. To meet this target, Fisheries Victoria is increasing Snobs Creek Murray cod production and will continue to enhance recreational fisheries through stocking, building on the recent knowledge gained from large-scale stocking evaluation programs. All of this is being done in consultation with anglers through the Vic Fish Stock regional stocking consultation program.

### **A partnership approach**

Implementing Target One Million stocking targets presents a unique opportunity to rebuild Murray cod populations. Anglers are also investing in fish stocking by providing funding through the sale of Victorian Recreational Fishing Licences. Anglers value fish stocking because it has a strong reputation for developing high quality recreational fisheries.

When I reflect on how far our Victorian Murray cod fisheries have come over the last decade, I think of Lake Eildon. Lake Nagambie, Kangaroo Lake, Lake Nillhacootie, Lake Eppalock and Lake Buffalo. I can also vouch for some sensational cod fishing in the Goulburn River. All of these waters have greatly benefitted from Murray cod stocking.

Importantly, the biggest driver of our Murray cod recreational fisheries is the productivity that comes from quality fish habitat. Without this foundation, no amount of stocked fish will make a difference. So, as we expand and refine our stocking program let's make it count by continuing to invest and advocate for the long term restoration of our aquatic habitat. If we get this right, we will leave a wonderful fishing legacy for our retirement and our children's, children.



Photo Credit: John Cahill

# Stocking Murray cod in NSW

## Cameron Westaway

Senior Fisheries Manager of Inland, Recreational and Indigenous Fisheries, NSW DPI Fisheries

### Overview of presentation

Breeding techniques for Murray cod were developed in the early 1970s by John Lake and Stuart Rowland at the Narrandera Fisheries Centre. Since then we have stocked over 12 million cod in over 900 sites through the public waters of NSW with an average of 640,000 each year over the last ten years. (Graph 1)

Since 2005, all stockings in NSW are carried out in accordance with the Fisheries Management Strategy and the Hatchery Quality Assurance



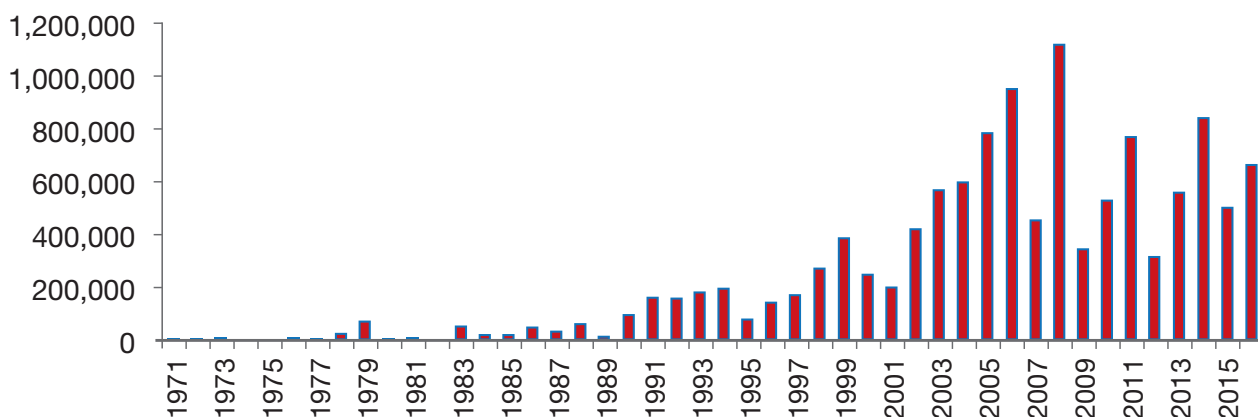
Program (HQAS) meaning concerns around genetics, disease and threatened species risks are all addressed. Murray cod spawn in artificial “nests” or “drums” containing tagged adults from the correct genetic zone, and after hatching and rearing to first feed in the hatchery, they are grown out in fry ponds and exposed to the natural environment. This means the stocked cod are as close as possible to wild fish and are basically indistinguishable from wild fish other than they had favourable hatching and larval rearing conditions.

Why do we stock? To re-establish populations, to overcome recruitment bottlenecks due to changed environmental circumstances, to enhance fisheries, for research and because stocking works.

Declines in cod numbers meant they were in very low levels in many of our river systems and with disease/overfishing events sometimes became locally extinct. Cod are still not in many sub alpine areas that they used to inhabit. Cod do not recruit in many impoundments and cold water pollution,

(Graph 1)

### Number stocked per year (NSW)



barriers to fish passage, loss of habitat and poor water quality means that while cod spawn essentially throughout their range they continue to suffer recruitment bottlenecks at the larval stage and stocking of juveniles addresses this bottle neck.

Research on Copeton Dam with calcein marked fish showed that the cod population in that dam was almost entirely based on stocked fish and led to the decision to remove that dam from the spawning closure which has been a great success and we are currently testing to see if the Blowering Dam fishery also relies on stocking.

But we don't need to stock everywhere for ever. The graph shows that stocked cod make up between 6 and 15% of young fish sampled in three river systems in southern NSW versus Copeton Dam (*Graph 2*). Note some of the unstocked fish could have been immigrants from elsewhere.

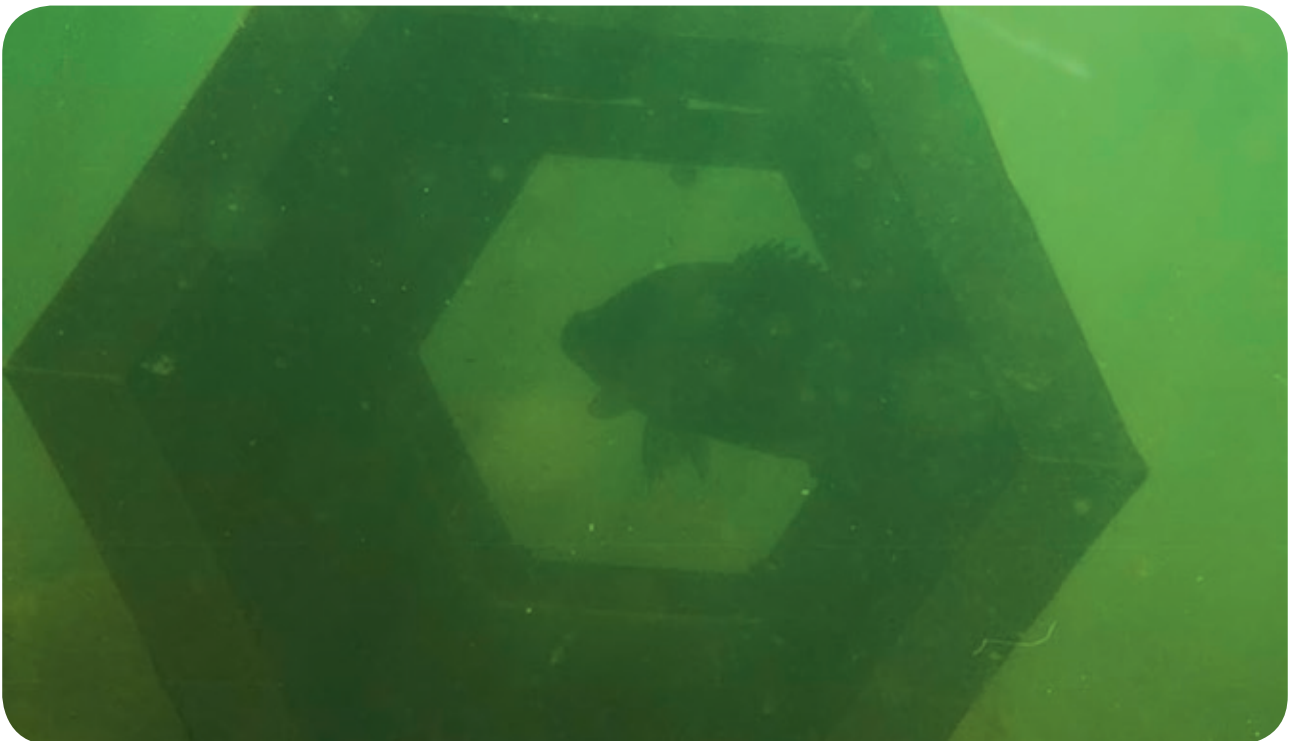
We haven't stocked Lake Mulwala to Tocumwal with cod for many years and we ceased stocking in the Dumaresq river above Bonshaw in 2006/07 due to concerns about density reducing



Murray cod larvae

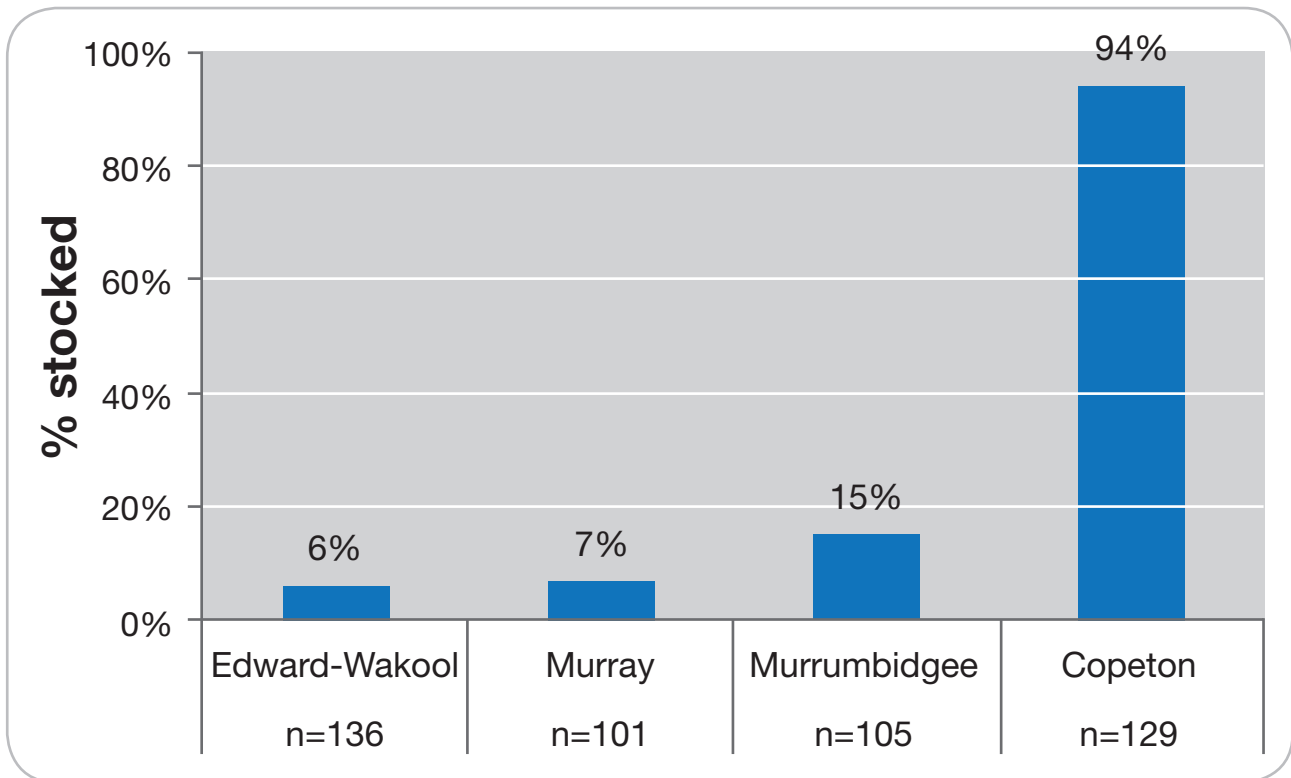
growth. Very different systems but both have unregulated tributaries with good habitat. Both these systems support very good fisheries with Catch rates of 0.288 fish per hour and 0.219 fish per hour for Mulwala and the Dumaresq which means a fish every 3 to 4 hours (*Graph 3*). These are high quality fisheries but they rely on good fisheries regulation management such as bag and slot limits and seasonal closures.

So we know we have good sustainable fisheries with some natural recruitment or wholly based on natural recruitment, noting that many of these recruits are

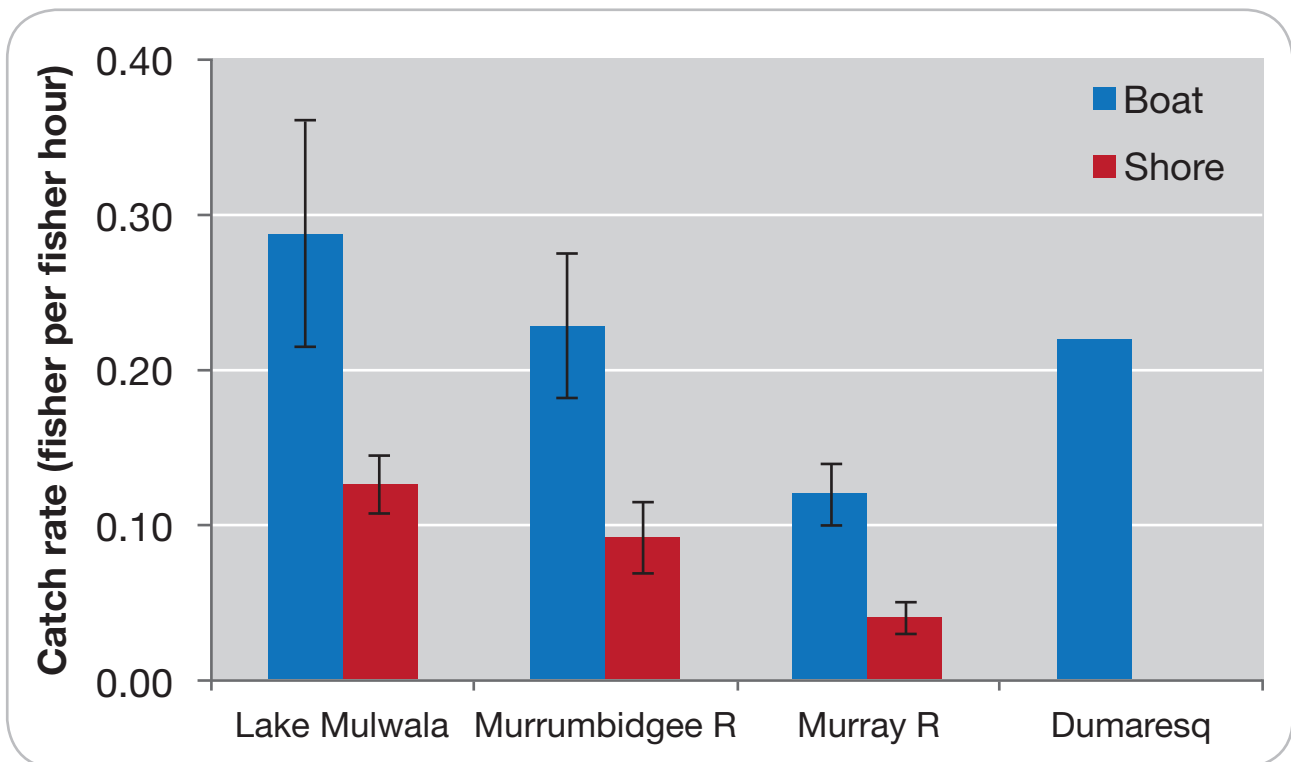


Murray cod in spawning drum

(Graph 2)



(Graph 3)





probably descendants of fish stocked over the last 20 years which have built up a critical mass.

There are still many areas where we think recruitment is poor or where cod haven't re-established or where they have suffered declines e.g. black water.

Bottom line, stocking with quality fish works very well, it may eventually be redundant in some places

if we build up critical mass. But only if we have good fisheries management in place and the reasons for the initial decline/recruitment bottleneck are no longer in place or we can identify them and fix them. But we are not sure of what the bottle necks are (other than generally) in order to fix them and every area is different (need targeted research based habitat rehabilitation) and in some places we can't fix them and are going to have to stock for ever.



Murray cod eggs from spawning drum

# Habitat restoration, fishways, environmental flows and cod outcomes

**Jarod Lyon** - Principal Research Scientist, Arthur Rylah Institute

**Emma Coats** - Engagement Coordinator, Victorian Environmental Water Holder

## Overview of presentation

Anglers know that healthy waterways with good structure and flow contain the best fish. In addition to being great places to fish, many people like nothing better than being able to camp next to a stream for a few days and spend time unwinding and taking in some great fishing whenever the need arises. Rivers with good habitat, river flow and connectivity to other populations (like the lower Ovens River, the Murrumbidgee Creek and the Gunbower Creek) rank continuously amongst Victoria's best cod fisheries.

Snags are equivalent to marine reefs, providing critical habitat for many plants and animals, from microscopic bacteria, fungi and algae through to large native fish. Snags are the places where the greatest numbers and diversity of organisms occur in lowland sections of rivers and so have an important influence on river health. An appropriate flow regime can trigger spawning and provide

cues for fish to move to feed and breed.

Environmental water can be used to achieve this. By allowing fish passage at barriers like weirs and regulators, populations of cod can flourish.

Australia has a chequered history when it comes to looking after our rivers, it is a history that includes desnagging, creation of dams and weirs, and introduction of introduced species like carp. Fortunately over the past 25 years, strong community support for river restoration, and fishery restoration and enhancement, has seen the tide turn, so that governments now invest large amounts of funding into restoring areas where fish live in a way that promotes sustainable fish populations. In this presentation, we take a look at some of the restoration methods being used, why they are important, and describe how anglers can get involved in, as Donald Trump would say, "making our rivers great again".









# The slot limit revolution

## John Douglas & Taylor Hunt

Fisheries Managers, Fisheries Victoria

### Overview of presentation

Catching a one metre plus Murray cod is the goal of many freshwater anglers. But, while many anglers seek this prize, only a few have actually obtained it. One of the issues making it difficult to reach this goal is that there are just not that many of these larger fish in the system. So what can be done to increase the number of larger fish and improve our chances of tangling with an iconic giant? There are moves underway to further improve the cod fishery in Victoria and increase our chances of catching those metre plus cod. The secret is in how we regulate the fishery.

Larger Murray cod were common in the past, as seen in the old explorers manuscripts and on many pub walls across the north of the state. However, due to many reasons, Murray cod populations took a dive and through the 1970's they were very hard to come by. Fast forward to today and things are looking up as there has been a resurgence not only in cod numbers but also in distribution. Better water management, improved catchment practices, reinstalling habitat and fish stocking have rejuvenated the fishery and now many people can target Murray cod across northern Victoria. Anglers are getting success in a range of waters from lakes like Eildon, Hume or Eppalock, and in rivers like the Goulburn or Loddon, and in numerous other places.

So things are looking good, but what about those metre cod? What have we learned from the past in terms of how to manage Murray cod and what can we do to improve things? The old cod fishing regulations protected the juvenile fish up to when they matured, so they could breed once, and then they were allowed to be taken. However, these regulations actually worked against the bigger



Anglers can expect to see more metre long cod like these as the slot limit revolution takes hold

older, breeding fish and the result was that there were few adult fish kept in the system. Keeping this style of regulations would not change the fishery, or our angling results, so something had to be done to capitalise on the Murray cod revival.

New ways of looking at long lived fish-like Murray cod showed that “slot limit” regulations were possibly a better way to manage such fisheries. Slot limit regulations allow some harvest of fish from within a certain size band (slot length) and protect the fish outside of the slot like the very young and the older, larger fish. Slot limits work in two ways:



1. They protect the larger breeding fish, as they  
a) produce many more eggs and are better breeders than smaller fish, and b) are the “trophy” fish that anglers want to encounter more often.

2. They limit the time that each fish is vulnerable to fishing. As the fish grow faster when young, slot limits result in fish only spending a shorter time vulnerable to anglers. This allows the harvest of some medium sized fish, meaning anglers can still take a feed if they choose to do so.

Fisheries Victoria worked with researchers to model the impacts of slot limits on cod and were convinced that such regulations were the way to go. The models show that more fish will enter the protected broodstock population and the result will be more larger fish in the system. While the managers were convinced, it was also important to see what anglers thought about such regulations, so Fisheries Victoria took the concept out to anglers. After considerable public consultation, anglers saw the benefit and supported the introduction of Murray cod slot length regulations into Victoria.



Catching a metre Murray cod is the ultimate goal for many freshwater fishers

So now we have the situation where people can still take a cod to eat if they want but there will also be more larger fish. This in turn will produce better recruitment and thus more fish. The modelling shows that within a few years the number of large cod being caught by anglers will dramatically improve. So thanks to some innovative regulations resulting in more large fish in the system, we all now have a much greater chance of catching that metre cod.



Is it legal or not? If you want to keep a cod for the table, know the cod slot limit regulations before you go.

# Countdown to carp control - Benefits, progress, and opportunities for involvement.

## Matt Barwick

Coordinator of National Carp Control Plan, Fisheries Research and Development Corporation

### Overview of presentation

Carp are generally recognized as a significant factor impacting on the quality of recreational fishing opportunities in our inland waterways and aquatic ecosystem health. Research undertaken over the last eight years with funding under the Invasive Animals Cooperative Research Centre has identified a species-specific virus known as Cyprinid herpesvirus-3 (hereon referred to as the carp virus), as a potential option for the biological control of Common carp in Australia.

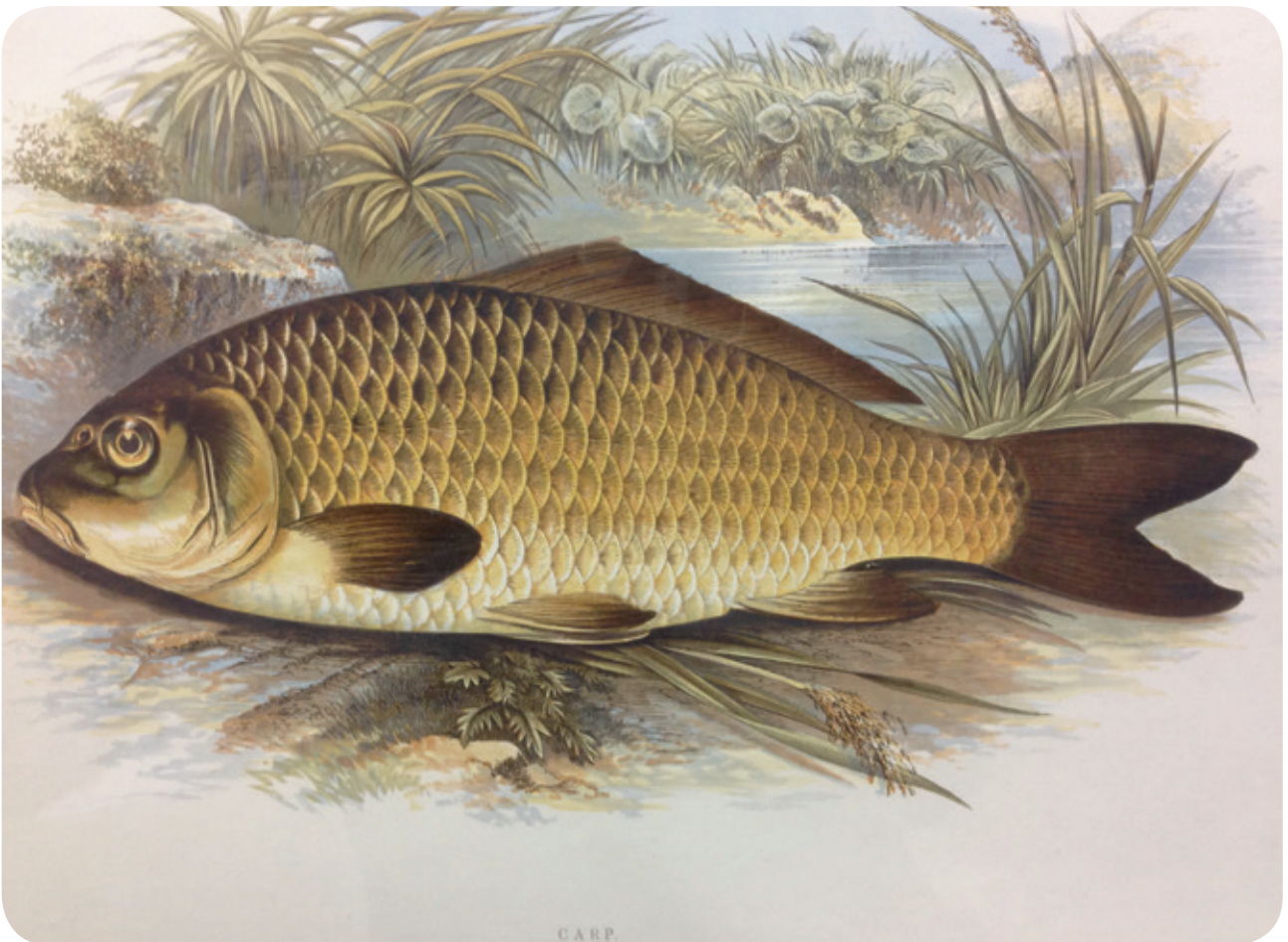
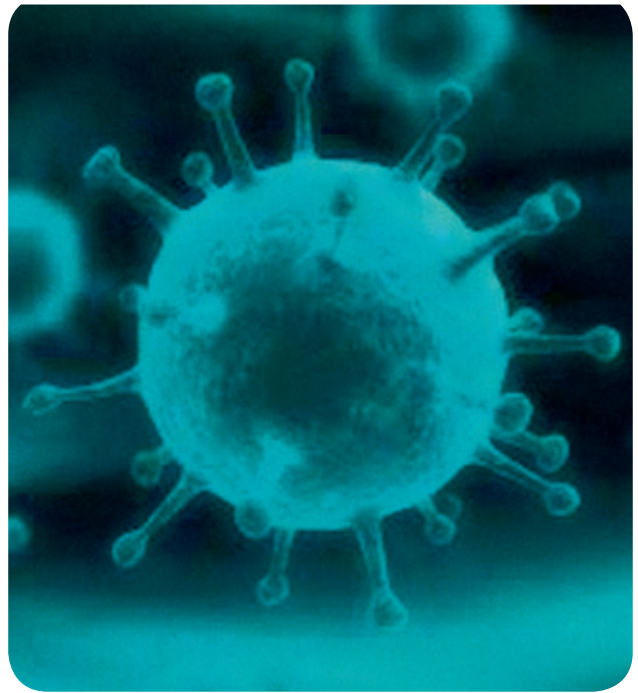
The Australian Government has committed \$15 million to enable planning, research, consultation and risk assessment activities to be undertaken over the next two years. Information

collected during that time will then inform discussions on whether to proceed with plans to reduce carp impacts through biocontrol. If approved, this initiative will be one of the largest pest fish control initiatives undertaken globally.

Matt Barwick was recently announced as national coordinator for development of the National Carp Control Plan with the Fisheries Research and Development Corporation. Matt will be discussing what is known about the virus, likely benefits, and opportunities for Australian recreational fishers to take part in one of the biggest ecological rehabilitation programs ever undertaken for Australia's freshwater fish.







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# Murray cod fishing - How things have changed

## Rod Harrison

Murray cod fishing icon

### Overview of presentation

Rod Harrison is the quintessential Australian. The former shearer and front line cop began his love affair with the Murray cod with serial truancy. Following those Huck Finn days he set out for the dust, sweat and shears of the big sheep stations along the Lachlan, Murrumbidgee and out on the Darling.

There he shared a boat built from a pair of welded FJ Holden bonnets with a colourful shearer nicknamed The Witchdoctor who'd cut blades from a sheep dip tin and fashioned them around a spoke from a bicycle wheel. Until he knew better

and turned his aim to feral cats and foxes, Rod shot the colourful parrots decorating the hook.

Hanging in the meat house, the cod caught on these crude aeroplane spinners resembled dressed sheep.

The good money from shearing and the freedoms of an itinerant lifestyle allowed pursuits like hunting and bird watching, And the latest in rods, rifles and lures.

The realities of marriage and a small family were seismic. Rod found himself pounding a beat in inner Sydney for a third of the money he'd make shearing.







A variety of extra jobs to make ends meet included writing magazine articles about rivers and the bush. His first published works were in 1970 - "Lure Fishing and Inland" and "Sportfishing the Murray cod." It was a time when heads of fisheries in NSW and Victoria lamented the lack of native fish of any sporting worth.

Since his "retirement" to full time fishing with a catch and release ethos, Rod has become synonymous with the Murray cod and fascinating variants. He numbers with the few who are hands-on with waters as varied as the Murray/Darling rivers, stocked impoundments, coastal river gorges, hinterland wallum, and channel country waters filling Lake Eyre.

# Targeting big Murray cod

## Rod MacKenzie

Renowned big Murray cod fisher

### Overview of presentation

In a nutshell catching giant Murray cod is like a recipe, in that the more ingredients you have right, the more likely your chances of success. The euphoria derived from landing these giant native fish is available to each and every angler that has the mind to wet a line. This short presentation will run through more than two decades of on water time working out what it is that makes these giant fish tick. A track record of over two hundred metre

plus Murray cod has provided a great insight into where, when and how to target these fish including both natural and manmade stimuli that can switch them on or off the bite at the drop of a hat. A breakdown of the gear required including tackle, bait, lures and fly, and how to tinker things to work more effectively. All up it will be a crash course in catching giant Murray cod packed into 20 minutes.







# Toward better handling practices - A Vet perspective

## Dr Paul Hardy-Smith

Aquatic Veterinarian (Panaquatic)

### Overview of presentation

Fishing is a wonderful pastime. We are extremely lucky in Victoria to have so many high quality species of fish, both saltwater and freshwater. The Murray cod is one of these quality freshwater fish. It is quite likely that over the next few years we will see more and more bigger Murray cod being caught. Of course, with the slot limit in place, any Murray cod over 75cm in length (and under 55cm) must be released if caught. While we must release such fish, we must also make sure any fish that we release swims away strongly and quickly recovers. To do this it helps if we, as anglers, understand the fish itself and how it lives.

We need to know why, for example, pulling a cod backwards in the water actually reduces its ability to recover after being caught because of the way the blood flows in its gills. This presentation, given by a veterinarian who is also himself a keen angler, explains these things to assist other anglers in better understanding the mighty Murray cod. The presentation goes on to suggest a set of guidelines, based on this understanding, that anglers can adopt to ensure they reduce unnecessary stress on any cod during its capture and release and in so doing help continue to ensure the well-being of this great Australian freshwater fish.





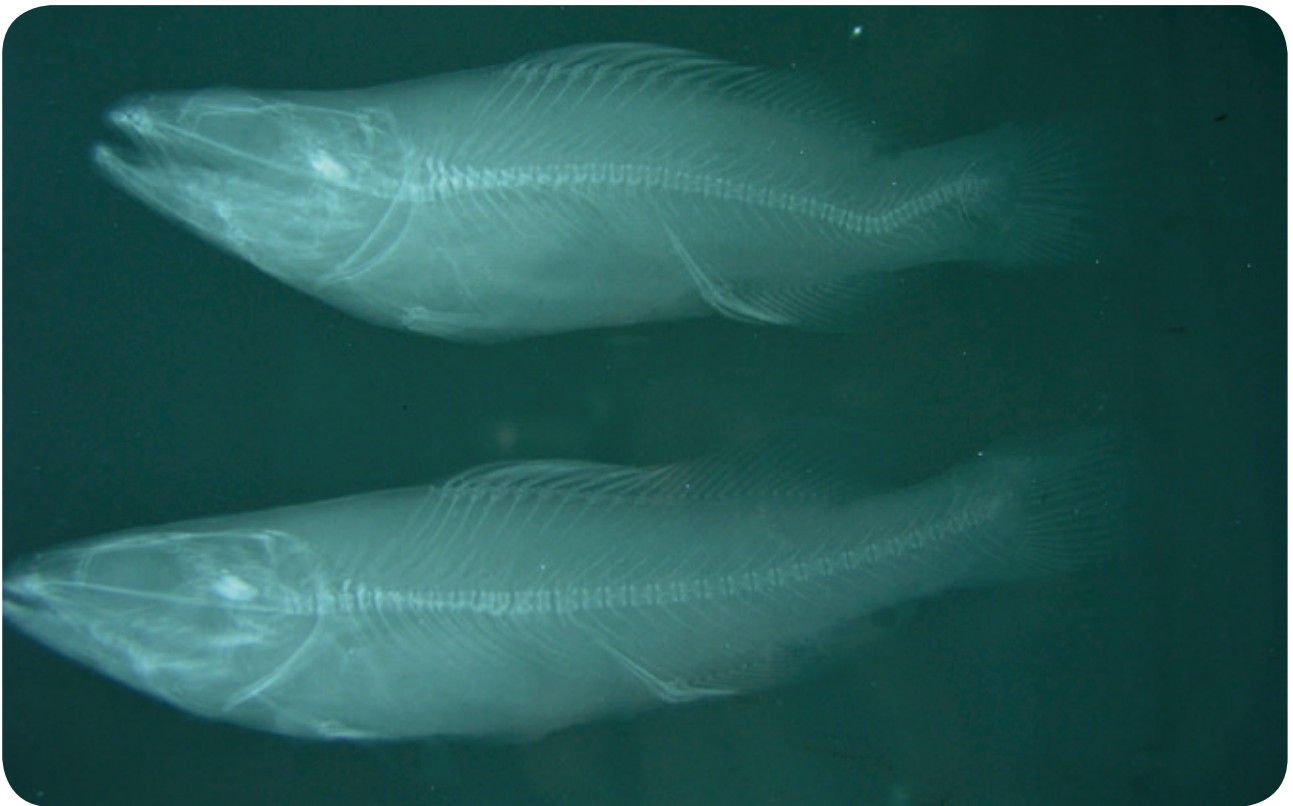






Photo Credit: John Cahill



Josh Trew with a Murray cod caught on surface at Lake Eildon in November 2016. Photo Credit: Josh Trew





Photo Credit: Robbie Alexander



Photo Credit: Peter Howell

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