
Creeks, Cod and Riparian Vegetation

By Simon Kaminskas

Part I



Tom Kaminskas about to release a beautiful little Murray cod. Were these great native fish once found in tiny creeks?

The legacy of clearing riparian (river-bank) vegetation and catchment degradation can be seen right across south eastern Australia. Everywhere you drive you see tiny silted up creeks flowing through bare denuded paddocks, wilted trickles that dry easily in summer and don't get a second glance from fishermen driving by.

McCallums Creek is such a creek. Down Clunes way, in central Victoria, McCallums Creek is a small creek flowing through bare, brutally cleared banks and grazing lands, and doesn't have any fish besides the rare native blackfish if you are lucky. It in turn flows into Tullaroop Creek, which again holds only the occasional introduced trout or blackfish if you're lucky, and Tullaroop Creek flows into the Loddon River, long ago a serious cod water holding good Murray cod stocks, and now having a bit of a revival in the Bridgewater area with hatchery bred stockings of Murray cod.

Recently I learned something remarkable about this creek from an old timer. He in turn had learned this from an even older old timer, his father-in-law, long since passed away. Long ago, the *upper reaches* of McCallums Creek, far above the bridge where it flows past the family property, had deep holes with Murray cod in them! I couldn't believe it. I have driven over this feeble, degraded little creek many times, and the thought of any fish in it, let alone Murray cod, had never crossed my mind. But — no doubt about it — it once had a few deep holes in its upper reaches, and they had Murray cod in them.

I can imagine it! What an experience it would have been, fishing for feisty, emerald green Murray cod in such a small creek. However, the sad fact is that these Murray cod are long gone. The deep holes they lived in have long been silted up and the creek in general ruined. It has been destroyed by incredibly bad and uninformed practices by the early settlers. Unfortunately, in the early days it was standard practice to clear the native vegetation on a creeks' banks and raze almost every tree in the catchment. Ignorance was the name of the game. The early settlers, the farmers, didn't realise that we weren't in England and that the things they did in England weren't going to work here. Here, clearing a creek or rivers riparian vegetation instantly destroys it. The creek goes from being narrow and deep with deep holes where fish can live, to wide and shallow and choked with silt. The regular input of leaves and other organic matter from the native vegetation, the basis of any creeks' food chain, ends. The exposure of the creek bed means it dries up easily, often

changing from a permanent stream to an ephemeral one, and the addition of willows, thirsty water-stealing villains, simply compounds the problem. As does livestock trampling the banks. But this is well known to many switched on fishers and responsible farmers. What are real messages from this story? To me, there are two.

The first is history. In another 20 years, when this old timer is gone, who will remember that the upper reaches of McCallums Creek once held Murray cod? That knowledge will be gone, and with it will be the knowledge of what we've lost. People will look at McCallums Creek and never even dream that it once had Murray cod in it.

The second is the amazing adaptability of our most wonderful native fish, the Murray cod. The Murray cod is generally thought to be a fish of our larger, turbid, sluggish lowland rivers (not that they were turbid or sluggish once). But these remarkable fish once pushed up into the smallest of creeks, and showed a remarkable ability to live in huge range of different environments. There are records of this here and there in early explorers' and settlers' writings. But Murray cod no are longer found in small creeks, and we have forgotten that they were. **We have drastically reduced their range, and have quite an inaccurate idea of where they will and won't live and what cod water is.**

And at the end of the day, we also see that riparian vegetation is critical to rivers and creeks. Of course, catchment vegetation is also important, but if it must go, or has gone to make way for farming or grazing, it is absolutely critical to retain or replant riparian vegetation. And it *must* be native. It is no good to replant noxious willows that suck creeks dry with their extravagant use of water, and dump all their leaves at once, deoxygenating creeks and overwhelming and eliminating creek invertebrates — vital members of a streams food chain and important food for fish — that are adapted to a steady diet of native plant leaves instead. Perhaps, as people become more aware of all this, replanting programs can bring some creeks back to what they should be, and perhaps McCallums Creek will hold Murray cod again one day.

Part II

Readers may recall an article I did on McCallums Creek in central Victoria, where clearing of the catchment and riparian (riverbank) vegetation in the 1800s, due to poor farming practices, gold mining and the demand for wood during the gold rush, caused massive siltation and wiped out the Murray cod that used to live in the creek's upper reaches. Well, a bit of digging has revealed further interesting facts on this story, worthy of a sequel.



Magnificent Murray cod were indeed once found in upland streams and/or very small creeks.

The most important are the emergence of several historical mentions of Murray cod that suggest that they were not just present in McCallums Creek, but in all of the small creeks of the Clunes area, including Creswick Creek (which flows through Clunes) and Tullaroop Creek, which is joined by Creswick and Bullarook Creeks and is the tributary that ultimately connects these small formerly cod holding creeks to the upper Loddon River.

A reprint of an article that appeared in the *Clunes Guardian* in 1920, where a senior resident muses on aspects of the history of Clunes, states “*The [Creswick] creek at that time [1851] was a crystal clear stream abounding in good fish, blackfish, catfish and cod. I remember seeing a 7 or 8 lb cod caught near Blake’s weir, which was about half way between the Service Street and Government bridges...*”.

Further historical research has also uncovered another mention of Murray cod in Clunes Creek in the 1800s in the local newspaper.

Tullaroop Creek, as the largest of these creeks and the tributary that connected the other creeks to the upper Loddon, definitely held Murray cod. Walks along its banks confirm it still has potential as cod habitat, though it desperately needs the cattle that are currently destroying its banks fenced off and its riparian vegetation (that has been almost completely removed) replanted, mainly River Red Gum and Acacia species.

Dr Stuart Rowland’s noteworthy 1989 paper “*Aspects of the History and Fishery of Murray cod...*” touches on the issue of decline in range of Murray cod. One of his references, Edward Wilson’s 1857 paper to the Philosophical Institute of Victoria, states that Murray cod “*abound*” in the Loddon and Campaspe Rivers, and that Murray cod “*are found along the whole course of the Murray and all its tributaries, even where dwindling into the most insignificant streams*”. Wilson’s “*most insignificant streams*” is clearly a reference to creeks like Creswick, Tullaroop and McCallums Creek.

Drs Cadwallader and Gooley's 1984 paper "*Past and present Distributions and Translocations of Murray cod and Trout cod*" confirm the presence of Murray cod in similar habitats in the nearby upper Coliban, Campaspe and Loddon Rivers as well as in Tullaroop Creek, and confirm the original presence of Murray cod in small and/or upland rivers/creeks in general.

Another important fact to emerge is the extent of the destruction inflicted on catchments, riparian corridors and creeks alike in the Clunes area during the gold mining era of the late 1800s. Though very poor farming practices still deserve criticism and were instrumental in the destruction of these Murray cod habitats, so too was the gold mining and the gross siltation, pollution and rapacious tree clearing for mining use that accompanied it.

Finally, the presence of dams and groundwater abstraction has emerged, which have drastically reduced the flows in these creeks and thus reduced their potential as Murray cod habitat, as well as offering some explanation for the difficulties people may have in envisaging these creeks as former Murray cod habitat. The presence of a small water supply dam on the upper reaches of McCallums Creek, Stewart’s Dam, has been brought to my attention, as has a dam on the upper reaches of Creswick Creek, which is a relict from gold mining days. Rampant and uncontrolled extraction of groundwater in the Clunes region since the 1950s for potato farming has also been brought to my attention. Senior local residents have seen the water table drop drastically in this time, and have consequently seen the flow volume and size of local streams drastically reduce, to the point where some small formerly permanent creeks are now dry channels.

On a more general note, many records exist of Murray cod living not just in small creeks, but in small creeks and rivers at quite high altitudes. The perception of Murray cod (and also Silver perch) being strictly a species of the alluvial lowland reaches of our Murray-Darling rivers is not accurate. Murray cod are in fact a semi-upland species as well and were originally present to quite high altitudes in the rocky upland reaches of Murray-Darling rivers and tributaries.

- * In the ACT region, Murray cod formerly occurred to at least the middle reaches of the Queanbeyan and Molonglo Rivers, and still do occur in small numbers up to Bredbo in the Murrumbidgee River, and have an altitudinal limit in the area of around 700 metres. Oral histories, including by the author, also reveal some Murray cod (as well as abundant trout cod) were formerly common in the Murrumbidgee River up to Cooma, at 800 metres altitude, in the 1950s and 1960s.
- * In the upper Macquarie River system near Bathurst, Murray cod (and Silver perch) were formerly abundant in the Fish, Campbell and Duckmaloi Rivers where they are now extinct. The Fish River was actually named after the abundance of Murray cod in it. Murray cod appear to have had an altitudinal limit in this area of close to 1000 metres.
- * The upper reaches of several northern Murray-Darling streams continue to hold naturally occurring Murray cod populations at elevations close to 1000 metres.

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