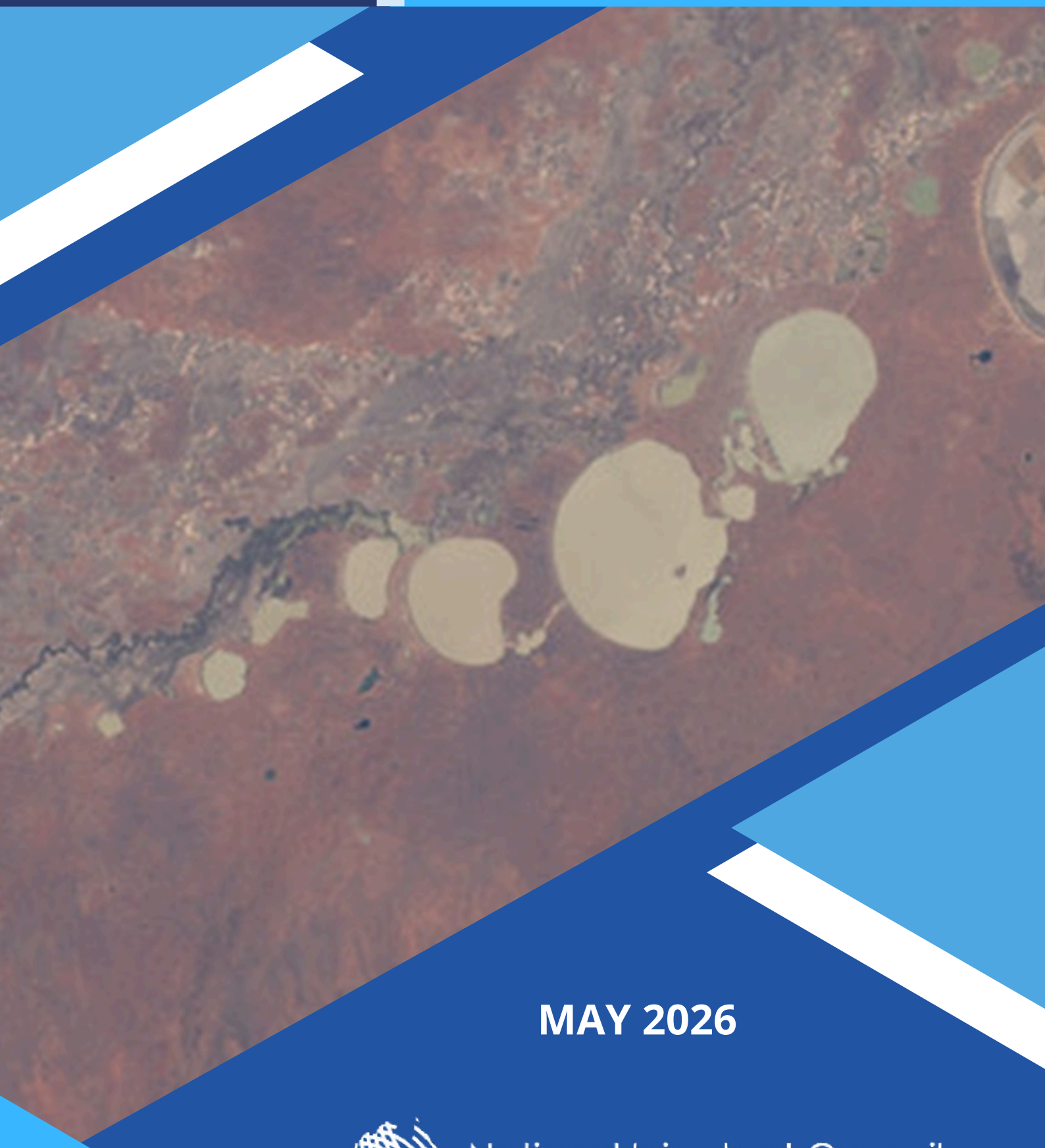
National Irrigators' Council

SUBMISSION: MENINDEE REVIEW



MAY 2026

National Irrigators' Council

Food · Fibre · Future

Purpose

This submission is provided to the review of the operation and management of the Menindee Lakes system (herein, the Menindee Review).

Many of our Members are critically linked into the frameworks and operations of Menindee Lakes via existing sharing arrangements through the Murray Darling Agreement or local sharing plans - above and below the Lakes. This submission therefore represents the views of irrigation entitlement holders and water users, and non-government water delivery networks, up and downstream of the Lakes.

This submission is in addition to our submissions on the concurrent Basin Plan Review Discussion Paper public consultation.

Overview

Key points raised in this submission include:

- Any changes at Menindee Lakes must respect all water property rights and **not impact** the reliability or volume of water available to water licences across the system, either the northern or southern Basin.
- It must be recognised that the Menindee Lakes are no longer a natural lake system – but have been modified / engineered to operate as a water storage with a multi-jurisdictional role in contributing to the New South Wales, Victorian and South Australian bulk water shares for the Murray. This has created complexities and mixed expectations regarding what the objectives for the management of the Lakes are. Whilst there is a need for a clear, shared and agreed long-term vision for the Menindee Lakes system, its foundational purpose as storage must be recognised by all stakeholders before any changes are made.
- Upstream of the Lakes are largely unregulated, ephemeral systems, which are not being recognised. Understanding the climatic limitations of these are critical and ignoring these factors could have catastrophic consequences for both up and downstream irrigation, as well as the environment.
- There is a clear case established for improving fish passageways and ensuring working infrastructure – enabling substantially improved environmental outcomes, without negatively impacting water reliability or availability to users.
- Noting the strong national interest in Menindee, any changes must be fully funded by Governments and not be passed on to individual water users. Given the current cost-recovery mechanisms this means some jurisdictions will have to change their existing pricing approach.
- Any changes at Menindee must seek to maintain or enhance the operational flexibility of the system to fulfil the Lakes role as a storage to supply NSW, VIC and SA bulk water

shares for the Murray, provide drought security, and continually improve delivery efficiency.

- An evidence-based approach is critical – NIC is concerned by the politicisation of the management of Menindee Lakes and as such, provides clear insights into the expectations of the irrigation industry to be involved, informed and part of the decision-making process for any potential changes.

Key Recommendations

NIC recommends that the MDBA should establish a transparent process with key stakeholders (not just Basin Officials) to develop a clear, shared and agreed long-term vision for the Menindee Lakes system that recognises the Lakes are no longer a natural system, that they are engineered to operate as a water storage with a multi-jurisdictional role in contributing to the New South Wales, Victorian and South Australian bulk water shares for the Murray and that the lakes are largely fed from unregulated, ephemeral upstream systems.

NIC recommends that three key non-negotiable principles should be applied by all governments when considering any changes at Menindee Lakes, these are:

(a) Any changes at Menindee Lakes must respect all water property rights and **not impact** the reliability or volume of water available to water licences across the system, either the northern or southern Basin.
(b) Any changes at Menindee must seek to maintain or enhance the operational flexibility of the system to fulfil the Lakes role as a storage to supply NSW, VIC and SA bulk water shares for the Murray, provide drought security, and seek to continually improve delivery efficiency.
(c) Any change must be consistent with (a) and (b), and any 'environmental improvements' must demonstrate clear, measurable environmental benefits such as improved fish populations, water quality, or habitat, and not rely on the recovery of additional volumes of water.

NIC recommends that the MDBA with key Governments (Australian. NSW, VIC and SA) must provide critical assessments and information, in a timely and transparent manner for all options to be considered as part of consultation processes, prior to any decisions by any Government. It is the expectation of the irrigation industry that individual or collections of changes/projects must:

- Include participatory, co-design processes with affected stakeholders not just state officials, to ensure early, ongoing and transparent engagement that enables meaningful participation in decision-making, not consultation after the fact.
- Incorporate independently verified science, with transparent modelling of individual and the collective changes, addressing:
    - Hydrological outcomes including water reliability assessment (timing and volume),
    - Environmental outcomes, and
    - Socio-economic outcomes.

- Demonstrate neutral or positive socio-economic outcomes for Basin communities, particularly in regional and irrigation-dependent areas. This should include:
    - Independent regional impact assessments, up and downstream
    - Consideration of flow-on effects to supply chains and towns
    - Commitments to economic resilience within the Basin
- Prioritise reciprocity where possible to ensure multiple benefits and identify these beneficiaries.
- Enable flexible and adaptive investments that can be staged, adjusted or reversed, if outcomes are not delivered or unintended impacts emerge.
- Be fully funded by Governments and not seek to pass on any costs to individual water users. Given the current cost-recovery mechanisms this means some jurisdictions will have to change their existing pricing approach.

About us

The National Irrigators' Council (NIC) is the peak industry body for irrigated agriculture in Australia. NIC is the voice of irrigation entitlement holders, water delivery operators and industries involved in food and fibre production.

The Menindee Lakes are a critical part of the Basin system - including for our members, up and downstream of the water source.

For NIC, our primary interest in this review is protecting water property rights of our members across the system (up and downstream), specifically – the reliability of water access entitlements.

Glossary

For the purposes of this submission:

Project - is defined as any single or group of works or changes, proposed including but not limited to:

- New or upgraded/replaced infrastructure within or surrounding the Lakes.
- Rule changes by states impacting the timing, volume or access arrangements of water users.
- Rules changes that alter the legislative or practical characteristics of an entitlement
- Operational changes by river operators that may impact the timing, volume or access arrangements of water users.

The **system** - refers to those upstream, within or downstream of the Menindee Lakes water source and are considered linked to the water source and therefore likely to be impacted by projects at the water source.

Contents

Submission

In this submission, NIC will not review specific options, rather provide overarching principles to which any project / change must be consistent with, and raise key issues.

Principles

The following principles should be applied when considering changes at Menindee Lakes:

(a) Any changes at Menindee Lakes must respect all water property rights and **not impact** the reliability or volume of water available to water licences across the system, either the northern or southern Basin.

(b) Any changes at Menindee must seek to maintain or enhance the operational flexibility of the system to fulfil the Lakes role as a storage to supply NSW, VIC and SA bulk water shares for the Murray, provide drought security, and seek to continually improve delivery efficiency.

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It is the expectation of the irrigation industry that individual or collections of changes/projects must:

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- Enable flexible and adaptive investments that can be staged, adjusted or reversed, if outcomes are not delivered or unintended impacts emerge.

- Be fully funded by Governments and not seek to pass on any costs to individual water users. Given the current cost-recovery mechanisms this means some jurisdictions will have to change their existing pricing approach.

Protecting water property rights

Water access entitlements are a property right - any decision or change that reduces the reliability of water access on an entitlement is an erosion of that property right.

The contemporary water management framework, as envisioned by the National Water Initiative (NWI), is underpinned by a water property right framework. Maintaining the integrity and confidence of the water property right framework including water markets, is essential to all entitlement holders (agricultural, environmental, urban and others), and the water management framework overall.

Reductions to reliability of water access entitlements must never be used as a water recovery mechanism to permanently reduce the consumptive pool. If changes must occur (for public interest purposes), they must respect the existing water management framework, including:

a. Any variation of the water access entitlement (the property right) requires mutual agreement between the entitlement holder and government (as per Clause 32 of the National Water Initiative)

b. Any reduction to the reliability of water access on an entitlement, because of changes to government policy, is fully compensable (as per Clause 50 of the National Water Initiative). NIC condemns claims by governments that small impacts are immaterial, or non-compensable. This is important for both individual and cumulative impacts. NIC is of the clear view that the considerations of this review constitute changes in Government policy.

c. Government must implement the principles for water recovery, which includes consideration of all available options and assessment of socio-economic costs (as per Clause 79ii the National Water Initiative). Consideration of all available options must include non-water options (i.e. complementary measures).

To respect water property rights, governments must measure and report the reliability of water access entitlements, with all variations accounted for. Full assessment of impacts must be included as essential information for any public consultation where a potential water reliability impact is involved. NIC is concerned that the full reliability impacts to water users have not been appropriately factored in, nor consideration of any proposal for how those impacts will be avoided, managed or funded by Government.

If additional water is required for environmental or other public interest outcomes, that water must be purchased on the market, from willing sellers. Note: NIC does not support further buybacks due to the impacts on the consumptive pool and communities, but notes rules-based changes that erode reliability of access are the worst-case scenario as they are a form of compulsory acquisition that disrespects the property right framework.

NIC has concerns that many of the options being considered would pose impacts to the reliability of water access for water entitlement holders. Given the role of Menindee Lakes across the MDB, these impacts pose risks to water users in both the Northern and Southern Basin. It is critical that assessment of any changes includes independently verified science, with transparent modelling of individual and the collective changes, including water reliability assessment (timing and volume). This is both a vital part of the decision-making process to provide an appropriate information base to understand trade-offs and impacts of any option, but also, a critical part of Governments meeting legislative requirements to respect established water property rights (as outlined above).

NIC appreciates (and supports) that the Consultation Paper acknowledges that decisions about management in the northern Basin (as tributaries to the Lakes) are outside the scope of this Review. However, we are concerned that the indirect implications are not fully considered or acknowledged, which in effect, poses additional risks to those water users. For example, changes to operational and management arrangements of the Lakes will have reliability impacts on water users, such as where access arrangements are linked to the volume of water in the Lakes. As per the above principles, the full extent and nature of these impacts must be understood, communicated to impacted stakeholders, and a pathway forward to avoid or manage these impacts worked through (i.e. such as purchasing additional water if found to be required).

Role of Menindee Lakes as a storage

The Menindee Lakes system performs a critical and multifaceted role within the Murray-Darling Basin, functioning as a key regulating and balancing storage on the Darling River as firstly outlined within the Murray Darling Agreement in 1964 and now within Part 1A and Schedule 1 of the Water Act 2007 (Cth).

Unlike traditional deep storages, Menindee operates as a shallow, interconnected lake system that captures episodic inflows from the northern Basin and enables the controlled release of water to support demand which is largely downstream. In doing so, they help moderate the natural variability of the Darling River by holding water during high-flow events and releasing it in a controlled manner when flows recede, providing a critical degree of operational flexibility across the Basin.

This function is particularly important in maintaining downstream connectivity and supply. During periods of low inflow in the lower Darling, releases from Menindee are essential to sustaining flows into the Murray River, including meeting critical downstream requirements such as water supply for South Australia. More broadly, the lakes operate as a key buffer within Basin-wide water management, enabling river operators to smooth variability, meet interstate delivery obligations, and support environmental outcomes under Basin planning frameworks. At the same time, Menindee Lakes remain an important local water source for surrounding communities, stock and domestic use, and remaining irrigation.

The lakes are integral to the reliability of entitlements across the Basin, particularly in the southern connected system where releases from Menindee can influence water availability. They provide a buffer between highly variable inflows and downstream demand, supporting more predictable system operations within the Southern Basin.

However, Menindee Lakes are not just a storage. They act as a critical, strategic control point for the entire Basin. They enable water to move from the north to the south (when available), support communities and ecosystems, and provide a buffer against extreme climate variability.

Any changes at Menindee must seek to maintain or enhance the operational flexibility of the system to fulfil its primary role as a storage to supply NSW, VIC and SA bulk water shares for the Murray as outlined by Schedule 1 of the Water Act 2007 (Cth) – the former Murray Darling Agreement.

Respecting the naturally ephemeral river system

NIC is concerned that the natural ephemeral nature of the river system that supplies the Menindee Lakes is not being recognised nor properly understood; and the impacts of irrigation are being overstated.

The consultation paper says:

> *"Progressive irrigation expansion, floodplain harvesting, and construction of upstream storages since the 1960s have contributed to reduced inflows and increased cease–to–flow events."*

However, the Technical Paper says:

> *"An analysis of cease-to-flow events along the Barwon-Darling River at Wilcannia undertaken by NSW (Figure 14) also shows that the river has stopped flowing a number of times, even when there was little water infrastructure and extraction in the northern Basin..."*.[1]

The NSW DCCEEW has also said:

> *"A constantly flowing river is not normal for the Barwon-Darling region. The river stopped flowing for extended periods even before there were large dams and significant agricultural water use upstream. There is a relationship between the river drying and dry climatic periods."*[2]
>
> *"The Barwon-Darling region naturally goes through wetting and drying cycles that can last decades... The cease to flow periods experienced in the most recent drought have been long and severe, but are not unusual when compared to conditions in historical dry periods."*
>
> *"The Barwon-Darling river has often stopped flowing for periods of time. The cease to flow conditions we saw in the most recent drought were severe and had significant impacts on communities, ecosystems and industries, but they are not unique when compared to the historical record. Our lived experience is mostly drawn from the wet period when there were very few cease to flow periods."*[3]

Put simply, the system is highly dependent on the climate and rainfall, in terms of flows. The challenges in managing for low water availability when there is no water are further complicated

[1] Menindee Lakes Review – Technical Report [49].
[2] **River flows and climate over time**
[3] **Cease to flow periods in the Barwon-Darling | NSW Government Water**

with relatively limited public water storage to regulate river flows. NIC strongly contends with the statements in the consultation materials that suggest irrigation is the cause of the problems.

NIC is concerned that the natural ephemeral nature of the system is not being recognised properly, which could have catastrophic consequences for both up and downstream irrigation, as well as the environments. Aiming to 'regulate out' the natural dry phase of ephemeral rivers to match an unrealistic expectation of what the river should be like under natural conditions, is not appropriate, and poses ecological harm. The lack of appreciation of these challenges is evident and must be clearly addressed to better manage expectations to ensure policy objectives reflect the natural hydrology and climate of the region, and what is physically feasible with available water storages or infrastructure.

Given this, NIC is concerned by the language around 'connectivity' in the consultation documents, which sets a false expectation that constant connectivity is achievable, feasible, natural or desirable, and 'the fix' to declining conditions at Menindee Lakes. It is none of these things.

Focus should instead be on expectations management and public education on ephemeral rivers, as well as securing water supplies for critical human needs so communities (often developed during a wetter phase) are not solely reliant on an ephemeral river for basic needs.

Irrigation is not the problem

NIC rejects statements such as "*declining inflows from the northern Basin due to climate conditions and increased extraction*...". To the contrary, there has been a decline in irrigation since the late 1990s, because of reforms such as the Basin Plan, Water Sharing Plans, floodplain harvesting reform, and other regulations. This is barely acknowledged.

The below graph from the NSW DCCEEW shows the number of cease to flow days per year across different points in the Barwon-Darling River, from pre-1900s to the present. What this shows is that the river experienced cease-to-flow periods on many occasions throughout the past century, including well prior to the development of irrigated agriculture.

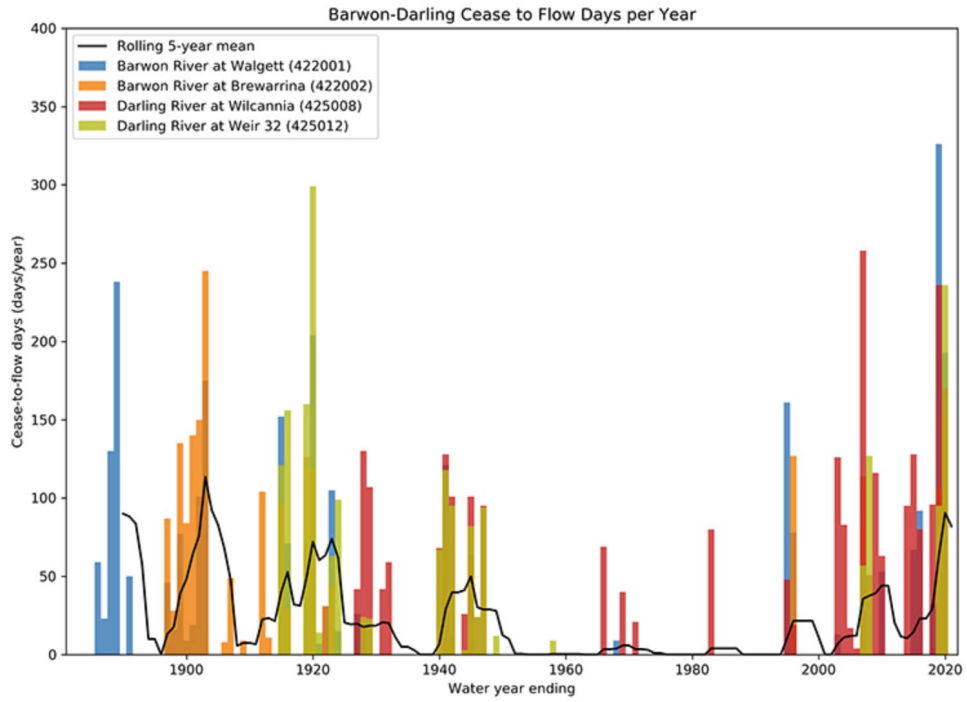


Figure: Number of cease to flow days per year across different points in the Barwon-Darling river, from pre-1900s to the present (source NSW DCCEEW)[4]

Irrigation now makes up a small proportion of total inflows, in both the Northern and Southern Basin. Basin-wide water diversions are just 28% of total inflows, with 72% remaining in rivers for the environment.

If we look at the water sources directly above and below the Lakes, the drivers of environmental risks are not water-sharing related. Table 1 below is excerpted from the NIC Submission to the Murray-Darling Basin Plan Review, showing the Barwon-Darling and Lower-Darling (see appendix 1 for all valleys). Notably, in no valleys, is water-sharing the problem.

Table 1: Excerpt from NIC Submission to the Murray-Darling Basin Plan Review, Barwon-Darling and Lower-Darling

[4] **Cease to flow periods in the Barwon-Darling | NSW Government Water**

SDL unit	MDBA's assessment of whether SDL reflects ESLT[5]	SDL compliance[6]	Adjusted cumulative balance – end of year[7]	Environmental outcome risks, identified by MDBA[8]	Drivers of environmental outcomes at risk, identified by MDBA[9]	Impact of further water recovery on outcomes[10]	NIC Analysis	Is water-sharing a problem to solve?
Barwon-Darling	Unable to determine, further work required	Yes	79.56	Ecosystem function and native fish	Pattern of flow is the likely leading driver of risk	3 indicators change, 1 with low confidence	No case for further water recovery / SDL changes. Over 94% of long-term average annual flow in this water source is protected as Planned Environmental Water under the Water Sharing Plan. The environmental risks are not water-sharing issues.[11]	**No**
Lower-Darling	Unable to determine, further work required	Yes	36.82	Flows and connectivity, ecosystem function and native fish	Pattern of flow	No change	95.59% of the water entitlements on issue in this water source are already Held Environmental Water. The issue cannot clearly be water-sharing related.[12] The NIC notes that a review of Menindee Lakes infrastructure and operations is occurring concurrently to the Basin Plan Review, indicating that other factors are influencing this water source. Please see our submission on Menindee Review.	**No**

Climate uncertainty

Central to conversations on the management and operation of the Menindee Lakes, is designing a shared future vision, within climate realities. In our view, the problem-definition must be reframed to the climate and hydrological realities of Menindee Lakes, and the development and operation of the Lakes in that context.

This must involve frank conversations on what is realistic and feasible, and how the risks can be shared by all users. Climate uncertainty is a collective challenge requiring Governments,

[5] Sustainable Diversion Limit assessments - surface water - Groups - MDBA Library, see document for each valley.
[6] Based on MDBA Registers of Take (2023-24, most recent), see final column 'was the trigger exceeded': 2023-24 Sustainable Diversion Limit Accounts
[7] Ibid, see Adjusted cumulative balance – end of year.
[8] Sustainable Diversion Limit assessments - surface water - Groups - MDBA Library, see document for each valley.
[9] Ibid.
[10] Based on MDBA Initial SDL Assessments, and comparison of LoE1 to LoE2.
[11] See: https://legislation.nsw.gov.au/view/pdf/asmade/sl-2012-488 (p 11). The WSP has recently been updated noting this figure is not expressed directly but is still correct as a minimum.
[12] https://www.water.nsw.gov.au/our-work/projects-and-programs/environmental-water-management-nsw/environmental-water-data-and-0

communities, industry, irrigators, and the environment to all share the risk, and cooperatively better plan and prepare for everyone to achieve more from less.

This section outlines:

- How existing policy settings manage for climatic and hydrological variability;
- The importance of water security for agriculture, with a changing climate;
- The role of water infrastructure as a key mitigation tool.

Policy settings

Climate change (and climate variability) is factored into water sharing and management frameworks, through several mechanisms most commonly applied by the allocation decision making framework of individual states. As water is managed by the States, these mechanisms are primarily embedded in State legislation and policies. States' water sharing policies and practices account for climate variability and represent jurisdictions assessing risk and thus climate change.

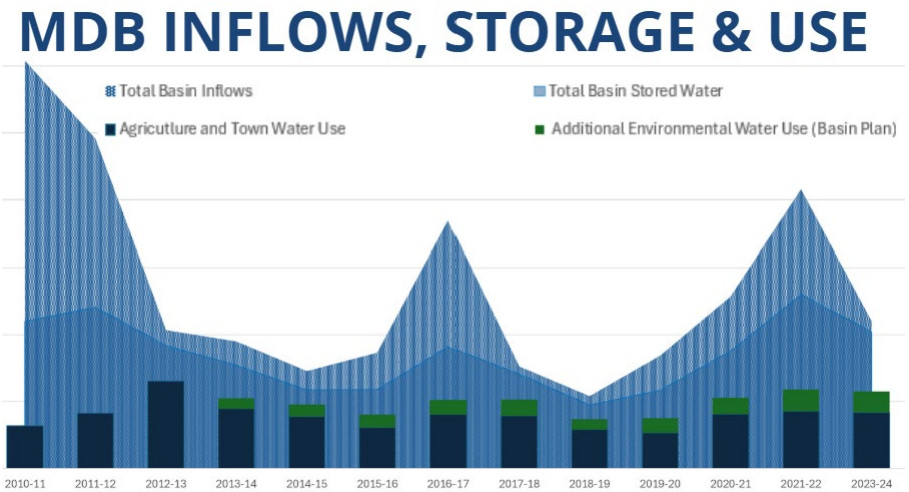
These mechanisms include:

- the establishment of entitlements that are to a share of the available resource (not all the resource, a share),
- the making of water allocations,
- setting extraction limits.

This can be observed operating in practice. Data shows that consumptive water users receive less water during droughts (as well as those entitlements bought-back from irrigators), with water allocations returning with water availability.

The below figure shows how this has operated over the past 15 years, with total diversions (dark blue columns) varying with a similar trend to total inflows and stored water. Over time, HEW is also shown, indicating the additional amounts of water available to the environment through recent reform.

Figure 1: MDB Inflows, Storage and Use



Water allocations for many entitlement types are facing decreasing reliability. There are several drivers of this (including policy changes), but a big one is also climate.

It is not well appreciated that current policy settings do factor in climate. This is not to say that the system is foolproof, rather, that Governments must ensure an accurate information base of possible future scenarios (not just of water availability, but how this trickles down through water sharing frameworks to produce different outcomes for different users with existing policy settings).

Water Security for agriculture

Water security for agriculture is critical in any climate. Reliable water for agriculture is fundamental to our national and international food security and, our regional and national economies, and it must be protected and valued to maintain these relationships.

Even under the most extreme climate scenarios, it will be important to maintain a viable agricultural sector. Under current management arrangements, where water allocations to consumptive users are lowest-priority, the irrigated agricultural sector will be hit first and hardest. This does present risk to water users.

Managing for climate change should not about demanding more water to maintain historical benchmarks to a changing environment. All users must share risks and opportunities. NIC agrees with the questions in the MDBA's Early Insights Paper that:

> "*can these [achievement of Basin Plan environmental outcomes] be better mitigated and responded to, or will some desired environmental outcomes not be sustainable under climate change?*"

In our view, a key missing part of the consultation materials for this Review, is identifying the environmental (and other) outcomes that are sought to be achieved, to inform evidence-based and pragmatic dialogue on risk-sharing and trade-offs.

Mitigation

Modern, fit for purpose water infrastructure is essential to capture, store, and use water efficiently and will be a critical climate adaption and mitigation tool needed to maintain water security for all.

In our view, a more comprehensive look at a range of solutions, including infrastructure, is needed to secure water for critical needs (such as towns) but also agriculture. This will need a broader support for practical solutions, aligned to the risk and could include considerations of new or smarter infrastructure (storage dams, weirs, pipelines, tanks), secondary supply sources for towns and/or industrial users, improved water recycling, desalination, or water-carting as a last resort for town water supply.

NIC is concerned by a view that these challenges can be addressed by just taking water off agriculture. This ignores that: (i) agricultural water is significantly reduced during dry periods already; (ii) water for agriculture remains critically important during dry periods; and (iii) that policy response would likely be insufficient to achieve objectives.

Ageing Infrastructure

NIC notes the chapter on infrastructure in the Basin Plan Review Discussion Paper, which raises major concerns regarding water infrastructure across the Basin.

Specifically:

> *"Much of this river infrastructure, including for town water treatment and supply, is near or passed its engineered life span and increasingly vulnerable to failure... Ongoing underinvestment in major asset maintenance and renewal has led to major condition, capability and operability issues at some assets."*[13]

This also extends to water infrastructure for critical human water needs. The consideration of the future for the Menindee Lakes must occur alongside consideration of these other assets, as part of a broader review of infrastructure being fit-for-purpose, climate resilient, and maintained across the Basin.

Evidence-based approach is critical

NIC is deeply concerned by the politicisation of the Menindee Lakes system and urges evidence-based policy responses. The discrepancies between the technical report and issues paper should be a concern for all stakeholders.

NIC notes that the principles for Phase 1 of the Review include: evidence-based, adaptive, transparent and objective. However, the discrepancies in the conversion of technical facts into opinions in the consultation materials shows a departure from these principles already.

For this reason, NIC has recommended key processes be undertaken as part of the continuation of the Menindee Review as outlined in our recommendations.

Complementary measures

The challenges faced at Menindee Lakes can be substantially progressed with complementary measures – such as public investment without cost recovery in permanent fish passageway. These measures provide viable pathways to achieve intended environmental objectives (in ways "just adding water" cannot), while also not interfering with the reliability of water access for those up or downstream.

There is a clear case for public investment in permanent fish passageways. The Technical Report recognises this, saying:

> *"Due to the modifications introduced at Main Weir in the Menindee Lakes in the 1960s there is a minimum ~9.5 metre head difference creating a deep pool where the water body can become stratified, reducing the exchange of oxygen and nutrients. The structure's height is also a critical barrier to fish passage and interrupts the longitudinal connectivity between the northern and southern Basins. In an attempt to travel upstream, fish are found accumulating in large numbers immediately downstream of both the weir and Wetherell outlet. Although gates are opened during floods, the head difference and water velocity prevent fish movement and, as such, there is limited upstream passage for native fish species even during these high flow events."*[14]

[13] 2026 Murray–Darling Basin Plan Review Discussion Paper
[14] Technical Paper [154].

"The Wetherell outlet structure delivers water into the Lower Darling (Baaka), but with a head difference up to 12m it cannot provide fish passage upstream. This site is currently considered a priority site for investment to permanent fish passage improvements. As of July 2025, and in response to the OCSE Review169, NSW DCCEEW (formally DPIE-Water) have undertaken a 3-year trial utilising new technology and a temporary fish passage solution comprising of a floating pontoon and tubeways, which also features artificial intelligence to identify fish."[15]

"The issue of fish passage was a particular contributor to the 2023 mass fish deaths, which saw a significant biomass of fish accumulate in the Weir 32 weir pool following two years of high flow conditions and successful fish spawning."[16]

This cannot be addressed with water volumes.

See NIC Basin Plan Review Discussion Paper, and NIC Moving Forwards Basin Plan Review for further details

Use and management of Held Environmental Water

It is important to recognise that significant volumes of water stored in the Menindee Lakes are Held Environmental Water (HEW), and the management of this water is at the discretion of that water holder (such as the Commonwealth Environmental Water Holder).

If changed environmental outcomes are desired, the use and management of the existing water for the environment – both Held and Planned – is critical – beyond simply seeking more water.

The NIC note that the north-south connectivity trial at Menindee Lakes has been extended, and that there is a proposal to create 'new special purpose licences' to permanently implement the trial into the future. We encourage the governments involved to apply the principles as well as, process recommendations, as part of this submission to further engage stakeholders in that trial.

According to the NSW Held Environmental Water Dashboard (HEW share component) – 86.05% of entitlements in the Lower-Darling Regulated Water Source are HEW. Given that volume of water already acquired, it is clear that water sharing arrangements are not the key driver of problems. Hence, we encourage the consideration of other options as outlined in earlier as part of complementary measures and infrastructure or alternatively refer to our recent submission into the MBBA's Basin Plan Review Discussion Paper.

See NIC Basin Plan Review Discussion Paper, and NIC Moving Forwards Basin Plan Review for further details

Use of operational savings

NIC recommends that any efficiencies that are achieved via improved operations, management or infrastructure of the Lakes goes towards contributing to securing and restoring the reliability of water access entitlements. This can assist to restore the declining reliability that has been

[15] Technical Paper [154].
[16] Technical Paper [143].

experienced by entitlements holders of recent decades (and applies to where entitlements are used for environmental or consumptive purposes).

Public Consultation

NIC is concerned that the volume of concurrent water reviews is limiting the ability for stakeholders to respond comprehensively. This is not a reason to not consult, rather, to ensure further consultation on next steps occurs, to ensure the views of stakeholders are clearly, confidently and accurately captured in necessary detail.

It is also important that the time and effort of stakeholders in consultation with Government is not wasted and is drawn to a conclusion. The Menindee Lakes have had a plethora of reviews and business cases, for a range of options almost since construction. Yet today, we contribute to yet another review, all the while there remains ageing and failing infrastructure that is limiting the operations of the Lake and no permeant fishway, for what we are told is one of the most important native fish nursey, spawning and recruitment hotspot for the Murray Darling Basin. Not only are communities' burden with consultation, but they are also burdened with consultation that does not lead to any practical action.

Furthermore, NIC is also concerned between the role and responsibilities of agencies in consultation with affected parties. Given the different approaches by the jurisdictions involved to engage proactively and effectively with stakeholders, it is imperative that a central organisation is responsible to deliver informed, timely information as requested by this submission, as well as ensure all affected stakeholders are appropriately engaged throughout the process, not after the fact.

Conclusion

The management of the Menindee Lakes is important for water users across the system.

Any potential changes to the management, operation or infrastructure at the Lakes must respect water property rights across the northern and southern systems but specifically – the reliability of water access entitlements. NIC is concerned that the foundational role of the Lakes as a storage that supports the NSW, VIC and SA bulk water shares for the Murray is not properly recognised and that any impacts (both direct and indirect) have not been properly considered in the review to date, nor are these factors factored into the funding required (i.e. compensation) for some of the proposed options to progress.

There are a range of options (such as permanent fish passageway) which serve to meaningfully improve environmental outcomes, without eroding water property rights. These must be pursued as the highest priority.

Ultimately, the ephemeral nature of the system that feeds the Lakes must be recognised, which will require managing expectations on what is realistic, feasible, natural and desirable for the Lakes. A shared vision is required so all stakeholders can answer the question – what is the problem we are trying to solve?

NIC is willing to be at the table for discussions around future projects at Menindee Lakes to take practical, reasonable steps to improve economic, social and environmental resilience of the

Lakes whilst maintaining the integral role the Lakes have for multijurisdictional bulk water shares for the Murray and water security for agriculture. NIC and our members are available to discuss the contents of this submission further.

Contact

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Appendix 1) Excerpt of NIC Basin Plan Review Submission

SDL unit	MDBA's assessment of whether SDL reflects ESLT[17]	SDL compliance[18]	Adjusted cumulative balance – end of year[19]	Environmental outcome risks, identified by MDBA[20]	Drivers of environmental outcomes at risk, identified by MDBA[21]	Impact of further water recovery on outcomes[22]	NIC Analysis	Is water-sharing a problem to solve?
Barwon-Darling	Unable to determine, further work required	Yes	79.56	Ecosystem function and native fish	Pattern of flow is the likely leading driver of risk	3 indicators change, 1 with low confidence	No case for further water recovery / SDL changes. Over 94% of long-term average annual flow in this water source is protected as Planned Environmental Water under the Water Sharing Plan. The environmental risks are not water-sharing issues.[23]	**No**
NSW Border Rivers	Confident	Yes	102.85	Not at risk		No change	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Condamine-Balonne	Confident	Yes	723.96	Not at risk		1 indicator shifts, with low confidence,	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**

[17] Sustainable Diversion Limit assessments - surface water - Groups - MDBA Library, see document for each valley.
[18] Based on MDBA Registers of Take (2023-24, most recent), see final column 'was the trigger exceeded': 2023-24 Sustainable Diversion Limit Accounts
[19] Ibid, see Adjusted cumulative balance – end of year.
[20] Sustainable Diversion Limit assessments - surface water - Groups - MDBA Library, see document for each valley.
[21] Ibid.
[22] Based on MDBA Initial SDL Assessments, and comparison of LoE1 to LoE2.
[23] See: https://legislation.nsw.gov.au/view/pdf/asmade/sl-2012-488 (p 11). The WSP has recently been updated noting this figure is not expressed directly but is still correct as a minimum.

SDL unit	MDBA's assessment of whether SDL reflects ESLT [17]	SDL compliance [18]	Adjusted cumulative balance – end of year [19]	Environmental outcome risks, identified by MDBA [20]	Drivers of environmental outcomes at risk, identified by MDBA [21]	Impact of further water recovery on outcomes [22]	NIC Analysis	Is water-sharing a problem to solve?
						already 'more likely than not'		
Gwydir	Likely	Yes	153.46	Waterbirds	Pattern of flow	No change	MDBA analysis shows no change in environmental outcomes from further water recovery (including to waterbirds), therefore no case for further water recovery / SDL changes. The inability to deliver water to parts of the Gwydir Wetlands is identified as the driver of waterbird risks and would require addressing physical and operational constraints and/or implementing environmental works and cannot be addressed via water-sharing measures.	**No**
Intersecting Streams	Confident	Yes	0	Not at risk		2 indicators change, with low confidence	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Lachlan	Confident	Yes	207.18	Not at risk		No change	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Macquarie-Castlereagh	Confident	Yes	377.37	Not at risk		No change	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**

SDL unit	MDBA's assessment of whether SDL reflects ESLT [17]	SDL compliance [18]	Adjusted cumulative balance – end of year [19]	Environmental outcome risks, identified by MDBA [20]	Drivers of environmental outcomes at risk, identified by MDBA [21]	Impact of further water recovery on outcomes [22]	NIC Analysis	Is water-sharing a problem to solve?
Murrumbidgee	Likely	Yes	-239.56 [24]	Native fish, flows and connectivity, and native vegetation	Pattern of flow	2 indicators change, already 'more likely than not' and indicators that are already scoring positively in the SRA. No change in SRA indicators scoring poorly.	No case for further water recovery / SDL changes. For all the environmental outcomes identified as at-risk (native fish, flows and connectivity, and native vegetation) there is no change from additional water recovery (LoE1 and LoE2). MDBA analysis in the SRA also shows the Murrumbidgee scores 'very good condition' for longitudinal connectivity: "*The valley met 100% of longitudinal connectivity environmental watering requirements in almost all years*". Freshes and bankfull flows also scored positively in the SRA, as well as both low and high floodplain connectivity. It is noted that constraints management was not factored into the MDBA assessments. The initial SDL assessment says, "*These measures [NSW Reconnecting River Country*	**No**

[24] While the Murrumbidgee was negative in the 2023-24 water year, the Basin Plan compliance trigger is 20% of the SDL, to account for 'unders and overs' year to year. Given the Murrumbidgee SDL that year is 2142.00 GL, the compliance trigger is -428.40, which was not exceeded.

SDL unit	MDBA's assessment of whether SDL reflects ESLT [17]	SDL compliance [18]	Adjusted cumulative balance – end of year [19]	Environmental outcome risks, identified by MDBA [20]	Drivers of environmental outcomes at risk, identified by MDBA [21]	Impact of further water recovery on outcomes [22]	NIC Analysis	Is water-sharing a problem to solve?
							Program Murrumbidgee Project] … would substantially alleviate the risks identified in this assessment". This is not a water-sharing issue, rather a water delivery issue. Changing the SDL or recovering more water would not be effective against these environmental risks.	
Namoi	Confident	Yes	40.34	Not at risk		No change	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
NSW Murray	Likely	Yes	1394.69	Flows and connectivity, ecosystem functions and native fish	Pattern of flow	No change	MDBA analysis shows no change in environmental outcomes from further water recovery. Therefore, there is no case for further water recovery / SDL changes.	**No**
Lower-Darling	Unable to determine, further work required	Yes	36.82	Flows and connectivity, ecosystem function and native fish	Pattern of flow	No change	95.59% of the water entitlements on issue in this water source are already Held Environmental Water. The issue cannot clearly be water-sharing related. [25] The NIC notes that a review of Menindee Lakes infrastructure and operations is occurring concurrently to the Basin Plan Review, indicating that other factors are influencing this water	**No**

[25] https://www.water.nsw.gov.au/our-work/projects-and-programs/environmental-water-management-nsw/environmental-water-data-and-0

SDL unit	MDBA's assessment of whether SDL reflects ESLT [17]	SDL compliance [18]	Adjusted cumulative balance – end of year [19]	Environmental outcome risks, identified by MDBA [20]	Drivers of environmental outcomes at risk, identified by MDBA [21]	Impact of further water recovery on outcomes [22]	NIC Analysis	Is water-sharing a problem to solve?
							source. Please see our submission on Menindee Review.	
SA River Murray	Unable to determine, further work required	Yes	115.83	Flows and connectivity, ecosystem functions, native fish and waterbird	Pattern of flow (due to constraints) likely, sufficiency of flow also potential factor.	3 + 1 change respectively (channel + Coorong / Lower Lakes assessments), already 'more likely than not' for SA River Murray and 'about as likely or not' for Coorong / Lower Lakes.	Flow versus entitlement analysis for SA suggests on average 5% of flows (1969-2025) are available as entitlements [26], indicating that water-sharing is not the issue and there is no case for further water recovery / SDL changes. The objectives specified in the Basin-Wide Environmental Watering Strategy (a component of the Environmental Watering Plan) were developed in 2014, and since that time, there is new science that questions whether those objectives remain feasible, fit-for-purpose or reasonably achievable (and if so, at what cost). This must be reviewed, and realistic objectives identified, with a view to what remains plausible with climate futures, against triple-bottom-line objectives.	**No**

[26] Average total flow data for 1969-2025 equals 6,851GL whereas total entitlement for agricultural use is 354GL (total 608GL minus 254GL of environmental water entitlements via Environment SA) , although use can be higher and lower than this entitlement volume due to trading (in and out of SA) and lower water availability during drought management arrangements.

SDL unit	MDBA's assessment of whether SDL reflects ESLT [17]	SDL compliance [18]	Adjusted cumulative balance – end of year [19]	Environmental outcome risks, identified by MDBA [20]	Drivers of environmental outcomes at risk, identified by MDBA [21]	Impact of further water recovery on outcomes [22]	NIC Analysis	Is water-sharing a problem to solve?
							For the SA River Murray Channel and Floodplain, the outcomes that improved from LoE1 to LoE2 were already 'more likely than not' at present. The drivers specify "*flow constraints have limited overbank flows and lateral connectivity, preventing environmental water delivery to many wetland and floodplain ecosystems*" – this would not change via SDL changes or further water recovery. For the CLLMM, only 1 theme changed from LoE1 to LoE2 from considerable further water recovery. Exploring alternative measures to achieve revised fit-for-purpose outcomes is needed.	
SA Murray Region	Confident	Yes	159.29	Not at risk		N/A [27]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
QLD Border Rivers	Confident	Yes	556.49	Not at risk		No change	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**

[27] No figure provided in SDL assessments as "The flow regime remains relatively intact and expected to sustain water-dependent ecosystems."

SDL unit	MDBA's assessment of whether SDL reflects ESLT [17]	SDL compliance [18]	Adjusted cumulative balance – end of year [19]	Environmental outcome risks, identified by MDBA [20]	Drivers of environmental outcomes at risk, identified by MDBA [21]	Impact of further water recovery on outcomes [22]	NIC Analysis	Is water-sharing a problem to solve?
Moonie	Confident	Yes	252.63	Not at risk		N/A [28]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Eastern Mount Lofty Ranges	Confident	Yes	62.80	Not at risk		N/A [29]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Marne Saunders	Confident	Yes	4.32	Not at risk		N/A [30]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Warrego	Confident	Yes	136.27	Not at risk		N/A [31]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Nebine	Confident	Yes	22.83	Not at risk		N/A [32]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Paroo	Confident	Yes	0.37	Not at risk		N/A [33]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore	**No**

[28] No figure provided in SDL assessments as: 'The flow regime remains relatively intact and will support the needs of those water-dependent ecosystems.'
[29] No figure provided in SDL assessments as "The flow regime remains relatively intact and expected to sustain water-dependent ecosystems."
[30] No figure provided in SDL assessments as '… the volume of all flows as part of the flow regime is relatively intact.'
[31] No figure provided in SDL assessments as: 'The flow regime remains relatively intact and will support the needs of those water-dependent ecosystems.
[32] No figure provided in SDL assessments as: 'The flow regime remains relatively intact and will support the needs of those water-dependent ecosystems.'
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							no case for further water recovery / SDL changes.	
ACT	Confident	Yes	94.98	Not at risk		N/A[34]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Vic Murray	Likely	Yes	1147.25	Flows and connectivity, ecosystem functions and native fish	Pattern of flow (due to inability to deliver water onto floodplains)	No change	MDBA analysis shows no change in environmental outcomes from further water recovery. Therefore, there is no case for further water recovery / SDL changes.	**No**
Kiewa	Confident	Yes	27.54	Not at risk		N/A[35]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Ovens	Confident	Yes	72.74	Not at risk		N/A[36]	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Broken	Confident	Yes	10.03	Not at risk		No change	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**

[34] No figure provided in SDL assessments as: The flow regime remains relatively intact and will support the needs of those water-dependent ecosystems.'
[35] No figure provided in SDL assessments as "The flow regime remains relatively intact and expected to sustain water-dependent ecosystems."
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SDL unit	MDBA's assessment of whether SDL reflects ESLT [17]	SDL compliance [18]	Adjusted cumulative balance – end of year [19]	Environmental outcome risks, identified by MDBA [20]	Drivers of environmental outcomes at risk, identified by MDBA [21]	Impact of further water recovery on outcomes [22]	NIC Analysis	Is water-sharing a problem to solve?
Goulburn	Likely	Yes	1848.01	Flows and connectivity, ecosystem functions and native vegetation	Pattern of flow (inability to deliver higher in-channel flows and water to the floodplain in the lower Goulburn River)	No change	MDBA analysis shows no change in environmental outcomes from further water recovery. Therefore, there is no case for further water recovery / SDL changes.	**No**
Campaspe	Confident	Yes	104.19	Not at risk		No change	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Loddon	Confident	Yes	166.62	Not at risk		No change	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**
Wimmera–Mallee	Confident	Yes	135.38	Not at risk		No change	MDBA analysis shows confidence in the SDL reflecting an ESLT, therefore no case for further water recovery / SDL changes.	**No**

FIND OUT MORE

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Background on the Murray Darling Basin Review

Moving Forwards: NIC Review of the Murray Darling Basin Plan

Background on the Murray Darling Basin Plan

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