

Healthy Rivers,
Healthy Communities

Water for the environment was delivered to:



Improve and maintain water quality and replenish river habitats



Maintain connection along streams and creeks and connection with and along the Barwon-Darling (Baawan-Baaka) River



Support native fish movement, breeding and overall health

Timing: Autumn 2023

Northern Refresh Flow

Following the very wet weather of 2022 and early 2023, conditions in parts of the northern Basin started to rapidly dry in late summer 2023. This return to very low or no-flow conditions led to poor water quality, increased algal blooms and fish death events in the Barwon-Darling (Baawan-Baaka) River and in other connected streams and creeks.

To improve water quality, keep streams and rivers connected and help native fish survive in the northern Basin, the Commonwealth Environmental Water Holder (CEWH) delivered 8.8 gigalitres (GL) of water from storages in the Gwydir (4.5 GL) and Namoi (4.3 GL) into the Barwon-Darling from mid-April to mid-May as part of a Northern Refresh Flow.



Mogil Mogil Weir, Barwon River above Collarenebri, late April 2023. Photo: CEWH.

This water flowed into the Barwon-Darling River and remained in the river (protected from extraction) along with a further 16.9 GL of water for the environment from the activation of Commonwealth Barwon-Darling licences. The flows refreshed over 2,000 kilometres of river habitat in northern tributaries and along the Barwon-Darling to Menindee Lakes.



The Darling River at Wilcannia, April 2023. Photo: University of New England.

Environmental flows from the [Macquarie River](#) combined with NSW Planned Environmental Water and water releases from nearby NSW creeks and streams, including the Gwydir, contributed more flows along the Barwon-Darling.



Flows in Gil Gil Creek, March 2023. Photo: University of New England.



Less algae and more oxygen in the water

The CEWH's monitoring providers from the University of New England assessed the water quality before and after the delivery of environmental water.



Pre-flow water sampling on the Barwon River at Briery Weir upstream of Brewarrina. Photo: F. Noble, University of New England.

Water quality monitoring was undertaken at sites across the Macquarie, Gwydir, Namoi and Barwon–Darling ahead of the flow. The results indicated that delivery of water for the environment would help bring benefits for native fish and vegetation.

Monitoring undertaken at the same sites following the Northern Refresh Flow found a greater amount of dissolved oxygen at all sites. This is important because low dissolved oxygen in rivers can cause stress to native fish and contribute to fish death events.



Water sampling in the Darling River upstream of Bourke. Photo: F. Noble, University of New England.

The flows also helped improve water quality overall by diluting salt concentrations, nutrients and algae along the Barwon–Darling. Prior to the Northern Refresh Flow some areas, such as Walgett, experienced amber alerts for algal growth, which means the water is unsuitable for potable use. The algal alert dropped to green levels after the delivery of environmental flows, indicating that algae concentrations in the water were reduced to levels safe for recreational, stock, and domestic use.

This connectivity flow has been delivered in a proactive way to maintain and improve water quality, rather than as a reactive response to dry conditions and critical environmental risks. The event also helped keep northern Basin rivers connected into the cooler months.

What's next

The Bureau of Meteorology's outlook for the coming months suggests that conditions will continue to remain dry, with below average rainfall forecast across much of the northern Basin. If this is the case, another connectivity flow may be delivered to improve river conditions in the Barwon–Darling streams and creeks, and along the length of the Barwon–Darling to Menindee.



Barwon River at Brewarrina, July 2023. Photo: CEWH.

Please contact our CEWH Local Officers for further information:

Greg Ringwood (Toowoomba, QLD)

☎ 0418 210 389

@ greg.ringwood@dcceew.gov.au

Jason Wilson (Walgett, NSW)

☎ 0418 210 389

@ jason.wilson@dcceew.gov.au

*We acknowledge the Traditional Owners of the Murray–Darling Basin.
We pay our respects to them and their elders past, present, and emerging.*