Murrumbidgee Quarterly Snapshot – June 2025

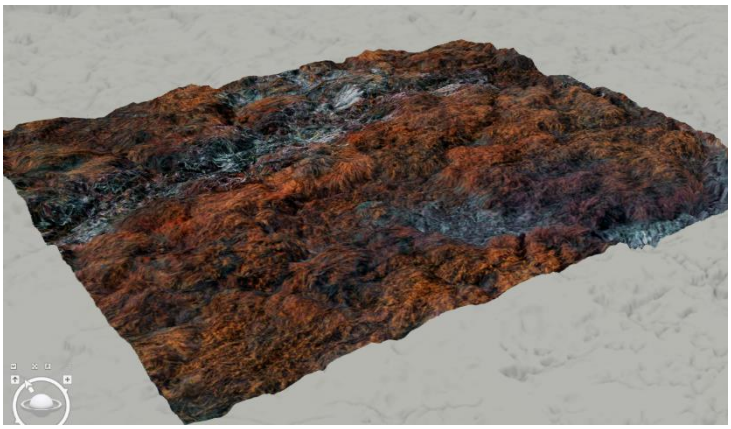
We acknowledge First Nations people as the Traditional Owners of the land, water and sky Country across the Murrumbidgee and value their expertise, wisdom and enduring connections in their care for Country over millennia.

We monitor in the Lower Murrumbidgee (in-channel flows and the Lowbidgee floodplain), Mid-Murrumbidgee River wetlands, and the Yanco-Billabong Creek system. We are looking into how targeted environmental watering benefits native vegetation, waterbirds including Australasian bitterns, native fish, frogs and turtles.

The Murrumbidgee Flow-MER team have completed a productive field survey during April, including fish monitoring in the rivers and lakes of the Lower Murrumbidgee. We've also been actively engaging with First Nations communities – the Mutthi Mutthi, Nari Nari and Wiradjuri.

Native vegetation

Imagery and data collected in the field in March on lignum condition across the Lowbidgee floodplain has now been processed. Unsurprisingly we observed healthier, greener lignum in plots that had been inundated more recently or more frequently. Stressed or sparse lignum was more common in plots that had not received water in the past 1–2 years. The 3D models allowed us to identify differences in lignum structure, revealing fuller, denser shrub canopies in wetter areas and lower, more open growth in drier ones.



Near-Infrared 3D image output of a 50m by 50m site at Bala (orange indicates active photosynthesis). Photo: Andrew Hall

Using drones allows us to collect extremely detailed information without disturbing sensitive sites or relying solely on ground surveys. With each pixel representing as little as 1 cm on the ground, we can detect even small changes in plant health and structure. By repeating these surveys each year, we will build a long-term picture of how lignum responds to changing water regimes.

Cultural outcomes

Jedda and Maxine from the Mutthi Mutthi participated in fish surveys in the Lower Murrumbidgee in late April, sharing invaluable Mutthi Mutthi perspectives on Country with our team. The trip was a wonderful opportunity to continue fostering relationships between our scientists and the Mutthi Mutthi, enabling them to spend time on Country and learn about fish monitoring techniques and species.

Field team members Jedda Kelly and Maxine Kelly setting fish nets at Tala Lake, April 2025. Photo: Dale Campbell

We also continued to work with our Cultural advisor and Wiradjuri Aboriginal Landcare Officer, Nioka Dupond to find opportunities for mixing culture and science in the Murrumbidgee, including planning a Bioblitz day.

Native fish

Over 7 days in April, our team of 4 field staff surveyed 2 lakes extensively for fish. Surveys targeted Tala Lake and Yanga Lake in the lower Murrumbidgee floodplain. Significantly, we collected young-of-year (juvenile) golden perch from both lakes and one adult (42cm long) in Yanga Lake. The fish community of Tala Lake was dominated by common carp, while Yanga Lake was dominated by native fish, including bony herring and carp gudgeon.

Field team member Gordon O'Brien with a golden perch at Yanga Lake, April 2025. Photo: Dale Campbell

The electro-fishing team also undertook surveys at 4 sites in the Murrumbidgee River and the Yanco Creek system. Some important species found in the Murrumbidgee River included young-of-year and adult golden perch, adult silver perch, Murray cod, rainbowfish, and freshwater catfish, as well as the usual small bodied fishes.

We found an olive perchlet for the first time in over 100 years in the Yanco Creek system. This small bodied fish species is vulnerable to multiple stressors and populations have declined throughout the Murray-Darling Basin. The stressors include cold water pollution restricting spawning, habitat degradation, decline in wetland condition due to river regulation and also predation by exotic species. To have populations recover and occur in the Yanco Creek system is potentially an indication of the river health improving.

Waterbirds

With on-ground waterbird surveys wrapped up for the season, our focus has turned to our multimodal project at Snipe Swamp in the Lowbidgee. This project combines acoustic recorders, motion-triggered cameras, and time-lapse imagery to detect species that might otherwise go unnoticed. A recent highlight includes the capture of several great egrets in full breeding plumage, illuminated beautifully in the morning light. A white-necked heron is also visible in the frame. Passive monitoring methods not only help us document species presence, but also build a rich visual and acoustic archive to support future monitoring and research. The image is a striking reminder of the value of continuous, low-disturbance monitoring in revealing the quiet wonders of these dynamic wetland systems.

White-necked heron and great egrets in breeding plumage captured by a time-lapse camera at Snipe Swamp, November 2024. Photo from camera in the field.

We acknowledge the consortium partners and local landholders with whom we work.