



Interim register of measures to protect environmental water in the Murray–Darling Basin

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Acknowledgement of the Traditional Owners of the Murray–Darling Basin

The Murray–Darling Basin Authority pays respect to the Traditional Owners and their Nations of the Murray–Darling Basin. We acknowledge their deep cultural, social, environmental, spiritual and economic connection to their lands and waters.

The guidance and support received from the Murray Lower Darling Rivers Indigenous Nations, the Northern Basin Aboriginal Nations and our many Traditional Owner friends and colleagues is very much valued and appreciated.

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Background

[Environmental water](#) is water specifically allocated to improve the health of rivers, floodplains and wetlands, and to support plant and animal communities. Environmental watering at a Basin scale is a relatively new activity in the Murray–Darling Basin (the Basin), which to date has serviced water use for agriculture. As a result, new rules and arrangements are progressively being put in place to ensure that environmental water goes to best use.

This register describes the current state of play including existing state laws, instruments and policies that protect environmental water (planned and held environmental water) in the Basin. Case studies have been included where possible to demonstrate how the protection measures may work in certain circumstances. As [Water Resource Plans](#) (WRPs) are accredited, the register will be updated to reflect at the individual valley scale the specific rules and arrangements in place. The register will indicate whether the arrangements are sufficient to protect environmental water.

About environmental water

Environmental water takes the form of either *planned environmental water* (water that is provided for the environment within the normal operating rules of a river system) or *held environmental water* (water that is obtained from the water market and held in the form of a water access entitlement for the purpose of environmental watering).

Provision of adequate environmental water and management arrangements to ensure it is used effectively are critical to the restoration of the Basin’s long-term health.

The effective planning, delivery, monitoring, compliance and evaluation of environmental water across the Basin requires the cooperation of multiple participants. Water managers, including the Australian Government, Basin states (New South Wales (NSW), Victoria, Queensland, South Australia and the Australian Capital Territory (ACT)), non-government partners and river operators work together to deliver water for the environment as well as for consumptive use.

The concept of delivering and managing water for both extractive take and environmental outcomes is still evolving. Environmental water serves its purpose by being actively managed for delivery to environmental assets or to support ecological functions, or by being left in the river.

Currently, environmental water is managed under rights and rules under state water management frameworks designed for consumptive use. This is one of the key challenges to protecting environmental water.

1. Australian Government

Primary water legislation	Statutory instruments	Implementation / Management plans	Responsible agencies
Water Act 2007 (Cth)	<ul style="list-style-type: none"> ▪ <i>Basin Plan 2012 (Cth)</i> (Basin Plan) ▪ Water Resource Plans (WRP) 	<ul style="list-style-type: none"> ▪ Basin-wide environmental watering strategy ▪ Basin-wide annual environmental watering priorities 	Murray–Darling Basin Authority (MDBA)
		<ul style="list-style-type: none"> ▪ Long-term watering plans ▪ Annual environmental watering plans ▪ Annual environmental watering priorities ▪ Commonwealth Environmental Water Holder (CEWH) Annual Portfolio Plans 	CEWH, Basin States
		Basin Plan Implementation Agreement	MDBA, CEWH, Basin states
		Intergovernmental Agreement on Implementing Water Reform in the Murray-Darling Basin	MDBA, CEWH, Basin states

Overview

Basin states are preparing WRPs for accreditation by the Australian Government Water Minister by 30 June 2019. These plans recognise and build on existing Basin State water planning and management. The MDBA assesses Basin state WRPs for compliance against the Basin Plan.

The Basin Plan sets limits on the amount of water that can be taken (on a long-term average annual basis) - these limits are referred to as Sustainable Diversion Limits (SDLs). SDLs ensure there is enough water remaining in the environment to support the river system and groundwater resources.

Under the Basin Plan, WRPs for surface water and groundwater resources must include [a range of water management rules](#). In relation to the protection environmental water, the relevant measures are:

- Establish SDLs for each WRP area
- Provide for environmental watering, and
- Protect planned environmental water.

The Australian Government Minister for Water decides whether to accredit WRPs, based on the advice of the MDBA.

The MDBA also enforces compliance with accredited WRPs, particularly SDLs and the protection of environmental outcomes, including those delivered through held environmental water (HEW) and planned environmental water (PEW).

The MDBA prepares a five year Basin-wide environmental watering strategy to guide environmental water holders and Basin governments in planning the management of environmental watering over the long-term to meet environmental objectives. Basin governments are required to develop long-term watering plans for each region in line with the Basin-wide environmental watering strategy, which identify environmental assets and ecosystem functions, and provide long-term objectives and strategies for managing environmental water.

Each year the MDBA works with environmental water holders and managers to develop the Basin annual environmental watering priorities to guide the planning of environmental watering across the Basin. In line with these priorities, the CEWH works cooperatively with Basin governments to plan for environmental watering each year, determine the watering priorities to assist in meeting Basin Plan objectives and to prepare annual portfolio management plans for environmental water for each region.

Monitoring and reporting

The Water Act requires the MDBA to monitor the Basin's water resources and water-dependent ecosystems. The MDBA publishes water take reports (which provide information on SDL compliance) and also publishes information regarding environmental watering activities, condition monitoring and intervention monitoring under [The Living Murray](#) (TLM) program.

The CEWH undertakes short-term and long-term monitoring of environmental watering events, working together with state environmental water monitoring and reporting programs, and has responsibilities to report annually on the management of Commonwealth environmental water. This includes how Commonwealth environmental watering activities have contributed to the environmental objectives of the Basin Plan.

The MDBA, Basin governments and the CEWH publish [Basin Plan implementation reports](#) each year. These reports provide information about compliance and progress in implementing the Basin Plan, including reporting on the identification of environmental watering priorities and strategies, how much water was delivered for the environment and how that water was used.

In 2017, the MDBA completed the first five yearly [Basin Plan evaluation](#). The outcomes of the Basin Plan's implementation were compared with what was expected at the time of establishing the Basin Plan. This included reporting on environmental water recovery and management.

Interjurisdictional cooperation

The [Basin Officials Committee](#) (BOC) approved [Objectives and Outcomes for River Operations in the River Murray System](#) (the O&O) provides a framework for all aspects of river operations. It includes an objective to contribute to the protection of environmental assets within the River Murray System (RMS) however at present the O&O is silent on how that may be achieved.

The MDBA chairs the Southern Connected Basin Environmental Watering Committee (SCBEWC), made up of members from across the relevant jurisdictions. SCBEWC was established by the Murray–

Darling Ministerial Council to coordinate the delivery of environmental water and make decisions on the use of jointly held water (held under The Living Murray program and River Murray Increased Flows). SCBEWC reports annually to Ministers on the coordination and delivery of environmental water across the southern connected basin.

Key documents

[Download the Basin-wide environmental watering strategy](#)

[Download the Basin environmental watering outlook for 2018-2019](#)

[Download the Basin annual environmental watering priorities](#)

[Download the CEWH Portfolio management plans](#)

2. New South Wales

Primary water legislation	Statutory instrument	Implementation / Management plans	Responsible agencies
Water Management Act 2000 (NSW)	Water sharing plans	Water Sharing Plans including specific rules, regulations and operating procedures	Department of Industry - Water
		<ul style="list-style-type: none"> ▪ Annual environmental watering priorities ▪ Long-term watering plans (in development) 	Office of Environment and Heritage

Overview

The *Water Management Act 2000* (NSW) applies to areas in NSW that have water sharing plans (WSPs). WSPs cover surface water and groundwater resources and include rules-based mechanisms for providing environmental water requirements. From time to time, these rules are amended and WSPs are periodically reviewed. For example, in 2016 the Upper Namoi and Lower Namoi Regulated River Water Resources WSP was amended (clause 48(11)) to trial altering the amount of water that can be extracted under a supplementary water access licence from 10% of the event volume to 50% for those supplementary events occurring between 1 July to 31 October. The next iteration of this register will seek to catalogue these rules.

NSW WSPs recognise that water outside consumptive entitlements is generally for ecosystem health. This is therefore considered planned environmental water.

In addition to planned environmental water arrangements established in WSPs, NSW develops annual watering plans for the Gwydir, Macquarie, Lachlan, Murrumbidgee and the Murray and Lower Darling river valleys where Planned Environmental Water is allocation and state-owned environmental water entitlements are held.¹ Long-term watering plans are under development for all of the NSW WRP areas.

NSW is at various stages of implementing [a suite of water reforms](#), including interim measures to better protect and manage environmental water in the northern Basin. Based on the outcomes of trials for these initial measures and further consultation, a package of solutions will be developed by July 2019. Where relevant, the solutions will be implemented through Basin Plan WRPs. The interim measures include:

- Amend Part 12 of the WSPs for the Barwon-Darling, Macquarie-Bogan and Gwydir Unregulated and Alluvial to enable arrangements for ‘active management’ to share flows (to be prescribed at a later date). Active management involves determining what volume of flows can be accessed

¹ Water sourced from NSW Riverbank, The Living Murray, CEWH and Environmental Contingency Allowances specified under relevant WSPs

and when, under defined rules. It is currently possible under the *Water Management Act 2000* (NSW). Eventually, new management approaches will be included in WSPs.

- Amend the Barwon-Darling WSP to allow for the definition, review and implementation of total daily extraction limits (TDELS) and individual daily extraction limits (IDELS). The IDELS in the current Barwon-Darling WSP were proposed but have not been implemented – they were designed to limit individual take rather than to achieve environmental outcomes. A review of IDELS and TDELS is proposed to determine if environmental outcomes can be improved.
- Amend the individual annual take limits for A, B and C-class licences in the Barwon–Darling to limit annual take to 300% of total shares.
- Continue to use temporary water restrictions² to protect held environmental water released from upstream storages, by prohibiting the extraction of water (except for town water supplies, stock, domestic and basic landholder rights). NSW will also trial a form of active management for occasions when there is held environmental water and other flows in the systems, through flexibility in the *Water Management Act 2000* (NSW).
- Establish event-protocols to balance the protection of held environmental water and extractive use, when flows in unregulated systems are above ‘commence-to-pump’ levels (thresholds determining when there is enough water for users to commence extracting water).
- Establish event protocols to manage the resumption of flows following ‘cease-to-flow’ (no water flow) events and trial these in the Barwon-Darling (if appropriate climatic conditions arise).³

This also includes reviewing the regulation of floodplain harvesting, which is most prevalent in NSW in the Border Rivers, Gwydir, Namoi, Barwon–Darling and Macquarie valleys. Floodplain harvesting can affect the connectivity between the local floodplain wetlands and the river through the loss of flow volume and the redirection of flood flows.

Under the NSW [Floodplain Harvesting Policy](#), approval is required for floodplain harvesting licences and to construct flood works to extract water from floodplains. Examples of flood works include pumps, levees, barrages, embankments and pipes on or near a water source or floodplain.

Monitoring and management of floodplain water extractions protects the environment and the reliability of water supply for downstream water users. Floodplain harvesting diversions are not currently monitored in NSW because they are not captured by the NSW licencing framework.

While there has been limited implementation of the Floodplain Harvesting Policy since it was introduced in 2013, floodplain harvesting licenses and water supply work approvals for the five Northern valleys are planned to be in place by June 2019.

Monitoring and reporting

Various NSW agencies monitor environmental flows through a combination of on-ground staff activities and a network of monitoring equipment.

WaterNSW publishes [daily, weekly and annual data on environmental flows](#) from dams and water supply weirs as well as the [Barwon-Darling Management Zones Flow Class Map](#) which provides

² Under s324 of the *Water Management Act 2000* (NSW).

³ To be implemented through temporary water restrictions through an s. 324 order to manage access to initial flows. This is similar to a first flush flow rule.

information on the flow class rules that apply at a given time, including when take is restricted to protect environmental water.

The Department of Industry - Water maintains a real time map displaying data from more than 5,000 monitoring stations across NSW. These stations measure water in rivers, streams, groundwater and dams. Around 20 percent of these stations continuously monitor water sources and deliver real-time data through digital technology. This data is used to determine water availability, monitor water movement and evaluate the performance of water sharing plans.

The NSW Office of Environment and Heritage coordinates an environmental water monitoring, evaluation and reporting program and publishes an annual *Use of water for the environment in NSW Outcomes Report*.

Example of Planned Environmental Water

The Gwydir WSP provides the framework for sharing the available water in the regulated rivers of the Gwydir catchment.

Inflows from unregulated tributaries are essential for maintaining the health of Gwydir wetlands, however, rules in the WSP and the environment share of regulated water held in Copeton Dam are used to achieve more specific outcomes. These include:

- Extend natural flooding to increase the chances of successful water bird breeding
- Maintain refuges during drought
- Provide favourable conditions for native fish breeding and movement.⁴

The WSP establishes an environmental contingency allowance (ECA) which is held in Copeton Dam. The ECA account is credited with up to 45,000 ML a year (in proportion to general security available water determinations), but can accumulate up to 90,000 ML by carrying over unused water entitlements from one water year to the next.⁵

Rules in the WSP also protect a proportion of the natural inflows to the Gingham and Lower Gwydir wetlands. These rules require:

- Flows into the wetlands to be at least equal to the sum of inflows from three regulated streams (Horton River, Myall Creek and Halls Creek) - up to 500 ML/day.
- 50% of tributary flows above 500 ML/day to be protected for the environment.⁶

⁴ Gwydir Wetlands Adaptive Environmental Management Plan, 2011.

⁵ s 14, Water Sharing Plan for the Gwydir Regulated River Water Source 2016.

⁶ s 13, Water Sharing Plan for the Gwydir Regulated River Water Source 2016.

Key documents

[Download the NSW Water Sharing Plans](#)

[Download the Priority environmental watering statements 2017-2018](#)

[Download the Better management of environmental water: interim solutions package](#)

[Download the Annual environmental water priorities - Gwydir](#)

[Download the Annual environmental water priorities – Murrumbidgee](#)

[Download the Annual environmental water priorities – Murray and Lower Darling](#)

[Download the Annual environmental water priorities – Lachlan valley](#)

[Download the Annual environmental water priorities – Macquarie Valley](#)

[Download the Use of water for the environment in NSW – Outcomes 2016-2017](#)

3. Victoria

Primary water legislation	Statutory instrument	Implementation / Management plans	Responsible agencies
Water Act 1989 (Vic)	<ul style="list-style-type: none"> ▪ Bulk entitlements ▪ Sustainable Water Strategies ▪ Groundwater and streamflow management plans 	<ul style="list-style-type: none"> ▪ Victorian Waterway Management Strategy 2013 ▪ Long term watering plans 	Department of Environment, Land, Water and Planning
		<ul style="list-style-type: none"> ▪ Environmental water management plans ▪ Annual environmental watering priorities 	<ul style="list-style-type: none"> ▪ Catchment Management Authorities (CMA) ▪ Melbourne Water ▪ Victorian Environmental Water Holder (VEWH)
	Environmental Entitlements	<ul style="list-style-type: none"> ▪ Seasonal watering plan ▪ Seasonal watering statements 	

Overview

The *Water Act 1989 (Vic)* provides the basis for Victoria’s water allocation and entitlement framework including water licences, bulk entitlements and environmental entitlements.

Bulk Entitlements provide a statutory right to use and supply water in regulated systems and are largely held by water corporations for supplying water to towns and cities for drinking water, industrial and commercial use, and irrigation. Water licences are for individuals or entities taking water from unregulated rivers, farm dams and aquifers.

The Environmental Water Reserve⁷ comprises water set aside for the environment through a number of mechanisms, including:

- **Statutory environmental entitlements:** Water that is held in storage and actively managed to meet specific environmental needs. Environmental entitlements have the same properties as entitlements for consumptive use.

⁷ Defined under s4A of the *Water Act 1989 (Vic)*.

- **Passing flows:** Water that must be released from storages or provided at a particular point of the river as a result of obligations on consumptive water entitlements held by water corporations or licensed users. Generally they are conditions on bulk entitlements and water licences, permissible consumptive volumes on water licences, or provisions in Water Supply Protection Area management plans.⁸

The Victorian Environmental Water Holder is responsible for holding and managing Victoria's environmental water entitlements and works with state and Australian Government agencies to coordinate environmental watering in Victoria.

In unregulated systems, the environmental water reserve is provided primarily through the management of diversions via licences conditions, rostering and restriction rules.

Victoria has developed long term watering plans for the Wimmera-Mallee, Northern Victoria and the Victorian River Murray.

Victoria's sustainable water strategies are statutory processes for regional water resource planning. The strategies are used to manage threats to the supply and quality of water resources to protect water-related values, including environmental values. The Northern Region includes Victoria's share of the River Murray and the major Victoria tributaries that flow into it.⁹

Monitoring and reporting

Water regime monitoring occurs through an extensive network of surface water gauging stations and groundwater bores. A state wide river condition assessment - *Index of River Condition* - is prepared every five years.

Assessment of ecological outcomes occurs through application of the Victorian Environmental Flows Monitoring and Assessment Program (VEFMAP). The program evaluates ecosystem responses to environmental flows in eight regulated rivers, including the Wimmera, Glenelg, Goulburn, Broken, Thomson, Macalister, Campaspe and Loddon systems. VEFMAP was established to determine whether the delivery of environmental water is achieving the predicted outcomes.

The VEWH in partnership with CMAs and Melbourne Water, focuses monitoring efforts on actual water delivery, with some targeted ecological monitoring. The VEWH's seasonal watering plan includes a report on the previous year's activities, which describes the environmental watering activities, volumes delivered and outcomes achieved.

⁸ <https://www.water.vic.gov.au/waterways-and-catchments/rivers-estuaries-and-waterways/environmental-water>.

⁹ Northern Region Sustainable Water Strategy 2009.

Key documents

[Download the Seasonal Watering Plan](#)

[Download the Seasonal Watering Statements](#)

[Download Reflections - Annual report on environmental watering](#)

[Download the Long term watering plans – Victorian Murray](#)

[Download the Long term watering plans – Northern Victoria](#)

[Download the Long term watering plans – Wimmera-Mallee](#)

4. Queensland

Primary water legislation	Statutory instrument	Implementation / Management plans	Responsible agency
<i>Water Act 2000 (Qld)</i>	<ul style="list-style-type: none"> ▪ Water Plans ▪ Water Management Protocols (replacing Resource Operation Plans) 	<ul style="list-style-type: none"> ▪ Water Management Protocols ▪ Water Entitlement Notices ▪ Annual environmental watering priorities ▪ Long term watering plans 	Department of Natural Resources, Mines and Energy (DNRME)
<i>Environmental Protection Act 1994 (Qld)</i>	Environmental Protection (Water) Policy 2009	Healthy Waters Management Plans (HWMPs)	Department of Environment and Science

Overview

The *Water Act 2000 (Qld)* provides for the development of statutory Water Plans (previously known as Water Resource Plans) that establish the framework for sharing water between consumptive use and the environment.

Water Plans are implemented through a water management protocol (replacing resource operations plans) and Operations Manuals which set out, among other things:

- Day to day management arrangements
- Water sharing rules for unsupplemented water (water harvesting and overland flow)
- Water trading rules
- Infrastructure operating rules (such as environmental flow releases)
- Monitoring and reporting requirements
- Flow event rules.

These rules, together with conditions on water entitlements, specify when water can and cannot be accessed by all users (including the CEWH).

Held environmental water in Queensland's Basin is currently owned by the Commonwealth, and managed by the CEWH. The majority of the portfolio is unsupplemented (unregulated) water, which is mostly left in-stream to provide environmental benefits by restoring flows that were formerly extracted, and improving flow variability. Access to unsupplemented entitlements is typically conditional on achievement of specific river flow thresholds in conjunction with an announcement system in the more developed water management areas including the Lower Balonne and lower Border Rivers. A long term watering plan has been developed for the Warrego-Paroo-Nebine water

resource plan area, which sets out how environmental watering is provided for in line with Basin Plan requirements. Planned Environmental Water in the Queensland Basin takes a number of forms:

- Flow event protection rules to preserve environmentally important flows when these have not occurred for a specified period (permitted extraction is reduced)
- Bypass flows from storages and weirs
- Flow access thresholds and protection of unregulated flow events under provisions in the New South Wales – Queensland Border Rivers Intergovernmental Agreement 2008.
- Rules based – the water left over after licensed extraction (flow access rules)

Queensland is proposing a [Rural Water Management Program](#) (RWMP) to drive more transparent, sustainable and equitable rural water use, in response to the 2017-2018 [independent audit of non-urban water measurement and compliance](#) and the [Murray–Darling Basin Water Compliance Review](#). The proposed RWMP includes various projects related to the improved measurement and reporting of environmental water:

- DNRME will focus resources on regulatory actions and metering in priority catchments that are fully allocated or have national reporting obligations, where there are high risks for environmental flows and impacts on other entitlement holders.
- DNRME will develop an overland flow measurement standard and risk-based overland flow measurement program. The program will be informed by the existing Lower Balonne overland flow measurement trials; approaches used in other jurisdictions; and the opportunities presented by emerging technologies.
- The draft Border Rivers and Moonie Water Plan proposes large-volume overland flow water take to be measured in high priority areas, by 30 June 2020.
- Review the state metering policy and identifying areas for improvement by February 2019.

Example – Condamine and Balonne

Where held environmental water in unregulated systems is left instream, this increases the flow of water past reference points (such as gauging stations) – this flow determines when users can start pumping. This means that a user may, without breaching the conditions of their entitlement, extract environmental water where it forms additional instream flow.

The Australian and Queensland Governments are discussing how the large holdings of unsupplemented water harvesting and overland flow held in the Lower Balonne, and the environmental water recovered above Beardmore Dam in the Condamine river system, can be protected as they flow through the Lower Balonne system.

Queensland has proposed new rules in the draft Water Plan and Water Management Protocol to protect residual flows into the Lower Balonne by ensuring that the volume of held environmental water upstream of the dam is taken into account when making announcements about access to flows in the Lower Balonne. A complementary guideline will set out the overall method by which decisions on announced access are made in the Lower Balonne.

A Commonwealth entitlement in the zone immediately upstream of the Lower Balonne will be treated as though it were located in the Lower Balonne, and the threshold for announcements will be adjusted upward to accommodate this.¹⁰

Monitoring and reporting

The *Water Act 2000* (Qld) requires that five yearly reports for each Queensland Water Plan be prepared and made publicly available. They must report on the progress of implementation and outcomes of any monitoring and evaluation activities for each Water Plan area.

Ecological monitoring occurs in targeted locations under the Environmental Flows Assessment Program and informs the Water Plan review process. The monitoring assists to assess the effectiveness of Water Plans in meeting ecological outcomes.

Water planning activities and monitoring is guided by the Water Planning Science Plan 2014–2019. Water monitoring is conducted through a network of surface water gauging stations and monitoring bores, and is publically accessible on the Water Monitoring Information Portal. As the holder of all held environmental water in the Queensland Basin, the Commonwealth Environmental Water Office monitors stream flows using real-time data from river gauges. River flow data in conjunction with official announcements of water harvesting access in Queensland systems (Lower Balonne, Border Rivers, and Warrego) are used to estimate the contribution that Australian Government unregulated entitlements make to flows.

Healthy Waters Management Plans (HWMPs) have been prepared under the *Environmental Protection (Water) Policy 2009* (EPP Water). HWMPs are a key planning mechanism to improve the quality of Queensland's water. They also contribute to meeting particular requirements of a Water Quality Management Plan under the Basin Plan.

Key documents

[Download the five yearly Water Plan reports](#)

[Download the Water Planning Science Plan 2014–2019](#)

[Download the Murray-Darling Basin Plan Long-term Watering Plan for the Warrego, Paroo and Nebine Catchments](#)

[Download the Queensland Annual Environmental Watering Priorities 2017-2018](#)

[Download the Independent audit of QLD non-urban water measurement and compliance](#)

[Download the Rural Water Management program](#)

[Download the Draft long-term watering plan for the Border Rivers and Moonie water plan area](#)

[Download the Draft long-term watering plan for the Condamine and Balonne water plan area](#)

¹⁰ Murray–Darling Basin Plan: Draft long-term watering plan for the Condamine and Balonne water plan area.

5. South Australia

Primary water legislation	Statutory instrument	Implementation / Management plans	Responsible agency
<i>Natural Resources Management Act 2004 (SA)</i>	Water Allocation Plans (WAP)	<ul style="list-style-type: none"> ▪ Annual environmental watering priorities ▪ Long term watering plans 	Department of Environment and Water (DEW)

Overview

Water is managed under the *Natural Resources Management Act 2004 (SA)* (NRM Act) which provides for the development of water allocation plans (WAPs) by regional natural resource management boards.

While environmental water is not defined in the NRM Act, the NRM Act requires the environment to be taken into account when determining the quantity of water available for consumptive use. WAPs set out rules for managing the take and use of prescribed water resources, including environmental water; they form part of statutory regional natural resource management plans.

Under the Murray–Darling Basin Agreement,¹¹ South Australia receives up to 1,850 GL/year of entitlement flow across the SA border. This includes water for consumptive use as well as held and planned environmental water.¹²

Sources of environmental water benefiting the River Murray include:

- SA Environmental Water Reserve
- SA River Murray wetland water access entitlements (known as the Minister’s Wetland Water Licence)
- Unregulated flows within the River Murray system
- Private donations from non-government organisations and irrigators
- Return flows from the delivery of environmental water through the River Murray in Victoria and NSW.

South Australia has developed long-term watering plans for the SA Murray River, the Eastern Mount Lofty Ranges and the SA Murray region.

Planned environmental water is not actively managed but is delivered to wetlands through normal river operations. DEW, SA Water and the MDBA work cooperatively to deliver water.¹³

¹¹ Sch 1, *Water Act 2007* (Cth).

¹² South Australian River Murray Long-Term Environmental Watering Plan.

¹³ South Australian River Murray Long-Term Environmental Watering Plan.

The CEWH has entered into various partnership agreements with South Australian government and non-government groups to see Commonwealth environmental water used to increase flows in the Murray River system and delivered to key floodplains and wetlands.

Monitoring and reporting

The NRM Act requires the benefits of environmental water management be monitored. Under the Act, NRM boards have responsibility for developing, implementing and maintaining a NRM plan for their NRM boards and in partnership with DEW, conduct monitoring and reporting programs including those for WAPs which are considered part of the regional NRM plans. In some cases, the outcomes of WAP implementation are reported, although this varies from region to region.

The DEW have undertaken a series of [targeted ecological investigations](#) to identify and monitor the environmental watering requirements of the Coorong, Lower Lakes and Murray Mouth region, to inform environmental water planning. The DEW publishes key ecological outcomes in the *Annual Environmental Watering Report*.

The DEW also works with the SA Environmental Protection Agency to undertake Lower Lake water quality monitoring and reporting.

Key documents

[Download the SA Murray Region long-term watering plan](#)

[Download the SA Murray region annual environmental watering priorities](#)

[Download the South Australian River Murray long-term environmental watering plan](#)

[Download the SA River Murray annual environmental watering priorities](#)

[Download the Eastern Mount Lofty Ranges long term environmental watering plan](#)

[Download the Eastern Mount Lofty Ranges annual environmental watering priorities 2017-2018](#)

[Download the Annual Environmental Watering Reports](#)

6. Australian Capital Territory

Primary water legislation	Statutory instrument	Implementation / Management plans	Responsible agency
Water Resources Act 2007 (ACT)	Water Resource Environmental Flow Guidelines 2013		<ul style="list-style-type: none"> ▪ Environment and Planning Directorate ▪ ACT Environment Protection Authority

Overview

Environmental water is managed under the *Water Resource Act 2007 (ACT)* (the Water Resources Act) and the [Environmental Flow Guidelines 2013](#) which set out the volumes and timings of environmental flow and limits, for streams, rivers, lakes, and aquifers in the ACT. Water can only be used for other purposes once environmental flow requirements are met. The guidelines, which are the ACT's long term watering plan, have been reviewed and are currently out for [public consultation](#). Once finalised they will be included in the ACT's WRP.

Environmental flows are provided in one of two ways:

- Releases or spills from dams
- Limiting the amount of water that be taken from within a water management area.

Rules also apply to licence holders to minimise impacts on waterways during critical flows such as very low flows or floods, and on groundwater resources from excessive drawdown.¹⁴

Under the ACT Water Resource Plan, the ACT will be required to ensure environmental flows passing through the ACT from the Snowy Hydro Scheme under the [Snowy Montane Rivers Increased Flows](#) are not impeded by water resources activity in the ACT.

Monitoring and reporting

The *Water Resources Act* requires a continuous program of assessment to be in place to ensure monitoring is regularly conducted. The ACT water utility publishes monthly environmental flow reports. An environmental flows technical advisory group has been established by the EPA and reports annually to the Australian Government.

The EPA conducts a compliance program to monitor water volumes extracted by licensed extractors. Environmental water delivery is monitored through assessing compliance and licence conditions.

Flow stations are present throughout the ACT to provide flow-level information and for use in compiling monitoring data.

¹⁴ Environmental Flow Guidelines, 2013.

The *ACT Basin Priority Project* is a joint funding project between the ACT Government and Australian Government to improve long term water quality in the ACT and the Murrumbidgee River system.

Key documents

[Download the ACT Water Strategy 2014-44: Striking the Balance](#)

[Download the ACT and Region Catchment Strategy \(2016-2046\)](#)

[Download the ICON water environmental water reports](#)

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