



Australian Government

Commonwealth Environmental Water Holder



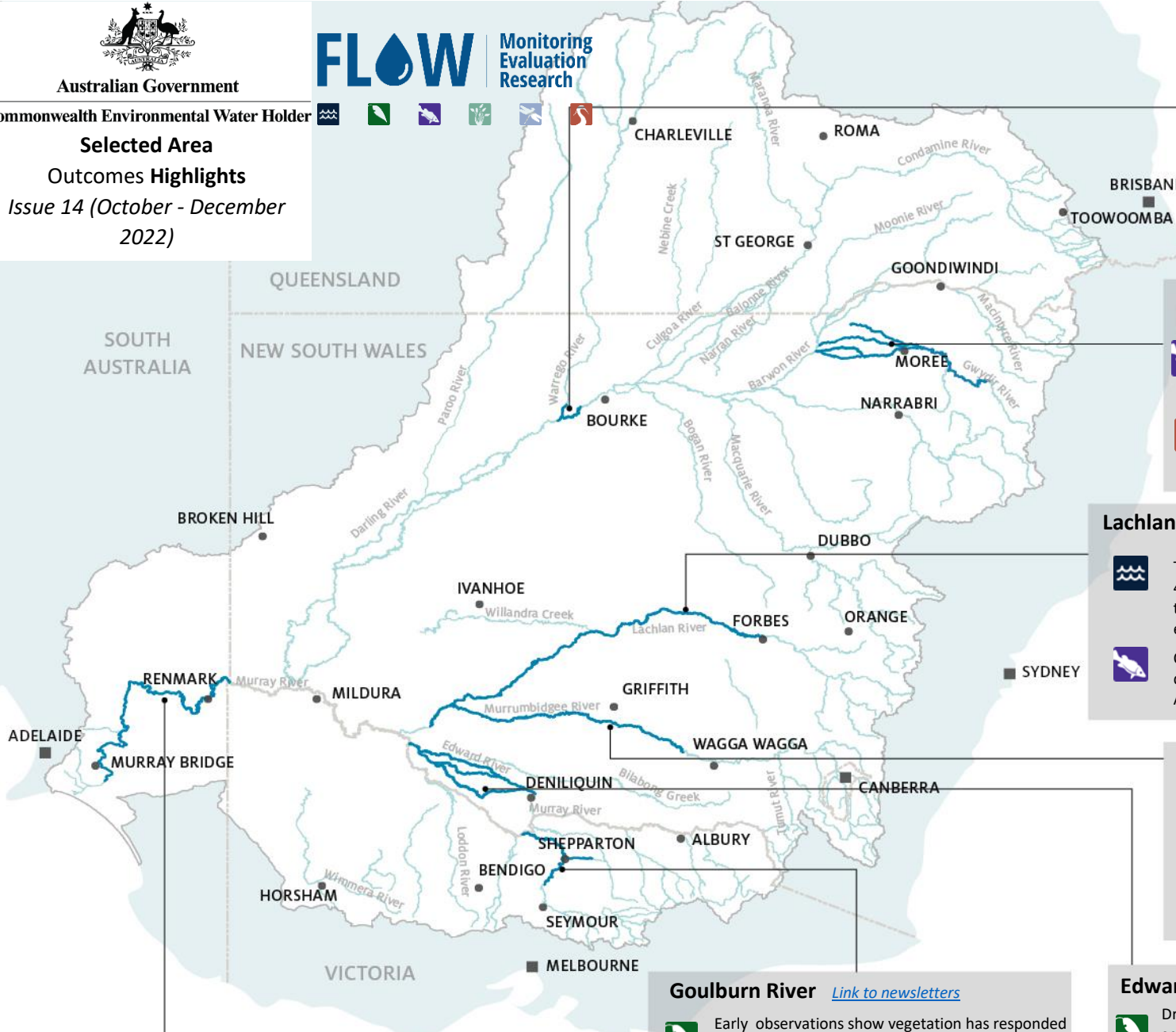
Monitoring Evaluation Research



### Selected Area

### Outcomes Highlights

Issue 14 (October - December 2022)



#### Junction of Warrego and Darling [Link to newsletters](#)



Common waterbirds such as ducks were observed in greater numbers than previous year, though a lack of egrets, rails and crakes was observed perhaps due to these species preferring other locations in wet times.



Dissolved oxygen (DO) levels varied across the area. DO dipped below 2mg/l at Walgett & Brewarrina following flood.

#### Gwydir River System [Link to newsletters](#)



Fish tracking data was successfully retrieved from data receivers in the Mehi and Gwydir River channels. Data analysed will assist to determine golden perch movement patterns and their response to flows.



A large number of waterbirds, including egrets, herons, ibis and spoonbills, have been breeding in Gingham and Lower Gwydir systems in response to widespread inundation creating suitable conditions.

#### Lachlan River System [Link to newsletters](#)



The 2022 flood peaked at more than 5,500 ML/day at Booligal, making it the 4th largest flood on record. Looking at years with the largest flood flows, they seem to follow a pattern of a moderately wet year followed by a more extreme wet year.



Observation of larval fish traps showed a low level of larval fish, though likely due to large flows making it similar to finding 'a needle in a haystack'. Australian smelt and carp gudgeons were found to be present.

#### Murrumbidgee River System [Link to newsletters](#)



Ultrasonic surveying at the Yanco Creek System detected Southern Myotis, considered vulnerable in NSW and the only Australian bat that eats fish. Monitoring also detected 6 other bat species along the Yanco-Billabong Creek.



Rakali were captured using motion sensor cameras in the Yanco Creek System, visiting floating platforms with sardine tin as a lure.

#### Edward/Koety-Wakool river system [Link to newsletters](#)



Drone imagery was compared to previous ground survey data to identify 65 plant species across three survey areas, with the drone technology also helping to detect changes in ground cover plant condition in response to different inundation regimes.



Koety Werkul River Rangers and Junior Rangers from Yarkuwa Indigenous Knowledge Centre participated in GIS workshops, providing further skills to assist the management of environmental water to Werai Forest.



Environmental water was delivered to the Wakool, Edward/Koety and Niemur rivers, and Thule, Murrain-Yarrein and Cockrans Jimaringal creeks to create 'refuge patches' for fish.

#### Lower Murray River [Link to newsletters](#)



Examining the age of collected golden perch researchers found they originated from the Darling River, mid, and lower Murray River. This helps to inform delivery of environmental water to support fish movement.



First Nations students from Renmark High School took part in the Indigenous Ecology in Action workshop, learning sampling methods that are used to monitor the waterways.

#### Goulburn River [Link to newsletters](#)



Early observations show vegetation has responded well to the flooding with good growth on the mid banks and benches.



Drift nets were used to sample fish eggs and larvae to assess golden perch spawning and links to flows.



Macroinvertebrates sampled were compared against levels after the 2016-17 flood events, suggesting increased organic matter from flooding may lead to increases in macroinvertebrates.