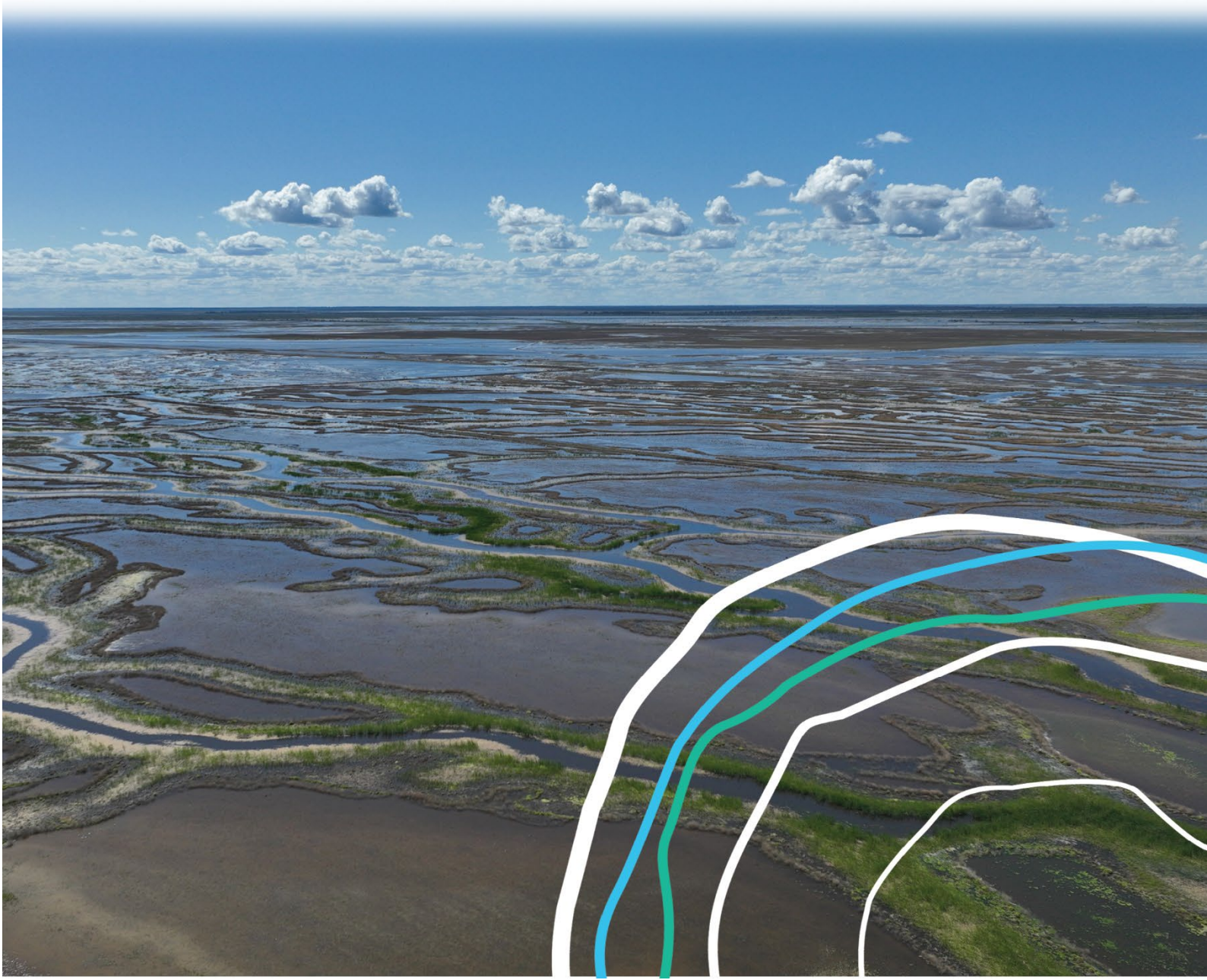
Australian Government
Commonwealth Environmental Water Holder

Water Management Plan 2023-24

Chapter 1



Cataloguing data

This publication (and any material sourced from it) should be attributed as: Commonwealth of Australia 2023, *Commonwealth Environmental Water Holder Water Management Plan 2023–24: chapter 1*, Canberra. CC BY 4.0.

ISBN 978-1-76003-434-4

This publication is available at dcceew.gov.au/water/cewo/publications/water-management-plan-2023–24.

For more information about Commonwealth environmental water, contact us at:

Commonwealth Environmental Water Holder
Department of Climate Change, Energy, the Environment and Water
GPO Box 858 Canberra ACT 2601
Telephone 1800 218 478
Email ewater@environment.gov.au
Web dcceew.gov.au/water/cewo

Cover photo credit: Gayini, Shot by Harro, UNSW, 2022. Taken with permission from the Nari Nari Tribal Council.

Acknowledgement of Country

Our department recognises the First Peoples of this nation and their ongoing connection to culture and country. We acknowledge Aboriginal and Torres Strait Islander Peoples as the Traditional Owners, Custodians and Lore Keepers of the world's oldest living culture and pay respects to their Elders past, and present.

Acknowledgement of First Nations people

The Commonwealth Environmental Water Holder (CEWH) and their staff acknowledge the First Nations communities of the Murray–Darling Basin and pay respect to their Elders past and present.

We acknowledge First Nations people as the Traditional Owners and custodians of the land, water and sky country across the Basin. We recognise the intrinsic connection of First Nations people to Country, and we value their enduring cultural, social, environmental, spiritual, and economic connection to the rivers, wetlands, and floodplains of the Basin.

Over millennia, First Nations people have shaped, managed, and cared for the land and waterways that sustain them. The CEWH values the relationships we currently have with First Nations people and is continuously building relationships to understand how we can empower and support First Nations people to care for Country. The CEWH will continue to work with First Nations people to identify ways to support cultural values alongside environmental outcomes with Commonwealth environmental water.

We value the ongoing contribution that First Nations people make to the planning and delivery of environmental water. We acknowledge this contribution is made largely through frameworks and processes that have not been determined, or endorsed, by First Nations people. More can be done to increase First Nations people's involvement and enable progress towards self-determination within and beyond the environmental watering program. We will continue to support and enable this where we can.

There are more than 40 First Nations in the Basin with many distinct cultures and practices. In each chapter of this Water Management Plan, we have endeavoured, using the best available information, to name the Traditional Owner groups and their Nations that live in the valleys across the Basin and who continue to maintain and enhance longstanding culture and traditions.

We embrace the spirit of reconciliation, working towards equity and equality for First Nations people.

Executive Summary

Commonwealth environmental water is an essential contribution to achieving healthy rivers and wetlands in the Basin. A healthy Basin is critical for the long-term sustainability of communities, industry and the environment.

In 2022–23, we saw a rare third consecutive La Nina, with high rainfall and widespread flooding transforming much of the Murray-Darling Basin. The floods provided an important opportunity for our rivers and wetlands to reset and recover on scales that we cannot match with water for the environment.

Both the Darling / Baaka and Murray rivers experienced the highest flows in decades, replenishing floodplains, wetland plants, forests and woodlands.

Hundreds of thousands of waterbirds bred across inland New South Wales for the second consecutive year in a row. This included breeding at the internationally significant Ramsar wetlands, Dharriwaa (Narran Lakes), Macquarie Marshes and Gwydir wetlands, as well as wetlands in the Lachlan and Murrumbidgee valleys. As water levels receded, water for the environment was used to top up wetlands. The ensured water remained around nests, protecting them from predators and providing food sources to give the chicks the best chance of survival. Maximising the success of waterbird breeding is critical because we are not seeing consistent recovery in waterbird populations.

Rivers were connected across the Basin and fish could freely move over thousands of kilometres without encountering any barriers. The flows triggered golden perch spawning and migration in the northern Basin and lower Murray valley. The high flows flushed salt out of the Murray Mouth and dramatically reduced salinity levels in the Coorong, benefiting vegetation and the estuarine fish populations.

But not all environmental impacts of the flood have been positive. The flooding led to low oxygen water developing in multiple valleys, which in turn led to fish deaths. Over 300 gigalitres of Commonwealth water was used in the lower Darling / Baaka, lower Murrumbidgee and Mid-Murray valleys to provide refuge for native fish and other aquatic animals from the poor water quality.

On the back of the floods, the highly invasive carp bred in very large numbers, which will pose challenges in the years ahead.

We start 2023–24 with full dams across most of the Basin and high water allocations. The Bureau of Meteorology is also forecasting a dry outlook with an El Niño Alert continuing and El Niño development likely during spring.

Over the coming 12 months we will look to lock in the gains achieved over the past 2 years and enhance the drought resilience of rivers, wetlands and floodplains. Depending on the location, this could include providing follow-up flows this year or providing a drying phase and then watering the following year. The drying out of wetlands may also be used as a strategy to remove carp, before then re-filling them.

With the increase in numbers of young waterbirds, water will be used to create, expand or extend feeding habitat to give these fledglings the best possible conditions we can. If natural flows trigger waterbird breeding, water will again be used to protect their nests.

For native fish, the environmental flows will be used to support spawning and recruitment. There will be a continued focus on providing connectivity between rivers to support fish migration, particularly back into regions that experienced large fish deaths.

Commonwealth environmental water will also be used to contribute to end-of system flows to maintain healthy salinity levels in the Coorong for as long as possible.

Like other water users, the option to sell water this year or carry over water into 2024–25 will be actively considered as conditions unfold. The proceeds from any sales of water can be used to buy water somewhere else or in a future year, or be used to fund environmental activities that support the use of Commonwealth environmental water. Water carried over into next year could be particularly important in ensuring there is water available if conditions continue to dry.

Planning and delivering environmental water is a collaborative effort that draws on local knowledge, the latest science and lessons learnt from previous actions. We value the input received from First Nations across the Basin and are committed to better understanding how water can be delivered to meet environmental demands, as well as supporting the spiritual and cultural values of Country. This includes through formal partnerships and projects, such as our recent 10 year partnership with the Nari Nari Tribal Council (NNTC). The partnership seeks to maximise the benefits of water for the environment and empower the NNTC to make decisions on the ongoing cultural and ecological management of their lands according to their lore, custom and knowledge.

Thank you to all the community members, First Nations people, irrigation corporations, environmental organisations, scientists and state government agencies with whom we partner. We look forward to getting out and about across the Basin and seeing first-hand some of the environmental outcomes we have worked together to achieve.

Contents

Tables

Boxes

1 Planning context for 2023-24

1.1 Introduction

Each year the CEWH and their staff consider and plan for how they will manage Commonwealth environmental water. This document captures the key information that will inform the CEWH's decisions in 2023–24.

The planning, delivery and monitoring of Commonwealth environmental water is undertaken in partnership with a range of organisations and communities across the Basin. This includes government agencies, First Nations, scientists, local environmental watering advisory groups, wetland managers, landholders and community organisations. Commonwealth environmental water cannot be delivered without the coordinated effort of many stakeholders and local information and experience.

Broadly, the CEWH can either use, trade, or carryover their annual water allocations, under the same rules that apply to all water users. Further information on the role of water for the environment and the process by which the CEWH and their staff plans and manages Commonwealth environmental water can be found on our website at Commonwealth Environmental Water Holder - DCCEEW.

1.2 First Nations input to environmental water planning

The CEWH engages with First Nations people to understand how environmental water and funding opportunities at the system and local scale can empower and support First Nations people to care for Country in ways that they determine.

To inform environmental water planning at the local scale the CEWH and state government agencies work together with First Nations people to understand watering priorities for Country and community. In addition, the direct relationships the CEWH and their staff have with First Nations people throughout the Basin has helped inform environmental water planning. At the system-scale First Nations representative groups have participated in water planning forums to inform environmental water planning decisions.

1.2.1 First Nations input into planning in the southern Basin

As part of the planning through the Southern-Connected Basin Environmental Watering Committee (SCBEWC), proposals are developed for water use each year by state governments in consultation with First Nations people. This includes input through The Living Murray's Indigenous Partnerships Program. These proposals inform environmental watering coordination in SCBEWC. The Murray Lower Darling River Indigenous Nations (MLDRIN), a representative confederation of First Nations from the Southern Murray Darling, currently holds an observer seat on SCBEWC.

The CEWH works with MLDRIN to inform environmental watering decisions at the southern Basin scale. In early 2023 the CEWH supported MLDRIN to lead four online workshops to provide a forum for MLDRIN delegates and invited First Nations members to provide advice on how they want to see water for the environment delivered by the CEWH and its partner agencies in 2023–24. These workshops support the ongoing input of Basin Traditional Owners into the

CEWH's annual environmental water planning, building on the statement on environmental water use developed by Traditional Owners from the Southern Basin with support from MLDRIN'. Key issues raised in the workshops include:

- Where participants had access to Country, they reported that the floods have transformed and rejuvenated landscapes, with benefits for culturally significant plants such as nardoo, old man weed and lignum. In some places, there has also been damage to scar trees and erosion that impacted on cultural heritage.
- For many Basin First Nations people, lack of access to Country has meant there is an inability to assess the impact of the floods.
- To understand the impacts of flooding on cultural heritage sites, songlines and significant places, Basin First Nations organisations need resourcing and access to undertake monitoring and assessment of Country, such as Aboriginal Waterway Assessments. These activities can also provide a platform for sustaining and transferring knowledge both between and within Nations including for future generations, providing opportunities to practice culture on Country, which is an educational home ground.
- Follow-up flows in response to the floods, to maintain the benefits and not slide backwards, was seen as important, with timing of environmental flows being informed by First Nations knowledge and priorities.
- Participants highlighted the importance of a holistic approach and delivering water to neglected parts of Country to maintain cultural obligations and the protection of cultural heritage.
- More broadly, participants identified the need for improved and increased communication and coordination in water planning between First Nations groups, the CEWH and state government environmental water agencies. This included a desire for neighbouring First Nations to convene regional gatherings and meet on Country to share learnings and experiences.
- Participants were also supportive of a coordinated flow across Nations as *"Our rivers should be joined up and treated as one, not as individual places."* But it was also noted the importance of conducting assessments of Country to inform the planning.
- The need for governments committing to power sharing and engagement with First Nations people on equal terms.

The workshops also had a focus on First Nations people identifying specific environmental watering actions and environmental projects at a valley scale to support First Nations people to care for their Country.

In addition to the MLDRIN workshops and as part of an inclusive approach to First Nations engagement, the CEWH and its state government partners have also engaged with individual First Nations across the southern Basin to understand more about how these Nations would like their voices represented and considered in future environmental water planning. This includes through the participation of First Nations organisations in monitoring activities under the Flow-MER program. The CEWH will continue to engage with First Nations people on these actions and projects to inform environmental watering throughout the year.

1.2.2 First Nations input into planning in the northern Basin

The Northern Basin Environmental Watering Group's (NBEWG) membership has been expanded to include First Nations people. This is an important step to foster two-way knowledge sharing between environmental water managers and Traditional Custodians. This knowledge sharing is important for the CEWH to better understand how environmental water can be used to empower First Nations people to care for Country.

Representation of First Nations people at this level also aims to ensure system-scale benefits are realised from local/site scale engagement.

First Nations people have been considered at the site and/or valley-scale including through the following:

- Seeking and supporting First Nations participation in northern Basin water planning meetings in the Gwydir, Namoi and Peel.
- Seeking First Nations involvement and advice in northern Basin environmental water projects (for example, the CEWH's Mallowa Scoping Study; and state partner projects such as the Gwydir on Country classroom project, Platypus project, and Gwydir reconnecting watercourse Country project).
- Engaging cultural advisors in the Gwydir Valley and the Warrego–Darling through the CEWH's Monitoring, Evaluation and Research program. Cultural advisors help the CEWH to connect and engage with Traditional Custodians and community for specific sites to ensure the voices of Traditional Custodians and community are being heard.
- On-Country cultural knowledge sharing experiences. The CEWH recognises the importance of being on Country to understand how environmental water can be used to look after Country and for meaningful two-way knowledge exchange. The CEWH along with their state partners supported the development of a pilot two-way knowledge exchange experience in the Warrego–Darling in the 2022–23 water year. This was guided by First Nations people to ensure the experience was suited to the Country and First Nations community of the Warrego–Darling.
- Developing a seasonal calendar with the Gamilaraay / Gomeroi / Kamilaroi Nation in the western Gwydir Valley. The seasonal calendar is an avenue for the Gamilaraay / Gomeroi / Kamilaroi people to share their knowledge and voices to inform environmental water management. This calendar will help inform environmental water management decisions and build a stronger two-way relationship for learning and knowledge exchange.
- Continuing our commitment to First Nations environmental objectives. First Nations representatives from the Northern Basin Aboriginal Nations organisation (NBAN) identified environmental objectives for the 2021–22 Barwon–Darling River Water Management Plan through the Barwon–Darling First Nations Environmental Water Objectives and Guidance Pilot Project. The CEWH will continue to engage with First Nations to understand how the CEWH can support their environmental objectives through environmental water decisions.

1.3 Basin annual environmental watering priorities

Prior to the start of each new water year, the Murray-Darling Basin Authority (MDBA) must publish Basin annual environmental watering priorities (Table 1 Basin annual environmental

watering priorities, 2023–24). These priorities are guided by the annual environmental watering priorities of the Basin states for each catchment. All environmental watering, including by the CEWH, must take these priorities into consideration.

Commonwealth environmental watering actions will seek to contribute to the Basin annual environmental watering priorities, subject to emerging climatic and environmental conditions.

Table 1 Basin annual environmental watering priorities, 2023–24

Category	Rolling, multi-year priorities	2023–24 annual guidance
River flows and connectivity	Manage water to maximise lateral and longitudinal connectivity along the river systems and provide opportunities for high ecological productivity. Support freshwater connectivity through and between the Lower Lakes, Coorong and Murray Mouth.	**North** Support cross-border and inter-valley connectivity opportunities (where necessary, coordinate through NBEWG). Manage water recession at sites where there are active bird breeding events (e.g. Narran Lakes, Gwydir Wetlands, Macquarie Marshes). **South** Piggyback off high-flow events to deliver additional water to low-lying floodplains and extend the event duration. Coordinate and plan event releases to achieve multiple benefits along the length of the Murray (where necessary, coordinate through SCBEWC). Increase flows to the barrages to improve water quality and trigger cues for migratory fish movement.
Native vegetation	Allow opportunities for growth of non-woody wetland vegetation. Allow opportunities for growth of non-woody riparian vegetation. Maintain the extent, improve condition, and promote recruitment of forests and woodlands. Maintain the extent and improve the condition of lignum shrublands. Expand the extent and improve the condition of Moira grass in Barmah–Millewa forest. Expand the extent and improve resilience of *Ruppia tuberosa* in the southern Coorong.	**North** Support riparian vegetation in key wetlands of the northern Basin. Support continued recovery of lignum shrublands at Narran Lakes and other key sites in the northern Basin. Continue to support recovery of core wetland vegetation and emerging vegetation by supplementing natural flows at key sites in the Macquarie Marshes. Support inundation of the Warrego floodplain. **South** Increase inundation higher on the floodplain to support parched and stressed forests and woodlands (e.g. areas at Gunbower forest that need inundation). Provide flows to meet critical inundation requirements for River red gum communities at Barmah-Millewa forest. Provide flows to low-lying wetlands to support germination and growth of Moira grass and other non-woody vegetation communities. Provide flows to improve the health of black box communities higher on the Chowilla floodplain and Lindsay, Mulcra and Wallpolla islands. Promote growth and encourage reproduction of *Ruppia tuberosa* by managing water and salinity levels.

Category	Rolling, multi-year priorities	2023–24 annual guidance
Waterbirds	Maintain the diversity and improve the abundance of the Basin's waterbird population. Maintain the abundance of key shorebird species in the Lower Lakes and Coorong.	**North** Continue to support colonial nesting waterbird breeding and recruitment triggered by natural flows in the Narran Lakes, Macquarie Marshes and Gwydir Wetlands. Support foraging and nesting of waterbirds by ensuring shallow-water and shoreline habitat. **South** Maintain foraging and roosting habitat at refuge locations. Support breeding and recruitment where naturally triggered. In moderate conditions, maintain waterbird breeding habitat in 'event ready' condition. Support breeding where it is naturally triggered. Where conditions permit, trigger and provide ongoing support for small-scale breeding across functional groups, including the wetlands of the Lachlan (Lake Brewster and Booligal wetlands) and Lowbidgee (Gayini and Nimmie-Caira) that have shown a strong response to natural flows. Maintain waterbird habitat including productive shorebird habitat and foraging availability in the Lower Lakes, Coorong and Murray Mouth – allowing for varying requirements within the different habitats offered by the Coorong and Lower Lakes.
Native fish	Support Basin-scale population recovery of native fish by reinstating flows that promote ecological processes across local, regional and system scales in the southern connected Basin. Improve flow regimes and connectivity in northern Basin rivers to support native fish populations across local, regional and system scales. Support viable populations of threatened native fish, maximise opportunities for range expansion and establish new populations.	**North** Water to support building resilience of native fish populations, productivity, and refuge waterhole habitats. Provide water to support recruitment and subsequent dispersal of juveniles to improve native fish populations. Provide water to support both lateral and longitudinal connectivity to allow for dispersal and building resilience in native fish populations. Provide small pulses (freshes) to support productivity and movement of native fish including at reintroduction sites of relocated fish. **South** Provide water for the lower Darling / Baaka and Murray to support immigration following fish deaths and support the survival and dispersal of young cohorts of Murray cod and golden perch (including if required in the Great Darling Anabranch). Ensure winter and spring flows through the barrages and barrage fishways to support migration and progressive recovery of diadromous lamprey and congolli. Maintain fast-flowing habitats to cue and facilitate movement and recruitment of native fish. Provide off-channel habitat to support the entire life cycle of threatened small-bodied native fish including at reintroduction sites of translocated threatened fish.

Note: See Basin environmental watering priorities 2023–24.

1.4 Current conditions and seasonal outlook

After the three years of above-average warm and dry conditions to early 2020, the Basin has now experienced three consecutive years of above-average rainfall, which has supported the Basin's recovery from drought.

During spring-summer of 2022–23, the Basin experienced the largest natural flows in more than 10 years. Flooding continued to affect parts of the Murray and Darling / Baaka rivers in western New South Wales and South Australia following on from extensive flooding across the Basin during Spring.

A third consecutive year of high rainfall in many catchments has improved connectivity across large areas of the Basin. Water storages are close to full in the north and south. In wetter catchments across the Basin, there have been good responses to high inflows, with extensive waterbird breeding at key sites, vegetation growth, including at the Coorong, and recruitment of native fish.

Environmental water has played an important role in assisting the recovery of key parts of the Basin's environment over this period. Key outcomes outlined below are because of a combination of natural flows and environmental water held by both the Commonwealth and state governments.

- Widespread waterbird breeding was observed across the Basin including:
  - 25,000 waterbird nests at Dharriwaa (Narran Lakes), including around 18,000 pelican nests. This was the first pelican breeding event at Dharriwaa (Narran Lakes) in over 20 years.
  - 55,000 waterbird nests in the Gwydir Wetlands (including ibis, egrets, spoonbills, heron and darters).
  - 200,000 nests at the Macquarie Marshes (including ibis, egrets, spoonbills, cormorants and night herons).
  - 16,000 pelican nests at Lake Brewster, 159,000 straw-necked ibis nests and 2,300 Australian white ibis nests in the Booligal wetlands in the Lachlan valley.
  - 4,000 pelican nests, 99,000 Straw-necked ibis nests, and 4,000 Australian white ibis nests at the Gayini wetlands in the Murrumbidgee valley.
  - Thousands of waterbirds bred in Barmah-Millewa forests including straw-necked and white ibis, egrets, little black and pied cormorants, spoonbills, and the nationally endangered Australasian bittern.
- Spawning and migration of native fish has been observed across both the northern and southern Basin including:
  - Spawning and recruitment of large numbers of golden perch in the Condamine–Balonne, Warrego and Moonie rivers, with dispersal into the Barwon–River down to Menindee lakes
  - Movement of Hyrtl's tandan (a type of catfish normally found in the Queensland Murray–Darling Basin) into the Macquarie River and at the end of the Warrego River system and as far south as the Menindee Lakes
  - Successful breeding and recruitment of golden perch and Murray cod within the lower Darling / Baaka River. Unfortunately, the autumn 2023 hypoxic conditions following

the flood led to millions of native fish deaths, and a key priority for environmental water holders in the year ahead will be to support the recovery of these fish populations.
  - Dispersal of golden perch out of Menindee lakes (which provides key 'nursery habitat' for the species) into the lower Darling / Baaka River and the Great Darling Anabranch, and into the Murray River
  - Golden perch have also moved upstream from the Murray River into the lower Darling / Baaka River
  - High recruitment responses for small-bodied fish species, including Australian smelt, carp gudgeon, unspecked hardyhead and Murray–Darling rainbowfish as well as bony herring in the Edward / Kolety–Wakool river system
  - Detection of 9 fish species in the Coorong South Lagoon, by far the highest diversity since monitoring began 15 years ago
  - Spawning and recruitment of the threatened southern pygmy perch and Murray hardyhead, with both species detected in good numbers in November 2022 sampling in the Lower Lakes.
- New populations of olive perchlet have been found in the lower Lachlan system.
- Populations of threatened southern bell frog were recorded in the Great Cumbung Swamp in the Lachlan catchment.
- Environmental flows supported a range of outcomes in the Mallowa Creek and wetlands (Gwydir valley), Macquarie Marshes, Mid-Murrumbidgee wetlands and the Mid-Murray wetlands. This included supporting the condition and resilience of wetland plants and to provide feeding and breeding habitat, including for waterbirds.
- Environmental flows helped to improve connectivity and water quality and provided native fish an opportunity to move in the Namoi, Gwydir and Barwon–Darling rivers as flows began to dry back in the second half of the year.
- Environmental flows helped to mitigate low dissolved oxygen conditions (associated with blackwater) in the Murrumbidgee, the Edward/Kolety–Wakool and lower Darling/Baaka river systems.
- Fringing vegetation communities in the Lower Lakes has now largely re-established and recovered in both diversity and abundance since the impacts of the Millennium Drought.
- Aquatic vegetation in the Lower Lakes has benefitted from two years of water levels above 0.6m, followed by an extensive flood, with healthy areas of wetland habitat now well established in many parts of the Lower Lakes.

1.4.1 Outlook

The Bureau of Meteorology is forecasting below median rainfall and above median maximum temperatures across the Basin from August to October. The longer-term outlook is that an El Niño event and a positive Indian Ocean Dipole is likely to develop later in 2023.

This means that drier and warmer conditions are expected throughout the 2023–24 water year. Despite the drying conditions, above average soil moisture and full storages, particularly in the southern Basin, means that dry conditions will be buffered through water availability.

Public water storages across the Basin were 92.7% on 10 July 2023, up by 4.4% from the corresponding time last year.

1.5 Water availability

Box 1 Water words

Entitlement – Also known as a licence. An entitlement is a legal right to a share of the water available at a location, subject to rules and conditions. Water entitlements can be used for a range of purposes, including for households, industry, irrigated farming or the environment. A bucket is a good metaphor for a water entitlement – the bigger the water entitlement, the bigger the bucket.

Allocation – the amount of water made available in proportion to the entitlement (how full the bucket is). Available water varies from year to year, depending on how much water is in storage and how much it has rained. Dry years will have low annual water allocation, while wet years have a higher annual water allocation. Whether or not an allocation is made may depend on the type and/or security of the entitlement. Generally, each entitlement (bucket) gets filled with water (allocation) as more water becomes available. Some entitlements are not linked to water storage (unregulated entitlements) and allow diversion of in-river flows above a certain height or rate of flow more than what is needed to supply consumptive users.

Carryover – the amount of water allocated and not used in a water year that can be used in subsequent years, depending on the rules and conditions of the entitlement.

Security/reliability – the higher the security/reliability level of the entitlement, the more certainty of a water allocation each year.

The CEWH is subject to the same rules and regulations as other Basin water entitlement holders. The CEWH can use, carryover, transfer, and trade annual water allocations to achieve the best possible outcomes and value from the Commonwealth portfolio of environmental water for the Australian community.

In unregulated river systems, water cannot be ordered from public storages at a particular time – environmental water can only be sourced as a share of an unregulated flow event. Therefore, carryover and management of account balances cannot generally be used to influence the timing and volumes of environmental water in these river systems.

Table 2 summarises the carryover and allocation forecasts for regulated Commonwealth environmental water. Allocation forecasts through until 30 June 2023 are sourced from the relevant state agencies where the information is available and long-term averages where state agencies do not provide these forecasts.

Table 2 Carryover and forecast allocation of regulated (surface water) Commonwealth environmental water, 2023–24

Catchment	Carryover from 2022–23 (GL)	Possible additional allocations in 2023–24 (GL)
Southern connected basin [a]	548	1273-1428
Lachlan	103	0 – 72
Macquarie	114	0 - 126
Namoi	27	–

Catchment	Carryover from 2022–23 (GL)	Possible additional allocations in 2023–24 (GL)
Gwydir	134	0 – 5
Border Rivers	16	–

a The southern connected basin is the network of rivers that feed into the Murray River between the Hume Dam and the Murray Mouth. This includes the lower Darling / Baaka, Murrumbidgee, Murray, Ovens, Goulburn–Broken, Campaspe and Loddon valleys.

Learn more about allocations and volumes transferred for delivery for Commonwealth environmental water holdings. This information is updated monthly.

1.6 Water delivery in 2023–24

1.6.1 Water delivery in the southern Basin

The post-flood context will influence water delivery in the southern connected Basin in 2023-24 in several ways. Water availability will be high from the start of the season. High storage levels, and reasonable soil moisture levels throughout the catchment means any additional rain is more likely to translate into inflows. On the other hand, climate projections lean towards a drying trend, and delivery planning will cover the full suite of climate scenarios. The ecological status and associated considerations within the catchment will also influence delivery.

Environmental water use in winter and spring will seek to add to the magnitude and duration of natural flow events. This will include providing elevated baseflows and freshes to support native fish survival, migration and spawning in several valleys. These locations include the northern Victorian tributaries, the Murray River, the lower Darling / Baaka, the Great Darling Anabranch, and the creeks and rivers in the Edward / Kolety–Wakool river system), as well as delivering water (including via infrastructure) to consolidate the benefits of the recent high flows for floodplain wetlands (such as the Lachlan and Lowbidgee floodplain wetlands and the Murray river red gum forests). Coordinating watering across southern tributaries will seek to maximise benefits for the Lower Murray, to support breeding and recruitment of golden and silver perch and continue to improve the condition of Lower Lakes and Coorong health.

If drier conditions return, environmental watering will focus on winter baseflows and spring freshes, with potential for autumn baseflows and/or summer baseflows to support fish condition, movement and end-of-system connection.

1.6.2 Water delivery in the northern Basin

Following two years of good flows through the northern Basin system, the focus for the delivery of environmental water in 2023–24 will be on supporting the continued recovery of native fish populations and building resilience in key rivers and wetlands. This will include delivering baseflows and small freshes in spring and/or autumn to support the breeding, recruitment and movement of native fish across a number of valleys including the Macquarie, Namoi, Gwydir and Border Rivers.

Environmental water will be delivered to internationally significant wetlands, including the Macquarie Marshes, to boost the condition and resilience of wetland vegetation, and to provide foraging habitat for juvenile waterbirds. Where unregulated flow events occur, Commonwealth entitlements may be used to protect a portion of these flows to increase connectivity, maintain ecological condition and support native fish populations.

Should dry conditions eventuate, a coordinated delivery of environmental water in tributaries of the Barwon–Darling River may be undertaken to support refuge habitat, improve water quality and increase native fish survival.

1.7 Trading water in 2023–24

1.7.1 Commercial trade

Under the Water Act, the CEWH can trade (sell or purchase) water holdings if certain conditions are met (see the Commonwealth environmental water Trading Framework for further information). The ability to trade water is a portfolio management option available to the CEWH for consideration along with environmental water delivery, carryover, and water account transfers. Through the Commonwealth Environmental Water Holder Environmental Activities Framework (CEAF), the CEWH uses trade proceeds to fund activities to improve the delivery of environmental water that help maximise environmental outcomes.

Examples of environmental activities include:

- works to improve the delivery of water to wetlands and important river reaches
- fishways that allow native fish species more opportunities to move and complete their life stages, and
- projects with First Nations people to monitor and grow shared understanding of cultural outcomes.

The CEWH has traded annual water allocations in the past. These have been very small volumes when compared to the total amount of water for the environment and are also a small proportion of the total trades made by other market participants. To date, the CEWH has delivered more than 14,500 GL of water and sold (on an annual basis) about 0.4% of that amount.

There is no intention by the CEWH to purchase or sell permanent water entitlements in any Murray-Darling Basin catchment. The recovery or purchase of permanent water entitlements is led by other parts of the Commonwealth government as part of the implementation of the Basin Plan. For more information visit the Department of Climate Change, Energy, Environment and Water's website.

1.7.2 Administrative transfers

In 2023–24, administrative transfers may be required between environmental water accounts in the southern connected Basin trade zones 6, 6B, 7, 10A, 10B, 11, 12, 13 and 14 to support environmental water delivery. As with other water entitlement holders, transferring and re-distributing water across accounts can help to achieve sought outcomes.

Any transfers would be subject to the same rules that apply to other water entitlement holders. Examples include intervalley transfer rules for rivers such as the Goulburn and Murrumbidgee to the Murray, rules associated with transferring water through the Barmah Choke, and transfers from the New South Wales Murray and Victorian Murray to South Australia.

1.8 Carrying over water for use in 2024–25

The volume of water carried over from the coming year for use in 2024–25 will depend upon how the 2023–24 water year unfolds, overall water availability, current and future

environmental demands, and target ranges for carryover to provide early season watering opportunities and environmental reserves in case of the return of drought.

In the southern Basin, water carried over into 2024–25 will help meet environmental needs in winter and spring. This will be valuable if conditions begin to dry out as forecasted. In particular, the reserved water will also allow opportunities to deliver water to the rivers and wetlands for environmental benefit to be pursued in 2024–25, while also ensuring a reserve of water can be carried forward to 2025–26 to allow priority environmental demands to continue to be met if an extended dry spell unfolds.

In the northern Basin, water carried over into 2024–25 may be used to contribute to environmental demands in that year and/or the next, subject to availability. Should the predicted dry conditions eventuate, maintaining a reserve of water to support core wetland areas, refuge habitats, and the survival of native fish will be important in the northern Basin.