



Australian Government

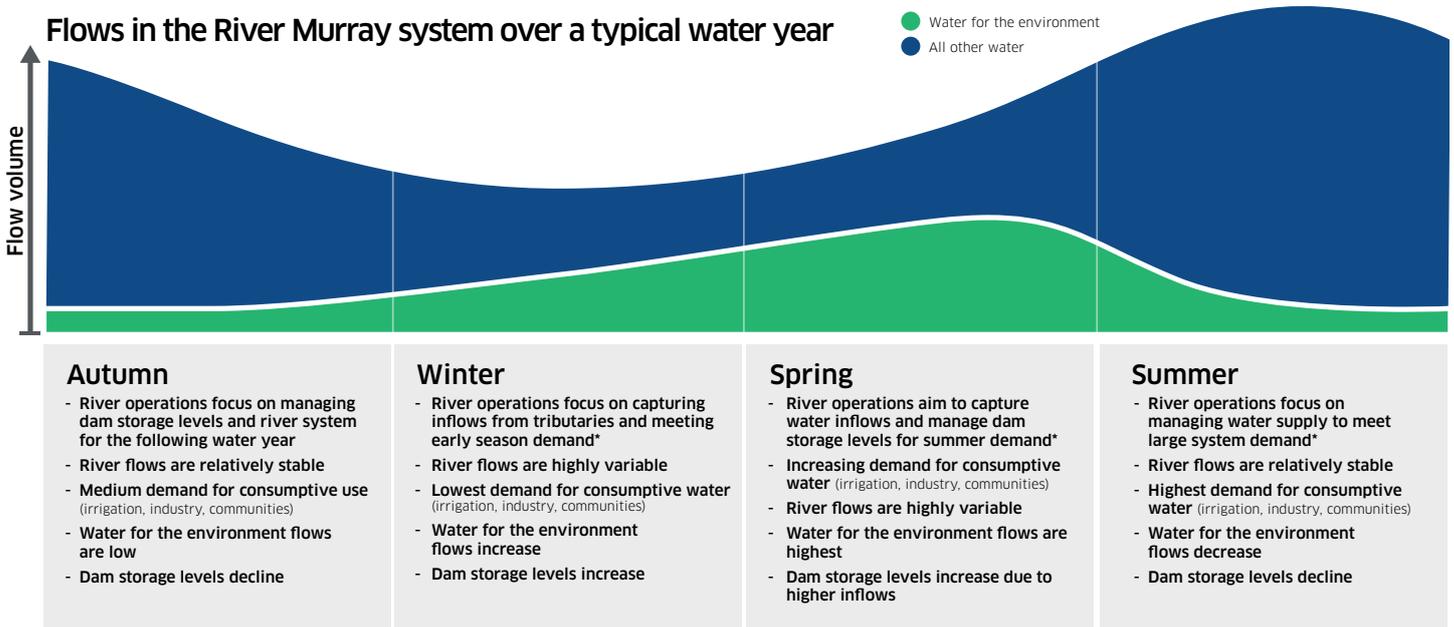


# Flows in the River Murray System – January 2023

Flows in the River Murray System vary widely depending on a range of factors, including rainfall, inflows, evaporation, and demand for water for human use.

At any given time, water flowing through the river is destined for various uses, including irrigation, industry, communities, the environment, and meeting South Australia’s flow entitlement. The exact mix of these flow components is determined by demand and water availability, amongst other factors.

The graphic below is indicative of how water flow is managed throughout the seasons across a typical year.



- |   |   |   |  |
|---|---|---|--|
| <p><b>Autumn</b></p> <ul style="list-style-type: none"> <li>- River operations focus on managing dam storage levels and river system for the following water year</li> <li>- River flows are relatively stable</li> <li>- Medium demand for consumptive use (irrigation, industry, communities)</li> <li>- Water for the environment flows are low</li> <li>- Dam storage levels decline</li> </ul> | <p><b>Winter</b></p> <ul style="list-style-type: none"> <li>- River operations focus on capturing inflows from tributaries and meeting early season demand*</li> <li>- River flows are highly variable</li> <li>- Lowest demand for consumptive water (irrigation, industry, communities)</li> <li>- Water for the environment flows increase</li> <li>- Dam storage levels increase</li> </ul> | <p><b>Spring</b></p> <ul style="list-style-type: none"> <li>- River operations aim to capture water inflows and manage dam storage levels for summer demand*</li> <li>- Increasing demand for consumptive water (irrigation, industry, communities)</li> <li>- River flows are highly variable</li> <li>- Water for the environment flows are highest</li> <li>- Dam storage levels increase due to higher inflows</li> </ul> | <p><b>Summer</b></p> <ul style="list-style-type: none"> <li>- River operations focus on managing water supply to meet large system demand*</li> <li>- River flows are relatively stable</li> <li>- Highest demand for consumptive water (irrigation, industry, communities)</li> <li>- Water for the environment flows decrease</li> <li>- Dam storage levels decline</li> </ul> |
|---|---|---|--|

\* including meeting South Australia’s flow entitlement

## Water for the environment

Overall, water for the environment is a small percentage of the total water used in the Murray-Darling Basin. Across the past 5 years the volume of water for the environment used under water entitlements has averaged 18% of the total water used in the Basin.

Importantly, water held for the environment uses the same entitlement framework as consumptive users. In any given year the amount of water available for delivery to key environmental sites is determined based on the same rules that apply to all other consumptive water uses.

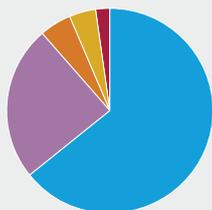
## Types of water for the environment

Water for the environment can be categorised as:

- **‘Planned’ environmental water** – water that flows through the river system that is typically managed through rules outlined in state water resource plans and is used to improve the health of the environment.
- **‘Held’ environmental water** – is water that is held by government agencies and is delivered where and when it is needed in the river system. It is water that is allocated to relevant government agencies through water licenses for environmental use.

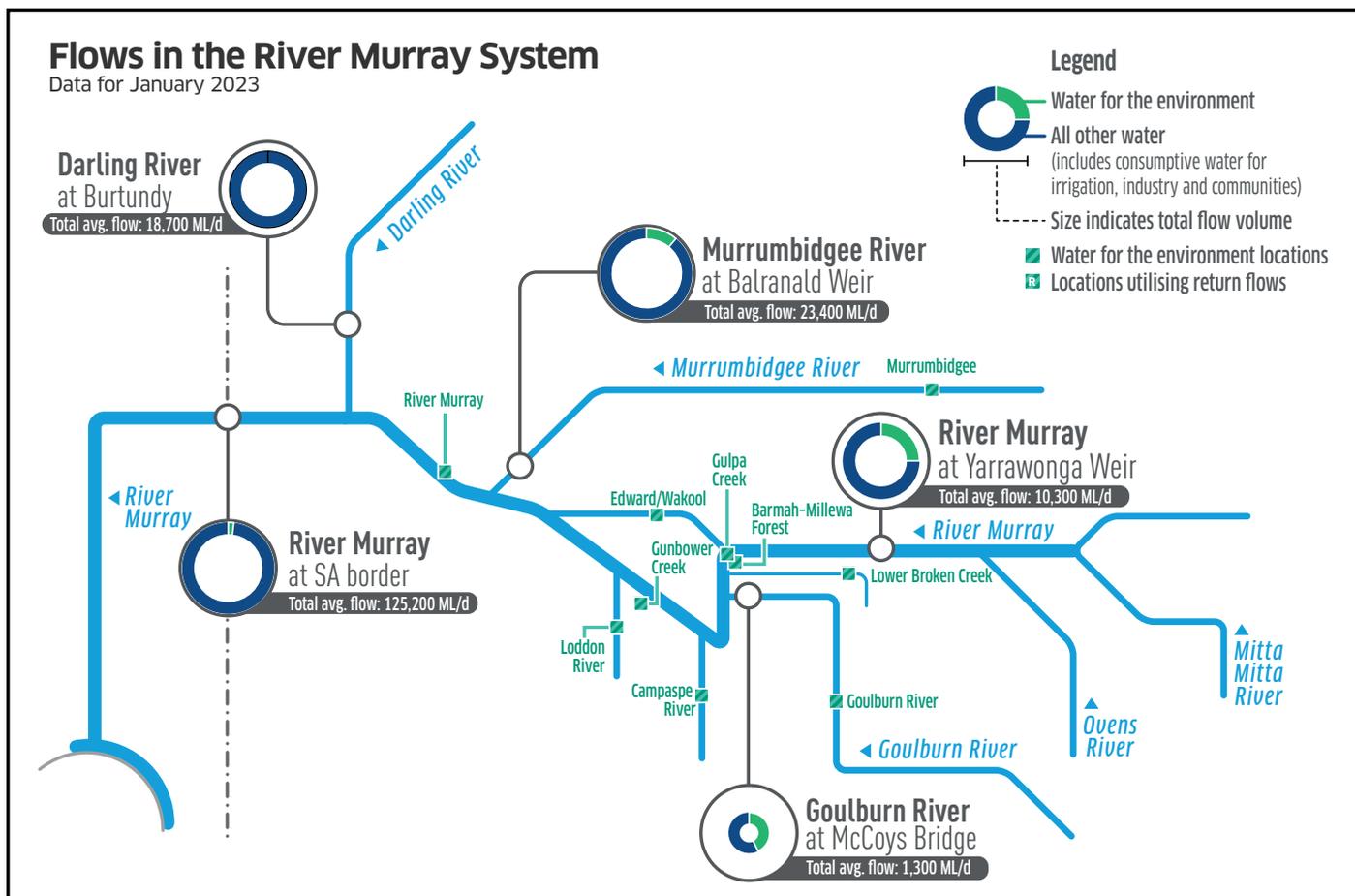
## Who holds and manages water for the environment

(based on the long term average diversion limit for entitlements held for the environment at June 2020)



Water manager	% of total
Commonwealth Environmental Water Holder	66%
Jointly held	23%
Victoria	5%
New South Wales	4%
South Australia	2%

Source: Southern Connected Basin Environmental Watering Committee Annual Report



Information in the figure above is for the month of January 2023 and may not include recent rainfall or delivery of water for the environment in the River Murray system. Information in this figure is an average estimate over the past month and formal accounts from Basin state governments may vary. Water for the environment in the figure above represents water that is held by environmental water holders, through entitlements. Other water that flows through the river can also achieve environmental outcomes.

## River flow information

The January flow to South Australia comprised of water for South Australia's entitlement, traded volumes and water for the environment, as well as continued unregulated flow as floodwaters make their way through the system from upstream.

For the latest information on water for the environment see the [River Murray weekly report](#).

## Intended environmental outcomes

Water for the environment takes time to move through the system. Water from past watering events is still moving through the River Murray as return flows. Environmental water holders can also use water for the environment by extracting allocations directly from the river. These allocations are often used for small-scale watering events rather than having water delivered from a storage.

Location	Return flows used	Intended environmental outcome(s)
Edward/Kolety-Wakool escape flows	No	<ul style="list-style-type: none"> <li>provide flows to Ephemeral Creeks</li> <li>provide native fish refugia during hypoxic blackwater events</li> </ul>
River Murray	No	<ul style="list-style-type: none"> <li>maintain connections between the River Murray and its floodplain, forests and woodlands, wetlands, and creeks</li> </ul>
Barmah-Millewa Forest	No	<ul style="list-style-type: none"> <li>support waterbird breeding</li> <li>maintain habitat for native fish</li> </ul>
Gulpa Creek	No	<ul style="list-style-type: none"> <li>Deliver flows into the Gulpa Creek wetland complex to maintain nesting and foraging habitats for the nationally threatened Australasian bittern</li> <li>manage flows into the Gulpa Creek for large-bodied native fish breeding and recruitment</li> </ul>
Murrumbidgee River	No	<ul style="list-style-type: none"> <li>slow the recession of higher flows</li> <li>improve water quality in the lower Murrumbidgee to support native fish populations</li> </ul>
Goulburn River	n/a	<ul style="list-style-type: none"> <li>minimise the risk of hypoxic blackwater</li> <li>Increase the abundance of aquatic and flood-tolerant plants in the river channel and on the lower banks to provide shelter and food for animals and stabilise the riverbank</li> <li>maintain populations of turtles</li> <li>protect and increase populations of native fish</li> <li>maintain abundant and diverse waterbug communities to support riverine food webs</li> </ul>
Lower Broken Creek	n/a	<ul style="list-style-type: none"> <li>provide habitat for native fish, platypus, rakali, turtles and waterbugs</li> <li>support the movement and recruitment of fish</li> <li>maintain oxygen levels in summer</li> </ul>
Campaspe River	n/a	<ul style="list-style-type: none"> <li>protect and increase populations of native fish</li> <li>protect the resident platypus population</li> <li>Increase the extent of in-stream aquatic plants</li> <li>Increase the diversity and biomass of waterbugs</li> <li>maintain water quality in deep pools and prevent stratification in summer Reduce the risk of hypoxic blackwater events in summer</li> </ul>
Loddon River	n/a	<ul style="list-style-type: none"> <li>maintain an adequate depth in pools for aquatic plants and to provide habitat for waterbugs, fish and rakali (water rats)</li> <li>maintain water quality</li> <li>support the growth of in-stream and fringing non-woody vegetation</li> </ul>
Gunbower Creek	No	<ul style="list-style-type: none"> <li>maintain and improve populations of large-bodied native fish (such as Murray cod) in Gunbower Creek</li> </ul>

## More information on river flows and water for the environment

### Live River Data

[riverdata.mdba.gov.au](http://riverdata.mdba.gov.au)

### River Murray Weekly Report

[www.mdba.gov.au/water-management/regular-reports-murray-data-storages/weekly-reports](http://www.mdba.gov.au/water-management/regular-reports-murray-data-storages/weekly-reports)

### Water sharing in the River Murray

[www.mdba.gov.au/river-information/water-sharing](http://www.mdba.gov.au/river-information/water-sharing)

### Water use in catchments

[www.environment.gov.au/water/cewo/catchment](http://www.environment.gov.au/water/cewo/catchment)

### FLOW Monitoring, Evaluation and Research

[flow-mer.org.au](http://flow-mer.org.au)

### Delivering water for the environment

[www.mdba.gov.au/issues-murray-darling-basin/water-for-environment/water-over-time](http://www.mdba.gov.au/issues-murray-darling-basin/water-for-environment/water-over-time)