



Department of Planning, Industry and Environment

Lachlan Catchment

Water for the Environment: Annual Priorities 2021-22



Water for rivers and wetlands



In 2021-22, water managers will continue to build on the gains of previous years through the effective and efficient management of water for the environment.

In the year ahead, the focus will be on maintaining condition and function of priority refuge habitats. Good rainfall experienced across the catchment during mid to late March 2021 has resulted in improved water allocation forecasts for 2021-22. Consequently, as allocations increase, multi-objective, catchment-scale watering events will be considered and will look to respond to natural triggers as they arise.

During 2020-21, water for the environment was added to tributary inflows to extend floodplain and wetland inundation.

The Department of Planning, Industry and Environment (the Department) worked with the Commonwealth Environmental Water Office (CEWO) and stakeholders to deliver 65 gigalitres of licensed water to supplement the 173 gigalitres of translucent flows.

This combination of flows watered the majority of riparian and floodplain assets from below Forbes to the Great Cumbung Swamp during August to December 2020. The event supported colonial bird breeding at several locations and provided foraging habitat for migratory shorebirds and threatened species (Australasian bittern, blue-billed duck). The breeding calls of the southern bell frog were also recorded at multiple locations in the Lower Lachlan for the first time since 2012.



Weather and water forecast



In April 2021, the Bureau of Meteorology confirmed the 2020–21 La Niña has now passed. Climate model outlooks indicate the El Niño–Southern Oscillation (ENSO¹) is now neutral with no sign of either La Niña or El Niño developing at least until September 2021. Rainfall was below average and temperatures warmer than average in May and June 2021 for eastern mainland Australia, including the Lachlan catchment, and will continue in July. Winter and Spring rainfall will determine environmental water usage during the 2021–22 water year along with carryover considerations.

Water managers have prepared watering plans that consider a range of weather and water availability scenarios in case it rains more or less than expected. This is known as resource availability scenario planning. Moderate to wet conditions are forecast for the Lachlan catchment in 2021–22.

Resource availability scenario



Very dry

Main aim: Protect

- Avoid critical loss
- Maintain key refuges
- Avoid catastrophic events



Dry

Main aim: Maintain

- Maintain river functioning
- Maintain key functions of high priority wetlands



Moderate

Main aim: Recover

- Improve ecological health and resilience
- Improve opportunities for plants and animals to breed, move and thrive



Wet to very wet

Main aim: Enhance

- Restore key floodplain and wetland linkages
- Enhance opportunities for plants and animals to breed, move and thrive

¹ENSO: The interaction between the sea surface and atmosphere over the Pacific Ocean which results in dryer or wetter conditions (El Niño or La Niña).

Key planned actions for 2021-22



Waterbirds

A mosaic of core breeding and foraging habitat will provide food and shelter for waterbirds (up to 15 gigalitres) under a moderate to wet resource availability scenario. Additional water (up to 10 gigalitres) will be made available to support bird breeding events.



Native fish

If water availability improves, a whole of system fresh (less than a bank full flow) from Wyangala (including anabranches) to Cumbung wetlands (up to 20 gigalitres) will be delivered to provide food and cues to move and breed for native fish populations (multi-site and multi-objective flow).



Vegetation

Focus will be on high aquatic plant diversity and ecological value sites with near permanent water from regular watering. These sites will also benefit from flows targeting native fish, waterbirds and connectivity outcomes. The fresh from Wyangala Dam can connect riparian wetlands close to the river channel and high priority assets in anabranches (e.g. Booberoi and Torriganny creeks). Additional volumes (up to 8 gigalitres) will promote seed setting and establish inflow wetlands at Lake Brewster.

If Environmental Water Allowance is available (up to 20 gigalitres), river red gum, black box and lignum floodplain wetlands (Willandra, Merrowie, Merrimajeel and Muggabah) will be targeted, which are also high-quality habitat for waterbirds.



Connectivity

Flows will be prioritised to maintain refuge pools and in-stream connectivity in mid to lower Lachlan (up to 9 gigalitres) and the Great Cumbung Swamp for southern bell frog and core reed beds (up to 6.5 gigalitres). This will maintain freshwater catfish breeding sites, small-bodied native fish populations, large tracts of macrophyte beds, reeds and rushes, as well as a healthy corridor and large stands of river red gum, black box, river cooba, and lignum. Tributary flows under wet conditions (up to 40 gigalitres) will be extended to the Lachlan Swamps and Great Cumbung Region.

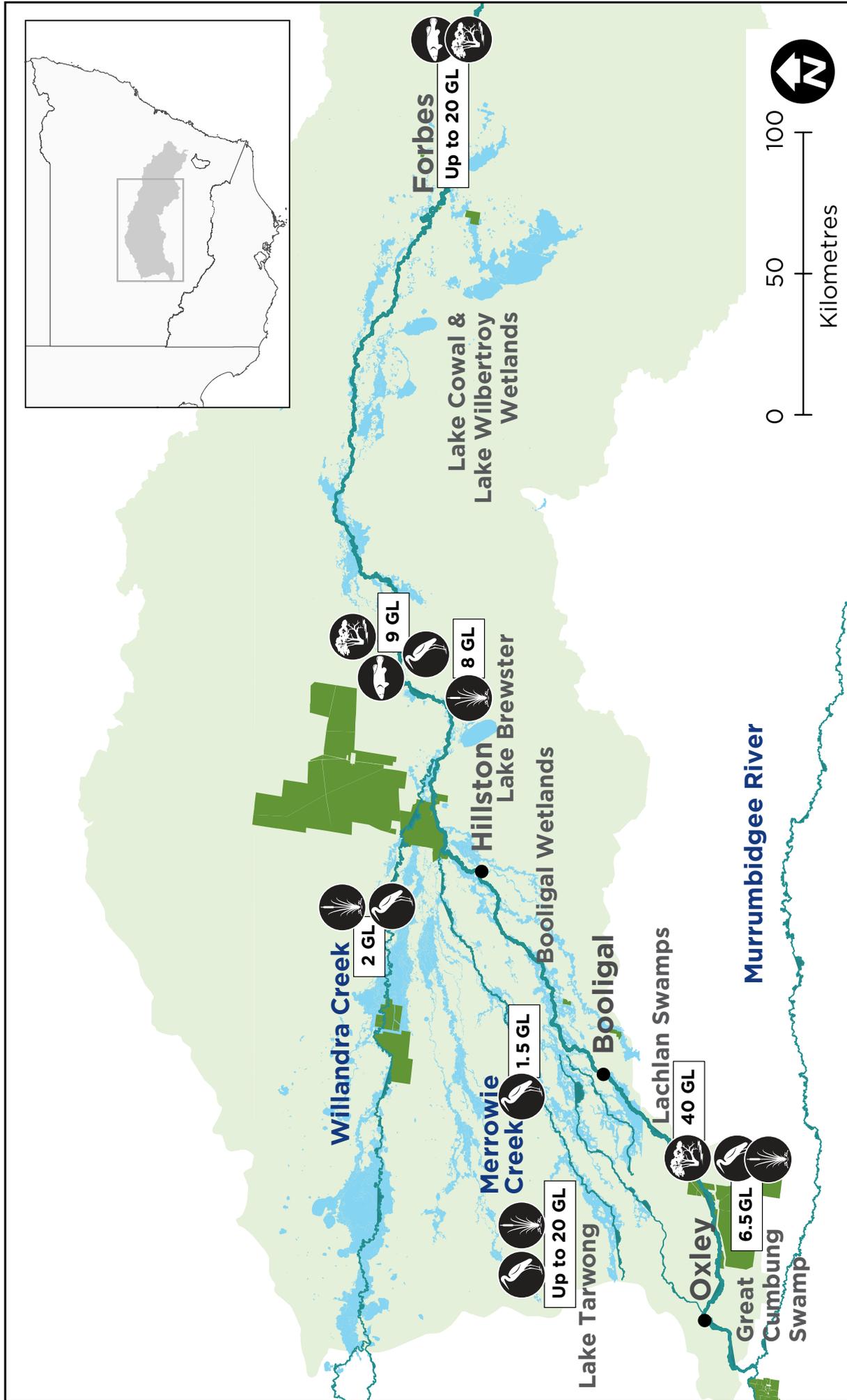


Figure 1 Map of proposed annual priority targets in the Lachlan Water Resource Plan area 2021-22.

How we make decisions



The Department is supporting the health and resilience of rivers and wetlands by delivering water for the environment where and when it is needed. We use the best available science, management expertise and experience to manage water across the landscape. This statement of annual priorities identifies the waterways and wetlands that are likely to receive water.

Our decision-making process considers:

- expected availability of water in the coming year
- conditions of the previous year
- current health of the plants and animals in these ecosystems.

Community-based environmental water advisory groups provide feedback and advice to the Department on the management of water for the environment.

The NSW Government works with the Commonwealth Environmental Water Holder to manage water in the catchment.



What is water for the environment?

Water for the environment is a share of the water in dams and rivers that is set aside to support the long-term health of local rivers, creeks and wetlands. Healthy rivers carry water to homes, farms, schools and businesses. Rivers and wetlands are important cultural and spiritual sites for Aboriginal people, as well as the broader community.

About the catchment



The Lachlan Catchment covers an area of 90,000 square kilometres. Nearly 1300 kilometres of the 1400-kilometre river is regulated by water storages, of which Wyangala Dam is the largest at 1220 gigalitres. The river originates near Gunning in the tablelands and ends at the Great Cumbung Swamp. Important sites include the Booligal Wetlands, Lake Brewster, Lake Cowal, Great Cumbung Swamp and Lachlan Swamps, all of which are listed in the Directory of Important Wetlands in Australia. The Lachlan catchment has important Aboriginal cultural heritage values with environmental watering actions considering Aboriginal values and uses in consultation with communities.

Table 1 Expected environmental water volumes available at 1 July 2021.

Source	Maximum volume available (gigalitres – GL)	Volume expected 1 July under current conditions (gigalitres – GL)
Planned environment water		
Water quality allowance	20 GL	20 GL
Wyangala environmental water allowance	10 GL	10 GL
Lake Brewster environmental water allowance	10 GL	10 GL Depending volume in Lake Brewster
Translucent flow	Up to 350 GL	Depends on significant inflows to reach triggers
Water licenced to NSW		
High security	1.8 GL	1.8 GL
General security	37.5 GL	20.0 GL
Water licenced to the Commonwealth		
High security	0.9 GL	0.9 GL
General security	87 GL	28 GL

Note: This is an indicative summary of expected volumes to be available. For further detail and information on available volumes, please contact the region via Department enquiries on 1300 361 967. 1 gigalitre = 1000 megalitres; 2.5 megalitre = 1 Olympic swimming pool.

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Cover photo: Nathan McGrath DPIE-EES, retrieving fyke (fish monitoring) nets in Booberoi Creek (Mal Carnegie/Lake Cowal Foundation); Page 2: Aerial view of the Lachlan River, NSW (Paul Packard/DPIE); Blindbungui and Box Creek swamps on the western edge of the Cumbungi Swamp (Paul Packard/DPIE); Page 3: Aerial view of the Cumbung Swamp, Lachlan valley, during environmental watering (Paul Packard/DPIE), Infographic (J Humphires/DPIE); Page 6: Aerial view of the Lachlan River, NSW (Paul Packard/DPIE), Red-necked avocet (*Recurvirostra novaehollandiae*) Mal Carnegie, Lake Cowal Foundation; Page 7: Blindbungui and Box Creek swamps on the western edge of the Cumbungi Swamp (Paul Packard/DPIE).