

How we make decisions

Department of Planning, Industry and Environment (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 under predicted weather conditions.

Our decision-making process considers:

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

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 catchments.

Expected environmental water volumes available at 1 July 2020

Source	Maximum volume available	Volume expected at 1 July under current conditions
Planned environmental water		
Environmental water allowance	160 gigalitres	0 gigalitres
Water licensed to NSW		
General security	48.4 gigalitres	0 gigalitres
Supplementary	1.4 gigalitres	Depends on tributary flows
Unregulated	2.9 gigalitres	Depends on tributary flows
Water licensed to the Commonwealth		
General security	126.2 gigalitres	0 gigalitres
Supplementary	8.3 gigalitres	Depends on tributary flows

Note: This is an indicative summary of expected volumes to be available. For further detail and information on available volumes, please contact the region via Department enquiries on 1300 361 967. Volumes held in carryover accounts at 1 July 2020 will probably be subject to quarantining into the 'drought account' and no availability is predicted unless significant rainfall and dam inflows occur.

1 gigalitre = 1000 megalitres

2.5 megalitre = 1 Olympic swimming pool

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 Macquarie-Castlereagh catchment, rivers and wetlands are important cultural and spiritual sites for Aboriginal people and the broader community.

About the Macquarie catchment

The Macquarie-Castlereagh catchment covers more than 75,000 square kilometres in the State's central west. It extends from the Blue Mountains to the Barwon River Plains, with major tributaries including the Cudgegong, Talbragar and Bell rivers. The valley is home to the iconic Macquarie Marshes – one of the largest semi-permanent wetland systems and colonial waterbird breeding sites in inland Australia. The catchment supports important cultural heritage values for Wiradjuri and Ngemba-Wailwan people.



DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

Macquarie-Castlereagh catchment

Annual Environmental Watering Priorities 2020–21



Water for rivers and wetlands

In 2020–21, environmental water managers will work to avoid loss of key aquatic and wetland values in the Macquarie-Castlereagh catchment.

Rainfall from January to April 2020 gave the system a slight reprieve from the record drought, with a modest volume flowing into the regulated storages. However, the one to two-year outlook remains uncertain.

With Burrendong Dam storage reserve now above 20%, access to quarantined carryover is more likely during 2020–21. In this situation, efforts will focus on maintaining refuge pools in the lower parts of the Macquarie catchment and recovery of common reed, mixed marsh and river red gum woodlands in the Macquarie Marshes.

Supporting these core refuges will allow native fish species to survive and avoid critical loss or damage to the semi-permanent wetland vegetation communities. Refuge pools will also support small numbers of waterbirds and riparian vegetation in some areas.

Weather and water forecast

Despite recent storms, rainfall in the catchment is well below levels documented during the worst drought on record. When combined with warmer-than-average temperatures, the condition of rivers and wetlands is set to decline further.

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



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%.

With improved storage reserves in Burrendong Dam and rainfall projections, it is likely that:

- some licensed and planned water may become available
- further inflows into Burrendong Dam could be used to make available quarantined carryover and possible available water determination.

Water managers have prepared watering plans that consider a range of weather and water availability scenarios. This is known as resource availability scenario planning. Very dry to dry conditions are forecast for the Macquarie-Castlereagh catchment in 2020–21.

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

Waterbirds

- No specific actions are planned.
- Refuge pools will support some waterbird habitat.
- Possible smaller-scale inundation of the Macquarie Marshes may be possible either through natural or managed environmental flows.

Native fish

- Without access to water for the environment, water managers will advise Department of Planning, Industry and Environment-Water (DPIE-Water) on the use of regulated operational flows to support native fish refuges along the regulated mid-Macquarie River.
- With mid-catchment rainfall and dam inflows, we will seek to replenish drought refuges. Should drought balances be restored, there may be opportunities for flows that benefit in-channel fish guilds.

Vegetation

- If available, up to 107 gigalitres will be delivered to support and prevent irretrievable loss or damage to 4000-9000 hectares of riparian vegetation in the Macquarie Marshes.
- Some riparian vegetation will be supported where regulated flows are present and these may have some limited recharge effects on the groundwater systems to help sustain vegetation communities.

Connectivity

- No specific actions are planned.
- Some assets will be connected with low regulated operational flows.
- Connection between the Macquarie and the Barwon rivers has been identified as a priority as conditions are suitable for movement of native fish between those systems. Significant improvement in water availability and/or tributary events from rainfall will be required.

Map of proposed annual priority targets in the Macquarie-Castlereagh Water Resource Plan Area 2020–21

