



Australian Government



Summary:

River Murray Annual Operating Outlook for 2021–22

Each year the Murray–Darling Basin Authority (MDBA) releases an annual operating outlook for the River Murray. It explains how the MDBA may operate the River Murray system across a range of possible climatic and rainfall scenarios.

River operators respond to different conditions on a daily basis. Competing needs are balanced to ensure the efficient delivery of water for state water entitlements and the environment. The Annual Operating Outlook forms part of the MDBA's river operations planning. It is one of the tools used to help identify situations and system pressures that may occur. The outlook helps prepare for situations such as high unregulated flows and potential spills at key storages.

Operational strategies are constantly adapted based on emerging conditions and issues. This outlook was prepared working with the Australian Government and the New South Wales, South Australian and Victorian state governments. It will be updated in October 2021 to reflect new information, seasonal conditions, and changes to the system conditions and assumptions—this is a consultative process.

Key highlights as at August 2021

Climate and water in storages

- Last water year (June 2020–May 2021) was drier than average, inflows were well below the long-term median. From June 2021, a shift to wetter conditions has resulted in some significant **inflows in recent months**.
- End of June saw the catchment wet with streamflow in the upper Murray and Murrumbidgee **responding well to continuing rainfall**.
- There is potential for **La Niña conditions to form** in mid-spring 2021. La Niña events typically bring above average spring rainfall in eastern Australia.
- The outlook also suggests that **temperatures are likely to be warmer than average across the upper Murray**, yet average to cooler than average conditions are anticipated across the rest of the Basin.
- Storage levels at Lake Hume are **significantly higher than this time last year**. For current storage levels check the [MDBA's water in storages webpage](#).
- **Higher than median rainfall is forecast** for the remainder of winter and spring (similar to last year), meaning there is a much higher risk of Hume Reservoir spilling. Spills and flood operations would be required in 2 of the 6 scenarios.
- Bulk transfers from **Dartmouth Reservoir to Hume Reservoir, and from Hume Reservoir to Lake Victoria** are not likely to be undertaken during 2021.

- **Increased storage levels in the Menindee Lakes** means water is available for releases to help meet River Murray system requirements into summer.

Delivering water at the right place and right time

- There is an increasing **variation in when and where water is needed** for both environmental outcomes and irrigation needs.
- **Water for the environment will be delivered** through the system including to the Barmah-Millewa Forest through two potential watering events unless natural flows exceed environmental targets.

Inter-Valley Trade (IVT)

- For the **Goulburn and Murrumbidgee** IVT accounts, the MDBA has anticipated similarly **large volumes of water will be available to trades into the River Murray system demands**.
- The Victorian Government has **introduced a new interim Goulburn to Murray trade rule** and operating rule for the delivery of water from the Goulburn Valley IVT account.
- Delivery of water from the Goulburn Valley IVT account between November and April **will be met, without increasing delivery risks** in the River Murray.

Capacity risks

- With the availability of Menindee Lakes to help meet River Murray System demands, the **risk of a system shortfall is very low**.
- A water **delivery shortfall** occurs when water is not able to be delivered to users where and when they need it. This could be because demand exceeds physical capacity, or when water demand spikes and there's not enough time to release extra water from dams to meet the demand. Menindee releases reduce transfers from Hume resulting in lower river levels upstream of the Darling junction, lower flows provide less buffer for short-term spikes in demands and elevates the risk of delivery shortfalls.

- If at any stage a material risk of a shortfall is identified, the MDBA will refer the matter to Water Liaison Working Group (WLWG).

Conveyance and system losses

- River operators plan and account for system losses through conveyance water. Conveyance water is the volume of water needed to move or carry water orders to customers.
- **Conveyance losses will vary from year to year and are inherently difficult to forecast** due to the significant influence of weather and flow conditions, which vary considerably over time.

Scenarios and assumptions for the 2021–22 outlook

Each year we look at six scenarios ranging from **extreme dry** (based on River Murray system inflows of 1,500 GL) to **very wet** (inflows of about 21,600 GL).

Operational strategies are then developed based on the scenarios and a number of assumptions covering inflows, losses and demands.

It should be noted that not one specific scenario will apply given the **range of varying factors**, a complex operating environment and potential changes to assumptions.

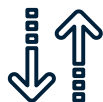
Management and operating strategies include:

- management of water in storages and water transfers
- manipulation of weir levels
- using water from tributaries and from inter-valley trade and Menindee Lakes (if available)
- monitoring demand and weather forecasts to continually adjust operations.

The River Murray system is complex with many variables:



It is one of the most variable climates in the world with **severe droughts**, summer **floods** and **extreme** temperatures.



There are **changing patterns of demand** for water use for consumption, irrigation and the environment.



Inflows can **range between 1,000 GL to 40,000 GL** with dependence on releases from the Snowy Mountains scheme and regulated and unregulated tributaries.



Water trade drives water to the highest value and the **timing and location of demand is variable**.



Delivering water takes time, from days to weeks, it takes 22 days for water from Hume Dam to reach Lake Victoria, and longer in floods.



There are **no controlled storages downstream of Lake Victoria**.



Management of the River Murray System

The Murray–Darling Basin Authority operates the River Murray on behalf of the New South Wales, Victorian and South Australian governments. State governments are responsible for individual entitlements and allocations.

The Murray–Darling Basin



For more information visit

mdba.gov.au/river-murray-system/river-murray-operations

Office locations

Adelaide, Albury–Wodonga, Canberra, Goondiwindi, Griffith, Mildura, Murray Bridge, Toowoomba



1800 230 067



engagement@mdba.gov.au



mdba.gov.au