



Murrumbidgee Quarterly Snapshot – September 2024

The Murrumbidgee is a lowland river system with large meandering channels, wetlands, lakes, swamps and creek lines. The Murrumbidgee Flow-MER project focuses on five basin themes: cultural outcomes, native vegetation, waterbirds, native fish, and river flows and connectivity. In addition to these basin theme requirements, the Murrumbidgee project focuses on wetland fish, frogs, turtles and Australasian Bitterns.

We acknowledge First Nations people as the Traditional Owners of the land, water and sky Country across the Murrumbidgee and value their expertise, wisdom and enduring connections in their care for Country over millennia.

Geographical description

The Murrumbidgee catchment in southern NSW is one of the largest river catchments in the Murray-Darling Basin. Wetlands cover over 4 per cent (370,000 ha) of the catchment, with over 1000 identified. Nationally important wetlands include the mid-Murrumbidgee and Lowbidgee floodplain, covering 2.5 per cent of the catchment area.

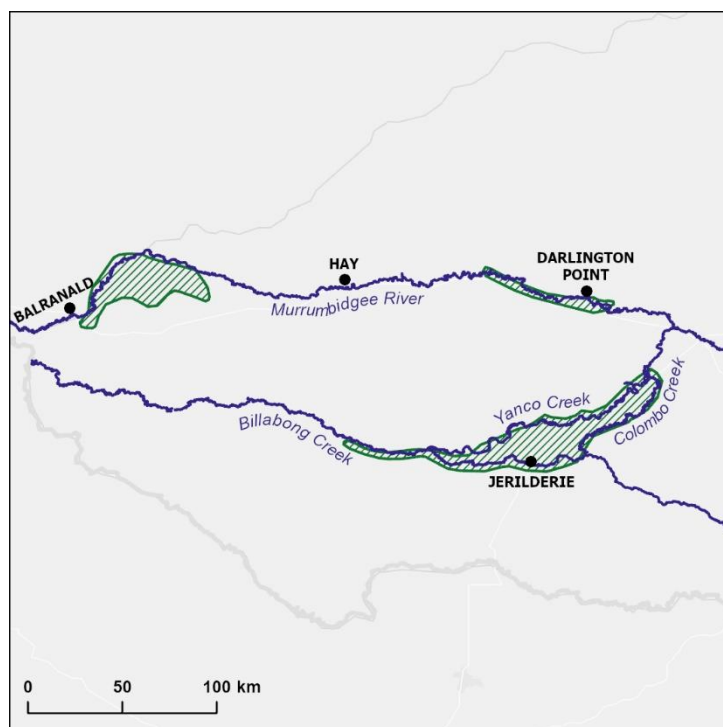


Piggery Swamp in January 2021. Photo: Skye Wassens, CSU.

Environmental water needs and monitoring sites

Monitoring is carried out in the following zones (indicated in the schematic), and the information gathered is used to assess environmental water needs:

- The Lower Murrumbidgee (in-channel flows)
- The Lower Murrumbidgee (Lowbidgee) floodplain
- The Mid-Murrumbidgee River wetlands, and
- The Yanco-Billabong Creek system.



Murrumbidgee monitoring areas indicated by green hatching.
Image credit: Karunya Prasad, CSU.





We aim to make Flow-MER knowledge available, accessible and relevant to local communities, and to involve them to improve Flow-MER activities, facilitate ownership and empower champions. This year we attended the Narrandera Koala Festival, we are posting regularly in social media (bidgeemer on Instagram and BidgeeMER on X) and running citizen science activities in schools. We will be using local media to communicate Flow-MER knowledge to the broader community to build understanding and support for environmental water.



Native vegetation

Our vegetation monitoring aims to establish how water for the environment contributes to:

- maintaining or improving representative populations and communities of non-woody vegetation,
- maintaining or improving the condition of lignum shrublands, and
- maintaining representative native vegetation communities in the Murrumbidgee Area through the various flows.

Our methods include ground surveys; assessing lignum condition using drones; and mapping inundation wetland types of the Lower Murrumbidgee Floodplain.

The first vegetation ground surveys will be carried out in November 2024.



Native fish

We aim to find out how water for the environment, and the flow regime more generally, contributes to the expansion of populations of native fish; the make-up of native fish populations; native fish abundance, and native fish condition. Our methods entail:

- surveys of sites distributed across the Yanco-Billabong (6 sites), Lower Murrumbidgee River (8 sites) and Lower Murrumbidgee floodplain (6 sites), to be undertaken in Autumn 2025.
- Fyke nets and boat electro-fishing or backpack electro-fishing as per the Sustainable Rivers Audit methods. The first survey is planned for April 2025.



Two Bridges Swamp, October 2023. Photo: Anna Turner, CSU.



Waterbirds

Our aim is to find out how the flow regime and specifically water for the environment contributes to providing and supporting waterbird habitats, and the abundance and species diversity of waterbirds. Surveys in 2024-25 will focus on 10 sites in North Redbank and Western Lakes. The first survey was undertaken in August 2024 and the final survey is expected to be undertaken in March 2025.



River flows and connectivity

We aim to find out how the flow regime and specifically water for the environment contributes to connecting wetlands to their rivers and creeks, wetland depth and volume, and the wetting and drying of wetlands.

Our methods include using scientific models and tools including digital elevation models, river gauges, Sentinel2 (from Digital Earth Australia data cube) and the Wetland Insights tool. We will also be using 44 depth loggers across three key regions – the mid Murrumbidgee, Yanco-Billabong and Lower Murrumbidgee.

Loggers have been deployed and data will be downloaded in June 2025.



Cultural outcomes

We seek to engage First Nations people throughout the Murrumbidgee and explore what environmental water contributes to supporting cultural outcomes. Engagement activities this year include presenting to the Murrumbidgee Aboriginal Water Committee, organising a Community Yarn-up at Balranald, and working with our Aboriginal Landcare Officer to undertake citizen science activities in schools in Narrandera.