Department of Climate Change, Energy, the Environment and Water

Water Sharing Plan for the Belubula Regulated River Water Source 2025

Background, consultation and changes

November 2025

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 Belubula Regulated River Water Source 2025

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Glossary and abbreviations

Term	Definition
Aquifer	An underground layer of water-bearing permeable rock or unconsolidated materials (gravel, sand, silt or clay) from which groundwater can be usefully extracted The volume of water stored in an aquifer, the rate at which water can recharge, the volume of water extracted from it, and the rate at which water can move through the aquifer are all controlled by the geologic nature of the aquifer.
AWD	Available water determination
Belubula 2012 plan	*Water Sharing Plan for the Belubula Regulated River Water Source 2012*
Belubula 2025 plan	draft *Water Sharing Plan for the Belubula Regulated River Water Source 2025*
BLR	basic landholder right
DCCEEW	The NSW Department of Climate Change, Energy, the Environment and Water
DPE	Department of Planning and Environment
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
Plan	Water sharing plan

	Generalised term used for any water sharing plan, not specific to a particular plan.
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.
WM Act	*Water Management Act 2000*

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 carry them out. 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 Belubula Regulated River Water Source has previously been managed through the *Water Sharing Plan for the Belubula Regulated River Water Source 2012* (the Belubula 2012 plan).

The Belubula 2012 plan expired on 30 June 2025 and was replaced by the *Water Sharing Plan for the Belubula Regulated River Water Source 2025* (the Belubula 2025 plan).

This document provides high level background information on the planning process as well as details of changes to management arrangements arising in this new plan, which we will refer to from now on as the Belubula 2025 plan.

The Belubula 2025 plan covers the Belubula Regulated River Water Source, as defined by the *Regulated River Order for the Belubula Regulated River 2012* Gazette No 92, 14 September 2012 at page 3955 and amended by the Act, Schedule 12, Part 5, Division 1, clause 25.

You can find links to the plan and a rule summary sheet on the 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 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 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* (WM Act)

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 (NRC) 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 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 current *Water Sharing Plan for the Belubula Regulated River Water Source 2025* on the on the water sharing plan pages of the department's website.

You can review the current *Water Sharing Plan for the Belubula Regulated River Water Source 2025* on the on the water sharing plan pages of the department's website.

4 Water sharing plan review and replacement process

Under the WM Act, water sharing plans have a 10-year duration. During this period plans are subject to an independent audit and review as follows:

- the implementation of the plan is audited in the first 5 years of the plan under section 44 of the WM Act, and
- the performance of a plan is reviewed in the last 5 years of the plan under section 43A of the WM Act.

The NSW 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 NRC's recommendations when developing the replacement plan.

More information and links to the audit and review of the Belubula 2012 plan are in Appendix A – References and supporting documents, of this document.

The Minister for Water adopted the Natural Resources Commission's recommendation to replace the Belubula 2012 plan in June 2023. The plan was extended by two years to allow time to review and replace the plan.

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

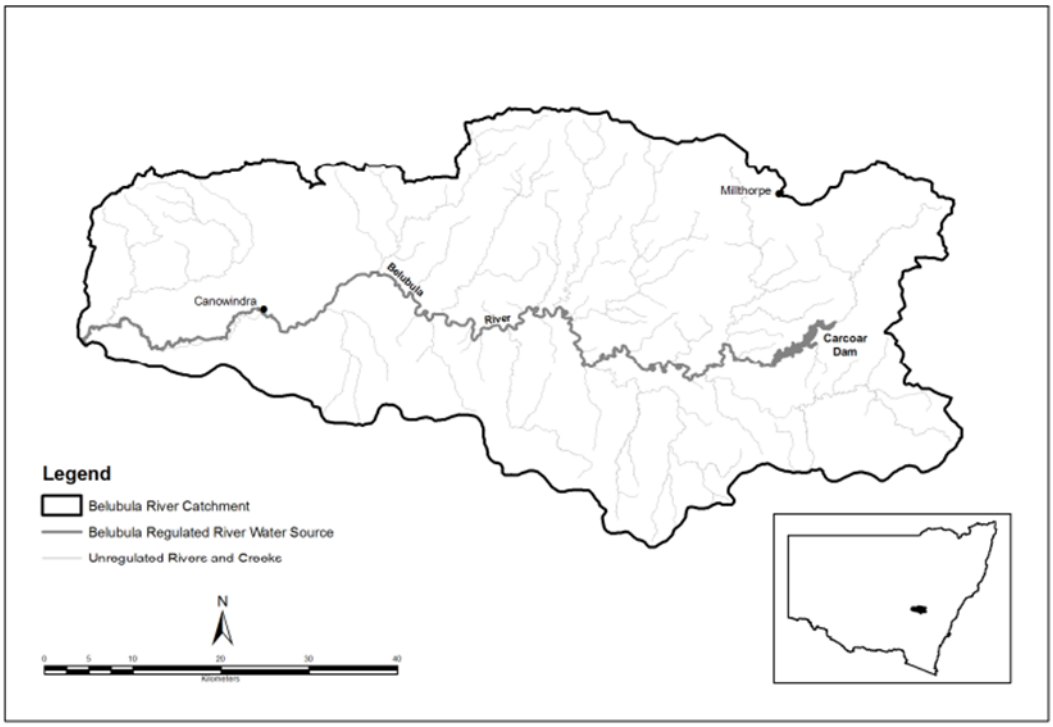
5 The Belubula 2025 plan

5.1 Overview

The Belubula 2025 plan covers the Belubula Regulated River (Figure 1) which is situated within the Lachlan River catchment and has a total length of approximately 165 kilometres. The plan area is located in the central west of NSW and is situated close to the towns of Carcoar and Canowindra.

The regulated river stems from Lake Carcoar upstream of Carcoar Dam, six kilometres upstream from the township of Carcoar and continues downstream to the junction with the regulated Lachlan River. There is a small length of the Belubula River upstream of Carcoar Lake which is unregulated and therefore not within the plan area and is managed under the *Water Sharing Plan for the Lachlan Unregulated and Alluvial Water Sources 2025*.

Figure 1. Location of the Belubula Regulated River Water Source



The major unregulated tributaries flowing into the regulated Belubula River include Candomine Creek, Cadiangullong Creek, Flyers Creek, Cowriga Creek, Coombing Creek, Mandurama Ponds, Limestone Creek, Licking Hole Creek, and Jacks Creek. It is important to note that these tributaries are managed under the *Water Sharing Plan for the Lachlan Unregulated and Alluvial Water Sources 2025* and not the Belubula Regulated plan.

The Belubula River is regulated through releases from Carcoar Dam. The storage capacity of the dam is 35,800 ML and has a small catchment area of 230 km^2. Given this small catchment area, water levels in the dam readily fall during dry periods. Carcoar Dam was built on the Belubula River in 1969/1970 for the purposes of providing a regular supply of water for irrigation and stock and domestic use and is currently operated by Water NSW.

Only ten per cent of total annual flow in the river comes from dam releases, the remaining 90 per cent is derived from inflows from unregulated tributaries. Flow in the Belubula River is naturally highly variable; sometimes flooding and sometimes with no flow. The average annual flow in the river is 174 GL where daily flows can range between 0 and 5.5. GL (NSW Office of Water, February 2013).

The regulated Belubula River is highly connected to the adjoining alluvial aquifer downstream of Canowindra. The most recent study undertaken on this groundwater/surface water connectivity in the Belubula suggests that connectivity could be as great as 90 per cent (SKM, 2012). Data from stream flow gauging along the regulated Belubula River indicates an overall gain in flow upstream

of Canowindra and a loss in flow downstream of Canowindra (Kolstad, 2009). Research has shown that loss of surface flow into the adjoining aquifer is linked to groundwater extraction (SKM, 2010 and 2012). Although the impact on total annual flows is low, there is a significant impact on streamflow during periods of low flow in the dry season (SKM 2012). It is suggested that this could result in an increase in the number of days that the river experiences low flows (SKM 2012).

The climate is characterised by hot summers and cool to mild winters during which frosts are common. Althought rain falls throughout the year, it is slightly higher during the summer months.

Prior to European settlement in the 1800s, the Wiradjuri people predominately occupied the Lachlan catchment area. Nine other nations also occupied the catchment including Dhurug, Ngunawal, Gundungurra, Wongaibon, Barindji, Yitha Yitha, Muthi Muthi and Nari Nari (NSW Office of Water, February 2013).

Today many industries flourish on the Belubula River including lucerne, wheat, wool, fat lambs, vines and vegetables. Mining is also a key land use in plan area. Cadia Valley Operations, one of Australia's largest gold mines, utilises water from the regulated Belubula River. The mine has significant water demands for processing and the regulated Belubula River is one of several sources of water that meet these requirements. The Cadia gold mine provides a significant socioeconomic contribution to the region.

A number of threatened or endangered species have been recorded or are predicted to occur in the river some of which are highly sensitive to the extraction of water. Historically Murray Cod, Macquarie Perch, Golden Perch and Blackfish have been found in the Belubula River (NSW Office of Water, February 2013).

Table 1 and Table 2 give details of the potential levels of extraction for basic landholder rights (BLR) and licensed extraction within the plan area. The department estimates the amount of water taken under domestic and stock rights following methods that are detailed in the department's Replacement Water Sharing Plan Manual. The estimates of water requirements for BLR for the Belubula 2025 plan are summarised in Table 1.

Table 1. Estimated requirements for water in the Belubula 2025 plan – Basic landholder rights

Extraction type	Potential extraction (ML/year)
Domestic and stock	426
Native title	0 No determinations of native title in relation to this water source have been made in accordance with the *Native Title Act 1993* of the Commonwealth.

Total licenced entitlement for the plan area is approximately 26,894 ML. This entitlement represents average annual maximum potential extraction. Not all licenced water is always

extracted, especially during wetter periods. The breakdown of licenced entitlement in the Belubula 2025 plan for different licence categories is summarised in Table 2.

Table 2. Estimated requirements for water in the Belubula 2025 plan – Licenced extractions

Extraction type	Potential extraction (ML/year)
Domestic and stock	220
Regulated river (high security)	1,095
Regulated river (general security)	22,454
Local Water Utility	0
Supplementary	3,125

5.2 Previous plan

The Belubula 2012 plan commenced on 4 October 2012 and ended on 30 June 2025.

For more information on Belubula 2012 plan, refer to:

- the Water Sharing Plan for the Belubula Regulated River Water Source Background Document (PDF, 2.9 MB)
- the Rule summary Sheet

Since flow in the regulated Belubula River is primarily from unregulated rivers (90 per cent of the flow in the system), the Belubula 2012 plan was developed using the macro planning approach and involved 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 829 KB)
- Macro water sharing plans – access and trading rules for pools (PDF 627 KB)

As of 1 July 2025, the regulated Belubula River water source is now managed under the *Water Sharing Plan for the Belubula Regulated River 2025*.

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 Belubula 2025 plan

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

This background document will describe the most recent and specific methods used to prepare the draft *Water Sharing Plan for the Belubula Regulated River Water Source 2025*.

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 audits of the *Belubula Regulated River Water Source 2012,*
- recommendations from the 2023 NRC Review of the Belubula Regulated River Water Sharing Plan 2012,
- updated data, information and science,
- the deliberations across government agencies including the water group and Conservation Programs, Heritage and Regulations group within the NSW Department of Climate Change, Energy, the Environment and Water, Agriculture and Fisheries divisions within the Department of Primary Industries and Regional Development, Water NSW, and the Natural Resources Access Regulator,
- consultation with Cadia Mine, WaterNSW, the local water utility and water user representatives.

You can find the *Water Sharing Plan for the Belubula Regulated River Water Source 2025* on the department's website.

Details of the changes to the Belubula 2012 plan are in Section 6 of this document.

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

5.4 Public exhibition and finalising the Belubula 2025 plan

The department exhibited the draft replacement Belubula 2025 plan from 11 November 2024 to 10 January 2025.

We held an online public webinar attended by 11 stakeholders and one one-on-one video call consultation. A copy of the presentation and a recording of the webinar were published on the department's website following the webinar.

We discussed the proposed changes with stakeholders at a face-to-face meeting in Canowindra on 3 December 2024 (10 stakeholders attended).

During the public exhibition period, we sent 161 letters and 66 emails to licensees and other stakeholders. During the public exhibition period, there were 102 hits for the plan's public exhibition website.

We received 21 written submissions about the draft plan. The public exhibition process and stakeholder submissions provided 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.

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 Regulations 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 to the current plan.

6 Changes from the Belubula 2012 plan to the 2025 plan

6.1 Overview

Key drivers for the changes in the Belubula 2025 plan include:

- 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
- vision, objectives, strategies, and performance indicators
- identification of individual planned environmental water provisions
- basic land holder rights estimate and access licence share components
- definition of the long-term average annual extraction limit
- end of system environmental flow requirements
- adaptive management and amendment provisions.

For a summary of all 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 relevant rules that apply to the water source under the Belubula 2025 plan.

6.2 General layout changes

The Belubula 2025 plan features several structural layout changes. We have moved or reworded sections (formerly called clauses), but their intent is the same. The 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 plan easier to understand.

For example, we have removed unnecessary notes and consolidated amendment provisions to the amendment part of the plan.

6.3 Vision, objectives, strategies and performance indicators

Part 2 of the Belubula 2025 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.
- There are 5 objectives. They 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
- maintain and where possible improve water quality within target ranges for the water source to support water-dependent ecosystems and social, cultural and economic values.

We will include more detailed and SMART (specific, measurable, achievable, realistic and timely) objectives in the Monitoring, Evaluation and Reporting (MER) plan for the Belubula 2025 plan. These will clearly link objectives, strategies and performance indicators. This addresses the NRC's recommendation to strengthen MER of the plan outcomes.

We have added a requirement for the minister to prepare and publish a monitoring, evaluation and reporting (MER) plan by 31 December 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 nine of the plan will provide transparency on how the plan's vision, objectives, strategies and performance indicators are being met.

6.4 Identification of planned environmental water provisions

Planned environmental water (PEW) is a key component of water sharing plans. The Belubula 2012 plan had a discrete section on PEW that pointed to other parts of the plan to identify where water was reserved for the environment.

Instead of having a separate section on PEW, the Belubula 2025 plan includes rules associated with PEW in the relevant sections. Wherever a section of the plan relates to PEW, a note is included, pointing to the relevant section of the WM Act.

The planned environmental water provisions in the plan are:

- Division 2 of Part 4 –Extraction limits. The provisions limit extraction on a long-term average annual basis and commits water as planned environmental water – see the WM Act, section 8(1A)(b) and (2),
- Divisions 2 and 3 of Part 6 Operation of water allocation accounts and managing access licences contain planned environmental water provisions. The provisions limit the amount of water that may be extracted–and protect a portion of flow from extraction by access licences and basic landholder rights - see the WM Act, section 8(1A)(a) and (c) and (2),
- Part 7 – Rules for major utility and other storages. The provisions protect the physical presence of water through end of system environmental flow requirements – see WM Act section 8(1A)(a).

These sections reflect the planned environmental water provisions in Clause 15 of the Belubula 2012 Plan.

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 Belubula 2025 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 F of the Replacement Water Sharing Plan Manual (PDF 2.2 MB).

The revised estimates may differ from those in the Belubula 2012 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 the water source) are listed in Part 3 of the Belubula 2025 plan.

6.6 Updated definition of the long-term average annual extraction limit (LTAAEL)

The LTAAEL restricts total extractions from a water source or extraction management unit over the long term. The LTAAEL for regulated inland plans with a hydrologic model is the lesser of modelled long-term average annual extractions over the duration of climate record calculated for two scenarios:

- the approximate conditions when the plan was first gazetted, and
- the Murray Darling Basin Cap baseline conditions.

Modelled extractions under the first scenario of 4,684 ML/year were the lesser of the two scenarios. The 2025 plan notes the LTAAEL volume of 4,684 ML/year.

The department completed an LTAAEL compliance assessment for the Belubula Regulated River Water Source for the year 2022-23 – LTAAEL compliance assessment for Belubula Regulated River Water Source . The results show current condition long term average annual extractions are less than LTAAEL and that the Belubula Regulated River Water Source is compliant with LTAAEL. The assessment also shows how the LTAAEL volume of 4,684 ML/year was calculated.

A review of the extraction limits will be undertaken by 2028 to ensure a sustainable level of take. This review will be undertaken within the framework of the Basin Plan and is likely to coincide with a review of the baseline/sustainable diversion limits of the Lachlan Water Resource Plan. The department will also seek advice from the NRC in this review.

6.7 Changes to the end of system environmental flow requirements

Following a recommendation by the NRC, the department reviewed the potential for extraction upstream of the Beneree gauge (#412080) on Flyers Creek in the Lachlan unregulated river plan area to reduce delivery of required end of system environmental flows. Modelling analysis found that these extractions could result in a reduction in the delivery of end of system environmental flows required by the Belubula plan.

In response to these findings, the Belubula 2025 plan includes a new rule to ensure requirements to deliver end of system flows are not affected by extractions from Cadia mine on Flyers Creek. The intent of the rule is to ensure the end of system flow rule is delivered regardless of take by Cadia Mine in the unregulated Flyers Creek.

The Belubula 2025 plan includes an amendment provision to review this rule within 5 years of the plan commencing.

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 or 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. Part 10 of the Belubula 2025 plan provides for amendments during the term of the plan.

Examples of adaptive environmental water provisions in the Belubula 2025 plan include the ability to amend the:

- numeric LTAAEL based on a sustainable level of take,
- end of system flow rules within 5 years to ensure they are delivering the intended environmental benefits as well as any impact on water users or storage volumes in Carcoar Dam, and
- 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.

7 Amendments to the Belubula 2012 plan

Amendments were made to the Belubula 2012 plan during the 10-year term and were carried over in full to the Belubula 2025 plan, with the exception of a minor change to end of system flow requirements (see section 6.6 of this report). The amendments are described below. The associated summary of changes documents can be found on our website.

1. In December 2022 amendments included:

- a 'dry trigger' under which the end of system flow requirements are suspended and a 'wet trigger' under which they would be re-instated,
- further details about maintenance of water supply, what constitutes the lowest accumulated inflows and an amendment provision to review these rules,
- subclauses regarding the *Basin Plan 2012* 's Sustainable Diversion Limit,
- consulting with the NSW Environmental Water Manager before action on non-compliance of the LTAAEL or the Sustainable Diversion Limit,
- reduced carry over for general security accounts from 130% to 110%,
- allow access to uncontrolled flows when effective AWD is greater than 50%, storage volume less than 21,000ML and flow at Helensholme gauge greater than 20 ML/day, and
- the protection of a first flow event after a dry period.

Refer to Changes to the Belubula Regulated Water Sharing Plan (December 2022) for more information about these changes.

2. In August 2023 amendments were made to:

- correct typographical and clause referencing errors,
- update account management rules to better reflect intent of original rules to allow general security access to uncontrolled flows when no effective AWD,
- update drafting of the dealing rules to clarify cannot trade in allocation above 1.1 ML per unit share, in accordance with carryover rules, and
- add a dictionary definition of 'take limit'.

Refer to Changes to the Belubula Regulated Water Sharing Plan (August 2023) for more information about these changes.

3. In October 2024, changes were made to:

- ensure the Minister for Water would be able to make a reduced AWD in the event of LTAAEL non-compliance, and
- allow incidental commercial benefit in relation to Aboriginal cultural licences

Refer to Changes to multiple plans fact sheet (October 2024) for further information about the changes.

8 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.

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 higher 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.

An MER plan is being developed and will serve as a framework specifically designed for the water sharing plan and will follow established guidelines. The Belubula 2025 plan requires than the MER plan is published by the minister by 31 December 2026. Also, the Belubula 2025 plan requires that the minister must publicly report annually on the implementation of the plan, including progress against the MER plan. The department will also conduct evaluation reporting by year 9 of the Belubula 2025 plan's term.

9 Areas of further work

9.1 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. Plans to date were developed largely using licenced entitlement since estimates of actual water usage were. Actual water usage data obtained through the metering program will be used in the risk assessments and in the development of rules for future plans.

9.2 Long-term average annual extraction limits

In NSW all 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.

The assessment of LTAAEL compliance for inland water sources will use metering data once 3-5 years of metering data becomes available. Prior to then, the department will use remote sensing to undertake a risk assessment to determine if there is a risk of extraction exceeding the LTAAEL. When the non-urban metering requirements are fully 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, the Belubula 2025 plan includes a requirement that the minister reviews the numerical LTAAEL with the advice of the NRC. The review requirements will help ensure that the LTAAEL reflects a sustainable level of take.

The Belubula 2025 plan also includes a requirement that the minister considers the “minimum inflow” review and provides for amendments to the plan based on the findings of the review.

9.3 Cultural flows and improving the involvement of first nations people in water management

The department will work toward priorities in the NSW Water Strategy. Priority 2 of the 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 NSW 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 an Aboriginal Water Strategy. The strategy identifies ways of increasing water rights and ensures Aboriginal peoples are empowered to contribute to water management and planning in NSW. The department has also established Regional Aboriginal Water Advisory Committees in each of the NSW water regions and piloting some cultural watering plans in various parts of NSW.

9.4 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 is developing 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 NSW Water Strategy Implementation Plan – 2022 to 2024 2021/22 includes four actions that contribute to Priority 4. These actions look to improve and apply our understanding of climate variability and change, review water allocation and water sharing in response to new climate information, improve drought planning, preparation and resilience and better integrate land use planning and water management.

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.

9.5 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.

Appendix A – References and supporting documents

- Belubula Water Sharing Plan Public Exhibition page contains the "What we heard' document
- Belubula 2025 plan page contains the rule summary sheet and other information.
- Kolstad, K 2009, 'Towards an improved prediction of the groundwater component of stream flow for gaining streams in NSW – Belubula Case Study', Poster presentation prepared by the Office of Water for the 10th Australasian Environmental Isotope and 3rd Australasian Hydrogeology Research Conference 1-3 December 2009, Perth, Western Australia.
- NSW Legislation website contains NSW legislation, including the WM Act
- National Water Initiative
- *Water Sharing Plan for the Belubula Regulated River Water Source 2012*
- NSW Office of Water, February 2013 Water sharing plan for the Belubula Regulated River Water Source Background document
- NSW Government July 2020, Risk assessment for the Lachlan Surface Water Resource Plan Area (SW10) 2020 NSW Department of Planning and Environment
- SKM 2010, 'Surface water – Groundwater interactions in the Belubula Catchment, Final December 2010, Australian, Government, Canberra.
- SKM 2012, 'Impacts of groundwater extraction on streamflow in selected catchments throughout Australia', Water lines report Series No. 84.