The Commonwealth Environmental Water Holder acknowledges Australia's traditional owners and respects their continued connection to water, land and community. We pay our respects to them and their cultures and to their elders both past and present.

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Australian Government

Commonwealth Environmental Water Office

RESTORING AND PROTECTING THE

MURRUMBIDGEE RIVER

2017–18 SNAPSHOT

Above: Gooragool Lagoon. Credit: Luca Ferla
Cover: Piggery Lake, Yanga NP. Credit: Skye Wassens
Back cover: Yanga NP. Credit: Luca Ferla

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We use environmental water to improve the health of our rivers, floodplains and wetlands

Throughout the Murray–Darling Basin, we deliver water to important locations to support the health of waterways and the many unique native plants, fish, frogs, birds and other animals that depend on them to survive and thrive.

The Murrumbidgee River contains diverse and rich natural environments. Its waterways provide water for domestic use and extensive irrigated agriculture, support tourism and recreational activities, and are central to the cultural values and practices of Aboriginal traditional owners. The vast Lower Murrumbidgee River floodplain, covering about 200,000 ha, includes some of the largest lignum wetlands in New South Wales. It is an important bird breeding site, particularly for royal spoonbill, great egret, straw-necked ibis, Australian white ibis and glossy ibis.

The nationally significant mid-Murrumbidgee wetlands support river red gum and black box forests and woodlands that provide habitat for threatened species including the southern bell frog.

The region also features the Ramsar-listed Fivebough and Tuckerbil Swamps wetland in the Murrumbidgee Irrigation Area.

The Commonwealth Environmental Water Office works in partnership with state government agencies and local organisations to plan and manage flows for the environment. We are working to achieve the environmental outcomes outlined in the Basin-wide Environmental Watering Strategy and the Murray–Darling Basin Plan.

Summary of longer term outcomes under the Basin-wide Environmental Watering Strategy

Maintain base river flows and increase the number of bank-full and 'fresh' events. A fresh is an increase in a river's water levels beyond the base flow. It does not fill the river or go over the bank.

Maintain the area of river red gum and black box forests and woodlands, improve their condition and increase the survival rate of young trees.

Improve the condition of lignum communities, particularly focusing on the shrublands in the Lower Murrumbidgee.

Maintain the area of non-woody plants, particularly in and near the Murrumbidgee River, Billabong Creek and Yanco Creek.

Maintain the diversity of waterbird species and increase their populations by supporting breeding opportunities.

Create the right conditions to improve the health of native fish and encourage their spawning and movement, with the aim of increasing overall populations.

Murrumbidgee River at Balranald. Credit: Andy Huxham

Water for the Murrumbidgee environment to date

The environmental need for water is a reflection of the health of rivers, wetlands and floodplains, and the plants and animals they support. Ecological health is influenced by flows and conditions in the past. In some cases, this can date back many years.

In the years since the millennium drought broke, higher natural flows and large-scale environmental watering have improved the condition of many wetlands in the lower Murrumbidgee. However, in some areas—particularly in the mid–Murrumbidgee and the Junction Wetlands—poor flows have hindered the recovery of plants, frogs and turtles.

The overall objective of environmental watering in the Murrumbidgee catchment has been to protect and restore the mid-Murrumbidgee wetlands, while maintaining the health of other important sites and the native plants and aquatic animals that depend on them. This includes:

- maintaining critical in-channel and wetland refuge habitats for native fish, waterbirds and frogs
- providing habitat for waterbirds, native fish and other aquatic animals
- improving the condition of riverbank and wetland plants
- increasing opportunities for native fish to move from the floodplain to the river channel and within the river channel
- supporting successful waterbird breeding
- reconnecting the river channel with wetlands and the floodplain
- managing natural flood recessions and hypoxic blackwater events.

Natural high flows in spring 2016 have replenished the catchment and supported plant growth and waterbird breeding. Watering priorities for 2017–18 include building on the positive responses of plant communities and providing recruitment opportunities for waterbirds, fish, turtles and frogs. Recruitment means the survival of a species through all life stages and into the next generation.

Supplying water for the environment

The water acquired by the Australian Government through investment in more efficient irrigation infrastructure and other measures enables the Commonwealth Environmental Water Holder to provide river flows needed to restore and protect the natural system throughout the Basin.

We use this water to supplement natural floods and water provided by other environmental water holders.

Depending on climatic conditions, river operating rules and constraints on the flow of water, the Commonwealth Environmental Water Holder can decide to:

- use water to meet identified environmental demands
- hold on to the water and carry it over for use in the next year (carryover)
- trade (buy or sell water) for equal or greater environmental benefit.

Narwie Swamp, North Redbank.

Our partners

The best approaches to water management involve local knowledge and the latest science.

Commonwealth environmental watering is planned, delivered and managed in partnership with individuals and groups in the Murrumbidgee River region. Partners include:

- the New South Wales Office of Environment and Heritage (including the National Parks and Wildlife Service)
- Water NSW
- the New South Wales Department of Primary Industries
- Riverina Local Land Services
- Charles Sturt University
- the Murrumbidgee Environmental Water Allowance Reference Group (which includes local landholders, irrigation industry representatives and community members)
- the Murray–Darling Basin Authority.

Staff from the Commonwealth Environmental Water Office regularly attend community forums, events and committees in the catchment. We continue to forge local partnerships to ensure that community groups, including Aboriginal traditional owners, have the opportunity to help shape the regional planning and management of environmental water delivery over the long term.

To learn more about our work or offer suggestions for the use of environmental water, please contact your local engagement officer, on M: 0427 682 309 or E: ewater@environment.gov.au

Steam Engine Swamp, North Redbank.

Magpie geese at Tori Lignum Swamp, North Redbank.

Pelicans at Is-Y-Coed, Nimmie-Caira.

MURRUMBIDGEE RIVER

Australian Government
Commonwealth Environmental Water Office

The Murrumbidgee River travels around 1600 kilometres from the Kosciuszko National Park, through the low-lying plains of the western Riverina, to its junction with the Murray River downstream of Balranald.

The Murrumbidgee system is regulated by two major headwater storages: Burrinjuck Dam on the Murrumbidgee River and Blowering Dam on the Tumut River.

Most of the water in the Murrumbidgee comes from the upper headwaters of the catchment, including the Cotter, Yass, Molonglo, Queanbeyan and Tumut rivers. Tributaries immediately downstream of the dams—including Goobarragandra River and Adelong, Adjungbilly, Tarcutta and Kyeamba creeks—also make a significant contribution to water flows in the Murrumbidgee.

Responding to environmental demands in 2017–18

The following plans for 2017–18 are based on careful consideration of the urgency of environmental demands (from year to year and over multiple years) and what we believe can be achieved, depending on water availability.

Mid-Murrumbidgee wetlands: These wetlands are in decline due to a lack of inundation, so there is high demand for water to prevent further decline and help their recovery.

A high priority for water delivery is to support the reconnection of the mid-Murrumbidgee wetlands to the Murrumbidgee River. This will contribute to river flows and inundate wetlands, preventing further decline in vegetation and providing habitat for species including waterbirds, fish, turtles and frogs. It will also help meet demands downstream, including in Yanco Creek, the Junction Wetlands and the Lowbidgee floodplain wetlands.

This watering will be influenced by water availability, the capacity for dam releases, and assessment of potential impacts on third parties. If reconnection is not possible, water may be pumped to some individual wetlands.

Lowbidgee floodplain wetlands: Environmental watering will contribute to maintaining the condition and diversity of wetland vegetation and provide habitat and recruitment opportunities for waterbirds, native fish, turtles and frogs. The timing and extent of watering depends on environmental demand and natural cues of target species such as the southern bell frog, Murray cod, Australasian bittern and eastern great egret.

If there is little water available, watering will focus on maintaining critical refuge sites for fish, turtles and frogs. In wetter conditions, large-scale wetland and floodplain inundation may be possible. This will help maintain and improve the health of wetlands in the Redbank system (including Yanga National Park), the Nimmie-Caira property and the Western Lakes.

Regional-scale watering (for example, restoring landscape-scale waterbird habitat through the lower Lachlan and Lowbidgee floodplains) may also occur in wetter conditions.

Murrumbidgee River channel, anabranches and distributaries: There is moderate demand for water to support the ongoing recovery of native fish populations. Previous watering actions have helped increase native fish populations and improved water quality.

Watering in 2017–18 may focus on supporting native fish health and movement, by improving flows that connect the river and its anabranches and distributaries, and building habitat and conditions favoured by native fish.

Yanco Creek system: There is moderate demand for water to maintain the existing good condition of wetland plants. Depending on the availability of water, environmental watering may reconnect and refill anabranch creeks and lagoons in the mid-Yanco Creek system.

Junction Wetlands: The Junction Wetlands are in decline because of insufficient inundation. This means there is high demand for environmental water to protect these wetlands. Inundation of the Junction Wetlands requires coordinated higher flows in the Murray and Murrumbidgee. If reconnection is not possible, water may be pumped to some individual wetlands.

For more information on our planning process, see the 2017–18 Portfolio Management Plan for the Murrumbidgee River at www.environment.gov.au/water/cewo


Egret in flight over Lowbidgee

An estimated **241.50 GL** of Commonwealth environmental water was used in the Murrumbidgee in **2016–17.**

1121.70 GL of Commonwealth environmental water was used in the Murrumbidgee **between 2009–10 and 2016–17.**

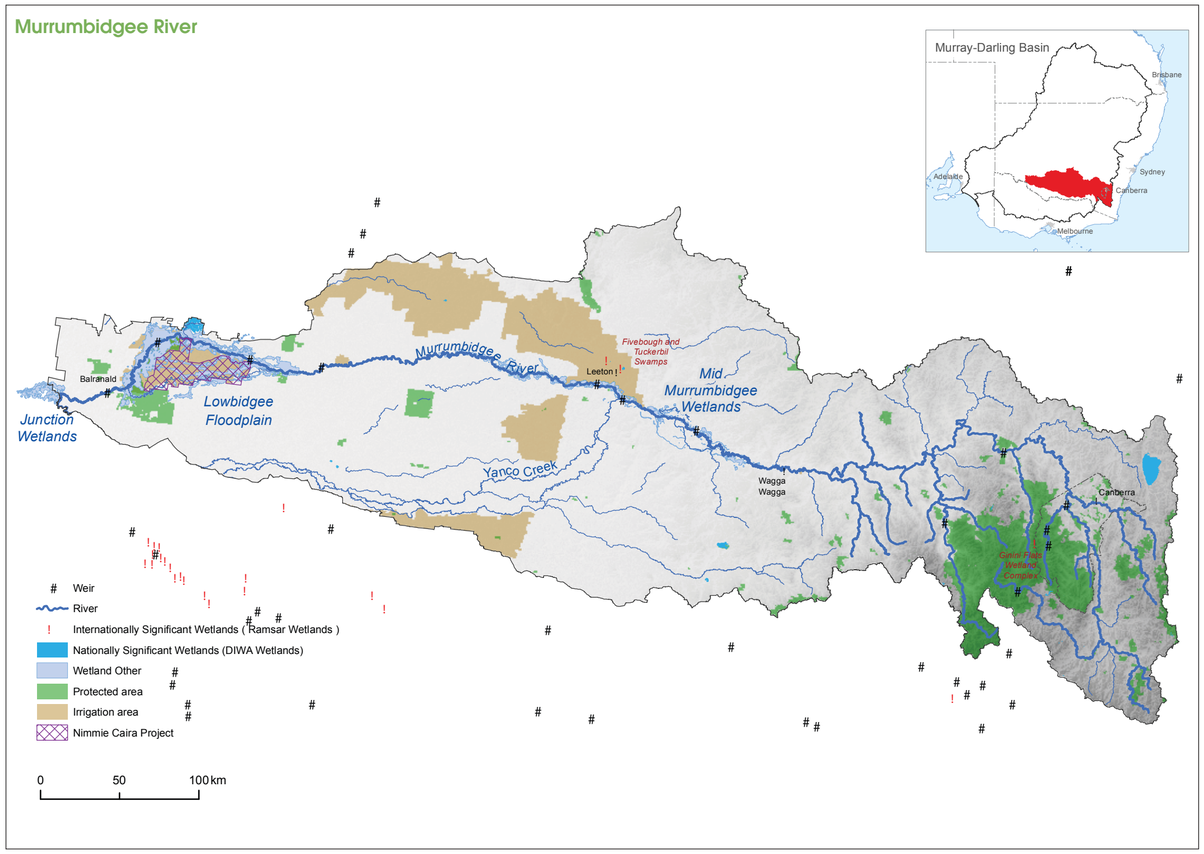
78.50 GL

An estimated **78.50 GL** was **carried over** by the Commonwealth Environmental Water Holder for the 2017–18 year.

A total of 7.50 gigalitres were transferred out of the Murrumbidgee via inter-valley transfers into the NSW Murray system in February 2017. In May 2017, 13.5 GL were transferred into the Murrumbidgee catchment via inter-valley transfers from the Victorian Goulburn system. These transfers were made in order to balance the Commonwealth Environmental Water Holder's portfolio across the southern connected Basin in 2016-17.

ML = megalitre = 1 million litres GL = gigalitre = 1000 megalitres

Murrumbidgee River




LTIM monitoring at Yarradda Lagoon

Outcomes snapshot

Scientific monitoring shows that water delivered to the Murrumbidgee River is providing food, habitat and breeding opportunities for many of the region's native fish, waterbirds, plants and other wildlife.

Full monitoring reports are available on our website at **www.environment.gov.au/water/cewo/catchment/murrumbidgee/monitoring**

2016–17—preliminary results

Environmental watering supported many different types of waterbirds across the mid-Murrumbidgee, Nimmie-Caira and Redbank zones. This included the first recorded large-scale pelican breeding event in Nimmie-Caira (approximately 6000 nests), and large-scale breeding of straw-necked ibis, Australian white ibis, eastern great egret and cormorants in Yanga National Park, north Redbank and Nimmie-Caira.

Environmental flows provided refuge habitat and movement opportunities for native fish and other aquatic animals, and helped to reduce the severity and duration of the hypoxic blackwater event in the Lower Murrumbidgee River.

They also supported large numbers of frogs and turtles across the mid-Murrumbidgee, Nimmie-Caira and south Redbank zones, including southern bell frog tadpoles observed at Nap Nap and Avalon swamps in Nimmie-Caira.

2015–16

Environmental watering supported breeding of waterbirds including Australian darter, little pied cormorant, Australian white ibis, little egret and yellow-billed spoonbill. There were at least 200 active eastern great egret nests.

Consecutive years of inundation at Yarradda Lagoon in the mid-Murrumbidgee wetlands have increased the diversity and extent of native aquatic plants, including spiny mud grass.

Environmental water also supported the spawning of eight species of native fish in the Murrumbidgee River, including golden perch, silver perch and Murray cod. Juvenile Murray cod and golden perch were observed.

Southern bell frog activity was recorded at numerous sites in the Murrumbidgee Valley. This included very large numbers in Nimmie-Caira, and the first detection of southern bell frogs (including tadpoles) at Yarradda Lagoon in the mid-Murrumbidgee since the 1970s.