



## Waterbirds

- The floodplains and wetlands of the Intersecting Streams are important waterbird breeding areas. In addition to Narran Lake, wetlands of the Paroo, Cuttaburra and Yantabulla, and Warrego all provide significant habitat for waterbirds under flood conditions.
- Given the long period since the last major breeding event on Narran Lake, a priority for this system will be to ensure a sufficient volume of water to sustain waterbird breeding should an event be triggered by significant inflows.

## How we make decisions

Watering actions cannot be planned for the Intersecting Streams 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 needs are increasing, particularly in relation to connectivity and native fish requirements.

Currently there is no Environmental Water Advisory Group in the Intersecting Streams catchment. 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. The waterways of the Intersecting Streams are important cultural and spiritual sites for Aboriginal people.

## About the Intersecting Streams catchment

The Intersecting Streams are located in the far north-west of New South Wales covering an area of approximately 120,431 square kilometres. This area comprises six key water catchments, including the entire Yanda Creek, and five water sources including the Paroo, Warrego, Culgoa, Narran and Moonie rivers that originate in Queensland and terminate in New South Wales.

There are three significant Ramsar and Directory of Important Wetlands in Australia listed areas located in the Paroo and Narran water sources. The two Paroo River listed wetlands are unique examples of near natural, arid inland wetland systems. These wetlands provide significant refuge for native vegetation and wildlife, including newly identified plants and macroinvertebrates and a separate breeding population of golden perch.

Traditional Owner groups in the Intersecting Streams area include Budjiti, Euahlayi, Guwamu/Kooma, Kamilaroi, Kunja, Murrawarri and Ngemba.

## Expected environmental water volumes available at 1 July 2019

Source	Maximum volume available	Volume expected at 1 July under current conditions
<b>Moonie</b>		
Qld unsupplemented	5,671 megalitres	Event-dependent
<b>TOTAL</b>	<b>5,671 megalitres</b>	<b>NA</b>
<b>Condamine-Balonne</b>		
Nebine unsupplemented	5,920 megalitres	Event-dependent
Lower Balonne unsupplemented	68,317 megalitres	Event-dependent
Condamine-Balonne unsupplemented	1,062 megalitres	Event-dependent
Condamine-Balonne overland flow	5,671 megalitres	Event-dependent
Upper Condamine unsupplemented	39,455 megalitres	Event-dependent
St George (medium)	45 megalitres	0 megalitres
<b>TOTAL</b>	<b>120,470 megalitres</b>	<b>NA</b>
<b>Warrego</b>		
Qld unsupplemented	39,455 megalitres	Event dependent
NSW unregulated	17,826 megalitres	Event-dependent
<b>TOTAL</b>	<b>57,281 megalitres</b>	<b>NA</b>

**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



NSW DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

# Intersecting Streams catchment

Annual Environmental Watering Priorities 2019–20





## Water for rivers and wetlands

The Intersecting Streams rely on rainfall in the northern-most section of the Murray-Darling Basin to generate the flows that support this unique river system.

While there are some regulating structures in Queensland that influence flows, watering actions in the catchment cannot be managed in the same way water for the environment can be managed in a regulated system. Environmental outcomes are typically generated by reducing the volume of water that can be taken from rivers rather than releasing water from storage.

With drought in the northern basin now in its third year, environmental demands are increasing, particularly in relation to connectivity and native fish. In 2019–20, the focus of water managers will be to minimise unrecoverable losses of ecological assets and functionality.

## 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<sup>1</sup> 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<sup>2</sup> 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. Dry to very dry conditions are forecast for the Intersecting Streams catchment in 2019–20.

## Key planned actions for 2019–20

### Connectivity

- Connectivity is not expected to be restored in the NSW reaches of the Moonie, Culgoa, Narran, Birrie, Bokhara, Warrego or Paroo rivers under a continuation of drought conditions.
- Cease to flow periods range between 300 and 800 days in these systems, except for the Warrego which has had a recent event. Priority actions in these systems will be to replenish waterholes for native fish habitat.
- In the Narran system, the lake has not received inflow for more than two years, while it last filled and supported large-scale colonial bird-breeding in 2012. In the event of a triggering event at St George, a priority action will be to direct water to Narran Lake.

### Native fish

- Several short-lived native fish populations are at risk of being lost in the Intersecting Streams catchment. Last

year native fish were lost from the Warrego River for a distance below Cunnamulla weir, and did not return on the February to March 2018 flows. Reports from the Narran system indicate that water remains in only three of more than 30 refuge waterholes in that system. If rainfall occurs in the catchment, available water holdings may provide an opportunity to begin recovery of the habitat required to restore native fish populations.

### Vegetation

- Long-term we aim to maintain the extent, improve condition and promote recruitment of native vegetation (where appropriate). Watering opportunities for native vegetation in 2019–20 are likely to be influenced by ongoing drought conditions.
- In the Narran system, the lake supports large stands of lignum which provide breeding habitat for waterbirds. The water that reached the lakes in 2016 and subsequent rainfall appears to have provided adequate moisture to maintain the extent of lignum, although some decline in vigour has been observed because of the dry conditions.

## 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



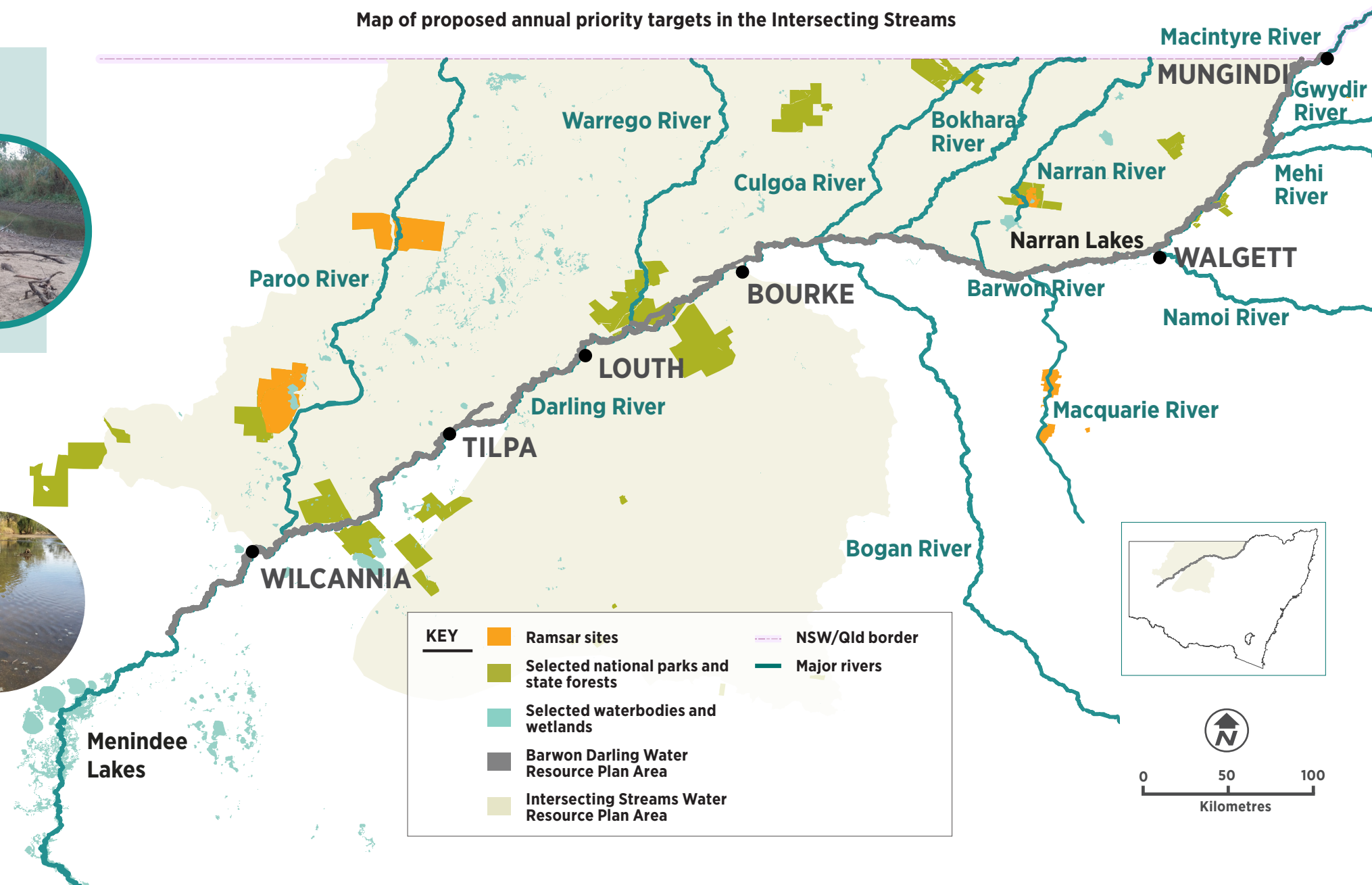
### Wet to very wet

#### 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 Intersecting Streams



<sup>1</sup> IOD The difference between sea surface temperatures between two areas of the Indian Ocean.

<sup>2</sup> 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.