

Background and proposed changes to the draft Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2024

September 2023



Acknowledgement of Country

The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land, and we show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work and seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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Background and proposed changes to the draft Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2024

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Glossary and abbreviations

Term	Definition
BLR	basic landholder right
LTADEL	The long-term average annual extraction limit is the volume of water in a water source(s) that is available to be extracted lawfully or otherwise taken under access licences and basic landholder rights requirements.
MER	monitoring, evaluation and reporting
No Net Gain Trade	An equivalent or greater volume of entitlement must be traded out before the same or lesser entitlement volume is able to be traded in
NRC	Natural Resources Commission
NSW	New South Wales
Share component	<p>An entitlement to a given number of shares of the available water in a specified water source.</p> <p>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.</p>
Stochastic climate data	Stochastic climate datasets are extended climate sequences that are synthesised using statistical methods applied to observed data of rainfall and evapotranspiration and can include paleoclimatic data. These extended sequences include a more complete sample of climate variability, part of which describes more severe drought sequences.
Third or higher order streams	‘Stream order’ is used to describe the hierarchy of streams from the top to the bottom of a catchment. To determine the stream order, apply the Strahler system to streams shown in the hydro line spatial data: Water Management (General) Regulation 2018 Hydro Line spatial data Water (nsw.gov.au)
WM Act	<i>Water Management Act 2000</i>
WSP	<p>A water sharing plan sets the rules for how water is shared for the next 10 years.</p> <p>This is a general term that is not specific to a particular plan.</p>

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). Approximately 99% of the water extracted in NSW is now covered by a water sharing plan and managed under the 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 Planning and Environment amends water sharing plans throughout their life to ensure they can be carried out and comply with changing legislation. Near the end of a plan's 10-year term, the Natural Resources Commission (NRC) 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 Unregulated River Water Source is currently managed through the *Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2011* (the Lower Murray-Darling 2011 plan).

An extension to the original expiry date means that this plan is now due to expire on 30 June 2024 and be replaced by the ***Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2024***. This document gives background information about this new plan, which we will refer to from now on as the 'Lower Murray-Darling 2024 plan'.

The department has prepared a draft replacement plan for public exhibition and consultation.

This document gives high-level background information on the planning process and explains the changes to water management that the draft plan introduces.

You can find the draft plan, maps and information about the public exhibition period and how to make a submission on the department's website.

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

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, industries, and irrigators) 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 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 that reviews (within the previous 5 years) if the water sharing provisions (legal conditions) 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 extraction that ensure 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 [Lower Murray-Darling 2011 Plan](#) on the NSW Legislation website.

3.3 NSW water policy

We are continuously evolving and improving water-related policy and decision-making processes that carry out the legislative framework. We do this to ensure that we deliver our objectives for water resource management effectively. 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 Government Department of Climate Change, Energy, the Environment and Water website.

The NSW State Water Strategy placed a sharp focus on improving the security, reliability, and resilience of Town Water Supply (TWS). It is important the inland towns have the ability to consider in-river dams as an option to improve TWS security. Water Sharing Plans contain specific rules relating to the construction and operation of in-river dams including those built for TWS.

Current policy prohibits the construction of new in-river dams in 3rd or higher order streams in water sources identified as having high instream value using the macro risk assessment, but this approach restricts opportunities to improve TWS security. DPE Water have 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, including an exemption for dam applications for town water supply purposes only.

DPE Water is also currently developing a new policy to provide better protection for significant wetlands in unregulated water sources. The work has been considered in the replacement plan with a number of wetlands identified for protection. More information on the proposed changes can be found in the wetlands factsheet.

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 NSW Natural Resources Commission 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 commission 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 Natural Resources Commission 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 responsible for water adopted the Natural Resources Commission's recommendation to replace the Lower Murray-Darling 2011 plan in June 2022. To allow time to review and replace the plan, the duration of the current plan was extended by 2 years.

4.1 Principles for water sharing plan replacement

If the commission recommends replacing a plan, the department considers the recommendations, completes a departmental review and updates the current draft content.

Any replacement plan must consider the original requirements for water sharing plan provisions under Section 20 of the WM Act, which are to:

- establish environmental water rules for the area or water source
- identify requirements for water within the area, or from the water source, to satisfy basic landholder rights
- identify requirements for water for extraction under access licences
- establish access licence dealing rules for the area or water source
- establish a regime for the extraction of water under access licences, in line with the rules referred to in the points above.

The department's review will:

- seek to improve the efficiency and effectiveness of water sharing arrangements by targeting areas where new information shows the rules:
 - could be improved
 - are no longer appropriate
 - have had unintended effects
 - are difficult to implement
- use a collaborative approach to ensure it considers the views of all stakeholders when reassessing water sharing arrangements
- aim to balance social, cultural, economic and environmental needs of the community and catchments, in line with the principles of the WM Act
- ensure that the environmental outcomes of the plan are maintained or enhanced
- ensure that changes that affect water users will be minimised, where possible.

4.2 Scope for water sharing plan replacement

4.2.1 Issues in scope

To determine which issues are in scope, we use the Natural Resources Commission's review and other sources, including stakeholder feedback, to prepare a list of known water sharing plan issues. We work with subject matter experts, as necessary, to assess the list and decide if the issues are within the scope of the replacement process.

The scope of the review will consider, but is not limited to, the factors described in Table 1.

Table 1. In-scope considerations and sources for information

In-scope considerations	Potential information sources
<p>New information showing current water sharing arrangements are no longer appropriate or could be improved</p>	<ul style="list-style-type: none"> • Section 44 audits • Section 43A reviews • Monitoring, evaluation and reporting • Plan suspensions • Plan amendment register • Stakeholder feedback • Issues register
<p>New information that informs update of plan provisions</p>	<ul style="list-style-type: none"> • Information about new infrastructure • Socio-economic data • Water user behaviour • Risk assessments • Threatened species information • Groundwater Dependant Ecosystems • Basic landholder rights • Water entitlements • Aboriginal water-dependent values and uses
<p>Changes in policy or other legislation</p>	<ul style="list-style-type: none"> • Critical infrastructure legislation • Departmental policies • <i>Water Management Act 2000</i> requirements
<p>Water sharing arrangements that have had unintended effects or have not achieved intended outcomes</p>	<ul style="list-style-type: none"> • Section 43A reviews • Plan suspension • Plan amendment register • Stakeholder feedback • Issues register
<p>Implementation issues</p>	<ul style="list-style-type: none"> • Section 44 audit • Section 43A reviews • Plan suspension • Plan amendment register • Stakeholder feedback • Issues register
<p>Studies or amendments specified in the water sharing plan</p>	<ul style="list-style-type: none"> • Implementation program • Individual study reports • Amendment register

In-scope considerations	Potential information sources
Amendments required to carry out the State Water Strategy, regional water strategies or metropolitan water strategies	Strategy documentation

4.2.2 Out of scope

The department has also developed criteria for what is out of scope of the water sharing plan review. Later in the planning process, these criteria can help refine the list of issues considered in scope as we examine issues and as their effects become clearer.

We use the criteria in Table 2 to assess if an issue is out of scope. We may add other criteria when relevant.

Table 2. Assessment criteria for identifying whether an issue is out of scope

Assessment criteria	Comment/Example
Does the issue relate to water charges, costs, infrastructure proposals, operational activities or a licensing matter?	Issues that a water sharing plan cannot address.
Is another program or process addressing the issue, or is it the responsibility of another department?	Examples: Improving alternative water supplies for specific towns, drainage management.
Does the issue require time and resources beyond the time frame to review the water sharing plan?	Example: A study on the effects of climate change in a particular valley.
Is the issue consistent with the current legislative and policy framework?	Allowing water users to build harvestable rights dams on third order streams is a policy issue.

4.3 Updated methods and new information

4.3.1 Objectives, strategies and performance indicators

Under section 35 of the WM Act, a water sharing plan must include a vision, objectives, strategies and performance indicators to describe its intent, direct its rules and measure its success.

The objectives and strategies of plans describe clearly:

- what the plan is aiming to achieve
- a roadmap to achieving the goals
- a framework for evaluating the plan's success or effectiveness.

To enable meaningful evaluations, the development of plan objectives should show clear links between what a plan can control through water management strategies and the desired economic, social, cultural or environmental outcomes for the plan area.

The plan's objectives, strategies and performance indicators are shaped by the monitoring, evaluation and reporting (MER) framework to ensure sound policy, planning and regulatory decision-making during future evaluation of the plans.

4.3.2 Risk-based approach

Risk-based management helps water managers prioritise and direct time and effort to monitor, mitigate, or respond to the factors that pose the highest overall risks. It ensures that management is targeted, efficient and effective. When used adaptively, it is an excellent tool for determining where future management and monitoring effort is needed.

We have been using a risk-based water planning process in most unregulated rivers since 2004 in the form of risk assessments. These give risk-based information as part of our adaptive management approach to water sharing plans.

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

5.1 Overview

The Lower Murray-Darling plan covers 100,053 km² in the arid far west of NSW and comprises one-eighth of the total area of NSW. The WSP defines a single water source. The unregulated water source is north of the northern top of bank of the River Murray, from its confluence with the Murrumbidgee River at Boundary Bend, downstream to the South Australian border. North and east, the plan area extends to the vicinities of Broken Hill, Wilcannia and Tilpa.

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

The WSP has only 20 water access licences, held by just 17 entities. Most entitlement (6300 ML or 65% of the total) is in a single licence for the supply of town water to Broken Hill. In some 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. Grazing enterprises are typically supported by groundwater or water supplied by regulated rivers, and therefore do not rely on water governed by the Lower Murray-Darling Unregulated WSP. There is a relatively small amount of intermittent cropping next to some lagoons.

The requirement for water under basic landholder rights (BLR) has declined since commencement of the original WSP in 2012. BLR (stock & domestic) is now estimated to be 460 ML/year. Population is declining in the Lower Murray-Darling plan area.

Table 3 and Table 4 give details of the potential levels of extraction under BLR and licensed extraction within the Lower Murray-Darling area.

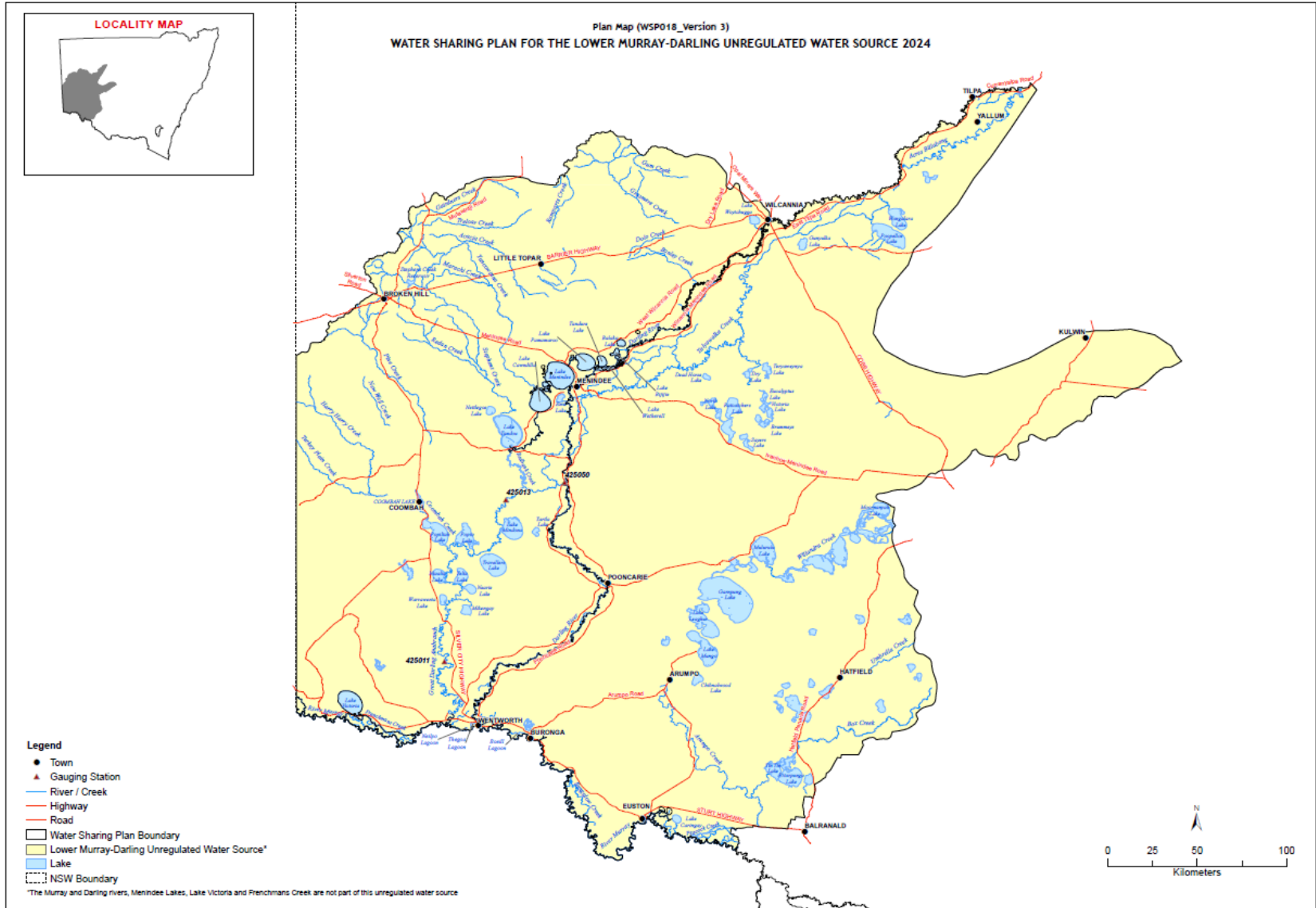


Figure 1. Plan area for the draft Water Sharing Plan for the Lower Murray-Darling Unregulated Water Source 2024

Table 3. 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 <i>Native Title Act 1993</i> of the Commonwealth.

Table 4. Requirements for water in the Lower Murray-Darling 2024 plan - licensed extraction

Extraction type	Potential extraction (ML/year)
Domestic and stock	42.5
Unregulated river	3,387
Local Water Utility	6,300

5.2 Current plan

Water in the Lower Murray-Darling area is currently managed through:

- the [Water Sharing Plan for the Lower Murray-Darling Unregulated Water Source 2011](#)

For more information on the current plan, refer to:

- [Lower Murray-Darling 2011 plan Background Document](#)
- [Lower Murray-Darling Unregulated River Water Source 2011 Rules Summary Sheet](#)

The current Lower Murray-Darling 2011 plan was developed using the macro-planning approach and included 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](#)
- [Macro water sharing plans – access and trading rules for pools](#)

5.3 Developing the draft 2024 plan

The processes that the Department of Planning and Environment has used in developing the draft replacement plan is an update on the previous macro – planning approach.

The development of replacement plans now follows the processes described in the [Replacement Water Sharing Plan Manual](#).

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 draft Lower Murray-Darling Unregulated River Water Source plan 2024.

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

- the section 44 audit of the *Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2011*
- recommendations from the Natural Resources Commission's 2022 review of the *Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source*
- updated data, information and science
- the deliberations across government agencies including the Water group and Environment and Heritage group within the Department of Planning and Environment, Department of Primary Industries' Agriculture and Fisheries branches, WaterNSW and Natural Resources Access Regulator
- initial consultation with local water utilities to resolve licensing issues.

You can find the draft *Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2024* on the department's [website](#).

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

You can find information on the public exhibition phase and how to have your say on the proposed changes in section 7 of this document.

The [Natural Resources Commission Review of the Lower Murray-Darling plan](#) is available from the commission's website under 'Completed Reviews' for 2022. You will find a summary of their recommendations and how the new water sharing plan has addressed them in 'Appendix B – Responses to NRC recommendations.

5.3.1 Targeted consultation

We will engage with the community during public exhibition and before finalising the draft plan. Some discussions have already taken place, for example with local councils in respect to town water supplies. For further details on the public exhibition see Section 7 below.

6. Refining the provisions in the 2024 water sharing plan

6.1 Changes proposed in the draft 2024 plan

Key drivers for the changes in the 2024 plan include:

- 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.

In general, and where possible, the 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.

We have proposed changes to:

- the general layout of the plan
- the vision, objectives, strategies, and performance indicators
- update the surface water long-term average annual extraction limit
- update the estimate of basic land holder rights and access licence share components
- adaptive management and amendment provisions.

A ‘report card’ is available for the Lower Murray-Darling plan’s single water source. This details the current rules and proposed changes. The report card gives the public supporting information about the changes proposed in the draft plan. You can find this on the [department’s public exhibition website](#) by selecting ‘Lower Murray-Darling area’ and then ‘supporting documents’.

6.1.1 Change the general layout

There are several structural changes in the draft plan. We have moved or reworded 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 moved and consolidated amendment provisions to the amendment part of the plan.

6.1.2 Set vision, objectives, strategies and performance indicators

Part 2 of the draft 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 of the water sources and their dependent ecosystems
- continuing productive extraction of water for economic benefit
- spiritual, social, customary and economic benefits of water for Aboriginal communities
- social and cultural benefits of water for urban and rural communities.

The objectives of the draft 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.

We will include objectives that are SMART (specific, measurable, achievable, realistic and timely) and more detailed in the MER plan for the replacement Lower Murray-Darling 2024 plan. These will clearly link objectives, strategies and performance indicators. This addresses the Natural Resources Commission's recommendation to strengthen MER of the plan outcomes.

The vision, objectives, strategies and performance indicators that will form part of and guide the MER plan are in 'Appendix B – Vision, objectives, strategies and performance indicators'

6.1.3 Update basic landholder rights estimates and licence share components

We are updating the estimate of extraction of water under BLR contained in Part 5 of the current plan. Draft estimates of the new figures are in Part 3 of the draft plan. We are currently finalising these estimates.

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-sharing plans.

In 2020, 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 Manual \(PDF 1.28 MB\)](#).

The 2024 estimates may differ from those in the current 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 draft Lower Murray-Darling 2024 plan. They reflect total share components in each water source.

6.1.4 Use adaptive management and include amendment provisions

Adaptive management means changing how we manage water 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.

Both the WM Act and the National Water Initiative require us to use adaptive management. The WM Act allows for changes to a water sharing plan during its life if these are in the public interest. The draft 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 draft plan includes updated amendment provisions.

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

- LTAAELs to base them on a proportion of flow if more information becomes available
- management so we can carry out native title determinations
- management so we can protect Aboriginal cultural sites that depend on water.

6.1.5 Protection of significant wetlands

In their review of the inland unregulated water sharing plans (WSPs), the Natural Resources Commission (NRC) recommended that the protection for significant wetlands be improved when plans are replaced. Significant wetlands may include internationally (Ramsar), nationally and in some cases regionally, significant wetlands within the plan area. For some plans this recommendation has been broadened to include culturally significant wetlands.

DPE Water in its response to the NRC recommendation, has committed to consider options to improve protection of significant wetlands during the plan replacement process. The department is developing a policy which will include a method for identifying significant wetlands within a plan area and outline new restrictions that will apply. The objective of this policy is to identify significant wetlands within each water sharing plan area based on an agreed set of criteria and apply restrictions which limit extraction and development at current levels.

The department is collaborating with DPE (Environment and Heritage Group) to further refine the draft policy. Feedback received during the public exhibition of inland water sharing plans will be considered before the policy is finalised.

It is proposed that inland unregulated water sharing plans will prohibit new or amended surface water supply works being constructed in significant wetlands. These wetlands are identified in Schedule 4 in the water sharing plan and in a digital wetland map produced by the department. In addition, for identified Ramsar wetlands, no new or amended works can be

constructed within or less than 3 km upstream of that wetland. This rule will not apply to replacement surface water supply works.

7. Public exhibition phase and making a submission on the draft plan

The draft *Water Sharing Plan for the Lower Murray-Darling Unregulated River Water Source 2024* will be on public exhibition from 3 October until 11 November 2023.

You can make submissions throughout the public exhibition period. We encourage you to comment on all aspects of the draft water sharing plan, not just those where we propose a change. We will review all submissions carefully and consider the issues raised when finalising the plan.

To find out more about the sessions and the draft plan, visit the [Lower Murray-Darling Water Sharing Plan Public Exhibition](#) pages of the department's website. The page includes the draft plan, fact sheets, water source report card and more information on making a submission.

You will find links to reference and supporting documents that detail historical Lower Murray-Darling area water planning processes in 'Appendix A – References and supporting documents'.

8. Finalisation of the draft plan

Following formal public exhibition, we will consider the feedback and issues raised during the consultation process. We will use this to help finalise the plan.

The final water sharing plan must have the agreement of the Minister for Environment and Heritage and the approval of the Minister for Water before it can start.

We expect the final plan will begin on 1 July 2024.

9. Monitoring, evaluation and reporting

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

The MER plan will be a framework specifically designed for the water sharing plan. It will follow established guidelines and include both surface and groundwater ecosystems.

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 surface and groundwater ecosystems.

10. Areas for further work

10.1 Update long-term average annual extraction limits

In New South Wales 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, DPE Water 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. DPE Water will develop a method to fill the remaining gaps in metering data for LTAAEL compliance purposes.

10.2 Wetlands

DPE Water has committed to consider options to improve protection of significant wetlands during the WSP replacement process. The challenge is to identify and determine which wetlands should be considered regionally significant. There is currently no comprehensive wetland assessment and mapping product available for inland NSW that may be used for this purpose.

An internal working group agreed the best approach was to identify wetlands based on existing data sets and use certain criteria to identify those wetlands which should be considered regionally significant.

Further refinement of the policy and methodology for wetland identification and assessment is expected with collaboration with other agencies.

10.3 In-river dams for Town Water Supply

Interagency discussions as part of WSP replacements questioned the appropriateness of the current policy on in-river dams, in part because the policy restricts opportunities to improve Town Water Security. DPE Water have 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.

10.4 Metering and record keeping

We are rolling out the NSW Non-urban water metering program across the state. The new metering requirements mean water users must have metering for works of a certain size and keep logbooks for water extracted using smaller works. For more information, see the [NSW non-urban water metering framework pages](#) on the department's website.

10.5 Climate Change

The department is developing river models that incorporate stochastic long-term data to help guide regional water strategies. We can use these models to inform decisions for future water sharing plan replacements as they are developed across the state.

Appendix A – References and supporting documents

- [Lower Murray-Darling Water Sharing Plan Public Exhibition](#) page contains the draft plan, maps and information about the public exhibition period and how to make a submission
- [NSW Legislation website](#) contains NSW legislation, including the WM Act
- [National Water Initiative](#)
- [Water Sharing Plan for the Lower Murray-Darling Unregulated Water Source 2011](#)
- The [background document for the Lower Murray-Darling 2011 plan](#)
- 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 \(PDF 627 KB\)](#)
- The Natural Resources Commission’s [Review of the Lower Murray-Darling Unregulated River water sharing plan](#)
- [2019 Audit of the Water Sharing Plan for the Lower Murray-Darling Unregulated and Alluvial Water Sources 2011](#)

Appendix B – Responses to NRC recommendations

No. ¹	NRC final recommendation	DPE Water response	Action taken for Replacement LMD Plan (July 2023)
R1	<p>The Plans should be:</p> <p>a) extended for a further two years until July 2024, to allow time to complete data collection and analysis</p> <p>b) replaced by July 2024, supported by the completion of the recommendations of this review.</p>	<p>DPE Water welcomes the recommendation to extend the Plans for a period of two years to provide for replacement plans based on best available information</p>	<p>The Plan was extended by two years in 2022. It must be replaced by 1 July 2024.</p>
R3	<p>When remaking the Plans, to ensure all extraction under the Plans is managed to protect, preserve, and maintain the water sources and dependant ecosystems, the Department of Planning, Industry and Environment - Water (DPIE-Water) should:</p> <p>a) ensure interception on the floodplains for both Plans is assessed and accounted for within the LTAAEL</p> <p>b) ensure the total take is sustainable at the appropriate scales within the Plans and based on best available information, including current knowledge regarding ecological requirements</p> <p>c) ensure there is no growth in overall take by establishing and publishing sustainable, numeric LTAAELs, and undertaking the required compliance assessments against LTAAELs.</p>	<p>a) In the Lower Murray Darling Unregulated WSP, further work will be undertaken if the Floodplain Harvesting Policy is implemented in the southern areas of the inland NSW.</p> <p>b) The Basin Plan sets an environmentally sustainable diversion limit for each SDL resource unit. NSW has committed to preparing WRPs which meet the requirements of the Basin Plan, which includes demonstrating that the SDL has been complied with and, where it has not, what action must occur to ensure extractions are reduced below the SDL. The Lower Murray-Darling and Intersecting Streams unregulated plans were amended in 2020 to include provisions which ensure annual compliance with the SDL, how the SDL is calculated, how it is assessed and what compliance action is to occur if the limit is exceeded. The Basin Plan used the best available information at the time to</p>	<p>Work is progressing on the development of a method to assess annual extraction in unregulated areas, using a risk based approach.</p>

¹ The water sharing plans for Lower Murray-Darling and Intersecting Streams were reviewed in one report. This table shows material relevant to the Lower Murray-Darling WSP.

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		<p>develop the SDLs for each valley. Any review of extraction limits would need to be undertaken within the framework of the Basin Plan and would likely coincide with a review of sustainable diversion limits for the Intersecting Streams and the NSW Murray and Lower Darling Water Resource Plans.</p> <p>c) In the development of implementation programs for the unregulated water sharing plans, the Department will consider methods for assessing compliance with extraction limits, including developing procedures. This will include estimating annual take by basic landholder rights. We note the need for this estimate to be current in these water sources. The implementation of the 2018 Metering regulations will significantly improve the Department's Unregulated LTAAEL and compliance regime.</p> <p>The Basin Plan requires NSW to undertake annual SDL reporting for all SDL resources units. The MDBA will provide transparent and timely accounts of all water take in the Basin through the establishment, maintenance and publication of the Register of Take. It will report the status of SDL compliance in its annual water take reports.</p>	
R4	<p>When remaking the plans, to improve protection of the water sources and their water dependent ecosystems, DPIE-Water should:</p> <p>a) to d) see Intersecting Streams WSP</p> <p>e) Ensure that the drawdown rules in the Lower Murray-Darling Plan adequately protect lagoon ecosystems and that Plan rules fully protect held</p>	<p>a) to d) see Intersecting Streams WSP</p> <p>e) The draw-down rules for off-river pools that were established at the commencement of the Lower Murray-Darling plan will be retained. The protection of environmental water diverted into Thegoa Lagoon is</p>	<p>Pool rules were reviewed and considered by the LMD unregulated WSP Regional Working Group (RWG). The RWG determined to retain the existing rules. In the LMD WSP, in-river and off-river pools may not be drawn below 100% of full containment volume, excepting four identified lagoons.</p>

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	environmental water released into Thegoa Lagoon near Wentworth.	unchanged in the amended WSP. Further review of environmental protections will occur upon remake of the Lower Murray-Darling plan.	
SA1	DPIE-Water should review the <i>Macro Water Sharing Plans Approach for Unregulated Rivers Access and Trading Rules for Pools Policy</i> to ensure that it requires that drawdown rules are assessed to determine whether they are adequately protective of the water sources and their water dependent ecosystems to be consistent with the Act.	The DPE Water is undertaking reviews of the NSW Pools Policy (2012) in unregulated systems. Any decisions to change WSP rules will be informed by best available information, including HEVAE assessments, and be consistent with the Water Management Act 2000.	<p>Pool access and trading rules were considered by the RWG. The RWG determined to retain the existing rules; in-river and off-river pools may not be drawn below 100% of full containment volume, excepting four identified lagoons.</p> <p>Provisions have been included to prohibit new surface water works in and within 3 km upstream of internationally significant (Ramsar) wetlands and within nationally and regionally significant wetlands. This rule will not apply to replacement water supply works. There can be no trade into or between the identified lagoons. These wetlands will be listed in a schedule in the Plan.</p> <p>The methodology developed by DPE Water has identified more than 250 wetlands in the LMD unregulated WSP area for inclusion in the new schedule. It represents significant improvement in protection of these areas.</p>
R6	When remaking the Plan, to ensure town water supply needs are adequately accounted for, DPIE-Water should:	a) TWS requirements are not reviewed as part of replacement. It's not uncommon for LWU to have more entitlement than they require (on average) to provide	a) Locally sourced water, which is stored in Stephens Creek Reservoir and governed by the LMD

No. ¹	NRC final recommendation	DPE Water response	Action taken for Replacement LMD Plan (July 2023)
	<p>a) in consultation with Essential Energy (Essential Water), review the local water utility entitlement for the Lower Murray Darling Water Source that is required for security of town water supply given the NSW regulated Murray is now the main source of town water supply for Broken Hill and surrounding communities</p> <p>b) include the updated local water utility volumetric entitlement in the Plan remake to ensure that use is transparent and managed within sustainable limits</p> <p>c) update the Plan to make it clear that the Umberumberka Reservoir, which has historically been used for town water supply, sits outside of the Plan area (in the <i>Water Sharing Plan for the North Western Unregulated and Fractured Rock Water Sources 2011</i>) and review the Lower Murray-Darling local water utility licence to ensure entitlement sits with the appropriate Plan</p> <p>d) if local water utility access licence entitlement is reduced, consider alternative uses of any remaining entitlement within sustainable limits if local water utility access licence entitlement is reduced including the option to use the entitlement to improve outcomes for Aboriginal communities to achieve Aboriginal cultural plan objectives.</p>	<p>security of supply during drought. It enables water to be supplied in the most cost effective way and ensures alternate water delivery options during unforeseen circumstances.</p> <p>b) The Lower Murray-Darling unregulated WSP will be updated during replacement to reflect the best available licensing information.</p> <p>c) See b) above.</p> <p>d) See a) above. DPE Water is working with Aboriginal groups to codesign and deliver an Aboriginal Water Strategy. The design of the strategy will consider the matters raised by the NRC, including access to water. Different options for how to provide access to water are being investigated as part of the Aboriginal Water Strategy. This includes licences that maybe lapsed or surrendered, creation of water allowances, and changes to Aboriginal cultural access licences to allow use for boarder purposes.</p>	<p>unregulated WSP, continues to be important for Broken Hill.</p> <p>b) This matter has been referred to DPE Water’s Licensing and Approvals team.</p> <p>c) See previous DPE Water response (b).</p> <p>d) See previous DPE Water response (b).</p>
R8	<p>When remaking the Plans, to better achieve the Aboriginal water objectives, DPIE-Water should:</p> <p>a) ensure that consultation is undertaken to understand specific needs of the Aboriginal communities where there are Native Title</p>	<p>The NSW Government is working with peak Aboriginal bodies and communities on a framework for engagement with an intention to consult on a range of water related issues including Regional Water Strategies and Water Sharing Plans. It is anticipated that consultation will also</p>	<p>DPE Water are developing an engagement strategy for this plan area as we prepare for public exhibition. The department is exploring a range of options to</p>

No. ¹	NRC final recommendation	DPE Water response	Action taken for Replacement LMD Plan (July 2023)
	<p>determinations, applications and Indigenous Land Use Agreements (ILUAs).</p> <p>b) allow sufficient time and ongoing resourcing for meaningful engagement with a range of Aboriginal Traditional Owners, groups and knowledge holders including Aboriginal women, to better understand the water values and uses, identify the rules to protect them, and support water access and use in Plan amendments</p> <p>c) use existing information to identify and protect known high value cultural sites in the replacement Plans</p> <p>d) use Country-based plans and governance models as a basis for engagement and management where available and support ongoing country-based planning is supported by Government</p> <p>e) use the National Cultural Flows Methodology to identify, prioritise and support Aboriginal water values – build on any existing examples of cultural flows assessments available for the Plan areas</p> <p>f) ensure that where cancelled or surrender entitlements becomes available, that Aboriginal water needs are assessed and provided for as a priority – starting with the examples outlined in this review</p> <p>g) undertake detailed implementation planning for the State Water Strategy and Aboriginal Water Strategy that includes, at a minimum, state-wide actions identified by the Commission to better support Aboriginal values in water sharing plans.</p>	<p>occur with local Traditional Owners, Local Aboriginal Land Councils and other local Aboriginal Groups under the Aboriginal Water Strategy. This consultation will include knowledge sharing on water sharing plans and identification of opportunities to improve Aboriginal involvement of water management in NSW and will draw on existing information to identify and protect known high value cultural sites, where appropriate. The WSP can be amended at any time if it is in the public interest to do so.</p> <p>DPE Water is working with Aboriginal groups to codesign and deliver an Aboriginal Water Strategy. The design of the strategy will consider the matters raised by the NRC, including access to water. DPIE will ensure ongoing engagement with Traditional Owners, communities and relevant stakeholders for the best possible outcomes on Country.</p> <p>Different options for how to provide access to water are being investigated as part of the Aboriginal Water Strategy and Closing the Gap, including the repurposing of licences that maybe lapsed or surrendered, creation of water allowances, and changes to Aboriginal cultural access licences to allow use for boarder purposes.</p> <p>An Implementation Plan has been released to support the priorities set out in the State Water Strategy, together with an Action Plan outlining what will be delivered in 2021/22.</p>	<p>engage with stakeholders including on-line forums, webinars and one on one appointments via phone or teams.</p>

No. ¹	NRC final recommendation	DPE Water response	Action taken for Replacement LMD Plan (July 2023)
R9	<p>When remaking the Plans, to ensure the Plans facilitate equitable sharing of water, DPIE-Water should:</p> <p>a) include objectives to provide for equitable sharing of water in both Plans</p> <p>b) assess the risks associated with a reduction in water availability and potential for growth in use</p> <p>c) ensure that plan provisions clearly specify how any potential reductions will be fairly allocated consistent with the priorities of the Act</p> <p>d) include provisions to specify how any additional water that becomes available will be allocated</p>	<p>a) The WMA is not clear about how to share water equitably, and refers broadly about sharing water. The economic objectives and strategies in the WSPs have interpreted the objects by identifying the need to provide a stable and predictable framework for water sharing among water users, provide flexibility of access to water and by managing to the LTAAEL. The LTAAEL, sets sharing arrangements between the env and consumptive pool. Available water determinations and accounting rules set out sharing arrangements (including compliance actions when extraction exceeds plan limit) between licence categories.</p> <p>b) In the development of implementation programs for the unregulated water sharing plans, the Department will consider methods for assessing compliance with extraction limits. This will include estimating annual take by basic landholder rights. We note the need for this estimate to be current in these water sources. The implementation of the 2018 Metering regulations will significantly improve the Department's Unregulated LTAAEL and compliance regime. If allocations need to be reduced as a result of growth in use, this will be done in accordance with the rules in the plan which reflect the priorities of the WMA 2000.</p> <p>c) The plan clearly sets out the action to be taken if the LTAAEL is exceeded, which is consistent with the priorities of the Act.</p> <p>d) WSPs do not allocate additional water as a result of surrendered or cancelled licences. These licences are held by the Minister for Water and managed under a separate process to determine if they should be re-allocated.</p>	See DPE Water response. No further action required.
R10	<p>By June 2024, to improve Plan based MER for both plans, DPIE Water should:</p> <p>a) expedite the finalisation and publication of</p>	<p>a) Noted. The DPE Water is currently developing a NSW Water sharing plan monitoring, evaluation, reporting and improvement (MERI) system that includes;</p>	See DPE Water response. No further action required.

No.1	NRC final recommendation	DPE Water response	Action taken for Replacement LMD Plan (July 2023)
	<p>DPIE Water’s water sharing plan evaluation framework and methods manuals and ensure there is multi-agency support and oversight of their implementation</p> <p>b) identify feasible and appropriate resourcing to support ongoing MER activities in line with the NSW Water Strategy</p> <p>c) specify timely reporting requirements of the results of MER activities to support transparency, public awareness and adaptive management</p> <p>d) identify and address critical knowledge gaps to support adaptive management.</p> <p>e) Use the recently developed prioritisation framework to prioritise MER activities based on values and risk. Clearly communicate how this framework interacts with monitoring plans and publicly report on where and why effort is being targeted.</p>	<ul style="list-style-type: none"> - MERI framework - prioritisation tool - transferability study - evaluation and monitoring plans <p>DPIE Water will work with NSW agencies to ensure an agreed approach to WSP MER Implementation & Reporting is published, when finalised.</p> <p>b) Noted. The implementation of any MER program is dependent on having a defined, long term budget. While every effort to maintain a MER program, the ability to implement aspects in a MER plan is limited by resources</p> <p>c) Noted, see response for a)</p> <p>d) Noted, see response for a)</p>	