



Australian Government

Commonwealth Environmental Water Office

Gwydir refuge pool flow 2019 - Update #3

28 January 2020

Helping fish survive the drought

Benefits	Maintaining and providing access to refuge habitat, increasing connectivity and improving water quality in pools to assist native fish survival.
Date & volume	<u>Event #1</u> – 15 to 25 Oct 2019, ~5,000 ML, Copeton Dam. <u>Event #2</u> – 9 to 22 Dec 2019, ~2,000 ML, Tareelaro Weir. <u>Event #3</u> – 5 to 28 January 2020, ~5,000 ML, Copeton Dam.
Other flows	All events have been coordinated with other Copeton Dam releases for irrigation deliveries. WaterNSW provided stock and domestic replenishment flows immediately following Event 1. There were small natural flows from local rainfall runoff immediately after Event 3.
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.

Outcomes so far

Water for the environment has filled refuge pools in the Gwydir, Mehi and upper Carole systems helping native fish and other wildlife survive the drought.

Environmental flows are helping to improve the overall health of these river systems. Whilst low flows over hot river beds involves some risk, work is being done to understand the exact cause of poor water quality which led to a small number of fish deaths during flows in November.

If conditions remain dry and hot, an additional small release of water for the environment will likely occur in mid February 2020.

How far did water from Event #2 go?

Flows in December reached Tyreel, Moree weirs and Carole Creek near Garah. Due to hot, dry conditions in December, flows along the Mehi River did not reach Combadello Weir. As a result, a decision was made to deliver additional water for the environment (Event 3) in early January.

Where is Event #3 now?

Flows have reached downstream of Brageen on the Gwydir, to Tillaloo in the Gingham, downstream of Combadello in the Mehi and to near Garah on the Carole. Regular monitoring of refuge pools detected a decline in water quality in early January. This was along parts of the Mehi River as flows moved through the system. Water quality was managed with additional releases of water for the environment. Native fish are currently surviving in reasonable condition.



Collecting dissolved oxygen readings along the Mehi River 10 January 2020 (M.Southwell UNE).

Farmers help to improve water quality

As river pools dry, water quality declines. When water first returns to a dry river, oxygen levels can also drop below what fish need to survive.

Changes in oxygen levels can be driven by the breakdown of large amounts of leaf litter and ash from fires washed into rivers and creeks.



Leaf litter washed from river bank on Mehi River following flows from Event #1 (D. Preston DPIE).

In November staff from WaterNSW, Commonwealth Environmental Water Office, along with NSW DPIE, worked with landholders along the Mehi River to reduce the impact of the poor quality water.

With the cooperation of a local irrigation farmer, around 100ML of poor quality water was pumped out of the flow below Combadello Weir. This action was combined with the redirection of 120ML of the flow into dry sections of Mallowa Creek. Following these interventions, no further fish deaths occurred as water continued to make its way further down the Mehi River.



Leaf litter washed into the Mehi River following flows from Event #3 13 January 2020 (M. Miles DPIE).

Community support

Community involvement and support in delivering water for the environment is always appreciated.

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

Feedback and information from local community, landholders and managers is always welcome. Please feel free to contact us.

Local Engagement Officers

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Further information on Environmental Water in the Gwydir at:

<https://www.environment.gov.au/water/cewo/catchment/gwydir>

<https://www.industry.nsw.gov.au/water/environmental-water-hub/management>



Clear, good quality water in Gwydir River down stream of Boolooroo Bridge 1 November 2019 (CEWO)

The Department acknowledges the traditional owners of Gomeroi 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.