

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 DPIE on the management of water for the environment.

The NSW Government works with the Commonwealth Environmental Water Holder to manage water in the catchments. Jointly held water allocations are also managed in collaboration with partner agencies.

What is water for the environment?

Water for the environment is a share of the water

Expected environmental water volumes available at 1 July 2020 (The Living Murray environmental water is not included in this table)

Source	Maximum volume available	Volume expected at 1 July under current conditions
Planned environmental water		
Barmah-Millewa environmental water allowance	700 gigalitres (i.e. up to 100 gigalitres available annually to NSW and Victoria)	290 gigalitres is the current balance for the NSW portion of the Barmah-Millewa Forest Environmental Water Allowance (EWA). However, this water is only available when NSW Murray general security allocations reach 30 per cent. security allocations reach 30%.
Murray additional environmental water allowance	29 gigalitres (available to NSW only)	5.7 gigalitres This water is only available when NSW Murray high security allocations reach 97%.
River Murray Increased Flow	Up to 70 gigalitres available annually to NSW and Victoria	11.09 gigalitres (1.33 gigalitres NSW; 9.76 gigalitres Victoria)
Water licensed to NSW		
Murray – conveyance	30 gigalitres	<15 gigalitres
Murray – high security	2.8 gigalitres	1.9 gigalitres
Water licensed to the Commonwealth		
Murray – general security	369.6 gigalitres	2.6 gigalitres*
Murray – high security	17.8 gigalitres	17.3 gigalitres*
Murray – conveyance	20.2 gigalitres	1.2 gigalitres*
Lower Darling – general security	21.6 gigalitres	4.5 gigalitres
Lower Darling – high security	3 gigalitres	4 gigalitres

* This is a combination of current allocations and future forecast allocations. **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 DPIE enquiries on 1300 361 967.
1 gigalitre = 1000 megalitres 2.5 megalitre = 1 Olympic swimming pool

Environment, Energy and Science Group,
Department of Planning, Industry and Environment,
Locked Bag 5022, Parramatta NSW 2124.
Phone: 1300 361 967 (environment information and publications requests);

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 Murray and Lower Darling catchments, rivers and wetlands are important cultural and spiritual sites for Aboriginal people.

About the Murray and Lower Darling catchments

The Murray and Lower Darling catchments cover 98,300 square kilometres with the world's largest stand of river red gums and Australia's longest river, the Murray. Ramsar-listed sites include the Millewa, Werai and Koondrook-Perricoota forests, part of Chowilla Floodplain and the River Murray Channel.

Prior to the 2018-19 fish kills, the Lower Darling River supported one of the Basin's most robust Murray cod populations and was an important flow corridor for golden perch.

The Murray and Lower Darling catchment wetlands and rivers also support important Aboriginal cultural heritage values, with more than 968 cultural heritage sites formally recorded. Aboriginal people continue to contribute important knowledge to inform the management of water for the environment.



DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

Murray and Lower Darling catchments

Annual Environmental Watering Priorities 2020-21



environment.nsw.gov.au

Email: info@environment.nsw.gov.au;
Website: www.environment.nsw.gov.au.
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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 effective and efficient management of water for the environment.

During 2019–20, flows were delivered into Tuppal Creek, between Tocumwal and Deniliquin. Works to upgrade the capacity of Murray Irrigation's water delivery infrastructure were completed and commissioned using NSW and Commonwealth environmental water. Department of Planning Industry and Environment (the Department) is working with Murray Irrigation and the Tuppal Creek landholders to develop a works program allowing higher flows to move unimpeded along the creek and improve passage for large-bodied native fish.

The Department, Commonwealth Environmental Water Office and landholders, collaborated in 2019–20 to upgrade the Thule Creek Escape, increasing the maximum flow rate. Monitoring showed the return flows were rich in carbon, nutrients and a diversity of bugs and microbes, boosting the quality and abundance of food for top-end predators like Murray cod and golden perch.

The Department also delivered water into several private property wetlands in the central Murray and lower Murray to support recovery efforts for the endangered southern bell frog, being one of the NSW Government's Saving Our Species projects.

In 2020–21, managed water will target a range of outcomes, including the maintenance of habitat that supports the nationally threatened Australasian

bittern, improving conditions for small-bodied native fish, providing connectivity, refuge and dispersal flows for large-bodied native fish, and supporting river red gum forest ecosystems.

Weather and water forecast

Availability of planned and licenced water is expected to be limited in the Murray catchment early in the 2020–21 water year due to a drier than average 2019–20.

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%.

Water managers have prepared watering plans that consider a range of weather and water availability scenarios. This is known as resource availability scenario planning. As the catchment is very dry at time of writing, dry (Murray) to very dry (Lower Darling) conditions are forecast for the Murray and Lower Darling catchments 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

- Managed watering events (18 gigalitres) are planned for the Murray Valley national and regional parks to support sites that contain nesting Australasian bitterns and a suite of other native birds.

Native fish

- Murray River multi-site flows (up to 150 gigalitres) are planned from Hume Dam through to South Australia to support native fish (particularly Murray cod and golden perch breeding and recruitment), vegetation and instream productivity.
- Fish flows (up to 60 gigalitres) in the Edward–Wakool river system will provide benefits for native fisheries, instream vegetation and food-webs. Water (110 gigalitres) will be delivered via the Murray Irrigation system to provide refuge habitat for native fish (especially Murray cod) if an oxygen depleted blackwater event occurs. A spring Murray cod spawning flow is planned for the Lower Darling

River to help restore native fish numbers following the catastrophic fish kills that occurred in the system from 2018 to 2020.

Vegetation

- Flows (2 gigalitres) will be delivered to targeted private wetlands that provide critical habitat for southern bell frogs and to promote reproduction and recruitment of vegetation and other wildlife.
- Flows (1.5 gigalitres) will be delivered into Thegoa Lagoon in spring 2020 to enhance aquatic vegetation and habitat for a range of small-bodied native fish species. The water will also help to maintain the condition of veteran river red gum trees that occur along the riparian corridor.

Connectivity

- Flows (6 gigalitres) will provide connectivity between Tuppal Creek and the Edward River for native fish and carbon exchange.
- Flows (6 gigalitres) will provide connectivity between the Thule Creek and Wakool River for native fish, vegetation and carbon exchange.

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 Murray and Lower Darling Water Resource Plan Area 2020–21

