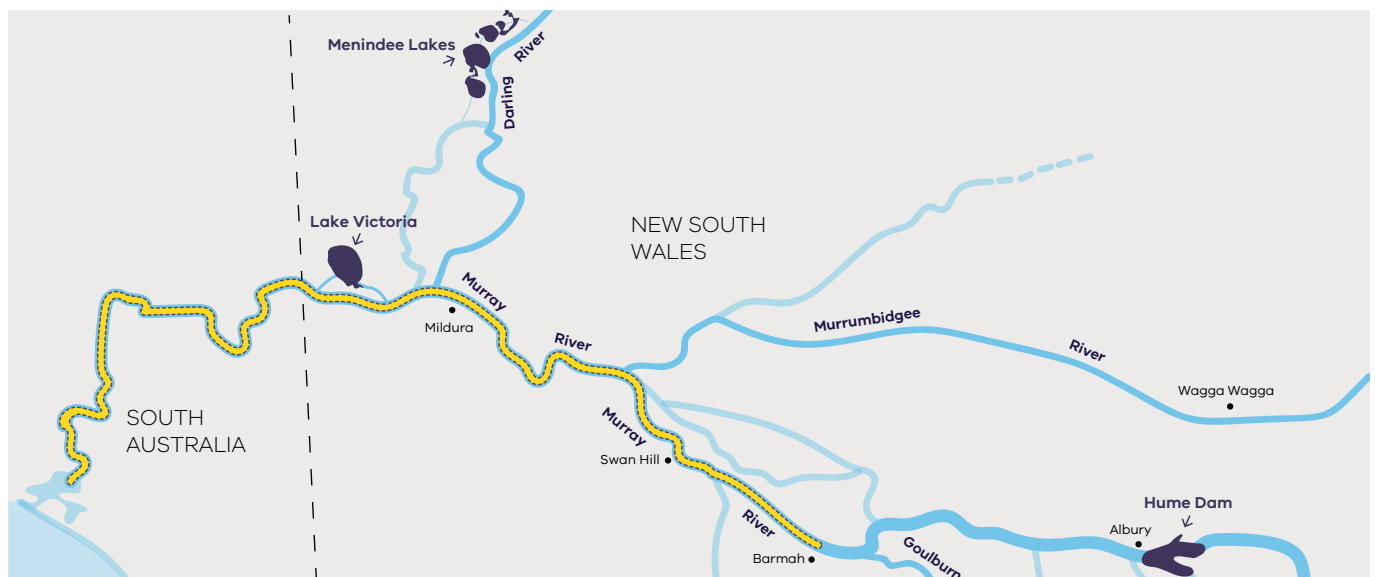


The River Murray System has seen significant changes over the past 10 – 20 years in both supply and demand for water.

Collectively, changes in the timing and location of demand for water in the Murray below Barmah, the reduced capacity of the Barmah Choke, less frequent access to water in the Menindee Lakes, as well as the impacts of climate change, are making it increasingly difficult to move water where and when it is needed.

What is a shortfall?

A shortfall occurs when water that is allocated and entitled to be used cannot be delivered when and where it is needed. This means that even though you may have ample allocation in your account, delivering and using water to desired levels may not be possible for a particular period within the season. The River Murray system is actively managed to avoid shortfalls, however the risk in the Murray below Barmah cannot be managed to zero. While shortfalls in this part of the river have been rare, and have only once resulted in irrigators' water being rationed in 2002, the risk of a shortfall occurring is increasing.



There are two types of shortfalls that can occur under different conditions:

System shortfall

A **system shortfall** occurs when there is **not enough capacity** in the river and channel system to supply all downstream water needs. For example, a system shortfall occurs when flows through and around the Barmah Choke are at full capacity and there is not enough water in Menindee Lakes and Lake Victoria to meet all the demands in South Australia. System shortfalls are more likely to occur in years with high water use. They are less likely to occur in years with either very low allocations or very wet conditions, when water use is typically suppressed. They are also less likely to occur when there is water available in Menindee Lakes to supply South Australia. System shortfalls may last for several weeks.

Delivery shortfall

A **delivery shortfall** occurs when there is an unexpected spike in demand and **not enough time** to get more water from the dams to where users want it. This is because it takes about three weeks for water to flow from Hume Dam to Mildura. Releases are made well before reliable weather forecasts are available or water orders are placed. Releasing extra water from Hume Dam is an important strategy in avoiding a potential shortfall due to a spike in demand. This is more straight forward when there is spare capacity to capture this additional water in any downstream storage, such as Lake Victoria. However, if downstream storages are full at the time, the extra water released may not be able to be used or stored – and this can impact future allocations. Therefore, making adequate releases to avoid shortfalls, and minimising the release of water that is not used, can be difficult to balance. Delivery shortfalls are more likely to occur in an intense or extended heatwave that creates an unexpected spike in daily water use by irrigators. Delivery shortfalls are typically short-lived.

What does a shortfall mean for water use?

When a shortfall in the Murray below Barmah cannot be avoided, the water available for delivery needs to be shared between water users in the affected reach, including New South Wales and South Australian users. This means water use will be temporarily rationed.

Why does water use need to be rationed in a shortfall?

If water use is not temporarily rationed in a shortfall, parts of the river may stop flowing and some water users, including domestic and stock users, would have no access to water. Rationing means that all users temporarily take a bit less water, and the burden of the shortfall is shared. Rationing ensures all water users with a delivery share or extraction share have access to some water if they require it during a shortfall.

How is water available for delivery during a Murray shortfall shared between states?

The volume of water available for delivery in Victoria during a shortfall is agreed with other River Murray states below Barmah, at the time of the shortfall. There is currently no official agreement setting out how water will be shared between states.

Rationing will only be applied to water users in the reach affected by the shortfall. In some cases, this will affect users in all three states; however, in other situations it may mean only New South Wales and Victorian water users need to be rationed. For example, if a delivery shortfall occurs between Barmah and Lake Victoria, South Australian water users would not be rationed if their delivery needs can be met from Lake Victoria.

Each state imposes restrictions based on its separate delivery arrangements. In New South Wales and South Australia there are different mechanisms which provide the same effect of rationing water users during a shortfall. The three states are working together to ensure that shortfall rationing plans are coordinated and effective at implementing rationing.

What does a shortfall mean for domestic and stock and urban water users?

Under current interim arrangements in Victoria, only urban water, and domestic and stock supply will be exempt from being rationed in the event of a shortfall. Although these users make up a very small proportion of water use downstream of Barmah, they will be **encouraged** to limit water use as much as possible during a shortfall.

What does a shortfall mean for environmental water delivery?

Under current interim arrangements in Victoria, environmental water deliveries will also be interrupted in a shortfall, unless there is a non-interruptible watering action underway, such as a significant bird breeding event.

What does a shortfall mean for Victorian irrigators?

Irrigators in the reach affected by the shortfall are temporarily rationed in proportion to their rights to delivery during a shortfall, i.e. in proportion to their:

- Extraction share, if a river (private) diverter; or
- Delivery share, if in irrigation districts (such as Torrumbarry or Red Cliffs).

Where to go for more information

More information on shortfalls and delivery risks in the River Murray System is available at:

[Victorian Water Register website](#)

[Goulburn-Murray Water's website](#)

[Lower Murray Water's website](#)

[Managing delivery risks in the River Murray factsheet](#)

[What a shortfall means for water users fact sheet](#)



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