

Reconnecting River Country Program

About the flow options



Murrumbidgee River near Collingullie

The timing, frequency, extent and duration of environmental flows has a powerful effect on the landscape and the thousands of species calling it home.

Smaller flows stay within the river channel. Slightly higher flows reach higher up channel banks, and in some areas spread into floodplain creeks and billabongs, reconnecting the wetlands and providing important habitat for wildlife.

Current limits on the release of environmental flows in the Murray and Murrumbidgee Rivers are capped at relatively low levels. This means rivers and floodplains are connecting less often than they once did and need to be, to maintain river and wetland health.

The Reconnecting River Country Program is an opportunity to consider a range of increased flow limits for environmental water releases to provide greater flexibility in the Murray and Murrumbidgee River systems.

The program, which is currently in development, would allow more flexibility in the delivery of flows and give water managers the ability to:

- reinstate some natural flow patterns
- trigger breeding and movement of native fish, waterbirds and other water-dependent animals
- release and transfer carbon and nutrients underpinning the aquatic food web
- enhance native fish populations and support healthy river and wetland ecosystems
- improve the health of forests, woodlands and shrublands along river corridors and on low-lying floodplains.



Reed Beds Bird Hide near Mathoura

Flow limits being assessed

Flows of different sizes and duration would achieve a range of outcomes for river and wetland health, connectivity and wildlife. In consultation with private and public landholders, First Nations people, reference groups and other stakeholders across the Murray and Murrumbidgee Valleys, the program is assessing a range of flows to investigate the benefits, costs and risks and to make evidence-based decisions on the preferred flow limits across the program areas.

The following flows limit options are currently being assessed, noting other flows within these ranges could be explored in the future.

Murray - Hume to Yarrawonga (flows reported at Doctors Point gauge)

- 25,000 ML/d – current operational limit in the Water Sharing Plan (WSP)
- 30,000 ML/d – flow limit option
- 35,000 ML/d – flow limit option*
- 40,000 ML/d – flow limit option.

Murray - Yarrawonga to Wakool Junction (flows reported downstream of Yarrawonga Weir)

- 15,000 ML/d - current temporary operational limit
- 25,000 ML/d – flow limit option
- 30,000 ML/d – flow limit option
- 35,000 ML/d – flow limit option*
- 40,000 ML/d – flow limit option
- 45,000 ML/d – flow limit option.

Murrumbidgee River (flows reported at Wagga Wagga)

- 22,000 ML/d (current temporary operational limit)
- 32,000 ML/d – flow limit option (current operational limit at Gundagai in the WSP)
- 36,000 ML/d – flow limit option
- 40,000 ML/d – flow limit option.

*35,000 ML/d flow options were added for both Hume to Yarrawonga, and Yarrawonga to Wakool Junction in 2023, enabling a more robust assessment of the change in impacts and benefits across the range of flows being investigated.



Wagga Wagga Murrumbidgee River levee bank

Understanding flow options

Timing of flows

To maximise the environmental benefit of flows, water managers schedule water deliveries to support specific ecological outcomes, such as native fish breeding, waterbird nesting and river productivity. The timing of environmental flows need to align with the lifecycle requirements of these native plants and animals.

Environmental flows are scheduled to:

- trigger native fish and other wildlife to breed
- encourage food production in rivers and wetlands
- open additional habitat for nesting, foraging and feeding
- provide essential nursery habitat for a variety of wildlife
- provide drought refuge (i.e., river or wetland environments providing habitat for wildlife during extended dry spells).

Should the program proceed to delivery, the flow releases would often occur in response to a natural trigger, such as a rainfall event or inflows from tributaries downstream of major dams, and would align with the natural flow patterns and lifecycle requirements of native plants and animals.

Most flow deliveries would occur between August

and October, with river rises occurring slightly later in downstream areas as these flows move through the system. Occasionally deliveries might occur slightly earlier, between May and July, or slightly later in November. Deliveries in November would be infrequent, and would mostly involve augmenting an existing flow event to improve environmental outcomes or reduce hypoxic blackwater risk.

Find out more about flow options at dpie.nsw.gov.au/reconnecting-river-country-program

Frequency

The frequency of environmental flows is guided by the needs of the environment. These needs are reflected as environmental water requirements detailed in Long Term Water Plans. The plans help inform the management of water for the environment over the longer term.

The frequency of higher flows is targeted at supporting the natural cycle of floodplain forests and woodlands and are important for waterbird breeding. They also boost aquatic food webs, which are key to ensuring native fish, waterbirds and other animals have enough food to thrive.

Should the program proceed to delivery, the frequency of managed environmental flows would vary over time depending on water availability, climate conditions, ecological priorities, and with consideration of risks and impacts.

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These higher environmental flow deliveries would not occur during extreme wet conditions when there is elevated flood risk.

On average, it is anticipated these managed environmental flow deliveries would occur about five years per decade, comprising some smaller events and some larger events up to the flow limit.

In some decades (e.g., very wet or very dry) there are likely to be fewer deliveries (possibly two or three per decade). In other decades there may be more deliveries (possibly seven per decade), comprising some smaller events and some larger events up to the flow limit.

Find out more on flow options at dpie.nsw.gov.au/reconnecting-river-country-program

Extent of flows

Relaxing constraints would allow water managers to periodically deliver flows to wetlands and low-level floodplain vegetation communities that can't be watered at present. This would increase ecological outcomes and help to rehabilitate struggling areas not receiving the frequency of flows needed to support healthy and resilient ecosystems.

Before river regulation, these areas received more frequent flows supporting the health of extensive areas of wetlands, river red gum and black box forests and woodlands and other wildlife.

The program has published mapping showing the expected upper limit of inundation associated with each of the flow limits being assessed.

View the proposed flow options at water.nsw.gov.au/rrcp-inundation-mapping

Duration of flows

The duration of managed flow events in rivers varies. If the program proceeds to delivery, event durations would be guided by water requirements established in Long Term Water Plans, but would also depend on water availability, the time of year, existing catchment and ecological conditions and watering

requirements. The duration would also vary between valleys and locations in valleys.

The length of time properties would be inundated would vary depending on the elevation and geography of the land. For example, wetlands would retain water for longer than floodplains that shed water back into the river as flows recede. The duration of higher environmental flow deliveries would be up to five days at the peak flow rate followed by a gradual reduction in flows back to background flow levels.

Acknowledgement

The NSW Department of Climate Change, Energy, the Environment and Water acknowledges we stand on Aboriginal land. We acknowledge the Traditional Custodians of the land, and we show our respect for Elders past and present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are socially, culturally and economically included.

Find out more

To find out more about upcoming consultation opportunities please contact us or get in touch with your local engagement officer.

- visit **dpie.nsw.gov.au/reconnecting-river-country-program**
- phone **1300 081 047**
- email **water.enquiries@dpie.nsw.gov.au**
- subscribe for updates at **water.nsw.gov.au/RRCPUpdates**
- get in touch with your local engagement officer.