



Australian Government



# Irrigation trends in the Basin

Much of Australia's irrigation occurs in the Murray-Darling Basin where over two-thirds of Australia's irrigation water is used to grow food and fibre. Irrigation is used to provide water to farms to supplement natural rainfall.

Most water use for irrigation occurs in the 3 large southern catchments of the Murray, Murrumbidgee, and Goulburn-Broken Rivers, where there are major dams to store the water. The Snowy Mountains Hydro-electric Scheme supplements these irrigation storages by releasing water downstream. This water may then be diverted to irrigation areas and farms through thousands of kilometres of gravity-fed channels or pumped via pipes to farms.

Irrigation also occurs in the rivers of the northern Murray-Darling Basin, but not at the same scale. This is because there is less reliable water in rivers and fewer large dams to store water. Irrigators use water in different ways. This includes pumping groundwater, pumping river water into farm dams, or capturing and storing floodwaters behind levees.

It is up to individual irrigators to determine what they grow. Annual crops such as wheat, rice, cotton and corn are grown on a yearly basis when water is available. Smaller-scale river systems tend to have less reliable year to year supply of water compared to the major rivers, which impacts what is grown and produced in different regions. Permanent plantings like grapes, almonds and fruit trees require water on a continual basis every year of their life span to ensure high yield is produced. They are grown in regions that have access to regular, yearly water supply.

## Key facts

**There are many people who use water in the Basin for their business needs - irrigated agriculture is a key contributor to the Basin's economy**



The Basin supports approximately **9,200 irrigated agriculture businesses**.



Water supports **\$9 billion of primary production** across the Murray-Darling Basin each year.



Across the Murray-Darling Basin, **irrigators need to manage water use carefully**, to prevent environmental problems such as soil salinity and loss of habitat for native flora and fauna.



The Basin Plan and the MDB Agreement aim to **limit the amount of use and make sure water available** is distributed as agreed.



Irrigated **horticulture is a significant land use in the lower Murray-Darling** with a continually expanding footprint and changing crops.



It is the **responsibility of Basin state governments to determine how water can be used** through licencing and allocation frameworks. The amount of water used is monitored.

## Supply factors

Water prices and a variety of irrigated activities in the Basin are interconnected with the supply and demand for irrigation water. The main factors that have altered the supply of irrigation water in recent years include:

- **water allocations** – the total amount of water available for use in a particular year (determined by water in storage, rainfall and state water sharing plans)
- **water for the environment** – water rights purchased by or gifted to environmental agencies effectively reduce the supply of water allocations available for irrigation
- **user carryover decisions** – decisions by individual water holders to hold water in storage between years (rather than using or selling their allocation)
- **trade rules** – rules exist to limit the trading of water from one part of the system to another to ensure that water which is traded can be delivered. Examples include from upstream to downstream of the Barmah Choke, and from one valley to another (Inter-valley Trade or IVT).

## Changes in demand

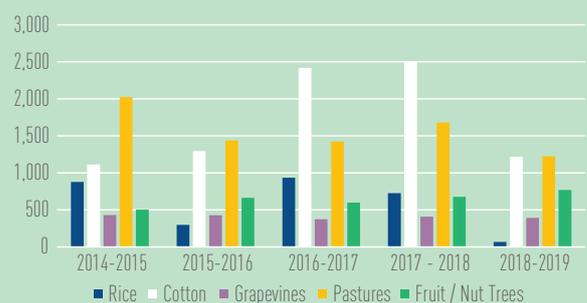
The demand for irrigation water in the Basin has changed significantly over the past 20 years. The main factors influencing the demand for irrigation water in the Basin include:

- **the profitability of irrigated activities** – changes in water demand often arise from price shifts in the global market (for example demand for milk, cotton, rice)
- **seasonal conditions** – irrigation water supplements rainfall, so when rainfall in irrigation areas is higher or lower than expected, the demand for irrigation water also changes
- **investments in on-farm infrastructure (public or private)** – including expansion or improving practices of irrigation areas, changes in the mix of irrigation activities or investments in on-farm water use efficiency all influence the demand for water allocations.

## Demand for irrigation water in the southern Basin

There have been significant changes in the patterns of demand for irrigation water in the Basin since the early 2000s. In the southern Basin genetic advances and movements in commodity prices have led to an increase in the demand for water for cotton and almonds and a decrease in demand for rice, dairy pastures and grapevines.

Water use of selected industries in the southern MDB (2014-15 to 2018-19, ABARES)



Almonds are highly suitable for production in the southern Basin and currently deliver high returns, aren't affected by fruit fly and have a long shelf life compared to fruit and vegetables. Planted almonds increased from 3,500 hectares in 2000 to around 45,000 hectares in 2018 with 53% of these plantings in the Victorian Sunraysia (located in the Victorian Murray below the Barmah Choke), 24% in the NSW Riverina and 20% in the SA Riverland, resulting in higher water demand in the southern Basin. As almonds are permanent plantings, this increase in productivity has also resulted in changes to the way that water has been delivered downstream.



### Connect with us.

The MDBA has offices in Adelaide, Albury-Wodonga, Canberra, Goondiwindi, Griffith, Mildura, Murray Bridge, Toowoomba, and regional engagement officers around the Basin.

1800 230 067

engagement@mdba.gov.au

mdba.gov.au