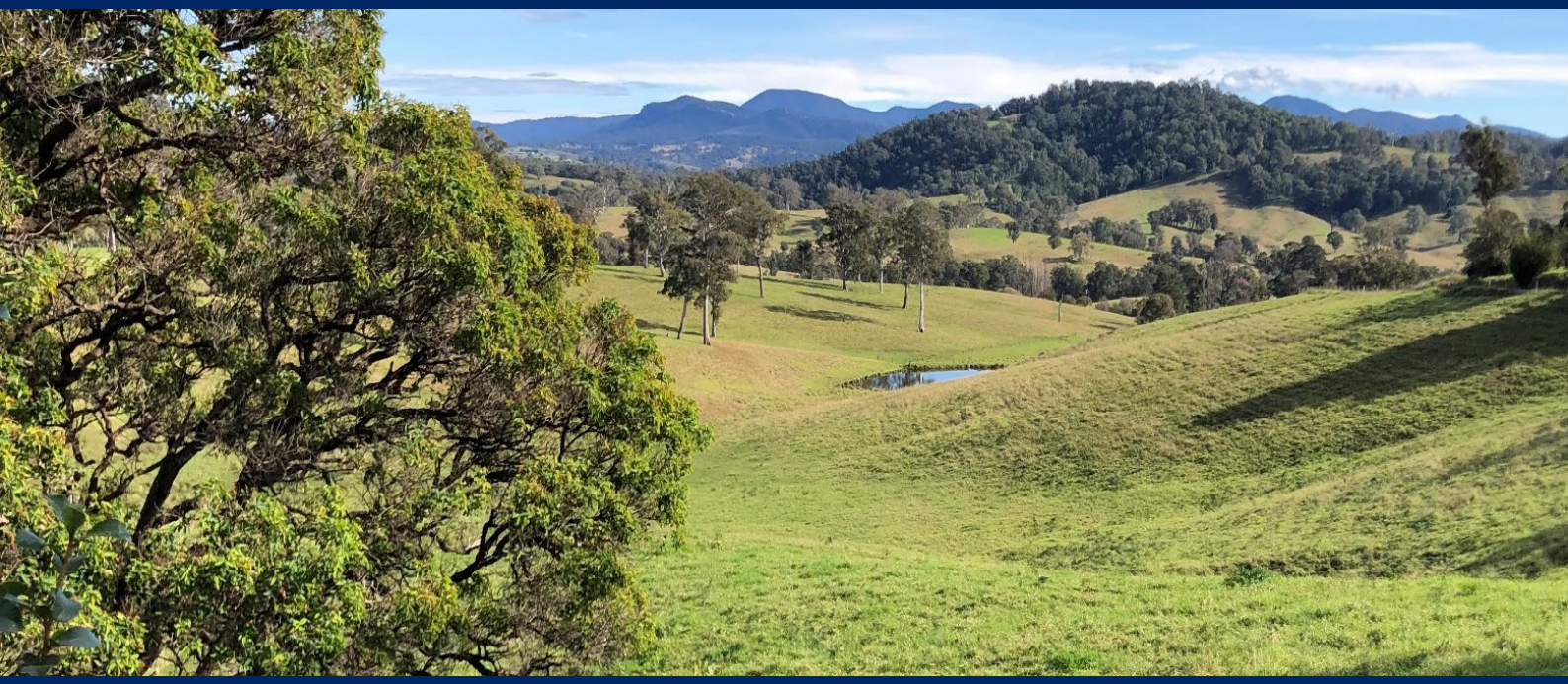
Department of Climate Change, Energy, the Environment and Water

Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2026

Background, consultation and changes

June 2026



NSW GOVERNMENT

Acknowledgement of Country

Department of Climate Change, Energy, the Environment and Water acknowledges the traditional custodians of the land and pays respect to Elders past, present and future.

We recognise Australian Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to place and their rich contribution to society.

Artist and designer Nikita Ridgeway from Aboriginal design agency – Boss Lady Creative Designs, created the People and Community symbol.

Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2026

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Glossary and abbreviations

Term	Definition
AWD	Available water determination
BLR	Basic landholder right
Border Rivers 2012 Plan	Water Sharing Plan for the NSW Border Rivers Unregulated River 2012
Border Rivers 2024 Plan	Water Sharing Plan for the NSW Border Rivers Unregulated River 2024
CTP	Cease to pump
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water, formerly the Department of Planning and Environment
EMU	Extraction management unit A group of water sources; defined for the purpose of managing long-term average annual extraction
LTAAEL	Long-term average annual extraction limit The long-term average annual volume of water in an extraction management unit available to be lawfully extracted or otherwise taken under access licences and basic landholder right requirements.
MER	Monitoring, evaluation and reporting
NRC	Natural Resources Commission
NSW	New South Wales
PEW	Planned Environmental Water
Share component	An entitlement to a given number of shares of the available water in a specified water source The share component on an access licence certificate is expressed as a unit share. The share component of a specific-purpose access licence (for example, local water utility, major water utility and domestic and stock) is expressed in megalitres/year.

Term	Definition
Third-order or higher streams	'Stream order' is used to describe the hierarchy of streams from the top to the bottom of a catchment. To learn more about stream order and the Strahler system for determining stream order: An introduction to Strahler stream order.
WM Act	*Water Management Act 2000*
Plan	Water sharing plan Generalised term used for any water sharing plan, not specific to a particular plan.

1 Introduction

Water sharing plans were developed for rivers and groundwater systems across New South Wales following the introduction of the *Water Management Act 2000* (WM Act). These plans protect the health of our rivers and groundwater while giving water users perpetual access licences, sustainable resource management, equitable water sharing arrangements, and increased opportunities to trade water.

NSW water sharing plans are valid for 10 years from their start date. The NSW Climate Change, Energy, the Environment and Water (the department) amends water sharing plans throughout their life to ensure they comply with changing legislation and to help carry them out. However, near the end of a plan's 10-year term, the Natural Resources Commission formally reviews it to identify any changes that are necessary to deliver better outcomes for all water users, including the environment.

Water in the NSW Border Rivers Area has previously been managed through the Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2012.

This plan expired on 30 June 2024 and was replaced by the Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2024.

This document gives high-level background information on the planning process as well as details of changes to management arrangements arising in the new plan, which we will refer to from now on as the Border Rivers 2024 Plan.

The Border Rivers 2024 Plan covers 13 water sources. These are:

- Beardy River water source
- Bonshaw water source
- Camp Creek Water Source
- Campbells Creek water source
- Croppa Creek and Whalan Creek water source
- Glen Innes water source
- Inverell water source
- Kings Plains water source
- Mole River water source
- Ottleys Creek water source
- Reedy Creek water source
- Tenterfield Creek water source
- Yetman water source

You can find links to the plan, maps and rule summary sheets on the department's website.

The resources in 'Appendix A – References and supporting documents' give more details of the plan area, its water resources and resource management.

2 Purpose of water sharing plans

Expansion of water extraction across NSW since the 20th century has seen increasing competition between water users (towns, farmers, and industries) for access to water. This has placed pressure on the health and biological diversity of our rivers and aquifers.

In December 2000, the Parliament of NSW passed the WM Act, which has the overall objective to

> 'provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations'

Water sharing plans play a major role in achieving this objective by providing a legal basis for sharing water between the environment and consumptive water users.

Water sharing plans are the primary means of carrying out the WM Act. They protect the basic rights of landholders to extract water and seek to balance the sustainable use of water for both economic and environmental outcomes.

3 Legislation, policy, and planning framework

3.1 Water Management Act 2000

The *Water Management Act 2000* (WM Act) is the guiding legislation for water management in NSW. The WM Act allows for the sustainable and integrated management of water sources. It considers ecologically sustainable development, the protection and enhancement of the environment, and social and economic benefits.

The WM Act sets a maximum initial lifespan of 10 years for water sharing plans, at which point they need to be reviewed and replaced or extended. When deciding whether to extend or replace a water sharing plan, the responsible minister must consider:

- the most recent audit of the water sharing plan conducted under section 44 of the WM Act
- a report from the Natural Resources Commission that reviews (within the previous 5 years) if the water sharing provisions have significantly helped to achieve, or have failed to achieve, environmental, social and economic outcomes, and if those provisions should change.

Under the WM Act, a water sharing plan may be extended for up to 2 years past the expiry date to allow the department to prepare a replacement plan.

You can review the NSW *Water Management Act 2000* on the NSW Legislation website.

3.2 Water sharing plans

A water sharing plan sets out locally appropriate rules and management arrangements for specific water sources that align with the principles of the WM Act.

Key elements of water sharing plans include:

- providing water for the environment by protecting a proportion of the water available for fundamental ecosystem health
- protecting the water required to meet basic landholder rights
- setting annual limits on water extractions that ensures security for water users and the environment
- giving water users a clear picture of when and how water will be available for extraction
- giving licence holders flexibility in the way they can manage their water accounts
- specifying the rules for water trading/dealings
- setting the mandatory conditions that apply to licence holders.

You can review the Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2024 on the water sharing plan pages of the department's website.

3.3 NSW and Commonwealth water policy

We are continuously evolving and improving water-related policy and decision-making processes that carry out the legislative framework to ensure effective delivery of our water resource management objectives. We develop plans in line with the principles of the WM Act and the National Water Initiative.

You can find more information on the National Water Initiative on the Australian Department of Climate Change, Energy, the Environment and Water website.

The department has also developed a position to provide for better protection for significant wetlands in unregulated water sources. This has been included in the replacement plan, which identifies significant wetlands for protection.

4 Water sharing plan review and replacement process

Under the WM Act, water sharing plans have a 10-year duration.

During the life of the plan, it will undergo an independent review at least twice, as follows:

- the **implementation of the plan** will be audited in the first 5 years of the plan under section 44 of the WM Act
- the **performance of the plan** will be reviewed in the last 5 years of the plan under section 43A of the WM Act.

The Natural Resources Commission (NRC) is the independent body that audits and reviews water sharing plans. Section 44 audits aim to identify where improvements are necessary to apply the plan rules. The section 43A review is to determine if the plan is achieving the intended environmental, social and economic outcomes.

The NRC reports the findings of the audits and reviews to the NSW Minister responsible for water, who decides whether to extend a plan for another 10 years or to replace it. If the NRC recommends replacing it, the department considers the commission's recommendations when developing the replacement plan.

More information and links to the reviews of the Border Rivers 2012 Plan are in section 5 of this document.

The then Minister for Water, Property and Housing adopted the NRC's recommendation to replace the Border Rivers 2012 Plan in June 2024. To allow time to review and replace the plan, the duration of the current plan was extended by 2 years.

You can find more information on the water sharing plan review and replacement process in the Replacement Water Sharing Plan Guide (PDF 2.2 MB).

5 The Border Rivers 2024 plan

5.1 Overview

The Border Rivers catchment (Figure 1) is in northern NSW, bound by the Queensland border to the north and west, the western slopes of the Great Dividing Range to the east, and the Gwydir catchment to the south. The Border Rivers catchment is located within both NSW and Queensland, with the NSW portion covering 24,500 km2, or just under half of the total catchment area. The terrain in the area grades from steep to undulating tablelands in the east, to rolling hills around Ashford and Texas before merging into the extensive floodplains in the west. The Border Rivers area is located within the traditional lands of the Bigambul, Githabul, Kambuwal, Gomeroi, Kwiambul, and Ngarabal Nations.

The region's population is around 32,000. Inverell, with 11,660 people, is the largest town and an important employment and services hub for outlying areas. Other key towns in the region include

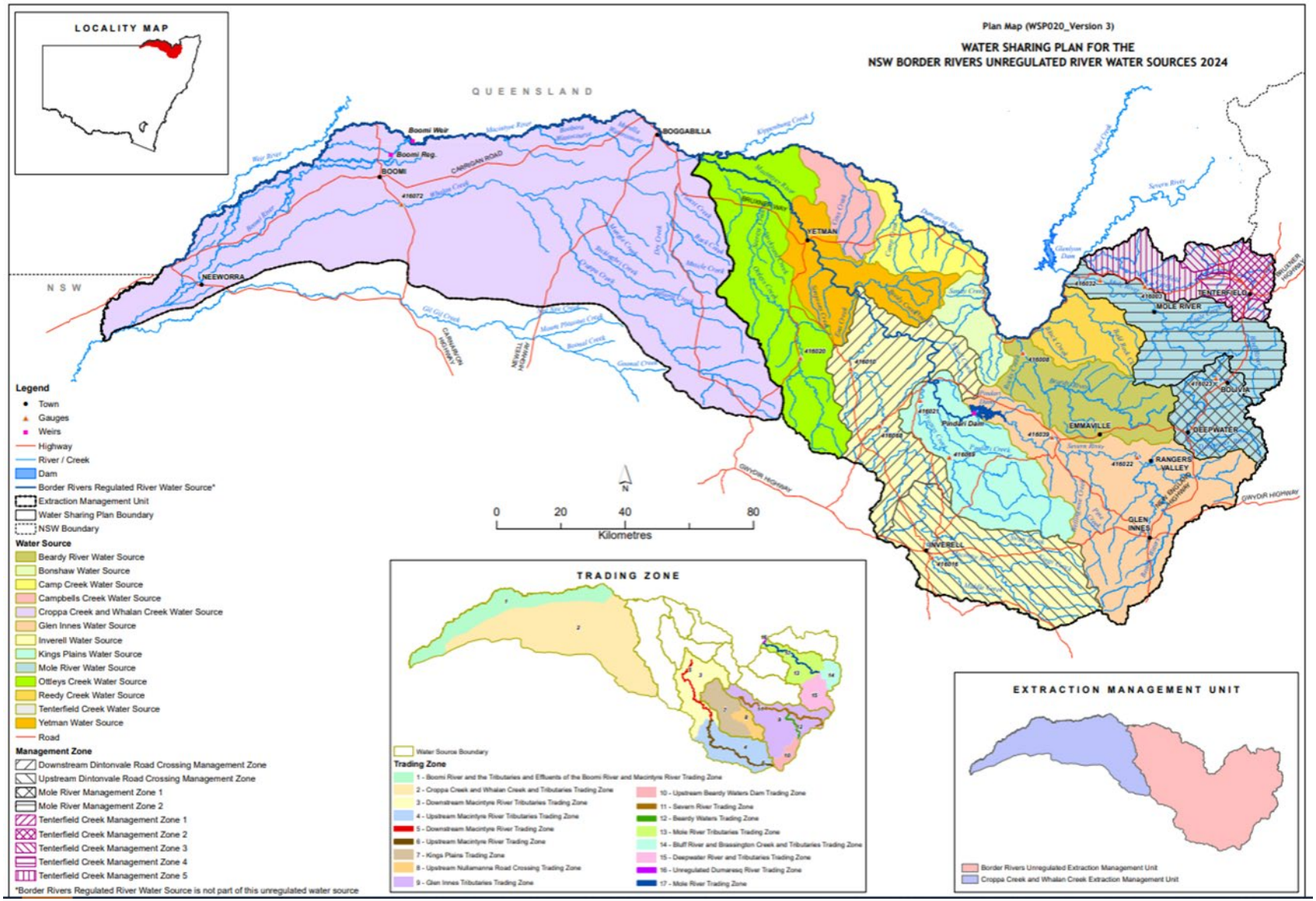
Glen Innes, Tenterfield, Boggabilla, Ashford and Mungindi. Goondiwindi and Stanthorpe are also important regional towns in the Queensland part of the Borders Rivers catchment.

The Border Rivers catchment is home to the nationally significant Morella Watercourse, Boobera Lagoon, and Pungbougal Lagoon, which are located on the Macintyre River floodplain. They are some of the few permanent waterbodies in the northern Murray-Darling Basin. The region experiences extreme river flow variability, with many years of low flows interspersed by high flow events. Agriculture and environmental water releases rely on these high flow events to underpin businesses and deliver water to important environmental assets along the river.

The Border Rivers region supports various industries, with the most significant economic contribution coming from the agricultural industry, including irrigated agriculture, grazing, food processing, broadacre and small-scale cropping. Tourism also contributes to the regional economy and is expected to continue to expand, as are enabling industries such as transport, freight and logistics. Service industries such as health and education are also growing in importance. The Inland Rail Project and upgrades to the New England and Gwydir Highways is likely to encourage further industry development and regional growth.

Flows along the mid- and lower reaches of the Severn River are regulated by releases from Pindari Dam (storage capacity: 312,000 ML). The Macintyre River also becomes regulated at the confluence of the Severn River. All other streams in the plan area are ‘unregulated’ – that is, not regulated by a state-owned dam – although flows in the Boomi River are influenced by replenishment flow releases from Pindari or Glenlyon Dam (storage capacity: 253,000 ML).

Figure 1. Plan area for the Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2024



Total licensed entitlement for the plan area is approximately 44,611.5 ML a year. This entitlement represents average annual *potential* extraction. Reliable estimates of actual water usage across the plan area will not be possible until major extraction works are metered (as required by December 2024).

In addition to licensed extraction, water is also required to meet basic landholder rights (BLR). BLR includes domestic and stock rights, harvestable rights, and native title rights. Domestic and stock rights are rights to take and use water for domestic and stock purpose without a licence. Harvestable rights allow landholders to capture and store a proportion of the rainfall runoff from their landholding in harvestable rights dams without a water access licence, water supply work approval or water use approval. Native title rights are rights to take water for the purposes of native title associated with a native title determination. To learn more about basic landholder rights visit the department's website.

Table 1 and Table 2 give details of the potential levels of extraction for BLR and licensed extraction within the Border Rivers 2024 plan area.

Table 1. Requirements for water in the Border Rivers plan - Basic landholder rights

Extraction types	Potential extraction (ML/year)
Domestic and stock	2,761
Native title	The amount of water that may be taken in the exercise of native title rights in accordance with the *Native Title Act 1993* of the Commonwealth.
Harvestable rights	On the commencement of the Border Rivers 2024 plan, the amount of water required to satisfy harvestable rights had not been estimated.

Table 2. Requirements for water in the Border Rivers plan - Licensed extraction

Licensed extraction subcategory	Potential extraction (ML/year)
Domestic and stock	1,545
Local water utility	988
Unregulated river	41
Unregulated River (Special additional high flow)	92

The extraction management units (EMUs) and water sources that are managed under the Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2024 are:

Water sources in the Border Rivers Unregulated Extraction Management Unit:

- Beardy River
- Bonshaw
- Camp Creek
- Campbells Creek
- Glen Innes (consisting of 4 trading zones)
- Inverell (consisting of 2 trading zones)
- Kings Plains (consisting of 2 trading zones)
- Mole River (consisting of 2 management zones and 5 trading zones)
- Ottleys Creek
- Reedy Creek
- Tenterfield Creek (consisting of 5 management zones)
- Yetman

Water sources in the Croppa Creek and Whalan Creek Extraction Management Unit:

- Croppa Creek and Whalan Creek

5.2 Previous plans

Water in the Border Rivers 2024 Plan was previously managed through:

- The Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2012

For more information on this plan, refer to the Border Rivers 2012 Plan Background Document.

The Border Rivers 2012 Plan was developed using the macro-planning approach and included extensive stakeholder and interagency consultation. Details of the macro-planning approach can be found in the following documents:

- Macro water sharing plans – approach for unregulated rivers (PDF 647 KB)
- Macro water sharing plans – access and trading rules for pools (PDF 621 KB)
- Macro water sharing plans – the approach for groundwater (PDF 1.67 MB).

As of 1 July 2024, the water sources of the Border Rivers 2024 Plan are now managed under the Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2024.

When access rules in a water sharing plan change, licence holders are required to comply with the existing licence conditions until they are notified of updated licence conditions by receipt of a new Statement of Conditions. For further information see the factsheet – Complying with new or changed access rules.

5.3 Developing the 2024 water sharing plan

The processes that the department have used in developing the replacement plan are an update on the previous macro–planning approach.

The development of replacement plans now follows the processes described in the Replacement Water Sharing Plan Guide (PDF 2.2 MB).

We continue to use some methods described in the macro-planning approach. This background document will describe the most recent and specific methods used to prepare the Border Rivers 2024 Plan.

The department is responsible for implementing the WM Act, including developing water sharing plans for NSW water resources. When drafting the Border Rivers 2024 plan, we considered:

- the section 44 audits of the Water sharing plan for the NSW Border Rivers Unregulated River Water Sources 2012
- recommendations from the Natural Resources Commission Review of the NSW Border Rivers Unregulated water sharing plan
- updated data, information and science
- the deliberations across government agencies including the Water group and Biodiversity, Conservation and Science group in the department, Department of Primary Industries Agriculture and Fisheries branches, Water NSW and the Natural Resources Access Regulator
- consultation with local water utilities, local government and water user representatives.

You can find the Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2024 on the department's website.

Details of the changes from the Border Rivers 2012 Plan are in section 6 of this document.

You can find information on the public exhibition of this plan below in Section 5.4 of this document.

5.4 Public exhibition and finalising the 2024 plan

The department exhibited the draft replacement Border Rivers 2024 plan between 6 November to 17 December 2023.

We held an online public webinar during public exhibition and offered one-on-one video calls with a water planner. Five stakeholders requested a video call. A copy of the presentation and a recording of the webinar were published on the department's website following the webinar.

We discussed the plan and proposed changes with stakeholders at face-to-face meetings in Goondiwindi (8 stakeholders), Tenterfield (3 stakeholders) and Inverell (7 stakeholders in attendance).

Additionally, we contacted more than three hundred licensees, who collectively hold more than 80% of entitlement and represent at least half of all entities with a water access licence or water supply works approval in the plan area. We made contact via around 380 emails, which were tailored to water sources, and engaged in an estimated 30 phone conversations.

Following feedback received via the public exhibition process, it was recognised by the department that not all landholders were water access licence holders and may not have been made aware of the water sharing plan changes. Given this, 92 letters were sent out via mail to landholders with a nominated significant wetland on their property. The purpose of this mail out was to provide information to the landholders and to allow opportunity to provide feedback regarding the new rules to protect significant wetlands.

We received 14 written submissions about the draft plan. The public exhibition process and stakeholder submissions during and post public exhibition provided us with valuable feedback that helped to inform the final recommendations for the replacement water sharing plan. Issues raised in submissions are summarised in the What we heard document.

In finalising the Border Rivers 2024 plan, the department considered submissions as well as further deliberations and input from government agencies including the Water group and Conservation Programs, Heritage and Regulation(CPHR) group from Department of Climate Change, Energy, the Environment and Water (DCCEEW), the Department of Primary Industries Agriculture and Fisheries divisions, Water NSW and the Natural Resources Access Regulator (NRAR).

Section 6 of this document details changes from the previous plan to the current plan.

6 Changes from the 2011 plan to the 2024 plan

6.1 Overview

Key drivers for the changes in the Border Rivers 2024 Plan were:

- the Natural Resources Commission's review recommendations
- contemporary water resource policy – some changes to the plan align it with current policy to help improve efficiency and consistency in achieving water resource management objectives across the state
- updated data and knowledge improvements
- consultation on the draft plan, feedback and submissions.

Changes to the plan reflect improved understanding and updated data. They aim to modernise and simplify the water sharing plan to make it easier to read while ensuring provisions are practical to implement and legally accurate.

Changes were made to:

- the general layout of the plan
- identification of planned environmental water
- the vision, objectives, strategies, and performance indicators
- description of this water source
- basic landholder right estimates and access licence share components
- prohibit in-river dams on some water sources, with an exemption for Town Water Supply (TWS)

- protection of significant wetlands
- protection of replenishment flows
- flow reference points and access rules
- total daily extraction limits
- trade provisions
- adaptive management amendment provisions.

New management zones have been introduced for the Inverell and the Mole River water sources. New trading zones have also been established in the Inverell water source to align with the new management zones. Wording has been included in the Border Rivers 2024 plan to clearly indicate these zones have been established and are recognise as part of the plan area.

For a summary of issues raised in submissions, regardless of whether they led to a change, please refer to the Outcomes of public exhibition section of the department's website and the What we heard document.

Rules Summary Sheets for each water source are available on the department's website. These detail the relevant rules that apply to each water source under the Border Rivers 2024 plan.

6.2 General Layout changes

There are several structural layout changes in the Border Rivers 2024 plan. We have moved or reworded clauses sections (formerly called clauses), but their intent is the same. Such changes reflect current template styles and provide a more standard and consistent layout across the state's water sharing plans, as well as making the water sharing plan easier to understand.

We have removed unnecessary notes, as well as moving and consolidating amendment provisions to the amendment part of the plan.

6.3 Identification of planned environmental water provisions

Planned Environmental Water (PEW) is a key component of water sharing plans. The Border Rivers 2012 had discrete sections on planned environmental water that point to other parts of the plan to identify where water is reserved for the environment. This included access rules.

Instead of having a separate section on PEW, the Border Rivers 2024 plan includes rules associated with PEW in the relevant sections. Wherever a clause or section of the plan relates to PEW, a note is included, pointing to the relevant section of the WM Act.

6.4 Vision, objectives, strategies, and performance indicators

Part 2 of the Border Rivers 2024 plan describes the vision and objectives. The plan's vision encompasses the overall aim of the plan. The vision of the plan is to provide for the:

- health and enhancement of the water sources and their water-dependent ecosystems
- continuing productive extraction of water for economic benefit
- spiritual, social, customary and economic benefits of water to Aboriginal communities
- social and cultural benefits to urban and rural communities resulting from water.

The objectives of the Border Rivers 2024 plan are to:

- protect and, where possible, enhance and restore the condition of the water sources and their water-dependent ecosystems
- maintain and where possible, improve access to water to optimise economic benefits for agriculture, water-dependent industries and local economies
- maintain and where possible, improve the spiritual, social, customary and economic values and uses of water by Aboriginal people
- provide access to water to support water-dependent social and cultural values
- to maintain and where possible improve water quality within target ranges for the water sources to support water-dependent ecosystems and social, cultural and economic values.

We will include detailed and Specific Measurable, Achievable, Realistic and Timely (SMART) objectives in the Monitoring, Evaluation and Reporting (MER) plan for the Murray 2024 plan. These will clearly link objectives, strategies and performance indicators. This addresses the NRC's recommendation to strengthen MER of the plan's outcomes.

We added a requirement for the minister to prepare a monitoring, evaluation and reporting (MER) plan. The MER plan is to be published by 30 June 2025

In each year the minister is to publicly report on the implementation of the water sharing plan, including progress against the MER plan. Additionally, evaluation reporting is to be undertaken by year nine of the water sharing plan.

The annual reporting will provide transparency on the implementation of the MER activities, while the reporting in year 9 of the plan will provide transparency on how the plan's vision, objectives, strategies and performance indicators are being met.

6.5 Updated basic landholder rights estimates and licence share components

We have updated the estimate of extraction of water under BLR contained in Part 3 of the plan.

Since the development of the first water sharing plans, which began before 2003, numerous methods have been followed to estimate water requirements for domestic and stock BLR. These methods were superseded in 2010 by a standard NSW approach to support the development of surface and groundwater macro-water sharing plans.

We adopted the same method used in the development of macro-water sharing plans for estimating the water requirements of domestic and stock BLR. This method is in Appendix 5 of the Replacement Water Sharing Plan Guide (PDF 2.2 MB).

The revised estimates may differ from those in the Border Rivers 2011 plan because of changes in land use, population density and the availability of more accurate spatial data.

The updated water access licence share components (water entitlements for each water source) are listed in Part 3 of the Border Rivers 2024 plan.

6.6 Prohibition of in-river dams

Water sharing plans contain specific rules relating to the construction and operation of in-river dams including those built for Town Water Supply (TWS).

Current policy prohibits the construction of new in-river dams on streams of 3rd order or higher in water sources identified as having high instream value or where such a prohibition is already in place in the current water sharing plan. Interagency discussions as part of plan replacements questioned the appropriateness of the current policy on in-river dams. The policy also restricts opportunities to improve TWS security.

The department has committed to work with agencies to refine the policy to better manage where in-river dams can be applied for and develop guidelines for how those applications are to be assessed. For the Border Rivers 2024 plan, in-river dams in third or higher order streams are prohibited in all water sources other than Inverell, Yetman and Kings Plains water sources.

The prohibition of in-river dams for water sources identified as having high environmental value remains but we have allowed an exemption to the rule that would apply for new in-river dams built for TWS purposes only. Permitting applications for in-river dams for TWS does not mean new dams are approved to proceed. An application for works approval is still required. Each application is assessed on its merit and may or may not be approved on this basis. These rules can be found in Part 7 Section 37 of the Border Rivers 2024 plan.

6.7 Protection of significant wetlands

In their review of the inland unregulated water sharing plans, the NRC recommended that the protection for significant wetlands be improved when plans are replaced. Significant wetlands may include internationally (Ramsar), nationally and regionally significant wetlands within the plan area. For some plans this recommendation has been broadened to include culturally significant wetlands. The department has committed to consider options to improve protection of significant wetlands during the plan replacement process. The installation of pumps and impounding structures as well as the volume of entitlement that can be taken from wetlands, pose risks to maintaining the ecological character of significant wetlands. Rules are included to manage the impacts of these activities for those wetlands identified in the plan.

Part 7 of the Border Rivers 2024 plan prohibits new or amended surface water supply works being constructed in significant wetlands unless it can be demonstrated they will cause no more than minimal harm. This rule does not apply to replacement water supply works or to wetlands identified as significant in the Border Rivers 2012 plan. For identified Ramsar listed wetlands, no new or amended works can be constructed within or 3km upstream of that wetland. This rule will not apply to replacement water supply work approvals.

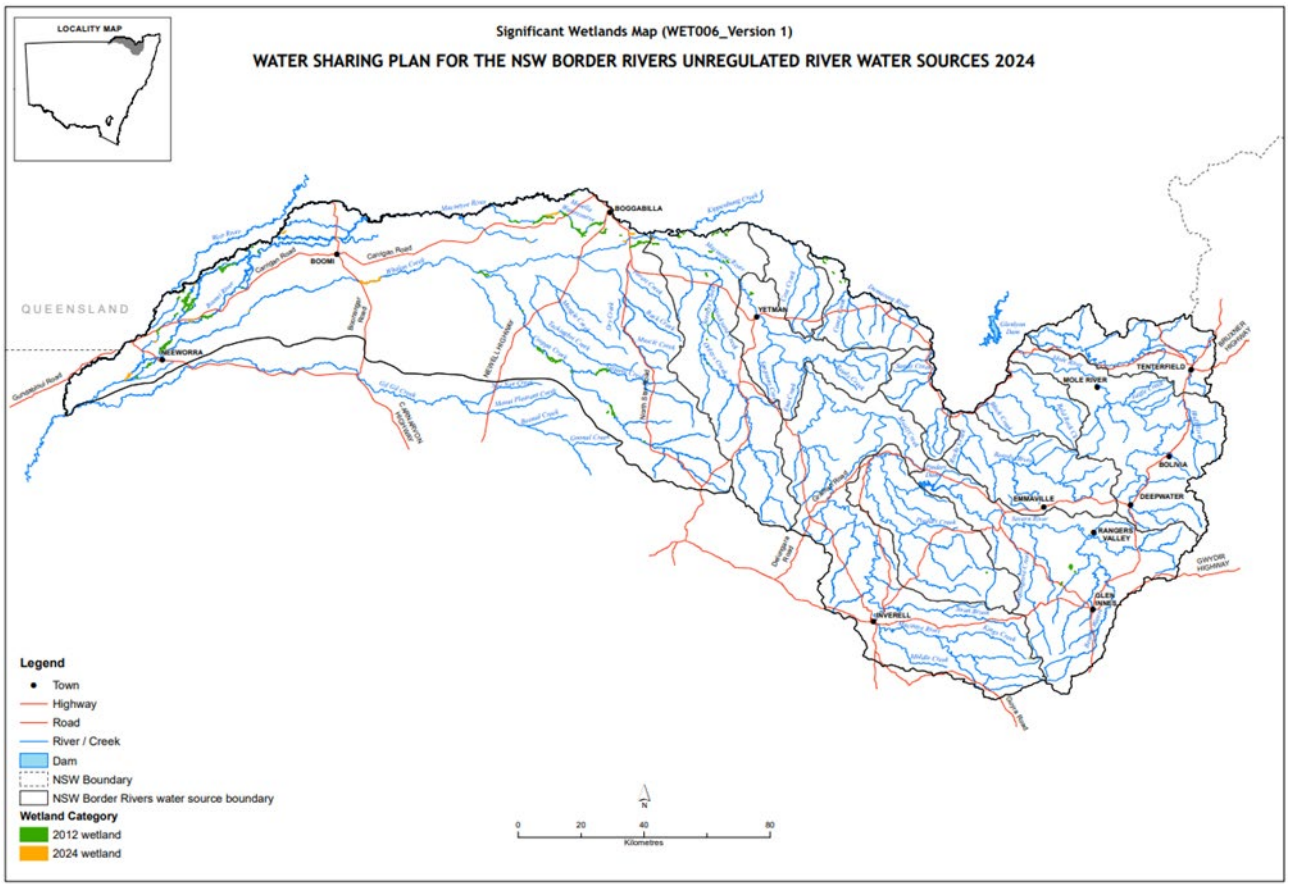
The Border Rivers 2012 plan currently identifies significant wetlands however, a new method has been applied to all plans to address the NRC recommendation. This method has identified 20 additional bodies of water as significant wetlands in the Border Rivers 2024 plan and has led to boundary extensions for some existing wetlands in the Border Rivers 2012 plan. Significant wetlands in the Border Rivers 2012 plan were referenced by a Lot and Deposited Plan (DP) in a Schedule. The Border Rivers 2024 plan now identifies these existing wetlands and the new 2024 wetlands by a

significant wetlands map produced by the department (Figure 2) which is also available on the department's website.

As the existing 2012 wetlands were not previously mapped, part of the mapping process undertaken by the Surface Water Science team involved determining the wetland boundaries. For some existing wetlands, the extent of this boundary has changed on the map compared to the Lot and DP referenced in the Schedule. This is because these wetlands have been dually identified as both new and existing and the method applied to identify the 2024 wetlands has extended the boundary beyond that referenced in the Border Rivers 2012 plan.

Part 8 of the Border Rivers 2024 plan includes restrictions to trades into and between these significant wetlands to minimise the impacts of new extraction on these significant areas. Trade within these wetlands between existing licences/works will be permitted subject to assessment. This is consistent with current rules in the Border Rivers and Gwydir unregulated valleys to protect significant wetlands.

Figure 2. Significant Wetlands Map for the Border Rivers 2024 plan area



6.8 Protection of Replenishment Flows

The NSW-Qld Border Rivers Intergovernmental Agreement 2008 includes provisions that require 10,000 ML per year of replenishment flows to be sent down the Boomi River from the Pindari and/or Glenlyon water storages for BLR use. The Water Sharing Plan for the NSW Border Rivers Regulated River Water Source 2021 includes a clause in which provides for this 10,000 ML/year but does not protect these flows from unregulated licenced extraction once they have entered the Boomi River. The Border Rivers 2024 plan includes provisions that prohibit licensed take of these replenishment flows as notified by the operator (WaterNSW).

These new provisions address NRC recommendations ensure replenishment flows cannot be extracted for any purposes other than domestic and stock basic landholder rights.

6.9 Updated flow reference points and access rules

Based on a review of access rules, there have been several changes to the Inverell Water Source (refer to Table 3 below), the Mole River Water Source (refer to Table 4 below) and the Glen Innes Water Source. The access rules are in Part 6 of the Border Rivers 2024 plan.

Changes to access rules in the Inverell Water Source

The access rule in the Border Rivers 2012 plan requires licence holders to cease pumping when there is no visible flow at the pump site for the Inverell Water Source. The draft replacement Border Rivers 2024 plan proposed to change this access rule from NVF at pump site to 1 ML/day at the Macintyre at Wallangra gauge site.

During public exhibition, a number of submissions did not support setting an access rule at the Macintyre at Wallangra gauge. Furthermore, of the 7 stakeholders that attended the Inverell public information session, none were in support of utilising the Macintyre at Wallangra gauge to manage access. It was suggested a gauge located further upstream would be more appropriate, but not for the downstream section of the water source given the very long flow travel times and losses to groundwater in the downstream reaches.

To address issues raised during public exhibition, the access rule has been changed to the Macintyre at Inverell gauge site and the Inverell water source has been subdivided into upstream and downstream management zones. Access rules for the Inverell Water Source are in Table 3.

Table 3. Access rules for Management Zones of the Inverell Water Source in the Border Rivers 2024 plan.

Management zone	Border Rivers 2012 plan access rule	Border Rivers 2024 plan access rule	Decision drivers
Upstream Dintonvale Road Crossing	No management zones established. Take is not permitted when there is no visible flow at the pump site for the Inverell water source	Take of water is not permitted when flows are 1 ML/day or less at the Macintyre at Inverell gauge (416016)	• Addresses NRC recommendation to apply gauge-based access rules and improve compliance • Improves protection to low and base flows that may be at high risk • High in stream stress • Improves protection to BLR

Management zone	Border Rivers 2012 plan access rule	Border Rivers 2024 plan access rule	Decision drivers
Downstream Dintonvale Road Crossing	No management zones established. Take is not permitted when there is no visible flow at the pump site for the Inverell water source	Take is not permitted when there is no visible flow at the pump site	• Downstream regions of water source are losing streams • Majority of entitlement is managed by 1912 *Water Act* conditions that are more stringent than the no visible flow rule • Risk rating is uncertain due to error in assessment

The rule to introduce a gauge-based access rule of 1ML/day at the Macintyre at Inverell site, as opposed to applying a NVF at the pump site, may increase the frequency and duration of CTP events for water users. Higher CTP thresholds, such as 2 ML/day or more, may provide greater environmental benefits but markedly increase CTP frequency and duration, given the long travel time for flows to reach downstream and the highly intermittent nature of this water source. The CTP threshold of 1ML/day at the Macintyre at Inverell gauge is therefore intended to provide a balance between environmental and water user requirements.

This rule was adopted response to address the high risk identified to low flows for this water source in the risk assessment. Risk ratings are based on several variables including the consequence rating and environmental value, however the risk assessment for the NSW Border Rivers Surface Water Resource Plan has indicated the Inverell Water Source to be of high environmental value is in error. The correct environmental value rating is medium, and it is therefore possible the risk is incorrectly rated as high.

Changes to access rules in the Glen Innes water source

High ecological values occur within the Glen Innes Water Source, including known populations of endangered and threatened water dependant species. Ecological studies illustrate that maintaining very low flows and avoiding cease to flow periods are important for maintaining instream biodiversity. There are also socio-economic benefits in retaining stream flows for basic landholder rights and town water supply.

The Border Rivers 2024 plan changes the no visible flow at pump site rule to a flow-based rule, using the Severn River at Fladbury gauge (416022) as the flow reference point. The access rule prohibits take when flows are less than or equal to 1 ML/day.

A cease to pump rule set at 1 ML/day will ensure continuation of water users' access, improve enforcement and compliance and meet basic environmental requirements.

The rule addresses the NRC's recommendations to improve protection for low flows in high risk water sources and improve compliance in the water sharing plan area.

Changes to access rules in the Mole River water source

The access rule in the Border Rivers 2012 plan requires licence holders in the Mole River Water Source to cease pumping when there is no visible flow at the pump site.

High ecological values occur within the Mole River Water Source, including known populations of endangered and threatened species. Ecological studies illustrate that maintaining very low flows and avoiding cease to flow periods are important for maintaining instream biodiversity. There are also socio-economic benefits in retaining stream flows for basic landholder rights and town water supply.

The Border Rivers 2012 plan default access rule of CTP when there is no visible flow can be subjective and therefore challenging for both water users and for compliance. Gauge based access rules removes such subjectivity. The data can be found online quickly and conveniently so that water users know if CTP is in place. Gauge-based data also improves compliance by providing a digital record of access status.

There is one reliable and accurate stream flow gauge in the water source located along the Deepwater River in the upstream section of the catchment. Flows from this gauge can take approximately 4 days to reach the downstream section of Mole River and as such this gauge is not suitable to introduce flow-based access rules for the whole water source.

Given the existence of a reliable and accurate stream flow gauge suitable for setting access rules, the presence of very high instream values and town water supply requirements, the use of gauge-based access rules that enable protection of very low flows is warranted.

As there is only one suitable gauge in the water source located in the upstream section, the draft Border Rivers 2024 plan placed on exhibition proposed to subdivide the water source into 2 management zones and apply an access rule managed at a gauge in Management Zone 1 and a NVF at pump site rule that includes a 24 hour first flush in Management Zone 2.

Feedback received during public exhibition indicated the 24 hour first flush rule would not be very effective in providing benefit to the environment when the majority of the water protected would become available to those with pools.

Following further analysis of the proposed 24 hour first flush rule, the Interagency Regional Working Group (IRWG) agreed the rule is not likely to achieve the intended environmental outcomes of protecting low and base flows that are at high risk. The IRWG supported the removal of the rule given the lack of suitable gauging but negotiated the inclusion of an amendment provision. This amendment provision allows for an access rule of up to 1ML/day be implemented for Mole River Management Zone 2 at a gauge site, if a suitable mechanism were to become available by year 5 of the plan.

The access rules for the Mole River Water Source in the Border Rivers 2024 plan are shown in Table 4.

Table 4. Access rules for Management Zones of the Mole River Water Source in the Border Rivers 2024 plan

Management zone	Border Rivers 2012 plan access rule	Border Rivers 2024 plan access rule	Decision drivers
Mole River Management Zone 1	No management zones established No visible flow at pump site for entire water source	1 ML/day Cease to pump at Deepwater at Bolivia (416023)	• Improves protection to low and base flows at high risk • High environmental value • High instream stress • Addresses NRC recommendation to apply gauge-based access rules and improve compliance • Improves protection to BLR
Mole River Management Zone 2	No management zones established No visible flow at pump site for entire water source	No visible flow at pump site	• Upstream gauge not suitable to manage access for entire water source • No suitable gauge available to manage access downstream

A cease to pump rule set at 1 ML/day at the Deepwater River at Bolivia gauge will ensure continuation of water users' access, improve enforcement and compliance and meet basic environmental needs for Mole River Management Zone 1. The rule also addresses NRC recommendations to improve connectivity in the water source by improving protection to low and base flows.

6.10 Trade provisions

Trading is an important tool for making both environmental and economic improvements. If trading rules are too restrictive it limits the ability to move take of water out of high environmental value areas to lower environmental value areas, provides no flexibility for water users and hinders the establishment of a water market. Where water sources have medium to low environmental value and are not flow stressed trade should be permitted.

Trading between water sources was not permitted in the Border Rivers 2012 plan.

In the Border Rivers 2024 plan limited trade into the following water sources (Table 5) is permitted with low-medium instream value and low-medium hydrological stress. There has previously been no trade within these water sources in the past 10 years. Permitting limited trade into these water sources may benefit access licence holders by increasing opportunity and flexibility and potentially reducing hydrologic stress in other water sources.

Table 5 outlines changes to trade rules between water sources of the Border Rivers 2024 plan and Table 6 outlines the changes to trade rules between trading zones within the Inverell Water Source.

Table 5. Trade between water source of the NSW Border Rivers Unregulated River plan

Water source	Border Rivers 2012 plan	Border Rivers 2024 plan
Bonshaw	No trade in permitted	Trade in permitted from Camp Creek, Campbells Creek, Beardy River, Mole River, Tenterfield or Reedy Creek to a limit of 10ML/year
Camp Creek	No trade in permitted	Trade in permitted from Bonshaw, Campbells Creek, Beardy River, Mole River, Tenterfield or Reedy Creek to a limit of 65ML/year
Campbells Creek	No trade in permitted	Trade in permitted from Bonshaw, Camp Creek, Beardy River, Mole River, Tenterfield or Reedy Creek to a limit of 65ML/year
Ottleys Creek	No trade in permitted	Trade in permitted from Glen Innes, Inverell, Kings Plains or Yetman water sources to a limit of 670ML/year
Reedy Creek	No trade in permitted	Beardy River, Bonshaw, Camp Creek, Campbells Creek, Mole River or the Tenterfield water sources to a limit of 15ML/year
Yetman	No trade in permitted	Trade in permitted from Glen Innes, Inverell, Kings Plains or Ottleys Creek water sources to a limit of 19ML/year

The Border Rivers 2024 plan establishes management zones and new trading zones for the Inverell Water Source. Changes have been made to dealing rules between trading zones of this water source in the Border Rivers 2024 plan (Table 6) to align with these new zones.

These changes do not alter the intent of trade rules between trading zones of the Inverell Water Source in the Border Rivers 2012 plan. The current rule restricts trade into the Macintyre River tributaries trading zone from the Macintyre River trading zone. The Border Rivers 2024 plan retains the intent of this rule by allowing trade into the Macintyre River trading zones from the Macintyre River tributaries trading zones yet restricts trade between the upstream and downstream management zones.

Table 6. Trade between trading zones in the Inverell Water Source in the Border Rivers 2024 plan

Trading zone	Border Rivers 2024 plan
Upstream Macintyre River	Trade in from Upstream Macintyre River tributaries only
Upstream Macintyre River tributaries	Not permitted
Downstream Macintyre River	Trade in from Downstream Macintyre River tributaries only
Downstream Macintyre River tributaries	Not permitted

6.11 Adaptive management and amendment provisions

Adaptive management means changing things in response to new information. During the life of a water sharing plan, this information may come from data collection and monitoring or from some other improvement in understanding. Such information could include socio-economic studies, hydrological modelling, ecological studies and information about Aboriginal cultural sites.

Adaptive management is a requirement of both the WM Act and the National Water Initiative. The WM Act allows for changes to a water sharing plan during its life if it is in the public interest. The plan also allows for amendments during its life. We will consult the public before making any future changes that could affect water users or the environment's access to water. Part 10 of the plan includes updated amendment provisions.

Examples of adaptive environmental water provisions in the Border Rivers 2024 plan include the ability to amend:

- access and trade rules in the water sharing plan if we find that increased capture of rainfall run-off in harvestable rights dams is above the current 30% harvestable rights limit –any such review would consider the effect the increased harvestable rights capture has on river flows
- LTAAELs to base them on a proportion of flow if more information becomes available
- the plan if we find climate change is affecting water quantity or quality.

Australia has a highly variable climate, and rainfall is especially variable. This makes it vital that we understand as much as we can about our climate so we can work out how we manage our water supplies. The frequency and duration of wet and dry events determines how much water we have available.

NSW is already experiencing trends of higher average temperatures and reduced cool season rainfall. There are indications from climate models that drought conditions may become more frequent and severe, and last longer.

Higher demand from a growing population, alongside reductions in supply, will increase water scarcity, putting more pressure on all users, including the environment (Productivity Commission, National Water Reform Issues Paper, May 2020, p.2). We must collectively improve our

understanding of these risks to better manage water supply and ensure that our operational, planning and future development decisions take future water reliability and security into account.

7 Monitoring, evaluation and reporting

Monitoring, evaluation and reporting(MER) are key components to adaptive management. They ensure that water sharing plans are effective in meeting their objectives.

Comprehensive MER programs are resource-intensive and long term. We must prioritise areas where there is a high risk of water extraction affecting environmental assets or where the demand for water is greater than the volume of water available.

The department is working on a project that will prioritise water sources for MER activities, based on risk in areas that have high levels of extraction, ecological value, or stakeholder needs.

The MER plan will be a framework specifically designed for the water sharing plan. It will follow established guidelines and include both freshwater and estuarine ecosystems. The MER plan will be published by 30 June 2025 and under new provisions in the plan, each year the minister will publicly report on the implementation of the water sharing plan, including progress against the MER plan. The department will also conduct evaluation reporting by year nine of the water sharing plan's term.

8 Areas for further work

8.1 Metering and record keeping

The NSW Government's non-urban water metering framework, initiated in December 2018, aims to ensure the fair and equitable sharing of water among users, enhancing transparency and efficiency in water management across the state. The framework's implementation was staged to allow water users, suppliers, and installers sufficient time to achieve compliance. The NSW Government has recently completed a review of the non-urban metering rules and has updated the *Water Management (General) Regulation 2018* to make compliance quicker, easier and more cost effective.

The new metering rules require water users to assess their compliance requirements using their total entitlement and work size. Large water users must comply with the highest metering standards whilst smaller water users now have less prescriptive metering requirements. There are also measurement/metering obligations for water users that take overland flow that are aligned with the floodplain harvesting measurement requirements.

Water users are encouraged to consult the department's non-urban metering website for detailed information and updates. To verify individual access licence details, please refer to the WaterNSW Water Register.

Water use information obtained through the water metering program may provide a useful indicator of actual water usage. Water sharing plans have to date been largely developed using licenced entitlement because estimates of actual water usage have until now been unreliable. Future water sharing plans will be able to incorporate actual water usage when assessing risks and developing rules.

8.2 Long-term average annual extraction limit

In NSW all water sharing plans include long-term average annual extraction limits (LTAAELs). These limits are designed to protect water resources, dependent ecosystems, and communities from the impacts of over-extraction in the longer term.

Assessment of LTAAEL compliance for inland unregulated water sources will use metering data once 3-5 years of metering data is available. Prior to then, the department will use remote sensing to undertake a risk assessment to determine if there is a risk of extraction being exceeded in unregulated water sources. When the non-urban metering requirements are implemented, metering data will cover up to 90% of water take across NSW. The department will develop a method to fill the remaining gaps in metering data for LTAAEL compliance purposes.

Additionally, we added a requirement for the minister to review the numerical LTAAEL, including seeking the advice of the NRC. The review requirements will help ensure that the LTAAEL reflects a sustainable level of take.

We also added a requirement for the minister to consider the "minimum inflow" review and enabled amendments to be made to the plan based on that review. The requirement to consider the "minimum inflow" review will ensure that the findings of the review can be used to inform the rules in this plan.

8.3 Cultural flows and improving the involvement of First Nations People in water management

The department will work toward priorities in the State Water Strategy. Priority 2 of the State Water Strategy is to Recognise First Nations/Aboriginal People's rights and values and increase access to and ownership of water for cultural and economic purposes.

The NSW Government recognises First Nations/Aboriginal People's rights to water and our aim is to secure a future where water for First Nations/Aboriginal People is embedded within the water planning and management regime in NSW, delivering cultural, spiritual, social, environmental and economic benefit to communities.

Actions under the State Water Strategy include:

- strengthening the role of First Nations/Aboriginal People in water planning and management
- developing a state-wide Aboriginal water strategy
- providing for Aboriginal ownership of and access to water for cultural and economic purposes
- working with First Nations/Aboriginal People to improve shared water knowledge
- working with First Nations/Aboriginal People to maintain and preserve water-related cultural sites and landscapes.

The department is committed to providing greater opportunities for Aboriginal water management and participation in water sharing. A new Aboriginal water directorate has been established within the department and work is progressing on an Aboriginal Water Strategy which will identify the ways in which we can achieve the priorities under the State Water Strategy. The department is also in the process of establishing Regional Aboriginal Water Advisory Committees in each of the NSW water regions and piloting some cultural watering plans in various parts of NSW.

8.4 Stormwater harvesting

The department is developing a stormwater harvesting policy to determine the best way to manage stormwater extraction to maximise the benefits of re-using stormwater and reducing erosion of water ways while ensuring adequate water is available for the environment and water users who rely on it.

8.5 Climate change

Australia has a highly variable climate, and rainfall is especially variable. This makes it vital that we understand as much as we can about our climate so we can work out how we should manage our water supplies. The frequency and duration of wet and dry events determines how much water we have available.

NSW is already experiencing trends of higher average temperatures and reduced cool season rainfall. There are indications from climate models that drought conditions may become more frequent and severe, and last longer.

Higher demand from a growing population, alongside reductions in supply, will increase water scarcity, putting more pressure on all users, including the environment (Productivity Commission, National Water Reform Issues Paper, May 2020, p.2). We must collectively improve our understanding of these risks to better manage water supply and ensure that our operational, planning and future development decisions take future water reliability and security into account.

The department has developed river models that incorporate stochastic long-term data to help guide regional water strategies. We can use these models to inform water sharing decisions as they are developed across the state. For example, as we develop the sustainable LTAAELs, we will consider the future effects of climate change.

Priority 4 of the NSW Water Strategy is to increase resilience to changes in water availability (variability and climate change). The 2021/22 action plan looks to improve and apply our understanding of climate variability and change. This includes work to determine a methodology and progressively incorporate climate risk data into water sharing plan and environmental water management decision making.

Additionally, the department will consider the outcomes of a current work program informing maintenance of water supply in inland regulated river systems. This is a key piece of work in relation to climate considerations within plans.

Appendix A – References and supporting documents

- NSW Border Rivers Water Sharing Plan Public Exhibition page contains the "what we heard" document and published submissions
- NSW Legislation website contains NSW legislation, including the WM Act
- National Water Initiative
- Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2024
- The background document and rule summary sheets for the Border Rivers 2024 Plan
- Border Rivers 2024 plan map and significant wetlands map
- Details of the macro-planning approach:
    - Macro water sharing plans – approach for unregulated rivers (PDF 647 KB)
    - Macro water sharing plans – access and trading rules for pools (PDF 621 KB)
    - Macro water sharing plans – the approach for groundwater (PDF 1.67 MB).
- The Natural Resources Commission's Review of the NSW Border Rivers water sharing plan