



Australian Government

Commonwealth Environmental Water Office

Gwydir refuge pool flow 2019 - Update #2

11 December 2019

Nest-building gaygay (catfish) respond to gali (water) delivery

Objectives	Maintain and provide access to refuge habitat, increase connectivity and improve water quality in pools to increase the chance of native fish survival.
Date & volume	Event #1 – 15 to 25 Oct 2019, ~5,000 ML, Copeton Dam. Event #2 – 9 to 22 Dec 2019, ~2,000 ML, Tareelaro Weir.
Other flows	WaterNSW delivered stock and domestic flows immediately following Event #1.
Target areas	Large refuge pools in the Gwydir between Copeton Dam and Tyreel Weir. Mehi between Tareelaro and Combadello Weir and Carole Creek to near Garah.

Where is Event #1 flow now?

Flows from Event #1 reached Tyreel, Combadello Weirs and Carole Creek near Garah in early November.

WaterNSW released a stock and domestic flow immediately after the environmental water delivery. The combination of these two flows means water has extended further down the Mehi, Gwydir and Carole waterways.

Since flows stopped in November, water levels in river pools have declined. As a result, a decision was made to deliver water in December.

Event #2 starts 9 December

Water for the environment flows will commence on 9 December to reconnect and refresh pools in target reaches in the mid Gwydir system.

If dry and hot conditions continue, further releases of water for the environment are likely in early 2020 to support the survival of native fish populations.

Tracking water quality

As river pools dry, water quality declines. When water first returns to a drying river it can bring large amounts of leaf litter and ash from fires. As this material breaks down, the water can darken and oxygen levels drop below what fish need to survive.

Water quality in the Gwydir and Carole systems was mostly good with only one small fish death event reported in the Gingham.

In contrast, a number of fish deaths (200-300 fish) were reported along parts of the Mehi River. Early investigations suggest this was because the river had stopped flowing for a long period and poor quality water accumulated at the front of the first flow.



Flow in Mehi River (Golf Club area) 1 November 2019. Note dark coloured water. Photo: J. Humphries, CEWO.

Regular monitoring of water quality in refuge pools is being conducted and will continue over the coming months. This work is being done together with WaterNSW, the NSW Department of Planning, Industries and Environment and the Commonwealth Environmental Water Office (CEWO).

More information about water quality will be provided in Update #3.



David Preston NSW DPIE in the Mehi River with small Murray Cod (Guduu). Part of water quality monitoring program Nov 2019. Photo: M. Miles, DPIE.

Gaygay (catfish) building nests!

Fisheries research indicates fish communities in the Gwydir remain in poor condition and need significant help to survive the extreme conditions we are currently experiencing.

The first refuge pool flow enabled key fish species, like the endangered eel-tailed catfish, to access refuge habitat as well as providing opportunities to breed.

Eel-tailed catfish build circular nests, generally around 0.6-2.0 m in diameter, from pebbles and gravel. These nests hold the eggs until they hatch.



Eel-tailed catfish nest in the Mehi River downstream of Moree 29 November 2019. Note clear water. Photo: D. Preston, DPIE.

Field staff recorded an eel-tailed catfish nest that was built after the pool flow passed in November. While no eggs were spotted, past work suggest that it is likely the juveniles successfully hatched and have moved on.

Feedback from community

We are keen to seek local community and landholder involvement and support during water deliveries. Feedback and information is always appreciated and welcomed.

Community members are encouraged to report any fish deaths or observations through the Fisheries Watch hotline on 1800 043 536.

Planning for the delivery of water for the environment has been undertaken by CEWO and NSW DPIE in consultation with the NSW Gwydir Environmental Water Advisory Group. This group includes representatives from local landholders, irrigation and Aboriginal community.

More water delivery updates will be provided in 2020.

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Additional information on the Gwydir Refuge Pool Flow is available at:

www.environment.gov.au/water/cewo/catchment/gwydir-valley-river-refuge-pool-flow

Note: Gaygay and gali are Kamilaroi / Gamilaraay (Gomerioi Nation) words sourced from:

www.dnathan.com/language/gamilaraay/dictionary/GAMDICTF.HTM

The Department acknowledges the traditional owners of Gomerioi country and all country throughout Australia and their continuing connection to land, sea and community. We pay our respects to them and their cultures and to their elders both past and present.