Response to the Murray-Darling Basin Royal Commission Report

September 2023

Government of South Australia

Foreword: Minister for Climate, Environment and Water

In July 2023, the Murray-Darling Basin Authority provided advice to the Hon Tanya Plibersek MP, Australian Minister for the Environment and Water, that it is not possible to fully implement the Murray-Darling Basin Plan by 30 June 2024.

This news was not a surprise to anyone, least of all to South Australians.

For the better part of the last 10 years, the National Party of Australia has used its control of the federal water portfolio to stall and sabotage the Basin Plan. And together with the New South Wales and Victorian governments, it has delayed water recovery at every opportunity.

The Basin Plan offered a once-in-a-generation opportunity to rebalance Australia's biggest river system by finally addressing the historical over-allocation and over-extraction of water and to prioritise the health of the stressed Murray-Darling Basin. It was never going to be easy, but there was an expectation that all Basin jurisdictions would act in the collective interest of the Basin and implement what they agreed to in 2012.

A dead river system is of no use to anyone. During the Millennium Drought, ecosystems that had already suffered decades of stress from increasing salinity and decreasing flows from uncontrolled upstream development risked collapse and irreversible damage. When the next extended drought comes – and the experts are telling us that it will – we need to have available an appropriate amount of water so that the Basin's environments can be protected.

The Basin Plan's biggest failure is the complete lack of commitment to recovering the final 450 GL by the previous Australian Government, New South Wales and Victoria. South Australia fought for this water and the environmental outcomes sought from this final 450 GL were written into the Basin Plan and Water Act 2007 (Cth). These are critical outcomes, not simply 'nice to have'. The forecast for a drier climate in the southern Basin means that this recovery is essential.

However, the Basin Plan is not solely about water recovery. It provided significant opportunities to directly benefit irrigated agriculture and communities. Constraints relaxation projects can provide increased

protection to communities during natural flow events, including minor floods. On-farm efficiency projects benefit both irrigators and regional communities through increased productive capacity and climate resilience. Unfortunately, these opportunities have been actively opposed, with some state governments denying their irrigators funds to become more productive while contributing to the sustainability of our rivers.

The 2012 Basin Plan was a political compromise. It was not the best – or even a tolerable – outcome for the environment. So much so that the Murray-Darling Basin Royal Commission unequivocally found that it was not based on the best available science, there was no proper consideration of climate change, and proper consultation has not occurred with our First Nations Australians.

Despite this, it was better than no Basin Plan at all.

South Australia continues to demand the full implementation of the Basin Plan and calls on the Australian Government and other Basin jurisdictions to demonstrate their commitment to the collectively agreed water recovery and environmental outcomes.

This document contains South Australia's views and positions on the Royal Commission's findings and recommendations to deliver the Basin Plan as it currently is and what we should collectively do now, in the medium term and in the longer-term. We must ensure that our unique and internationally important river system can continue to support a vibrant and healthy environment, while we continue to provide safe water of a reasonable quantity for consumptive purposes.

Hon. Susan Close
Minister for Climate, Environment and Water

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Foreword: Commissioner for the River Murray in South Australia

For decades state governments have recklessly overallocated the water resources of the Murray-Darling Basin. This occurred despite the obvious harm it was doing to the environment, perhaps first most graphically demonstrated when the mouth of the Murray closed in 1982. As we know, the mouth of our greatest river has had to be dredged almost continuously since the early 2000s.

In 2007, Federal Parliament finally recognised the damage over-extraction was doing to the health of the Basin's environment, and passed legislation requiring the development of a Basin-wide water plan. The chief objective for this plan was to set a balance between the consumptive uses of water such as irrigated agriculture, and ensuring the wetlands and ecosystems of the Basin are protected and restored, and capable of being enjoyed for generations beyond this one. The making of such a Plan had the potential to be our most significant national environmental endeavour. So far though, that opportunity has been squandered – but it is not yet entirely lost.

The current Basin Plan fails legally - the level of water recovery for the environment does not represent an 'environmentally sustainable level of take' required by the Commonwealth Water Act, the legislation under which the Basin Plan was created. It risks not meeting Australia's obligations under international treaties and agreements, upon which the constitutional validity of the Basin Plan rests.

It fails scientifically – the Basin Plan was required to be prepared on the basis of the 'best available scientific knowledge'. It was not. The water recovery target for the environment was determined following a political compromise not authorised by the Water Act. Politics was then dressed up as science, a falsehood that continues to this day. Climate change projections were not included in the water recovery target, against the firm advice of the CSIRO. Of the base recovery target of 2,750 GL per year on average, the Basin states have been excused of recovering 605 GL of this on the back of infrastructure and other projects (still not completed after a decade) that would appear to be based on a shambolic gamble or a guess rather than 'best available science'. All of this is very depressing to those that even have a modest regard for the environment of the Basin, but it gets worse.

The Plan fails ethically – the active subterfuge and foot dragging by many governments over the last 10 years is shameful. Of the 450 GL that must be recovered in the southern Basin in addition to the 2,750 GL – water that is crucial to achieving vital environmental and ecological improvements – about 12.2 GL has been recovered in 11 years. This has been caused by a lack of effort across all governments, if not deliberate sabotage of the Plan. It demonstrates at a level of obviousness that a new approach to delivering this water is needed.

Bret Walker SC made 44 recommendations to improve the implementation and future iterations of the Plan in his 2019 Royal Commission Report. Many of these recommendations were made to ensure the environmental objectives of the Water Act are met by the Basin Plan. Not one crucial recommendation has been adopted by any government to date.

Still, the current imperfect Basin Plan is better than no plan at all. But it must be improved, and made lawful. This response to Mr Walker's findings and recommendations highlights what has gone wrong, and provides a timely outline of what needs be done to make the Plan achieve the environmental goals that were set for it.

RBeasley

Richard Beasley SC
Commissioner for the River Murray in South Australia

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Introduction

The Murray–Darling Basin is Australia's largest and most iconic river system.

Its health underpins the environmental, social, cultural and economic wellbeing of communities reliant on its finite water resources. Despite its geographic size, the rivers of the Basin carry by far the smallest volume of water of any major river system in the world. These rivers are therefore particularly vulnerable to any degree of change, whether by natural causes or from unsustainable diversions for agricultural or other consumptive uses.

For too long the infrastructure and management of the Basin focused on meeting the demands for more agricultural production, resulting in a lack of attention to the degrading effects on the natural environment.

However, the Millennium Drought from 1997 to 2010 brought governments and communities to the realisation that ecosystems were on the brink of collapse. Water reform was desperately needed.

The Australian Government passed the Water Act in 2007. It was developed to ensure a return to environmentally sustainable levels of take and to protect, restore and provide for the ecological values and services of water-dependent ecosystems. The Act gives effect to Australia's international biodiversity, conservation and environmental obligations.

To meet its objectives, the Water Act required the preparation and implementation of a Murray–Darling Basin Plan, which was ultimately agreed and commenced in 2012-13.

The Basin Plan offered a once-in-a-generation opportunity to rebalance the system, address the historical over-allocation and over-extraction of water, and prioritise the health of the Basin for the long-term benefit of all Australians.

The importance of delivering the Basin Plan in full remains as relevant now as it was in 2012.

The 3,200 GL Basin Plan currently comprises:

- recovery of 2,075 GL of water for the environment by the Australian Government through water entitlement purchases and investment in infrastructure to make water use more efficient.
- 70 GL reduction in water recovery in the northern Basin, arising from the Northern Basin Review, through a more targeted approach to water recovery that minimises social and economic impacts in northern Basin communities.
- 605 GL offset to the SDL in the southern Basin that will be achieved by New South Wales, Victoria and South Australia implementing infrastructure projects or changes to river operating rules (supply projects) and relaxing operational constraints (constraints relaxation projects).
- recovery of 450 GL of water for the environment in the southern Basin by the Australian Government through projects that reduce water losses from irrigation, commercial and public water supply infrastructure with neutral or positive socio-economic impacts (efficiency measures).

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Murray–Darling Basin Royal Commission Report

In 2017, the ABC's Four Corners program broadcast allegations of water theft, non-compliance and deliberate destabilisation of Basin Plan implementation by upstream interests. Following national outrage, the South Australian Government established the Murray–Darling Basin Royal Commission (Royal Commission).

The terms of reference directed the Royal Commission to consider the objectives of the Water Act and the Basin Plan, the technical and scientific underpinnings of the Basin Plan, the modelled environmental outcomes and assessments, and the status of progress in implementing measures to achieve the Basin Plan's outcomes.

While the Royal Commission received evidence from experts across the Basin, the then Australian Government prevented its officials and agencies from providing evidence. The Murray-Darling Basin Royal Commission report (2019) nonetheless contains a detailed consideration of the history and the scientific and legal basis of the Basin Plan and its implementation.

The final Royal Commission report contains 44 recommendations and remains an invaluable resource for all South Australian and Australian citizens with an interest in seeing the original environmental objectives of the Water Act realised. The report has informed how the South Australian Government will pursue full implementation of the Basin Plan under the Water Act, and will inform its approach to the 2026 Basin Plan Review.

The previous government responded to the Royal Commission's recommendations in September 2019.

Basin Plan Implementation

The South Australian Government remains committed to ensuring that the Basin Plan's original statutory water recovery commitments are met – amounting to 3,200 GL of water recovery for the environment or equivalent outcomes.

Completion of the Basin Plan is necessary to ensure the protection of the Basin's internationally recognised and protected wetlands including the Coorong, Lower Lakes and Murray Mouth, and to ensure that the Murray–Darling Basin will continue to support the irrigation, water supply, recreation and tourism activities that rely on a healthy aquatic environment.

In this Royal Commission response, the South Australian Government has outlined its expectations and requirements for full delivery of the Basin Plan by reference to the following four themes detailed in this document:

1. **The original target for Basin Plan water recovery must be achieved in full**
2. **Further action must be taken to maximise environmental outcomes from required Basin Plan water recovery**
3. **First Nations Australians' water rights and interests must be addressed**
4. **Water management across the Basin must be done transparently and with accountability.**

In the final section, all of the Royal Commission's 44 recommendations are listed together with a description of how the South Australian Government is addressing each recommendation and/or working to influence the responsible agency or government to address the recommendation.

In progressing the Basin Plan policy commitments outlined in this document, the South Australian Government will continue to work with other Basin jurisdictions and key parties in good faith.

The South Australian Government expects other jurisdictions to demonstrate the same commitment to Basin Plan implementation. In the event that bad faith or mismanagement impedes the achievement of outcomes required under the Basin Plan, the South Australian Government reserves all rights to instigate legal action consistent with the findings of the Royal Commission and any other legal course of action available to it.

Basin Plan water recovery

The Basin Plan's target to recover the equivalent of 3,200 GL of water for the environment must be achieved in full

Key points

- The original Basin Plan water recovery target to recover the equivalent of 3,200 GL of water for the environment, and all associated environmental outcomes, must be delivered.
- This includes the final 450 GL, which was a key condition of South Australia agreeing to the Basin Plan in 2012, and is essential for any semblance of an ESLT to be achieved as required under the Water Act.
- The Royal Commission found that the Basin Plan's ESLT does not meet the Water Act's environmental objectives and legal requirements.
- The Basin's key environmental assets are also adversely affected by the SDLAM water recovery 'offset' projects that are incomplete (and may never be completed), and are based on highly speculative and uncertain guesswork rather than the 'best available scientific knowledge'.
- As a result of SDLAM projects in New South Wales and Victoria not being delivered by the statutory deadline of 30 June 2024, there will be a shortfall against the overall water recovery target of between 190 GL and 315 GL – with the Menindee Water Savings Project (in New South Wales) and projects to address environmental water delivery 'constraints' (in New South Wales and Victoria) being major contributors.
- The Water Act's 1,500 GL cap on water buybacks also remains an impediment to achieving the Basin Plan's water recovery targets.
- The overly complex and subjective additional socio-economic criteria agreed by Ministerial Council in 2018 are another impediment to recovering the 450 GL, are not supported by the current South Australian Government and are almost certainly invalid.

South Australia proposes the following key actions

- The MDBA to review and revise the ESLT, acting on the best available scientific knowledge, to ensure that it is legally valid (as required by the Water Act) as part of the 2026 Basin Plan Review.
- The Australian Government to amend the Water Act to remove the 1,500 GL cap on water buybacks and to allow the purchase of water entitlements to recover the 450 GL and meet any other outstanding water recovery requirements.
- The Australian Government to consider implementing a limited timeframe extension for SDLAM projects, but only where there is evidence of a high certainty of delivery, accompanied by appropriate and binding accountability mechanisms.
- The Australian Government to recover any shortfall against failed SDLAM offset projects. This includes water recovery to address the shortfall against the Menindee Lakes Water Savings Project, which New South Wales should formally withdraw from the SDLAM.
- The Australian Government to apply its Strategic Water Purchasing Framework to purchasing water entitlements from willing sellers to ensure that all Basin Plan water recovery targets are met.
- In addition to introducing water purchase to recover the 450 GL, the Australian Government should immediately implement an open and competitive efficiency measures program in the southern Basin that is free from jurisdictional interference. In the unlikely event that it is established that any efficiency measures actually caused significant adverse socio-economic impacts on a given community, the Australian Government should also consider implementing a new program to address these impacts.
- The Australian Government to consider introducing a legislative safeguard to mandate recovery of the entire 450 GL as soon as practicable and to undertake a further independent statutory review of expenditure of funds from the WESA in 2025.
- The Australian Government to acknowledge that the 2018 socio-economic criteria for irrigation efficiency measures are invalid.
- The Australian Government to remove the ability of Basin states to hinder any new efficiency measures assessment processes.

The original target for Basin Plan water recovery must be achieved in full

Current and future generations of Australians have a vital interest in efforts to protect and restore the nationally and internationally significant wetlands of the Murray–Darling Basin, including those connected to the River Murray in South Australia.

The River Murray continues to be of significant cultural, spiritual, social and economic value to First Nations Australians along the River Murray in South Australia, who have enjoyed its resources for tens of thousands of years. From the state's border, the river flows through the traditional lands of the First Peoples (Ngaiawang, Ngawait, Nganguraku, Erawirung, Ngintait, Ngaralte, Ngarkat language groups), the Peramangk and the Ngarrindjeri, before meeting the sea at the Murray Mouth.

As the largest reliable surface water resource in South Australia, the River Murray supplies drinking water to metropolitan Adelaide and regional towns and communities across the state, as well as water for irrigation, tourism, recreation and vital wetlands and ecosystems.

Along its 640-kilometre length in South Australia, there are around 800 wetland complexes connected to this part of the River Murray alone. This includes the Riverland–Chowilla floodplain, Banrock Station, and the Coorong and Lower Lakes – all of which are of international environmental significance and recognised in international conventions.

The Riverland–Chowilla Ramsar site is a major centre for waterbird breeding, and contains unique stands of native river red gum forest. It is the largest remaining natural river red gum forest in the Lower Murray, and its diverse aquatic habitats support many iconic and endangered native species, including the Murray cod.

The Coorong and Lower Lakes are important for their biodiversity, agriculture, fisheries, water supply, Aboriginal cultural outcomes, recreation and tourism. The area supports a diverse range of unique plants and animals, many of which are threatened. It supports waterbirds and is an important breeding site, including for 37 species of migratory birds. It is also home to about half of the total number of fish species found in the Basin and is the connection point for fish species moving upstream from the ocean and Coorong estuary to the River Murray and the Darling River to breed, including the pouched lamprey and congolli.

It is because of the intrinsic importance and the national and international environmental significance of the South Australian River Murray, as well as the economic, social and cultural benefits that a healthy river system provides, that the originally agreed Basin Plan water recovery target of 3,200 GL remains non-negotiable for the South Australian Government.

The Water Act requires the Basin Plan to specify long-term average sustainable diversion limits (SDLs) that set the annual volume of water that may be used for irrigation, water supply and industry across the Basin. The Australian Government has also committed to the water recovery required to 'bridge the gap' between the volume of water that was being taken at 30 June 2009 (the baseline diversion limits or BDLs) and the new SDLs.

These SDLs must reflect an ESLT. This means that the level of take must not exceed that which would damage the:

a. key environmental assets
b. key ecosystem functions
c. productive base or
d. key environmental outcomes of the Basin.[1]

These are solely environmental criteria.

It was in this context that the MDBA publicly released a draft Basin Plan in November 2011 with a water recovery target of 2,750 GL (on average, per year) and associated SDLs that, in its opinion, represented an ESLT.

This volume represented a massive reduction from the ESLT range that the MDBA had claimed was appropriate

1 Water Act 2007 (Cth), section 4.

less than one year before – approximately 3,000 GL (for a high uncertainty of success) to 7,600 GL (low uncertainty). Following consultation on the Guide to the Basin Plan, several key policy decisions were announced by the Australian Government in relation to water recovery under the Proposed Basin Plan. This included a decision that water entitlements would be recovered (from the purchase of entitlements from willing sellers and from investment in infrastructure upgrades and efficiency programs). Given this, the MDBA was able to use an approach that targeted the delivery of environmental water when assessing the volume of water recovery required for an ESLT and this approach was then used to justify the reduction.

South Australia then advocated for a 3,200 GL Basin Plan based on an independent analysis of the available science and information, to ensure that required environmental outcomes could be delivered. From this independent analysis (which was consistent with conclusions reached by the CSIRO in its own work), it was clear that recovering the additional 450 GL, along with addressing constraints to delivering environmental water in the southern Basin, would achieve significantly more of the Basin environmental targets than could be achieved by recovery of 2,750 GL alone.

Importantly, South Australia's argument in favour of recovering the additional 450 GL was incorporated into the final Murray–Darling Basin Plan adopted by the then Australian Government Minister in November 2012. It was also reflected in associated Commonwealth legislative commitments, including commitments to pursue the southern Basin environmental outcomes outlined in Schedule 5 of the Basin Plan, which remain in force.

South Australia has since progressed its implementation of the Basin Plan's legislated commitments and expects all Basin jurisdictions to do the same – that is, to deliver the Basin Plan as was negotiated and agreed in good faith. The South Australian Government's expectation has not changed: the agreed 3,200 GL package of water recovery must be delivered in full and all Basin jurisdictions must act consistently with the Basin Plan's legislated commitments. Anything less represents not just a failure to implement science, but also of cooperative federalism.

Successive South Australian governments have maintained that the Basin Plan's priority is to ensure the long-term annual average recovery of 3,200 GL, through the mechanisms described in the Basin Plan. However, water recovery through buybacks was put on hold from 2012–13[2] and we now face a scenario in which a significant volume of water must be recovered to meet the Basin Plan's targets in the limited time remaining before the Basin Plan's statutory deadline expires on 30 June 2024.

The South Australian Government also acknowledges the Royal Commission's finding that the MDBA's determination of the ESLT involved a 'fundamental failure' that has continuing consequences for the Basin Plan to achieve the objects and purposes of the Water Act.[3] As outlined by the Royal Commission, the MDBA's determination of the ESLT was based on a political compromise. It incorporated undisclosed considerations of socio-economic impacts, and was not determined on the statutory basis of 'best available scientific knowledge'. This is contrary to and risks compromising the environmental priorities prescribed in the Water Act. As a result, the SDL set in 2012 'did not reflect an ESLT and was thereby unlawful'[4] and the Royal Commission recommended that this be addressed immediately by the MDBA.

The South Australian Government shares the Royal Commission's view about the importance of achieving an ESLT and meeting the environmental objectives of the Water Act. Back in 2012, the state had similar concerns during the process of negotiating the Basin Plan.[5] This is what led to South Australia commissioning its own independent scientific analysis and advocating for the additional 450 GL and addressing constraints to the delivery of environmental water.

In the short-term, the South Australian Government is prepared to put aside its arguments about the ESLT to focus on the job of ensuring that the Basin Plan's original water recovery targets and environmental outcomes are delivered in full. It will be the MDBA's responsibility in the Basin Plan review to revise the ESLT in line with the requirements of the Water Act, as described by the Royal Commission.

2 Australian Government Department of Agriculture and Water Resources, *Commonwealth water reform investments in the Murray–Darling Basin: Social and economic outcomes*, Canberra, November 2017: 18.
3 South Australia, Murray-Darling Basin Royal Commission (MDBRC), **Report**, 2019: 188–189.
4 South Australia, MDBRC, **Report**, 2019: 225.
5 South Australia, MDBRC, **Report**, 2019: 219–221.

While the South Australian Government shares the Royal Commission's concerns about meeting the ESLT, it maintains that delivering (and improving) the Basin Plan that we have is better than not having a Basin Plan. In this respect, there can be no compromise on the original water recovery targets and associated environmental outcomes. South Australia's highest priority continues to be full implementation of the 3,200 GL Basin Plan, including recovery of the final 450 GL.

Bridging the gap

The Basin Plan requires the Australian Government to recover water entitlements to 'bridge the gap' between the Basin's BDL and SDL by 30 June 2019. After accounting for the 605 GL SDL offset (see further below), the remaining 2,075 GL water recovery target for 2019 (reduced from 2,750 GL) needs to be recovered across 23 SDL resource units, with 320 GL required in the northern Basin, 1,684 GL in the southern Basin and 71 GL in disconnected areas.

The water recovery target for each SDL resource unit is explicitly divided into a local recovery amount (water recovered for environmental outcomes within that SDL resource unit) and a shared recovery amount (water recovered to contribute to downstream environmental outcomes).

As of 31 March 2023, the volume of water recovered by the Australian Government to 'bridge the gap' was 2,107.4 GL[6]. While this is greater than the overall bridging the gap target, it is the result of recovery greater than Basin Plan targets in some areas. In South Australia, the water recovery of 141 GL has exceeded the required target by 9.2 GL. In comparison to New South Wales and Victoria, South Australia has recovered proportionally more of its water recovery target to date.

The Australian Government has implemented several water recovery programs that have acquired water entitlements for the environment. This has included purchasing water from the market and investing in infrastructure efficiency projects, such as upgrading farm irrigation systems or reducing water losses from irrigation delivery systems. Participation in all programs has been voluntary.

Basin-wide, around 1,228.3 GL has been acquired via water entitlement purchase and 692.8 GL via infrastructure efficiencies. The remaining 182.6 GL has come from state government recoveries (where states have implemented their own programs). In South Australia, 84.6 GL has come from water entitlement purchase, 47.3 GL via infrastructure efficiencies and 9.1 GL from state government recoveries.[7]

Against the 30 June 2019 targets to 'bridge the gap', the total deficit remaining is 46 GL, comprising 30.2 GL in northern Basin SDL resource units, 14.9 GL in southern Basin SDL resource units, and 0.9 GL in disconnected areas. Consistent with its Strategic Water Purchasing Framework to bridge the gap (released in February 2023), the Australian Government opened a targeted tender to recover the water in those specific SDL resource units and this closed in May 2023.

6 MDBA, *Progress of water recovery towards 'Bridging the Gap' to sustainable diversion limits (SDLs) as at 31 March 2023*, 9 May 2023.
7 MDBA, *Progress of water recovery towards 'Bridging the Gap' to sustainable diversion limits (SDLs) as at 31 March 2023*, 9 May 2023.

At the time of writing the Australian Government is still assessing responses and is expected to make offers to purchase the water in around August 2023.

South Australia supports the Strategic Water Purchasing Framework and the Australian Government's plan to bridge the gap using voluntary buybacks. Further, the South Australian Government maintains that this framework should be applied more broadly for future water recovery to ensure that the full 3,200 GL package required by the Basin Plan is achieved.

While water recovery is required in some northern Basin SDL resource units in New South Wales to bridge the gap, there is over-recovery in others. These over-recoveries have resulted primarily from the outcomes under the Northern Basin Review and revisions to accounting factors used to compare water entitlements across the Basin (LTDLE factors). Irrespective of the reason for the excess water recovery, South Australia does not support the reassignment of these over-recoveries to meet the remaining deficits in different SDL resource units, as the water still to be recovered is for local environmental outcomes and so must be recovered in the original SDL resource units.

Another impediment to water recovery is the 1,500 GL limit on water purchased under water purchase contracts. Sections 85B to 85D of the Water Act impose this 'cap on buybacks'. This was not part of the 2012 Basin Plan but was brought forward as an amendment in 2015 by the then Australian Government Minister responsible for the Basin Plan.

This amendment brought into law the then Australian government's policy position to not undertake any further buyback of water entitlements.

As at 31 May 2023, 1,228.4 GL is accounted for under this cap, leaving 271.6 GL available.[8] Given this, the cap is not currently constraining the Australian Government's purchase of entitlements. However, removing this restriction would provide greater flexibility to recover water for the environment to meet the Basin Plan's required 3,200 GL of water recovery. In 2022, the South Australian Government wrote to the Australian Government, citing the removal of this cap as a priority matter to be addressed.

Finally, if the integrity of Basin Plan outcomes is to be maintained, then any failures to meet water recovery targets within Basin Plan timeframes should result in reductions in the associated consumptive allocations for as long as the targets are not met.

Sustainable Diversion Limit adjustment mechanism

During negotiations on the draft Basin Plan, New South Wales and Victoria pushed for a mechanism to provide flexibility in how environmental outcomes could be delivered, thereby allowing the SDLs to be increased and water recovery targets to be reduced.

In reality, and as the Royal Commission's report highlights, the request to develop what was eventually included in the Basin Plan as the SDLAM was a political compromise and designed to operate in 2 ways:

1. to increase water for the environment and decrease SDLs through efficiency measures, thereby addressing South Australia's request for a 3,200 GL water recovery target, and
2. to decrease the bridging the gap water recovery target of 2,750 GL and increase SDLs by implementing supply measures. This addressed the 2,100 GL water recovery target proposed by New South Wales and Victoria.[9]

8 Department of Climate Change, Energy, the Environment and Water, *Australian Government water purchasing in the Murray-Darling Basin* 7 July 2023.
9 South Australia, MDBRC, **Report**, 2019: 290.

While the SDLAM was designed to both increase and decrease SDLs, the provisions in the Basin Plan focus primarily on the increase to the SDLs via the determination of an 'SDL offset' and the method by which this will be determined.

To achieve an SDL offset, supply measures (which may include constraints relaxation projects) are required to provide equivalent environmental outcomes with less water recovery, or to make more water available to the environment via projects that reduce evaporation. The Basin Plan currently requires all measures to be completed and in operation by 30 June 2024, and any SDL adjustment must also reflect an ESLT.

This part of the SDLAM has only been applied in the southern Basin where HEW is able to be actively managed and released from the major River Murray storages to deliver environmental outcomes. The largely unregulated rivers of the northern Basin make the delivery of water for the environment less able to be managed.

To determine an SDL offset, the SDLAM is not simply about scoring environmental outcomes and then reducing water recovery. It is about projects substituting for flow and/or using it more efficiently. The equivalence of the flow-related outcomes is intended to provide the basis for the offset, and ensures its conceptual and scientific consistency with the ESLT.

In practical terms, SDL offset projects provided opportunities for Basin states to improve local environments and offset water recovery from the Basin's water users. Projects that met the Basin Plan criteria were put forward by Basin states, and the MDBA then determined that the package of 36 supply projects (including 5 constraints relaxation projects) provided a basis for a total SDL offset of 605 GL across 17 SDL resource units.

In 2018, the Australian Government passed a package of Basin Plan amendments, including adjustments to the SDLs to reflect this outcome, well in advance of the legislated timeframe for project completion.[10] Until projects are completed – or an equivalent volume of water is recovered – the environment bears the impact of reduced water availability while consumptive water users are benefiting.

The Royal Commission found that the concept of the SDLAM has merit in that it purportedly allows equivalent environmental outcomes to be achieved by infrastructure and the like, which in turn leaves water in the rivers to be accessed by water users. It also observed that deliberate management actions and infrastructure that directs water to environmental outcomes is required for many ecological assets.

However, the Royal Commission raised significant concerns about the capacity of notified supply measures to achieve equivalent environmental outcomes based on the lack of information about projects, implementation challenges that are not addressed, unrealistic implementation timeframes, and assumptions about the use of HEW that would fetter the discretion of the CEWH.[11] The Royal Commission referred to several reviews that described the Ecological Elements Method of the SDLAM as having a 'substantial error space', being 'novel and untried', and being based on 'limited' scientific knowledge.[12] It further held that the application of the SDLAM has 'most likely delayed the chances of achieving the Basin Plan's intended environmental outcomes by at least five years' by amending the SDLs on the 'gamble' that equivalent environmental outcomes will eventually be achieved in the future.[13] These concerns have been echoed by the Commissioner for the River Murray in South Australia.[14]

The Royal Commission's concerns strengthen South Australia's resolve to ensure the 3,200 GL Basin Plan package is delivered as intended, including the final 450 GL and constraints relaxation measures.

10 Basin Plan Amendment Instrument (No 1) 2018 (Cth).
11 South Australia, MDBRC, Report, 2019: 306–308.
12 South Australia, MDBRC, Report, 2019: 303.
13 South Australia, MDBRC, Report, 2019: 333.
14 Beasley R. SC, *Commissioner for the River Murray Interim Report*, November 2022. Beasley R. SC, *The unrecovered 450GL of water for the environment under the Basin Plan*, May 2023.

South Australia's implementation of supply measures

South Australia has completed the implementation of 4 of the 6 supply measure projects it has lead responsibility for. The MDBA has completed assurance assessments of these projects to evaluate whether the expected environmental outcomes are capable of being delivered to support the SDL offset.

COMPLETED PROJECTS

1. Riverine Recovery Project (RRP) – infrastructure works on high value wetlands along the South Australian River Murray have allowed the reinstatement of natural wetting and drying cycles to improve the wetland health and reduce evaporative losses. In its 2021 assurance assessment, the MDBA stated that it is confident that the RRP is capable of achieving the expected environmental outcomes and that the transfer of 7.2448 GL of water entitlements to the Australian Government supported volumetric adjustment as envisaged in the original notification.
2. Chowilla floodplain supply measure – a major environmental regulator on the Chowilla Creek and a range of complementary works were constructed to allow flows to be managed and enable inundation across the floodplain under relatively low river flow conditions. In its 2022 assurance assessment, the MDBA found that the physical structures are capable of operating at the flow rates modelled to deliver the anticipated frequency and duration of watering events and are therefore capable of delivering the anticipated environmental outcomes and associated SDL offset.
3. South Australian Riverland Floodplain Integrated Infrastructure Program (SARFIIP) – a package of environmental works and measures allows the periodic managed inundation of the Pike and Katarapko floodplains. In its 2022 assurance assessment, the MDBA found that the environmental works have demonstrated the capability to achieve anticipated environmental outcomes for both floodplains and the associated SDL offset.
4. South-East Flows Restoration Project – constructing new and widening existing drains in the Upper South-East Drainage System have reinstated historical south to north flow paths by diverting water currently draining to the ocean to the Coorong South Lagoon and en route wetlands. The relatively fresh water will aid in reducing salinity in the Coorong South Lagoon and enhance ecosystem resilience, as well as enhance the quality of en route wetlands. The project has 2 distinct phases. Phase 1 was completed in June 2019. The South Australian Government is preparing an amendment to the project notification, as operational changes for Coorong releases will deliver a higher proportion of water available under Phase 1 to the Coorong South Lagoon, and hence there is no business case to pursue Phase 2 and, as the MDBA found in its assurance assessment in 2023, likely no material impact on the SDL offset.

PROJECTS REQUIRED TO BE COMPLETED BY 30 JUNE 2024 UNDER CURRENT BASIN PLAN SETTINGS

South Australia is making good progress on its remaining supply measures and constraints relaxation project.

1. Flows for the Future – a package of measures to reinstate more natural flow patterns by reducing the interception of low-flow events by farm dams in the Eastern Mount Lofty Ranges. This will improve downstream ecological habitats and general water catchment health and resilience as well as provide additional water to the Lower Lakes. The MDBA's 2023 Assurance Assessment of the project is that additional structures are likely to be completed by 30 June 2024 and the project is likely to be capable of supporting the envisaged environmental outcomes.
2. River Murray in South Australia Constraints Project – capital works and other mitigation activities, including operational, policy and land management arrangements to address the physical and policy constraints to the delivery of regulated flows up to 80,000 ML/day at the South Australian border. These flows are important for achieving the environmental outcomes identified in the Constraints Management Strategy developed by the MDBA. The MDBA's 2023 Assurance Assessment of the project confirmed that implementation of the required elements will be completed by 30 June 2024 and the project will be in operation. (However, with respect to additional infrastructure components, the impact of the recent River Murray floods on delivery timeframes is still to be completely understood at the time of writing.)

Progressing other supply measures to reconciliation

The Basin Plan currently requires all supply measures to be completed and in operation by 30 June 2024. If a supply measure will not enter operation by this date, then it must be withdrawn. If a new determination of the SDL offset would produce a different result than in 2017, such as due to changes to projects or the removal of projects from the package, then the MDBA must undertake a 'reconciliation' of the SDL offset. That is, it must determine a new SDL offset, such that mechanisms in the Water Act would then be used to amend the existing SDLs.

In its 2022 assurance assessment, the MDBA estimated a revised SDL offset of between 290 and 415 GL, based on the likelihood of only partial delivery of the package of supply measures by 30 June 2024. This would equate to an SDL offset shortfall of between 190 and 315 GL against the 605 GL offset determined in 2017. The MDBA's 2023 assurance assessment confirmed this range and noted the shortfall would be at the higher range of the forecast.

The impending SDL offset shortfall will result in revised and reduced SDLs, which Basin states will then need to comply with. The reduced SDLs should then require the Australian Government to undertake additional water recovery to 'bridge the gap'. The obligation to bridge the gap comes from the explicit setting of water recovery targets in the Basin Plan. This enshrined the Australian Government's commitment that irrigator entitlements and water access rights would not be compromised as a result of the Basin Plan. However, should the Australian Government decide not to bridge the gap or impediments to do this are not removed, then Basin states will need to reduce allocations, directly impacting the long-term reliability of water entitlements for all water users.

Given the magnitude of the likely shortfall, South Australia has called on the Australian Government to amend the Water Act to remove the 1,500 GL cap on buyback so as to not impede its ability to purchase water from willing sellers.

In this context, a key priority of the South Australian Government to progress Basin Plan implementation involves resolving how to manage SDL offset projects at risk of not being operational by June 2024, with Basin governments needing to agree on actions and accountabilities to make good any SDL offset shortfall. South Australia will continue to progress these issues through negotiations between Basin ministers and officials.

Continued delays in implementing SDL offset projects are also affecting the environmental outcomes that these projects are intended to achieve. As stated by the Royal Commission,

> *even when supply measure projects are constructed and in operation, an assessment over a long period of time would be necessary to determine whether they are capable of achieving their intended outcomes. The phenomena in question do not lend themselves to overnight transformation.*[15]

15 South Australia, MDBRC, **Report**, 2019: 328.

Addressing New South Wales's and Victoria's requests for extensions to statutory timeframes

For several years, New South Wales and Victoria have requested additional time to deliver the large number of supply measures that they agreed to implement. This additional time is beyond the legislated 30 June 2024 deadline. In many cases there has been a lack of progress or stakeholder and community support for these projects, resulting in concerns about the prospects for delivery (either by 30 June 2024 or, in some cases, ever). South Australia has continued to push for the delivery of projects in New South Wales and Victoria to be accelerated (where possible) and delivered in accordance with the Basin Plan.

In February 2023, the Basin ministers were advised that the full implementation of some supply projects has been frustrated by the recent floods and COVID-19 before that. In Victoria, these include 9 Murray floodplain restoration projects. In New South Wales, there are 3 projects that aim to modernise water supply systems and/or enhance environmental watering outcomes and 2 subcomponents of the New South Wales constraints relaxation projects (for all of which the Australian Government agreed to provide acceleration funding from 2021–22). The MDBA has estimated that collectively these projects contribute approximately 135 GL to the SDL offset.

With only a short amount of time remaining before the Basin Plan's statutory deadline of 30 June 2024, the South Australian Government has indicated its conditional support for a limited extension of time for supply measures that are substantially progressed and will achieve environmental outcomes but that have been legitimately delayed by the recent floods and COVID-19. However, an extension for any project beyond the Basin Plan's legislated timeframe needs to maintain Basin Plan integrity, irrespective of how much time is needed. Without suitable accountability arrangements that can be enforced, it is South Australia's view that any extension would unacceptably delay environmental outcomes and undermine the Basin Plan.

In February 2023, Basin ministers were advised that 2 projects in New South Wales – the Menindee Lakes Water Savings Project and Improved Flow Management Works at the Murrumbidgee River (Yanco Creek Offtake) – cannot be delivered in line with their original proposal. The MDBA has estimated that these projects contribute at least 100 GL to the 605 GL SDL offset, with almost all offset attributable to the Menindee Lakes project.

The Menindee Lakes Water Savings Project aimed to achieve evaporative savings by changing the operational arrangements of the lakes system. The preliminary business case also proposed compensating high-security water entitlement holders to allow for a transition from permanent plantings to annual cropping.

As an evaporative savings measure, the Menindee Lakes project's contribution to the SDL offset was as 'real' water entitlements that could be delivered for environmental outcomes rather than equivalent environmental outcomes. South Australia provided conditional approval for the further development of the project and its inclusion in the package of supply measures modelled in 2017. At that stage there were significant knowledge gaps, and an extensive program of investigations, environmental impact assessment, modelling and analysis was required to address the issues identified prior to any final decision on implementation. It was made clear at that time that, if the project did not 'stack up', it would need to be removed from the supply package during the reconciliation process.

The business case was independently assessed, and it was found that the project was not supported by a comprehensive ecological analysis, had failed to properly include the Barkandji people as the native title claimant group, and posed significant environmental, social, economic and third-party risks.[16]

16 South Australia, MDBRC, Report, 2019: 313.

The Royal Commission held serious concerns about the lawfulness of the Menindee Lakes project as a supply measure and recommended its removal from the SDL offset package. It indicated that there is no basis in the business case and project materials to support the MDBA finding that it would achieve equivalent environmental outcomes as compared with the benchmark model. It also found that the MDBA's analysis (which put the project outside of the SDLAM framework for testing environmental equivalence) was inexplicable and an attempt to avoid an assessment of the environmental impacts. There have also been numerous ecological concerns for the Menindee Lakes in recent years, amplifying the likelihood of adverse environmental outcomes resulting from setting the SDL too high and too readily adjusting it to reduce recovery flows for the environment.[17]

The Menindee Lakes and Yanco Offtake project proposals have also been very unpopular with local communities and stakeholders. While a re-scope of both projects commenced in April 2021, the new proposals are now substantially different, will not be delivered in a reasonable timeframe (or at all) and the SDL offset will be significantly reduced or negligible. The South Australian Government therefore believes that New South Wales should abandon these 2 projects and that the Australian Government should commence the necessary water recovery.

New South Wales has requested that the re-scope of the Menindee Lakes project continue, highlighting the 'broader environmental outcomes' – euphemistically known as 'complementary measures' – that it believes can be delivered. While so-called complementary measures may have positive local environmental outcomes, they do not align with the fundamental concept of the ESLT and they cannot be used to substitute for water recovery. As they do not change how much flow is required to deliver environmental outcomes, their inclusion would erode flow-dependent outcomes.

Given this, South Australia does not support complementary measures contributing towards the SDL offset.

Addressing delays in New South Wales's and Victoria's constraints projects

The River Murray, Murrumbidgee and Lower Darling constraints relaxation projects in New South Wales and Victoria will also not have commenced construction by 30 June 2024, and their implementation is on longer and/or uncertain timeframes.

Together with the EEWD project, which is also unable to be delivered in full by 2024, these projects have been estimated by the MDBA to contribute an SDL offset of approximately 100 GL.[18]

The potential pathways for the implementation of these constraints relaxation projects is discussed further in Section 2.

17 South Australia, MDBRC, **Report**, 2019: 318.
18 The Goulburn Constraints project is not a supply measure, but the assumptions about flow rates in the Goulburn are a relevant input to the determination of the SDL offset.

The 450 GL for enhanced environmental outcomes

In reality, the Basin Plan is not going to deliver 3,200 GL of real environmental water.

Adjustments from the SDLAM and Northern Basin Review will result in only 2,075 GL being recovered.[19] Even with the addition of 450 GL and the reversal of some SDL offset measures, overall water recovery will fall short of the 2,750 GL volume of the Basin Plan. As outlined above, water recovery against all current targets will also fall short of the level required to deliver an ESLT.

In this context, recovery of the 450 GL remains the highest priority for the South Australian Government – as the necessary next step towards achieving an ESLT.

The 450 GL is not an optional part of the Basin Plan's 3,200 GL water recovery target, and it is clear from the object of section 86AA of the Water Act – to enhance the environmental outcomes that can be achieved by an increase in the volume of water available by 450 GL – that it is mandatory. As per section 86AA(3), the object 'is to be achieved'. In any event, and crucially for the constitutional validity of the Basin Plan, there would be no proper attempt to 'faithfully implement' the environmental objects of the Water Act in a plan that does not seek to recover the 450 GL as real water.

The commitment by the Australian Government to recover the 450 GL supports this view as well. As at July 2023, only 12.2 GL of the 450 GL has been registered with the CEWH, with a further 13.8 GL contracted for recovery.

The Royal Commission was steadfast in its finding that enhanced environmental outcomes supporting an ESLT cannot be achieved with only 2,750 GL of water recovery.

While the Royal Commission doubted that an ESLT could be achieved at 3,200 GL, it did find that the MDBA had relied on modelling that demonstrated environmental outcomes were achievable with 3,200 GL with constraints eased.[20] It also found that the 'importance of removing or easing constraints to the achievement of environmental outcomes, and to the usefulness or otherwise of supply measures and efficiency measures, cannot be overemphasised'.[21]

Similarly, since the Basin Plan negotiations, South Australia has maintained that recovery of 2,750 GL alone does not achieve an ESLT and that the recovery of the additional 450 GL (as per the modelling referenced in section 86AA(2)(h) of the Water Act) is the only way this can potentially be achieved.[22]

To determine an ESLT, the MDBA described environmental water requirements for key assets, referred to as 'hydrologic indicator sites', across the Basin. At each site, these requirements were represented as flow indictors, which are a series of regularly occurring flow volumes and/or flow rates that collectively define a healthy hydrological regime.

The MDBA's approach was then to assess the flow outcomes from a reduction in annual consumptive water use. The 2012 ESLT report states that an initial Basin-wide scale of change in the order of 3,000 GL was adopted based on the lower end of the reduction range set out in the Guide to the Proposed Basin Plan. Several factors, including the potential costs for irrigation-dependent communities, led to a reduction of 200 GL in proposed water recovery in the northern Basin.[23] The resultant 2,800 GL water recovery scenario was then assessed before this was reduced to 2,750 GL through a further reduction in water recovery of 50 GL from the northern Basin.[24]

19 The SDLAM has traded off environmental outcomes from the lower end of the system – which generally need higher flow rates or volumes – for localised environmental outcomes upstream. Given the MDBA's modelling showed that 2,400 GL was insufficient to achieve a significant number of key environmental objectives and did not represent an ESLT, the revised water recovery target of 2,075 GL cannot be considered an ESLT, even with the supposed equivalent environmental outcomes provided via the supply projects.

20 MDBA, *Hydrologic Modelling of the Relaxation of Operational Constraints in the Southern Connected System: Methods and Results*, October 2012, as referenced in South Australia, MDBRC, Report, 2019: 389.

21 South Australia, MDBRC, Report, 2019: 386.

22 Summarised at South Australia, MDBRC, Report, 2019: 383.

23 MDBA, *The proposed 'environmentally sustainable level of take' for surface water of the Murray–Darling Basin: Method and Outcomes*, November 2011, MDBA publication 226/11.

24 MDBA, *Hydrologic modelling to inform the proposed Basin Plan: Methods and Results*, February 2012, MDBA publication 17/12.

In 2012, the South Australian Government and the Goyder Institute for Water Research analysed the MDBA's modelling of the 2,750 GL scenario and the sensitivity analysis of 2,400 GL and 3,200 GL for the South Australian section of the River Murray. The analysis considered whether minimum environmental water requirements for key environmental assets and functions could be met, focusing on implications for key Ramsar sites located in South Australia as well as for the broader floodplain environment.

It was found that a water recovery scenario of 2,750 GL would not meet key environmental water requirements for the Coorong, Lower Lakes and Murray Mouth. It would not protect Lake Alexandrina from elevated salinity levels (>1,500 EC) and low water levels (<0.0 m AHD) under a repeat of Millennium Drought conditions, which would likely again result in severely adverse consequences for aquatic plants and animals. Salinity levels in Lake Albert could again exceed 2,000 EC.[25] Similarly, the 2,750 GL scenario would not allow most environmental water requirements for key floodplain areas in South Australia to be met, and a large percentage of these floodplain environments would remain at risk of environmental damage.[26]

The MDBA's own published work also showed that the 2,750 GL scenario would not deliver a number of the environmental water requirements for floodplain communities and wetlands across the Basin, including in the Murray catchment (e.g. Barmah–Millewa Forest, Hattah Lakes, Riverland–Chowilla floodplain) and the Goulburn and Mid-Murrumbidgee catchments.[27]

Given that a water recovery scenario of 2,750 GL would not protect and restore the key ecosystems, habitats and species reliant on Basin water resources, conserve wetlands declared under the Ramsar Convention or prevent long-term decline in biodiversity in South Australia, the South Australian Government determined that the associated SDLs did not reflect an ESLT and that more water recovery was needed.

This was supported by the CSIRO, which found that this water recovery scenario was not consistent with the MDBA's stated environmental water requirements and did not meet a significant percentage of the flow targets achievable under current operating conditions. In other words, there was not sufficient water available to meet the desired outcomes.[28] Put simply, there is no reliable or peer reviewed science that provides any rational support for the contention that recovery of 2,750 GL on a yearly average represents an ESLT.

It was the view of the South Australian Government that, of the available water recovery volumes analysed, the MDBA's 3,200 GL sensitivity scenario came closest to achieving the requirements of the Water Act. This volume would deliver significantly better outcomes for the Coorong and Lower Lakes, including a significant reduction in the number and duration of periods of disconnection and in the risk of elevated salinity levels that threaten key aquatic species.

At a River Murray system scale, the MDBA's modelling indicated water recovery of 3,200 GL would be expected to achieve 72 percent of the environmental flow indicators. The 450 GL component is particularly important for maintaining key wetland refuges and avoiding critical species loss in dry and very dry years when water availability is lower. Following the Millennium Drought, it took many years for some species to recover, while others still have not recovered to pre-drought levels.

The 450 GL was also shown to contribute to increasing the frequency of mid- to high-flow events at multiple floodplain locations along the River Murray. For example, it would enable large areas of the flood-dependent river red gums to be inundated at the Barmah–Millewa Forest and improve outcomes for the large river red gum and black box communities at the Gunbower and Koondrook–Perricoota forests.

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25 Lamontagne S, Aldridge KT, Holland KL, Jolly ID, Nicol J, Oliver RL, Paton DC, Walker KF, Wallace TA, Ye Q, *Expert Panel Assessment of the Likely Ecological Consequences in South Australia of the Proposed Murray-Darling Basin Plan: A Report to the South Australian Government*, Goyder Institute of Water Research, April 2012; Heneker T.M. and Higham J.S., *Review of the Basin Plan Water Recovery Scenarios for the Lower Lakes, South Australia: Hydrological and Ecological Consequences*, South Australian Department for Environment and Natural Resources, Adelaide, March 2012; Higham J., *An analysis of MDBA modelling outputs for the draft Basin Plan: Hydrodynamic modelling of the Coorong and Murray Mouth*, South Australian Department of Environment and Natural Resources, Adelaide, March 2012.

26 Bloss CM, Steggles T, Bald M & Heneker TM, *Hydro-ecological Analysis of the Proposed Basin Plan – South Australian Floodplain*, South Australian Department for Water, Adelaide, March 2012.

27 MDBA, *Hydrologic modelling to inform the proposed Basin Plan: Methods and Results*, MDBA, Canberra, 2012.

28 Young WJ, Bond N, Brookes J, Gawne B and Jones GJ, *Science Review of the estimation of an environmentally sustainable level of take for the Murray–Darling Basin*, CSIRO, November 2011.

These higher flow events support the wetland habitats and improve the breeding outcomes for the thousands of colonial waterbirds that nest when these areas are inundated.

The MDBA indicated that the ability to meet many of the environmental water requirements may be limited by physical and operating constraints on environmental water delivery. By relaxing constraints, the delivery of 3,200 GL would be expected to achieve 94 percent of the River Murray environmental flow indicators.

It has been asserted that the 450 GL for the environment should not be recovered until such time as all constraints have been relaxed. This only serves to embolden opponents of water recovery and ignores the reality that the original relaxed constraints assessment was based on delivering 3,200 GL of water for the environment. The Basin Plan no longer reflects 3,200 GL of real water recovery. At present there is not even 2,750 GL of water recovery, as 605 GL is no longer available as HEW due to the SDL offset; there is only 2,075 GL. The opposition to the urgent recovery of the 450 GL because of constraints issues has no rational basis and is not an evidence-based reason for not recovering this water.

Building on current levels of water recovery, the 450 GL remains critical to achieving in-stream outcomes and increasing connectivity between the main river channel and the floodplains in New South Wales, Victoria and South Australia. It is critical for boosting the amount of time that flow rates for the Basin's critical environmental assets can be delivered, improving the health of forests and fish and bird habitats, and avoiding critical environmental decline by using the infrastructure constructed through supply measures projects.

Moreover, while ongoing failures to address constraints in New South Wales and Victoria may limit the ability to maximise environmental outcomes for the floodplains in all 3 southern Basin states, these failures make no difference to the ability to accumulate and deliver environmental water for the benefit of the Coorong and Lower Lakes in extreme dry years.

In terms of recovering the additional 450 GL of water for the environment, it is also the case that this recovery must be focused on the southern Basin, consistent with the original modelling and the location of the 'enhanced environmental outcomes' to be pursued under Schedule 5 of the Basin Plan.[29] Any alternative approach that sought to rebalance the focus of the 450 GL in favour of the northern Basin would undermine the integrity of the Basin Plan and be inconsistent with the outcome of the Northern Basin Review, which determined that 70 GL of Basin Plan water recovery was no longer required in the northern Basin and that the SDL could be increased accordingly.

29 The additional outcomes possible from an increase in water recovery of 450 GL are referred to in the Basin Plan as 'enhanced' environmental outcomes. However, these are the outcomes observed under a 3,200 GL scenario – the environmental outcomes that South Australia wanted from a Basin Plan – and should not be regarded as optional enhancement.

Actions taken by South Australian Government to date to contribute to the 450 GL

Where funding has been made available, South Australia has actively participated in the Australian Government's On-Farm Further Irrigation Efficiency Program and the Efficiency Measures Program – which have helped South Australian irrigators upgrade on-farm infrastructure to achieve water savings, while improving productivity and output.

A total of 94 projects were funded under these programs, which collectively delivered 2.57 GL of water to the CEWH. Both of these programs have now ceased.

South Australia has also been exploring the potential for urban projects to reduce reliance on the River Murray and return water to the environment. One urban project that has been approved involves the City of Marion tapping into its recycled stormwater scheme to provide fit-for-purpose water to open spaces and has returned 143 ML to the CEWH. The South Australian Government has also been in negotiations to secure funding for urban projects in other metropolitan Adelaide council areas to return approximately 1 GL of water.

2018 SOCIO-ECONOMIC CRITERIA FOR EFFICIENCY MEASURES

For the purpose of recovering the final 450 GL, the Basin Plan provides for efficiency measures to supply water so that environmental outcomes are increased while maintaining or improving socio-economic outcomes (section 7.09(a)). The criteria for the assessment of 'neutral or improved socio-economic outcomes' under section 7.17(2)(b) relate directly to the participation of consumptive water users in on-farm and/or off-farm projects that improve water use efficiency.

In 2018, the Murray–Darling Basin Ministerial Council (the Ministerial Council) adopted new socio-economic criteria as the basis of the neutrality test for assessing all efficiency measure projects that are to contribute to the 450 GL. It was agreed that each state would establish a process to assess a project against the criteria to ensure compliance – before it would be submitted to the Australian Government for funding consideration.

These overly complex (and almost incomprehensible) criteria are a major impediment to recovering the 450 GL and should be removed.

As described by the Royal Commission,

> *critical detail is often lacking in the Agreed Criteria that necessarily render their future application a mystery. For example, 'large projects' must provide the detailed information about socio-economic benefits...but there is no definition of 'large project'.*[30]

There is no guidance for the assessment of projects against the criteria and it represents a fundamental change from the socio-economic neutrality test in the Basin Plan.

A key assertion by New South Wales and Victoria has been that on-farm efficiency measures will have negative socio-economic impacts, as they result in a reduction in the volume of water available for consumptive uses. This view is refuted by South Australia and has been addressed multiple times as part of the public consultation processes undertaken for efficiency measure projects.

Efficiency measures recover water that is effectively 'lost' through evaporation, leaky infrastructure and inefficient irrigation systems, and overwatering.

This water was unavailable for on-farm production use until the project was completed and the efficiency gain realised.

For a project to be approved as an efficiency measure, it must only return to the environment the conservative or minimum feasible volume that can be saved through the works, while maintaining or increasing productivity, profitability and resilience to climate and water variability.

South Australia's experience has been that on-farm efficiency measures benefit farmers and regional communities as they effectively increase the water available for productive uses in the consumptive pool. Water savings above those returned to the environment are retained by the irrigator and can be traded onto the water market, used to increase the irrigated area or build climate resilience by better managing water availability in dry years.

South Australian on-farm efficiency measure participants have also benefited from enhanced operational flexibility, greater productivity, crop diversification, and improved productive capacity, yield potential and crop quality.

In 2022, the South Australian Government wrote to the Australian Minister for the Environment and Water formally advising that South Australia no longer supports the socio-economic criteria adopted by the Ministerial Council in 2018.

The individual interpretation and subjective assessment of the criteria as carried out by each state – essentially allowing a veto on whether a project proceeds – have allowed political interference in the water recovery and in turn limited the opportunity for Basin irrigators to benefit from increased productivity and climate resilience.

While they are unable to be sensibly implemented, the most fundamental flaw in the additional criteria is that they are also almost certainly invalid. They are not consistent with section 7.17(2)(b) of the Basin Plan and the Australian Government Minister should not rely on them.[31]

30 South Australia, MDBRC, **Report**, 2019: 413.
31 Beasley R. SC, *Commissioner for the River Murray Interim Report,* November 2022, [21](b); South Australia, MDBRC, **Report**, 2019: 73.

How South Australia will continue to pursue full recovery of the 450 GL

South Australia will continue to consider all viable options to deliver the final 450 GL. To date, efficiency measures have been the preferred way to recover entitlements towards the 450 GL and South Australia has called on the Australian Government to immediately commence implementation of an on-farm irrigation efficiency program in the southern Basin that is open to all water entitlement holders and cannot be interfered with by the states.

However, given the MDBA's finding that the water cannot be recovered by 30 June 2024, a strategic water purchase program is now necessary to achieve the remaining water recovery to meet the 450 GL along with a limited time-frame extension.

Moreover, the Australian Government should consider legislative amendments that properly protect and mandate the recovery of the 450 GL so that there can be no doubt – and no more argument – about the necessity of recovering this water to achieve the outcomes legislated in the Water Act and Basin Plan. The recovery of the 450 GL should be completed as soon as practicable and a further independent statutory review of expenditure of funds from the WESA should be completed in 2025.

The Royal Commission received emotion-laden criticism that buyback programs result in socio-economic impacts to local communities. However, the experts who presented to the Royal Commission could not find evidentiary support for these observations. Moreover, many of the recent drivers of rural economic change have been attributable to a range of factors common to all regional areas and not just those connected to the Basin.[32]

The view that water buybacks will have negative socio-economic impacts has been refuted extensively, as discussed in the Royal Commission Report.[33] What has been established by peer reviewed research and rigorous independent analysis concerning the voluntary purchase of water entitlements is that:

- there is no proportional relationship between a reduction in water use and a reduction in agricultural production
- buying water is by many factors cheaper to government (and hence all taxpayers) than seeking to recover it through efficiency measure infrastructure upgrades
- the money obtained from sales of water entitlements was almost always spent locally
- a majority of farmers/irrigators sold only a partial entitlement, kept their delivery rights, and remained in farming/irrigation
- resulting reductions in debt meant people had more money to spend locally
- the economic impacts in rural and regional Australia from things like technological change and mechanisation (alone), increased urbanisation, changes in soil condition and fluctuations in commodity prices are far greater than any impact of the Basin Plan
- water entitlement purchases are a more certain means of recovering water.[34]

For those who oppose the recovery of water for the environment, it is often inconvenient to acknowledge what some of the real drivers of change in rural communities have been. Structural change has been occurring in regional Australia since settlement, driven by climate, social and economic factors (e.g. the value of the Australian dollar, salary and condition expectations, access to services, and increased urbanisation around local towns and regional centres) and changes in agricultural production methods and costs (e.g. technological change and mechanisation, and fluctuations in commodity prices and in costs associated with production).

Aside from the market-based effects of buybacks, the non-market value of improved aesthetics, improved water quality, and improved ecological populations and habitats also have substantial value. This will only be seen with the delivery of environmental water. The Royal Commission found that to view the impact purely in terms of job losses

32 South Australia, MDBRC, **Report**, 2019: 390.
33 South Australia, MDBRC, **Report**, 2019: 392–398, 406–410.
34 See South Australia, MDBRC, **Report**, 2019: 392-393 for cited evidence.

is 'fundamentally flawed from the outset because it considers only one input of a myriad that are relevant'.[35]

Regardless, the Royal Commission also found that if there are significant socio-economic impacts due to water recovery, then they should be addressed through structural adjustment spending on social infrastructure to ensure that communities do not shoulder an unfair burden. From an economic perspective, the recovery of water through voluntary buybacks and supported by structural adjustment policies would provide greater job benefit compared to spending on infrastructure alone.[36] It is also likely to involve less Australian Government expenditure than a program that relies only on efficiency measures to recover the 450 GL.

South Australia strongly considers that the Australian Government should make the necessary changes to legislation and policy to enable a strategic buyback program to commence. South Australia also supports a well-planned structural adjustment program to ensure the broader community is supported in those cases where there are demonstrated adverse impacts on communities, with the added benefit of buffering the economic impacts of climate change and general regional contraction.

35 South Australia, MDBRC, **Report**, 2019: 396.
36 South Australia, MDBRC, **Report**, 2019: 397.

Basin Plan environmental outcomes

Further action must be taken to maximise environmental outcomes from required Basin Plan water recovery

Key points:

- Physical, operating and policy constraints that impact the delivery of water for the environment need to be addressed in order to maximise environmental outcomes throughout the River Murray system.
- The projects to address constraints to water delivery and the EEWD project work in a complementary way to provide additional and enhanced environmental outcomes for significant areas of floodplain vegetation. These projects also contribute to the 605 GL SDL offset.
- Community acceptance of managed overbank flows must be addressed quickly.
- The 2022 MDBA SDLAM Assurance Report found that New South Wales's and Victoria's constraints projects will not be in operation by June 2024, and may require 5 to 10 more years to fully complete. This assessment did not change in the 2023 assurance report.
- The Royal Commission raised concerns about the reliability and the method used to determine the 605 GL SDL offset.
- The Royal Commission was critical of how climate change was considered in the development of the Basin Plan.
- Collaboration between the MDBA and jurisdictions is increasing and needs to continue for the purpose of developing Basin-scale climate change information to inform future decision-making by Basin governments and water market participants.
- The Northern Basin Review resulted in an increase in SDLs in the northern Basin of 70 GL. However, drought conditions in the northern Basin from 2017 to 2020 have highlighted the lack of environmental water and protections in that area. This suggests that the outcomes of the Northern Basin Review need to be revisited and that the resultant increase in northern Basin SDLs needs to be reversed. This should not be done in a way that affects legislative commitments to recover additional water in the southern Basin.
- Monitoring and evaluation are critical to underpin adaptive management and the resultant management improvements to achieve the Basin Plan's intended environmental outcomes.

South Australia proposes the following key actions

- If further time is agreed for the implementation of New South Wales and Victorian constraints projects, the Australian Government to legislate binding safeguards to ensure accountability for future water recovery in the event that the projects are not delivered within renegotiated timeframes.
- A pathway for the delivery of the constraints measures projects and the treatment of the SDL offset to be addressed prior to, or as part of, the Basin Plan Review.
- The Australian Government to consider investigating a properly funded, compulsory scheme to address constraints.
- The Australian Government to commit to the Schedule 5 and Water Act provisions remaining unchanged.
- The Australian Government to work with Basin jurisdictions to ensure appropriate protections for environmental water passing into and through the Menindee Lakes.
- The Australian Government to undertake a full and independent review of the SDLAM method to determine the robustness and validity of the 605 GL SDL offset, for the purpose of informing the 2026 Basin Plan review and future water recovery.
- The Australian Government to ensure that climate change considerations inform Basin ministers' decision-making and to consider how the proposed new National Water Commission and/or the federal Environment Protection Authority can advise on climate change adaptation research.
- The MDBA to undertake a science-based review of environmental water requirements for northern Basin SDL resource units as part of the Basin Plan Review.
- For the 450 GL, the Australian Government to focus its water recovery efforts on the southern Basin, consistent with Schedule 5 of the Basin Plan. The environmental outcomes sought under Schedule 5 are all in the southern Basin, and there is limited ability to deliver environmental water from the northern to the southern system.

Further action must be taken to maximise environmental outcomes from required Basin Plan water recovery

Constraints relaxation

The primary driver for the creation of the Basin Plan was a decision to prioritise, for the first time, the health of the Basin for the future. This included returning the equivalent of 3,200 GL of water to the Basin's rivers so that the health and resilience of its diverse environments and ecological assets could be improved using deliberate river operations for environmental watering. Put another way, the return of water to the system is not the end of the task – that water needs to be delivered in a way that maximises the environmental outcomes sought by the Basin Plan.[37]

There are known factors that impede the delivery of water throughout the River Murray system, whether to irrigators at times of peak demand or for specific watering actions at important ecological assets. These factors are known in the Basin Plan as constraints.

There are 3 types of constraints: physical, operating and policy constraints.

Physical constraints include natural formations or engineering structures that physically limit the volume of water that can be released or passed, such as dams and their spillways, weirs, regulators and bridges. This may also include embankments or channels that have silted up over time and prevent water moving into wetlands or onto floodplains.

Conversely, operating constraints are generally where a decision has been made to limit the delivery of flow to a specified rate. In these cases, releasing higher flow rates may reduce the efficiency of water delivery (unnecessarily increase water losses) or cause significant damage to infrastructure, towns or surrounding land. In many cases, operational constraints are the result of a physical feature or the size of a river or channel. For example, the Barmah–Millewa reach is a narrow section of the River Murray that runs through the Barmah–Millewa Forest. During summer and autumn, river managers aim to keep flows at or below the channel capacity of 9,200 ML/day. This is a significant operational constraint to the delivery of water for irrigation – more water could be delivered downstream but this would come with an increased loss of water and negative environmental outcomes from the unseasonal flooding of the surrounding forest.[38] At other times, when flooding of the Barmah–Millewa Forest is beneficial, the flow is currently restricted to 15,000 ML/day to avoid inundating private land.

Finally, there are policy constraints. These are the decisions made by governments over time regarding river operations and water delivery, including when and how much water is delivered for agricultural, industrial and human needs and its relative priority over the water delivered for environmental outcomes. In making watering decisions for ecological assets, governments need to address the risk that these actions may pose to the reliability of entitlements and any other impacts to other water users.

As well as river operating constraints, there are also operational impediments to water delivery. These are the complex arrangements involved with coordinating flows through numerous tributaries and the operation of river infrastructure to deliver the water to where it is needed to achieve environmental outcomes. It is important to address operational impediments, and this is a focus of the EEWD project.

When the MDBA conducted its initial modelling and assessments to determine the ESLT, it considered the environmental outcomes that could be achieved at different levels of water recovery. South Australia's research demonstrated that water recovery alone would not maintain the ecological character of key assets, making the relaxation of physical and operational constraints important.[39]

One of 4 key reports that influenced the MDBA's calculation of the ESLT is Hydrologic Modelling of the

37 See, the enhanced environmental outcomes required in section 86AA(3), **Water Act 2007** (Cth).

38 Noting that the build-up of sand has reduced this capacity by 20% or around 2,000 ML/day over the past 30 years – refer to Alluvium Consulting Australia, 2022, **Options Summary Report: Barmah–Millewa Feasibility Study**, prepared for the MDBA, Canberra, December 2022.

39 South Australia, MDBRC, Report, 2019: 207; Lamontagne S, Aldridge KT, Holland KL, Jolly ID, Nicol J, Oliver RL, Paton DC, Walker KF, Wallace TA, Ye Q, *Expert Panel Assessment of the Likely Ecological Consequences in South Australia of the Proposed Murray-Darlin Basin Plan: A Report to the South Australian Government*, Goyder Institute of Water Research, April 2012.

Relaxation of Operational Constraints in the Southern Connected System: Methods and Results, dated October 2012. This work showed that recovering and delivering 3,200 GL of water entitlements and relaxing constraints delivered greater environmental benefits to the floodplains than the lower water recovery scenario modelled (2,800 GL).[40]

In particular, the modelling demonstrated that recovering 3,200 GL showed improvements in key environmental outcomes, but no significant improvement for mid- and high-level floodplain environments in the southern Basin. This was because river operating constraints were found to limit the ability to deliver sufficiently high flows to inundate mid- to high-elevation floodplains; thus outcomes such as watering vegetation communities like river red gum and black box woodland on these floodplains was unachievable, regardless of the SDL volume.[41]

The MDBA argued that, by addressing constraints and delivering 3,200 GL of environmental water, additional and improved environmental watering would occur for significant areas of floodplain vegetation. Moreover, there would be additional measures that would assist the management of minor flood impacts for landholders (such as improving access) and the creation of enhanced recreational and tourism opportunities from improved ecological health.[42]

It must be noted that not all of the increased environmental outcomes from 3,200 GL of water recovery are contingent on addressing constraints. The MDBA's modelling also showed that achieving the enhanced environmental outcomes within the main River Murray channel and in the Coorong and Lower Lakes does not require constraints to be addressed. As a result of the MDBA's modelling of relaxed constraints, the Constraints Management Strategy was included in the SDLAM under section 7.08 of the Basin Plan. Constraints measures projects were developed by Basin states and submitted to the MDBA in 2016 as part of the supply measure notification process, and all but Victoria's Goulburn constraints measure are part of the supply measure package and contribute directly to the 605 GL SDL offset. While not a supply project in itself, the flow rate assumptions in the Goulburn affect the flow events that can be delivered downstream and therefore the magnitude of the SDL offset.

Complementing the constraints measures projects is the EEWD project that is also part of the supply measure package. The EEWD project is being delivered by the MDBA on behalf of the governments of New South Wales, Victoria and South Australia. It focuses on addressing the operational impediments for a coordinated approach to delivering environmental flows through the river system. This includes working across the differing river management frameworks between jurisdictions such as practices, policies and legislation, and improving coordination, forecasting, planning and operations across the Basin to better synchronise managed environmental watering events with natural flows.

The combination of the constraints relaxation and EEWD projects to achieve an SDL offset within the SDLAM was dependent on achieving specific flow rates in designated reaches of the River Murray and its tributaries. This then allowed both overbank flows and the building of enhanced flow rates downstream.

The MDBA has estimated that the package of constraints measures and EEWD will contribute approximately 100 GL to the 605 GL SDL offset. Any reduction in the flow rates that were modelled as part of the 2017 determination will erode this 605 GL SDL offset, which will be addressed as part of the MDBA's SDLAM reconciliation in 2024.

As described by the Royal Commission, a significant obstacle is social licence and community acceptance of the need for overbank flows, particularly where private property may be impacted.[43] While other factors have been at play, the current approach proposed by New South Wales and Victoria of relying on negotiated arrangements with private landholders has also resulted in significant delays to delivering their constraints projects.

40 South Australian Government, *South Australian Government Science Analysis of Additional Basin Plan Modelling*.
41 South Australia, MDBRC, *Report*, 2019: 357, citing Hydrologic Modelling of the Relaxation of Operational Constraints in the Southern Connected System: Methods and Results, MDBA, October 2012.
42 South Australia, MDBRC, *Report*, 2019: 357–358, citing Constraints Management Strategy Annual Progress Report 2015, MDBA, May 2016.
43 South Australia, MDBRC, Report, 2019: 349–351, 361, 364.

Implementing constraints and the need for binding accountability mechanisms

South Australia's constraints relaxation project is also part of the supply measure package and contributes to the 605 GL SDL offset. As at mid-2023, the project is continuing in accordance with Basin Plan deadlines in terms of addressing the policy and regulatory arrangements to allow modelled flow rates to be delivered to South Australia. DEW is still assessing whether the 2022–23 flood event will impact on the timeframes for the delivery of the infrastructure components.

In New South Wales and Victoria, progress in developing their individual and joint constraints relaxation projects has been slow. In its 2022 and 2023 SDLAM assurance reports, the MDBA found that these projects will not be capable of operating in line with the anticipated and agreed flow rates by 30 June 2024. These projects may require a further 5 to 10 years to be fully implemented and thereby capable of supporting environmental outcomes.[44] Critically, these governments are still investigating the flow rates that they included in business cases prepared to underpin the 2017 SDLAM determination, and the past decade has seen minimal if any progress in terms of gaining the much-needed social licence.[45]

From a southern Basin environmental perspective, it is unfortunate that community support for constraints relaxation projects has not been fostered in New South Wales and Victoria. These projects have the potential for win-win solutions – to improve local and southern Basin-wide environmental outcomes as well as provide increased protection to communities during natural unregulated flow events, including minor floods. Evidence provided by some upstream landholders to the Royal Commission also highlighted the importance of consulting genuinely with stakeholders and drawing on local knowledge to design constraints relaxation programs and rebuild trust between stakeholders and government decision-makers.

The New South Wales and Victorian governments have requested the Australian Government to consider an extension to the Basin Plan legislated timeframe for their constraints projects for the purpose of continuing landholder consultation and negotiations and determining the ultimate flow rates that will be implemented. As both governments are yet to complete their planning phases, there is limited reliable evidence of the likely time needed to fully implement their projects.

44 MDBA, *Sustainable Diversion Limit Adjustment Mechanism: 2022 Assurance Report (mdba.gov.au)*, Canberra, November 2022; MDBA, *Sustainable Diversion Limit Adjustment Mechanism: 2023 Assurance Report (mdba.gov.au)*, Canberra, July 2023.
45 South Australia, MDBRC, Report, 2019: 367.

The New South Wales and Victorian governments and their water users have had the benefit of the SDL offset generated by these projects since 2019. To continue receiving this substantial SDL offset for an indeterminate period prolongs the ongoing risk to the environment in terms of the volume of water that is being withheld from recovery and the ability to deliver the anticipated environmental flows in accordance with the 2012 Basin Plan modelling. Given the previous decade of inaction, the South Australian Government is cautious of New South Wales's and Victoria's respective commitments to delivering their constraints projects as agreed. However, the South Australian Government also recognises the ongoing environmental importance of addressing constraints and is prepared to support such efforts provided they are backed by appropriate accountability mechanisms that secure the required Basin Plan environmental outcomes. If further time is agreed for the implementation of New South Wales and Victorian constraints projects, then the Australian Government must legislate binding safeguards to ensure accountability for future water recovery in the event that the projects are not delivered within renegotiated timeframes.

South Australia would also support the Australian Government investigating a scheme in accordance with the Royal Commission's recommendation to implement a properly funded, compulsory scheme for the removal or easing of constraints.[46] South Australia will continue to lead in this area by demonstrating how its own regulatory arrangements enable environmental water delivery – including through ongoing community engagement, notification and risk mitigation procedures and a strong operational framework.

Basin Plan Review 2026

South Australia supports the relaxation of constraints to maximise the Basin Plan's intended environmental outcomes. However, this support cannot continue at the ongoing expense of the environment. Additionally, the potential delivery timeframe of 5 to 10 years means that a pathway for the delivery of these projects and the treatment of the SDL offset contribution must be addressed ideally prior to, or as part of, the Basin Plan Review.

For constraints relaxation projects and the associated SDL offset to continue, binding safeguards and clearly defined accountability arrangements – including water recovery in the event that constraints projects fail to be delivered – are required. New South Wales and Victoria also need to commit to delivering flow rates that reflect the associated SDL offset.

Having confidence in environmental outcomes

Basin governments need to be assured that the water recovered for the environment, the environmental works and measures at key environmental assets, and the relaxation of constraints will deliver the environmental outcomes committed to in 2012 (at a minimum) and that adaptive management ensures further environmental benefits will be delivered beyond the Basin Plan Review.

Environmental monitoring and data will be critical to the Basin Plan Evaluation in 2025 and the Review in 2026. Additionally, assurance is required that the modelling of the SDL offset and the amendments from the Northern Basin Review are reliable and that climate change data and adaptation strategies will be incorporated into future Basin water management arrangements.

46 South Australia, MDBRC, Report, 2019: Recommendation 7.

Actions to date

REVIEW OF THE SDLAM 605 GL ASSESSMENT

In October 2017, the MDBA determined that the 2,750 GL water recovery target could be reduced, and 605 GL remain available in the rivers for use by irrigators, industry and towns provided that the package of 36 projects is implemented in full by 30 June 2024. It calculated this 605 GL SDL offset through the process prescribed by the Basin Plan that included the application of an ecological test for environmental equivalence.[47] The soundness of the application of this test was highly criticised by the Royal Commission.

South Australia shares the concerns raised by the Royal Commission about the reliability of the 605 GL SDL offset and about what this means for the adequacy of overall water recovery. Governments, communities and stakeholders need to have certainty that the offset is valid and that it was arrived at with sound science, transparency around decisions and model optimisation, and assumptions regarding operator behaviour and water delivery.

In any case, the MDBA's July 2023 advice to the Australian Minister for the Environment and Water is that a June 2024 reconciliation would likely result in a new SDL determination of approximately 290 GL per year, in place of 605 GL per year[48]. This would mean an additional 315 GL of water recovery would be needed to bridge the gap to the SDL set for 2019-20. The integrity of this, or any recovery of water should be assured so that the environment actually receives the benefits that governments have assumed will come from these projects. It is one thing to mathematically account for water delivery, but this needs to be assured with empirical observation and genuine delivery of enhanced outcomes.

The Commissioner for the River Murray in South Australia has recommended to the South Australian Government that a full and independent review of the SDLAM method, including the processes and assumptions used during its application in 2017, be undertaken to determine the robustness and validity of the 605 GL SDL offset. The South Australian Government proposes that the Australian Government commission an independent review of the SDL offset, the results of which would inform the 2026 Basin Plan Review and allow informed decision-making to address the real environmental risks arising from the failure of so many SDLAM offset projects.

INCORPORATING CLIMATE CHANGE

Climate change represents an ongoing threat to human health, water and food availability, and the economy. The Royal Commission found 'no account of climate change was taken in the eventual determination of the ESLT, or in the setting of a Basin-wide SDL which reflects it'[49] despite the requirements to do so in the Water Act.

The MDBA contends that, by using the previous 114 years of historical weather data in its modelling and projections, it was including a wide range of climate variability. One difficulty with this approach is that the past weather of the Basin is unlikely to be representative of the future climate. The CSIRO was particularly critical of this approach and advised the MDBA that the ESLT should be determined on the basis of recent weather data, as well as the climate change projections it had developed. Based on the expert evidence it received, the Royal Commission found that climate data from 1895 to 2009 had limited relevance in the context of climate change. Numerous reports confirm the emergences of rapid warming and reduced stream inflows in recent decades.[50]

When developing the ESLT and Basin-wide SDLs, the MDBA:

> *formed the view that there is considerable uncertainty regarding the potential effects of climate change, and that more knowledge is needed to make robust water planning and policy decisions that include some quantified allowance for climate change.*[51]

47 Basin Plan (2012), Schedule 6.
48 MDBA, *Authority response to Minister's request for advice,* Canberra, July 2023.
49 South Australia, MDBRC, Report, 2019: 243.
50 South Australia, MDBRC, Report, 2019: 257–263; Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)], *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Geneva, Switzerland, 2014; Intergovernmental Panel on Climate Change, *Impacts of 1.5°C Global Warming on Natural and Human Systems* in Global Warming of 1.5°C (Special Report, United Nations Environment Programme and the World Meteorological Organization), October 2018; Will Steffen et al, *Deluge and Drought: Australia's Water Security in a Changing Climate,* 2018; Ogge M, Browne, B., Hughes, T., *HeatWatch: Extreme Heat in Western Sydney,* The Australia Institute, Sydney, November 2018; Australian Bureau of Meteorology, *State of the Climate,* Australian Government, 2018.
51 South Australia, MDBRC, Report, 2019: 264, footnote 184.

The MDBA took the position that the historical data was the most useful benchmark when considering the ESLT.[52]

Upon consideration of the evidence of key witnesses, the Royal Commission found that the MDBA was legally and scientifically obliged to have included climate projections as part of the best available scientific knowledge, and that this would have been consistent with world best practice.[53] For example, the 2008 CSIRO Sustainable Yields Project assessed the likely impacts of climate change on surface water and groundwater Basin resources, and this could have been used to inform the hydrological modelling for the Basin Plan.

The Royal Commission found that the approach to climate change in the Basin Plan was akin to no approach, risked 'decades of inertia', and asserted that this must be rectified.

The Australian Government's State of the Environment report 2022 restates the threat posed by climate change. In 2022, the South Australian Government wrote to the Australian Government highlighting the importance of ensuring that climate change considerations inform Basin ministers' decision-making.

The South Australian Government supports the Australian Government's 2022 commitments to update Basin Plan science, including funding the CSIRO to update the Sustainable Yields Study to demonstrate the impacts of climate change on water availability, reinstating the Sustainable Rivers Audit to track and report on river health to inform the Basin Plan Review, and funding an independent study on climate change effects on Ramsar-listed wetlands in the Basin.

The South Australian Government also supports the Australian Government's election commitment to reinstitute the NWC that should be independent of government and expert based. The Australian Government should consider including climate change adaptation research and regular audits of Basin Plan implementation into the NWC's statutory functions. Alternatively, these functions could be incorporated into the business of the independent Environment Protection Authority that the Australian Government has also committed to.

In late 2022, the MDBA increased its formal engagement with Basin jurisdictions on the development and application of Basin-scale climate change information to inform strategic decision-making and to provide credible information to water market participants. The present focus is considering how to best meet the need for Basin-wide hydroclimate information. This information will help address the short-term and medium-term Basin-scale climate information needs.

Actions to 30 June 2024

Basin ministers have acknowledged the importance of water science and research to underpin effective Basin water resource management and to inform planning for the impacts of climate change. The MDBA has released its Roadmap to the 2026 Basin Plan Review that outlines its approach to the Basin Plan Review. In mid-2025, it will release the Outlook for the Basin. This will include a forecast of the health of the Basin's water resources and ecosystems and identify risks from a hotter and drier climate and extreme weather events, with a focus on the implications for communities, economies and the environment. The MDBA is working with Basin jurisdictions and the CSIRO to provide hydroclimate information to support the Basin Outlook.

The MDBA also leads the Murray–Darling Water and Environment Research Program and received funding of $20 million from the Australian Government for a 4-year investigation into direct and indirect impacts of climate change on Basin water management, with a view to developing a toolkit for assessing adaptation options.

South Australia supports the MDBA's research program, noting that anticipating the future condition of the Basin will require a fit-for-purpose approach to model climate change at a Basin scale. There are also a number of specific needs for Basin-scale hydroclimate analysis, including information on the impacts of climate change on the reliability of water entitlements and the water market. The latter is a key priority for South Australia, so that our River Murray water users can better understand potential climate impacts and plan for them.

52 South Australia, MDBRC, **Report**, 2019: 264.
53 South Australia, MDBRC, **Report**, 2019: 264, see footnote 192, 193.

NORTHERN BASIN REVIEW

When the Basin Plan was being prepared in 2012, it was recognised that the information available on the water resources and environmental requirements of the northern Basin was much more limited than for the southern Basin. Given this, the MDBA agreed to undertake a review into the basis for the setting of the northern Basin SDLs, which was included as a note in the Basin Plan under section 6.06(1). The Northern Basin Review was subsequently completed by the MDBA in 2016.

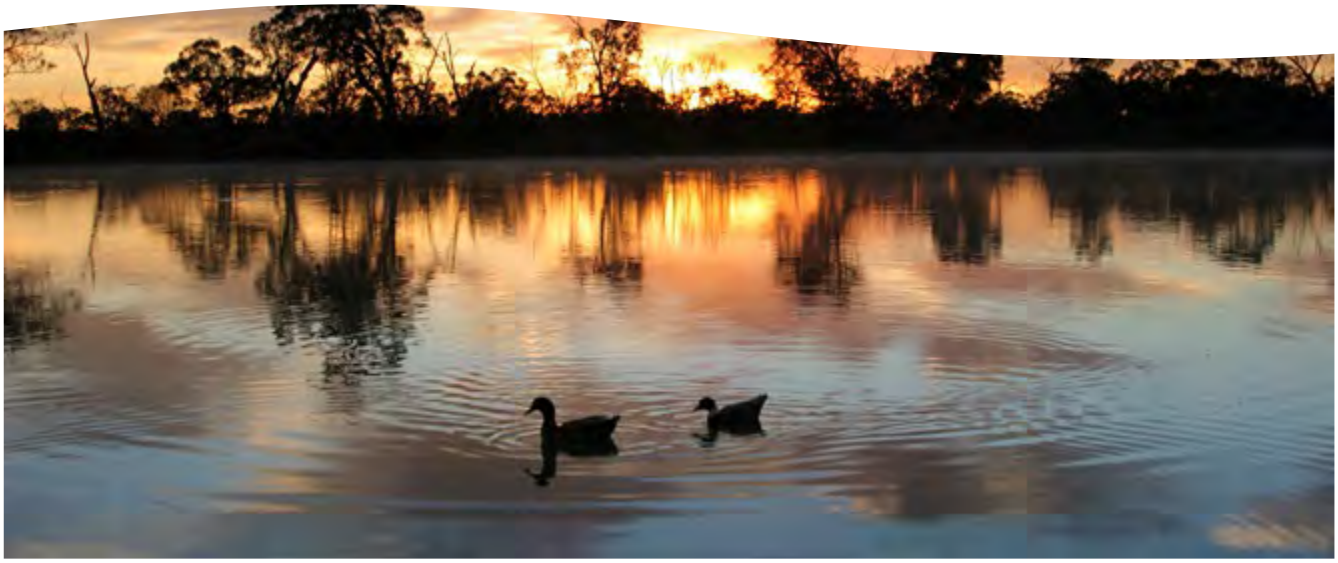
With Ministerial Council's in-principle support, an amendment to increase the SDL in the northern Basin by 70 GL was submitted to the Australian Parliament in 2018, in conjunction with the changes required to formalise the SDLAM 605 GL SDL offset.[54,55] In other words, 70 GL of water was no longer going to be recovered for the environment in the northern Basin.

The MDBA outlined that the increased SDL was supported by a more targeted approach to water recovery that, in its view, delivered almost equivalent environmental outcomes. The Australian, Queensland and New South Wales governments also committed to implementing a range of 'toolkit' measures to help improve water management and achieve environmental outcomes with less water recovery. However, the MDBA's Northern Basin Review report highlights the importance that minimising social and economic impacts had in the setting of the new SDLs.

In the MDBA's conduct of the Northern Basin Review, the Royal Commission found that the MDBA failed to identify the water requirements needed to achieve environmental outcomes. The Royal Commission, on reviewing the evidence, could not find any proper or transparent scientific basis for the increase to the SDL in the northern Basin.[56] Further, it found that the MDBA's recommendation was based on undisclosed social, economic and environmental iterations (dubbed by the MDBA as a 'triple bottom line' approach) that are contrary to the requirements of the Water Act.[57]

The Commissioner described this flawed approach in these terms:

> *Despite efforts to obtain details of this misguided alteration of modelling for environmental outcomes, they remain obscure. No explanation is available about, and none could be such as to justify, the mystery of how this protection of third party reliability could be quantified or otherwise inserted into the operative algorithm. Could it really be that water is to be made available to restore the environment only if no pre-existing enjoyment of irrigators' advantages would thereby be diminished? Who could suppose that rule is to be found in the Water Act?"*[58]



54 Basin Plan Amendment Instrument 2017 (No 1) (Cth).
55 Note that the initial instrument was disallowed on 14 February 2018. A 2018 amendment instrument was adopted on 2 July 2018 and no disallowance motion was made, thereby adjusting the SDL.
56 South Australia, MDBRC, Report, 2019: 429.
57 South Australia, MDBRC, Report, 2019: 430.
58 South Australia, MDBRC, Report, 2019: 439.

The 'toolkit' measures became known as the Northern Basin Toolkit. It includes environmental works and measures to protect environmental flows, remove physical constraints, and improve fish passage, the movement of low flows, and the coordination and delivery of environmental water.

The Australian Government funded 10 projects in 2021, with delivery required by 2024. However, the Queensland and New South Wales governments are in the process of requesting further time and funding to deliver the toolkit measures beyond 2024. While these projects are not directly linked to achieving outcomes equivalent to increasing the northern Basin SDLs by 70 GL (toolkit measures do not operate in the same way as the SDLAM in the southern Basin), not delivering them in full diminishes the intended environmental outcomes and further exposes the northern Basin water-dependent environments to significant harm. This raises further questions about whether the northern Basin SDLs represent an ESLT.

Not only are the anticipated flows from the northern Basin lower than anticipated under the Basin Plan, there also remains no formal protection of water for the environment that enters Menindee Lakes from the northern Basin. Additionally, it is not currently possible to deliver water recovered from the Lower Darling SDL resource unit (which is held in Menindee Lakes prior to release) for environmental outcomes in the River Murray when the Menindee Lakes are under New South Wales control. At these times, environmental water released from the Menindee Lakes is recaptured in Lake Victoria and used to increase the allocations of irrigators and industries.

Environmental water passing into and through the Menindee Lakes must be protected and there needs to be formalised arrangements to enable the direct delivery of all environmental water held in the Menindee Lakes to the environments downstream of Lake Victoria. This should be a priority for all those interested in ensuring a healthy Basin and should be pursued by the Australian Government irrespective of whether it grants additional time and funding to the governments of New South Wales and Queensland to deliver their toolkit projects.

The issues with northern Basin water recovery and delivery have also recently been raised in the context of recovering the additional 450 GL for the environment. Northern Basin environments were significantly impacted by the severe drought conditions experienced from 2017 to 2020, and this exposed a lack of environmental water and environmental water protections.

Despite the requirements of section 6.06(3) of the Basin Plan under which the Northern Basin Review was undertaken – that any review must have regard to the management of climate change risks and include an up-to-date assessment of those risks – only the previous 114 years (1895 to 2009) of historical climate data was considered in the decision to increase the SDL. Given the effects of the recent drought, it is clear that using historical climate variability is not sufficient and that additional water recovery is needed to meet the northern Basin's environmental water requirements.

However, this suggests that the outcomes of the Northern Basin Review need to be revisited and that the resultant increase in northern Basin SDLs needs to be reversed. From South Australia's perspective, this should not be done in a way that adversely impacts on the environmental outcomes required in the southern Basin under previous legislative commitments by the Australian Government, in line with the modelled outcomes specified in Schedule 5 of the Basin Plan.

Any increased environmental water needs of the northern Basin are a separate matter from the law, science and principle that require recovery of the 450 GL to be focused on the southern Basin, in line with Schedule 5. The environmental outcomes identified in Schedule 5 are all southern Basin outcomes and, as the MDBA indicated in its ESLT report, there is limited ability to deliver environmental water from the northern to the southern system.

If additional environmental water is required to protect ecological assets in the northern Basin, then some (or all) of the 70 GL reduction in water recovery from the Northern Basin Review should be recovered first. Concerns about recent drought conditions in the northern Basin do not justify diverting water recovery required to return the southern Basin to health.

Environmental watering and monitoring

The Basin Plan is first and foremost a plan to improve environmental outcomes and safeguard the long-term ecological health of key assets. The first stage is reducing the amounts of water used for irrigation and industrial purposes to achieve an ESLT. Complementing this reduction is the management of environmental water to achieve environmental outcomes consistent with the objectives in the Water Act and Basin Plan.

Achieving these outcomes helps provide confidence that an ESLT has been determined and informs future management of the Basin. However, as highlighted by the CSIRO, a water recovery scenario of 2,800 GL simply did not provide sufficient water to meet the desired environmental outcomes.[59] As such, achieving an ESLT means having a sufficient portfolio of HEW as well as the ability to deliver flows by relaxing constraints and making some investment in infrastructure.

Several factors are critical in this process, including planning and management arrangements that protect environmental water and effective monitoring and evaluation processes to inform water managers whether environmental targets and objectives have been achieved.

Such arrangements are contained in the Basin Plan's requirements to have environmental watering plans and strategies and to incorporate environmental protections into WRPs accredited by the Australian Government Minister. The Basin Plan requires:

- a Basin-wide environmental watering strategy to be prepared by the MDBA
- long-term watering plans prepared by Basin states that prescribe local environmental outcomes for each WRP area.

A WRP provides the rules-based protections for environmental water in the SDL resource units covered by the WRP.[60] The MDBA has held that the WRP accreditation process is adequate assurance that each jurisdiction's commitment to protect and manage environmental water is being met.[61]

With 75 percent of New South Wales's WRPs not yet accredited, full implementation of the Basin Plan's requirements to protect environmental targets is exposed. The Royal Commission surmised that the prescribed ecological objects and targets in the Basin Plan continued to represent important and appropriate ecological aims for the Basin Plan but until the required plans 'are introduced and implemented there are significant gaps at the local level in the scheme for environmental watering'.[62]

MONITORING AND EVALUATION

The Water Act and Basin Plan create the requirements for the MDBA to monitor, evaluate and report on environmental outcomes. It is part of the MDBA's core functions, and Chapter 13 of the Basin Plan requires the MDBA to apply principles such as adaptive management in monitoring and evaluation. The purpose of environmental monitoring is to build an evidence base to ensure adaptive management can inform management improvements that continue to achieve and improve upon environmental outcomes.

Monitoring occurs through a variety of programs run by the MDBA, CEWH and Basin states. There have been positive findings at local and asset-scale locations about the benefits of providing additional environmental water. For example, the Victorian Government has reported significant events in 2021–22 following the delivery of water for the environment including

59 Refer Young WJ, Bond N, Brookes J, Gawne B and Jones GJ, *Science Review of the estimation of an environmentally sustainable level of take for the Murray–Darling Basin*, CSIRO, November 2011.
60 See commentary by South Australia, MDBRC, **Report**, 2019: 552.
61 South Australia, MDBRC, **Report**, 2019: 555.
62 South Australia, MDBRC, **Report**, 2019: 564.

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waterbird breeding events across the Hattah Lakes;[63] spawning of golden perch in the Goulburn River;[64] and platypus breeding in the Mackenzie River.[65] The New South Wales Government similarly reported extensive waterbird breeding events in 2021–22.[66]

The Royal Commission found that monitoring across the Basin suffers from critical gaps and deficiencies that prevent a comprehensive analysis of progress to date.[67] In this context, Basin-wide monitoring needs to be improved through addressing the disconnected nature of data collected in different areas, improving alignment and coordination, and applying monitoring data to inform Basin-wide water use and broader insights.[68] The Royal Commission recommends a Basin-wide monitoring program to address this disconnect. Likewise, the Royal Commission found that the discontinuation of the Sustainable Rivers Audit in 2012 prevents a thorough assessment of whether the Basin Plan requirement that there be no further decline in respect of prescribed environmental targets is being met.

In 2022, the new Australian Government committed to reinstate the Sustainable Rivers Audit to track and report on the health of Basin rivers. The program previously provided report cards across each of the Basin's river valleys, and was managed by an independent group of river ecologists through a detailed condition monitoring program. It was considered a highly successful program and the South Australian Government supports its reinstatement.

Similarly the Australian Government committed $7.5 million to the Basin Condition Monitoring Program that will inform the 2025 Basin Plan Evaluation and 2026 Basin Plan Review. The South Australian Government supports this program but has written to the Australian Government to request stronger independence and expert advice to the program.

At the same time, the South Australian Government agrees with the Royal Commission that this type of work needs to be conducted with 'independent analysis by disinterested experts, and a culture that embraces peer-review and transparency as hallmarks of the best available science'.[69] There are also knowledge gaps that remain to be addressed, particularly in the lead-up to the Basin Plan Evaluation and Review.

63 Victorian Government, *Victoria's Murray Darling Basin Plan Implementation Highlights 2021-22*, MDBA website: 2.
64 Victorian Government, *Victoria's Murray Darling Basin Plan Implementation Highlights 2021-22*, MDBA website: 3.
65 Victorian Government, *Victoria's Murray Darling Basin Plan Implementation Highlights 2021-22*, MDBA website: 4
66 New South Wales Government, *Basin Plan Schedule 12 and Basin Plan Implementation Agreement Report 2021-22*, MDBA website: indicator 10.4.
67 South Australia, MDBRC, **Report**, 2019: 565–566.
68 South Australia, MDBRC, **Report**, 2019: 565–567.
69 South Australia, MDBRC, **Report**, 2019: 576.

First Nations' water interests

First Nations Australians' water rights and interests must be addressed

Key points:

- Water management by Australian governments has historically excluded First Nations and occurred without their proper recognition, consultation or authorisation.
- The volume of water held by First Nations Australians remains extremely low, both in the Murray-Darling Basin and across Australia.
- Despite developments in native title law since Mabo, more needs to be done to achieve the legal recognition of First Nations Australians' cultural rights and interests in water resources and to address clear obligations in relevant international agreements on these matters.
- It is necessary to strengthen the Basin Plan's policy and legal frameworks and for Basin jurisdictions to commit greater effort to address First Nations Australians water interests, including, within South Australia.
- Cultural water for First Nations Australians needs to include economic and social models of allocation and ownership. This approach is consistent with commitments under the National Agreement on Closing the Gap and South Australia's commitment to the Uluru Statement from the Heart: Voice, Treaty, Truth.
- The South Australian Parliament has passed legislation establishing Australia's first Voice to Parliament for First Nations people.

South Australia proposes the following key actions

- In line with the Royal Commission's recommendations on engagement with First Nations Australians, the Australian Government to consider statutory amendments as part of reviews of the Basin Plan and Water Act.
- Building on insights from previous state water planning processes and other specialist advice, the South Australian Government to work with First Nations Australians and peak bodies on improving water planning processes and outcomes within South Australia and co-designing an overall state policy for advancing First Nations' water interests. This will address water-related commitments under the National Agreement for Closing the Gap, as well as Royal Commission findings and recommendations.

First Nations Australians' water rights and interests must be addressed

The South Australian Government acknowledges that water management by Australian governments has historically excluded First Nations and occurred without their proper recognition, consultation or authorisation. This history of exclusion continues to affect the well-being of First Nations Australians and their ability to care for Country.

In the context of the Murray-Darling Basin, First Nations Australians have lived in the Basin for tens of thousands of years and have an ongoing and deep connection to its lands, waters and waterways, and ecosystems. As highlighted by the Royal Commission, First Nations Australians have 'valuable cultural knowledge about the behaviour of [the Basin's] ecosystems that should be employed centrally in the co-operative Federal scheme established by the Water Act for its restoration and management'. Similarly, it was found that Australian 'laws do not clearly recognize or provide for Aboriginal values and interests in water resources' and that, quoting Dr Virginia Marshall, the 'continued devaluation of Aboriginal ways of understanding and relating to an Aboriginal environment impedes reconciling past injustice'.[70]

Despite developments in native title law since Mabo v Queensland [No 2] (1992) 175 CLR 1, the South Australian Government agrees with the Royal Commission that more needs to be done to achieve legal recognition of First Nations Australians' cultural rights and interests in water resources and to address clear obligations in relevant international agreements on these matters.[71]

The first attempt by Australian governments to recognise and address the cultural water interests of First Nations Australians occurred in the 2004 NWI. Specifically, the Australian, state and territory governments committed to:

- including First Nations Australian representation in water planning, wherever possible
- incorporating First Nations' social, spiritual and customary objectives and strategies for achieving these objectives in water plans, wherever they can be developed
- providing for the possible existence of native title rights to water in water planning processes
- accounting for water allocated to native title holders for traditional cultural purposes.[72]

Subsequently, the Basin Plan included cultural water use within its outcomes and objectives and included specific provisions for First Nations Australians to be involved in and advise on water resource planning and management, environmental management, knowledge building and evaluation.

Chapter 10 of the Basin Plan specifies that Basin States must identify the objectives and outcomes of First Nations Australians in relation to water resource management for each water resource plan area. Basin States must also have regard to First Nations Australians' cultural values and uses, native title rights and claims, Indigenous Land Use Agreements, Aboriginal heritage, risks and cultural flows.

Under the 2007 Echuca declaration, Murray Lower Darling Rivers Indigenous Nations (MLDRIN) define cultural flows as,

> *Water entitlements that are legally and beneficially owned by the Indigenous nations and are of sufficient and adequate quantity to improve the spiritual, cultural, environmental, social and economic conditions of those Indigenous nations. This is our inherent right.*

70 South Australia, MDBRC, **Report**, 2019: 470, citing Virginia Marshall, **Overturning Aqua Nullius: Securing Aboriginal Water Rights** (Aboriginal Studies Press, 2017): 7.
71 South Australia, MDBRC, **Report**, 2019: 63, 478.
72 Productivity Commission, **National Water Reform**, Report no. 87, Canberra.

Despite these requirements and commitments, the volume of water held by First Nations Australians remains extremely low, both in the Murray-Darling Basin and across Australia.

The Royal Commission received evidence that First Nations Australians' expectations with respect to the policy and legal frameworks in the NWI and Basin Plan have not been met and that their interests and values in water resources have not been meaningfully advanced.[73] Against this background, the Commission found that the Water Act and Basin Plan remain 'unclear about the policies underpinning their specific references to matters relevant to Aboriginal people in relation to Basin water resources'. Moreover, in relation to WRPs, it found that 'Basin States must commit greater effort to understanding and making provision for Aboriginal people to play a more central role in water resource management' – noting that this will be especially important where native title law is not 'well adapted' to recognising the water interests of First Nations Australians. Based on the 'considerable research... undertaken by Aboriginal people', it can be expected that such an approach will lead to 'multiple benefits...to traditional owner groups and beyond'.

In line with these findings, the Royal Commission concluded that a 'stronger legal platform for the role of Aboriginal people in managing Basin water resources is required', along with a 'legislated recognition and rationale for Aboriginal involvement in water resource management'. This was supported by a recommendation to the effect that Basin states should ensure their water legislation expressly recognises and authorises the use of water in the exercise of native title rights and interests. There were also specific recommendations to amend the Water Act, including to recognise the need for special measures for Aboriginal water interests and to give effect to the United Nations Convention on Biological Diversity.

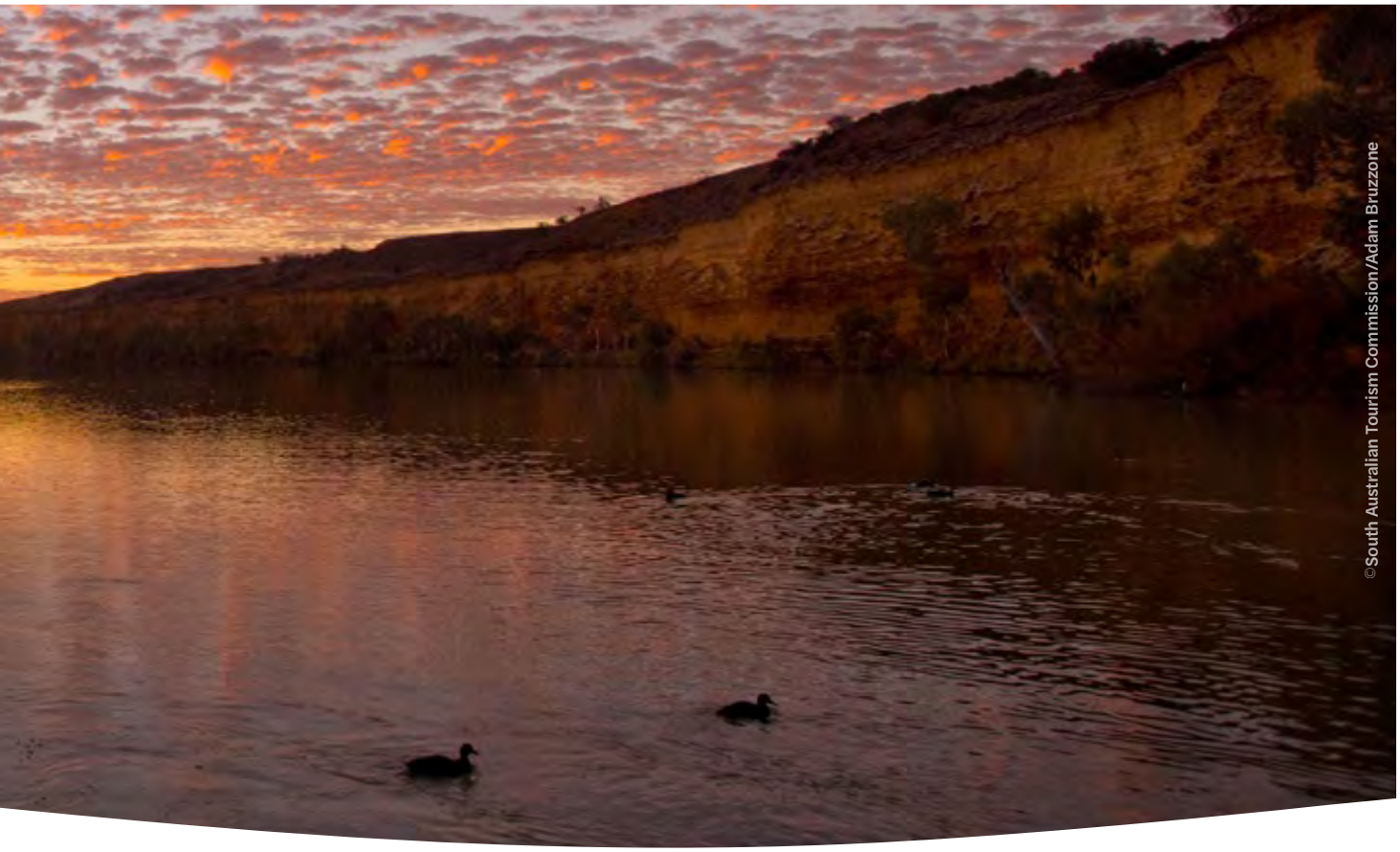
73 South Australia, MDBRC, Report, 2019: 479.

Action to date

While significantly more progress is required, within South Australia efforts have been made over the last decade to better engage and partner with First Nations and Aboriginal people in water planning and management:

- Since 2012, South Australian native title holders and claimants have been authorised to access prescribed water resources without obtaining a water licence for the purpose of their personal, domestic, cultural, spiritual or non-commercial communal needs in the exercise of their native title rights and interests.
- The state's 9 regional Landscape Boards have established a joint Statement of Commitment to achieve stronger partnerships with First Nations people and organisations in managing, protecting and restoring Country and in a way that was intended to align with relevant national 'Closing the Gap' targets (see further below).
- At a regional level, Landscape Boards and DEW work closely with First Nations to inform the development, review and/or amendment of all statutory water allocation plans. Most recently, this has resulted in the establishment of Cultural Water Consumptive Pools for the Far North and Adelaide Plains. In addition, water allocation plans and environmental watering plans for the South Australian Murray-Darling Basin now contain a stronger articulation of cultural objectives, in line with Basin Plan requirements.

At the Basin level, the Australian Government has previously committed $40 million to support First Nations communities' investment in cultural and economic water entitlements and associated planning activities. This commitment was made as part of a package of measures to secure support in the Australian Parliament for the SDL Adjustment and Northern Basin Review amendments to the Basin Plan in 2018 (under the so-called Littleproud-Burke Agreement). While little progress was made until mid-late 2022, work has now commenced with First Nations representatives and Basin governments to address this commitment. This represents an important first step towards securing water entitlements for First Nations in the Basin.



In 2019, the Water Act was also amended to provide for a standing Indigenous member position on the MDBA.[74] Mr Rene Woods, a Nari Nari man from southwest New South Wales was appointed in December 2020, marking an important step forward. While this reform was announced prior to the Royal Commission's report, the South Australian Government believes it partly addresses the Commissioner's recommendation to 'mandate at least two Aboriginal members on the MDBA Board' to 'ensure Aboriginal voices can be heard' in 'the pursuit of the objects and purposes of the Water Act'.[75] It is the South Australian Government's view that this matter needs to be considered further as part of the next statutory review of the Water Act.

In 2020, the new National Agreement on Closing the Gap was formalised. The agreement includes commitments from the Australian Government, state and territory governments, Australian Local Government Association and Coalition of Peaks to progress 4 priority reform areas and 17 socio-economic targets. As part of this work, parties will develop a target to measure progress towards securing First Nations Australians' interests in inland water bodies under state water rights regimes. At its eighth meeting, the Joint Council on Closing the Gap agreed to recommend a new Inland Waters Target. Governments are working with jurisdictional peak organisations to confirm the actions towards achieving the target in their respective jurisdictions, prior to the target being finalised and agreed.

In parallel to the Closing the Gap process, a national Committee on Aboriginal Water Interests has also been established for the purpose of advising Australian governments on Aboriginal and Torres Strait Islander water interests, including in the context of potential revisions to the National Water Initiative.

74 Water Amendment (Indigenous Authority Member) Act 2019 (Cth).
75 South Australia, MDBRC, Report, 2019: 692-693.

Addressing the Closing the Gap Inland Waters Target within South Australia – Key Priorities

While the majority of the Royal Commission's recommendations on Aboriginal engagement will require amendments to the Water Act or Basin Plan and will need to be considered and addressed as part of the associated statutory reviews, there is also significant scope to work with First Nations on improving water planning processes and outcomes within South Australia, in line with the Commission's findings.

As part of efforts to address a future Inland Waters Target under Closing the Gap, DEW will be charged with working with the South Australian Aboriginal Community Controlled Organisation Network (SAACCON). This partnership will include work to procure an Aboriginal engagement specialist or specialists who can partner with First Nations to build on insights from previous water planning processes and to co-design an overall state policy approach to advancing First Nations' water interests.

Based on First Nations' feedback from previous water planning processes and subject to final negotiations around the national Inland Waters Target, the South Australian Government is proposing to engage with First Nations Australians across the state on the following potential water priorities:[76]

Continuing to strengthen the recognition of First Nations Australians' cultural authority in water planning and management

While recent progress has been made at the resource level as water allocation plans have been updated, there is an ongoing need for cultural authority and objectives to inform water planning and management across the state. This is a foundational principle and South Australia proposes to explore with First Nations Australians how this requirement can best be enshrined in the state's water planning arrangements – including through appropriate statutory requirements on state agencies to incorporate First Nations' cultural objectives into water planning and management.

If required by First Nations, it is also proposed that reforms to South Australian legislation be explored for the purpose of better recognising First Nations' water interests. In this context, the First Nations Voice Bill 2023 will come into full effect following elections planned for March 2024 and will provide for a First Nations Voice on matters before the Parliament, including water matters. Water matters will also be addressed by a First Nations Ministerial Advisory Group to the Minister for Climate, Environment and Water.

76 Where relevant, the South Australian Government also proposes to use these First Nations engagement processes to consider potential amendments to the Commonwealth Water Act and Basin Plan, to inform the upcoming statutory reviews. Initial conversations with First Nations about their state-level water priorities will take place in each of the nine Landscape regions and in partnership with the nine Landscape Boards.

Securing water entitlements for First Nations

Together with First Nations, South Australia proposes to co-design strategies to move beyond First Nations' water being exclusively for cultural purposes and towards permanent First Nations' ownership of water entitlements for any purpose, including economic purposes. As part of addressing the Closing the Gap target, where water resources are not fully allocated, South Australia will consult First Nations Australians on a proposal for 3 percent or greater of the total volume of water entitlements in a water resource to be set aside and held for First Nations' future use.

Similarly, where water resources are already fully allocated, South Australia proposes to work with First Nations and the Australian Government to acquire water rights for ownership by First Nations or First Nations organisations. South Australia expects this to be an important component of a renewed NWI, which would draw significantly on advice from the national Committee on Aboriginal Water Interests set up for this purpose.

Establishment of First Nations' Water Trust governance model

Subject to consultation and advice from First Nations and other experts, the potential for a First Nations' Water Trust (or similar) governance model will be explored for the purpose of securing legal and beneficial ownership of water by First Nations Australians.

Building First Nations Australians' capacity to participate in water planning and markets

Approaches to further build First Nations Australians' water knowledge and capacity to participate in water planning will be explored and co-designed with First Nations Australians. Building on efforts to secure water rights for First Nations Australians, South Australia also recognises the need to work with First Nations organisations to help them participate fully in water markets.

Pursuing opportunities in water agencies for First Nations Australians' jobs and businesses

The South Australian Government is also committed to providing employment and business opportunities to First Nations Australians. DEW and SA Water both have an employment target for Aboriginal workforce participation of 4 percent. Both agencies are continuing to improve employment outcomes by increasing First Nations Australians' recruitment, retention and professional development.

Water Management Compliance and Accountability

Water management throughout the Basin must be done transparently and with accountability

Key points:

- The ABC's Four Corners program, 'Pumped', shone a light on inadequate arrangements for compliance and enforcement of water use in the Murray–Darling Basin. In response, several reviews and inquiries were commissioned, including the South Australian Murray–Darling Basin Royal Commission.
- South Australia has a strong compliance and enforcement framework and a long-standing commitment to a compliance culture.
- *'mywater'*, South Australia's new water licencing portal, will be launched in 2023.
- 98 percent of water use in the South Australian Murray–Darling Basin is metered and all meters are compliant with the State's metering policy. In comparison, 78 percent of water use in New South Wales and 96 percent of water use in Victoria is metered.
- Transparent and enforceable rules for measuring floodplain harvesting (New South Wales) and overland flow (Queensland) are essential to start rebuilding community confidence for water take in the Northern Basin.
- WRPs are fundamental for implementing the Basin Plan and, with only 5 of 20 WRPs accredited, SDL compliance in New South Wales cannot be legally enforced. The SDLs in all other Basin jurisdictions are in operation and can be legally enforced, including South Australia's WRPs.
- In line with MDBRC Recommendation 35, there should not be a limit to the number of audits that can be conducted by the Inspector-General of Water Compliance each year.

South Australia proposes the following key actions

- The Australian Government to consider amending the Water Act to provide greater transparency in the process for appointment of future Inspectors-General of Water Compliance.
- The Inspector-General to determine the appropriate number and nature of audits to be conducted as necessary to ensure compliance and maintain community confidence. The Inspector-General's WRP risk assessment and compliance framework, currently under development, should identify the main risks to WRP compliance and inform how the Inspector-General will conduct its audit program.
- South Australia to finalise the identification of amendments to its 3 WRPs to reflect the transition from the Natural Resources Management Act 2004 to the Landscape South Australia Act 2019 in consultation with the MDBA and the Office of the Inspector-General.
- The Australian Government to consider amendments to the Basin Plan to strengthen arrangements for earlier action to better understand the cause of debits on the register of take.
- The Australian Government to consider amendments to the Basin Plan to ensure that a 'reasonable excuse' for SDL non-compliance due to incomplete water recovery cannot be claimed indefinitely, and following a reasonable timeframe each jurisdiction must manage long-term consumptive use in accordance with any new SDLs.
- The Australian Government to consider an amendment to the Basin Plan so that SDL compliance commences from 1 July 2019 in all SDL resource units, consistent with the 2018 agreement at Ministerial Council.

Water management across the Basin must be done transparently and with accountability

In July 2017, the ABC's Four Corners program, 'Pumped', raised significant concerns about the way the Basin Plan was working, with accusations of illegal water use, pumping water from fragile rivers and tampering with water meters. Basin governments' compliance and enforcement arrangements with the Basin Plan were put under the microscope and serious allegations of misconduct, misappropriation, and maladministration were directed to New South Wales.

As the Royal Commission found, this was not the first time that concerns regarding compliance and enforcement of Basin water resources had been raised, but it exacerbated a longstanding resentment felt by communities, environmental organisations and businesses in New South Wales and Queensland (as well as across Victoria and South Australia) about the relative lack of metering and monitoring of water use in the northern Basin.

This program resulted in several reviews and inquiries by the Australian, New South Wales and Queensland governments and was one of the motivations for the establishment of the Murray–Darling Basin Royal Commission by the South Australian Government.[77] The findings and recommendations of those inquiries have been important in driving the compliance and enforcement reforms that were needed to begin to regain community confidence in how governments were managing the Basin's water resources.

As the Royal Commission held, faith in the integrity of the entire system is undermined where there are clear discrepancies in the administration and accountabilities for the use of water as a public and precious resource.[78]

The Royal Commission itself did not investigate the allegations raised by the ABC, as this was already the subject of separate inquiries and investigations (including criminal investigations), but did review and comment on how compliance is addressed through the structure of the Water Act and the Basin Plan, noting that the obligations are largely directed at Basin governments:

> The Water Act was enacted in response to a national imperative to return water resources of the Basin to a sustainable level. The Basin Plan is the blueprint for achieving this. Basin States must implement the Basin Plan through WRPs. WRPs will effectively be administered by Basin States through their respective legislative regimes. Accordingly, the achievement of the aims and objectives of the Water Act and Basin Plan necessarily occurs in the context of shared responsibility in relation to Basin water resources.[79]

South Australia has a strong compliance and enforcement framework. In its 2017 Compliance Review, the MDBA acknowledged this longstanding commitment to a compliance culture and the most extensively codified compliance framework of all Basin states, with clear accountabilities and decision-making processes. South Australia has continued to strengthen its compliance framework – including in response to Basin-level reforms, such as the Murray–Darling Basin Compliance Compact, and the establishment of the statutory role of Inspector-General of Water Compliance.

The Basin Plan established SDLs as the amount of water that can be taken from rivers and aquifers for irrigation, industrial and town water use, with these SDLs to take effect from 1 July 2019. Accredited WRPs define methods for annually determining SDL compliance, and these WRPs are also the mechanism by which the Inspector-General of Water Compliance can legally enforce a Basin state's compliance with its SDLs.

77 South Australia, MDBRC, Report, 2019: 647.
78 South Australia, MDBRC, Report, 2019: 647.
79 South Australia, MDBRC, Report, 2019: 648.

Actions taken to date

As part of the response to the ABC's 2017 allegations, the MDBA undertook a Water Compliance Review.[80] This proposed actions for both the MDBA and Basin governments to improve compliance and enforcement frameworks and practices. It also recommended a Compliance Compact for rebuilding community and stakeholder confidence, including a clear compliance strategy and a single location that brings together the MDBA's and Basin governments' plans to improve their compliance and enforcement arrangements.

All Basin governments entered into the 2018 Murray–Darling Basin Compliance Compact that committed the parties to actions to improve compliance and enforcement arrangements, including transparency and accountability, compliance and enforcement frameworks, metering and measurement, finalising WRP, and protecting and managing environmental water.[81]

The MDBA released a review of the implementation of the Compliance Compact in 2021, finding that there have been improvements in many areas and metering has become more widespread and accurate.[82] Despite there being a major uplift in the availability of compliance information to communities, the 2021 review discussed perceptions from some stakeholders that water compliance arrangements are complex and impenetrable.

Differing arrangements for minimum metering thresholds continue to erode public confidence and this is unlikely to be resolved until there is a minimum Basin-wide threshold. Across the Murray–Darling Basin region, 98 percent of water use in South Australia is metered and all meters are compliant with the State's metering policy. In comparison, 78 percent of water use in New South Wales and 96 percent of water use in Victoria is metered.[83]

South Australia has a strong compliance framework underpinned by comprehensive monitoring and continues to participate in all Compliance Compact implementation activities. South Australia's framework addresses users' compliance with their licence conditions through a combination of proactive reporting obligations, auditing of water users' self-reporting through site visits and a zero-tolerance enforcement approach to all unauthorised water take. This has resulted in a strong compliance culture and South Australia continues to record very high levels (a 99 percent compliance rate) with licensee water take rules. South Australia consistently meets its annual SDL compliance reporting requirements that are undertaken in accordance with the state's 3 accredited WRPs.

Since the publication of the Royal Commission's report, the Australian Government has created the role of the Inspector-General of Water Compliance. The Water Act was amended in August 2021 to establish its regulatory functions, which include delivering greater consistency and harmonisation of water regulation across the Basin.[84]

The Hon Troy Grant was appointed as Interim Inspector-General in December 2020 and Inspector-General in August 2021 following the establishment of the statutory role. In his time as Inspector-General, Mr Grant has made strong calls on the status of New South Wales's incomplete WRPs and the impact this has on Basin Plan confidence and compliance – a finding that the South Australian Government strongly supports. Prior to Mr Grant's appointment, Mr Mick Keelty AO APM undertook similar functions as the Northern Basin Commissioner and subsequently the Interim Inspector-General of Murray–Darling Basin Water Resources.

In 2022, the South Australian Government wrote to the Australian Government citing concerns about the appointment process of the Inspector-General. While Mr Grant has made positive contributions in his role as Inspector-General, the South Australian Government maintains the view that the appointment process must be transparent and must ensure that public confidence in the function is maintained.

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80 MDBA, The Murray-Darling Basin Water Compliance Review, November 2017.
81 Murray-Darling Basin Ministerial Council, The Murray-Darling Basin Compliance Compact, June 2018.
82 MDBA, Compliance Compact Review May 2021, Canberra, May 2021.
83 IInspector-General of Water Compliance, *Murray-Darling Basin – Metering and Measurement Report Card 2020-21,* Australian Government, July 2020.
84 Water Legislation Amendment (Inspector-General of Water Compliance and Other Measures) Act 2021 (Cth)

At present, the mechanism to appoint an Inspector-General in section 215J of the Water Act does not include a requirement to follow or publish criteria for an appointment. The South Australian Government has called on the Australian Government to make amendments to require this type of transparency in the process for future appointments, and to ensure that there is no political bias or interference.

At the time the Basin Plan was being developed, significant further work was required to fill information gaps on how much water could be diverted in the northern Basin and the impacts that existing diversions were having on floodplains, wetlands and rivers. Coupled with an absence of transparent and enforceable rules for floodplain harvesting and the reliable metering of this take, this led to the Royal Commission's observation of New South Wales that 'it is frankly remarkable that a floodplain diversion policy has still not been implemented'.[85]

New South Wales finalised and published its floodplain harvesting policy in 2020. Regulations to include defining measurement requirements for issuing floodplain harvesting licences commenced on 1 July 2022. On 1 September 2022, floodplain harvesting licence holders in 2 WRPs areas (Border Rivers and Gwydir valleys) had their water accounts credited and the framework became fully operational. Later, on 21 September 2022, this regulation was disallowed by the New South Wales Legislative Council. The disallowance did not alter the validity of floodplain harvesting licences already determined for eligible water users or the requirements to measure and manage floodplain harvesting in the New South Wales Border Rivers and Gwydir Valleys.

A new amending regulation was gazetted on 3 February 2023[86] to enable determination of floodplain harvesting licences in 3 WRPs areas (Macquarie, Barwon-Darling and Namoi Valleys) that had identified floodplain harvesting as a relevant interception activity.

After that, since those 3 WRPs were withdrawn by the New South Wales government, on 17 February 2023 the rules for floodplain harvesting access licences were included in the Water Sharing Plan (WSP) for the Macquarie and Cudgegong Regulated River Water Source and the Barwon-Darling Unregulated River Water Source. The licensing framework for those valleys commenced on 1 March 2023 and 1 April 2023, respectively. As at July 2023, rules for floodplain harvesting access licences for Namoi valley are still going through the consultation process.

It is critical that the necessary analysis, transparency and oversight occurs during all floodplain harvesting modelling and licensing processes to ensure that the BDL descriptions, and hence existing legal limits, are reflected appropriately. This is necessary to prevent any increase in the permitted or actual take.

Queensland is progressing with arrangements to improve the measurement of overland flow (the Queensland term for floodplain harvesting) through its Rural Water Futures program. Establishing arrangements to accurately account for water that is intercepted is challenging because of the size of catchments, geography and the complexity of managing what are mostly unregulated flows in the rivers of the Queensland part of the Basin.[87]

85 South Australia, MDBRC, Report, 2019: 603
86 Water Management (General) Amendment (Floodplain Harvesting Access Licences) Regulation 2023 (New South Wales).
87 Inspector-General of Water Compliance, *Annual Report 2021-22*, Australian Government, 2022: 14

The Rural Water Futures program is finalising the development and implementation of Queensland's overland flow measurement framework. The measurement framework caters to the different water use scenarios and types of water entitlements with fit-for-purpose measurement requirements. The framework is being delivered in stages. Phase 1 was completed in December 2022 and provided for measurement of on-farm storage water levels in the Border Rivers, Moonie and Lower Balonne sub-catchments to be standardised. The second stage involves the preparation of detailed measurement plans tailored to individual water systems.[88]

Actions to 30 June 2024

South Australia continues to facilitate and achieve compliance at an individual water user level through business-as-usual water management, regulatory and education practices. South Australia is finalising its new online water management system ('mywater') that will provide a customer-focused water licensing portal that enables users to more easily access information, trade their water products, streamline applications, and access data to help future planning. It will also improve communication between mywater users and DEW and provide reminders to facilitate compliance. mywater represents an improved alignment with the data interfaces of other southern Basin states' water management and accounting systems.

In June 2022, the Inspector-General received the final report from a key review into Basin compliance activities by former Auditor-General of Western Australia and Victoria, Mr Des Pearson AO.[89] One of Mr Pearson's findings, consistent with Recommendation 33 of the Royal Commission, is that 'it was not clear that enough attention has yet been given to taking a more collaborative and integrated approach to compliance or to providing more assurance that the jurisdictions' compliance and enforcement functions are effective.'[90] Mr Pearson found that South Australia has mature and embedded approaches to compliance and enforcement and is addressing compliance obligations in a holistic way.

Mr Pearson's review made recommendations aimed at addressing the siloed and segmented approach to water enforcement across the Basin, including recommendations to create a forum for states to work collectively on issues and to provide a framework to improve the consistency of water compliance reporting and determine the harm caused by unauthorised take. Using this, the Inspector-General is now determining enforcement actions related to water theft and will release recommendations for a consistent baseline to quantify the actual harm caused by unauthorised water take by the end of 2024.

Prior to the creation of the Office of the Inspector-General of Water Compliance, the MDBA was responsible for conducting SDL compliance audits for Basin states in accordance with its published framework.[91] The framework included a work program for auditing 2 WRP areas each year. The MDBA's framework has now been updated to reflect the separation of the SDL compliance role, which is now undertaken by the Inspector-General.

Since 2021–22, the Inspector-General has also published an annual workplan that reflects the prioritisation of work aimed at ensuring water is managed in accordance with the rules set by the Basin Plan, including through WRP audits.

South Australia supports the continued audit work of the Inspector-General and will participate as required in such audits. With respect to the Royal Commission's Recommendation 35, South Australia agrees that there should not be a limit to the number of audits that the Inspector-General can conduct each year, with the Inspector-General free to determine the appropriate number and nature of audits to be conducted to ensure compliance and maintain community confidence.

The Inspector-General's WRP risk assessment and compliance framework (currently under development) should identify the main risks to WRP compliance and inform how the Inspector-General will conduct their audit program.

88 Queensland Department of Regional Development, Manufacturing and Water, *Program to improve the measurement of overland flow,* Queensland Government website.
89 Pearson AO, D., *Compliance and enforcement across the Murray-Darling Basin,* prepared for the Inspector-General of Water Compliance, June 2022.
90 Pearson AO, D., *Compliance and enforcement across the Murray-Darling Basin,* prepared for the Inspector-General of Water Compliance, June 2022: 7.
91 See, for example, MDBA, *Sustainable Diversion Limit Reporting and Compliance Framework - Summary,* Canberra, November 2018.

Water Resource Plans

WRPs are the critical nexus between the federal laws (the Water Act and Basin Plan) and the water laws of the jurisdictions, and are fundamental for implementing the Basin Plan's primary purpose – ensuring there is an ESLT. It is the responsibility of each Basin jurisdiction to prepare a WRP for each WRP area specified in the Basin Plan. A WRP may include one or more SDL resource unit, and it sets the rules on how much water can be taken to ensure that the SDLs are not exceeded. WRPs create the obligation for each Basin jurisdiction to comply with its SDLs, and the Water Act establishes the Inspector-General as the enforcement agency in relation to those obligations.[92]

There are 33 WRP areas in total – 14 for surface water, 14 for groundwater, and 5 that cover both surface and groundwater. There are 3 WRP areas in South Australia; the South Australian River Murray, the Murray Region and the Eastern Mount Lofty Ranges. South Australia's 3 WRPs were submitted to the MDBA for assessment in accordance with Basin Plan timeframes and agreements and were all accredited by the Australian Government minister responsible for water by late 2019.

As at August 2023, the WRPs for South Australia, Queensland, Victoria and the Australian Capital Territory are accredited and in operation. It remains a concern that, as at the date of publication, only 5 of New South Wales's water resource plans are accredited and in operation, 8 are being assessed by the MDBA and 7 were withdrawn by the New South Wales Government in May 2023 and are yet to be resubmitted. This is considered a critical failure of both New South Wales and the Basin Plan itself,[93] and continues to raise questions about transparency and accountability. In particular, the Inspector-General has stated that he cannot legally enforce SDL compliance in New South Wales in the absence of accredited WRPs.

The disconnect between the commencement of SDLs on 1 July 2019 and the provisions for the formal commencement of SDL compliance, has only recently become apparent.

In December 2018, the Ministerial Council agreed that bilateral agreements should be in place between the MDBA and Basin jurisdictions to ensure key elements of WRPs – that is, SDL compliance – would be given effect from 1 July 2019 where WRPs were not accredited by that date. Bilateral agreements were then put in place and based on the advice provided to Ministerial Council, it was understood that formal SDL compliance would commence across all SDL resource units from 1 July 2019. However, this has not been the case.

The disconnect creates an inequity between Basin jurisdictions depending on when each jurisdiction WRPs are accredited. In any area where a WRP is accredited after 30 June 2019, it also has a negative impact on water resource management as any SDL debits or credits accrued since 2019-20 will disappear.

South Australia has been and will continue to advocate for a change to the Basin Plan so that SDL compliance commences from 1 July 2019 in all SDL resource units, consistent with the 2018 agreement by Ministerial Council.

New South Wales is presently working with the MDBA to progress its WRPs. The Australian Government has options available to it to address this, including the use of statutory step-in powers to progress WRPs or to amend the Basin Plan to reduce the SDLs as another means of protecting catchment-scale environmental water. Accreditation of outstanding WRPs is critical to ensuring environmental water protections and compliance with SDLs. This is ultimately a matter for the New South Wales Government and Australian Government. However, South Australia will continue to advocate for the implementation of all WRPs as soon as possible.

With respect to its 3 WRPs, South Australia is currently identifying the necessary amendments to reflect the transition from the Natural Resources Management Act 2004 to the Landscape South Australia Act 2019. These changes do not affect SDL compliance in South Australia and are minor in nature, with the majority of revisions relating to changes in referencing and not the accredited provisions. In due course and following the review of the ESLT during the Basin Plan Review, new WRPs will need to be prepared and accredited.

92 Water Act, section 137.
93 Siebert, B., and Hollingworth, K., *'Water compliance chief accuses New South Wales of 'most critical failure' of Murray-Darling Basin Plan'*, *ABC News*, 2 June 2022.

Basin Plan Review

Improvements in compliance, both at the SDL resource unit level and at the metering and measurement level, should continue to be addressed adaptively by Basin governments. The Basin Plan Review is an opportunity to review relevant legislative mechanisms at the federal level that could be amended to enhance compliance work.

In accordance with section 6.12 of the Basin Plan, non-compliance with the long-term annual diversion limit for an SDL resource unit is determined if the cumulative balance for an SDL resource unit, after permitted adjustments, is a debit amount equal to or greater than 20 percent of the long-term annual diversion limit for the SDL resource unit, and there is no 'reasonable excuse'.[94] The Royal Commission questioned the policy rationale for allowing up to 20 percent non-compliance and recommended this be reduced to no more than 5 percent.[95]

The MDBA relies on modelling to monitor compliance. The models used to determine the annual permitted take have been developed for water planning purposes, and they aim to represent water user behaviour and decision-making as much as possible. They are not, however, a perfect representation. The 20 percent threshold for non-compliance takes into account model error and the inherent variability in water user behaviour that is not able to be modelled.

Given this, South Australia supports a principle that, while a cumulative debit of 20 percent on the register of take remains the legislated threshold for instigating non-compliance activities, investigation into the cause of a potential exceedance should occur prior to reaching this. Consistently recorded annual debits and/or observed trends in increased use should indicate when an investigation is necessary and should trigger observations by the Inspector-General through the annual SDL compliance processes.

For the South Australian Murray SDL resource unit, the Water Allocation Plan for the River Murray Prescribed Watercourse provides the South Australian Minister for Climate, Environment and Water with powers to take action to address potential SDL non-compliance prior to reaching the 20 percent threshold if there is a high risk that this will occur.

As part of the Basin Plan Review, South Australia will advocate for further strengthening of the Basin Plan to support earlier action that investigates the cause of debits appearing on the register of take.

The inclusion of a 'reasonable excuse' in section 6.12 of the Basin Plan was designed primarily to respond to uncertainties in the water accounting process, such as in the underlying assumptions for determining the annual volume of water that is permitted to be taken, the inherent variability of how much water is available each year, the behaviour of consumptive water users, and the occurrence of extreme events. This uncertainty means that it is possible that water take in an SDL resource unit could reach the trigger for an SDL compliance assessment, even though all the rules in the relevant accredited WRP had been complied with.

A reasonable excuse provides a mechanism that allows a state to remain compliant with the SDL on the basis that there is an explanation for any apparent non-compliance that is consistent with the circumstances anticipated in section 6.12, and a process is in place to reduce the negative cumulative balance and bring water take back within the SDL.[96]

Reasonable excuse should not be a 'get out of jail free card' for Basin states – water use must still be reduced. The exception to this is outlined in section 6.12(4)(b), and relates to circumstances beyond a Basin state's control, such as where the Australian Government has not achieved the water recovery target that it has set for itself. To account for this, section 6.11(5) allows a credit to be applied to the register of take in each year for any incomplete water recovery.

South Australia will advocate for the Australian Government to reconsider the 'reasonable excuse' provisions and, in particular, the credits to the register of take under section 6.11(5). This provision was not intended to account for incomplete recovery indefinitely – including where SDL offset projects have not been delivered on time and additional water recovery is required to bridge the gap. Following reconciliation of the SDLAM, the SDLs should be amended. A reasonable timeframe should exist for claiming a credit to the register of take for incomplete recovery as a result of this change, but it would then be up to each state to manage the long-term consumptive use in accordance with the new SDLs.

94 Basin Plan, section 6.12.
95 South Australia, MDBRC, **Report**, 2019: See discussion commencing page 665 and Recommendation 34.
96 Basin Plan, section 6.12(5).

Royal Commission recommendations

South Australia's actions and intentions to address all recommendations of the Murray-Darling Basin Royal Commission Report 2019

Rec No.	Recommendation
1	New determinations of the ESLTs, and SDLs for both surface water and groundwater that reflect those ESLTs, should be carried out promptly. Those determinations must be made lawfully – that is, according to the proper construction of the Water Act as outlined in Chapter 3. Those determinations must: a. Be made on the basis of a proper construction of the Water Act, rather than using a triple bottom line approach b. Ensure that each water resource area's ESLT is correctly determined based on the best available water science, including for floodplains, and accordingly is reflected in the Basin-wide ESLT c. Result in an ESLT that ensures Australia fulfils its obligations under the treaties referred to in the Water Act d. Ensure there is no "compromise" to the key environmental assets and ecosystem functions of the Basin – it must restore and protect those that are degraded e. Be made on the basis of the best available scientific knowledge, and by taking into account ESD, including climate change projections f. Be made in such a manner that all of the processes, decision-making and modelling that underpin the determinations are fully disclosed and subject to scientific peer-review and consultation with the broader public
2	Those determinations [from recommendation 1 of the ESLTs, and SDLs for both surface water and groundwater that reflect those ESLTs] will require a greater recovery amount that that which has already been recovered. In order to achieve a higher recovery amount, additional water will need to be purchased by the government and held by the CEWH. That water should be purchased through buybacks.
3	The MDBA - or some other appropriately funded body – should be required to urgently conduct a review of climate change risks to whole of Basin, based on the best available scientific knowledge. This should be incorporated into the determination of the ESLT.

Actions to date	Priority action	Basin Plan Review 2026
		South Australia will advocate for a new ESLT and SDLs based on the best available science, taking into account climate change projections, risks and adaptation.
The Minister for Climate, Environment and Water wrote to the Australian Minister for the Environment and Water seeking the removal of the 1500 GL cap on buyback in the Water Act.	South Australia will continue to advocate for the completion of all outstanding water recovery through voluntary buybacks as necessary.	
The Minister for Climate, Environment and Water wrote to the Australian Minister for the Environment and Water about the importance of ensuring that climate change informs Basin Ministers' decision making, and that regular updates are provided on the work underway. MDBA has commenced various processes to review the science supporting climate change risks and incorporating this into the review of the Basin Plan.	South Australia supports the Australian Government's commitment to the updated Sustainable Yields project and will continue to support both the CSIRO and MDBA in their work to quantify climate change risks.	South Australia will advocate for the Basin Plan Review to take into account climate change projections, risks and adaptation.

Royal Commission recommendations

Rec No.	Recommendation
4	A Commonwealth Climate Change Research and Adaptation Authority should be established. This Authority must be independent of government. It should be appropriately funded so that it can properly conduct research into climate change, and formulate plans and give guidance on how the Basin (and other) communicates can best adapt to climate change.
5	The Sustainable Diversion Limit Adjustment Mechanism (SDLAM) should be modified so that: a. To the extent that it incorporates provisions that are unlawful, those provisions should be repealed. This includes those parts of the Basin Plan that purport to allow adjustments to the SDL arising from unimplemented supply measures, such as section 7.20(2). b. There must be full disclosure in relation to the implementation of supply measures. The MDBA and Basin States should publish all relevant documents in relation to project design, risk assessment and ecological outcomes, and all material relevant to the BOC's oversight of project implementation. c. Any adjustment to the SDL arising from supply measure projects must be based on empirical observation of only those projects that have been completed and implemented. Reliance should not be placed on the highly uncertain Ecological Elements Scoring Method. d. All supply measure projects must be assessed to determine whether they pose any environmental risks. No supply measure project that poses environmental risks should be implemented unless and until those risks are appropriately mitigated having regard to ESD and the precautionary principle. The Basin environment must not be subject to an uncontrolled experiment in order for less water to be recovered for the environment in the short-term. e. Any so-called reconciliation cannot wait until 2024. A review should be conducted immediately with reference to the monitored observations of the impacts of implemented projects and the research of the scientific community. Regard must be had to real-world environmental equivalence to the greatest extent possible, and not be a repeat of the narrow modelling undertaken in 2017.
6	A fully resourced, scientific analysis should be conducted to ascertain the causes, effects and available ecological responses to the continued ecological decline of Menindee Lakes and the Lower Darling, including full analysis of current operating rules, and a full analysis of the effects of the Menindee Lakes Water Savings Project

Actions to date	Priority action	Basin Plan Review 2026
The South Australian Government supports the Australian Government's commitments to establish an independent Environment Protection Agency and a National Water Commission, and will request that climate change research and adaption concerning the Murray-Darling Basin be included in the statutory functions of one of those agencies.	South Australia supports the Australian Government's commitment to the updated Sustainable Yields project and will continue to support both the CSIRO and MDBA in their work to quantify climate change risks.	South Australia will advocate for the Basin Plan Review to take into account climate change projections, risks and adaptation.
	The Minister for Climate, Environment and Water wrote to the Australian Minister for the Environment and Water maintaining that there needs to be an independent review of the scientific basis of the 605 GL SDL offset and that this should be completed before the 2026 Basin Plan Review. South Australia does not support new projects that do not provide flow related outcomes.	The independent review of the scientific basis of the 605 GL SDL offset should feed into the Basin Plan Review and inform water requirements for key environmental assets and a new ESLT and SDLs (see 1. above).
New South Wales committed to rescoping the Menindee Lakes Water Savings project in April 2021 which requires scientific analysis and stakeholder engagement. At the time of writing New South Wales has not provided a rescoped project proposal, nor withdrawn the project.	South Australia will continue to advocate for the withdrawal of the Menindee Lakes Water Savings project and water recovery to address the SDL offset shortfall.	

Royal Commission recommendations

Rec No.	Recommendation
7	A properly funded, compulsory scheme for the removal or easing of constraints should be implemented
8	Future recovery of water for the environment, including the 450GL, should be purchased through buyback. This requires repeal of 1500 GL cap on buybacks in sec 85C of the Water Act.
9	If the Commonwealth program for recovery of water through efficiency measures is nonetheless retained, the recommended further research into return flow outlined in the Groundwater and Return Flow Impact Report should be immediately undertaken.
10	The Commonwealth Auditor-General should conduct a review of the Commonwealth's irrigation infrastructure upgrade schemes to date. This review should at least assess the justifications of efficiency measures as a means of recovering water for the environment as against buyback, the probity of the processes involved in the provision of Commonwealth funds, and include an audit of how much water has actually been recovered.
11	If efficiency measures are retained as a means of recovering water for the environment, including the 450 GL, no changes should be made to the test for determining neutral or improved socio-economic outcomes in sec 7.17(2)(b) of the Basin Plan. Insofar as the criteria agreed at the Murray-Darling Basin Ministerial Council meeting on 14 December 2018 alter that test, they should be abandoned as they will likely result in the failure to recover that water.

Actions to date	Priority action	Basin Plan Review 2026
The MDBA's 2023 Assurance Assessment of South Australia's constraints project confirmed that implementation of the required elements to support the SDL offset will be completed by 30 June 2024 and the project will be in operation.	South Australia will advocate for a pathway for the delivery of the constraints measures projects and the treatment of the SDL offset to be addressed prior to, or as part of, the Basin Plan Review. South Australia will call on the Australian Government to consider investigating a properly funded, compulsory scheme to address constraints.	South Australia will advocate to legislate binding safeguards to ensure accountability for future water recovery in the event that New South Wales and Victorian constraints projects are not delivered within renegotiated timeframes.
The Minister for Climate, Environment and Water wrote to the Australian Minister for the Environment and Water seeking the removal of the 1,500 GL cap on buyback in the Water Act. South Australia supports the Australian Government designing an accompanying structural adjustment program for communities negatively impacted by buyback, should such impacts be substantiated.	South Australia will continue to advocate for the cap on buyback to be removed, for the Australian Government to launch a southern Basin on-farm efficiency measures program and for a southern Basin strategic buy-back program. South Australia also seeks to have a legislative safeguard to mandate recovery of the entire 450 GL if the target is not met in full.	
		This should form part of the Basin Plan Review.
The Second Review of the Water for the Environment Special Account report was tabled in Federal Parliament on 2 August 2022, per section 86AJ Water Act.	The South Australian Government will advocate for the Australian Government to apply its Strategic Water Purchasing Framework, which applies a strict value for money lens, to recover water entitlements for the final 450 GL.	
South Australia has withdrawn its support for the 2018 criteria.	South Australia will continue to advocate for the Australian Government to pursue all available avenues to recover the 450 GL in full so that it can be delivered for the outcomes outlined in the Basin Plan and Water Act.	

Royal Commission recommendations

Rec No.	Recommendation
12	Whichever means are used to recover environmental water, they must be accompanied by complementary investment in Basin communities.
13	The 70 GL reduction in the amount of water to be recovered in the Northern Basin should be immediately repealed.
14	The NBR should be conducted again. The new review should be: a. based on the best available scientific knowledge b. conducted with full public disclosure, including of its modelling.
15	The result of that review is almost certain to show that more than 390 GL needs to be recovered for the environment in the Northern Basin. That water should be purchased through buybacks.
16	Section 21 of the Water Act should be amended to include a provision expressly recognizing the need for special measures for Aboriginal interests in water resources and referring to the relevant obligations of the Biodiversity Convention (art 8(j)) in the manner proposed by the Northern Basin Aboriginal Nations (NBAN)).
17	Paragraph 22(3)(ca) of the Water Act should be amended to remove the words 'having regard to'.
18	The Basin Plan should be amended to expressly require that consultation for the purposes of Chapter 10 must be conducted in accordance with the Akwé: Kon Guidelines.
19	The MDBA should immediately retract Position Statement 1B.
20	Improved Commonwealth and State funding and support should be provided for the ongoing representative and consultative work of MLDRIN and NBAN, and consideration should be given to the establishment of a separate representative body for the central Western/Darling River region.

Actions to date	Priority action	Basin Plan Review 2026
	South Australia will advocate for an appropriate structural adjustment program to accompany the buy back of water and to support any negatively impacted communities should such impacts be substantiated.	
		The Australian Government should reassess the ESLT for the northern Basin as part of the Basin Plan Review.
		South Australia would support the Australian Government undertaking a scientifically robust review of northern Basin water requirements as part of the Basin Plan Review.
		South Australia supports the use of voluntary buybacks to recover water for environmental purposes.
The South Australian Government has been engaging with First Nations Australians peak bodies in relation to the Closing the Gap inland water targets.	The South Australian Government will engage with First Nations Australians and peak bodies about state-level priorities for advancing First Nations Australians' water interests.	Legislative amendments should be considered by the Australian Government as part of the Water Act Review.
		Legislative amendments should be considered by the Australian Government as part of the Water Act Review.
		This should form part of the Basin Plan Review.
		This should form part of the Basin Plan Review.
The South Australian Government has been engaging with First Nations Australians peak bodies in relation to the Closing the Gap inland water targets.	The South Australian Government will engage with First Nations Australians and peak bodies about state-level priorities for advancing First Nations Australians' water interests.	

Royal Commission recommendations

Rec No.	Recommendation
21	Increased provision of technical and expert resourcing should be provided to representative bodies to undertake the work, including research, necessary to engage in water resource planning and management activities within the framework of the Water Act and Basin Plan.
22	Sections 177 and/or 178 of the Water Act should be amended in order to mandate at least two Aboriginal representatives on the MDBA Board from peak bodies established for the purpose of representing the interests of traditional owners in relation to water resources in the Basin.
23	Basin States should review and amend their water resource planning and management legislation to expressly recognize and authorize the taking and use of water in exercise of native title rights and interests, whatever they may be determined to be and without additional limitations.
24	A meaningful consultation should now commence between the Basin States, the Commonwealth and the MDBA concerning cultural flow.
25	The final submission of WRPs for accreditation must await the finalization of the newly determined ESLTs. However, that does not mean all work should cease on them. They should continue to be completed as far as possible.
26	There should be no amendment to either the functions of the CEWH as described in sub-sec 105(3) of the Water Act, or to the provisions for the limitation of disposal of environmental water in sec 106 of the Water Act.

Actions to date	Priority action	Basin Plan Review 2026
The MDBA has an agreement in place to provide base funding for MLDRIN to engage with the MDBA on Basin Plan matters. For Nations that are not affiliated with MLDRIN, the MDBA engages with those Nations in a meaningful, culturally appropriate manner. The Australian Government is investing $9.2 million to consult and design an enduring arrangement for First Nations Australians to own, access and manage water in Australia.		
		Legislative amendments should be considered by the Australian Government as part of the Water Act Review.
South Australia has a state-wide authorisation in place under section 105 of the Landscape SA Act 2019 where a native title holder is entitled to take water from a prescribed watercourse, lake, well or surface water area for the purpose of satisfying that person's personal, domestic, cultural, spiritual or non-commercial needs where they are doing so in the exercise or enjoyment of their native title rights and interests. This take and use of water does not require a water licence.	The South Australian Government will engage with First Nations Australians and peak bodies about state-level priorities for advancing First Nations Australians' water interests.	
The MDBA is engaging with Basin jurisdictions to deliver the Murray-Darling Water and Environment Research Program, which includes cultural outcomes as part of its scope.	The South Australian Government will engage with First Nations Australians and peak bodies about state-level priorities for advancing First Nations Australians' water interests.	
South Australia's 3 WRPs were submitted on time, are accredited and in operation.	South Australia expects all of New South Wales's WRPs to be submitted for accreditation.	
No amendments have been put forward to date and South Australia supports the existing CEWH provisions.		

Royal Commission recommendations

Rec No.	Recommendation
27	A comprehensive Basin-wide environmental monitoring program should be established immediately. This monitoring program can be based on the Sustainable Rivers Audit, but likely needs to be more comprehensive.
28	Any environmental monitoring program must be conducted independent of both government and the MDBA. The MDBA should not mark its own work.
29	Further research must be undertaken to better understand and quantify the environmental requirements of water resource areas that incorporate floodplains, especially in the Northern Basin. The watering requirements for floodplains are necessary to establish the ESLT for those water resource areas.
30	Before any change to SDLs may be lawfully considered, the ESLT must be properly determined based on the watering requirements for floodplains. The MDBA must not rely only upon any change to BDLs proposed by States as a basis to increase SDLs.
31	A licensing and metering regime for floodplain diversions is necessary. New South Wales and Queensland must act on this issue to restore confidence within their own communities and amongst Basin States. The New South Wales Government must work towards addressing the shortcomings identified in its floodplain harvesting policy. Queensland must act to provide further publicly available information as to how it proposes to address floodplain diversions.
32	Greater investment must be made immediately by the MDBA and the Basin States in the scientific understanding of the Basin's groundwater resources. That scientific understanding, including connectivity with surface water resources, must be incorporated in the development of WRPs and environmental watering.

Actions to date	Priority action	Basin Plan Review 2026
The Australian Government has announced it is reinstating the Sustainable Rivers Audit to track and report on the health of Basin rivers, to inform the 2026 Basin Plan Review. The Australian Government has allocated $7.5 million to the MDBA for a Basin Condition Monitoring Program that will inform the 2025 Evaluation and 2026 Basin Plan Review. South Australia has requested stronger independence and expert advice to the Program.		
The Australian Government has allocated $7.5 million to the MDBA for a Basin Condition Monitoring Program that will inform the 2025 Evaluation and 2026 Basin Plan Review. South Australia has requested stronger independence and expert advice to the Program.		
		South Australia will advocate for a new ESLT and SDLs based on the best available science, taking into account climate change projections, risks and adaption.
		South Australia will advocate for a new ESLT and SDLs based on the best available science, taking into account climate change projections, risks and adaption.
New South Wales and Queensland have progressed their licencing regimes. An update on status is contained on page 52 of this document.		
		This should be progressed for the Basin Plan Review.

Royal Commission recommendations

Rec No.	Recommendation
33	Basin States should give consideration to the possibility of greater uniformity between their offence and penalty provisions having regard to community expectations, including consideration of enhancing penalty provisions to provide for the forfeiture of water rights, which accrue to statutory environmental water holders.
34	The Basin Plan should be amended so that the 20 percent threshold against which SDL compliance is measured in the register of take be reduced to no more than 5 percent. Further, the Basin Plan should be amended so that SDL compliance for each water resource area is assessed independently.
35	Resourcing must be made available to enable sufficient auditing of Basin State compliance with SDLs for each water resource area. The ceiling that no more than two water resource areas per year be audited should be removed. A clear and defensible auditing policy should be made publicly available to explain the basis upon which water resource areas will be audited, for example, on the basis of risk assessment having regard to compliance history and potential for growth in future use.
36	The comprehensive suite of recommendations made by Mr Ken Matthews AO regarding transparency, including real-time monitoring and publication of consumptive use, should be implemented immediately. There is no basis for these matters to be secret. The approach of Basin States in this regard should be consistent.
37	The provisions in subdivs E and F of the Water Act prescribing the detailed consultation process required in advance of making or amending the Basin Plan should be amended to make it express that all science is to be made available completely and in full, to the scientific community and general public, prior to the MDBA making determinations for the consideration of the Minister.

Actions to date	Priority action	Basin Plan Review 2026
The Inspector-General of Water Compliance was appointed on an interim basis in 2020 and officially appointed in August 2021. Its regulatory functions are set out in the Water Act and through those functions, the Inspector-General aims to deliver greater consistency and harmonisation of water regulation across the Basin. South Australia has mature and embedded approaches to compliance and enforcement and is addressing its compliance obligations in a holistic way.	The Inspector-General has commenced key actions in response to the Des Pearson review of compliance and enforcement across the Murray-Darling Basin to address the siloed and segmented approach to water enforcement. The Inspector-General has committed to determining a consistent baseline to quantify the harm caused by unauthorised water take by end 2024.	
Annual assessment of SDL compliance occurs at an SDL resource unit level in accordance with Basin Plan requirements.	South Australia will continue to advocate for a change to the Basin Plan so that SDL compliance commences consistently from 1 July 2019 in all SDL resource units.	South Australia will advocate for the Basin Plan to be strengthened to support earlier action to understand the cause of debits on the register of take.
The Inspector-General of Water Compliance conducts and releases an annual Statement of Compliance for SDLs. The annual statement for 2020-21 highlighted that accredited WRPs in all Basin states (except New South Wales) were in place and all operated within the SDL compliance thresholds.	South Australia will continue to call for the remaining New South Wales WRPs to be accredited or for the Australian Government to use its Water Act step in powers (sec 68).	
	This is in progress by Basin jurisdictions and should be continuously reviewed.	
South Australia releases its scientific reports online (www.waterconnect.sa.gov.au).		

Royal Commission recommendations

Rec No.	Recommendation
38	The inconsistency between para 48(3)(b) and subsec 23B(6) of the Water Act should be remedied via legislative amendment, in order to ensure that, in both cases, the MDBA's independence concerning decisions on factual and scientific matters is consistently maintained, by limiting the Ministerial power of direction in both cases.
39	An independent, scientifically astute and experienced body responsible for auditing the effectiveness of the implementation of the Basin Plan, akin to the NWC, should be established.
40	All opinions and advices the MDBA or the Commonwealth have obtained on the construction of the Water Act, the determination of the ESLT, the setting of the Basin-wide SDL, and all aspects of the SDLAM should be released immediately.
41	All modelling and other non-disclosed data used by the MDBA to determine the range of water recovery for the Guide and the ESLT Determination Report should be released immediately.
42	The manner in which the recovery amount of 2750 GL was influenced or adjusted for social and economic outcomes should be fully disclosed.
43	All modelling in relation to the NBR and the supply measure adjustment should be released immediately.
44	The manner in which the 70 GL figure for the NBR was influenced or altered as a result of social and economic factors should be fully disclosed.

Actions to date	Priority action	Basin Plan Review 2026
		This should form part of the Water Act Review.
		The South Australian Government supports the Australian Government's commitment to re-establish a National Water Commission and would support this auditing function being transferred from the Productivity Commission.
		The South Australian Government supports the publication of any new work in a way that supports increased transparency and will write to the MDBA and Australian Government Minister ahead of the Basin Plan Review.
		The South Australian Government supports the publication of any new work in a way that supports increased transparency and will write to the MDBA and Australian Government Minister ahead of the Basin Plan Review.
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Abbreviations

Term	Definition
AHD	Australian Height Datum
BDL	Baseline diversion limit
CEWH	Commonwealth Environmental Water Holder
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEW	Department for Environment and Water (SA)
EC	Electrical conductivity
EEWD	Enhanced Environmental Water Delivery project
ESLT	Environmentally sustainable level of take
GL	Gigalitre
HEW	Held environmental water
LTDLE	Long-term Diversion Limit Equivalence
MDBA	Murray–Darling Basin Authority
ML	Megalitre
MLDRIN	Murray and Lower Darling Rivers Indigenous Nations
NWC	National Water Commission
NWI	National Water Initiative
SDL	Sustainable Diversion Limit
SDLAM	Sustainable Diversion Limit Adjustment Mechanism
WESA	Water for the Environment Special Account
WRP	Water Resource Plan

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