

How we make decisions

The Department of Planning, Industry and Environment (the Department) supports the health and resilience of our rivers and wetlands by delivering water for the environment where and when it is most 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 Gwydir catchment, rivers and wetlands are important cultural and spiritual sites for Aboriginal people, as well as the broader community.

About the Gwydir catchment

The Gwydir catchment covers 25,596 square kilometres. The smaller, eastern upland creeks mainly flow into the Gwydir River upstream of Copeton Dam. Downstream, on the western floodplain, the main Gwydir River splits into its main distributaries – the Mehi River (south), Carole Creek (north), Lower Gwydir and Gingham Channels (west/central).

The Big Leather (Lower Gwydir) watercourse supports the State's largest stand of marsh club rush, which is protected by NSW legislation. The Gingham Watercourse contains important colonial waterbird breeding habitats. The Gwydir wetlands (combined Big Leather and Gingham watercourses) are home to four wetland parcels, listed under the Gwydir Ramsar landholder agreement. The Gwydir catchment supports important Aboriginal cultural heritage values for the Kamilaroi/Gomeri people.



DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

Gwydir 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
Planned environmental water		
Environmental water allowance	90 gigalitres	19.27 gigalitres
Water licensed to NSW		
General security	17 gigalitres	522.1 gigalitres
Supplementary	3 gigalitres	Event-dependent
High security	1.2 gigalitres	1.2 gigalitres
Water licensed to the Commonwealth		
General security	89.5 gigalitres	12 gigalitres
High security	4.5 gigalitres	4.5 gigalitres
Supplementary	20.4 gigalitres	Event-dependent

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 manage available water in response to the highly variable climatic nature of the Gwydir catchment.

This adaptive approach will include locally developed management principles and flow triggers to support any or all of the following:

- our priority river reaches, during extended dry periods
- restoring natural river flows to downstream wetland communities
- colonial waterbirds should flooding trigger a return of breeding
- unplanned contingencies that require water for the environment.

The Gwydir catchment has experienced a recent moderate change in water availability throughout the system. From 2016 to February 2020, the catchment experienced an extended dry period. Water for the environment was used to support rivers and wetlands through this dry phase.

During the 2019–20 water year, water for the environment was used to protect priority river reaches in Carole, Mehi and Gwydir rivers from complete drying. A small watering event supported Whitaker's Lagoon providing important refuge for local native fauna.

This year water managers will continue to protect core wetlands and priority river reaches of Carole Creek, Mehi and Gwydir rivers. While responding to water availability is key, the aim is to maintain close to the current state of these assets until the dry phase has passed.

As the season unfolds, situations may arise that are unexpected and require water for the environment to address an emerging risk to environmental assets. Possible scenarios may include blue green algal outbreaks in the rivers, fish kills or large-scale wetlands fires.

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%.

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.

Water managers are optimistic that climatic conditions will continue to move toward a moderate forecast, across the Gwydir catchment in 2020–21. While availability of planned water for the environment is likely to be low, reserves of held Commonwealth and NSW water, along with carryover, are low to moderate.

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 moderate conditions are forecast for the Gwydir catchment in 2020–21.

Key planned actions for 2020–21

Waterbirds

- Rainfall that generates moderate to large river flow would be required to initiate a small delivery of held water into either the Mallowa Creek and wetlands or Gwydir Wetlands which includes the Big Leather and Gingham watercourses. Environmental account or licensed water may be used for this purpose. However, on their own, they are unlikely to be beneficial this season.

Native fish

- Water has been set aside to support native fish populations and aquatic communities during extended dry periods in the priority river reaches of Carole Creek, Mehi and Gwydir rivers.

Vegetation

- Substantial natural rainfall and river flows would be required to initiate a small delivery from held water into either the Mallowa Creek or Lower Gwydir and Gingham wetlands this season. Environmental allowances or licensed water may be used for this purpose. However, on their own they are unlikely to be beneficial this season.

Connectivity

- Currently, there are plans to provide water for basic needs in the Carole Creek, Mehi and Gwydir rivers to support native fish communities during extended dry periods.

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 Gwydir Water Resource Plan Area 2020–21

