



Study of an icon



Study of an icon: Determining optimum stocking rates of Murray Cod in the Dumaresq River

Introduction to the project

This project will assess the contribution of stocking and levels of natural recruitment of the Murray Cod population in the Dumaresq River between Mingoola and Bonshaw on the New South Wales and Queensland Border. In addition, information on population size, growth rates, habitat requirements and home ranges will be collected. This information in turn will be utilised to improve the stocking management plans presently in place for this species in the Dumaresq River and be made available to all stocking groups throughout the basin.

This project will increase fishing opportunities for Murray Cod in the Dumaresq River. The application of the knowledge gained from this project to the management of other Murray Cod stocking, within the Murray- Darling Basin shall also improve the efficiency of cod stocking and therefore the fishing opportunities for this species.

Why it is being done

Prior to 2004, approximately 3 million cod fingerlings were stocked into the Murray-Darling Basin, with little knowledge of the impact or contribution this has made on the recreational fishery or to the natural population. The Glenlyon Dam fish restocking Group Inc. is one of the oldest stocking associations in Queensland. Stocking in this region commenced in 1986 and over this period some ten thousand Murray Cod fingerlings per year on average have been stocked into the Dumaresq River upstream of Bonshaw.

The main objective of this study is to determine level of natural recruitment of Murray Cod into the Dumaresq River, and form the optimum number of fingerlings required to create a self maintaining population. Overstocking may not only impact on the natural population of cod in the Dumaresq River, but may also reduce the number of legal size cod available to recreational anglers.

The secondary objectives of this project of determining population size, growth rates, habitat requirements and home ranges, will assist by providing important information for the management of this species. Improved management of this species will not only enable the stocking groups to better target their limited resources but will also aid in the conservation of this species.

The target species, Murray Cod (*Maccullochella peelii*) is listed under the national Environment Protection and Biodiversity Conservation Act as vulnerable. The outcomes of this project are aligned with several of the objectives and actions of both the draft Murray Cod recovery plan and the Murray- Darling Basin Commission Native Fish Strategy.

What is being done

This project is expected to run over several years. No stocking will be undertaken by any group in the study area for a period of three years. Stocking will recommence 2010, with all cod fingerlings to be sourced from a single hatchery (of known genetic stock) and



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tagged with a chemical tag for that year only. No further fingerling will be stocked within that reach until 2012.

Biannual surveys of the population will be undertaken over a period of five years. This will entail 80 volunteers intensively fishing the entire stretch of river on a single day followed by an electro fishing survey of several sites within that reach. All fish will have length, location of capture, habitat of capture recorded and a small genetic sample taken before being tagged and returned.

As the project progresses we will expect to see the number of cod tagged increase as proportionally will the number of recaptures. All recaptures will contribute information, through the greater the time between

Who is involved?

There are many different organisations and groups involved in this project, and include:

- Queensland Department of Primary Industries and Fisheries (QDPI&F)
- The Queensland Murray Darling Committee (QMDC)
- CSIRO
- University of New England
- Glenlyon Dam fish restocking group Inc
- Murray cod recovery team
- New South Wales Department of Primary Industries (NSW DPI)
- Murray Cod reference group
- Freshwater Fish Stocking Association of Queensland
- Australian National Sport fishing Association
- Infish
- Victorian Fisheries
- Various fishing clubs in the region (Jennings/ Wallangarra, Stanthorpe/ Bluewater, Tenterfield, Texas)

What will the outcomes be/ or are

As previously stated, the main objective of this study is to determine level of natural recruitment of Murray Cod into the Dumaresq River. This information will form the optimum number of fingerlings required to create a self-maintaining population. The application of the knowledge gained from this project to the management of other Murray Cod stocking, within the Murray Darling Basin shall also improve the efficiency of cod stocking and therefore the fishing opportunities for this species.

Contacts/ More information

Brian Dare
Project Organiser
Glenlyon Dam fishing and restocking group
02 6737-5266

Steve Brooks
Queensland DPI
Fisheries ecology and stocking

Produced by: Megan Purvis, June 2008

For further information, contact QMDC on (07) 4637 6201 or visit www.qmdc.org.au

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07 3224-2261

Megan Purvis
Queensland Murray Darling Committee
Riverine and Floodplain technical officer
07 4671-7900

For more information on Murray Cod, the Murray- Darling Basin Commission's Native Fish Strategy and re-stocking of native fish, please refer to the Murray- Darling Basin Commission website (www.mdbc.gov.au).

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