

# *If I were the Cod God: strengthening Murray cod management*

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Graduate students learn many things from a good supervisor; I was fortunate to have John MacIntyre as mine at the University of New South Wales. Working at the turbulent interface between research and management, Mac often challenged a student, who was denouncing some government mismanagement or other, to confront the World's realities by asking: 'Well, if you were God, what would you do?' Since those learning-filled days, this has often been a useful tactic; a valuable check on reality. Now it seems an appropriate way to contemplate how the management of Murray cod can be strengthened so these wonderful fish might be conserved.

If I were the Cod God, my chapels would be walled with river oaks, wattles and red gums. The carpets would be *Vallisneria*, moira grass and curly pondweed. Sacred music would play from the westerly breeze through the oaks and from the riffles gurgling past snags, with magpies and butcher-birds for choristers. My fishy flock would be handsome, muscular and green-marbled. I would try to be a humble god, not all-seeing, all-knowing, but having learnt just enough to realise that there is a great deal more yet to be learnt: knowledge about the cod and its life in my rivers, about the ways that people affect it and about how things are changing.

For a long time – ever since 1968 when I began fishing for Murray cod in the Macquarie River and became part of the problem – the conviction has grown in me that one of their greatest burdens is over-harvesting. It's the same with all four Australian freshwater cod species – they are all big, long-lived, desirable (in the angling, culinary and marketing senses), relatively sparsely distributed (because they are the top predators), and exceedingly catchable under good conditions. They have all gone down the same declining path for these same reasons. So my aim as the Cod God controlling the fishery would be to make cod exploitation both sustainable and productive while achieving a better community understanding of not only their precious status but also their precarious position. I would enshrine one basic principle:

- ***Reduce Murray cod fishing mortality whilst rehabilitating habitat***

and I would extol one basic philosophy:

- ***Manage Murray cod for a top-quality, limited recreational fishery***

In the hope of being an effective Cod God, I would pursue this combination of principle and philosophy by employing a seven-part strategy. The seven parts would relate to regionally based management, a tight annual bag limit, a slot-size limit, compliance tactics strong in both the educational and regulatory aspects, an adequate system of reserves, wiser stocking programs, and vigorous monitoring and review.

Primary data on angling exploitation rates are almost non-existent, but I'm convinced that over-exploitation has been at least as important as habitat deterioration. NSW Fisheries' Angling Catch Database shows this to be true in at least some areas. This conclusion arose because cod are so adaptable, so tolerant of habitat variables on one hand and yet so vulnerable to fishing on the other. Whether the conclusion is true in every part of every river is unclear, but exploitation is certainly one of the prime factors in the profound general decline of Murray cod.

The now-defunct legal commercial fishery probably had relatively modest impacts in recent years because it was focused in the remaining areas of greater population density and represented only a small proportion of the species' range. The only available quantifications of these points were the estimations, by Kearney and Kildea (2001), that the legal commercial fishery took only 2% of the total recreational catch, but that the large illicit commercial fishery equaled the recreational catch. Murray cod recovery in the future will depend on much stronger management of both the recreational fishery and the illicit commercial fishery.

On the recreational scene, I have seen strong and continuing improvements in angler ethics and angling conservation of all the cod species, as well as other fish. But they are starting from a low base and there is a long way to go. The key is to produce radical changes in philosophy and perception. People have to develop the understanding that an individual cod is generally elderly, large and very special. On the dinner table, a minimum-legal-size fish (let alone a large one) provides a superlative feed for four adults. How those photogenic angler-heroes pictured posing with huge cod dispose of them afterwards is hellishly ugly to contemplate.

As the Cod God, I'd regulate the fishery as a restricted, supreme-quality sporting fishery with a severely limited annual bag limit as the central key. I'd allow a licence-holder to kill up to perhaps six or ten fish in a year. My reinforced band of angels (once known as fisheries officers, researchers and managers) would enforce the limit, trialing the use of something like the non-removable plastic tags that are designed to control the take and marketing of lobsters. An angler could buy up to six or ten tags in a year, at a 'special-fishery' price – say \$10 each – with suitable concessions for kids and other special groups in the community. Having a cod without a tag would cost you a big fine. Doing it again would result in a day of judgment, public scarification with ganged treble-hooks and judicial application of a landing gaff in sensitive parts. That should be an effective control on mortality through the currently large and lucrative illicit commercial fishery, as well as limiting the kill from recreation. I would have my angels review the bag limit frequently and vary it for particular periods, regions and cod populations.

There would certainly be a slot limit also. It would probably allow fish to be taken only if they were more than 55cm but less than 75cm. This would focus controlled exploitation on the faster-growing and more abundant age groups without impacting unduly on recruitment potential and to conserve the genetic and reproductive potential of larger fish.

It is a necessary corollary in my system of management that catch-and-release fishing is not only necessary, but also desirable. How else am I to ensure that people interact frequently with Murray cod so that appreciation grows for the fish and its environment, and yet the populations are properly conserved? At the same time, those who enjoy the privilege need better knowledge: how to land the fish quickly; how to handle, measure and photograph it without taking it from the water so that its gills, jaws and internal organs are undamaged; why barbless hooks catch more fish, do less damage and make unhooking easy.

Those are the only fishery restrictions needed, other than reserves. There wouldn't be a closed season. Restrictions that are poorly based devalue the process, even if they are heading in the right direction. Current closed seasons prevent people from enjoying communion with Murray cod and rivers on the false notion that a fish (which may well be 50 years old) taken from September to November somehow reduces populations more than if the same fish is taken in any other month. Or, equally ill founded, that they are somehow more catchable than in the other warm months.

Because I would be a god, I could harden my heart against the wailing and gnashing of teeth that would follow my creation of protective reserves in rivers. I could shrug at mere politics. In my wisdom, I would know that preventing exploitation in some key areas would improve and sustain populations and fishing quality in others and that reserves conserve the future.



Among my pastoral duties as Cod God would be the god-like dispensing of funds for generating and disseminating new knowledge. What fun! Even in my current mortal status as a long-term survivor of freshwater research, as well as an unrepentant angling tragic, I currently enjoy tiny doses of this privilege. I would inscribe some research-funding commandments:

- ***The research shall glorify the critical questions*** (What populations are there? How are they distributed in time and space? What are the key population-parameter values and how do they vary? How do they respond to my management initiatives?)
- ***The research shall eschew and renounce peripheral questions*** (How can we artificially propagate more and better cod? How many can we stuff into the sad, artificial, impounded habitats that have replaced so much of our rivers? How can we still the voices of the greedy?)
- ***The research shall pay homage to science*** (There shall be both rigour and interpretability. Studies shall be independently, expertly and regularly scrutinised. There shall be due recognition that a fish does not exist in isolation and that research shall be in the context of the whole system.)
- ***The research program shall be advised to the Minister's office at the time of public announcement*** (In the realm of my ordained principle and philosophy, there is no room for parochial politics.)

Following upon these divine initiatives and acting with the enlightenment provided by good research, I would look forward confidently to my Murray cod flock prospering and their tribe increasing, to the gratification of all.

## *Acknowledgements*

I am grateful to the Murray-Darling Basin Commission for the opportunity to present my views at the Murray Cod Workshop. And I am especially indebted to Dr Alison King and to Mark Lintermans for their helpful commentary and suggestions on a draft of this little epistle.

## *Reference*

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