

How we make decisions

Watering actions cannot be planned in the Barwon-Darling rivers in the same way water for the environment can be managed in a regulated catchment. Environmental outcomes are typically generated by using licences to reduce the volume of water taken from flow events and to connect smaller flows to the system from regulated catchments.

The NSW Government works with the Commonwealth Environmental Water Holder to manage water in the catchment.

Currently, there is no Environmental Water Advisory Group in the Barwon-Darling system, so decisions are made by the NSW Environmental Water Manager in partnership with the Commonwealth Environmental Water Office.

What is water for the environment?

Water for the environment is a share of the water in dams and rivers that is set aside to support the long-term health of local rivers, creeks and wetlands. Healthy rivers carry water to homes, farms, schools and businesses. Rivers are important cultural and spiritual sites for Aboriginal people and the broader community.

Expected environmental water volumes available at 1 July 2020

Source	Maximum volume available	Volume expected at 1 July under current conditions
Water licensed to the Commonwealth		
A class unregulated	73 megalitres	Event-dependent
B class unregulated	16,060 megalitres	Event-dependent
C class unregulated	12,498 megalitres	Event-dependent
Water licensed to NSW		
A class unregulated	189 megalitres	Event-dependent
B class unregulated	51 megalitres	Event-dependent
Unregulated	1,488 megalitres	Event-dependent

Note: This is an indicative summary of volumes expected to be available. For further information on available volumes, please contact the region via Department of Planning, Industry and Environment enquiries on 1300 361 967.

1 gigalitre = 1000 megalitres

2.5 megalitre = 1 Olympic swimming pool

About the Barwon-Darling

The Barwon-Darling river system connects the river systems of the northern Murray-Darling Basin with those of the south.

Several major river systems flow into the Barwon-Darling including the Culgoa, Gwydir, Macintyre, Namoi, Macquarie, Bogan, Paroo and Warrego.

The Barwon-Darling rivers refers to the unregulated section of the river channel from the junction of the Macintyre and Weir rivers, near Mungindi, through to Lake Wetherell, part of the Menindee Lakes system. It includes distributary creeks like the Talywalka and a myriad of floodplain wetlands, billabongs and streams along the Barwon-Darling floodplain.

The Barwon-Darling rivers and wetlands support important Aboriginal cultural heritage values for the Barkindji, Murrawarri, Ngemba and Ngiyampaa people.



DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

Barwon-Darling rivers

Annual Environmental Watering Priorities 2020-21



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Cover photo: A billabong on the Barwon-Darling River begins to fill.

Photo: Matthew Miles/DPIE.

Page 2 infographic: J Humphries/DPIE.

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Water for rivers and wetlands

The Barwon–Darling rivers rely on rainfall and inflows from tributaries to support river health. Many of the tributaries which flow into the Barwon–Darling system are regulated by dams, weirs and floodplain structures. This constrains the ability of environmental water managers to actively plan events to enhance river and wetland outcomes in this system.

Extended periods of cease-to-flow have dominated the flow regime of the river system during the period 2016–20. In summer 2019–20, the river benefited from flows from both Queensland and NSW tributaries, replenishing pools along its length and delivering more than 200 gigalitres to the Menindee Lakes system.

While the river has been refreshed from tributary flows, as of May 2020, the headwater storages of the NSW regulated tributaries have not improved to a significant degree. Environmental water managers will have few opportunities to actively manage environmental releases to benefit the Barwon–Darling system unless further rainfall occurs in the catchments.

Weather and water forecast

In July 2020, the Bureau of Meteorology has forecast the Indian Ocean Dipole (IOD¹) and El Niño–Southern Oscillation (ENSO²) in Australia to remain neutral, with a shift toward wetter than average conditions and warmer than average temperatures through winter–spring 2020. The ENSO Outlook is currently at La Niña WATCH, indicating the chance of La Niña forming in 2020 is around 50%.

Environmental water managers have prepared annual watering plans that consider a range of weather and water availability scenarios. This is known as resource availability scenario planning. While climate models suggest a shift toward wetter conditions, dam levels remain low. There remains a significant degree of uncertainty around resource availability. On balance the outlook is rated as dry to moderate.

¹ IOD: The difference between sea surface temperatures between two areas of the Indian Ocean.

² ENSO: The interaction between the sea surface and atmosphere over the Pacific Ocean which results in dryer or wetter conditions (El Niño or La Niña). Both IOD and ENSO are considered key influences of weather in Australia.

Key planned actions for 2020–21

Connectivity

- Under dry conditions, cease-to-flow periods may return in 2020–21, with a possibility of intermittent freshes arising in tributary systems. Under more moderate conditions, a return to more reliable flows in the system is possible.
- Connecting the Barwon–Darling River to the Lower Darling downstream of Menindee Lakes is a priority in 2020–21 and will support the recovery of native fish populations. Sustained connection along the length of the river requires widespread and persistent rain across the northern basin.

Native fish

- Following significant fish kills in the northern basin in 2019–20, a key priority will be to support remaining stocks of native fish and to provide opportunities for them to breed and then disperse into secure habitat.
- Maintenance of refuge habitat and supply of food resources to support native fish and mussels as well as turtles, rakali and other aquatic and amphibious fauna is a key goal of water managers in the northern basin in 2020–21.

Vegetation

- Flows in late 2019–20 have provided enough water to maintain existing riparian river red gum areas. Continuing dry conditions will increase the demand for water to sustain these values.
- Higher river freshes or overbank flows are required to provide useful watering for other floodplain vegetation, including Coolabah woodlands, and to promote regeneration of river red gums as noted above. These flows cannot be provided by regulated connection events.

Waterbirds

- Colonial waterbird breeding is not expected under continuing dry conditions.
- Pool replenishment for native fish will satisfy the water requirements of many waterbirds in the system. We expect to see the diversity of waterbirds in riparian areas return to near-average levels, with abundance varying depending on the conditions in the whole northern basin.

Resource availability scenario

Very dry

Main aim: Protect

- Avoid critical loss
- Maintain key refuges
- Avoid catastrophic events



Dry

Main aim: Maintain

- Maintain river functioning
- Maintain key functions of high priority wetlands



Moderate

Main aim: Recover

- Improve ecological health and resilience
- Improve opportunities for plants and animals to breed, move and thrive



Wet to very wet

Main aim: Enhance

- Restore key floodplain and wetland linkages
- Enhance opportunities for plants and animals to breed, move and thrive



Map of proposed annual priority targets in the Barwon-Darling Water Resource Plan area 2020–21

Note: There are currently no plans to undertake environmental watering under current conditions.

