



Figure 1: A Gaygay (Freshwater catfish - *Tandanus tandanus*) collected using large-boat electrofishing during routine sampling on the lower Gwydir River.

Gaygay (Freshwater catfish) recovering in the lower Gwydir

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The native Gaygay (Freshwater catfish in the Gamilaraay language - *Tandanus tandanus*) (Figure 1) was once common across the lower Gwydir, but in recent decades, numbers have declined significantly and the species is now considered 'rare' in most areas. In 2015, during the Gwydir Long Term Intervention Monitoring (LTIM) sampling, only one gaygay was captured, and no gaygay were detected subsequently in 2016, confirming just how rare the species has become.

Recognising the dire state of the population in the Gwydir, DPI Fisheries made efforts to boost the Gaygay population in the lower Gwydir by relocating adults from Copeton Dam.

Traditional Gamilaraay Language of the Gomeroi nation used in this article
(H. White & B. Duncan - Speaking Our Way)

In December 2016, 39 individuals were relocated from Copeton Dam to a number of sites in the lower Gwydir catchment (Gwydir and Mehi rivers).

The primary objective of this work was to understand the movement of Gaygay in relation to changes in river flow and therefore individual fish were fitted with acoustic tags. Fish were collected using the two methods, electrofishing and fyke nets (Figure 2).

We were also interested in determining whether any evidence of recruitment could be detected following the relocation through our routine Gwydir LTIM and Gwydir Monitoring Evaluation and Reporting (MER) sampling.



Figure 2: A small fyke net set on the lower Gwydir River as part of this project.

FYKE NETS....

A fyke net is a cylindrical fish trap that contains a series of funnel shaped openings which make it easy for fish to enter the trap but very difficult for them to make their way out. Fyke nets are a passive method of sampling as they rely on fish willingly entering the net.



Figure 3: Sampling site on the lower Gwydir River as part of the Gaygay recovery project.

In 2017, the project team detected 23 Gaygay ranging in length from 46–489 mm. In November–December 2018, an additional 62 individuals (435–605 mm) were relocated from Copeton Dam to the lower Gwydir (Figure 3).

Gaygay have been detected each year since the second relocation. Of particular interest, the mean length of individuals collected in the past few years has decreased, which indicates that spawning and recruitment is occurring. In the period 2019–2021, seven individuals were collected which were 100 mm or less in length (Figure 4).

Detection of juvenile Gaygay in the lower Gwydir over the past few sampling years (2017 - 2022) has been a positive outcome from our relocation efforts.

Further sampling in coming years will provide vital information about the long-term recovery of Gaygay in the lower Gwydir. However, the regular detection of juveniles since 2017 is great news for this culturally, socially and ecologically important species.



Figure 4: Juvenile Gaygay (*Tandanus tandanus*) collected during routine sampling as part of this project.

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 on which we live, work and play. We also pay our respects to Elders past, present and emerging.