Department of Climate Change, Energy, the Environment and Water

Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2024

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 Lower Murray-Darling Unregulated River Water Source 2024

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Glossary and abbreviations

Term	Definition
AWD	Available water determination
BLR	Basic landholder right
CTP	Cease to pump
Lower Murray-Darling 2011 plan	Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2011
Lower Murray-Darling 2024 plan	Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2024
DCCEEW	Department of Climate Change, Energy, the Environment and Water
LTAAEL	Long-term average annual extraction limit. The long-term average annual volume of water in a water sharing plan area or an extraction management unit available to be lawfully extracted or otherwise taken under access licences and basic landholder rights.
MER	Monitoring, evaluation and reporting
NRC	(NSW) 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.
TDEL	Total daily extraction limit
Third or higher order stream	'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.
TWS	Town Water Supply
WM Act	*Water Management Act 2000*
Plan	Water sharing plan. A generalised term used for any water sharing plan and not specific to a particular plan.

1 Introduction

Water sharing plans (plans) were developed for rivers and groundwater systems across New South Wales (NSW) 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 department of 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 implement them. 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 Lower Murray-Darling area was previously managed through the Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2011 (Lower Murray-Darling 2011 plan).

This plan expired on 30 June 2024 and was replaced by the Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2024 (the Lower Murray-Darling 2024 plan).

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 Lower Murray-Darling 2024 plan.

The Lower Murray-Darling 2024 plan covers one water source. It excludes Menindee Lakes, the Lower Darling River channel and other regulated water bodies that are part of the Water Sharing Plan for the New South Wales Murray and Lower Darling Regulated Rivers Water Sources 2016.

You can find links to the plan, maps and rule summary sheets on the Lower Murray-Darling 2024 plan page 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 beginning of 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 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 (NRC) that reviews (within the previous 5 years) whether 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 Lower Murray-Darling Unregulated River Water Source 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, together with wetlands identified 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 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 Lower Murray-Darling 2011 plan are in section 5 of this document.

The then Minister for Water, Property and Housing adopted the NRC's recommendation to replace the Lower Murray-Darling 2011 plan. To allow time to review and replace the plan, it 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).

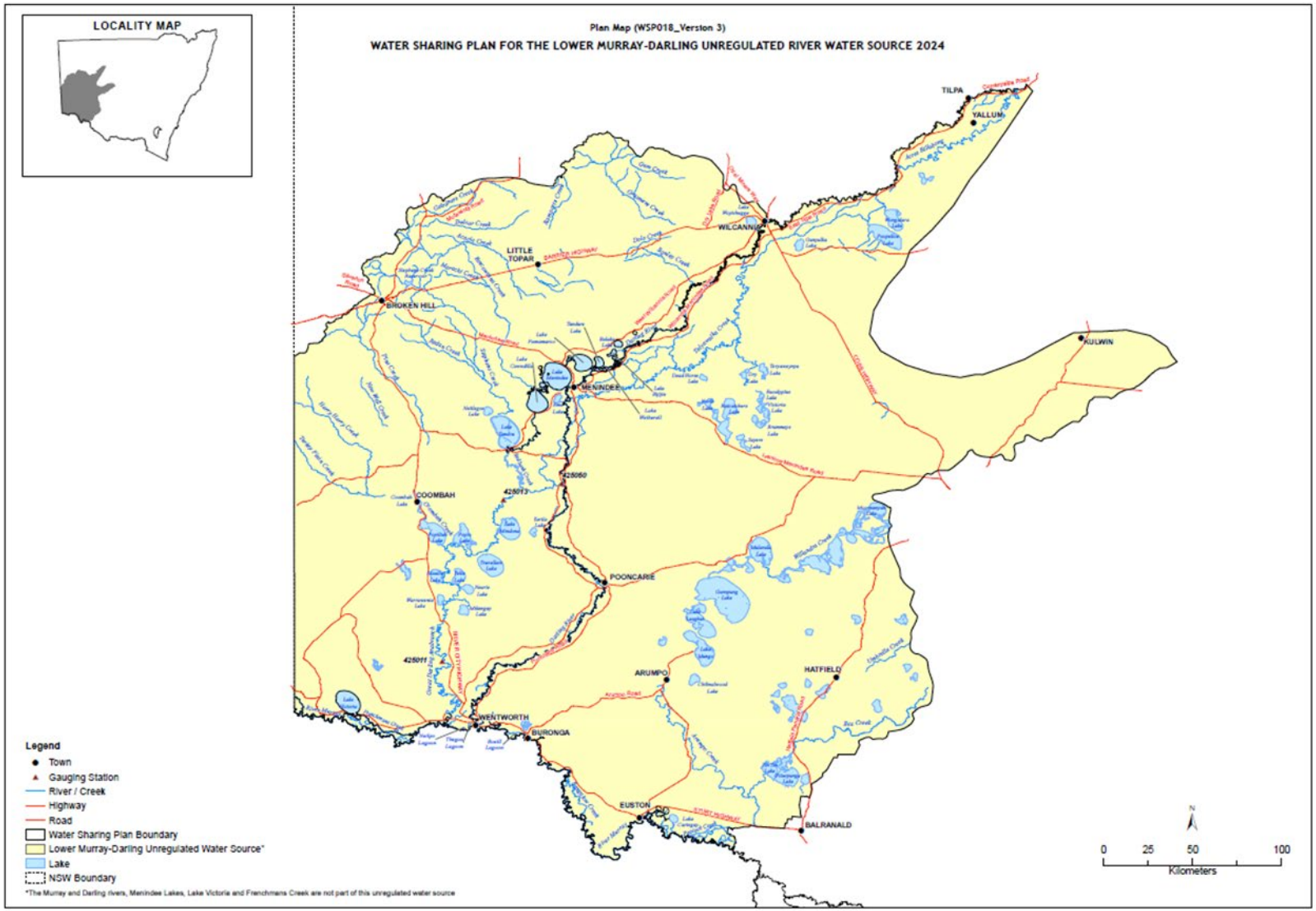
5 The Lower Murray-Darling 2024 plan

5.1 Overview

The Lower Murray-Darling 2024 plan covers 100,053 km^2 in the far west of NSW and comprises one-eighth of the total area of NSW. The plan defines a single water source located north of the River Murray, from its confluence with the Murrumbidgee River at Boundary Bend, downstream to the South Australian border. North and east, the water source extends to the vicinities of Broken Hill, Wilcannia and Tilpa.

The Lower Murray-Darling plan area (Figure 1) excludes the channels of the unregulated Barwon-Darling River and the regulated Lower Darling River. The plan area surrounds but does not include some significant water bodies that are part of the Lower Darling regulated river water source, such as Menindee Lakes, or the NSW Murray regulated river water source, such as Lake Victoria.

Figure 1. Plan area for the Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2024



The plan has 20 water access licences, held by 17 licence holders. Most entitlement (6300 ML or 65% of the total) is a single licence for the supply of town water to Broken Hill. In recent years, locally sourced unregulated water has been an important complement to regulated river water delivered via pipelines from Wentworth (operational since early 2019) or Menindee (built in the 1950s and now de-commissioned). For many decades, local water stored in Stephens Creek Reservoir, completed in 1891, was the principal source of water for Broken Hill, and this reservoir is still important to the city.

Three-quarters of water access licences are on lagoons near the River Murray. Of these, Thegoa Lagoon, near Wentworth, is the most significant. There are four licences on ephemeral creeks. The largest of these licences is on Yancowinna Creek, east of Broken Hill.

The dominant land use is grazing which is typically supported by groundwater or water supplied by regulated rivers and therefore does not rely on water managed by the Lower Murray-Darling plan. There is also a relatively small amount of intermittent cropping.

The requirement for water under Basic Landholder Rights (BLR) has declined since commencement of the Lower Murray-Darling 2011 plan. Domestic and stock BLR requirements is now estimated to be 460 ML/year. Population is declining in the Lower Murray-Darling plan area.

BLR also includes harvestable rights, which in the Lower Murray-Darling plan area allow landholders to capture and store 100% rainfall runoff (with limited exceptions) from their landholding in harvestable rights dams without a water access licence, water supply work approval or water use approval. To learn more about harvestable rights visit the department's website.

Table 1 and Table 2 give details of the potential levels of extraction BLR and licensed extraction within the Lower Murray-Darling 2024 plan area.

Table 1. Requirements for water in the Lower Murray-Darling 2024 plan – Basic landholder rights

Extraction type	Potential extraction (ML/year)
Domestic and stock	460
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 Lower Murray-Darling 2024 plan, the amount of water required to satisfy harvestable rights had not been estimated.

Table 2. Requirements for water in the Lower Murray-Darling 2024 plan – Licensed extraction

Licensed extraction subcategory	Potential extraction (ML/year)
Domestic and stock	42.5
Local water utility	6,300
Unregulated river	3,387

5.2 Previous plans

The Lower Murray-Darling 2011 plan commenced on 30 January 2012. The plan included rules for both surface water and alluvial groundwater. To meet requirements under the Basin Plan 2012, alluvial groundwater sources were separated from the Lower Murray-Darling 2011 plan in 2020 and incorporated into the Darling Alluvial water sharing plan.

For more information on this plan, refer to the Lower Murray-Darling 2011 plan background document

The Lower Murray-Darling 2011 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 unregulated water source of the Lower Murray-Darling area is now managed under the Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 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 has 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 Lower Murray-Darling 2024 plan.

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

- the section 44 audits of the Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Sources 2011
- recommendations from the Natural Resources Commission Review of the Intersecting Streams and Lower Murray-Darling unregulated water sharing plans (PDF 2.99 MB)
- updated data, information and science
- the deliberations across government agencies including the Water group and Biodiversity, Conservation and Science group within the Department of Climate Change, Energy, the Environment and Water, 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 Lower Murray-Darling Unregulated River Water Source 2024 on the department's website.

Details of the changes from the Lower Murray-Darling 2011 plan are in section 6 of this document.

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

5.4 Public exhibition and finalising the 2024 plan

The department exhibited the draft replacement Lower Murray-Darling 2024 plan from 3 October to 11 November 2023.

We held an online webinar on 17 October 2023 and a face-to-face session in Dareton on 24 October 2023 (4 stakeholders attended). A copy of the presentation and a recording of the webinar were published on the department's website following the webinar.

During the public exhibition period, there were 1652 views by 833 unique people on the plan's public exhibition website. Letters were sent to all holders of a water access licence or water supply works approval under the plan.

We had phone discussions with 20 local stakeholders and other members of the public. We received 5 written submissions about the draft plan. The public exhibition process and stakeholder submissions provided us with valuable feedback that helped to inform the final recommendations for the replacement plan. Issues raised in submissions are summarised in the What we heard document (PDF 508 KB).

In finalising the replacement 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 group from Department of Climate Change, Energy, the Environment and Water, the Department of Primary Industries' Agriculture and Fisheries divisions, Water NSW and the Natural Resources Access Regulator.

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 Lower Murray-Darling 2024 plan were:

- the NRC'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 provisions
- the vision, objectives, strategies, and performance indicators
- estimates of requirements for water for basic land holder rights and access licence share components
- protection of significant wetlands
- inclusion of a new map to identify significant wetland locations in the plan area
- adaptive management and amendment provisions.

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.

A Rules Summary Sheet for the water source is available on the department's website. This details the rules that apply to the single water source of the Lower Murray-Darling 2024 plan.

6.2 General layout changes

There are several structural layout changes in the Lower Murray-Darling 2024 plan. We have moved or reworded 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.

For example, 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 Lower Murray-Darling 2011 plan had discrete sections on planned environmental water that pointed 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 Lower Murray-Darling 2024 plan includes rules associated with PEW in the relevant divisions. Wherever a 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 Lower Murray-Darling 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 source and its 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 Lower Murray-Darling 2024 plan are to:

- protect and, where possible, enhance and restore the condition of the water source and its 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.

We have included more detailed and SMART (Specific Measurable, Achievable, Realistic and Timely) objectives in the Monitoring, Evaluation and Reporting (MER) plan for the Lower Murray-Darling 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 MER plan. The MER plan is to be published by 30 June 2025.

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 Lower Murray-Darling 2011 plan due to changes in land use, population density and the availability of more accurate spatial data.

The updated water access licence share components (water entitlements for the water source) are listed in Part 3 of the Lower Murray-Darling 2024 plan.

6.6 Changes to access rules

Based on a review of access rules, there have been no material changes to access rules in the Lower Murray-Darling water source.

For natural in-river and off-river pools, the definition of full is changed from "full containment volume" to "full capacity" (see dictionary).

6.7 Protection of significant wetlands

The NRC in its review of inland unregulated water sharing plans recommended improved protection of significant wetlands. 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 considered options to improve the protection of significant wetlands during the plan replacement process.

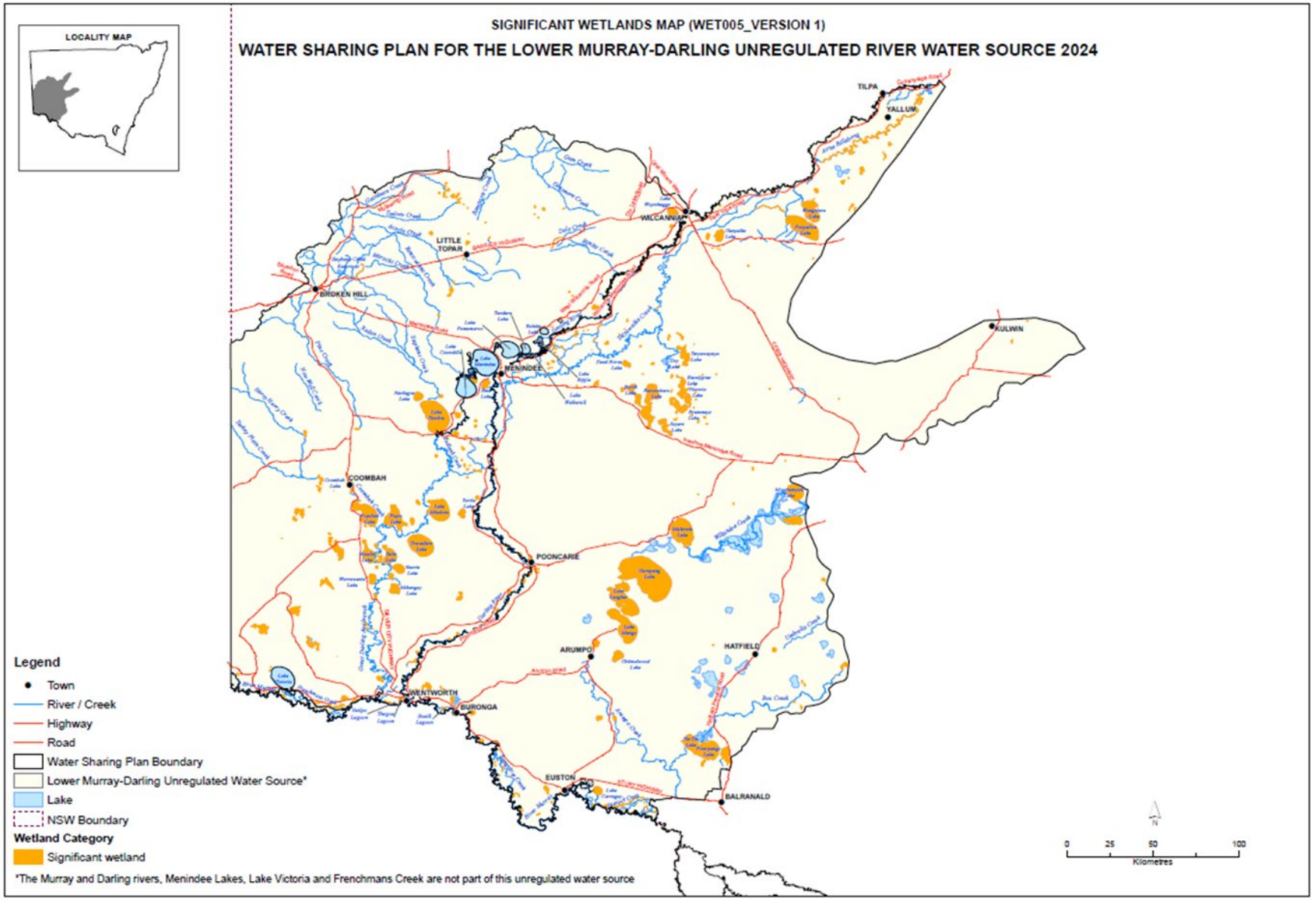
The installation of pumps and impounding structures, as well as the volume of entitlement that can be taken from wetlands, poses risks to maintaining the ecological character of significant wetlands. Rules are included to manage the impacts of these activities for those wetlands identified in the plan.

Part 7 of the Lower Murray-Darling 2024 plan prohibits new or amended surface water supply works being constructed in significant wetlands unless it can be demonstrated that they will cause no more than minimal harm. For Ramsar-listed wetlands, no new or amended works can be constructed within 3 km upstream of, or within, that wetland. These rules do not apply to replacement water

supply work approvals. Significant wetlands in the Lower Murray-Darling 2024 plan are identified by a significant wetlands map produced by the department (Figure 2), which is also available on the department's website.

Part 8 of the Lower Murray-Darling 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 is permitted, subject to assessment. This is consistent with current rules in other unregulated valleys.

Figure 2. Significant wetlands map for the Lower Murray-Darling 2024 plan



6.8 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 as described in part 10 of the plan.

Examples of adaptive environmental water provisions in the new plan include the ability to amend:

- Long-Term Average Annual Extraction Limit (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.

7 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 relatively high compared to the volume of water available.

The department is working on a project to 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 is a framework specifically designed for the water sharing plan and will follow established guidelines. The MER plan will be published by 30 June 2025. 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 of 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. 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 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.

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

The department will work toward the priorities in the NSW Water Strategy. Priority 2 of the NSW 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 has established Regional Aboriginal Water Advisory Committees in each of the NSW water regions and piloted 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.

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

- Lower Murray-Darling 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 Lower Murray-Darling Unregulated River Water Source 2024
- The rule summary sheet for the Lower Murray-Darling 2024 plan
- Lower Murray-Darling 2024 plan map and significant wetlands map
- Details of the macro planning approach:
  - Macro water sharing plans - approach for unregulated rivers (PDF 829KB)
  - Macro water sharing plans – access and trading rules for pools (PDF 627 KB)
  - Macro water sharing plans - the approach for groundwater (PDF 3.11 MB)
- The Natural Resources Commission's Review of the Lower Murray-Darling water sharing plan