

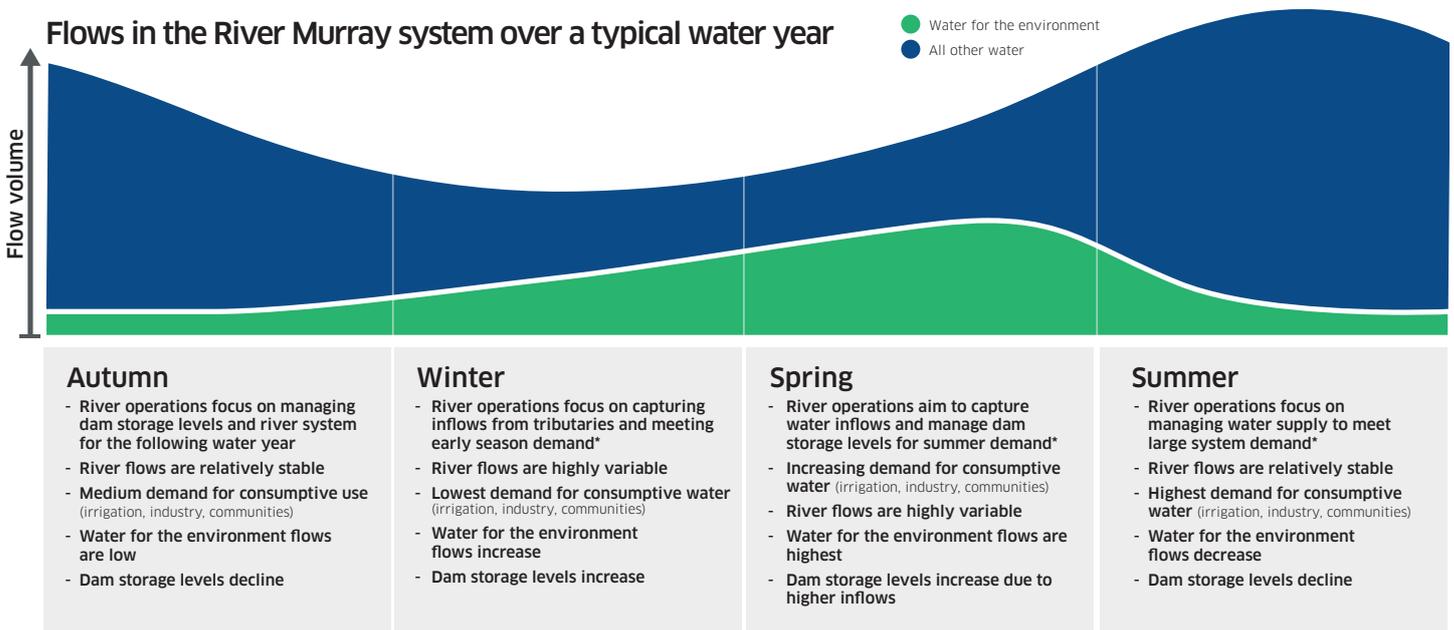


# Flows in the River Murray System – May 2021

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.

The volume of water for the environment used under water entitlements has increased slightly over the past five years, as more water became available. The average use over this period was 20.4 per cent 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.

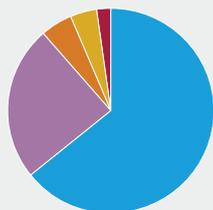
## Types of water for the environment

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.

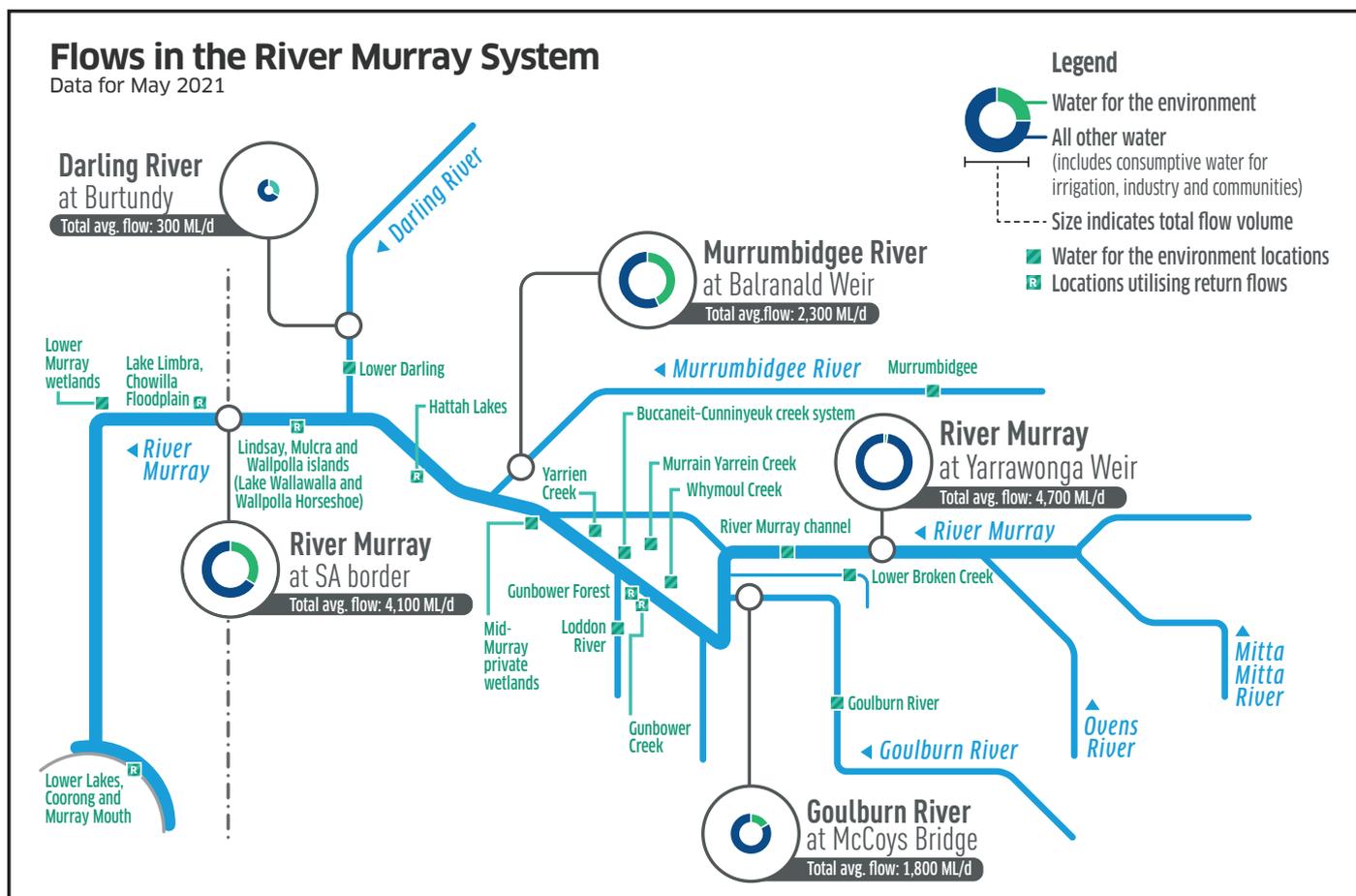
## Who holds and manages water for the environment

(based on the long term average diversion limit for entitlements held for the environment at June 2019)



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 May 2021 and may not include recent rainfall or delivery of water for the environment in the 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 May flow to South Australia comprised of water for South Australia's entitlement, as well as traded volumes and water for the environment.

Many sites across the southern Basin received water for the environment throughout May including each of the 4 major rivers (the Murray, Goulburn, Murrumbidgee and Lower Darling). However, despite the large spread of sites the overall volumes of water for the environment delivered were relatively small compared to other times of the year such as spring.

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)
River Murray channel downstream of Yarrawonga weir	n/a	<ul style="list-style-type: none"> <li>increase water depth in the River Murray channel</li> <li>provide habitat and food for large-bodied native fish in the River Murray and unregulated anabranches in Barmah-Millewa Forest</li> </ul>
Buccaneit-Cunninyeuk Creek system	No	<ul style="list-style-type: none"> <li>provide habitat to increase native fish numbers</li> <li>maintain river red gum health</li> </ul>
Murrain Yarrein Creek	No	<ul style="list-style-type: none"> <li>provide habitat to increase native fish numbers</li> <li>maintain river red gum health</li> </ul>
Yarrein Creek	No	<ul style="list-style-type: none"> <li>provide habitat to increase native fish numbers</li> <li>maintain river red gum health</li> </ul>
Mid-Murray private wetlands	No	<ul style="list-style-type: none"> <li>provide wetland habitat for waterbirds and southern bellfrogs</li> <li>maintain river red gum and black box health</li> </ul>
Whymoul Creek	No	<ul style="list-style-type: none"> <li>provide habitat for native fish, waterbirds and southern bellfrogs</li> <li>maintain river red gum health</li> </ul>
Lower Broken Creek	n/a	<ul style="list-style-type: none"> <li>maintain pool habitat for native fish and waterbugs</li> <li>access to food and habitat for platypus and in-stream vegetation</li> </ul>
Goulburn River	n/a	<ul style="list-style-type: none"> <li>protect and boost native fish numbers</li> <li>improve habitat for small bodied native fish and maintain waterbug communities</li> <li>increase growth of water dependent plants in the river channel</li> <li>encourage seed germination on the riverbanks to help stabilise the banks</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>provide continuous flow through the reach, to maintain water quality</li> </ul>
Gunbower Creek	Yes	<ul style="list-style-type: none"> <li>maintain breeding habitats and food resources for native fish including Murray cod</li> </ul>
Gunbower Forest	Yes	<ul style="list-style-type: none"> <li>maintain feeding and refuge habitat for waterbirds, small-bodied native fish, turtles and frogs</li> <li>maintain water depth to support wetland plants to grow</li> </ul>
Hattah Lakes	Yes	<ul style="list-style-type: none"> <li>filling of selected wetlands following a drying period to stimulate growth of aquatic plants</li> <li>improve the condition of river red gums</li> <li>provide important refuge and feeding habitat for waterbirds</li> </ul>
Lindsay, Mulcra and Wallpolla islands (Lake Wallawalla and Wallpolla Horseshoe)	Yes	<ul style="list-style-type: none"> <li>provide shallow-water, open-water and shoreline habitat to provide foraging habitat and breeding opportunities for frogs, yabbies, waterbirds and turtles</li> </ul>
Murrumbidgee	n/a	<ul style="list-style-type: none"> <li>protect and improve condition of large bodied native fish</li> <li>provide movement and dispersal opportunities between the Murray and Murrumbidgee</li> </ul>
Lower Darling	n/a	<ul style="list-style-type: none"> <li>small increase to baseflows to improve the condition of the Lower Darling (Baaka)</li> <li>provide extra food and habitat to help support young fish to grow including Murray cod and golden and silver perch</li> </ul>
Lake Limbra, Chowilla Floodplain	Yes	<ul style="list-style-type: none"> <li>provide healthy wetland refuge habitat for a range of native plants and animals</li> </ul>
Lower Murray wetlands	No	<ul style="list-style-type: none"> <li>provide healthy wetlands refuge habitat for a range of native plants and animals</li> </ul>
Lower Lakes, Coorong and Murray Mouth	Yes	<ul style="list-style-type: none"> <li>maintain barrage releases to support native fish migration through barrage fishways</li> <li>reduce salinity in the Coorong, supporting the Coorong food web</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

[mdba.gov.au/river-information/weekly-reports](http://mdba.gov.au/river-information/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

[mdba.gov.au/managing-water/water-for-environment/water-over-time](http://mdba.gov.au/managing-water/water-for-environment/water-over-time)