

## How we make decisions

The Department is supporting the health and resilience of rivers and wetlands by delivering water for the environment where and when it is needed.

We use the best available science, management expertise and experience to manage water across the landscape.

This statement of annual priorities identifies the waterways and wetlands that are likely to receive water.

Our decision-making process considers:

- expected availability of water in the coming year
- conditions of the previous year
- current health of the plants and animals in these ecosystems.

Community-based environmental water advisory groups provide feedback and advice to the Department on the management of water for the environment.

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. In the Lachlan catchment, rivers and wetlands are important cultural and spiritual sites for Aboriginal people, as well as the broader community.

## About the Lachlan catchment

The Lachlan catchment covers an area of 90,000 square kilometres. Nearly 1300 kilometres of the 1400-kilometre river is regulated by water storages, of which Wyangala Dam is the largest at 1220 gigalitres. The river originates near Gunning in the tablelands and ends at the Great Cumbung Swamp. Important sites include the Booligal Wetlands, Lake Cowal, Great Cumbung Swamp and Lachlan Swamps, all of which are listed in the Directory of Important Wetlands in Australia. The Lachlan catchment has important Aboriginal cultural heritage values.



DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

# Lachlan catchment

Annual Environmental Watering Priorities 2020–21

### Expected environmental water volumes available at 1 July 2020

Source	Maximum volume available	Volume expected at 1 July under current conditions
<b>Planned environmental water</b>		
Water quality allowance	20 gigalitres	0 gigalitres (Stage 4 Extreme Events and Water Sharing Plan suspended)
Wyangala environmental water allowance	10 gigalitres	0 gigalitres (volume may become available during year dependent on inflows and total volumes in general security accounts)
Lake Brewster environmental water allowance	10 gigalitres	0 gigalitres (volume may become available during year dependent on inflows and there being active storage in Lake Brewster)
Translucent flow	Up to 350 gigalitres	Depends on significant inflows to reach triggers
<b>Water licensed to NSW</b>		
High security	1.8 gigalitres	0.9 gigalitres (assuming 50% allocation*)
General security	37.5 gigalitres	0 gigalitres (up to 12.5 gigalitres# in drought sub-account)
<b>Water licensed to the Commonwealth</b>		
High security	0.9 gigalitres	0.4 gigalitres (assuming 50% allocation*)
General security	87 gigalitres	0 gigalitres (up to 16 gigalitres in drought sub-account)

\* This volume is estimate based on historical allocations and will change post 1 July 2020.

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

1 gigalitre = 1000 megalitres

2.5 megalitre = 1 Olympic swimming pool

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## Water for rivers and wetlands

In 2020–21, water managers will continue to build on the gains of previous years through the careful management of water for the environment.

During 2019–20, water for the environment supported a variety of refuge sites for native plants and animals impacted by drought conditions.

In partnership with stakeholders, the Department of Planning, Industry and Environment (the Department) watered nine wetlands from the mid Lachlan to the Great Cumbung Swamp. These wetlands supported a variety of waterbirds, including waterfowl, wading birds, open or deep-water foragers and fish eaters, and benefited threatened species, such as the freckled duck, blue-billed duck and broilga, as well as migratory shorebird species. The water also protected areas such as the nationally significant river red gum mound–channel wetland Angora Clump from risk of severe drought stress, as well as maintaining condition of the Booligal Wetlands floodplain.

The Department worked with the Commonwealth Environmental Water Office (CEWO) to deliver spring pulse flows in the Lower Lachlan to build resilience for summer. A portion of the spring pulse was retained in Brewster Weir Pool to maximise refuge habitat for the last known Lachlan population of the endangered olive perchlet, a small-bodied native fish.

The Department also collaborated with the CEWO, WaterNSW, landholders and Traditional Custodians for a series of watering actions in the Booberoi Creek anabranch system.

## Weather and water forecast

In July 2020, the Bureau of Meteorology has forecast the Indian Ocean Dipole (IOD<sup>1</sup>) and El Niño–Southern Oscillation (ENSO<sup>2</sup>) 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%. The planning horizon for the Lachlan resource assessment runs through to May 2022, impacting on 1 July 2020 opening water allocations with large resource deficits for the highest priority water needs over that period.

Environmental water managers have prepared environmental watering plans that consider a range of weather and water availability scenarios. This is known as the resource availability scenario planning. At this stage, very dry to dry conditions are forecast for the Lachlan catchment in 2020–21.

<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 Niño or La Niña). Both IOD and ENSO are considered key influences of weather in Australia.

## Key planned actions for 2020–21

### Connectivity

- With nil to low water allocations forecast this water year, environmental water managers will aim to maintain strategic drought refuges where possible to avoid irretrievable loss of species and habitat.
- Available flows have been prioritised to maintain refuge pools and in-stream connectivity in Booberoi Creek anabranch (up to 1.5 gigalitres). This will maintain freshwater catfish, small-bodied native fish populations and large tracts of macrophyte beds, reeds and rushes, as well as a healthy riparian corridor of river red gum, black box, river cooba, and lignum. Ongoing collaboration with local Traditional Custodians and Northern Basin Aboriginal Nations (NBAN) ensures flows are designed to support cultural values and traditional practices undertaken in Booberoi Creek.

### Vegetation

- Native riparian and instream vegetation will benefit from opportunistic flows targeted at native fish, waterbirds and connectivity outcomes.

### Waterbirds

- If rain brings increased water availability, flows to Merrimajeel Creek (2.5–5 gigalitres) and Merrowie Creek (5–12 gigalitres) are proposed to support any colonial waterbird breeding if initiated and water is deliverable.

### Native Fish

- If water availability improves, water managers will look at opportunities to deliver flows to refresh and maintain deep refuge pools in high-priority reaches for native fish biodiversity (5–10 gigalitres in mid-Lachlan anabranches and wetlands and sections of the Lachlan River to Micabil Weir and Brewster Weir pool to Booligal).

## 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

