

Murray–Darling Basin

Environmental watering priorities

Water for the environment is needed to improve the health of rivers, wetlands and floodplains across the Murray–Darling Basin. Healthy rivers benefit all river users and are vital to our health and wellbeing.

The Basin environmental watering priorities guide the annual planning of environmental watering across the Basin. They are the actions needed to help us achieve the Basin Plan's objectives of protecting and restoring the Basin's rivers, wetlands and floodplains.

Conditions in most catchments, combined with relatively large volumes of held environmental water in storages, present opportunities unseen for 25 years to improve the health of the Basin's water-dependent ecosystems.

Higher than average rainfall in 2016 resulted in much higher river flows and widespread inundation of wetlands and floodplains. These natural events watered many parts of the Basin's ecosystems including the Gwydir Wetlands, the Macquarie

Marshes, mid-Murrumbidgee wetlands, Booligal Wetlands and parts of the floodplains of the Murray, Murrumbidgee, Lachlan and Goulburn rivers.

Environmental water holders and managers augmented natural flows in selected instances to ensure important breeding and recruitment cycles were completed.

Although improved by the 2016 flows, the condition of the Basin's rivers and wetlands is mixed. Many sites and species need follow-up watering to build on the benefits the 2016 flows produced and to boost their resilience for the dry periods that will inevitably return.

The priorities have been developed to encourage water managers and holders to capitalise on this opportunity to improve the condition of native vegetation, support healthier populations of waterbirds and native fish, and improve flows throughout the river system.

Basin environmental watering priorities

The MDBA works with the Commonwealth Environmental Water Holder, Basin states and local communities, including Aboriginal communities, to develop the environmental watering priorities, and monitor the effects of watering.

The Murray Lower Darling Rivers Indigenous Nations (MLDRIN) and the Northern Basin Aboriginal Nations (NBAN) are working with the MDBA on ways to integrate Aboriginal people's perspectives into long-term and annual environmental water planning.

The Basin environmental watering priorities complement regional and local priorities.

We are continually working to improve how we develop the priorities. In the early years of the Basin Plan, we published Basin annual environmental watering priorities that were only applicable to the forthcoming water year. This year we have identified priorities that have multi-year components and priorities that recommend watering actions for a range of seasonal conditions.

This change recognises that to achieve some environmental objectives a series of watering actions will need to occur over a number of successive years. It also helps environmental water managers to plan for changing conditions.

Native fish

Changes to natural flow regimes have degraded fish habitat and reduced connectivity across the Basin. This has caused a significant decline in abundance and distribution of most native fish species.

In the long term, ecological processes need to be reinstated to support native fish recruitment, in particular to sustain and build on fish recruitment from earlier years, as well as encourage new recruitment opportunities.

The priorities for native fish are to:

- Support Basin-scale population recovery of native fish by reinstating flows that promote key ecological processes across local, regional and system scales for the southern connected Basin.
- Improve flow regimes and connectivity to maximise the ecological function of the Barwon–Darling river system for native fish.
- Support viable populations of threatened native fish and maximise opportunities for range expansion and the establishment of new populations.



Pelicans breeding at Kietta Lake in Nimmie Caira, Murrumbidgee catchment (photo by Erin Lenon, Commonwealth Environmental Water Office), 2017



White Ibis chick at Boals, (photo by Keith Ward).



Waterbirds

Aerial waterbird surveys conducted over eastern Australia show that waterbird numbers have declined by more than 70% in total population since surveys began in 1983. The Basin-wide environmental watering strategy outlines targets to restore waterbird populations to levels similar to those in the early 1990s. These levels are necessary to ensure populations are large enough to survive dry conditions as well as other changes to the Basin's river systems.

The priority for waterbirds is to improve the abundance and diversity of the Basin's waterbird population by using the following environmental flow management strategies:

- Avoid the loss of foraging and roosting habitat at refuge locations
- Maintain foraging and roosting habitat at refuge locations
- Support naturally triggered breeding
- Maintain waterbird breeding habitat in 'event ready' condition
- Trigger and provide support for small-scale breeding across functional feeding groups
- Trigger and provide ongoing support for small to moderate scale breeding across functional feeding groups
- Create a mosaic of wetland habitats suitable for functional feeding groups
- Improve the opportunities for large-scale breeding for colonial nesting waterbirds.

Which strategies water managers employ will depend on prevailing climate conditions and the condition of each wetland.



Native vegetation

Different vegetation communities support different functions and species in the landscape, so it is important to maintain a diversity of vegetation types in a healthy state. To be healthy, water-dependent vegetation communities, such as floodplain forests and wetlands, have a range of different requirements including wetting and drying.

The Basin-wide environmental watering strategy aims to maintain and improve water-dependent vegetation communities within areas of the Basin that can be actively managed with environmental water.

The native vegetation priorities focus on improving the condition of native vegetation to build on outcomes from flooding during 2016.

The priorities for native vegetation are to:

- Enable recruitment of trees and support growth of understorey species within river red gum, black box and coolibah communities on floodplains that received overbank flooding during 2016 by inundating the floodplains again.
- Improve the condition and extent of Moira grass in Barmah-Millewa Forest. Identifying which priority to employ will depend on the resource availability scenario.



River flows and connectivity

The Coorong, Lower Lakes and Murray Mouth complex plays an important role in removing salt from the river system and connecting the river and the Southern Ocean. Although flows in 2016 have benefitted the area, it remains a priority for environmental watering.

The priority for river flows and connectivity is to:

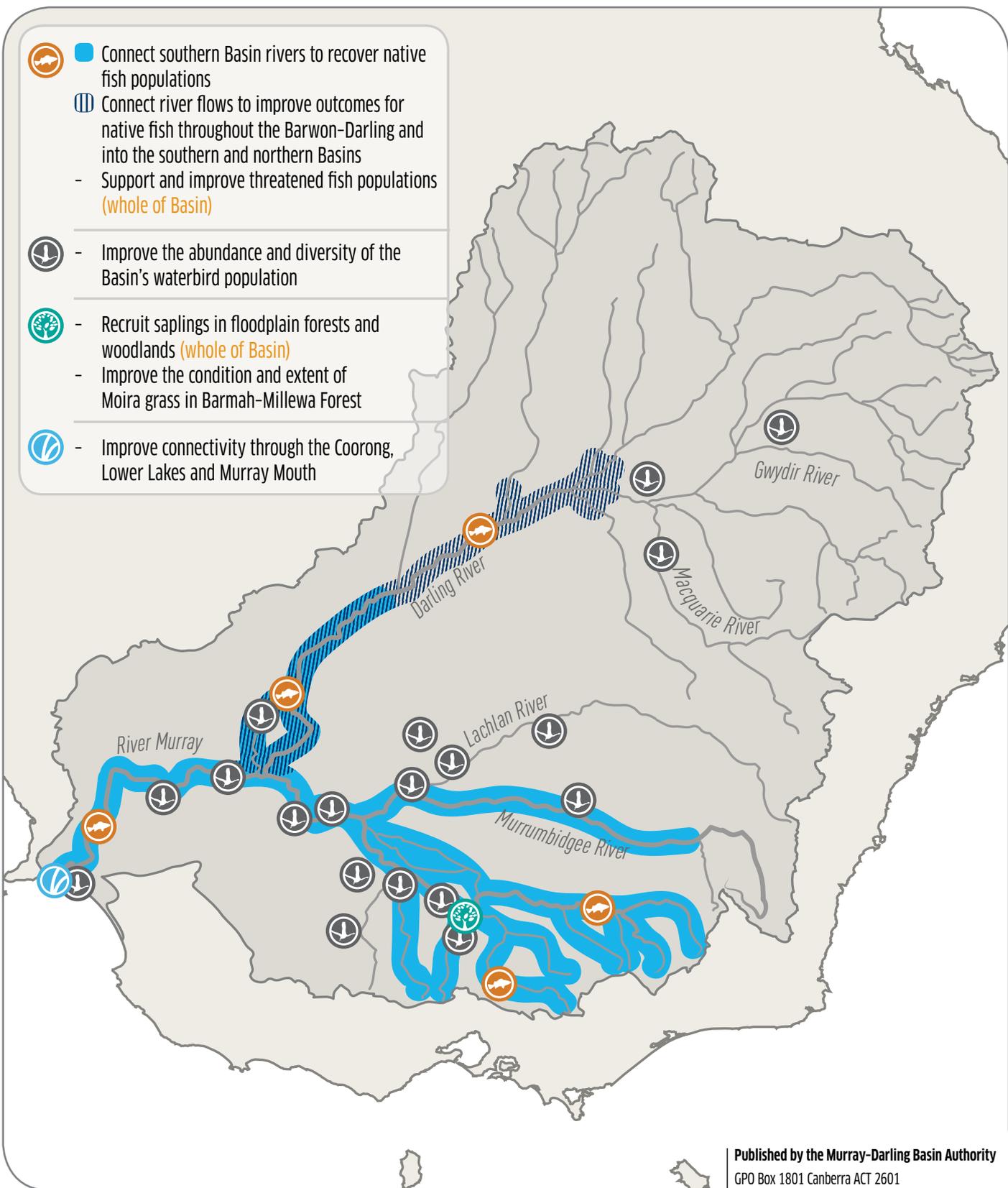
- Improve connectivity between freshwater, estuarine and marine environments and improve habitat conditions in the Coorong by optimising and managing inflows through the Lower Lakes.

Identifying which priorities to employ will depend on the resource availability scenario and the condition of the Coorong, Lower Lakes and Murray Mouth.

More detail about the priorities is available at our website mdba.gov.au

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Published by the Murray–Darling Basin Authority

GPO Box 1801 Canberra ACT 2601

Phone: 02 6279 0100

MDBA publication no: 21/17

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