



Above
A juvenile Murray cod *Maccullochella peelii*
in the Gwydir River. Photo - [NSW DPI-Fisheries](#)

'Big dry' survivors

Native fish recruitment during times of drought and low flow in the Gwydir Valley

NSW DPI-Fisheries have been monitoring the fish communities within the lower Gwydir Valley annually since 2014. During most of this time, river flows have been low with only one 'small' flow event of note in 2016-17. As a result, the past five years have been challenging, to say the least, for many of our local fish species within the Gwydir Valley, particularly in regards to spawning and recruitment.

Following these extremely dry conditions and then a series of fish kills during late 2019 and early 2020 mainly as a result of low flows, grave concerns were raised for the fish across the lower Gwydir. As part of the annual MER monitoring program, Fisheries NSW has been sampling the fish community since May 2020 with some positive results (Figure 1; Figure 2). Sampling methods have included several techniques to ensure an accurate status assessment of the species present including; boat and backpack electrofishing (Figure 1), fyke nets (Figure 2), bait traps and opera house traps.

One of the most exciting findings so far is the collection of a number of young-of-year (less than 1 year old) Murray cod (*Maccullochella peelii*) (Figure 3) and Freshwater catfish (*Tandanus tandanus*) (Figure 4). These findings confirm that within the past 12 months both species have spawned somewhere in the lower Gwydir and their offspring have survived and grown. The collection of these individuals demonstrates the resilience of both species even under the most extreme conditions.



Figure 1. Backpack electrofishing (Gavin Butler and Leo Cameron – NSW DPI Fisheries) in the lower Gwydir River in June 2020 as part of Gwydir MER project. Photo - John St. Vincent Welch (NSW DPI Fisheries).



Figure 2. Fyke netting in the lower Gwydir River in June 2020 as part of Gwydir MER project. Photo - Gavin Butler (NSW DPI-Fisheries)

These outcomes emphasise the importance of monitoring our environment both from an environmental water and fisheries management perspective. It is likely that without e-water neither species would have survived in sufficient numbers to bring about the recovery that is potentially starting to happen. The information collected will provide input into the ongoing management of our environment to ensure we protect and preserve our natural resources – in this case our local native fish species within the lower Gwydir.

Sampling of the Gwydir fish community is continuing and will likely be completed by end of July. It is hoped we can confirm recent recruitment among other fish species found in the Gwydir including at least some of the small-bodied native fishes. Many of these smaller species are a critical food source for our larger-bodied native fish and are an important part of the natural fish communities of the lower Gwydir.



Figure 3. Young-of-year Murray cod (length: 105 mm) collected in the Mehi River near Moree in June 2020 as part of the Gwydir MER project. Photo - John St. Vincent Welch (NSW DPI-Fisheries)



Figure 4. Young-of-year Freshwater catfish (length: 125 mm) collected in the lower Gwydir River downstream of Moree as part of Gwydir MER project. Photo - Gavin Butler (NSW DPI-Fisheries)

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For more on the Flow-MER Program, click [here](#).

Managing water for the environment is a collective and collaborative effort, working in partnership with communities, private landholders, scientists and government agencies - these contributions are gratefully acknowledged.

We acknowledge the Traditional Owners of the land which we discuss here. We also pay our respects to Elders past, present and emerging.