



Australian Government
Commonwealth Environmental Water Office



Northern Fish Flow Update 2

The Northern Fish Flow has started – with water for the environment flowing from Glenlyon and Copeton dams. This flow will support native fish and animals struggling to survive in isolated waterholes. The flow will run into the Barwon River in the next few weeks and is being welcomed by communities all along the river.

OBJECTIVES OF THE NORTHERN FISH FLOW



Help native fish and animals survive the drought.



Improve water quality, connect the rivers, and improve habitat for native fish and animals. Improve social, cultural and economic outcomes for river communities.

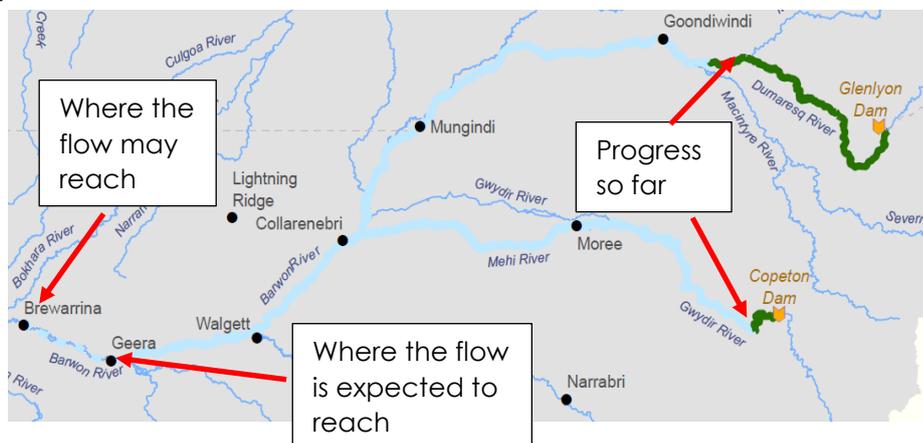
THE NORTHERN FISH FLOW IS OFF AND RUNNING!

Releases from Glenlyon Dam (upstream of Goondiwindi) started on 24 April (right). Releases from Copeton Dam (upstream of Moree) started yesterday.

The flows from the two dams will meet in the Barwon River at Collarenebri in a few weeks.

The exact distance that the water will reach down the Barwon is hard to predict due to the extremely dry conditions.

We expect that the flow will reach the junction of the Macquarie and Barwon rivers and hope that it reaches Brewarrina.



There is a sense of excitement about the recent and forecast rain 'out west' and the Northern Fish Flow.

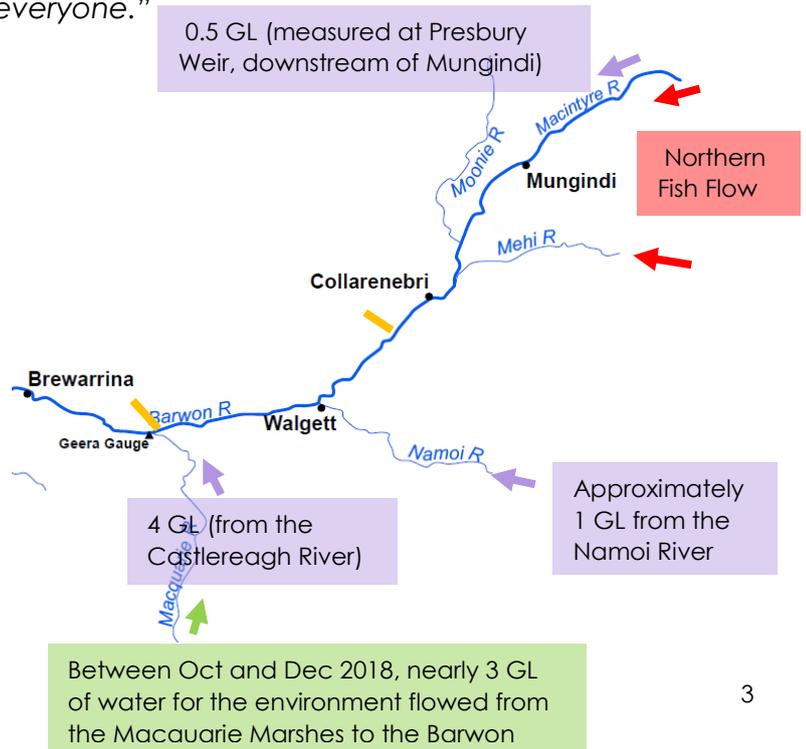
The Mayor of Brewarrina Shire Council, Phil O'Connor said last week:

"Finally, finally, finally we have some water coming down and isn't it good to see. As of tomorrow they are releasing water out of northern dams Glenlyon and Copeton..... heading down some wetted channels. There has been a bit of water coming out of the Macquarie running in between Bre and Walgett, and the Namoi has been running a trickle into the Walgett weir pool. Anyway, this other water will be magnificent and a bit of light at the end of the tunnel for everyone."

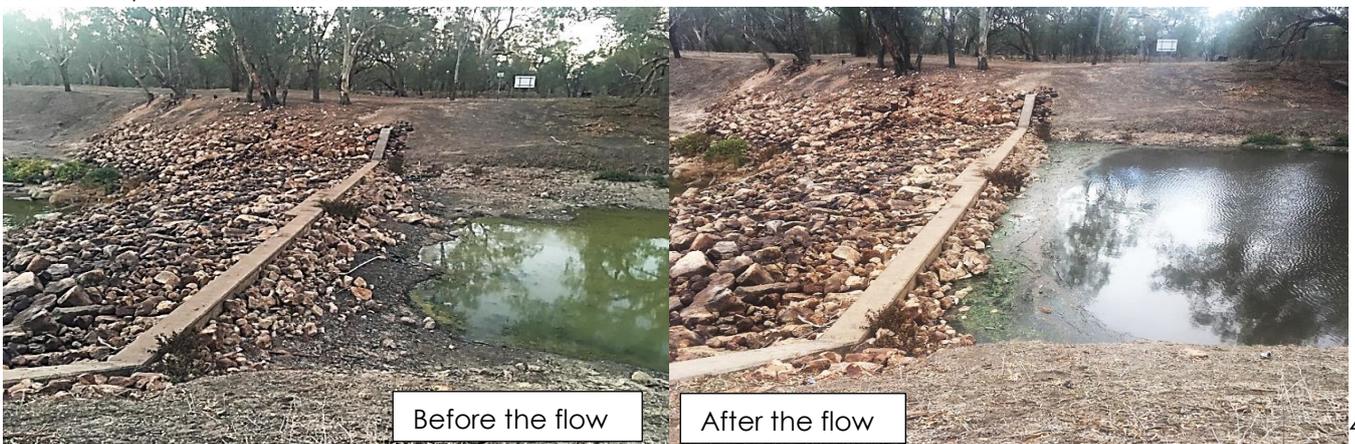
The water that has flowed into the Barwon in April (mostly from ex-cyclone Trevor that passed by in late March) is shown below in **mauve**. Also shown in **green** is some water for the environment that flowed into the Barwon from the Macquarie catchment in late 2018. Both flows from the Macquarie increased connectivity along the Barwon, and raised the water level of the Brewarrina weirpool, 100 river km downstream.

The 190 km reach of the Barwon River between the two **orange** lines (right), has ceased-to-flow for nearly 300 days, which is unusually long. Water from the Northern Fish Flow will start to flow in this reach from late May.

Following the approximately 1 GL of water that entered the Barwon River from the Namoi in April, the water level in the weir pool on the Barwon near Walgett rose by about 1 m. However, the water level remains about a metre lower than usual.



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In most years the Barwon receives flows from at least one of the rivers that flow into it. These flows contribute to the Barwon being a stronghold for native fish. The last flow right along the Barwon was in April and May 2018, nearly 300 days ago. This was also water for the environment released from Glenlyon and Copeton dams, in the 'Northern Connectivity Event'.

(Further downstream of where the Northern Fish Flow will reach, there has been a flow from the Warrego River into the Darling just downstream of Bourke over recent days. Today, the flow in the Darling River at Louth exceeds 900 ML/day, the first flow there since last August. This flow is very welcome).

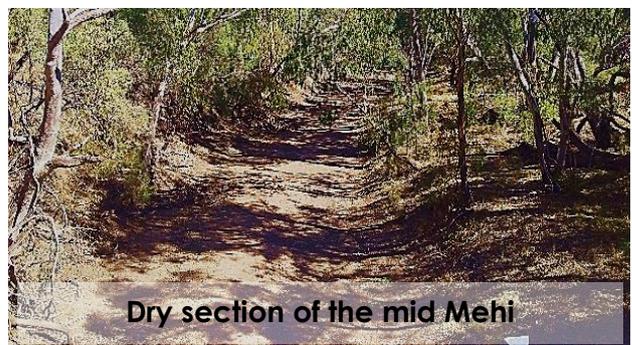
THE NORTHERN FISH FLOW FOLLOWS A LOW FLOW IN THE MEHI RIVER

The Northern Fish Flow is following a low flow of water for the environment to re-start the Mehi River that commenced in mid-April. Lower reaches of the Mehi have not received flow for over 200 days.

Below are recent photographs of the mid Mehi River. Given the extent of dry river bed, the seepage will be high. 3.7 GL of Commonwealth and NSW water for the environment is currently being delivered to refill refuge pools and help support native fish along the entire Mehi system. This flow will also set up the Mehi nicely for the Northern Fish Flow to follow, which will deliver additional environmental benefits in the Mehi. As well in the Border Rivers the Northern Fish Flows will benefit the Macintyre and Dumaresq rivers on route to the Barwon River.



River pool in mid Mehi – falling condition and water levels



Dry section of the mid Mehi

For more information on this Mehi event, go to:

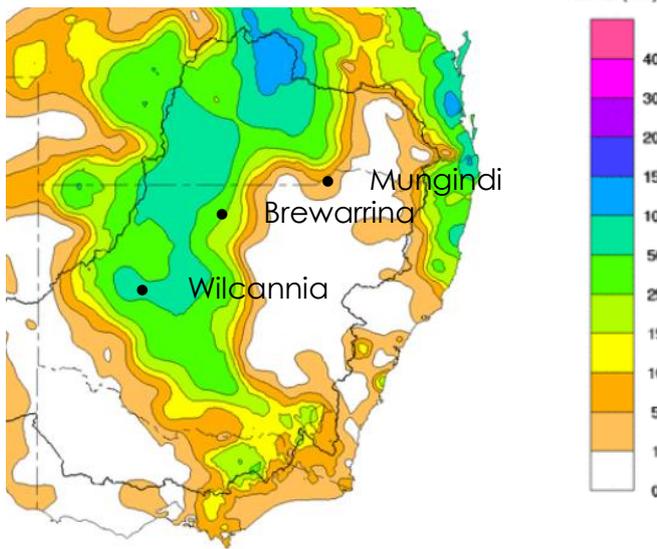
<https://www.environment.nsw.gov.au/news/water-for-native-fish-mehi-river-flow>

RECENT RAINFALL

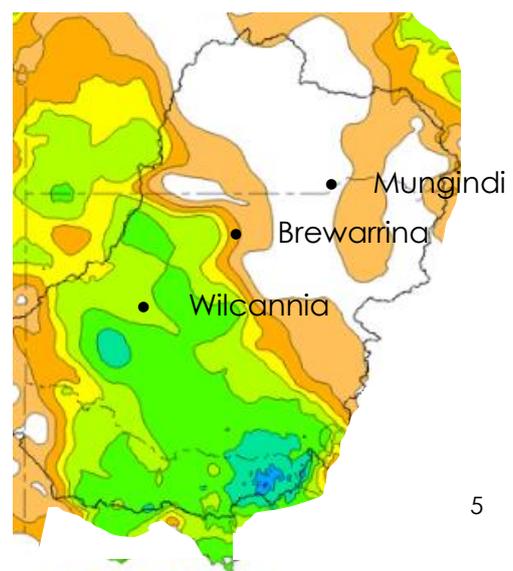
Last week there was welcome rain along the Darling. Nearly all the rain fell west of Brewarrina and in the Darling rather than Barwon catchment. Towns along the Barwon River upstream of Brewarrina recorded virtually no rain: Collarenebri 0 mm, Walgett 0 mm, and Mungindi 5.6 mm. Many towns along the Darling received rain: Bourke 36 mm, Tilpa had 52.5 mm, and Wilcannia 79.6 mm. This week, some rain has also fallen in the Darling catchment, but with little rain in the Barwon catchment. This rain is shown on the following maps.



Observed rainfall: 19 April – 25 April 2019



Observed rainfall: 27 April – 3 May 2019



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Environmental water managers closely monitor rainfall to see if nature will do the job of topping up and connecting the waterholes. Given this rainfall was further to the west of the Gwydir, Macintyre and Barwon catchments, the fish and animals in the isolated waterholes still need a hand from the Northern Fish Flow to increase their chances of survival.

The extended period of no flow in the river systems has also impacted on water quality. Currently blue-green alert levels at Collarenebri and Brewarrina are amber. These are expected to improve to green as the water temperatures cool and the Northern Fish Flow passes through.

Rainfall in Barwon River catchment is highly variable. This variability is partly because a few rainfall events (e.g. ex-cyclones) can have a huge effect on flows in this system. For example, if the heavy rainfall from ex-cyclone Trevor in late March had drifted a few hundred kilometres further to the south-east, it is very likely there would be significant flows in many northern rivers, and the Northern Fish Flow may have not been required. Unfortunately, after dumping some rain in the top of the Warrego catchment, ex-cyclone Trevor tracked more to the north.

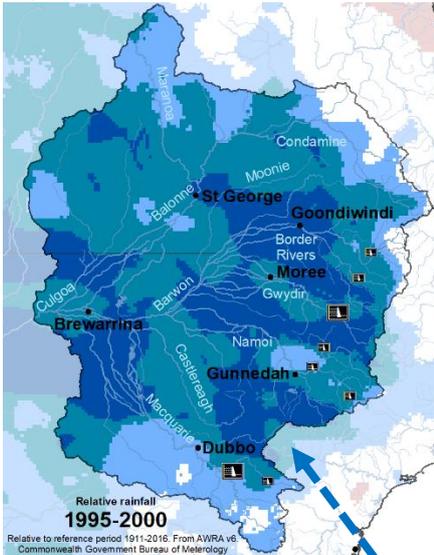
WET AND DRY PERIODS IN THE BARWON CATCHMENT OVER THE LAST 25 YEARS

To illustrate this variability in rainfall in the northern Murray-Darling Basin, maps for periods within the last 25 years have been kindly provided by the Bureau of Meteorology, and are provided on the following page. These maps are for the Barwon catchment (including the Culgoa catchment – although strictly the Barwon becomes the Darling at the Culgoa junction). These maps show a large range in the duration and intensity of wet and dry periods for the Barwon catchment. These maps also show significant spatial variability in rainfall.

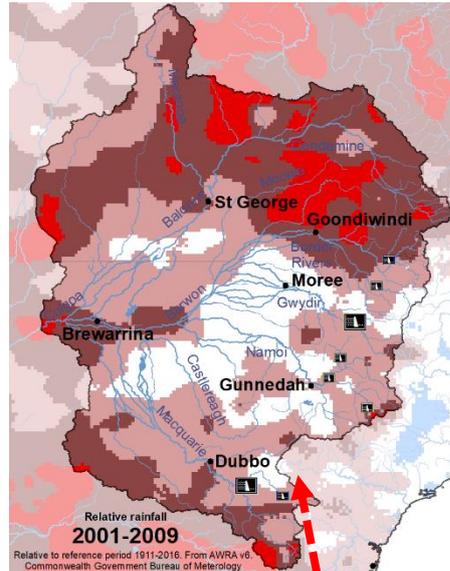
This variability in rainfall and therefore water availability is one consideration when planning use of water for the environment. Other considerations include the relative health and resilience of environmental assets at the time.



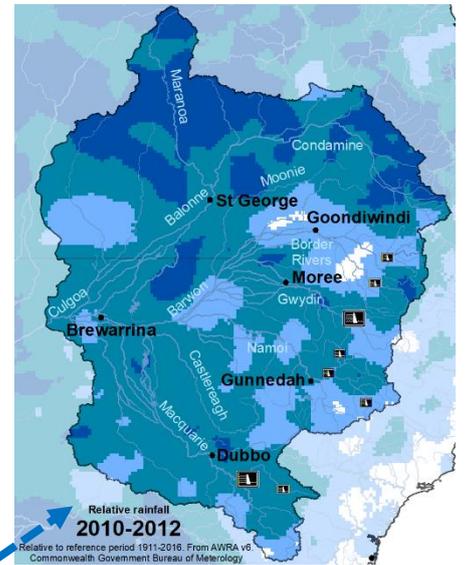
1995–2000 – Rainfall generally very much above average, highest 1% in mid catchment



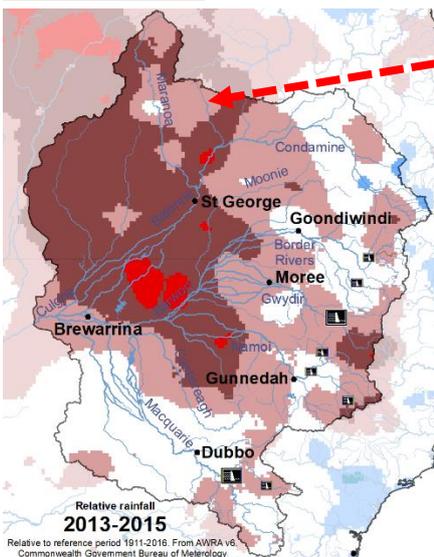
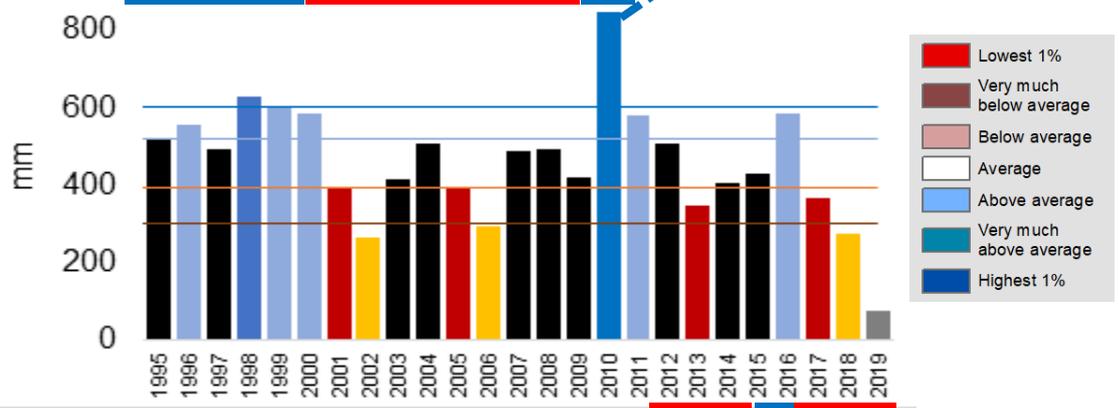
2001–09 - Millennium drought, particularly severe in the north of the Barwon catchment



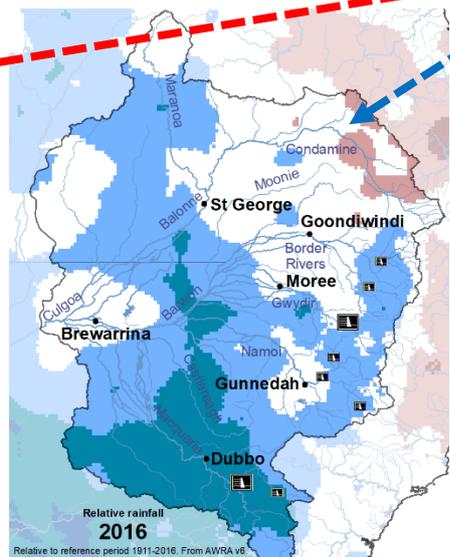
2010–2011 – Rainfall generally very much above average, highest 1% in northern Barwon catchment



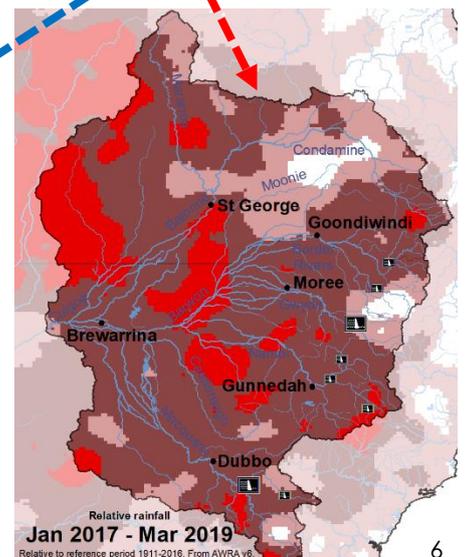
(Spatially averaged) rainfall across the Barwon catchment (Border Rivers, Gwydir, Namoi, Macquarie, Culgoa)



2012–2015 - Below average rainfall across much of Barwon catchment



2016 – Rainfall average in the north, very much above average in the Macquarie



2017–19 - Rainfall generally very much below average over large areas of the Barwon catchment



WORKING TOGETHER TO KEEP OUR RIVERS HEALTHY

The Northern Fish Flow will benefit river communities, contributing to town water and riparian basic stock and domestic water supplies, and providing recreation and tourism benefits along the river systems. In addition to small volumes of water that will still remain in environmental accounts in these dams after the Northern Fish Flow, there are also volumes of water that have been set aside by NSW and Queensland for essential supplies, including for future stock and domestic purposes. The water being used in the Northern Fish Flow is from carryover remaining in environmental accounts from dam inflows in 2016 and 2017.

As well as the vital environmental benefits provided from this event, this flow will help support important Aboriginal environmental, cultural and spiritual values in the river systems. Some fish species are particularly significant to local Aboriginal communities such as the Kamilaroi / Gomeroi nation including *guduu* (Murray cod), and *gaygay* (catfish).

The Commonwealth Environmental Water Office is partnering with the NSW Office of Environment and Heritage to deliver the Northern Fish Flow. The Northern Fish Flow uses both NSW and Commonwealth water for the environment. Other agencies contributing are NSW DPI – Fisheries, NSW DoI – Water, WaterNSW, the NSW Natural Resources Access Regulator, the Queensland Department of Natural Resources and Environment, and the Murray-Darling Basin Authority. The Gwydir Environmental Water Advisory Group (ECAOAC) has been consulted with on the planning for this Northern Fish Flow. This is an example of government agencies and community members working together to deliver outcomes under the Basin Plan. Several of these agencies will be represented at the community information drop-in sessions below. We will also meet with other groups at a time and place that is mutually convenient – contact details are below.

In May and June 2019, there will be opportunities for local communities to discuss the Northern Fish Flow in more detail with the CEWO, the Murray-Darling Basin Authority, and state agencies. Community information drop-in sessions will be held at: Texas and Goondiwindi on 14 May; Toomelah and Boggabilla on 15 May; Mungindi on 16 May; Boomi and Moree on 17 May; Collarenebri on 22 May; Walgett on 6 June, and Brewarrina on 13 June. Information on venues are provided at the link below.

<http://www.environment.gov.au/water/cewo/catchment/Northern-fish-flow-2019>

The next update is scheduled for release just after the flow has travelled down the Macintyre and Mehi and reached Collarenebri, in mid to late May.

CONTACTS

CEWO Local Engagement Officer: Jason Wilson

☎ 0418 210 389

@ jason.wilson@environment.gov.au

NSW OEH Senior Wetlands & Rivers Conservation Officer: Daryl Albertson

☎ 0407 071 985

@ daryl.albertson@environment.nsw.gov.au



FURTHER INFORMATION

NSW OEH website

<http://www.environment.nsw.gov.au/topics/water/water-for-the-environment/about-water-for-the-environment>

CEWO website and email

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

Northern Fish Flow website:

<http://www.environment.gov.au/water/cewo/catchment/northern-fish-flow-2019>

CEWO email

ewater@environment.gov.au

Image credits:

1 – Sunwater and the Department of Natural Resources and Environment;

2 – Department of Environment and Energy;

3 4 – Commonwealth Environmental Water Office;

5 – Bureau of Meteorology;

6 – Bureau of Meteorology (with special thanks to Matthew Coulton and Robert Argent).

Chart - annual rainfall in the northern MDB January 1995 - March 2019 (percentiles relative to 1900-2018 reference period).

Maps – relative to reference period 1911 – 2016.

7 – Office of Environment and Heritage (thanks to Jane Humphries and David Preston).

