

# Burnanga



THE MIGHTY MURRAY COD



My Story

# Why the name Burnanga you ask?



Well, it is one of my many indigenous names.

The Yorta Yorta people call me this. They call the mighty river I live in Djungala. You may know it as the Murray River.

You will have been in Yorta Yorta country if you have visited Cohuna, Echuca, Shepparton, Benalla, Corowa, Wangaratta or Deniliquin.

Why am I telling you my story?

Because I want you to know:

- how special I am (in oh so many ways and to oh so many people)
- how important I am to the environment and how important the environment is to my kind
- how you humans are helping to restore my homes and rebuild my numbers  
*and*
- about some hot fishing spots where you can try to catch us.

My little book gives you the basics. To learn more about me and my kind use the QR code.

It will take you to some fun activities, some fishing tips and link you to fascinating information.

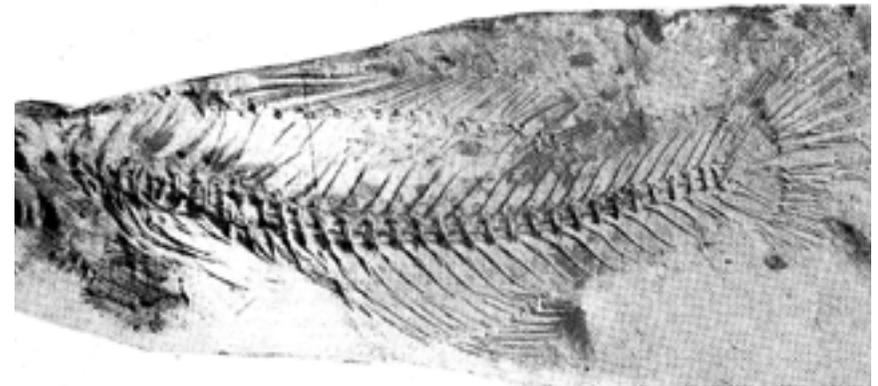
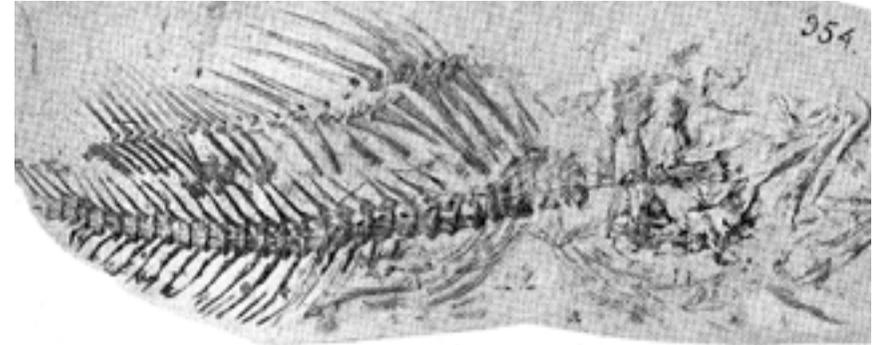


# Millions of years in the making

We've been here a long time. Fossils show my ancestors were living in the rivers and lakes sixty million years ago. The dinosaurs had just gone extinct and Australia was tropical and covered in forests. Victoria was a bubbling cauldron of volcanic activity.

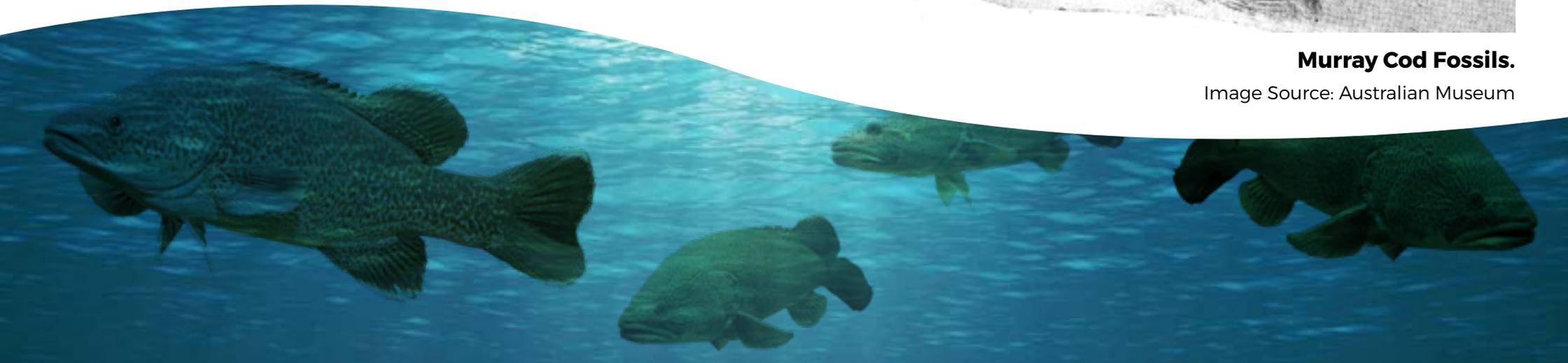
Some 44 million years later, Australia is drifting northwards. While the climate is still warm, it is cooling and drying. Some of my kind get trapped in a drying out lake and are fossilised. They share this world with clever-headed crocodiles, thunderbirds, and strange 'Thingodontans.'

Since then we have seen an ice age come and go, the mega-fauna evolve and go extinct. We watched the first humans arrive in Australia and live beside our rivers. After all this time, in the 21st century, our home is still the inland rivers and lakes of the Murray Darling Basin.



**Murray Cod Fossils.**

Image Source: Australian Museum





# I am THE fish of the Murray Darling Basin

## **I am important and valued for many reasons.**

My most important value is the one I have in the environment.

I'm the top predator – nothing messes with me! Thriving Murray cod populations means the rivers are healthy. Healthy rivers mean Murray cod paradise.

Around 60,000 years ago, people came to Australia, and my value grew as I became the subject of many creation stories.

I astounded the early colonists with my number, size, and taste. This led to them telling tall tales about my majesty, cunning, and ability to outwit fishers and my legend grew.

Australians who live, work or play along the inland rivers love me. Fish farms grow and sell me to restaurants. Recreational fishers spend many millions of dollars trying to catch me.

# I'm ginormous...

## The largest freshwater fish in Australia by far!

Don't know the dimensions of a ginormous Murray cod?

Imagine a fridge. The most ginormous Murray cod ever caught was 'fridge' sized. This whopper was 1.8 metres long and weighed 113.6 kilograms!

Found in 1902, the ginormous Murray cod may have been between 76 and 114 years of age. So it may have begun its life in 1788. That was the year the First Fleet arrived in Port Jackson. It was alive when Charles Sturt charted the Darling River in 1829.

I grow very quickly length-wise, for about the first 10 years of my life. Then my length-wise growth slows as I expand. I put on weight around my belly. If you want to know if I am an older citizen, check my weight!

How long I live and how large I get depends on where I live in the Basin, the quality of my home and if there is plenty of good tucker about.



**44kg murray Cod caught near Corowa, NSW in 1924.**

Image Source: National Library of Australia.



# I'm fussy about my home

As an adult, I love slow-moving, warm, murky waters. I hang around in deep holes next to undercut banks or overhanging plants. I must have lots of fallen timber (snags) or rocks in the water. These safe places are somewhere to lurk. Most of us live within one metre of a snag!

I often take an annual river trip. I leave my home and travel long distances to find a mate and the best spawning and nest site.

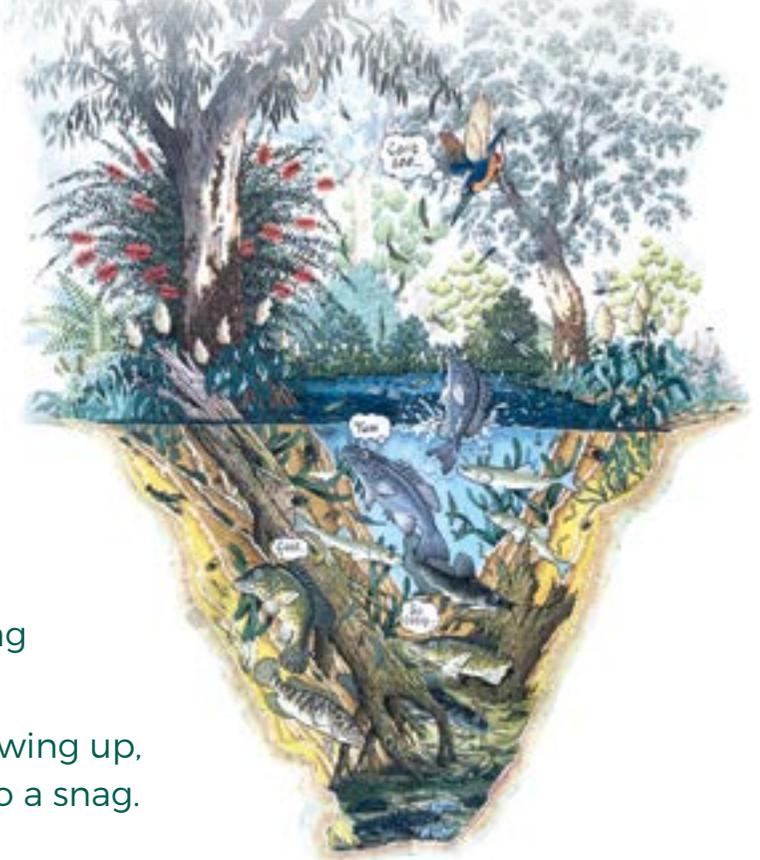
After hatching, my bubs stay near the nest and gather with other little cod larvae, safety in numbers!

As the bubs grow they need water that is not too cold. They also need the riverbanks to be covered with lots of plants. In healthy rivers my bubs find the plankton, water insects, and other food they need to eat.

As they drift downstream with the current, my bubs need connected river systems. Often my little ones will travel hundreds of kilometres before finding their forever snag.

After the bubs leave the nest, my job is done and I usually return home. Growing up, my bubs behave more like their parents, living alone in their territory, next to a snag.

## Fish need trees!



**Illustration by Paul Lennon**

Image Source: State of Victoria.

# I look after the bubs

The Mumma cod lays her sticky eggs in a 'nest' on hard surfaces. Hollow logs, flat rocks, snags and the river bottom can all be nest sites. She then leaves them in the capable fins of me - their Poppa.

This is my time to shine. I fertilise the eggs and fiercely protect them, chasing away notorious egg thieves like turtles and fish. Poppa cods are also clean-freaks! A good fanning with my fins keeps the eggs clean and healthy.

Size does matter when we are producing the next generation of little cod. Generally, the bigger the Mumma cod, the better!

In my world, eggs are not all created equally! And where our future is concerned, only the best eggs will do.

Large Mumma cods make enormous batches of the best eggs.

Just how big is a large Mumma cod, you ask?

Over 75 cm long!





# Me and my big mouth

**if it fits, I'll swallow it**

I'm not a fussy eater! My kind will eat anything that fits into our large bucket-shaped mouths. We usually eat fish, yabbies, spiny crayfish and mussels. Turtles, frogs, birds, mice, and snakes are also things I will cheerfully chomp down on. I won't say no to the occasional kookaburra, possum or bird's egg either!

At a metre long, I can open my mouth a massive 13 cm. Not impressed? Imagine a soft drink can. These are about 13 cm high. Most adult human mouths only open 5 cm! (Told you, 13 cm is impressive!)

I am an ambush predator, patiently sitting and waiting in my watery lair for my food to come near. A flick of my powerful tail and I'm not so hungry anymore!

Very little escapes my ensnaring mouth. This is because it is lined with heaps of needle-sharp teeth. My teeth resemble the bristles of a brush.

We shouldn't eat knives, golf balls, soft drink cans, or margarine containers; but alas, some of us do! Swallowing these things can kill us. I wish you humans would be more careful with your stuff!

I am also partial to bardie grubs, freshwater shrimp, earthworms and hard-boiled eggs. Fishers like to feed me these!



**Every now and then one of us gets tricked into swallowing a fisher's lure (a thing pretending to be food we like to eat)**

Image Source: M. Ainsworth

# The past 200 years have been a bit rough...

Can't lie, it hasn't been paradise for us Murray Cod for a while now.

After millions of years, my species is in trouble. You humans have changed our world too quickly for us to adapt.

Nowadays, our oldest ones only live to be about 48 years old, and our numbers have dropped by about a third across our home range. We face some enormous challenges. My species and my river system desperately need some TLC.

Humans have listed my species as 'Threatened' in Victoria.

## **Burnanga diary extracts.**

### **the mid-1800s to 1880s:**

I'm so tasty I'm being eaten to extinction! Slight exaggeration - but no one thinks our numbers are ever going to run out!

The commercial fishery sends colossal numbers of us to feed humans in the cities and towns. One fishing town, Moama, sends 47 tons of us to Melbourne each month.

### **the mid-1880s to mid-1900s:**

I don't like the way the Murray Darling Basin is being changed.

My rivers are busy highways. Hundreds of paddle steamers carry humans and goods up and down the countryside. To make travel safer for them, snags are being taken out of the rivers. These are my homes! One snag boat removes approximately 300 to 400 snags each month for 49 years. (You do the math!). This is happening everywhere and it continues long after paddle-streamers have gone.

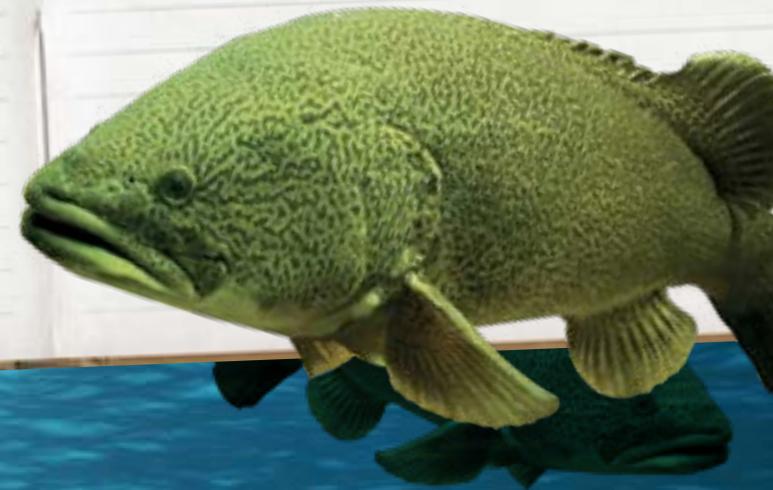
### **the mid-1900s to late-1900s:**

It is getting worse. Humans are building dams and weirs to hold back flood waters until they need them. The problem being when they need lots of water, my species doesn't. These barriers isolate my populations by stopping our annual spawning river trips, which isn't good.

When humans release cold water from the dams in summer to irrigate their crops, my breeding success plummets. Summer is the time when we need warm waters.

To top it off, I am living the fish version of War of the Worlds! (Alien fish, like European carp are wreaking havoc on my world).

Sadly, there is no simple solution to these problems!





# Bringing back Burnanga

For a while there, things got pretty grim for us but now there are glimmers of hope. You humans are doing your best to make the rivers more suitable for my kind but it is not an overnight fix!

You are installing fish ladders and fishways to stop us from getting stuck behind dams and weirs. You are also returning the natural flows to my rivers. New homes are being created by putting old tree trunks (snags) back into my rivers. You are also re-planting native plants on the riverbanks, improving the quality of the water.

War is being waged on alien species, reducing their numbers so we have more space and food.

Commercial fishing has stopped. In its place, you humans grow us in large ponds (like watery cows) to feed the nation. Recreational fishers follow strict fishing rules. Humans are also helping to increase our populations by making more of us to put back into the rivers.

In Victoria, our future is looking better, because your scientists reckon what you are doing is helping and our numbers are rebuilding.



**Resnagging rivers**

Image Source: OzFish

# Making more of us

## Just how do you humans do this?

First, you find large, healthy, genetically diverse adult Murray cod (no inbreeding allowed!) Pop them into large ponds filled with lots of hollow nests (brood ponds), where the Mumma and Poppa cod do their thing.

You take the fertilised eggs and put them into incubators where the eggs hatch into little bubs (larvae).

The larvae get pampered in a rearing room after hatching. At first, they get their food from their yolk sac because their lower jaw is still developing. Once their jaws work, the little bubs can eat live food and become toddler fish called fry!

These tiny fry go into outside creche ponds, where they eat lots and lots and grow bigger and bigger. When they're finger-sized (fingerlings) you humans put them into the stocking truck and take them to their new home.

Today, the Victorian Fisheries Authority grows us at the Snobs Creek and Arcadia Fish Hatcheries.





# Fishers caring for cod



Yep, on the whole, fishing for my kind is a positive thing. Fishers do many, many good things to help us prosper! Some help re-establish our snag homes. Others rescue us from drying out lakes and channels.

Many fishers don't eat us - they let us go. They handle us gently and do not stress us out, so we swim away and live happily ever after.

We are also being bred to be put into lakes, where you humans try to catch us. This takes the pressure off our breeding populations in the rivers.

Fishers also help us by following the fishing rules. Yes, it is true! Eminent Murray cod scientists tell us this.



**Rescuing trapped Murray Cod.**

Image Source: North Central CMA

# Murray Cod rules make sure Murray Cods rule!

Let me explain why following the fishing rules is helpful to us:

- Strict bag limits stop too many of us from being eaten.
- Closed seasons protect us at breeding time when we are defending our nests and eggs.
- More of us have the chance to breed thanks to the minimum legal size.
- The maximum legal size keeps the biggest and best Mumma cods in the water, making many more little cods.



# so... Have a crack!

Check out these fishing spots near Melbourne...

● Spavin Lake (Sunbury)

● Roxburgh Park Lake

● Navan Park Lake (Melton)

Melton Reservoir

MELBOURNE

● Albert Park Lake

● Quarry Lake (Ferntree Gully)

● Karkarook Lake (Moorabbin)

● Casey Fields Lake (Cranbourne East)



Betcha can't catch us!



# ...and others further afield



Cullulleraine Lake

Lascelles Lake

Kangaroo Lake

Boga Lake

Charm Lake

First Reedy Lake

Big Meran Lake

Kow Swamp

Numurkah Lake

Victoria Lake

Moodemere Lake

Hume Lake

Walkers Lake

Greens Lake

Benalla Lake

Waranga Basin

Laanecoorie Reservoir

Nagambie Weir

Buffalo Lake

Cairn Curran Reservoir

Eppalock Lake

Nillahcootie Lake

Booroopki Swamp

Taylors Lake

Barkers Creek Reservoir

Eildon Lake

Charlegark Lake

Lauriston Reservoir

Upper Coliban Reservoir

Rocklands Reservoir

Remember, for Murray Cods to rule, you need to know and follow the rules. Get the app or the current guide

Get the app here



Or go to [vfa.vic.gov.au/recreational-fishing/recreational-fishing-guide](http://vfa.vic.gov.au/recreational-fishing/recreational-fishing-guide)



I think you need some help - follow the QR code to find some tips to catch me



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