

Community update for Menindee and Lower Darling-Baaka

Hypoxic water in the Barwon-Darling river

Significant inflows into the Northern Murray-Darling Basin are bringing hypoxic (low oxygen) water through the system which can lead to fish deaths. With extremely hot temperatures above 40 degrees in recent weeks combined with the large flow front of hypoxic water coming from the north, the risk of deteriorating water quality is very high.

The heavy rainfall in northwestern NSW and southwestern Queensland resulted in river level rises along the Barwon River. Flooding peaked at Collarenebri on 5 December. The peak of the flows has passed Collarenebri, is decreasing at Walgett, is now peaking at Brewarrina, and is reaching Bourke.

The inundation and breakdown of grass, leaves, bark and other organic matter in streamlines and floodplains would have reduced the dissolved oxygen in the water.

Unfortunately, there are limited options available to manage hypoxic water, particularly given the high flow volume in excess of 30,000ML/day at some locations.

There have been confirmed fish deaths at Walgett and Brewarrina in the past two weeks and we are expecting more over the Christmas and New Year break, particularly in stretches of the river where there are no refuges for native fish, as the front of the hypoxic water moves down the river.

When the water reaches the Menindee Lakes, state and federal agencies will work together to manage inflows to maintain water quality in the Weir 32 weir pool.

Risk of fish deaths – actions being taken

The risk of fish deaths is high over the coming weeks as temperatures continue to soar and this large mass of hypoxic (low oxygen) water makes its way down the river. We expect there may be fish deaths in the upper parts of Lake Wetherell.

Hypoxic water is an extremely complex and difficult issue to manage, particularly when the flows are large. In many cases, there is little we can do.

At Menindee we intend to utilise the characteristics of Lakes Tandure and Pamamaroo to assist in improving dissolved oxygen in the water, before it is released from Lake Pamamaroo into the weir pool.

Should a mass fish death occur, an incident response plan is in place.

Current water quality at Menindee and fish health

Water quality monitoring continues to show that dissolved oxygen levels in the Darling River at Menindee are generally staying above critical thresholds for fish health.

The buoys in the Menindee weir pool are showing that destratification of the water column is occurring and dissolved oxygen levels remain above 4mg/L. Cooler temperatures also resulted in a decrease in algae activity.

A continuous dissolved oxygen sensor has been installed in the Lower Darling River at Pooncarie, with levels at Pooncarie and Burtundy remaining above critical thresholds for fish health (currently above 6mg/L).

Discharge from Menindee Lakes

Lake Pamamaroo outlet has been releasing 750 ML/day since 11 December. The Lake Wetherell and Lake Menindee outlets were closed on 11 December. Lake Cawndilla outlet discharge is around 740 ML/day. Lake Pamamaroo inlet was opened on 7 December (3,000 ML/day). This has drained the water off the floodplain area in Lake Wetherell. Inlet is currently at 150 ML/day.

WaterNSW – Operational update

Recent rainfall in parts of the northern Murray-Darling Basin has led to noticeable flows in the tributary catchments of the Barwon-Darling Rivers. Based on inflow forecasting, it is estimated that Menindee Lakes may receive an additional 250-350 GL of inflows by the end of January 2025. Currently, there is sufficient airspace in Menindee Lakes to safely capture these expected inflows.

Water management will ensure that the upper lakes are filled to their Full Supply Level by the end of the inflow event, with any surplus water passed into Lake Menindee. Please note that inflow forecasts are based on the best available data, but several variables such as travel times, extraction rates, evaporation, and other system losses may impact the final volume. WaterNSW will continue to provide updates on the forecast inflows as the situation develops.

Report on micro bubble technology trial

Earlier this year WaterNSW and NSW DCCEEW completed a trial of micro bubble technology in the Darling-Baaka River near the town of Menindee. The trial was aimed at reducing the risk to fish in the Darling-Baaka River at Menindee and returned encouraging results.

Additional assessments and planning will be required before the technology is considered for further use. [The results of the WaterNSW trial have been analysed](#) and a report provided to the DCCEEW. Key findings include:

- Oxygen levels in the bottom of the river for 180 metres downstream of the oxygenation point were higher than upstream of the oxygenation unit. Media
- Water velocity measurements showed the oxygenation unit increased its influence on oxygen levels during times of reduced flows, when fish would be more at risk.

The report notes that river conditions were improving in the first two months of the trial due to larger than expected environmental releases. The report can be found on [the WaterNSW website](#)

River health project introduction

The EPA Flood Recovery Program for Water Quality Monitoring in the Darling Baaka will monitor river health until June 2025. It is led by the Environment Protection Authority and delivered through two key projects, including the Darling Baaka River Health Project by the NSW Department of Climate Change, Energy, the Environment and Water. This project will help us understand some of the key pressures on the river and its surrounding ecosystems. **For more information click here to go to the EPA website.**

Lower Darling-Baaka Tube Fishway Trial

Site work has begun for the Lower Darling-Baaka Tube Fishway Trial project. The Fishheart team, contractors, Barkandji River Rangers and staff from WaterNSW, DPIRD-Fisheries and Public Works will be out at the Lake Wetherell Outlet Regulator to mark out the site, erect security fencing and start preliminary construction work.

During this time access will be restricted in the area, and please be aware of signage and fencing to stay safe whilst this exciting project commences. Pending how construction goes, we're still planning to have the Fishheart fishway operational by the end of January 2025 to help move fish and connect the Northern Basin and Southern Basin. More information on the project can be found at [Menindee Lower Darling-Baaka Temporary Tube Fishway Trial | Department of Primary Industries](#)

Additional information

- To notify the NSW Department of Climate Change, Energy, the Environment and Water of potential blackwater events email: water.enquiries@dpie.nsw.gov.au
- To view community updates issued, visit [Community updates and frequently asked questions | Water \(nsw.gov.au\)](#)
- To report dead fish, fish struggling or gasping at the water surface, or crayfish leaving the water please call the **NSW DPI Fisheries Phonenumber 1800 043 536** or fill in a fish kill protocol and report form at: <https://www.dpi.nsw.gov.au/fishing/habitat/threats/fish-kills-2019-2020/info-sheet>

- Information on recent fish deaths is available at: [Fish kills in NSW](#). When reporting, please include the name of the river/waterbody, location and date of your observation and provide photographs. If possible, please also record what species are affected and an estimate of number of each species observed.
- Further information on blackwater events can be found at the DCCEEW Water website at: [Hypoxic blackwater | Water \(nsw.gov.au\)](#)
- Additional information is also available on the Murray-Darling Basin Authority website at: <https://www.mdba.gov.au/climate-and-river-health/water-quality/fish-deaths>
<https://www.mdba.gov.au/water-management/infrastructure/menindee-lakes>
- Operational updates are available at: [WaterInsights - WaterNSW](#)
- Water quality data collected after the fish deaths at Menindee is available on the Environment Protection Authority web page at: <https://www.epa.nsw.gov.au/working-together/community-engagement/updates-on-issues/menindee-fish-kill>
- Real-time water quality data from DCCEEW-BCS monitoring buoys can be accessed from the Darling-Baaka River Health Project dashboard.
<https://sss.tago.run/dashboards/info/6574473bc8b74d0008344b05?anonymousToken=00000000-5ee2-f600-e0f3-6100270c936d>
- WaterNSW buoy data can be found here <https://waterinsights.watarnsw.com.au/12104-lower-darling-regulated-river/river-data>