How we make decisions

Watering actions cannot be planned for 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 reducing the volume of water that can be taken from flow events.

With ongoing drought, environmental demands are increasing, particularly in relation to connectivity and native fish requirements.

Currently there is no Environmental Water Advisory Group in the Barwon-Darling system. There is growing momentum to form a group. In the meantime, decisions are made by the NSW Environmental Water Manager in partnership with the Commonwealth Environmental Water Office.

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

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 the Traditional Owner groups within the Barwon-Darling area, including Barkindji, Murrawarri, Ngemba and Ngiyampaa.

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 effluent creeks like the Talywalka and a myriad of floodplain wetlands, billabongs and streams along the Barwon-Darling floodplain.

This watercourse supports significant aquatic ecological values including a range of native fauna that are listed as threatened under state or Commonwealth legislation.

Expected environmental water volumes available at 1 July 2019

Source	Maximum volume available	Volume (ML) 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
TOTAL	**28,631 megalitres**	**NA**
Water licensed to NSW		
A class unregulated	189 megalitres	Event-dependent
B class unregulated	51 megalitres	Event-dependent
Unregulated	1,488 megalitres	Event-dependent
Total	**1,728 megalitres**	**NA**

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

Department of Planning, Industry and Environment,
59 Goulburn Street, Sydney South NSW 2000.
Phone: 1300 361 967 (environment information and publications requests);
Email: info@environment.nsw.gov.au;
Website: www.environment.nsw.gov.au.
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NSW GOVERNMENT

NSW DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

Barwon-Darling rivers

Annual Environmental Watering Priorities 2019–20

environment.nsw.gov.au

Water for rivers and wetlands

The Barwon-Darling rivers relies on rainfall and inflows in its tributaries to support river health downstream. Most of the tributaries which flow into the Barwon-Darling rivers are highly regulated by dams, weirs and floodplain structures. This influences the ability of water managers to actively plan events to enhance river and wetland outcomes.

Since 2016, the Barwon-Darling rivers have experienced generally very low flows, resulting in extended periods of cease to flow, few freshes and an overall low volume of water reaching the Menindee Lakes and Lower Darling.

In the Barwon-Darling, the Commonwealth Environmental Water Office holds licences for 28,631 megalitres of water for the environment.

As the region is experiencing protracted drought conditions, the focus of water managers will be to direct available resources to avoid unrecoverable losses of ecological assets and functionality, with a specific focus on supporting native fish habitat.

Weather and water forecast

The Bureau of Meteorology (July 2019) forecasts drier than average conditions for much of Australia in the coming months. A positive Indian Ocean Dipole[1] typically brings below average winter–spring rainfall and above average temperatures. The chance of warmer than average temperatures in northern Australia is high, while southern Australia has roughly equal chances of warmer or cooler nights and more cloud-free days and nights. The ENSO[2] outlook remains neutral.

Water managers have prepared watering plans that take into consideration a range of weather and water availability scenarios. This is known as Resource Availability Scenario planning. Very dry conditions are expected to continue for the Barwon-Darling in 2019–20.

Key planned actions for 2019–20

Connectivity

- Protracted cease to flow periods are expected to dominate river conditions in 2019–20, with a possibility of intermittent freshes arising in tributary systems.
- Water managers will seek to direct available resources to minimise unrecoverable losses of ecological assets and functionality downstream throughout the system.
- Connectivity with the Menindee Lakes and Lower Darling will rely on relaxation of drought conditions.

Native fish

- Replenishment of native fish refuge habitat and supply of food resources stimulated by flow is a key goal of water managers in the northern basin in 2019–20.
- Protection of tributary events, limiting access to water for extraction and judicious use of remaining held water for the environment are key strategies being considered in New South Wales to manage risks to native fish populations.

Vegetation

- Flows in 2018–19 have provided enough water to support riparian river red gums. Continuing very dry conditions will increase the demand for water to sustain these values. The strategies identified for native fish will satisfy the water requirements for riparian vegetation, therefore no additional actions are planned.
- Higher river freshes or overbank flows are required to provide useful watering for riparian and floodplain vegetation and these flows cannot be provided by managed events.

Waterbirds

- Colonial waterbird breeding is not expected under continuing very dry conditions.
- Pool replenishment for native fish will satisfy the water requirements of many waterbirds in the system, though we would expect to see the abundance and diversity of waterbirds in general to remain low as they find alternative habitat while the drought continues.

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

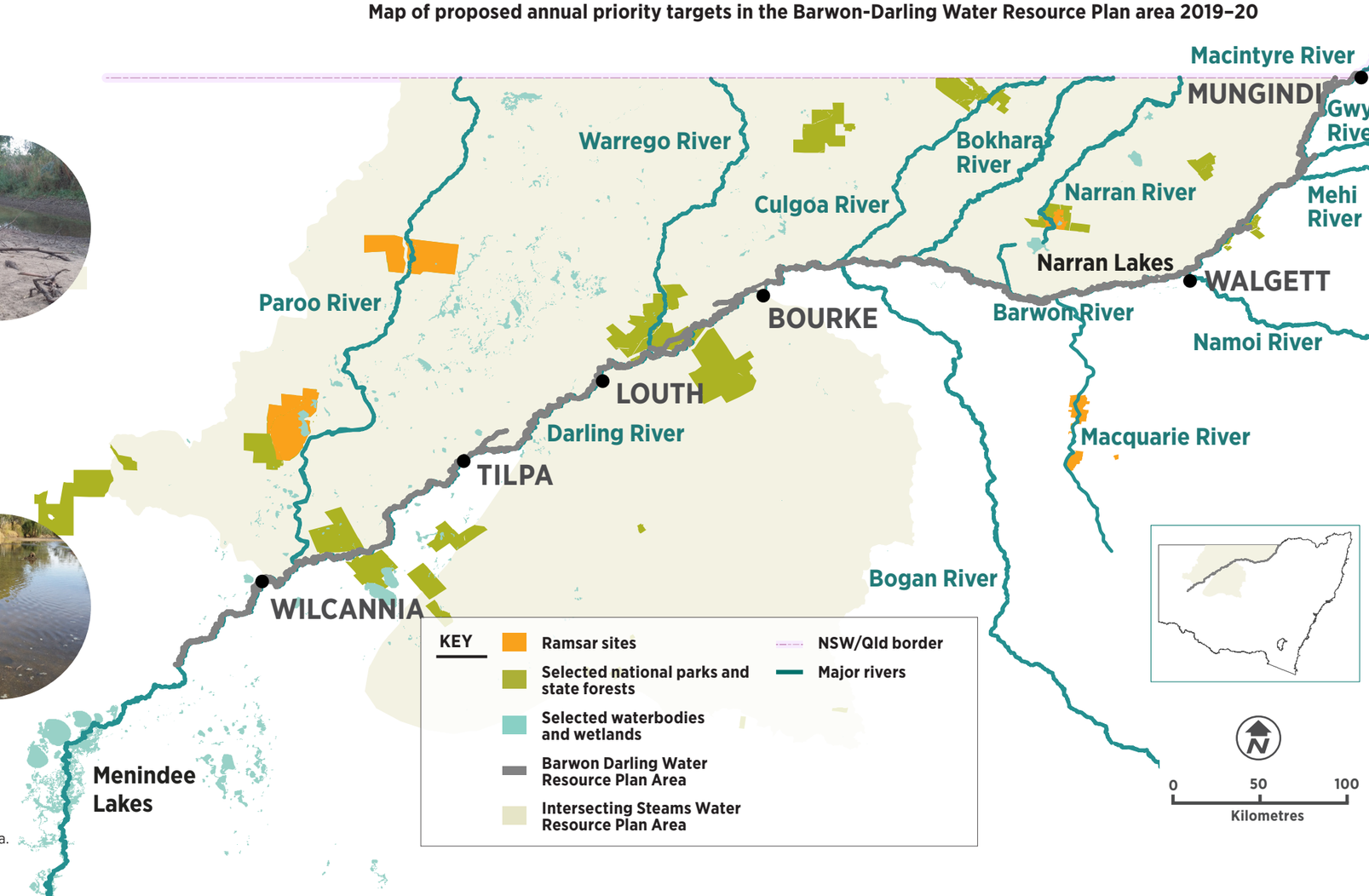
- Improve ecological health and resilience
- Improve opportunities for plants and animals to breed, move and thrive

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 2019–20



[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 Nino or La Nina). Both IOD and ENSO are considered key influences of weather in Australia.