



Australian Government



Register of measures to protect water for the environment 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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*Updated for broken hyperlinks

Contents

Background.....	3
About water for the environment.....	3
1. Australian Government.....	4
Overview.....	4
Commonwealth Environmental Water Holder.....	5
Interjurisdictional cooperation.....	6
Monitoring and reporting.....	8
Key documents.....	9
2. New South Wales.....	10
Overview.....	10
Water Sharing Plans.....	11
Temporary water take restrictions.....	13
Water Resource Plans.....	13
Better management of environmental water in the northern Basin.....	13
Prerequisite Policy Measures in the southern Basin.....	14
Floodplain Harvesting.....	14
Monitoring and reporting.....	15
Key documents.....	15
3. Victoria.....	16
Overview.....	16
Water resource plans.....	17
Prerequisite policy measures.....	18
Monitoring and reporting.....	19
Key documents.....	19
4. Queensland.....	20
Overview.....	20
Water resource plans.....	22
Monitoring and reporting.....	24
Key documents.....	24
5. South Australia.....	25
Overview.....	25
Water resource plans.....	27
Prerequisite policy measures.....	28

Monitoring and reporting.....	28
Key documents	28
6. Australian Capital Territory	30
Overview.....	30
Water resource plans	31
Monitoring and reporting.....	31
Key documents	32

Background

[Water for the environment](#) is water specifically allocated to improve the health of rivers, floodplains and wetlands, and to support plant and animal communities.

While some parts of the Murray–Darling Basin (Basin) have managed water for the environment for decades, environmental watering at a Basin scale is a relatively new activity.

In line with the objectives and requirements of the *Basin Plan 2012* (Cth) (Basin Plan), new rules and arrangements are progressively being put in place to ensure that water for the environment receives adequate protection as it travels through the system and goes to best use.

This register describes the state of play including existing state laws, instruments and policies that manage and protect water for the environment (planned and held environmental water) in the Basin.

The register was updated in May 2020 to identify specific rules and arrangements in place from accredited [Water Resource Plans](#) (WRPs). As WRPs are accredited and environmental watering projects are implemented, the register will be updated to reflect the specific rules and arrangements in place.

In the future, the MDBA may also review rules and arrangements on cultural flows contained in accredited WRPs to include in this or a separate register.

About water for the environment

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

Provision of adequate water for the environment 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 water for the environment 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 consumptive use and environmental outcomes is still evolving. Water for the environment serves its purpose by being managed for delivery to environmental assets or to support ecological functions, or by being left in the river.

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

1. Australian Government

Primary water legislation	Statutory instruments	Implementation / Management plans	Responsible agencies
Water Act 2007 (Cth) (Water Act)	<ul style="list-style-type: none"> ▪ <i>Basin Plan 2012 (Cth) (Basin Plan)</i> ▪ Water Resource Plans (WRP) 	<ul style="list-style-type: none"> ▪ Basin-wide environmental watering strategy ▪ Basin-wide annual environmental watering priorities ▪ Objectives and Outcomes for River Operations in the River Murray System 	Murray–Darling Basin Authority (MDBA)
		<ul style="list-style-type: none"> ▪ Commonwealth Environmental Water Holder (CEWH) Annual Portfolio Plans 	CEWH
		<ul style="list-style-type: none"> ▪ Long-term watering plans ▪ Annual state environmental watering plans ▪ Annual state environmental watering priorities 	Basin States responsible for development in line with the Basin Plan
		Basin Plan Implementation Agreement	MDBA, Department of Agriculture, Water and the Environment (DAWE), Basin states
		Intergovernmental Agreement on Implementing Water Reform in the Murray-Darling Basin	MDBA, DAWE, Basin states
		Toolkit measures and sub policies and projects	MDBA, DAWE, Queensland, New South Wales
		Prerequisite policy measures and projects	MDBA, DAWE, Victoria, South Australia, New South Wales

Overview

Under the Water Act, the Basin states are required to prepare WRPs for accreditation by the Australian Government Minister responsible for Water, and comply with the commitments in the plans. WRPs recognise and build on existing Basin State water planning and management, but may contain additional measures to meet the requirements of 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 of water for the environment, the relevant measures are:

- establish SDLs for each WRP area
- provide for environmental watering, and
- protect planned environmental water.

The Australian Government Minister responsible for Water decides whether to accredit WRPs, based on the advice of the MDBA. This advice is informed by the MDBA's assessment of Basin state WRPs against the requirements of the Basin Plan.

The MDBA monitors and enforces compliance with accredited WRPs, particularly the SDLs and protection of water for the environment. There are 33 WRP areas in total, 19 for surface water, 19 for groundwater and five that cover both.

The MDBA prepares a five year [Basin-wide environmental watering strategy](#) to guide environmental water holders and Basin state governments in planning the management of environmental watering over the long-term to meet the Basin Plan's environmental objectives. Basin state governments are required to develop long-term watering plans for each WRP area in line with the Basin-wide environmental watering strategy. The plans identify the environmental watering requirements of environmental assets and ecosystem functions in each WRP area, and provide long-term objectives and strategies for managing water for the environment. The Basin-wide strategy was updated in November 2019.

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.

Commonwealth Environmental Water Holder

The statutory role of the [Commonwealth Environmental Water Holder](#) (CEWH) was established in 2008 with the enactment of the Water Act. The CEWH manages the portfolio of environmental water entitlements that are acquired through the Australian Government's investment in water-saving infrastructure and strategic water purchasing throughout the Basin.

The CEWH's decisions about the use of its environmental water holdings are guided by the annual environmental watering priorities and the Basin-wide environmental watering strategy.

The CEWH works cooperatively with Basin state governments to plan for environmental watering each year, determine the priority watering actions, and prepare annual portfolio management plans for held environmental water for each region in the Basin.

Interjurisdictional cooperation

River operations

The [Basin Officials Committee](#) (BOC) approves the [Objectives and Outcomes for River Operations in the River Murray System](#) (the O&O). The Outcomes and Objectives provide a framework for operating the River Murray System (RMS), including a general objective to contribute to the protection of environmental assets within the RMS.

Basin State and MDBA river operator performance is assessed against the O&O annually by the Independent Review of River Operations Group (IRORG). This assessment is an opportunity for the IRORG and Basin States to identify ways to improve the planning and delivery of water for the environment.

Northern Basin projects / Toolkit measures

In 2017 the MDBA completed a four-year [review into the northern Basin](#) that resulted in changes to the water recovery target in the north on the basis that the NSW and Queensland governments adopt a range of [‘toolkit’](#) measures with assistance from the Australian government.

The toolkit includes measures and initiatives to improve the protection of environmental flows and meet environmental outcomes. They include:

- management rules and arrangements to protect environmental flows
- environmental works and measures to promote fish movement and habitat, and
- improved social and economic benefits for Indigenous and local communities (e.g. through hiring and purchasing).

On 9 August 2019, all Basin governments agreed to the revised *Intergovernmental Agreement on Implementing Water Reform in the Murray-Darling Basin* (IGA) and new Schedule 3 which outlines how Basin governments will work together to implement ‘toolkit’ measures in the northern Basin. The IGA Schedule requires the NSW and Queensland governments to report biannually to Ministers on progress of the implementation of toolkit measures.

The MDBA and the Department of Agriculture, Water and the Environment (DAWE) are working with Basin states and the CEWH to develop and implement the toolkit measures. The MDBA also provides advice to states and the Australian government on the measures, and have coordinated a framework for the prioritisation of toolkit measures developed by the states.

The Commonwealth Environmental Office (CEWO), Queensland and NSW governments have developed a work plan for event-based mechanisms consistent with the commitment outlined in the Intergovernmental Agreement. The work plan comprises:

- The CEWO working with Queensland Department of Natural Resources Mines and Energy (DNRME) to finalise arrangements for flow event transfers that work in an instantaneous volumetric limit framework;
- The CEWO working with DNRME to develop accounting, surveillance and compliance arrangements to support implementation of store and release mechanisms by irrigators;
- The CEWO developing and implementing a standing arrangement with water holders: and

- The CEWO implementing a short-term intervention monitoring project in the Lower Balonne.

The CEWO has worked closely with Queensland and NSW government agencies to implement a event-based mechanisms pilot in February 2020, which represents the first stage of the work plan. An evaluation of the pilot will be completed in 2020.

Northern Basin Environmental Watering Group

In late 2019 Basin governments established the Northern Basin Environmental Watering Group (NBEWG) to provide an enduring forum for the coordination of environmental watering across the northern Basin, and to support discussion of associated policy issues. The establishment of this group satisfies one of the toolkit measures recommended by the MDBA in 2017, and meets one of the recommendations made by the Productivity Commission (Basin Plan implementation) in early 2019 in relation to improved coordination of water for the environment in the northern Basin. The group comprises representatives from Queensland, NSW, CEWH, DAWE and the MDBA. Chairing responsibilities and secretariat support are provided by the MDBA.

Sustainable diversion limit adjustment mechanism

The Basin Plan sets Sustainable Diversion Limits (SDLs) to restrict how much water can be taken in the Murray–Darling Basin for consumptive use, setting aside enough water to sustain water-dependent ecosystems. The [SDL Adjustment Mechanism](#) (SDLAM) was included in the Basin Plan to allow Basin states to propose a series of measures which would allow the outcomes to be achieved with more efficient water use.

MDBA modelling showed that equivalent environmental outcomes could be delivered with 605 GL less water recovered. As set out in the Basin Plan, these projects are to be implemented by 2024 in order for the full 605 GL amount to be met.

The MDBA may undertake a reconciliation process to ensure that the environmental outcomes anticipated under these projects are delivered and whether any further changes to the SDL adjustment are needed.

It is expected that Basin scale environmental outcomes will not be impacted by this process and that changes at catchment and asset scales will be designed to maximise the outcomes sought through long-term watering plans.

Prerequisite policy measures

[Prerequisite policy measures](#) are legislative and operational rule changes that will improve the use, management and accounting of water for the environment in the southern-connected Basin. These measures were required in the Basin Plan to maximise the outcomes of water recovered for the environment without having a net impact on the reliability of supply to other holders of water access rights.

The policy measures include instruments that account for and recognise ‘return flows’ of water for the environment. A portion of the water used in an environmental event may return to the river as a ‘return flow’. Allowing this water to be recognised and used for environmental purposes downstream is given effect through state-based accounting treatments. The policy measures also include instruments that allow ‘piggybacking’ of HEW on unregulated flow events.

From May – June 2019, the MDBA conducted an assessment process that confirmed that these measures have been appropriately included in all state water management frameworks, with further improvements in implementation recommended in some areas. In July 2019, the MDBA’s assessment was validated by the [Independent River Operations Review Group](#).

Further improvements on River Murray and tributary PPMs are being developed by the Basin states and MDBA via the joint venture. Establishing effective measures in the southern Basin will be essential for realising the SDL adjustment and state commitments in the River Murray for the efficient and effective use of water for the environment.

Constraints management

A ‘constraint’ is a technical term for anything that reduces the ability to deliver water for the environment. Constraints can include physical structures such as weirs, locks, dams, low-lying bridges and water pumps, and issues that arise from the policies and rules that determine how water is managed and infrastructure is operated. While many of these constraints serve the economic outcomes of the Basin, they have contributed to the disconnection between rivers and their associated floodplains, which is impacting the overall health of the system.

The MDBA developed the [Constraints Management Strategy 2013 to 2024](#) to help guide the work of identifying and removing or modifying physical and operational constraints. In 2017, the Basin States nominated a number of projects that addressed some of these constraints as part of the SDLAM projects. These projects include those which address the physical constraints from Hume to Yarrowonga, Yarrowonga to Wakool Junction, South Australian Murray, Murrumbidgee, Goulburn (nominated as a Constraint Measure only), and Lower Darling (as part of the Menindee Lakes Water Savings project). Notified constraints measures will also be considered as part of any SDL reconciliation conducted by the MDBA.

The MDBA is required to [report on progress](#) of the Constraints Management Strategy as part of the Basin Plan.

Southern Connected Basin Environmental Watering Committee

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, and coordinates the delivery and makes decisions on the use of held environmental water.

SCBEWC [reports annually](#) to Ministers on the coordination and delivery of water for the environment across the southern connected Basin.

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 state 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. The second Basin Plan evaluation will be published in 2020.

In 2018 the MDBA commenced an annual compliance risk assessment program, to identify and assess risks to Basin Plan compliance and plan [compliance priorities](#) and activities for the coming water year. The protection of water for the environment was identified as a compliance priority in 2018-2019 and 2019-2020, and the MDBA undertook satellite monitoring to track environmental water flows in response to the risk.

In August 2019, the Australian Government announced the creation of the [Inspector General of Murray–Darling Basin Water Resources](#) to help improve transparency, accountability, and community confidence in water management and regulation.

Key documents

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

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

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

[Download the Commonwealth Environmental Water Portfolio management plans](#)

[Download the progress reports on WRP accreditation](#)

[Download the MDBA's annual compliance priorities](#)

[Download the Annual progress report – Sustainable Diversion Limit Adjustment Mechanism](#)

[Download the MDBA's Prerequisite policy measures position statement](#)

[Download the Constraints Management Strategy 2013 to 2024](#)

[Download the Southern Connected Basin Environmental Water Committee annual reports](#)

2. New South Wales

Primary water legislation	Statutory instrument	Implementation / Management plans	Responsible agencies
Water Management Act 2000 (NSW)	<ul style="list-style-type: none"> ▪ Water Sharing Plans (WSPs) ▪ Temporary water restriction section 324 orders 	<ul style="list-style-type: none"> ▪ Better management of environmental water in NSW Work plan ▪ Draft active management in unregulated rivers policy ▪ Draft amended WSPs ▪ Floodplain Harvesting Policy / Floodplain Harvesting Action Plan ▪ Annual watering plans ▪ NSW PPM Implementation Plan ▪ Murrumbidgee PPM Procedures Manual ▪ Murray-Lower Darling PPM Procedures Manual 	<ul style="list-style-type: none"> ▪ Department of Planning, Industry and Environment ▪ WaterNSW

Overview

The key piece of legislation for the management of water in NSW is the *Water Management Act 2000* (NSW). The main tool in the Act for managing the state's water resources are Water Sharing Plans (WSPs). NSW WSPs are valid for 10 years from their commencing date.

WSPs cover surface water and groundwater resources and include rules-based mechanisms for providing environmental water requirements. NSW WSPs commit water for ecosystem health or other specified environmental purposes as planned environmental water (PEW), such as end of system flow rules or dam translucency rules. Held Environmental Water (HEW) is water allocated to water access licences held for environmental use. Both the NSW and Commonwealth governments have acquired water licences for environmental purposes in regulated, unregulated and groundwater sources.

NSW develops annual watering priorities for the Barwon-Darling, Border Rivers, Intersecting Streams, Namoi, Gwydir, Macquarie Castlereagh, Lachlan, Murrumbidgee and the Murray and Lower Darling river valleys. Long term water plans for all the NSW WRP areas were finalised in late 2019 as part of implementing the Basin Plan. These plans provide long-term (up to 20-year) directions for the annual and event-based water management of all water for environmental outcomes.

Water Sharing Plans

NSW water sharing plans set out rules that protect planned environmental water. Some also have rules that set out measures to manage and account for held environmental water. All water sharing plans set a limit on the long-term average annual volume of water that can be extracted - protecting the remaining water for the environment.

Planned Environmental Water—is water committed for ecosystem health or other environmental purposes and managed through rules in NSW water sharing plans established under the *Water Management Act 2000* (WMA 2000). This water is also known as rules based environmental water and can be ‘discretionary’ (which means it can be ordered for use by environmental water managers) or “non-discretionary” (which means it is automatically scheduled for release from a water storage, or protected from extraction, when the WSP rules are met).

Held or Licensed Environmental Water—is water allocated to water access licences held for environmental use.

The environmental flow rules in the water sharing plans for the regulated rivers vary from valley to valley, depending on which objectives are considered most important for that valley, as set out in the table below:

Types of environmental flow rules in the regulated rivers	Purpose of rule	Valleys where rule applies
Extraction limit	Sets a limit on the long-term average annual volume of water that can be extracted, thus protecting the major share of water for the environment.	All regulated rivers
End-of-system flow	Requires a flow to be retained at the end of the river system. This ensures that flow is maintained below the areas of major extraction.	Belubula Namoi Murrumbidgee Hunter Paterson
Transparent dam release	Requires all dam inflows occurring at certain times to be passed immediately downstream, as though no dam was present. This maintains natural flow variability for that part of the year (usually the winter months) when dam releases would otherwise be minimal.	Murrumbidgee
Translucent dam release	Requires a proportion of dam inflows occurring at certain times to be passed immediately downstream. This restores the natural flow variability associated	Lachlan Macquarie Murrumbidgee NSW Border Rivers

	with specific flow ranges, usually freshes and minor floods.	
Limits on taking high flows	Limits pumping when the dam spills or high flows enter the regulated river from unregulated tributaries. This protects either some or all of these naturally occurring high flows which are important for flooding of wetland areas and downstream.	Belubula Gwydir Hunter Paterson Macquarie NSW Border Rivers
Limits on taking low flows	Limits pumping from lower flows that enter the regulated river from unregulated tributaries. This ensures that sufficient water is retained in the river for the environment.	Gwydir
Supply minimum flows downstream of dam	Minimum release to maintain continuous low flow in the section of river immediately downstream of the dam wall.	Murrumbidgee NSW Border Rivers
Environmental water allowances or releases	Creates a 'bank' or volume of water stored in the dam which can be released for specific environmental purposes, such as flushing blue-green algal blooms, reducing salinity or supporting bird breeding or fish spawning events.	Gwydir Macquarie Lachlan NSW Murray Murrumbidgee Hunter NSW Border Rivers Paterson Peel

Water sharing plans for **unregulated rivers** typically have:

- long-term average annual limits on extractions
- cease-to-pump rules (to protect low flows),
- commence-to-pump rules where extraction is not permitted until flows reach to a specified level,
- the current recommended amendments to the Barwon-Darling unregulated WSP and specific water sources in the, Macquarie-Bogan and Gwydir Unregulated WSP include rules to implement active management to manage and account for held environmental water when left in-stream to be used for instream environmental outcomes,
- recommended amendments to the Barwon-Darling WSP also include setting individual daily extraction limits and a rule to manage the resumption of flow after an extended dry or low flow period.

Groundwater WSPs include rules that protect a proportion of the natural recharge; set distance limits between any new bores and groundwater dependent ecosystems; and set cease to pump rules

on bores located near unregulated surface water sources or limit available water determinations in line with connected regulated surface water sources.

Temporary water take restrictions

The power to make a temporary water restriction (or embargo) under section 324 of the *Water Management Act 2000* was amended in 2018 to clarify that ‘managing water for environmental purposes’ is within the scope of the existing public interest test in relation to making temporary water restriction orders.

There have been a number of occasions when s324 orders have been used in recent times to provide protection to held environmental water and resumption of natural flows. These include restricting extraction of water to protect HEW released from upstream storages in the northern Basin during the Northern Connectivity Event in 2018 and the Northern Fish Flow Event in 2019 and restricting extraction of water from the Tuppall and Thule Creek unregulated water sources in the Murray Valley when HEW was flowing in-stream in 2019.

Water Resource Plans

As at May 2020, NSW had no accredited [WRPs](#). Public exhibition for all draft NSW WRPs was completed in 2019, providing an indication of NSW measures to protect water for the environment.

In February 2019 the MDBA and NSW signed a bilateral agreement to bring key Basin Plan commitments into effect from 1 July 2019. This included commencing sustainable diversion limit accounting for NSW WRP regions, implementing prerequisite policy measures and continuing to develop rules to better manage water for the environment in the Barwon–Darling, and specific water sources in the unregulated lower Gwydir and lower Macquarie–Bogan. The agreement provides the MDBA and the community confidence in the consistent application of key Basin Plan elements across all NSW catchments regardless of when WRPs will be accredited.

The MDBA [reports](#) regularly on the progress of water resource plans.

Better management of environmental water in the northern Basin

In 2018, NSW committed to implementing [a suite of water reforms](#) to better protect and manage water for the environment in the northern Basin. These reforms have been under development and will be implemented through amendments to relevant state WSPs.

In summary the progress of these reforms to date comprises:

- **Legislative Amendments** to the *Water Management Amendment Act 2018* to allow for enduring solutions to be progressed. These amendments included:
 - Amendment to 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).
 - Amendment to the Barwon-Darling WSP to allow for the definition, review and implementation of daily extraction limits

- **Recommended amendments to the relevant water sharing plans** to implement enduring measures of the reforms. These were publicly consulted on in September / October 2019 and now form part of the water resource plan packages for these areas currently subject to NSW approval and MDBA assessment processes. The amendments to the Barwon-Darling, lower Macquarie and lower Gwydir unregulated water sharing plans that are required to implement the suite of environmental water reform measures to improve management of environmental water in the northern Basin include:
 - New rules to implement active management to recognise, manage and account for held environmental water used in-stream in the Barwon-Darling, and specific unregulated water sources in the lower Macquarie and lower Gwydir,
 - A new rule in the Barwon-Darling water sharing plan to manage the first flow in the Barwon-Darling River after an extended dry period,
 - A new rule to limit the daily take of water in the Barwon-Darling.
- **Interim measures** implemented to better manage water for the environment in the northern Basin while more enduring measures are developed and community views gathered.

Prerequisite Policy Measures in the southern Basin

New South Wales has developed a [framework](#) for implementing prerequisite policy measures in the Murrumbidgee and Murray-Lower Darling systems through valley-specific procedures manuals, which are intended to be recognised under statutory water sharing plans. Associated amendments to the NSW river operator (WaterNSW) water supply work approval conditions will support the implementation of the measures.

The use of these measures in NSW will apply, at least in the short to medium term, to HEW only. This is because the delivery of PEW has specific rules set out in the relevant NSW water sharing plans. Presently the PPM procedure manuals exclude unregulated rivers and HEW is protected using similar measures to the northern Basin with Section 324 orders.

The procedures manuals set out a process for developing watering actions for environmental assets, including delivery pathways and how HEW will be accounted for. NSW has been implementing watering trials and documenting watering actions in the procedures manuals, and committed to implementing the procedures manuals in full from 30 June 2019.

Floodplain Harvesting

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

The NSW [Floodplain Harvesting Policy](#) was introduced in 2013 to guide the process of bringing floodplain harvesting into the NSW licensing framework. The policy was reviewed in 2018 following various water compliance reviews in 2017 and 2018. In September 2019 NSW released a [Floodplain Harvesting Action Plan](#) which sets out the processes and timeframes for implementing the Policy in five northern inland designated floodplains by June 2021.

In February 2020, NSW established a temporary exemption from licensing and approval requirements for floodplain harvesting. The exemption ceases to apply once the Policy has been

implemented and licences are issued. The exemption also limits any growth in floodplain harvesting by restricting the application to eligible works, as defined in the Policy.

NSW is currently finalising the Floodplain Harvesting Measurement Policy, which will ensure effective measurement, reporting and compliance can be undertaken once floodplain harvesting is brought into the NSW licensing framework.

Monitoring and reporting

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

WaterNSW maintains a [real time map](#) displaying hydrometric 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.

WaterNSW publishes [daily, weekly and annual data on environmental flows](#) from dams and water supply weirs as well as the [Water Insights](#) tool. This tool includes information on the flow class rules that apply at a given time in the [Barwon-Darling](#), including when take is restricted to protect water for the environment.

The Department of Planning, Industry and the Environment coordinates an environmental water planning monitoring, evaluation and reporting program and publishes annual watering plans and annual outcomes reports on the use of water for the environment. These activities are described in valley-specific monitoring, evaluation and reporting (MER) plans and water quality management plans. The principles for generating, sharing and publishing data and other information from MER activities is described in the NSW MER Framework. This includes reporting on water use, mapping inundation extents, and ecological outcomes (birds, fish, vegetation, connectivity, frogs). Environmental outcomes are also published annually.

Key documents

[Download the NSW Water Sharing Plans](#)

[Find out more about long term water plans in NSW](#)

[Download the annual environmental watering priority statements](#)

[Download the annual Use of water for the environment in NSW reports](#)

[Download information on the Better management of environmental water](#)

[Download information about the NSW floodplain harvesting program](#)

[Download the public exhibition draft NSW water resource plans](#)

[Download more information about prerequisite policy measures in NSW](#)

3. Victoria

Primary water legislation	Statutory instrument	Implementation / Management plans	Responsible agencies
Water Act 1989 (Vic)	<ul style="list-style-type: none"> ▪ Bulk entitlements ▪ Environmental Entitlements ▪ Sustainable Water Strategies ▪ Groundwater and streamflow management plans 	<ul style="list-style-type: none"> ▪ Victorian Waterway Management Strategy ▪ Regional Waterway Strategies ▪ Environmental water management plans ▪ Seasonal watering proposals ▪ Seasonal watering plans ▪ Seasonal watering statements ▪ Operating Arrangements 	<ul style="list-style-type: none"> ▪ Department of Environment, Land, Water and Planning (DELWP) ▪ Catchment Management Authorities (CMA) ▪ State water corporations ▪ Victorian Environmental Water Holder (VEWH)

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. This framework is administered by Department of Environment, Land, Water and Planning (DELWP), state water corporations are responsible for water delivery in line with directions from DELWP. 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 Reserve¹ 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.
- **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

¹ Defined under s4A of the *Water Act 1989 (Vic)*.

licences, permissible consumptive volumes on water licences, or provisions in water supply protection area management plans specified for an environmental purpose.²

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

The Victorian Environmental Water Holder (VEWH) is the independent statutory body responsible for the use of water for the environment in Victoria. The VEWH holds environmental water entitlements in its own right, and manages entitlements on behalf of the Snowy Recovery program and the Living Murray Program. The VEWH works with state groups (including catchment management authorities, DELWP, land managers and local councils, state water corporations, and Traditional Owner groups) and Australian Government agencies to coordinate environmental watering in Victoria.

DEWLP developed long-term watering plans for the Wimmera-Mallee, Northern Victoria and the Victorian River Murray in 2015. They are due for review within 12 months of WRPs being accredited.

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 sustainable water strategy includes Victoria's share of the River Murray and the major Victorian tributaries that flow into it.

Water resource plans

The Wimmera–Mallee Water Resource Plan (covering the Wimmera–Mallee (surface water) and the Wimmera-Mallee (groundwater) water resource plan areas) was accredited by the Australian Government Minister responsible for Water on 19 September 2019. Victoria's North and Murray Water Resource Plan (covering the Goulburn-Murray, Northern Victoria and Victorian Murray water resource plan areas) has been assessed by the MDBA and is with the Minister for accreditation decision as at early 2020.

The following table summarises actions or strategies that Victoria has committed to in their accredited WRPs that relate to the protection of water for the environment:

² <https://www.water.vic.gov.au/waterways-and-catchments/rivers-estuaries-and-waterways/environmental-water>.

Region (all state WRPs; WRP area)	Commitment or action relating to the protection of water for the environment	References in WRP and to Basin Plan requirement	Timing
Wimmera-Mallee Surface Water WRP area	The Victorian Environmental Water Holder (VEWH) must ensure that environmental watering occurs in a way that is consistent with the long-term watering plan and Basin-wide environmental watering strategy, and contributes to reaching environmental objectives for water-dependent ecosystems.	WRP Index Table Column 3; Basin Plan s 10.26(1)	On-going
Wimmera-Mallee Surface Water WRP area	The long-term watering plan (LTWP) for the Wimmera-Mallee Surface Water WRP area will be updated following the WRP being accredited.	WRP Index Table Column 5; Basin Plan s 10.26(2)	Updated by September 2020
Wimmera-Mallee Surface Water and Groundwater WRP areas	Above cap water and system water also contribute to environmental outcomes. Victoria's water management framework includes measures to protect this water. DELWP will report on Matters under Schedule 12 of the Basin Plan which include compliance with WRPs and achievement of environmental outcomes.	WRP Comprehensive Report Parts 6.6 and 12.2; WRP Index Table Column 5; Basin Plan Parts 4 and 6	On-going

Prerequisite policy measures

Victoria has implemented prerequisite policy measures under the Victorian *Water Act 1989*. The measures are given effect through the VEWH's bulk and environmental entitlements.

The instruments of appointment for the storage and resource manager obligate Goulburn-Murray Water (GMW) to deliver VEWH's bulk and environmental entitlements. Other environmental water holders' entitlements are delivered through the VEWH's bulk and environmental entitlements. The VEWH's bulk and environmental entitlements require the VEWH and GMW to agree on operating arrangements for delivery of water under the entitlements. The VEWH and GMW are formally documenting these in arrangements in consultation with other delivery partners, and are scheduled to be complete by June 2020. Formal reviews are undertaken at least every five years.

Victoria's return flow policy was developed as part of the Northern Region Sustainable Water Strategy (2009). The VEWH has a Northern Victorian Environmental Metering Program which sets out how use of water for the environment and return flows are measured and calculated.

Monitoring and reporting

Water monitoring occurs through an extensive network of surface water gauging stations and groundwater bores which input data to the [Water Measurement Information System](#) (WMIS). The WMIS contains water level, flow and quality information.

Assessment of ecological outcomes occurs through application of the Victorian Environmental Flows Monitoring and Assessment Program (VEFMAP) for rivers and the Wetland Monitoring and Assessment Program for environmental watering (WetMAP). The VEFMAP 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 water for the environment 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.

DELWP also prepare a state-wide river condition assessment, the Index of Stream Condition which is prepared every five years.

Monitoring and research undertaken by Victorian CMAs is used to inform best practice management of environmental flows. For example, the Goulburn Broken CMA is undertaking a wetland monitoring program, and research projects into managing flows required for fish movement and meeting vegetation objectives.

Key documents

[Download the Seasonal Watering Plan](#)

[Download Seasonal Watering Statements](#)

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

[Download the long-term watering plans](#)

[Download an overview of Victoria's Pre-requisite Policy Measures](#)

[Download the water resource plan covering the Wimmera-Mallee \(surface water\) WRP area](#)

[Download the water resource plan covering the Wimmera-Mallee \(groundwater\) WRP area](#)

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 ▪ Operations Manuals ▪ Distribution operations licences ▪ Resource operations licences 	<ul style="list-style-type: none"> ▪ Water Management Protocols ▪ Water Entitlement Notices 	Department of Natural Resources, Mines and Energy (DNRME)
<i>Environmental Protection Act 1994 (Qld)</i>	Environmental Protection (Water and Wetland Biodiversity) Policy 2019	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 and Operations Manuals (replacing resource operations plans) and resource operations licences and distribution operations licences which set out, among other things:

- Day to day management arrangements
- Water sharing rules for unsupplemented water (water harvesting and overland flow)
- Water sharing rules for supplemented water (for water supply schemes)
- 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).

Each year DNRME develop WRP area environmental watering priorities which guide how water for the environment is used. In 2019 DNRME published long-term watering plans for each of Queensland's WRP areas which set out how environmental watering is provided for in line with Basin Plan requirements.

All HEW in Queensland's portion of the Murray-Darling 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 duration. Access to unsupplemented entitlements is tied to river flow thresholds in conjunction with an announcement system in the more developed water management areas including the Lower Balonne and lower Border Rivers.

As part of the IGA for Basin Plan implementation, Queensland will work with NSW and Commonwealth water agencies to develop a series of water accounting procedures and protocols to recognise HEW as it passes the Qld-NSW border. These will provide NSW with HEW volumes that can be incorporated in the active management arrangements for the Barwon-Darling (in development).

The [NSW-Queensland Border Rivers Intergovernmental Agreement 2008](#) (IGA) includes provisions relating to water sharing and access arrangements. The IGA specifies the thresholds at which unsupplemented water access can be granted, and protects the portion of flow identified as the environmental flow.

PEW 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)

[Healthy Waters Management Plans](#) (HWMPs) have also been prepared for Queensland's WRP areas under the Environmental Protection (Water and Wetland Biodiversity) Policy 2019. HWMPs are a key planning mechanism to improve the quality of Queensland's water and identify and map environmental objectives, and water management goals and responses. They also contribute to meeting particular requirements of a Water Quality Management Plan under the Basin Plan as they identify water quality objectives to protect the environmental values of an area.

In 2018 Queensland established the [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 RWMP includes various projects related to the improved measurement and reporting of water for the environment:

- DNRME completed a review of state metering policy and identifying areas for improvement in 2019.

- 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 is working with NSW and the MDBA to develop an overland flow joint measurement method. The program will be informed by existing measurement trials; approaches used in other jurisdictions; and the opportunities presented by emerging technologies.

Water resource plans

Queensland have all three of their WRPs accredited by the Australian Government Minister responsible for Water. The Warrego–Paroo–Nebine WRP was accredited on 15 June 2017 and the Condamine–Balonne and Border Rivers–Moonie WRPs were accredited on 18 September 2019.

The following table summarises actions or strategies that Queensland has committed to in their WRPs that relate to the protection of water for the environment:

Region (all state WRPs; WRP area)	Commitment or action relating to the protection of water for the environment	References in WRP and to Basin Plan requirement	Timing
Qld WRPs	DNRME will implement and maintain cooperative arrangements for the coordination of water for the environment. Each year, as part of setting the annual environmental watering priorities, consultation will be undertaken with NSW, the CEWH, MDBA and SunWater.	WRP Index Chapter 5.6; Basin Plan s 10.27	On-going
Condamine-Balonne and Border Rivers-Moonie WRPs	Rules to ensure that the EWRs of groundwater PEAs and PEFs are met. The water plans and water management protocols contain trade zones and maximum zone volumes to prevent localised overallocation. The 'no growth' test is a key water plan strategy. Annual announcement rules to limit take in consideration of defined water level triggers are to be established.	WRP Index Chapter 5.4; Basin Plan s10.18(3)	On-going
Condamine-Balonne and Border Rivers-Moonie WRPs	Rules set out in the WRP to manage groundwater and surface water connections. These include environmental flow objectives, limiting take of groundwater to existing entitlement, resource condition limits (RCLs) and regular monitoring.	WRP Index Chapter 5.4; Basin Plan s 10.19(3)	On-going

Condamine-Balonne WRP (in particular management areas)	Rules to protect PEW include requirements to maintain passing flows in the upper Condamine and low flow event management rules in the lower Balonne.	WRP Index Chapter 5.3 & WRP Appendix E Column C; Basin Plan s 10.09	On-going
Border Rivers-Moonie WRP (in particular management areas)	PEW is protected by the water plan and water management protocol which use the NSW-Queensland IGA as a reference. This includes preservation of part of the tributary inflows to the Border Rivers, and protection of natural low flows in the Dumaresq, Severn and Macintyre rivers.	WRP Index Chapter 5.3 & WRP Appendix E Column C; Basin Plan s 10.09	On-going
Warrego-Paroo-Nebine WRP (in particular management areas)	During first flush flows after a significant period of low or no flow, the WRP provides for an announced period 36 hours after the flow peak has passed. This protects the initial flow following a dry period.	WRP Index Chapter 5.3; Basin Plan s 10.09	On-going
Warrego-Paroo-Nebine WRP	Rules manage the water resources and ensure environmental water requirements of PEAs and PEFs are not compromised, including an increased level of protection for waterholes.	WRP Index Chapter 5; Basin Plan s 10.17(2)(b)	On-going

Monitoring and reporting

Water monitoring in Queensland is conducted through a network of surface water gauging stations and monitoring bores, and is publicly accessible on the [Water Monitoring Information Portal](#). Ecological monitoring and reporting occurs in targeted locations under the [Environmental Flows Assessment Program](#) and informs Queensland's Water Plan review process. The monitoring assists to assess the effectiveness of rules in Water Plans in meeting ecological outcomes.

The Queensland Wetlands Program undertakes research and monitoring projects, and hosts historic data about the various wetlands in the state, including wetland sites listed under the Ramsar Convention.

As the holder of all HEW in the Queensland Basin, the CEWH 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.

The *Water Act 2000* (Qld) requires that five yearly reports for each Queensland Water Plan area 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.

The Queensland Government also produces a State of Environment Report every two years which assesses the condition and pressures on the environment in the region. A management response also summarises the actions undertaken to protect, maintain or restore the environment.

Key documents

[Download the Healthy Waters Management Plans](#)

[Download the NSW-Queensland Border Rivers Intergovernmental Agreement 2008](#)

[View the 2017 State of the Environment report](#)

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

[Download the long-term watering plans for the Queensland WRP areas](#)

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

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

[Download the Rural Water Management program](#)

[Download the Queensland Border Rivers–Moonie water resource plan](#)

[Download the Condamine–Balonne water resource plan](#)

[Download the Warrego–Paroo–Nebine water resource plan](#)

5. South Australia

Primary water legislation	Statutory instrument	Implementation / Management plans	Responsible agency
<p><i>Natural Resources Management Act 2004 (SA)</i></p> <p><i>River Murray Act 2003 (SA)</i></p>	<ul style="list-style-type: none"> ▪ Regional Natural Resource Management Plan (NRM Plan) ▪ Water Allocation Plans (WAP) 	<ul style="list-style-type: none"> ▪ Annual River Murray operating plan ▪ South Australian River Murray annual environmental watering plan ▪ Unregulated Flow Policy ▪ Transmission Losses Policy ▪ Environmental Water Return Flow Policy ▪ Procedure for environmental water accounting in South Australia ▪ Policy for Minister’s Reserve Licence 	Department for Environment and Water (DEW)

Overview

In South Australia, water is managed under the *Natural Resources Management Act 2004 (SA)* (NRM Act)³ which provides for the development of Natural Resource Management Plans (NRM Plans) and water allocation plans (WAPs) by regional natural resource management boards.

While water for the environment 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 water for the environment; they form part of statutory regional NRM plans. Where water resources are not prescribed, the NRM Plans establish rules for undertaking water affecting activities in a manner that limits impact on dependent ecosystems.

Under the Murray–Darling Basin Agreement,⁴ South Australia receives up to 1,850 GL/year of entitlement flow across the South Australian border. This includes water for consumptive use, as well as HEW and PEW.⁵

³ The Natural Resources Management Act 2004 (SA) is soon to be superseded by the Landscapes South Australia Act 2019.

⁴ Sch 1, *Water Act 2007* (Cth).

⁵ Long term environmental watering plan for the South Australian River Murray water resource plan area.

The main holders of held environmental water in South Australia are the CEWH and [The Living Murray Program](#) (TLM). Other sources of water for the environment 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
- Additional Dilution Flow
- Return flows from the delivery of HEW through the River Murray in Victoria and NSW.

Environmental water planning along the River Murray in South Australia is coordinated by the Department for Environment and Water (DEW) in collaboration with other Australian, state, and local government agencies and non-government groups. DEW has completed [long-term watering plans](#) for the SA River Murray, the Eastern Mount Lofty Ranges and the SA Murray region, and prepares [annual environmental watering priorities](#) for each of their WRP areas. An annual watering plan and site based watering proposals are prepared for the River Murray based on a range of water resource availability scenarios. These documents align with the Basin wide environmental watering strategy.

DEW works with SA Water, MDBA and water holders to deliver water for the environment in South Australia.⁶ PEW is not actively managed but provides benefits to the River Murray channel, floodplains, wetlands and the Lower Lakes and Coorong through normal river operations and unregulated events. SA Water has some responsibility for the operation of South Australian River Murray infrastructure under the direction of DEW, and for monitoring flows within South Australia on behalf of the MDBA.

The CEWH has entered into partnership agreements with South Australian government and with various non-government organisations for the use of Commonwealth environmental water to achieve environmental outcomes within the SA Murray River system, floodplains and wetlands.

TLM icon sites in South Australia, including the Chowilla Floodplain, the River Murray Channel, and the Coorong, Lower Lakes and Murray Mouth, are managed by DEW. This includes management of environmental watering activities, monitoring, infrastructure (weir pools, flow control structures and regulators on wetlands) and associated projects at TLM icon sites as well as other sites in the South Australian Basin.

DEW prepares annual operating plans that identify how the River Murray in South Australia may be operated under a number of water availability scenarios to optimise the benefits to all water users, including water for the environment. The plans aim to achieve the objectives of the Basin Plan and regional annual water for the environment plans.

⁶ Long term environmental watering plan for the South Australian River Murray water resource plan area.

Water resource plans

South Australia has had all three of its WRPs accredited by the Australian Government Minister responsible for Water. The South Australian Murray Region WRP was accredited on 20 August 2019. The Eastern Mount Lofty Ranges WRP and the South Australian River Murray WRP were accredited on 13 November 2019. In a significant step, the 2019 River Murray WAP clarifies provisions to specifically protect the components of PEW. This is recognised in the accredited South Australian River Murray WRP.

The following table summarises actions or strategies that South Australia has committed to in its WRPs that relate to the protection of water for the environment:

Region (all state WRPs; WRP area)	Commitment or action relating to the protection of water for the environment	References in WRP and to Basin Plan requirement	Timing
SA WRPs	DEW to apply rules to protect the EWRs for PEAs and PEFs. For the SA Murray Region WRP this includes ensuring that activity permits that would otherwise have an adverse impact on the watercourse, are not issued for the Coorong.	SA River Murray and Murray Region WRPs s 5.4.2; EMLR WRP s 4; Basin Plan s 10.17	On-going
SA River Murray WRP	DEW will apply the rules for the management of PEW. This includes a commitment that the source of HEW received at the South Australian border will be recorded as provided by the upstream state on the HEW register in accordance with the Procedure for Environmental Water Accounting.	WRP s 5.3.2; Basin Plan s 10.09	On-going
SA River Murray WRP	SA has included specific commitments relating to the exercise of SA's storage right under Clause 91 of the MDB Agreement with respect to the consideration of PEAs and PEFs.	WRP s 5.6.1; Basin Plan s 10.26	Coordinated through annual watering priorities process and on-going
SA River Murray, and Murray Region WRPs	DEW will co-ordinate environmental watering in relation to the water for the environment received from upstream and the connection between the SA River Murray WRP area and the SA Murray Region WRP area which includes the Coorong.	WRP s 5.6.2; Basin Plan s 10.27	Coordinated through annual watering priorities process

Prerequisite policy measures

South Australia has developed a number of [operational documents](#) as part of its implementation of prerequisite policy measures, including policies and procedures for return flows, use of unregulated flows and transmission losses. A method to account for water for the environment in the SA River Murray was also developed to ensure accounting is accurate and credible. These policies and procedures are implemented through environmental watering schedules agreed with environmental water holders.

In addition, amendments to the SA River Murray Annual Operating Plan, the development of a specific SA River Murray Objective and Outcomes document, and the implementation of an environmental water accounting framework provide operational transparency in the SA River Murray.

In July 2019 the MDBA confirmed that these policies and procedures are in effect. DEW is responsible for ensuring the ongoing adherence to these policies and procedures.

Monitoring and reporting

Under the NRM Act, NRM boards have responsibility for developing, implementing and maintaining NRM plans for their NRM regions, and conducting associated monitoring and reporting programs for the WAPs in their NRM regions. [Regional monitoring projects](#) include ongoing wetland and floodplain monitoring, water quality monitoring, native plant and wildlife monitoring and surveys.

Real time water monitoring data for the River Murray is also available on [WaterConnect](#). Information on the volumes of water for the environment delivered to each site within SA, as well as information on the purpose of watering and how it aligns with the Basin Wide watering priorities, is collated and reported to the MDBA on an annual basis as part of Basin Plan reporting on Matter 9. Environmental water use information provided for licencing and Matter 9 requirements also contribute to section 71 Basin Plan reporting.

DEW undertakes various [targeted ecological investigations](#) to identify and monitor the environmental watering requirements of the Coorong, Lower Lakes and Murray Mouth and a range other sites. Monitoring is undertaken to assess changes in ecological condition, document responses to water delivery, manage risks, and inform environmental water planning and delivery. DEW also works with the SA Environmental Protection Agency to undertake Lower Lake water quality monitoring and reporting.

Key ecological outcomes from water delivered along the River in SA are consolidated into the Annual Environmental Watering Report which is published on the DEW website each year. This report summarises the volumes and timing of environmental water delivered within the SA River Murray and highlights some of the key environmental outcomes achieved.

Key documents

[Download Regional demand and supply statements](#)

[Download the long-term watering plans for South Australia's WRP areas](#)

[Download the annual environmental watering priorities for each of South Australia's WRP areas](#)

[Find out more about The Living Murray sites in South Australia](#)

[Download the annual South Australia's River Murray Water for the Environment reports](#)

[Download the South Australian River Murray water resource plan](#)

[Download the South Australian Murray Region water resource plan](#)

[Download the Eastern Mount Lofty Ranges water resource plan](#)

6. Australian Capital Territory

Primary water legislation	Statutory instrument	Implementation / Management plans	Responsible agency
Water Resources Act 2007 (ACT)	Water Resources Environmental Flow Guidelines 2019 (No 2) Water Use and Catchment General Code (2009)	<ul style="list-style-type: none"> ▪ ACT Water Strategy 2014-44: Striking the Balance ▪ ACT and Region Catchment Strategy 	<ul style="list-style-type: none"> ▪ Environment, Planning and Sustainable Development Directorate ▪ ACT Environment Protection Authority ▪ ACT and Region Catchment Management Coordination Group

Overview

In the ACT, environmental flows to provide for environmental watering are managed under the *Water Resource Act 2007 (ACT)* (the Water Resources Act) which establishes the framework for water management, entitlements and licences, and defines water management areas, in the Territory.

The Environment and Planning Directorate is responsible for implementing the Water Resource Act, and undertakes water planning and policy development for the Territory's water resources, and monitors and reports on water quality in the ACT. The ACT Environment Protection Authority (EPA) is responsible for regulating compliance with the Water Resources Act.

The Water Resources Act must be consistently implemented with the [Territory Plan](#), which requires that planning be guided by the principles of ecological sustainability and that environmental flows be maintained to ensure that the stream flow and quality of discharges from all catchments protect environmental values of downstream waters

The [Water Resources Environmental Flow Guidelines 2019](#) (Guidelines) are a statutory instrument required under the Water Resources Act. The Guidelines set out the volumes and timings of environmental flow and limits, for streams, rivers, lakes, and aquifers in the ACT. The Guidelines also ensure that environmental flow releases from Tantangara Dam passing through the ACT may not be extracted in the ACT. The Guidelines also set out ecological objectives for reaches in the ACT Murray–Darling Basin, which are then used to assess the effectiveness of environmental watering activities.

In the ACT, water can only be used for other purposes once environmental flow requirements are met. 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.

Environmental flows are delivered by Icon Water through their licence to take water under the Water Resources Act, and in line with other directions from the Environment and Planning Directorate, or by protecting minimum flow rates in unregulated systems. Additional rules apply to all licence holders to minimise impacts on waterways during critical flows such as very low flows or floods, and on groundwater resources from excessive drawdown.

Environmental water management is also determined by the Water Use and Catchment General Code (2009), a code under the Territory Plan which is also a legislative instrument. The code identifies waters in the ACT in terms of the permitted water uses and environmental values, and identifies the water quality and stream flow criteria related to the full protection of these values and uses.

The [ACT Water Strategy 2014-44: Striking the Balance](#) also sets out the Territory's strategies and actions for managing water resources while meeting Basin-wide environmental outcomes. The ACT Water Strategy prioritises protecting and restoring aquatic ecosystems, balanced with a recognition of the importance of environmental flows and compliance and enforcement in managing water resources.

Water resource plans

As at May 2020, the ACT does not have an accredited WRP. Under the proposed 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

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

Delivery of water for the environment is monitored through assessing compliance and licence conditions. The EPA conducts a compliance program to monitor water volumes extracted by licensed extractors. In addition, Icon Water, the ACT water utility, provides monthly reports to the EPA detailing compliance with the requirements of the Guidelines.

An environmental flows technical advisory group has also been established by the EPA and reports annually to the Australian Government.

Every four years the ACT releases a State of the Environment Report which assesses the condition of the environment and risks to its ongoing health and sustainability. The [2015 Report](#) reported on increases in environmental flow releases in the ACT from 2011-2015. The 2019 State of the Environment Report is due for release in early 2020.

In 2018, the ACT government prepared a [Water Strategy Report Card](#) summarising progress to date implementing phase 1 the Strategy. An [implementation plan](#) for phase 2 of the strategy was released in 2019 outlining the key actions for 2019-2023 including: reviewing the Guidelines, and investigating arrangements for Indigenous cultural water flows in ACT waterways. Under the Strategy, in 2019-

2020, the ACT government will also roll-out an integrated water monitoring plan, recognising the links with monitoring of other environmental values.

Key documents

[Download the Water Resources Environmental Flow Guidelines 2019 \(No 2\)](#)

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

[Download the Implementation Plan for Phase 2 of the ACT Water Strategy 2014-44](#)

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

[Download the 2015 State of the Environment Report](#)

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