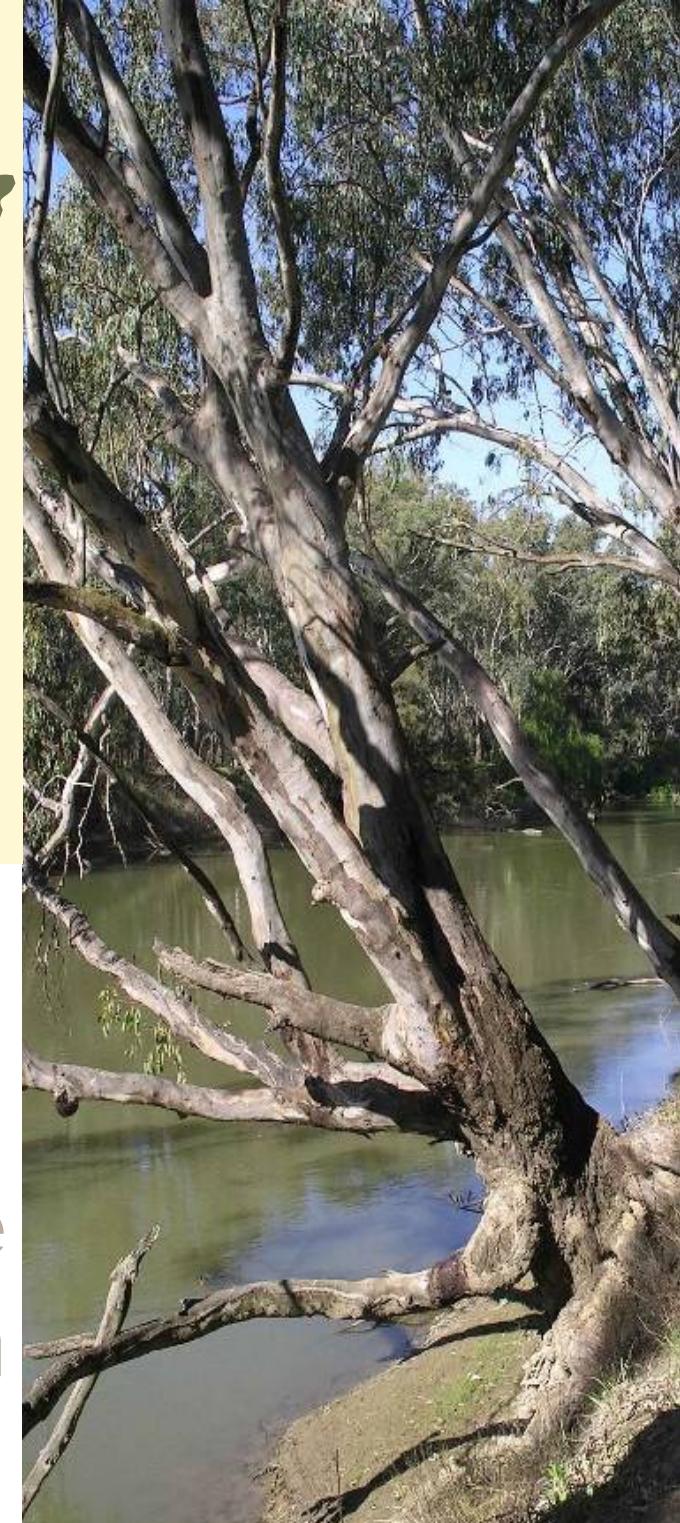
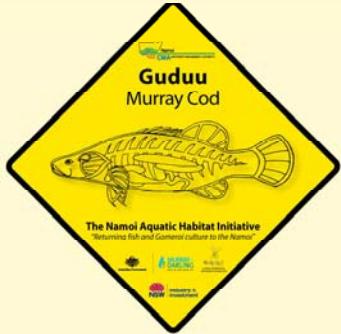


Namoi



Talking fish

Making connections with the
rivers of the Murray-Darling Basin

Authors

Jodi Frawley, Scott Nichols, Heather Goodall and Liz Baker

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Project steering committee

Terry Korodaj (MDBA), Cameron Lay (NSW DPI), Zafer Sarac (Qld DEEDI), Adrian Wells (MDBA Community Stakeholder Taskforce), Peter Jackson (MDBA Native Fish Strategy advisor), Fern Hames (Vic DSE) and Jonathan McPhail (PIRSA).

Project Team

Scott Nichols (NSW DPI), Cameron Lay, Zafer Sarac, Jodi Frawley (UTS), Heather Goodall (UTS), Hamish Sewell (The Story Project), Phil Duncan (Ngnulu Consulting), Liz Baker (NSW DPI), Terry Korodaj, Fern Hames, Jonathan McPhail, Virginia Simpson (PIRSA), Will Trueman (researcher), Pam Clunie (Vic DSE) and Steve Saddlier (Vic DSE).

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Aboriginal readers are warned that this publication may contain the names and images of Aboriginal people who have since passed away.

The rivers of the Murray-Darling Basin

The rivers and creeks of the Murray-Darling Basin flow through Queensland, New South Wales, the Australian Capital Territory, Victoria and South Australia. The 77 000km of waterways that make up the Basin link 23 catchments over an area of 1 million km².

Each river has its own character yet these waters, the fish, the plants, and the people that rely on them are all different.

The booklets in this series are about how the rivers, fish and fishing have changed. The main stories are written from oral history interviews conducted with local fishers in 2010-11, and relate individuals' memories of how their local places have changed. They showcase three ways of knowing the Namoi River: personal experience, scientific research and historical research. Just as individual fishers do not always agree with one another, so their understanding might not necessarily agree with current scientific information or historical records. Similarly, specific items and events might be remembered differently by different people. These varied perspectives show the range in views about fishing and the rivers, each important in its own way. There are many other great stories out there about fishing in the Murray-Darling Basin. These booklets are just the beginning.

Acknowledgements

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Front page photographs (L-R)

Source: NSW DPI.

Source: NSW DPI.

Source: Jason Simpson.

Source: NSW DPI.

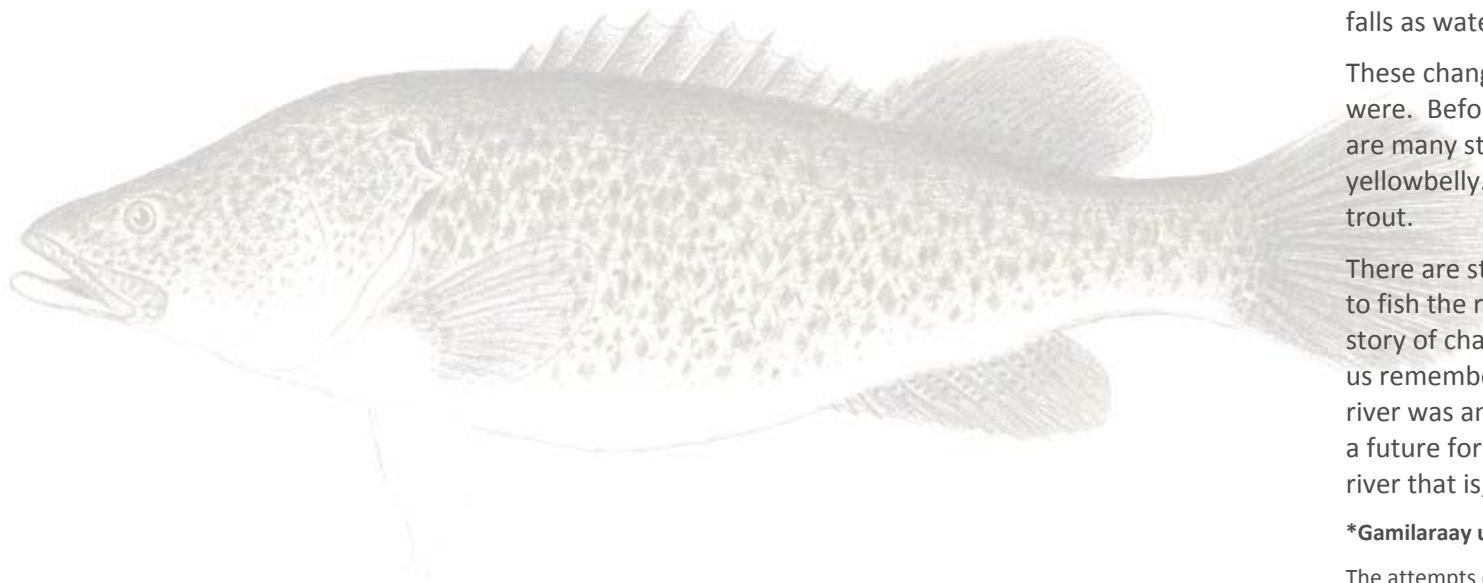
Source: Milly Hobson.

Back page images

All fish images: NSW DPI.

Fish are in great plenty on the Namoi, and several excellent catches have lately been made; Murray cod, yellow-bellies and bream amply rewarding the disciple of the gentle art.

The Maitland Mercury and Hunter River General Advertiser, 7 October 1873



The Namoi River winds its way through 42 000 square kilometres of blacksoil plain in the north east of New South Wales. Fed by the rivers of the western slopes of the Great Dividing Range, it contributes about one quarter of the Darling River's flow. The river, its floodplain, wetlands, swamps and waterholes, are the traditional lands of the Gamilaraay* people. The Namoi is a very different river to the one the Gamilaraay people once knew and fished.

The health of the river and its fish has been shaped by the people who came to live on it and by the industries which brought those people to the area. New people often brought new needs to the river and new ways to catch its fish. Each industry also changed both the landscape and how water flowed into the rivers. Today, flows are held by Split Rock, Keepit and Chaffey Dams and numerous weirs and the Namoi rises and falls as water is diverted to irrigate cotton.

These changes mean there are a lot less fish than there were. Before the turn of the twentieth century, there are many stories of catching Murray cod, catfish and yellowbelly. There were no carp, no redfin and no trout.

There are still those who love the river and who love to fish the river. Their stories are part of the bigger story of changes to the Namoi and its fish. They help us remember that the river we see now is not what the river was and can be again. People want to talk about a future for the Namoi and their visions for a healthy river that is, once again, full of fish.

***Gamilaraay usage note**

The attempts of early European settlers to translate the names of Aboriginal nations and language groups into English led to variations in how these names were spelt. The following names are used in the Namoi: Gamilaraay, Kamilaraay, Gamilaroi, Kamilaroi and Goomeroi. 'Gamilaraay' is used generally in this booklet, but local Aboriginal people often prefer particular spellings. Where an interviewee has a preference, this is used in their profile.

Introducing the river and its people

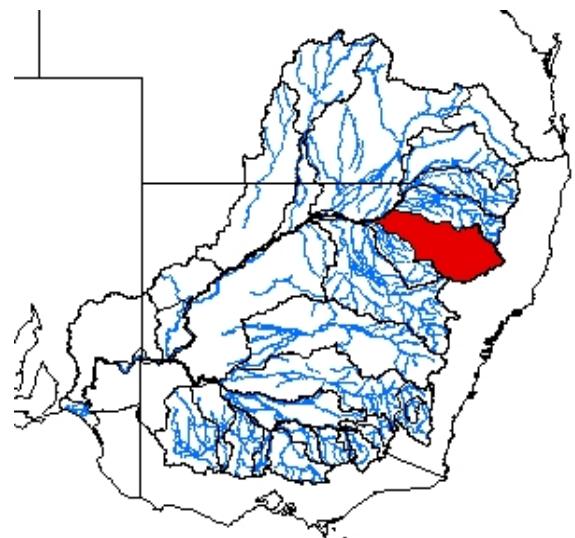
In the footsteps of the Ancestors

For the Gamilaraay,* Ancestor spirits created the rivers and shaped the earth. Some took the form of water serpents, battling each other or rescuing loved ones during their travels. These creative spirits were named *Garriya* in northern Gamilaraay places like Boobera Lagoon, and *Wawey* in the southern areas.

The *Wawey* in the Namoi River were first recorded by British explorers in 1832, at Borah. A Gamilaraay man told them about the continuing powers of the *Wawey*; a source of ceremonial stories and of protection for the surrounding communities.¹³

Gamilaraay retold these epic stories of creation through the generations as they fished patiently on the riverbanks. They see more than the Namoi River itself – they see the essence, excitement and power of the ancestors.

* refer to Gamilaraay usage note previous page



The successful fishing by the Gamilaraay was noted by the European squatters. Image: Tamworth Historical Society.

The arrival of the British

Early British settlement followed the rivers. The first grazing properties were set up on the banks of the Namoi in the early 1830s. Major Thomas Mitchell surveyed this country in 1831, noting in his journal:¹⁴

One of our men caught a fish, which weighed eighteen pounds; but according to the natives, this was no uncommon size. These fishes are most erroneously called cod by the colonists, although they certainly very much resemble cod in taste....

Droughts and flooding rains

The major drought of the 1890s highlighted a river changed by 50 years of development. The lack of water, increased siltation caused by decades of land clearing and the devastation wrought by rabbits meant that the flow of the river changed.

Floods increasingly brought sand into the river. In the 1908 flood, the story made the *Sydney Morning Herald*:

The floods of a fortnight ago did great damage to fences and roads throughout the district...the floods brought down and deposited huge beds of sand.



The river provided food as well as relief from the hard work of everyday life in the 1800s. Source: Narrabri and Districts Historical Society.

Floods brought water into the river that was increasingly laced with a cocktail of chemicals being used to poison both native tree regrowth and the increasingly problematic prickly pear.

Cows and cotton

Grazing was the boom industry of the nineteenth century. There was some cropping but it was hard going in the heavy black soils. It wasn't until the 1960s that cotton boomed, taking advantage of the availability of heavy machinery and water for irrigation supplied by weirs and large dams.



Joe and Pearl Trindall (pictured with their nephew, Phil, centre) were both born in Gamilaraay country. During the fifties and sixties Joe was a drover and Pearl often travelled and camped with him, fishing for food as they went. Fishing has been a way of gathering with family, friends and community throughout their lives. Photo: Jodi Frawley.



Spider Cunningham is an active member of the Narrabri Amateur Fishing Club. He is a passionate fisherman and loves kayaking the Namoi River, especially when freshes and minor floods come down. The river is a vital way for Spider to relax in his busy life. Photo: Jodi Frawley.



Carol and Eric Hannan came to live in their house on the banks of the Namoi River in the early 1970s. They raised their own and foster children, taking them fishing often. Fishing, they say, helped their children learn about and respect the ever changing river.



Jason Simpson learnt to fish as a child on the occasional outings to the river with his family. These childhood experiences grew into an intense love of everything about fishing. Jason chases the big fish around the Namoi River and is a great advocate for catch and release. Fishers, he says, have the opportunity to care for the river and in this way to ensure that there will be fish for many generations to come. Photo: Jodi Frawley.

Joe and Pearl Trindall - A wonderful life on the river



Joe is a Goomerai man born in Narrabri in 1925. He lived on 'The Island' between Narrabri Creek and the river. Fishing and swimming were a part of everyday life.

Yes, the old Dad always took us fishing. We used to have an old bamboo fishing rod or any straight old stick with a bit of string tied on the end of it, and a hook. We used to catch codfish nearly as long as ourself in them big rivers, you know. You'd say you want a piece of yellow belly, we knew where the yellow belly hole was. If we wanted cod, we knew where the cod hole was. Or the jewfish or whatever piece of fish you wanted, you could go to that area. It was a wonderful life on the river.

Bobby cod

Another fish that was plentiful in the 1930s River were spangled perch, or 'bobby cod'.

Bobby fish, we used to call it, little bobbies. Sometimes you'd get two or three on the one hook. You'd no sooner throw your line in and you'd get one, throw it back, and they'd be on it again so quick.

It was a good healthy life

Pearl moved to Narrabri when she married Joe in 1946. Together they've raised seven children. During the early years of their marriage, Pearl and the children travelled with Joe when he was droving. The rivers were an important part of life on the road. Pearl remembers:

When we were droving, I think people used to feel sorry for me, but I loved it, being out in the open air ... it was a good healthy life. But it's the sort of life that's best before the children get to school age.

A clean, clear river

Knowing the right spots to catch fish was as important when they were droving as finding the right spot to water the animals. Fishing was a way to supplement their rations. Joe remembers the rivers in those days as clear and clean:

They had couch banks, you know, and you could see the reflection, you could see yourself in the river, or in the water, the reflection of yourself from the banks.

Spangled perch



Photo: Gunther Schmida.

- Average length 15cm, maximum length 25cm
- Extremely hardy: recorded travelling up to 16km in 2 hours along wheel ruts during thunderstorms
- Upstream spawning migrations triggered by summer floods and temperatures exceeding 26°C
- Opportunistic omnivore; feeds on small aquatic insects, crustaceans, algae and molluscs

Sharing the catch

Often the Trindalls caught more fish than they needed. They would share the extra fish with family, friends and neighbours. Some family members would also give fish to the local hospital in whichever country town they happened to be near. Pearl believed that fish had a special role in healing the sick:

When anyone gets sick, we always try to get him a fish, you know. Because it seems to give them strength.

Big animals on the river

Grazing remained the main industry in the Namoi area in the nineteenth century and it boomed up until the major drought and economic depression of the 1890s.

The plains were not heavily wooded when Oxley first saw them in 1818, but the graziers running both sheep and cattle believed they needed to clear the land to grow more stock feed. Stock also trampled vegetation as they accessed the river for water, altering the riverbanks.



Stock damage to riverbanks is still evident today.
Photo: Milly Hobson.

This continuous clearing of native vegetation led to increased siltation of the rivers and affected the habitat of fish.

With wool prices hitting their peak in the 1950s, the size of properties continued to be reduced as closer settlement then soldier resettlement brought more small farmers into the area, often using family labour rather than larger workforces.

Not everyone shared Joe and Pearl's attitude about their fish. Joe recalls the way that some people wasted fish:

And what used to make me wild, you'd see people that would go down and they might catch 200 fish, and they'd leave them to rot on the banks.

Crops, water and fish

Wheat was one of the first crops grown around the Namoi. Wheat growing had an unexpected benefit for fishers: wheat bags were used extensively for carrying gear and baits, as impromptu nets, as keeper nets and as cushions for sitting on the banks.

Pearl and Joe saw big changes to the river when cotton came to the Namoi catchment in the 1960s. Pearl recalls that dams, irrigation pumps and watering for crops changed the fishing in the area:

The problem was that they took so much water out. When the flood'd be on, the rivers'd be full. But then you'd see the irrigation going, and in a matter of a few days, the water'd be low again.

Joe agrees:

It did. At times there'd be a flood here, and the water would not get down as far as Walgett. You'd have it all pumped out before

it got to the graziers. We'd get no water. It's still happening.

And the changes to the Namoi River weren't just related to the amount of water. Pearl laments:

At one time you'd stop and have a drink out of the river, wouldn't you? But you wouldn't now, or even fill the billy up, boil the billy for tea. But you don't like to do that now with all the rubbish and the stuff that's in it, you know.

Some things change

Spider Cunningham remembers the impact of cotton on the Namoi River but has also seen some things change:

When cotton was introduced in 1966, they were very naughty and let their water back into the river and it was full of chemicals. It knocked the river around, with the weeds and all that sort of thing around here. But now, whatever water comes onto their property, stays on their property, so they're a bit wiser.

Mooki River cotton farmer Tim Gavin likes to fish with his three sons and their mates. His worries about using so many chemicals have been lessened with his use of genetically modified (GM) cotton. He says:

GM cotton has made a huge difference to the amount of chemicals required for cropping. The environmental benefits of these changes are so big that it is much better for everyone and better for the fish too.

When cotton was king

In 1962 two Californian families planted cotton at Wee Waa. High numbers of new workers were needed to support cotton production. Some were mechanically trained workers to run the harvesters and cotton gins. Most were unskilled workers called 'chippers', who weeded the crops.

The major floods of the 1970s revealed the damage done by cotton. The roads constructed for all rural industries had altered the flow of flood-water, causing unexpected inundations. The massive flooding ensured that residual chemicals flowed freely into the river system. The Aboriginal chippers went on strike in 1973 in protest about the conditions of the industry.¹

In an effort to retain water and chemicals within their property boundaries, cotton farmers invested heavily in reticulation and off-river storages. They also stored 'harvested' water from rain-fall. As the massive water storages blossomed, the impacts of water loss became more apparent. Reduced flows from irrigation and continuing high nutrient levels from stock had led to algal blooms in 1994 even before the beginning of a severe drought in 1995 compounded the problems.

It makes you think

Joe and Pearl Trindall are still concerned about the amount of water that irrigated cotton has needed. Joe recalls:

There was one place Wanbi Waterhole, they used to call it. It's even dried up. And there was Yarrie Lake, that was always full. Round Swamp, that's between Narrabri and Wee Waa, it's gone. And they were deep, you know what I mean, there'd be four or five foot of water in them. There's nothing there now. They all had fish in them. Yeah, you know, it makes you think.



Changes to how cotton is grown are reducing the impact on rivers and fish. Photo: Greg Kauter.

Pumping water, not fish

Irrigation pumps and drains are a problem for fish. Up to 200 fish can potentially be extracted daily from the river through high volume irrigation pumps. These fish are removed from the natural system with little chance to return to the river, effectively being 'lost' from the main river channel. This situation has a major impact on the health of native fish communities in the Murray-Darling Basin.⁴



Some of the more resilient native fish species, such as spangled perch and bony bream, are able to live in storages, but their ability to return to the rivers and contribute to their natural community is lost.

The issue is not new – back as early as 1928 the Inland Fisheries Officer of NSW recommended:⁵ *Screens should be installed at all irrigation and other pumping plants having not more than half an inch perforation to minimise the destruction of fish life.*



Research is continuing into the effective use of screens. Photos: NSW DPI.

Spider Cunningham - *Tales of catfish and willows*



Spider was born in Narrabri in 1957 and has lived there all his life, just like his Dad. Spider went fishing with his Dad when he was a boy, but feels like he always knew how to fish.

Narrabri - a good little spot! We didn't learn to fish in those days. It was just put a hook with a worm on your line and set 50 lines along the riverbank and then come along and pull the fish in.

They lived close to the river, so they'd set their lines, then leave them for an hour or so before they went back to check them.

Springers

Spider's family used 'springers', a light line that was set in place on the bank, usually made from whatever trees lined the banks of a fishing spot. But it was the introduced willows, with their long flexible branches, that made perfect springers. However these springers sprung to a life of their own.

But see, what happened with the willows years ago was that they'd snap a branch off,

stick it in the ground, use it as a springer and then when they leave they take their line off. But they'd never take the springers with 'em. So, that stick will grow and make another tree.

I'll take a catfish every time

When Spider was growing up he caught cod, yellowbelly and occasionally bream, but his favourite fish was catfish.

You know, a lot of people don't like eatin' catfish but you catch a cod and a catfish and you offer me a fish, I'll take the catfish every time - beautiful - beautiful fish.

Sometimes Spider went on camping trips with his mates as he was growing up. If the tent was pitched close to the river then he could hear the fish once the campsite quietened down for the night.

Years ago there was a weed growing on the side of the bank, and if you were camped out on the river you could hear this sucking noise all night. That was the catfish suckin' on the weed. So, you just chuck your line over the weed and you'd usually catch a catfish.

Knowing where the catfish were likely to feed meant that Spider often had catfish to eat when he came home.

Willows



Willows at Ironbridge Reserve. Photo: Milly Hobson.

- Native fish are used to the continuous leaf fall provided by native plants. Willows drop all of their leaves in autumn. This changes the timing and quality of organic matter entering the waterway
- Willows tend to grow into a waterway. They extract a lot of water⁸ and change the structure of the riverbed. Their tight root systems form obstructions and can cause water to be diverted around them into banks, causing erosion
- If willows are being removed, it is important to ensure they are replaced progressively with native trees. The complete removal of all trees on the water's edge which overhang the river will result in water temperatures that are higher in summer and lower in winter, and also increase native fish exposure to predators

Catfish

(*Tandanus tandanus* – eel-tailed catfish, jewie)



Photo: Gunther Schmida.

- Medium sized fish, usually 50cm or less
- Bottom dwellers that prefer slow moving waters of rivers or creeks
- Eat aquatic insects, yabbies, molluscs and small fish
- Eggs laid in a circular gravel nest which the male guards until the eggs hatch
- Listed as 'Endangered' in Victoria, 'Endangered population' in NSW and protected in SA



A catfish guarding its nest. Photo: NSW DPI.

Joe also remembers catfish

Joe Trindall also remembers them being plentiful in the 1930s when he was growing up in Narrabri:

You'd see the old jewie, the old catfish. They build a nest like of stone and you could see them through the water. You could see them there it was that clear. You could see the young ones, little things.

Jason Simpson is another local lucky enough to see the catfish as a young fisher on the Namoi River in the early 1980s.

When I was a kid and we were doing some stock mustering and I was a bit too young to help, I'd go down to another creek on the other side of the mountains, a rocky creek. You could see the catfish in there and they had nests; round circles in amongst the rocks which they picked clean. It was almost a perfect circle and you could actually see them cleaning the nests. You could throw your line in and they'd pick up the worm on the hook and drop it to the edge. It wasn't until we went away for lunch and we'd come back and all of our lines had fish on them. We worked out they must have seen us and thought it was a bit foreign, so didn't want to take the bait. But once we weren't there, they were quite happy to take it.

But catfish are no longer very common in the Namoi River. They are now on the endangered species list and must not be taken from western rivers in NSW. These days Spider is content to release any catfish that he catches.

Fishing from the kayak

More recently Spider has bought a kayak to take out on the river and he loves to ride the freshes as they come down the river and fish as he goes.

I carry a little fold-up rod, a little telescope rod in the canoe and all of my lures. So if I think there's a good stretch of water when I'm rowing along I'll pull up and have ten minutes.



Spider would like to canoe the Namoi from Boggabri to Narrabri. He thinks it'll probably take two days, but with his sleeping bag, esky and small stove, he's keen to see the river this way. Photo: Milly Hobson.

Club fishing trips

Spider joined the Narrabri Fishing Club about ten years ago and enjoys the companionship of the club's fishing trips down the river, the swapping of stories while they fish or in the pub afterwards. The club is increasingly involved in caring for the Namoi River. They've had a working bee to repair a local fishway, they hold an annual carp muster to remove carp from the river and they release cod and yellowbelly fingerlings to assist in keeping fish in the river.

If we don't start doin' somethin' what's gonna happen?

Explaining why he enjoys this part of the club as well, Spider says:

When we were teenagers we threw rubbish out the window driving along and threw stubbies at guide posts. Now the older you get, you know, the wiser you get and you think, what are we doing this for? And it's like fishing, like we used to catch a hundred fish and you'd bring 'em home. But now, we catch and release because it's getting to the point where we're old enough to know if we don't start doin' somethin' like that, what's gonna happen?



Members of the Narrabri Amateur Fishing Club mucking in and battling with the degraded banks of the Namoi to plant river red gums and she-oaks. On this occasion 120 trees were planted from the rail bridge in Maitland Street to a position level with Regent Street. The project was part of the Namoi Aquatic Habitat Initiative. Photo: Milly Hobson.



The Narrabri Amateur Fishing Club is also involved in regular water quality testing. It might not be fishing, but these club members found they enjoyed giving something back to their river and sport.
Photo: Milly Hobson.

Revegetation

These before and after shots, taken 3 and a half years apart, show the progress being made on Doug Jamieson's property.



- Riparian vegetation helps stabilise banks, regulates water temperature and provides both food and woody debris ('snags') for fish
- Clearing riparian vegetation, as well as weed invasion, uncontrolled stock access and cropping, has led to the decline in the health of native fish populations

Photo source: Doug Jamieson.

Eric and Carol Hannan - Learning the floodplain life



Eric and Carol were in their twenties when they came to live at *Rampadelles* in 1973 with their two-year old twins. The house, nestled in the bend of the Namoi River, came with Eric's job at *Kurrumbede*, a grazing property. At first the Hannans were daunted by floodplain living, but slowly this changed as they learnt what to expect.

The dinghy was our transport

The house itself almost always stayed high and dry. But with the river on one side and Gulligal lagoon on the other, they were regularly cut off.

When the river runs into the lagoon, particularly if the lagoon's empty, it just roars round that corner. Once the lagoon fills up then it's got to drain back down to river height. Which can take weeks, sometimes as long as three months.

Even the smaller floods of the 1970s meant the dinghy became the main transport for the family so they could get to nearby Boggabri for school and provisions.

Fishing from the verandah

Fishing was something the Hannans could do with their kids as they were growing up. It also was a way to get to know their part of the river. They learnt how the Namoi River moved, where the deep spots were and what happened when the water did break the banks. When flooded in, the kids would sometimes fish off the front veranda.



Photo source: Eric & Carol Hannan.

They never caught fish, but they used to just fish out there, in the current, when the water was flowing past. And we used to tie the boat to the veranda post out there and taught the kids to row off the edge of the veranda because they couldn't get away, they just keep rowing against the current.

Working people

Grazing employed many workers - both European and Gamilaraay - particularly before fencing was widespread.

After the southern gold rushes in the 1850s, many Chinese workers came into the grazing country as gardeners and 'stick pickers' or clearing gangs. On the big runs Chinese techniques were used to irrigate fresh vegetables to feed workers.



Image source: Wee Waa Historical Society.

The numbers of small townships expanded to meet the rising population and the railway had reached Narrabri by 1885.

The expanding timber mills of the Pilliga Scrub employed seasonal workers as they supplied fencing and housing supplies for development across the region. Grazing runs still needed drovers and shearers.

Local Aboriginal and Anglo-Australian workers were supplemented by newly arriving immigrants in the 1920s. This included the Greek families who often ran pubs and cafes, bringing their own particular interests in fish cooking to the way they wanted to use the river.²

A time of plenty

As the children learnt to swim and became confident in the river environment, Carol let them explore with their fishing rods and bait. And as the children grew their explorations took them further away out along the banks, into the lagoons and marshy areas that the floods filled in every couple of years. They would search for the deep holes and big snags that were the best for catching the local fish. Carol remembers this as a time of plenty:

They'd go down fishing with worms, or they'd throw the shrimp trap in down there. Sometimes they would even use mussels. We used to catch a lot of fish. You know, catfish, the yellowbelly and the cod. You'd always get a feed of fish from the river, no trouble.

Enough to share

The family never took more from the river than they needed, and on a good day's fishing they would only bring home enough to feed the family. They would share what they didn't throw back into the river.

If we caught twenty fish on the river we'd never keep twenty fish, you'd only keep five or six or whatever and bring them home. And then next week you might catch the same again if you wanted them. But if

someone came here and wanted to take a fish home, we'd give them a fish, because we had extra fish.

The kids had a ball

From their verandah, the land drops away to a flat grassy area before dropping again to the bank of the river. Shaded by big river red gums it's the ideal spot for fishing. When the river was low, the hole at this spot was still fourteen foot deep.

When the kids were little there was a big bend in the river and we had a big, platform in there. And in summer time you know, they'd come home from school, we'd head down to the river. And Eric would head home that way, and he'd just strip down and go in swimming with them. The kids just had a ball down there.



The river near the Hannan's house. Photo: Jodi Frawley.

Murray cod

(*Maccullochella peelii* – Cod, Gudu, Codfish, Pondee)



Photo: Gunther Schmida.

- Largest Australian native freshwater fish, growing to 1.8m and 113kg (average 40cm)
- Found around deep holes, woody debris ('snags') and overhanging vegetation or rocks
- Ambush predator eating other fish, crustaceans, molluscs and frogs
- Migrate in Spring – often 100s of kilometres upstream with water level rises
- Males guard the eggs which are laid on logs or rocks
- Listed as 'Vulnerable' in Victoria and by the Commonwealth



Photo: Luke Pearce.



Snags and gravel beds are revealed by low water levels in the Namoi River. The hollow logs are especially loved by Murray cod as ambush sites. Having snags at various levels up the bank means there is a greater variety of fish habitat at different depths – once the water level rises. Photo: Milly Hobson.



High flows conceal the wealth of snags providing vital fish habitat. Photo: Milly Hobson.

Desnagging

As late as 1995, removing snags was seen as a good thing.



Image source: Doug Jamieson.

Snags were removed on a large scale from the rivers of Murray-Darling Basin to improve navigation for paddle steamers.

Snags were also removed from the rivers as it was thought they caused erosion of river banks and increased the incidence of flooding by reducing the capacity of water that the river channel could hold.

While in certain instances small-scale and short-term erosion may occur, in many cases the presence of natural loads of snags may reduce erosion by protecting the river banks. Similarly, the notion that snags increased the incidence of flooding is now known to be largely incorrect.

The removal of large woody debris (snags) is a key threatening process under the *Fisheries Management Act 1994* and is implicated in the decline of the vulnerable Murray cod and endangered trout cod.¹²

Resnagging

Now snags are being returned to the river, providing vital habitat for fish and helping to maintain the holes and gravel beds so loved by Murray cod and catfish.

Increased scientific understanding of the importance of snags to native fish and river health has led to significant efforts to reverse the loss of this vital habitat.

The most obvious way to achieve this is to put the snags back in.

A great deal of scientific and engineering analysis goes into determining the right position, size and type of snag put back into the river so that maximum environmental benefits and minimal environmental damage occurs.



The construction of a log groyne involves a lot of analysis, planning and getting appropriate permits – all before a log enters the water. It's so much easier if it happens naturally! Photo: Milly Hobson.

Jason Simpson Take a photo and let 'em go

Dad's 'secret spot'

Jason was born in 1976. In 1980 his family came from Tamworth to live in Narrabri. As a youngster he fished with his dad and his brother. Fishing was an occasional, rather than regular, activity. It was an outing when the weather was perfect or the busy family schedule. His father had a 'secret spot' that he liked to take his boys to fish.

I had a brother so, you know, it was us three men, I suppose, going out and thinking we were big game hunters and bringing home five or six fish. That was a good afternoon. Dad's secret spot was close to town and so when us kids got bored or whatever, it was a quick pack up and you're home in time for tea.



Jason with a nice Namoi cod. Photo source: Jason Simpson.

While as kids Jason and his brother saw this as a bit of a lark, for his dad there had to be a reason to going fishing. Jason remembers:

To go fishing there was a purpose, it was always to catch them, but it was probably more about catching a feed of fish than just about having fun.

Sharing with rellies

Jason's father also fished the Namoi River growing up. He told Jason how it was common practice for many fish to be kept by fishers' families. Everyone took lots of fish in those days. The fish were so plentiful that sometimes they were shared or bartered with other people in the community.

I remember my father telling me stories about how ... they'd be cleaning fish for three or four hours when they got home. Well, they had fairly big families back then and money was probably a bit tight too. It was probably a bit of a change from eatin' lamb and beef, but no doubt it was probably given away to all the rellies, and the next door neighbours for maybe for a carton of eggs or something like that but I'm pretty sure it wouldn't have went to waste.



Jason with one of his trusty lures. Photo source: Jason Simpson.

Fishing with mates

As a young man in the 1990s Jason's love of fishing grew and after buying his own boat, he began to hone his fishing skills.

When we were younger we all had our names on our lines, so it was back when we had licences. They changed the rules and we didn't need licences, and then, dare I say it, I used to fish illegally - I used to have too many set lines.

Camps along the river

Right up till the 1940s large numbers of fettlers - the workers needed to build and then maintain the railway tracks - lived in big camps set up along the lines and needed the river for food as well as for a break from the confined and monotonous camp life.³

The cotton farm chippers, who initially had no union cover and no accommodation on the farms, were housed in rudimentary camps on the banks of rivers with no running water and no sewage or garbage services at all. Additionally students from the cities and the workers who were already part of the seasonal agricultural cycles in other areas of the state came to work the cotton. The wastes from these camps added to the river's pollution.



Image source: National Library of Australia.

Darcy Harris remembers a 'Digger Rose' who even as late as the 1960s would camp out by the river as a relief from working life.

One old fella ... was old army man and he always had a great coat on whether it was Summer or Winter, kept him warm, and he'd sit on this log and lie on the log and fish, with his bottle of rum of course. He had a short line and just bobbed a lot.

Family fishing changed into fishing with his mates. This time on the river with a boat allowed Jason and his mates to explore the river in a way that they couldn't when they were kids.

Chasing cod

Jason and his mates came to understand the patterns of shallows and holes and which bits would yield the cod they all loved to catch.

When we were young, just to go fishing was a bit of a privilege but once we got access to a boat, that sort of opened up the other side of the bank. We could go to spots we hadn't fished before, or a better spot. And that's probably improved our fishing. But with the help of electric motors it sort of makes things a lot easier. At the same time, I suppose we got better at it so it also makes fishing easier. When you get better at it, you get more enjoyment out of it when you come home with fish.

Where are all the fish?

For Jason one of the important things is a better understanding that native fish are in decline. He realised that over one generation, the numbers of fish available in the river had drastically changed. We know

from the memories of the Trindalls, Spider Cunningham and others that the river of the 1950s still had plenty of fish to catch and share amongst family and friends.

We could pull the carp out

Jason also recognises the threat carp posed to native fish:

We've been down towards Wee Waa there and we've walked probably for a kilometre and we came across a big puddle three metres across, and there would have been 50-60 carp in there and there wasn't enough water to cover their backs and you could just pull 'em out one by one.

Can't catch them twice!

Jason's fishing practice changed to 'catch and release'. He now says native species need to be protected by voluntary and regulatory reduction in the number of fish that can be taken out of the river:

Times have changed and so have people's opinions of fish. What you can do and what you should do are two different things. I eventually saw keeping fish as not the best thing for them, 'cause, you know, once I caught the fish I couldn't catch them again. So, then I started using lures and I very rarely go bait fishing now. We still do dig worms

and we still catch wood grubs and yabbies and still fish like that every now and again. But we very rarely catch a feed of fish out of the river. Normally we just go to the dams, which are stocked, and take the fish out of there. In my opinion, it's a better idea than taking them out of the river. Better to take a few photos and let them go again.

Eric Hannan agrees that limiting catch is important:

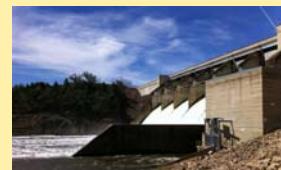
You know, as for fishing, I think it's a good thing to stop people from taking piles of fish out of the river.



Jason Simpson releasing a nice sized cod.

Photo source: Jason Simpson.

The age of engineering

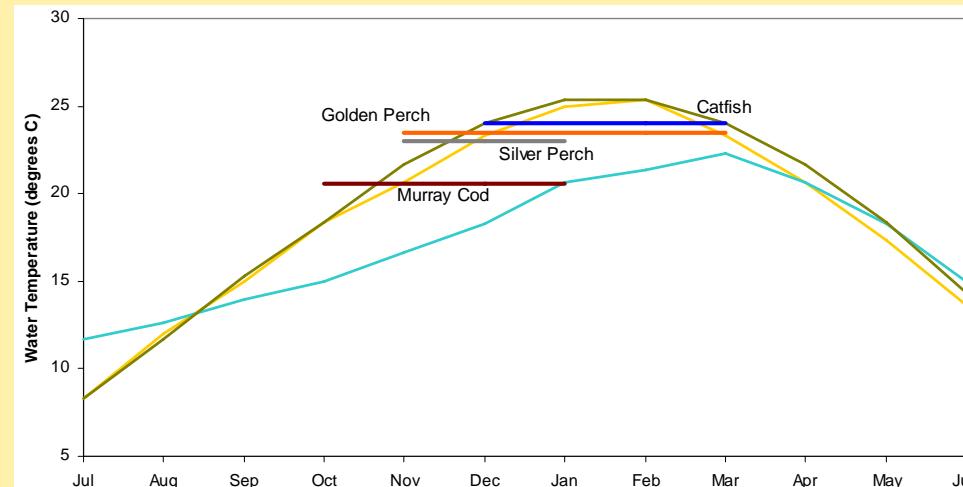


Keepit Dam, first conceived in the late 1800s, started in the 1940s and completed in 1961, was the realisation of a dream to supply water for irrigation and mitigate the effects of floods. Unfortunately, its impacts on native fish were not good.^{9,10}

Photo source: Matthew Gordos.

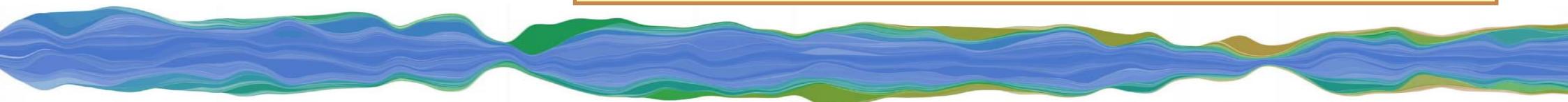
Dam impacts on fish

- Dams modify the pattern and seasonality of water flow. Native fish have evolved to breed when there are 'freshes'. Dams even out the flow, so fish don't get this signal to breed
- Dams and weirs also interrupt fish migration. Fish, such as Murray cod and golden perch, migrate to breed. If they are able to these fish can travel hundreds of kilometres, but a dam wall is an impassable barrier
- Fish need a temperature signal to spawn. Water released from large dams can lower the temperature of the river for hundreds of kilometres downstream. Known as 'cold water pollution' this also disrupts native fish breeding



At Keepit Dam, it takes the distance to Boggabri – approximately 115km - for the river temperature to have returned to what it was when it entered the dam. For fish, this means that the river below the dam for a distance of over 100kms is never warm enough to trigger spawning.

This graph shows the minimum water temperature needed for spawning in relation to water temperature in three areas in the Namoi. The green line shows the water temperature upstream of the dam. The blue line shows it downstream of the dam. The yellow line shows the temperature downstream at Boggabri.⁶



Making connections

Good times

Many people learnt to fish from their parents or grandparents or aunts and uncles. This tradition of teaching kids to fish also is about learning about the river and the plants and animals that live in and around it, and how it all changes from season to season.

It's also about getting together. For the Gamilaraay, this meant getting the mob together for storytelling on the river's edge. Pearl Trindall remembers:

We had some good fishing times. But in them early days, where that junction was it was this nice big place, and we'd go out there, you know, and camp on the ground. We used to make a big fire, all of us, all the families would go out there and meet. It used to be lovely.

And getting away

It wasn't always the attraction of group gatherings that was important to fishers. For Darcy Harris, who grew up on a property on the Namoi River, fishing was a chance to get away:

There was a lot of good fish caught and a lot of time spent getting bait and sometimes you'd get nothing. It's a strange game and it's very rewarding, and you can sit there and romanticise about how much money or how good your crops gonna be. Just sit and relax. Think about the good things...not the bad things.



Getting away and just being on or near the river is part of the attraction. Photo: Milly Hobson.

But we need to have a little bit of a look at things

Eric is concerned about bank erosion and the amount of silt and debris that end up in the river because of it.

We've got probably six kilometres of river frontage and we wouldn't have half of the holes that we used to have. The banks have caved in and the holes have filled in. Personally I'd like to see, probably grass put there, more than I would trees at present, because you can't grow trees on straight drop banks - grass yes. I think, before we go doing that, we want to have a little bit of a look at things and ask a few people that's been around for a long time. That's my motto, anyway.



Controlling erosion is an important part of rehabilitating riparian areas, like this bank of the Namoi River. Photo: Milly Hobson.

Doing our little bit

Jason Simpson and his boss Doug Jamieson have been rehabilitating the banks of the river, planting trees, grasses and shrubs where Doug's farms have frontage.

Like many people along the river, although they know that willows are introduced, they are not convinced that it is a good idea to pull them out without first establishing other plants that will hold the bank in times of high waters.

Jason says of their efforts to re-vegetate the banks:

We've been doin' it for 13-14 years that I know of and the boss Doug, is very much into his land care. We went along and did as much as we could with land care and CMA and all those sorts of affiliated companies. Mainly just planting trees and fencing off the rivers, and just limiting the areas that the cattle can come down and drink, so that stock don't degrade the banks. It lets the grass grow up and when the flow does come down, we're doing our little bit to keep it as good as what we can. We can always do better but it's an ongoing process.



An area of riverbank that Doug Jamieson has been steadily replanting. Photo: Doug Jamieson.



Replanting and fencing to manage stock access in an area of the Namoi Demonstration Reach.
Photo: Milly Hobson.

State of river: 'moderate'

The Sustainable Rivers Audit (SRA) is a systematic assessment of river health for 23 major river valleys in the Murray-Darling Basin. Environmental indicators include hydrology, fish and macroinvertebrates, which are monitored and will highlight trends over time.⁷

The Namoi Valley was surveyed in 2006. The 'Slopes Zone' and Ecosystem Health were considered to be in Moderate Condition. 62% of predicted native species were caught. While these species were approximately half of the total number caught, native fish were only one fifth (20%) of the biomass.

Native fish catch in the 'Slopes Zone' was dominated by bony herring and carp gudgeons. Murray-Darling rainbowfish, Australian smelt, spangled perch and Murray cod were also common. Carp dominated the alien species. Eastern gambusia were common and goldfish were also caught.



A bank with snags, adjoining the Jamieson property: perfect habitat for cod. Photo: Scott Nichols.

Visions for the Namoi

The fishing people who contributed to this project have all talked about their hopes for the future of the river. Many felt they had seen some improvements but most don't feel the river is as healthy yet as they would like to see it. Each of these fishers suggested ways to help the river and in turn help provide healthy habitats for fish.

Give fish somewhere to live

Eric Hannan suggested that when the river is dry that this might be a time when river care could come into its own:

When the river's really low, I would like to see the holes cleaned out, and I don't mean take the big old logs out of it - there's some big logs there that have been there before I was born, they're fine. But dig the holes out so the fish have got somewhere to live when the river does come back. I don't mean dig new holes - I mean clean the old ones out that are there. The ones that have been there for generations. That's what I'd like to see.

Reinstating holes that used to exist in the river bed needs a careful understanding of how the river flows - and several permits! Knowing where the old holes were is an important piece of the puzzle.

Fencing for more fish

Darcy Harris has seen the damage that stock could do to the river bank:

Well, I know the stock were doing damage on river banks and that but... like on our place, there weren't many spots where they could go down to water because they were steep banks. So they could only go down to water where the good fishing holes were basically, and that's where there's a nice little beach you could go and sit on. And I guess they were grazing the vegetation right up to those banks, so that was denuding it to a certain extent.



Darcy hopes that fencing off the river, like this area of Namoi riverbank, will continue to be a part of helping the rivers to recover, so that there will be fish for his children, grandchildren and future generations.

Photo: Milly Hobson.



Fishing is a great pastime for kids. Photo: Anthony Townsend.

I just love the river

Fishing in the Namoi River creates a special connection between fishers and places that they frequently visit. Robert Horne sums up the way that most fishers feel:

I just love the river. You know, it's so tranquil and it's great, all the bird life there, the little kingfishers and things. So I have spent a lot of time on it as a youngster, and I still do now.

These fishers can all sense what the Namoi River could be like with some care and attention. A river with snags, sand bars and deep holes, overhanging native vegetation, reeds and weed, flushed with freshes and flood rains and linked up to floodplain wetlands – just imagine the fish that would thrive in such a place!

Carp FAQs

Carp arrived in large numbers with the floods of the 1970s. These fish are now a major pest in the Namoi.



Photo: Milly Hobson.

How many eggs to carp lay?

Carp are very fecund and can lay millions of eggs per year.

Can eggs be carried by birds' feet and survive in mud and in the water to be fertilised at any time?

No, carp eggs only survive out of water for a short time and are usually attached to plants. Unfertilised eggs soon die.

Can carp stay alive in mud?

No, carp cannot live in mud.

Do carp undermine river banks?

Carp feed by sifting through mud but there is no evidence that they undermine river banks.

Do carp spread diseases to native fish?

A large number of parasites, diseases and viruses have been associated with carp but there have been no specific reports of deaths of native fish caused by carp-borne diseases in Australia.¹¹

Carp are widely thought to have arrived in the Namoi with the floods of the 1970s. But newspaper fishing reports suggest carp may have been around two decades earlier!

They have been having a record fishing season on the Barwon and Namoi Rivers, catching perch and cod by the score. One of the locals writes: "they must have come down with last year's flood. But with them is a strange fish we have never seen before. We have named it the New Australian."

(The Sydney Morning Herald 27 February 1952)



Making a difference for native fish by replanting a section of Namoi river bank. Activities like replacing lost vegetation helps native fish hold their own' against introduced species like carp. Photo: Milly Hobson.



Some would say 'a good carp'. Photo: Milly Hobson.

Bringing back the fish

A number of local projects aim to bring the fish back to the rivers of the Murray-Darling. These compliment large scale programs such as the MDBA's *Native Fish Strategy* and *The Basin Plan* that continue to work with a wide range of stakeholders to ensure positive outcomes for the environment and fish of the Murray-Darling Basin.

a) The Namoi Demonstration Reach

Works are being undertaken over approximately 120km of the Namoi River and its tributaries between Gunnedah and Narrabri to benefit the river and improve conditions for native fish.

The MDBA's Native Fish Strategy supports NSW DPI, the Namoi CMA, local communities, industries, Councils and recreational fishers to reinstate snags, improve fish passage, control erosion, sediment and nutrient inputs, remove weeds and replant riparian vegetation.

To date over 240 snags have been reintroduced and over 14km of river opened up with 3 fish passage barriers addressed.

Twenty six kilometres of fencing and 13 off-stream watering points have improved stock

management around the waterways, with over 20km of woody weeds removed and replaced with more than 11 000 native plants!



For more information contact NSW DPI Conservation Manager, Milly Hobson on (02) 6763 1206.

One of the Demonstration Reach signs. Photo: Milly Hobson.

b) The Narrabri Amateur Fishing Club

In conjunction with NSW DPI, this fishing club have held 'Carp Musters' annually over the last four years to create awareness about the impacts of carp on native fish and to involve the community. The fishing club also undertake annual cod and yellowbelly stocking of Namoi River and contribute to tree planting days as part of the Namoi Demonstration Reach project.

For more information contact Tony Williams on 0428 661 358.

c) Red Chief Aboriginal Land Council

Cultural surveys and tree planting have been undertaken by Red Chief ALC as part of the Namoi Demonstration Reach project. The Council also has their own propagation unit growing native trees and aquatic plants.

For more information contact Robert Horne on (02) 6742 3602.

d) Boggabri Landcare-Rivercare Group

This group is active around Boggabri removing willows and other weeds and revegetating along the Namoi River.

For more information contact Robyn Watson on (02) 6743 4576.

d) Narrabri Community Bushcare Group

Narrabri Bushcare work with land owners to improve their property, promoting native vegetation around Narrabri. They hold community tree planting days at locations including the Namoi Demonstration Reach.

For more information contact Rose Broderick on (02) 6792 4596.

River resources

- Native Fish Strategy Coordinator, Northern NSW Anthony Townsend: (02) 6763 1440
- Namoi Catchment Management Authority: (02) 6742 9220
- Narrabri Amateur Fishing Club Tony Williams: 0428 661 358
- Red Chief Aboriginal Land Council Robert Horne: (02) 6742 3602
- Narrabri Aboriginal Land Council Koorine Trindall: (02) 6792 4228
- Northern Basin Aboriginal Nations: (02) 6279 0672
- Boggabri Landcare-Rivercare Group Robyn Watson: (02) 6743 4576
- Narrabri Community Bushcare Group Rose Broderick: (02) 6792 4596
- Fish Habitat Network: www.fishhabitatnetwork.com.au
- Narrabri and District Historical Society Don Douglas: (02) 6792 5100
- Narrabri Courier and Wee Waa News Ian Dunnet: (02) 6792 1011
- National Library Australia: www.nla.gov.au

Abbreviations

- CMA Catchment Management Authority
DPI Department of Primary Industries (NSW)
MDBA Murray-Darling Basin Authority

About the Talking Fish project

The *Talking Fish* project arose from an increasing realisation that many different groups of people, including fishers, Indigenous communities, tourists and landholders have developed unique relationships with the rivers of the Murray-Darling Basin. There is also the growing recognition that the health of the Murray-Darling Basin is at risk. By accessing and recording different people's stories about their experiences of a river, its fish and how both have changed will contribute to our collective knowledge and help shape future management decisions. These stories also have the potential to give people a sense of just what these magnificent rivers and their fish were once like - and could be again with ongoing rehabilitation efforts.

The *Talking Fish* project focussed on 12 reaches within the following rivers: Namoi (NSW), Upper Condamine River (Qld), Katarapko Creek (SA), Upper Murrumbidgee River (NSW / ACT), Culgoa - Balonne Rivers (Qld / NSW), Paroo River (Qld), Goulburn River (Vic), Darling and the Great Anabranch (NSW), Ovens River (Vic), Mainstem Murray River (NSW / Victoria), Darling River (NSW) and The Coorong and Lower Lakes (SA).

The *Talking Fish* project is a starting point to share local knowledge and learned experience with others to improve the health of the Murray – Darling Basin. Project information is available at: www.mdba.gov.au.

Note: The term *Talking Fish* is also being used by the Australian River Restoration Centre as a way of sharing knowledge about people's connection to fish and waterways.

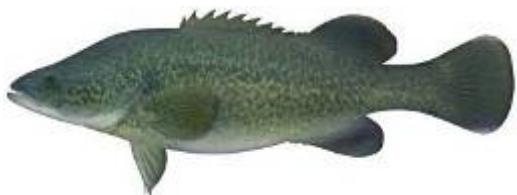
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Some fish of the Namoi River

Native
(Not to scale)

Murray cod / Cod / Guduu



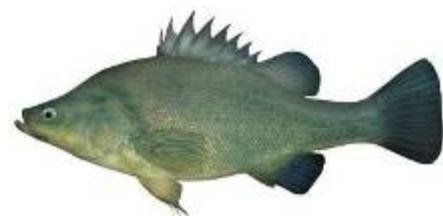
Catfish / Eeltail catfish / Jewfish / Gaygay



Yabby / Craybob



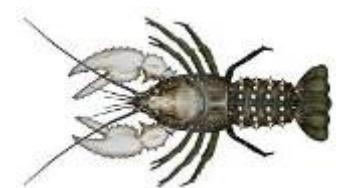
Golden Perch / Yellowbelly / Callop / Thagaay



Spangled perch / Bobby cod



Murray cray / Spiny cray



Silver Perch / Murray bream / Grunter / Gambaal



Blackfish / Slippery / Slimy / Greasy



Introduced
(Not to scale)

European carp / Common carp



Rainbow trout / Brown trout



Redfin / English perch

