



Environmental
Defenders Office

**Submission to the Murray Darling Basin Authority in
response to the 2026 Murray Darling Basin Plan Review
Discussion Paper**

1 May 2026

About EDO

EDO is a community legal centre specialising in public interest environmental law. We help people who want to protect the environment through law. Our reputation is built on:

Successful environmental outcomes using the law. With over 40 years' experience in environmental law, EDO has a proven track record in achieving positive environmental outcomes for the community.

Broad environmental expertise. EDO is the acknowledged expert when it comes to the law and how it applies to the environment. We help the community to solve environmental issues by providing legal and scientific advice, community legal education and proposals for better laws.

Independent and accessible services. As a non-government and not-for-profit legal centre, our services are provided without fear or favour. Anyone can contact us to get free initial legal advice about an environmental problem, with many of our services targeted at rural and regional communities.

www.edo.org.au

Submitted to:

Basin Plan Review Submissions
Murray Darling Basin Authority

By email: BPRsubmissions@mdba.gov.au

For further information on this submission, please contact:

Nadja Zimmermann
Senior Solicitor
Country & Cultural Heritage Practice
T: (02) 7229 0049
E: nadja.zimmermann@edo.org.au

Zoe Neumayer
Senior Solicitor & Government and
Parliamentary Liaison
Policy & Law Reform

Emily Long
Special Counsel
Country & Cultural Heritage Practice

Dr Sarah Buckerfield
Science and Expert Advisory team
(Hydrogeologist)

Acknowledgement of Country

The EDO recognises and pays respect to the First Nations peoples of the lands, seas and rivers of Australia. We pay our respects to the First Nations Elders past, present and emerging, and aspire to learn from traditional knowledges and customs that exist from and within First Laws so that together, we can protect our environment and First Nations cultural heritage through both First and Western laws. We recognise that First Nations Countries were never ceded and express our remorse for the injustices and inequities that have been and continue to be endured by the First Nations of Australia and the Torres Strait Islands since the beginning of colonisation.

EDO recognises self-determination as a person's right to freely determine their own political status and freely pursue their economic, social and cultural development. EDO respects all First Nations' right to be self-determined, which extends to recognising the many different First Nations within Australia and the Torres Strait Islands, as well as the multitude of languages, cultures, protocols and First Laws.

First Laws are the laws that existed prior to colonisation and continue to exist today within all First Nations. It refers to the learning and transmission of customs, traditions, kinship and heritage. First Laws are a way of living and interacting with Country that balances human needs and environmental needs to ensure the environment and ecosystems that nurture, support, and sustain human life are also nurtured, supported, and sustained. Country is sacred and spiritual, with culture, First Laws, spirituality, social obligations and kinship all stemming from relationships to and with the land.

A note on language

We acknowledge there is a legacy of writing about First Nations peoples without seeking guidance about terminology. We also acknowledge that where possible, specificity is more respectful. For the purpose of this submission, we have chosen to use the term First Nations. We acknowledge that not all First Nations people will identify with that term and that they may instead identify using other terms or with their immediate community or language group.

First Laws is a term used to describe the laws that exist within First Nations. It is not intended to diminish the importance or status of the customs, traditions, kinship and heritage of First Nations in Australia. The EDO respects all First Laws and values their inherent and immeasurable worth. EDO recognises there are many different terms used throughout First Nations for what is understood in the Western world as First Laws.

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Executive Summary

1. Environmental Defenders Office (**EDO**) welcomes the opportunity to provide a submission to the 2026 Murray-Darling Basin Plan Review (**Review**).
2. Our submission and recommendations are informed by our expertise as public interest water and environmental lawyers. EDO advises a diverse range of clients including First Nations people, irrigators, floodplain graziers, conservation groups and community groups across Australia. Our submission is also informed by our long history of engagement with the implementation and evolution of the *Water Act 2007* (Cth) (**Water Act**) and the Basin Plan.
3. This is the Authority's first statutory review of the Basin Plan since it commenced in 2012. The next review will be in ten years. This Review is a critical, once in a decade opportunity for the Authority, and ultimately the Minister, to build on the successes to date. It is also an opportunity to respond to the ongoing challenges and strengthen the Basin Plan so that it can achieve its full objectives, particularly in the face of accelerating climate change.
4. The decisions made now will determine whether we lose, or help restore, Basin ecosystems and the species that call them home.
5. EDO is concerned that the Discussion Paper falls far short of the expected standard for such an important statutory Review and fails to fulfil its statutory purpose. This includes because it fails to critically examine, and provide adequate options for, three keystone issues – identified below. In failing to meaningfully grapple with these issues, we are at risk of maintaining a 'business as usual' approach despite long standing criticisms and scientific consensus that doing so would cause irreparable harm to the Basin.
6. This submission identifies, and makes recommendations about, three keystone issues:
 - Issue one: Sustainable Diversion Limits must in fact reflect an Environmentally Sustainable Level of Take.
 - Issue two: The Basin Plan must meaningfully respond and adapt to the impacts of climate change.
 - Issue three: The Basin Plan must be updated to address the enduring impacts of First Nations water dispossession.
7. In addition to these keystone issues, this submission highlights five other issues that should be addressed in this Review and makes recommendations about each. We note that these are not intended to be an exhaustive list of additional important issues.

Keystone issues

Keystone Issue One: Sustainable Diversion Limits must in fact reflect an Environmentally Sustainable Level of Take

8. The central purpose of the Water Act is to reduce water extraction to environmentally sustainable levels. The principle mechanism is the application of so called sustainable diversion limits (**SDLs**). The Water Act states that SDLs *must* reflect an *environmentally sustainable* level of take (**ESLT**).

9. This submission identifies three key problems with the Authority’s approach to the current ESLT and SDLs in the Discussion Paper:
- **First**, the Discussion Paper fails to grapple with the enduring legal and scientific criticism of the original Basin-wide ESLT and SDL. The ESLT and SDLs have been flawed from the outset, both in terms of legal compliance and scientific rigour. This was the conclusion reached by the South Australian Royal Commission into the Murray Darling Basin (**SA Royal Commission**), which found that the Basin-wide SDL was unlawful and did not reflect an ESLT.
 - **Second**, there has been serious environment decline in the Basin since the Plan commenced in 2012. This evidence raises serious concern about the Authority’s position that most SDLs are environmentally sustainable, and its failure to identify options to amend the SDLs.
 - **Third**, there are legal and scientific concerns about the approach the Authority has taken in reaching a conclusion that SDL amendments are not necessary or appropriate. The Discussion Paper fails to grapple with this core issue and does not identify any options to amend the SDLs to respond to environmental decline or the impacts of climate change. There are also concerns about data collection and transparency which are both critical in the interests of good science, governance, and compliance with the law.
10. This submission also notes the continued importance of prioritising constraints relaxation in order to achieve the full benefits of water recovery and raises concerns about data collection and transparency.
11. **Recommendations 1-8** respond to these concerns.

Keystone Issue Two: The Basin Plan must meaningfully respond and adapt to the impacts of climate change

12. The Authority recognises that climate change is already affecting the Basin. Climate models considered in the 2025 Sustainable Yields Review predict with high confidence that there will be less water in the Basin by 2030, only 4 years from now. Yet the Discussion Paper fails to take the next step and identify serious responses to address these predictions.
- In particular, the Discussion Paper expressly declines to propose any changes to SDLs in response to the projected reduction of water availability caused by climate change. Instead, the Authority proposes to defer any changes to the SDLs in response to climate change to *future* Basin Plan reviews, another 10 or more years down the track.¹
13. This runs counter to the principles of ecologically sustainable development, in particular the precautionary principle and the need to adapt to climate change across the Basin. It may also be unlawful including in light of the statutory requirement that the Authority act on the best available science.

¹ Murray Darling Basin Authority, *2026 Murray-Darling Basin Plan Review: Discussion Paper* (February 2026), 7 (**Discussion Paper**).

14. More broadly, none of the ‘options’ identified in the Discussion Paper to respond to issues with the Basin Plan seek to address or manage climate change risks. This arguably demonstrates a failure to comply with the requirement in the Water Act that this Review consider and report on the *management of climate change risks*, and the requirement to act on the best available science
15. **Recommendations 9-13** respond to these concerns.

Keystone Issue Three: The Basin Plan must be updated to address the enduring impacts of First Nations water dispossession

16. First Nations are the Traditional Owners of lands and waters across the Basin and have cared for Country for tens of thousands of years. Yet, Australian water law is built on the legal fiction of *aqua nullius*. This foundational flaw continues to impact the rights, responsibilities and opportunities of First Nations across the Basin, and the health of Basin ecosystems.
17. The Water Act requires this Review to consider and report on important questions about whether the Basin Plan is working for First Nations peoples. The Review doesn’t do this. For the most part, the Discussion Paper misses opportunities to engage with and propose ways to address critical issues faced by First Nations across the Basin – including, for example:
 - water dispossession;
 - a lack of meaningful participation opportunities;
 - failure to provide for cultural flows; and
 - lack of access to clean drinking water.
18. Further, the Discussion Paper:
 - fails to clearly demonstrate that there has been adequate, appropriate consultation with First Nations that reflects the principles in the United Nations Declaration on the Rights of Indigenous Peoples and the principles of Free, Prior and Informed Consent; and
 - proposes options that would *further weaken* the already inadequate requirements for First Nations involvement in developing Water Resource Plans.
19. **Recommendations 14-17** respond to these concerns.

Other important issues

20. We also recommend that the Authority take further steps to address the following additional issues before the conclusion of this Review. This list is not exhaustive.

Floodplain harvesting

21. The Discussion Paper has not grappled with the substantial environmental and legal concerns about floodplain harvesting in the northern Basin, save to recognise that floodplain harvesting raises challenges in relation to SDL accounting. EDO agrees that SDL accounting is an important issue. The Discussion paper should go the next step and propose practical options to address it.

22. Significant volumes of floodplain harvesting has in effect been regularised in northern NSW by adjusting baseline diversion limits. This is arguably unlawful and results in extraction levels that do not comply with the requirement for environmental sustainability. conflict including because the SDLs may not reflect an environmentally sustainable level of take'. **Recommendations 18-19** respond to these concerns.

Critical human water needs in the Northern Basin

23. Critical human water needs include the need for a minimum amount of water required to meet core human consumption requirements. An example is drinking water. Whilst the Discussion Paper acknowledges that communities in the Basin are experiencing water insecurity, the Authority offers very little by way of a proposed response and does not engage with the relationship between overextraction and drinking water availability in the Northern Basin. **Recommendation 20** responds to these concerns.

Invasive Species

24. Other than insufficient water flows, the presence of invasive species is a major driver of environmental decline in the Basin, and the Basin is a global hotspot for invasive species.
25. The Basin Plan does not currently explicitly regulate or require the management of invasive species. However, responding to and mitigating harm caused by invasive species is necessary to achieve core objectives of the Water Act. The Discussion Paper recognises the need to manage invasive species but the analysis of the issues and options identified to address them are inadequate. **Recommendations 21-24** respond to these concerns.

Supporting and strengthening the role of the Inspector General of Water Compliance

26. The role of the Inspector General of Water Security is critical and should be strengthened.
27. The establishment of the role in 2021 was an important development which responded to significant weaknesses in the original compliance and enforcement framework under the Water Act. Recent work by the Inspector General, including the review of the Northern Basin Toolkit Measures and observations about barriers to SDL compliance assessments, demonstrate the value of this role.
28. It is concerning that the only 'option' in the Discussion Paper that refers to the Inspector General is a proposal to reduce the scope of the Inspector General's water resource plan oversight role.
29. **Recommendations 25-26** respond to this issue.

The Snowy Scheme carve out

30. The Basin Plan applies to the Upper Murrumbidgee River, except to the extent it is inconsistent with the licence. The operation of Snowy Mountain Hydro-Electric Scheme (**Snowy Scheme**) has caused environmental harms to the Upper Murrumbidgee due to reduced flows. It has also caused reduced water security. This is acknowledged by the Discussion Paper.
31. Unfortunately, the Review does not meaningfully engage with this issue or identify options that could address the harms. **Recommendations 27-29** respond to this issue.

Summary of Recommendations

Sustainable Diversion Limits must reflect an Environmentally Sustainable Level of Take, and this requires rigorous SDL assessments

1. The Authority must acknowledge that Sustainable Diversion Limits do not currently, and without changes will not, reflect an Environmentally Sustainable Level of Take.
2. The ‘initial SDL assessments’ undertaken for this Review are inadequate. The Authority must, as a priority, complete a proper assessment of Sustainable Diversion Limits using the best available science.

The assessments **must**:

- Be entirely transparent in their decision-making by making publishing the data, methodology, and the decision framework applied when concluding whether Sustainable Diversion Limits are consistent with an Environmentally Sustainable Level of Take. This is also important to enable independent peer review.
- Rigorously incorporate the impacts of climate change into projections of future water availability.
- Account for constraint relaxation.

The assessments **must not**:

- Assume any water recovery for the purposes of these assessments until or unless it is actually recovered (e.g. full recovery of the Sustainable Diversion Limit Adjustment Mechanism (‘water saving’) projects where the Authority currently predicts a 300 GL/year shortfall, and recovery of the 450GL/year).
3. Once the Authority has completed an adequate Sustainable Diversion Limit assessment, as recommended above, the Authority should propose any necessary changes to the Sustainable Diversion Limit to the Minister. These changes must ensure the Sustainable Diversion Limits are consistent with the core object of the Water Act, being to ‘return extraction to an environmentally sustainable level of take’, and must prioritise environmental outcomes as required by the Act rather than unlawfully applying a ‘triple bottom line’ approach.

The 450GL/year must be delivered in full

4. The 450 GL/year must be delivered in full.

Adequate data collection, analysis and transparency are critical to the Authority's functions, including the SDL assessments

5. The Authority must collect adequate data to track the health of the Basin and assess whether the Basin Plan is achieving its environmental objectives.
6. The Authority must publish data sets, analyses and decision-making frameworks concerning the state of ecosystems and species of the Basin, Sustainable Diversion Limits assessments, and any other matters relevant to water take or delivery.
7. The Authority must also release its historical and current modelling underpinning Sustainable Diversion Limit calculations and assessments and future water availability forecasting under climate change.

Constraints relaxation must be prioritised to achieve the full benefits of water recovery

8. The Authority must prioritise the relaxation of constraints. Constraints need to be relaxed to deliver water to disconnected ecosystems, including Ramsar listed wetlands. Constraints relaxation must occur in parallel with adopting ecologically sustainable limits on water extraction.

The Basin Plan must respond and enable adaptation to the impacts of climate change

9. The Authority must consider and act on climate change projections and impacts in its assessment of whether Sustainable Diversion Limits reflect an Ecologically Sustainable Level of Take (see **Recommendation 2** and **Recommendation 3** for further recommendations about the need to complete and report on rigorous SDL assessments).
10. The Authority must act on climate change projections now, not wait for another decade or more.
11. The Basin Plan is not currently drafted to manage the risks of climate change. The Authority must identify mechanisms to ensure extraction can be adjusted flexibly to respond to increasing climatic variability. This is critical to ensure water take is ecologically sustainable. See [189] of this submission for examples of ways this might be done.
12. In comparison to licensed water, Planned Environmental Water (PEW) will be disproportionately impacted by climate change. The Authority must identify and recommend amendments to the Basin Plan to protect PEW volumes from being eroded due to the impacts of climate change.

13. In implementing recommendations in relation to SDL assessments and climate change (**Recommendations 1-13**), the Authority must consider the principles of Ecologically Sustainable Development. The principles of Ecologically Sustainable Development include the precautionary approach and intergenerational equity. By applying these principles, climate adaptation should do the following:

- Ensure smoother and incremental transitions, to help communities adapt.
- Provide for **certainty** in water allocation, by foreshadowing potential changes in advance.
- Account for the **lifetime of any decisions** about adapting to climate change.
 - Measures to adapt to climate change impacts must take into account the time it takes from deciding to act through to benefits taking effect – including the time taken to implement the decision. History plainly shows that reform of the Basin Plan is complex, difficult and slow.
- Consider **distributive justice** across generations (**intergenerational justice**): fairness between the present generation and future generations.

Failure to take decisive action now will leave future generations bearing the burdens of historical overextraction compounded by climate change.

The Basin Plan must be amended to progress First Nations water justice in the Basin

14. The Basin Plan has never set aside water for Basin Nations. The Authority should examine and identify mechanisms for providing cultural flows. Cultural flows must benefit the spiritual, cultural, environmental, social and economic conditions of Basin Nations. This process must occur in consultation with self-determined Basin Nation governance bodies.

15. The Authority must identify ways to embed the principles of the *United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)* in the Basin Plan and recommend amendments to the Basin Plan to give effect to those principles. The Basin Plan could be amended, for example, to:

- establish a framework for First Nations to operate as co-managers of water resources that flow through a Nation's Country;
- ensure that First Nations participation in decision making is meaningful to First Nations people;
- empower and support Basin Nations to play a key role in the conservation and protection of Basin ecosystems within each Nation's Country.

Such measures must be developed in collaboration with self-determined Basin Nation governance bodies.

16. The Authority should propose amendments to the Basin Plan that would embed the principles of Free, Prior and Informed Consent (**FPIC**). Fundamental prerequisites to FPIC that should be protected in the Basin Plan include, for example:

- Basin Nation governance structures must be properly and reliably resourced, including for the purpose of engaging in government consultations;
- timelines for all First Nations consultations must be sufficient to ensure meaningful participation; and
- membership of any First Nations representative bodies that Government proposes to consult must be self-determined – or at least endorsed - by Basin Nations.

These measures must be developed in collaboration with self-determined Nation governance bodies.

17. As the only mechanism in the Basin Plan that currently requires any First Nations engagement in Basin water resource management, it is crucial that in relation to Water Resource Plans:

- the existing provisions of Chapter 10 Part 14 of the Basin Plan; and
- Commonwealth oversight of State WRPs;

are strengthened, **not** watered down. EDO expressly opposes the options set out at page 76 of the Discussion Paper.

Aspects of the Chapter 10 Part 14 provisions that we suggest requires updating in consultation with First Nations (applying the principles of FPIC) including the following:

- there is no provision requiring ongoing participation after WRPs are made;
- the provisions merely require Basin States to ‘identify’ and ‘have regard to’ matters of critical importance to First Nations, with no mechanism to ensure these matters actually influence content of WRPs (or other aspects of implementing the Basin Plan); and
- the provisions do not identify specific requirements that apply to the First Nations consultation process. Provisions could for example apply minimum requirements in relation to time frames, adequate resourcing of Nations to enable meaningful participation, and ensuring Indigenous Cultural and Intellectual Property rights protection throughout and after the conclusion of the WRP consultation process.

More generally, these provisions should clearly provide for First Nations in the Basin to decide who are the appropriate people from each Nation to speak for their Country.

Floodplain Harvesting

18. The Authority must assess whether the SDLs, as increased by incorporating floodplain harvesting into the baseline diversion limits, are consistent with an Environmentally Sustainable Level of Take. The results of this assessment must be published.
19. The Authority must propose amendments to the Basin Plan to ensure floodplain harvesting does not push extraction above an Environmentally Sustainable Level of Take, either due to:
 - informal adjustments to SDLs via adjustments to BDLs; or
 - inadequate or inaccurate measurement of floodplain harvesting.

Critical human water needs

20. The Authority must consider and propose amendments to the Basin Plan to ensure:
 - critical human water needs are given the highest priority water use in both the northern and southern Basin;
 - critical human water needs are always protected; and
 - there is a compliance framework that establishes an enforceable duty to ensure that critical human water needs are satisfied.

Invasive Species

21. The Authority has already established some programs for reducing the impacts of invasive species, which are a key threat to Basin ecosystems. Full roll out of existing programs must be prioritised to reduce the impact of invasive species, such as reducing cold water pollution.
22. The Authority must establish a data monitoring work program targeted at invasive species (alongside other urgently needed monitoring). This program must be specifically directed at understanding interactions between water resource management and invasive species, taking into account the impacts of climate change.
23. The Authority must consider and recommend amendments to the Basin Plan to require and facilitate optimal management of invasive species.
24. Amendments to the Basin Plan to improve management of invasive species should be co-designed with First Nations to enable First Nations knowledge and expertise to be embedded in Basin management. This process must reflect UNDRIP principles, including Free, Prior and Informed Consent, and ensure that Indigenous Cultural and Intellectual Property rights are effectively safeguarded.

Inspector General of Water Compliance

25. The Inspector General of Water Compliance plays a critical role as the independent compliance agency in the Basin. The role must be supported, including by identifying opportunities to strengthen powers of the Inspector General that could support and enhance the Basin Plan's objectives.
26. The Inspector-General's powers must not be wound back.

Snowy-Hydro scheme carve out

27. The Authority must consider, by reference to the best available science, how the Basin Plan could be amended to support improved environmental outcomes in the Upper Murrumbidgee to, for example:
 - increase the volume of environmental flows; and
 - facilitate improved timing of environmental water releases.
28. The Authority must consider and report on the matters identified in s 50(4A)(a) and (b) specifically in relation to the Upper Murrumbidgee, including considering how the relationship between the Water Act, Basin Plan and Snowy Hydro Scheme influence these matters.
29. First Nations co-design must be embedded in all aspects of managing the Upper Murrumbidgee, in accordance with the principle of Free, Prior and Informed Consent.

Introduction

32. The Murray-Darling Basin Plan (**Basin Plan**) (made under the *Water Act 2007* (Cth) (**Water Act**)) is a framework for sharing water in the Murray-Darling Basin – Australia’s largest river drainage basin. Its core purpose is to make sure there is enough water for rivers, wetlands, other flow dependent ecosystems and future generations.

The Basin is in serious environmental decline

33. The Basin Plan has helped some Basin ecosystems recover and species come back from the brink. Environmental water delivery, where it has occurred, has improved river flows and in some cases provided enough water to flood wetlands. This has allowed native fish such as the iconic Murray Cod² and Golden Perch³ to migrate to their spawning grounds, and delivery of water to wetlands has maintained critical habitat for species such as the Southern Bell Frog.⁴ Without environmental water delivered under the Basin Plan, Basin ecosystems would be in a much worse state.
34. However, there is a long way to go. Some 14 years after the Basin Plan was first made Basin ecosystems are collapsing; species are declining; and two major ecosystems in the Basin were recently listed as endangered and critically endangered.
35. This Review is a critical opportunity to build on where the Basin Plan has so far achieved its objectives. It is also a critical opportunity to take stock of where the Basin Plan is failing and how this can be addressed. This is particularly important in the face of accelerating climate change.

This is also a human rights issue

36. The significant environmental decline across the Basin is a human rights issue. The right to a healthy environment is recognised as a standalone human right,⁵ and is enshrined in the Australian Capital Territory (which is located within the Basin).⁶ The United Nations Special Rapporteur on the Environment defines the right to a healthy environment to include the right to a safe climate, access to safe drinking water, and the right to healthy biodiversity and ecosystems. In its July 2025 Advisory Opinion on the Obligations of States in respect of Climate Change the International Court of Justice affirmed that ‘*The human right to a clean, healthy and sustainable environment is therefore inherent in the enjoyment of other human rights. The Court thus concludes*

² For more information on the Murray Cod, see: [Water for the environment is key for protecting and recovering our Murray cod | Flow-MER](#)

³ For more information on the golden perch, see: [Understanding migration of golden perch into the southern Murray-Darling Basin - DCCEEW](#)

⁴ For more information on the Southern Bell frog, see: [2024 – Another Great Year for Southern Bell Frogs: A Success Story in Conservation | Flow-MER](#)

⁵ In 2021 the UN Human Rights Council recognised that the right to a clean, healthy, and sustainable environment is a human right. In July 2022, the UN General Assembly passed a resolution (with Australia voting in favour) reaffirming the recognition of the right to a healthy environment.

⁶ *Human Rights Act 2004* (ACT), s 27C.

*that, under international law, the human right to a clean, healthy and sustainable environment is essential for the enjoyment of other human rights’.*⁷

The Water Act is an environment-first law

37. It is important to understand this Review, and the Basin Plan, in context. The Water Act and Basin Plan were developed in response to, and to address, a long history of unsustainable overextraction and a recognition that overextraction threatened Basin-dependent ecosystems.
38. The Commonwealth’s legislative authority to enact the Water Act derived from the external affairs power in the Constitution. As such, the Water Act implements Australia’s obligations under certain identified international environmental agreements – in particular the Convention on Wetlands of International Importance (known as the Ramsar Convention)⁸ and the Convention on Biological Diversity (Biodiversity Convention).⁹ For the Water Act to fulfil its constitutional purpose it must give primacy to the environment.¹⁰
39. This primacy is clear in the terms of the Act – chiefly through the objects of the Act, its central purpose of reducing water extraction to environmentally sustainable levels, and through the sustainable diversion limit mechanism.
40. Put another way, the Water Act is an environment-first law with a core purpose of returning extraction across the Basin to environmentally sustainable levels and addressing threats to Basin water resources. It is critical that the Review process and outcomes reflect this context. EDO is concerned that the Discussion Paper neither acknowledges nor appropriately reflects this.

Several legal requirements apply to the conduct of the Review

41. The Review must be understood and assessed in the context of the applicable legal requirements. Some of these are explicitly stated; others must be inferred.
42. The Water Act identifies several matters that this Review *must* consider and report on in this Review. In summary, these are:¹¹
 - matters ‘relevant to Indigenous people’ in relation to water management in the Basin;
 - the extent to which the Basin Plan, including requirements relating to water resource plans:

⁷ *Obligations of States in Respect of Climate Change (Advisory Opinion)* [2025], International Court of Justice [393]. Available online at: <https://icj-web.lemman.un-icc.cloud/sites/default/files/case-related/187/187-20250723-adv-01-00-en.pdf>.

⁸ *Convention on Wetlands of International Importance especially as Waterfowl Habitat*, signed 2 February 1971 at Ramsar, Iran. Available online at: [Biodiversity: Convention on Wetlands of International Importance](#)

⁹ *Convention on Biological Diversity*, signed 5 June 1992 at Rio de Janeiro. Available online at: [Text of the Convention](#).

¹⁰ *Royal Commission into the Murray Darling Basin* (Final Report, 29 January 2019), 194, citing Professor George Williams. Available online at: [Murray-Darling Basin Royal Commission Report \(SA Royal Commission Report\)](#).

¹¹ Water Act s 50(4A).

- recognise and respect the interests of Indigenous people; and
 - supports opportunities for Indigenous people to participate in determining and developing priorities and strategies for the development or use of Basin water resources, including opportunities for participation that incorporate free, prior and informed consent; and
 - the management of climate change risks.
43. In addition, in conducting this Review the Authority is bound by several statutory requirements including, critically, to:¹²
- take into account the principles of ecologically sustainable development (**ESD**); and
 - act on the best available scientific knowledge and socio-economic analysis.
44. The principles of ESD are defined in s 4(2) of the Act. In the context of the environmental decline across the Basin, and the compounding and accelerating impacts of climate change, the following principles are of particular importance to this Review:
- **The precautionary principle:** ‘if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation’; and
 - **The principle of inter-generational equity:** ‘that the present generation should ensure that the health, biodiversity and productivity of the environment is maintained or enhanced for the benefit of future generations’.
45. Beyond this, what is required of this Review and the associated Discussion Paper must be understood as an exercise of statutory construction.
46. To ‘review’ something means, quite literally, to look again; to inspect, to examine, and to discuss in a critical way.¹³ The Water Act requires the Authority to ‘look again’ at the Basin Plan, after more than ten years of operation, and examine it critically. This scope of this examination is not at large. It is directed by the context and purposes of the Water Act. Understood in context, the purpose must be to examine *whether the Basin Plan is achieving what the Act set it out to achieve*. Further, there can be no other reason for conducting a Review if not to consider whether the Basin Plan – or the even the Water Act – needs to be amended in order for it to achieve what the Act set it out to achieve in the future.
47. The purpose of the Basin Plan is to provide for the integrated management of Basin water resources in a way that promotes the objects of the Water Act – including giving effect to relevant international agreements and establishing and enforcing environmentally sustainable limits on extraction.
48. The purpose of the Discussion Paper must be at the very least to facilitate public engagement in the Review process. That is, to enable the public to understand what the Authority thinks when it ‘looks again’ at the Basin Plan, and then to be able to respond and provide feedback to guide and

¹² Water Act s 21(4).

¹³ The Pocket Macquarie Dictionary (1989).

influence the outcomes of the Review. The Water Act also provides a direct pathway for making amendments to the Plan as a consequence of the Review.¹⁴

49. As a result, to achieve its statutory purpose the Discussion Paper, like the Review itself, *must* be guided by and prepared to consider (1) whether the Basin Plan is fulfilling the objectives of the Water Act; and (2) if not, what amendments to the Plan (and potentially the Water Act) are required.

First Nations continue to experience water dispossession across the Basin

50. It is also critical to place this Review in the context of the historical and ongoing impacts of colonisation.
51. First Nations are the Traditional Owners of lands and waters across the Basin and have cared for Country for tens of thousands of years. The history and ongoing impacts of colonisation have shaped, and continue to shape, First Nations water rights and regulatory frameworks, including the Water Act and Basin Plan.
52. First Nations in the Basin have consistently expressed significant dissatisfaction with the lack of genuine engagement and the failure to improve First Nations water rights. The Murray Lower Darling Rivers Indigenous Nations, a confederation of First Nations in the Southern Basin, say that
*the Basin Plan as a whole, and its individual provisions, largely override or ignore Basin Nations' rights and obligations relating to waters and rivers. They are inconsistent with the principles enshrined in the United Nations Declaration on the Rights of Indigenous People and are not helping to advance relevant Sustainable Development Goals.*¹⁵
53. The Dharriwaa Elders Group,¹⁶ an Aboriginal organisation in the Northern Basin, say that 'river foods, drinking water and water to swim in and enjoy have been taken from Walgett,' and that 'The system that is required by law to manage the rivers in the interests of all Australians, has failed for Walgett's Aboriginal community.'¹⁷
54. First Nations have never ceded their sovereignty over the waters of the Basin, yet continue to experience water dispossession. First Nations are still principally incorporated into Basin planning and management as mere stakeholders; this fails to recognise their unceded sovereignty, traditional custodianship, and expert care and management of the Basin over tens of thousands of years.
55. This review is a critical opportunity to take steps to address these issues.

¹⁴ Water Act, s 52, states that the 'Review may lead to amendment of Basin Plan... the Authority may... prepare an amendment of the Basin Plan and give it to the Minister for adoption'.

¹⁵ Murray Lower Darling Rivers Indigenous Nations, 'Murray Darling Basin Plan: Implementation Review 2023' (August 2023), 3. Available online at: <https://mldr.in.org/wp-content/uploads/2023/10/Basin-Plan-review-sub-MLDRIN-FINAL.pdf>

¹⁶ For more information, see <https://www.dharriwaaeldersgroup.org.au/>

¹⁷ Dharriwaa Elders Group, *Submission to the Australian Government Productivity Commission Murray-Darling Basin Plan: Implementation Review 2023*, (11 August 2023), 5-6. Available online at: <https://dharriwaaeldersgroup.org.au/images/downloads/DEGSubProductivityCommissionMDBPlanImplementationReview11August23.pdf>

The Discussion Paper falls short

56. As is clear from above, the Discussion Paper is a critical element of the Review and is the only opportunity for the public to comment on the Review before the Authority reports to the Minister.
57. The Discussion Paper, like the Review generally, *must* engage with whether the Basin Plan is achieving what the Act set it out to achieve and, if not, what needs to be done in response – including by way of amendments to the Basin Plan and even the Water Act. It must also address the mandatory requirements of the Review (described above at [#]).
58. Unfortunately, the Discussion Paper falls far short of the expected standard for such a significant review and fails to fulfil its statutory purpose. Issues with the Discussion Paper include the following:
 - it fails to engage with the long standing criticism and scientific consensus that the Sustainable Diversion Limits neither reflect an environmentally sustainable level of take, nor are based on the best available scientific information.
 - it fails to grapple with the relevant legislative framework. The legal framework should drive the Authority’s approach to the Review. For example, the Discussion Paper has failed to demonstrate how and why the Authority has identified particular ‘issues’ and ‘options’ by reference to:
 - the core objects and purpose of the Water Act and Basin Plan; and
 - the matters this Review must consider under the Water Act.
 - The Discussion Paper almost entirely fails to grapple with and respond to climate change impacts. There is no meaningful description or assessment of how climate change is likely to interfere with achieving the core objectives of the Basin Plan, and no options identified to meaningfully respond to and manage climate change. Section 50(4)(A)(c) of the Water Act require this Review to address this issues.
 - In relation to First Nations, the Discussion Paper fails to engage with critical issues such as Aboriginal water dispossession and opportunities to provide for cultural flows.
 - More generally, the ‘options’ that the Discussion Paper presents in response to the issues identified are typically vague and underdeveloped. This undermines the potential benefits of the public consultation process and makes it difficult for the community to understand or predict what amendments to the Basin Plan the Authority thinks might be necessary..
59. Left unaddressed, there is a real risk that this Review will be an opportunity wasted and the Basin Plan will carry on ‘business as usual’ despite long standing criticisms and scientific consensus that doing so will cause irreparable harm to the Basin.

The approach taken in this submission

60. Due to the concerns raised above, this submission responds to the Discussion Paper by identifying important issues that we argue are critical to the Authority’s proper exercise of this Review function. The submission is centred around three ‘keystone’ issues that arise from both the key

legal requirements that apply to this Review as well as the broader objectives of the Water Act and Basin Plan. They are:

- **Keystone issue one:** Sustainable Diversion Limits must in fact reflect an Environmentally Sustainable Level of Take.
- **Keystone issue two:** The Basin Plan must meaningfully respond and adapt to the impacts of climate change.
- **Keystone issue three:** The Basin Plan must be updated to address the enduring impacts of First Nations water dispossession.

61. In addition to these three keystone issues, we have offered analysis and recommendations in relation to five further issues that we consider are also important for the Basin Plan to achieve its objectives. This suite of 'other issues' is not intended to be exhaustive.

Relationship with the Water Act Review

62. It is important to acknowledge that for some issues raised in this submission, scope to respond by way of amendments to the Basin Plan may be constrained by the current provisions of the Water Act. However, this does not mean such issues must or should be carved out from this Review; in fact, this Review is an important opportunity for the Authority to identify barriers to the Basin Plan achieving its core objectives that require Water Act reform. This is particularly relevant now that the statutory Water Act Review is underway.

Keystone issue one: The Environmentally Sustainable Level of Take and Sustainable Diversion Limits

Introduction

63. The driving force behind the Water Act was the Millennium Drought, which followed decades of over-extraction. Governments accepted that water extraction across the Basin was environmentally unsustainable and legislation was required to reduce water take to sustainable levels. This has meant the **central purpose** of the Water Act is to reduce the amount of water being taken from the Basin to environmentally sustainable levels. The analysis undertaken by this Review, and actions that follow, must reflect this central purpose.
64. A key component of the Water Act – and the principal mechanisms for achieving its central purpose – is the requirement that the Basin Plan set long-term average sustainable diversion limits (**SDLs**).¹⁸ Further, that these must reflect an environmentally sustainable level of take (**ESLT**).¹⁹ In other words, the Plan must place a limit on the volume of surface and groundwater that may be extracted from the Basin, determined by reference to environmental sustainability.
65. With this legal context in mind, this submission identifies and addresses three key issues with the approach taken in the Discussion Paper to the current ESLT and SDLs:
- **First** the Discussion Paper fails to grapple with the enduring legal and scientific criticism of the original Basin-wide ESLT and SDL. These issues remain as relevant as ever.
 - **Second**, there has been serious environment decline in the Basin since the Plan commenced in 2012. This raises serious concern about the Authority’s proposal in the Discussion Paper that most SDLs are environmentally sustainable. To the contrary, evidence suggests the ESLT and SDLs are likely to be *unsustainable*, and that if the status quo is preserved, further decline will occur.
 - **Third**, there are serious concerns about the approach taken by the Authority in considering the SDLs as part of this Review. In particular we are concerned that:
 - the Authority’s initial SDL assessments are not sufficiently rigorous for the purpose of this important Review;
 - the Authority is applying, or proposes to apply, a “triple bottom line approach” to its analysis;
 - the SDL analysis and Discussion Paper may be broadly undermined by inadequate data collection, monitoring, and transparency, all of which are relevant to legal obligations under the Act.

¹⁸ *Water Act 2007* (Cth) s 22.

¹⁹ *Ibid* s 23.

The Review must grapple with the enduring problems of the ESLT and SDLs

What the Water Act requires

66. SDLs are set for the Basin as a whole and are also broken down into individual ‘units’. There are two mechanisms in the Water Act for adjusting SDLs. Both have been utilized.
67. ‘ESLT’ is defined in the Act to mean the volume of water that can be taken which, if exceeded, would compromise:
 - key environmental assets;
 - key ecosystem functions;
 - the (ecologically) productive base of the water resources; and
 - key environmental outcomes.²⁰
68. When exercising its powers and performing its functions under Division 1, Part 2 of the Water Act,²¹ the Authority is *required to act on* the basis of the ‘best available scientific knowledge’²² and take into account the principles of ecologically sustainable development. This includes the precautionary principle, which is particularly important in the context of accelerating climate change.²³
69. The Authority is also required to be guided by the objects of the Act. The overarching objects connect the objective of giving effect to Australia’s obligations under international agreements with the need to for special measures to return extraction of water in the Basin to an environmentally sustainable level.²⁴
70. In this context, international agreements of particular importance are the Convention on Wetlands of International Importance (known as the **Ramsar Convention**)²⁵ and the Convention on Biological Diversity (**Biodiversity Convention**);²⁶ others include the United Nations Framework Convention on Climate Change (**Climate Change Convention**)²⁷ and several bilateral migratory bird agreements.²⁸ These are the international obligations that gave the Federal Government the power under the Australian Constitution to make the Water Act in the first place.

²⁰ Ibid s 4.

²¹ Division 1, Part 2 of the Water Act concerns the management of Basin water resources.

²² Ibid s 21(4)(b).

²³ Ibid s 21(4)(a). The *principles of ecologically sustainable development* are defined in the Water Act s 4. Importantly, these requirements apply to the original process of determining the Basin-wide ESLT and SDL.

²⁴ Water Act s 3(b)(d). See also s 20(a). See also SA Royal Commission report, 130-132.

²⁵ *Convention on Wetlands of International Importance especially as Waterfowl Habitat*, signed 2 February 1971 at Ramsar, Iran. Available online at: [Biodiversity: Convention on Wetlands of International Importance](#)

²⁶ *Convention on Biological Diversity*, signed 5 June 1992 at Rio de Janeiro. Available online at: [Text of the Convention](#).

²⁷ *United Nations Framework Convention on Climate Change*, entry into force 21 March 1994. Available online at: [UNTC](#).

²⁸ Including the Japan-Australia Migratory Bird Agreement, China-Australia Migratory Bird Agreement and the Republic of Korea -Australia Migratory Bird Agreement. A full list of agreements is available online at: [Migratory birds - DCCFEW](#)

71. The SA Royal Commission identified three ‘essential actions’ that emerge when the objects are read together:²⁹

- *the use of special measure to address the threats posed by overallocation and overuse of Basin water resources to the ‘ecosystems that are part of’ those water resources and their ‘associated biodiversity’*

- *the return of extraction to ‘ecologically sustainable levels;’ and*

- *the protection and restoration of, and provision for, the ecological values and ecosystem service of the Basin.*

Why it’s important to go back to the beginning

72. The Discussion Paper correctly identifies the legal requirement that the SDLs must reflect an ESLT.³⁰ The Authority then states that, as part of the Review, they have ‘completed initial assessments of SDLs’ in order to ‘aim to help determine if those limits... continue to reflect an [ESLT]’.³¹ It then concludes that 21 surface water SDLs ‘*continue to reflect an [ESLT]*’ (our emphasis).³²
73. This language is important: it suggest the Authority’s work starts from an assumption that the SDLs *always have* reflected an ESLT. In fact, as foreshadowed, the initial setting of the ESLT and subsequent SDLs has attracted significant criticism both as to lawfulness and scientific rigour – including from the SA Royal Commission.
74. As the Authority frames the Discussion Paper as ‘part of a conversation – not a decision’,³³ the SDL assessments undertaken by the Authority – and the absence of any practical ‘options’ to amend the SDLs – require careful examination. This requires us to go back to how the ESLT and SDLs were originally set in 2012, when the Basin Plan was first drafted.

How the original ESLT and SDLs were set

75. When the Basin Plan was originally being drafted, the Authority conducted work to determine a Basin-wide SDL.
76. The Authority estimated that, as of 2009, 13,677GL of surface water (e.g. from rivers and lakes) and 1,768GL of groundwater was being taken per year, on average.
77. The process of determining how much this needed to be reduced – i.e. how much water needed to be ‘*recovered*’ was complex and political.

²⁹ SA Royal Commission report, 131.

³⁰ Discussion Paper, 19.

³¹ Ibid, 15.

³² Ibid, 23.

³³ Murray Darling Basin Authority, ‘Discussion Paper’. Available online at: [Discussion Paper | Murray–Darling Basin Authority](#).

78. An initial assessment by the Authority found that surface water recovery needed to be between approximately 3,900 GL/y and 7,000 GL/y.³⁴ After further analysis, applying ‘confidence limits’ of about +/- 20%, the Authority determined that surface water recovery needed to be between 3,000 GL/y and 7,600 GL.³⁵ The lower figure was said to offer a high level of uncertainty that it would meet the Basin’s watering requirements; the high figure would offer a low level of uncertainty. The recovery range for groundwater was determined to be between 99 GL and 227 GL per year. The surface water figures of these initial assessments are understood to have incorporated a 3% allowance to account for the effect of climate change.³⁶
79. As the Authority was undertaking these initial assessments, tensions and competing interests between Basin stakeholders emerged. As a result, the political influence on the process of setting the ESLT and SDLs became more explicit: the SA Royal Commission ultimately found that politics rather than science unlawfully drove the setting of the Basin-wide SDL.³⁷
80. In the end, the Authority adopted a different approach to their original calculations (3,000 GL/y and 7,600 GL). The Authority ultimately concluded that:
- surface water recovery needed to be 2,750GL per year, and this corresponded to a Basin-wide SDL of 10,873 GL per year; and
 - groundwater recovery needed to be 38.45GL/year.

These figures are the ‘water recovery targets’, often referred to as the Bridging the Gap targets (which, as noted below, have been amended since the Basin Plan was first made).

The setting of the ESLT and SDLs was and remains unlawful

81. The 2019 SA Royal Commission Report concluded that SDLs and the final recovery targets were neither environmentally sustainable nor lawful. Among other things, the Commission concluded that the determination of the SDLs and associated water recovery targets:
- were not based on the best available science³⁸, including due to:
 - a failure to consider climate change;³⁹ and
 - a failure to disclose the modelling used to determine the ESLT and SDLs; and
 - did not reflect an environmentally sustainable level of take.⁴⁰

The Authority also:

- misapplied a ‘triple bottom line’ approach (described further below at [135]-[139]); and

³⁴ Murray Darling Basin Authority, *Guide to the Proposed Basin Plan: Technical Background* (Volume 2, 2010), 114. Available online at: <https://apo.org.au/sites/default/files/resource-files/2010-10/apo-nid23025.pdf> (**MDBA Guide to Proposed Basin Plan: Technical Background**).

³⁵ Murray Darling Basin Authority, *Guide to the Proposed Basin Plan: Overview* (Volume 1, 2010), page xix. Available online at: [guide-to-basin-plan-vol-1-gen.pdf](https://apo.org.au/sites/default/files/resource-files/2010-10/apo-nid23025.pdf); MDBA Guide to Proposed Basin Plan: Technical Background, 115.

³⁶ SA Royal Commission Report, 169; MDBA Guide to Proposed Basin Plan: Technical Background, 122.

³⁷ SA Royal Commission Report, 54 [5.5(c)].

³⁸ SA Royal Commission Report, 54 [5].

³⁹ SA Royal Commission Report, 54 [5]; also discussed in this submission at [169].

⁴⁰ SA Royal Commission Report, 54 [5.6].

- failed to take into account the principles of ecologically sustainable development.
82. Of note, the SA Royal Commission Report concluded that (p 53):
- Based on the totality of the evidence before the Commission, the range of water recovery in the Guide to the proposed Basin Plan ... – 3980 GL to 6980 GL – most likely is the range that results from a proper construction of the term ESLT in the Water Act, and results in a [Sustainable Diversion Limit] that reflects an [Environmentally Sustainable Level of Take]...*
83. These issues identified by the SA Royal Commission have never been addressed. The Authority rejected the findings of the Royal Commission, including its finding that the Basin Plan is unlawful or was made unlawfully.
84. EDO's position is that the Royal Commission's extremely thorough factual and legal analysis remains authoritative (subject to accounting for factual and legal developments since its publication in early 2019). Yet the position of the Authority remains unchanged in the face of enduring scientific and legal criticism and ongoing environmental decline (as discussed further below): the Discussion Paper states the SDLs 'continue to reflect' the ESLT.⁴¹ In doing so, the Authority continues to ignore the elephant in the room: that the original SDLs and water recovery targets have never reflected an ESLT, and the reasons why. Most importantly, the Authority, and this Review, have failed to consider and act on best available science as required by the Water Act.

Adjustment of the SDLs compounded the existing problems

85. These original issues have been compounded further by subsequent adjustments to the SDLs.
86. Under the Water Act, there are two ways to adjust SDLs:
- Amending the Plan.
 - The Sustainable Diversion Limit Adjustment Mechanism (**SDLAM**), which involves achieving environmental outcomes in ways other than by reducing water take, e.g. through , infrastructure projects.
87. The surface water Sustainable Diversion Limits have been increased twice using these mechanisms:⁴²
- In 2016, the Northern Basin Review found that water take could increase by 70 GL/year while still achieving the same ecological outcomes⁴³. This was achieved via amendments to the Basin Plan.
 - In 2017, a collection of proposed SDLAM projects were accepted as a substitute for 605 GL/year of recovery. This change to the SDLs was achieved by utilizing the SDLAM mechanism.⁴⁴

⁴¹ Discussion Paper, 23. Note that it is a role of the Authority to undertake SDL assessments as part of the Review (Discussion Paper, 19).

⁴² See the discussion of floodplain harvesting in the other issues part of this submission, which refers to SDLs having been informally increased outside of these mechanisms.

⁴³ See the discussion of the Inspector General of Water Compliance in the other issues part of this submission, which refers to the Inspector General's recent review of these measures.

⁴⁴ Issues with the SDLAM projects are discussed further below at [8588]-[95].95].

As a result, the **Bridging the Gap** water recovery target was reduced by 675 GL in total.

Concerns from the outset the SDLAM projects would not deliver have come to fruition⁴⁵

88. The Authority's proposed adjustments to the surface water SDLs in 2017 was on the basis that a package of SDLAM 'supply measures' projects could achieve environmental outcomes other than by reducing water take, and that these projects would be equivalent to returning 605GL to the environment. The projects were to be delivered by Basin states.
89. There are three types of SDLAM projects: 'environmental works and measures' that involve infrastructure, 'constraints management/relaxation measures that are intended to allow flows onto floodplains while mitigating adverse impacts on private properties, and 'operational rules changes/system enhancements projects'.⁴⁶
90. There have been concerns about the SDLAM projects from the outset – about whether the projects could realistically be delivered, and about whether there is a sound scientific basis for equating project outcomes with flow volumes.⁴⁷
91. The deadline for SDLAM project delivery was originally set to be 30 June 2024. The Water Act was then amended in 2023 to extend this deadline to 31 December 2026.⁴⁸ There is then a process of 'reconciliation' to occur.⁴⁹
92. Extensions to deadlines have been granted because the conception and implementation of the SDLAM projects has been fraught.⁵⁰ The SDLAM projects have been found to 'remain untested, lack on-ground validation and [be] based on ecological modelling that relies on generalised and hypothetical assumptions'.⁵¹
93. The Authority now reports an estimated shortfall of 300GL/year – nearly half.⁵²

⁴⁵ As noted in the discussion of the Inspector General of Water Compliance in the other issues part of this submission, the Inspector General of Water Compliance has also recently identified issues with the Northern Basin Toolkit measures that were implemented as a result of the Northern Basin Review.

⁴⁶ Kate Lyons, Jamie Pittock, Matthew J. Colloff, Yilan Yu, Eytan Rocheta, Celine Steinfeld, 'Towards a scientific evaluation of environmental water offsetting in the Murray-Darling Basin, Australia (2022) 74(3) *Marine and Freshwater Research* 264, 266. Available online at: [Towards a scientific evaluation of environmental water offsetting in the Murray-Darling Basin, Australia | Marine & Freshwater Research | ConnectSci](#)

⁴⁷ Professor Sarah Wheeler, Professor Quentin Grafton, Professor John Quiggin and Professor Jeff Connor, Submission No 13 to the Senate Standing Committee on Environment and Communications, *Water Amendment (Restoring Our Rivers) Bill 2023* (November 2023), 5.

⁴⁸ *Water Amendment (Restoring Our Rivers) Act 2023* (Cth), item 29.

⁴⁹ Murray Darling Basin Authority 'Sustainable diversion limit adjustment mechanism – reports and business cases'. Available online at: [Sustainable diversion limit adjustment mechanism – reports and business cases | Murray-Darling Basin Authority](#). Other deadlines were also set under the 2023 amendments to the Water Act: new SDLAM projects were to be notified by 30 June 2025, and existing projects are to be amended or withdrawn by 30 June 2026. See *Water Amendment (Restoring Our Rivers) Act 2023* (Cth), item 30.

⁵⁰ For a full list of SDLAM projects, see Murray Darling Basin Authority, 'Sustainable diversion limit adjustment mechanism – register of measures'. Available online at: [Sustainable diversion limit adjustment mechanism – register of measures | Murray-Darling Basin Authority](#)

⁵¹ Kate Lyons et al, 'Towards a scientific evaluation of environmental water offsetting in the Murray-Darling Basin, Australia', 267.

⁵² Discussion Paper, 22.

94. The actual implementation of the projects has lined up squarely with the concerns about the SDLAM projects raised at the outset, as well as more recent concerns. For example,:
- a 2018 study showed that irrigation efficiency projects may have even caused a *decline* in river flows;⁵³ and
 - before the extension was legislated in late 2023, a Senate Inquiry received submissions that raised deep concern that some of these projects were *never* going to be delivered, no matter how much time they are given.⁵⁴
95. Further, concerns have been raised about the proposed process for the Authority’s ‘reconciliation’ of the SDLAM projects (required by 31 December 2026)⁵⁵ may itself be deeply flawed.⁵⁶ The reconciliation process anticipates the Authority considering whether the projects are delivering the expected adjustment amount and environmental outcomes, with scope for adjusting SDLs in response. If this process is ultimately flawed, it would further undermine the rigour and reliability of the SDL assessments.

An additional 450GL of water recovery offers some improvement – *if recovered*

96. When the Basin Plan was being drafted and the water recovery targets developed, South Australia pushed for an additional 450 GL/year of water recovery on top of the proposed 2,750 GL/year target. Although a commitment was made to recover the additional 450 GL/year, neither the Water Act nor Basin Plan incorporated a binding requirement to achieve this.
97. Delivery of the 450GL/year of water is to be achieved by a combination of ‘on farm efficiency measures’ and voluntary water purchases (i.e. buybacks).⁵⁷
98. After extremely slow progress over the first decade of the Basin Plan, the Water Act was amended in 2023 to require the Commonwealth Water Minister to take *all reasonable steps* to increase the volume of water available for the environment across the Basin by 450 GL/year by 31 December 2027.⁵⁸ Since then, there has been some progress. However, 228.8 GL/y, or around half of the

⁵³ John Williams and R. Quentin Grafton, ‘Missing in action: possible effects of water recovery on stream and river flows in the Murray–Darling Basin, Australia’ (2019) 23(2) *Australasian Journal of Water Resources*, 78–87. Available online at: <https://doi.org/10.1080/13241583.2019.1579965>

⁵⁴ Senate Standing Committee on Environment and Communications, Parliament of Australia, *Water Amendment (Restoring Our Rivers) Bill 2023*, (Report, November 2023), 16 [2.35]. Available online at: [Chapter 2 - Sustainable Diversion Limit Adjustment Mechanism projects – Parliament of Australia](#).

⁵⁵ Basin Plan cl 7.11.

⁵⁶ Wentworth Group of Concerned Scientists (11 July 2023) *Reconciliation of the Sustainable Diversion Limits Adjustment Mechanism Projects*. Available online at: <https://wentworthgroup.org/wp-content/uploads/2023/07/SDLAM-Reconciliation-method-key-points.pdf>.

⁵⁷ Department of Climate Change, Energy, the Environment and Water ‘Delivering the Basin Plan in Full: Restoring Our Rivers: Framework for delivering the 450GL of additional environmental water’ (4 July 2024). Available online at: [Delivering the Basin Plan in full](#).

⁵⁸ Water Act s 85AC.

volume, is yet to be delivered.⁵⁹ Further, 57.4 GL of the 221.2GL/y that *has* been recovered, is only water that has been contracted but not yet registered.⁶⁰

99. We also note that although return of the 450 GL/year is now incorporated into the Water Act, the target is not binding: the Minister must simply take ‘all reasonable steps’ to achieve it.⁶¹

The state of the Basin: Ecosystems, wetlands and individual species are not getting enough water

100. Whilst acknowledging that there are issues that go beyond total extraction limits, the flawed settings of the ESLT and SDLs are not just abstract numbers. Along with the other issues, the flawed ESLT and SDL settings have had, and continue to have, real and serious consequences for Basin ecosystems.
101. This section provides a brief overview of contemporary evidence about the state of the Basin. It emphasises the importance of the Authority taking full advantage of this Review to thoroughly engage with – and *act on* – the best available science and ensure that an updated Basin Plan is both lawful and fit for purpose.

Many ecosystems are not getting enough water to remain healthy

102. Recent analysis found that for the period 2012-2022 (i.e. since the Basin Plan commenced), Environmental Water Requirements were met for only 26% of the assessed ecosystems.⁶²
103. The analysis also found that the only improvements made to meeting Environmental Water Requirements since the Basin Plan started was an increase in small flow event requirements in the Murray.
104. The end of the Darling/Baaka and Murray river systems are some of the most severely stressed parts of the Basin. For these sites, Environmental Water Requirement outcomes have been worse since the Basin Plan started than they were in the preceding three decades. This is because the impacts of water take along the whole system add up: flows at the end of the system are impacted by over-extraction across the *whole system*.

⁵⁹ Department of Climate Change, Energy, the Environment and Water ‘Progress on the Murray-Darling Basin water recovery’ (25 February 2026). Available online at: [Progress on Murray-Darling Basin water recovery - DCCEEW](#).

⁶⁰ Ibid.

⁶¹ Water Act s 85AC.

⁶² Fran Sheldon, Eytan Rocheta, Celine Steinfeld, Matthew J. Colloff, Brad Moggridge, Emma Carmody, Terry Hillman, Richard T Kingsford, Jamie Pittock, ‘Are environmental water requirements being met in the Murray–Darling Basin’, Australia?’ (2024) 75(8) *Marine & Freshwater Research*, MF23172. Available online at: <https://doi.org/10.1071/MF23172>

Animal and plant species are threatened and numbers are mostly declining

105. There is clear evidence in the 2025 Basin Plan Evaluation and independent research that waterbird abundance has declined and that this is related to reductions in river flows and rainfall.⁶³ This is projected to get worse due to the drying impacts of climate change.⁶⁴
106. Native fish populations have mostly continued to decline: multiple native fish species are locally extinct in rivers they previously inhabited, and 49% of freshwater native fish species are listed as rare or threatened.⁶⁵ There are some localised improvements where environmental water deliveries have boosted population numbers. However, these are an exception to the general trend. Nevertheless, they do show that we *can* reverse declining trends for native species recover *if* we prioritise environmental water delivery.
107. Ninety-two animals in the Murray Darling Basin are rare or threatened.⁶⁶ At least 30 plant species that are likely to occur within the Basin and be impacted by Basin water resources are listed as threatened.⁶⁷
108. A study assessing eight flow dependent threatened species in the Basin (Sloane's froglet, southern bell frog/growling grass frog, Australasian bittern, Australian painted snipe, trout cod, Murray hardyhead, silver perch and flathead galaxias) found that for seven of these species, their range contracted between 2012–13 and 2018–19.⁶⁸ In other words, these species are disappearing from areas they used to populate.

Whole ecosystems are threatened

109. Thirteen ecological communities that are likely to be influenced by Basin water resources are listed as threatened.⁶⁹

⁶³ Murray Darling Basin Authority, 2025 Basin Plan Evaluation, 2025. Available online at [2025 Basin Plan Evaluation Report](#)

⁶⁴ Richard T. Kingsford, Gilad Bino, John L. Porter, 'Continental impacts of water development on waterbirds, contrasting two Australian river basins: Global implications for sustainable water use' (November 2017) 23(11) *Global Change Biology* 4958.. Available online at: <https://doi.org/10.1111/gcb.13743>

⁶⁵ Native Fish Recovery Strategy 'Key findings summary: Native Fish Assessment 2023' (March 2025), 5. Available online at <https://www.mdba.gov.au/sites/default/files/publications/native-fish-status-assessment-2023-summary.pdf>

⁶⁶ Queensland Government 'Rare or threatened animals of Murray Darling drainage division'. Available online at: <https://wetlandinfo.detsi.qld.gov.au/wetlands/facts-maps/wildlife/?&AreaID=drainage-division-murray-darling&Kingdom=animals&SpeciesFilter=RareOrThreatened>

⁶⁷ Murray Darling Basin Authority 'EPBC listed plant species and ecological communities of the Murray-Darling Basin'. Available online at: <https://www.mdba.gov.au/publications-and-data/publications/epbc-listed-plant-species-and-ecological-communities-murray>.

⁶⁸ Albie Ryan, Matthew J Colloff, Jamie Pittock J 'Flow to nowhere: the disconnect between environmental watering and the conservation of threatened species in the Murray–Darling Basin, Australia' (2021) 72(1) *Marine & Freshwater Research* 1408–1429. Available online at: [Flow to nowhere: the disconnect between environmental watering and the conservation of threatened species in the Murray–Darling Basin, Australia | Marine & Freshwater Research | ConnectSci](#).

⁶⁹ Department of Climate Change, Energy, the Environment and Water 'About threatened ecological communities' (14 July 2022). Available online at: <https://www.dcceew.gov.au/environment/biodiversity/threatened/communities/about>

110. In January 2026, two major ecosystems in the Basin were listed as endangered ecological communities under Commonwealth law. The Lower Murray River system was listed as critically endangered. This means the ecosystems faces an extremely high risk of collapse in the next 10 years – before the next review of the Basin Plan⁷⁰. The wetlands and inner floodplains of the Ramsar listed Macquarie Marshes were listed as endangered. This means the ecosystem faces a very high risk of collapse in the next 20 years.

Ramsar wetlands are not receiving enough water

111. There are 16 wetlands in the Murray Darling Basin that are listed under the Ramsar Convention.⁷¹ Wetlands are listed under the Convention because they are internationally significant in terms of their biodiversity and uniqueness.
112. Not all of these wetlands can actually receive environmental water. That's because there are barriers to flows, or constraints, and some wetlands are on unregulated rivers, with no water storages. Twelve of the sixteen Ramsar listed wetlands *can* receive environmental water.
113. Analysis of six Basin Ramsar wetlands showed that between 2012-2021, less than 17% of the total area of wetlands was flooded in 6 out of 9 years (67% of the time).⁷² Analysis over a longer time period (1979-2022, 43.5 years) showed that the overbank flooding needs of the 12 Ramsar wetlands were only met at two sites, demonstrating the longstanding unmet watering requirements of these wetlands.

What this evidence means for the Review

114. Evidence collected since the Basin Plan commenced, including that described above, clearly shows that the Basin remains in serious decline. EDO is concerned that this evidence stands in stark contrast to, and casts doubt over, the Authority's confident conclusions that the majority of the Sustainable Diversion Limits reflect an Environmentally Sustainable Level of Take and support the Basin Plan's environmental outcomes.
115. As discussed in the following section, this doubt is compounded by the SDL assessment process and analysis applied by the Authority in, and in the lead up to, the Discussion Paper..

Issues with the approach to SDLs in the Discussion Paper

116. The Discussion Paper's analysis of the SDLs is oriented around its 'initial SDL assessments'. Based on these, it concludes that 21 surface water unit SDLs 'continue to' reflect an ESLT and that 'there is concern' that SDLs in seven surface water units 'may not support Basin Plan environmental

⁷⁰ Ibid.

⁷¹ Ramsar Convention. Available online at: <https://www.unesco.org/en/legal-affairs/convention-wetlands-international-importance-especially-waterfowl-habitat?hub=348>.

⁷² Matthew J. Colloff, Kate Lanyon, Jamie Pittock, Milo Costanza-van den Belt, Sarah Wheeler, R. Quentin Grafton, John Williams, Fran Sheldon, Richard T. Kingsford, Gilad Bino, Luigi Renzullo, Bradly J. Moggridge, 'Murky Waters Running Clearer? Monitoring, Reporting and Evaluation of the State of the Murray-Darling Basin after More than Three Decades of Policy Reform' (2024) 75 *Marine and Freshwater Research* MF24193. Available online at: [Murky waters running clearer? Monitoring, reporting and evaluation of the state of the Murray-Darling Basin after more than three decades of policy reform](#).

outcomes' (Barwon-Darling, Lower Darling, SA Murray, Gwydir, Murrumbidgee, Goulburn, NSW Murray and Vic Murray). In relation to groundwater units, the Authority concludes that 77 units reflect an ESLT and that 'more work is needed' to determine whether the SDL reflects an ESLT in three groundwater SDL units (the Upper Namoi Alluvium, the Lower Namoi Alluvium, and the Lower Gwydir Alluvium).

117. This part of the submission assesses the Discussion Paper's approach to assessing the SDLs and its failure to propose options to adjust the SDLs. It identifies and discusses the following issues:

- **First**, there are several issues that undermine the integrity of the Authority's initial SDL assessments and associated analysis, namely:
 - there are concerns that the 'elicitation process' adopted for the purpose of the surface water SDL assessments lacks scientific rigour;
 - the initial SDL assessment result, which is the basis for whether changes to the SDL are recommended, is based primarily on 'line of enquiry 2'. Line of enquiry 2 is a scenario that assumes full Basin Plan implementation and *historical climate* conditions
 - (this point is addressed in Keystone issue Two: the Basin Plan must be meaningfully updated to respond to the impacts of climate change);
 - the Discussion Paper fails to propose options to respond to climate change impacts via amendments to the SDLs or SDL adjustment mechanisms;
 - the Discussion Paper relies on different benchmarks that may obscure the true state of the environment; and
 - the SDL assessments rely on unrealistic assumptions about delivery of the SDLAM projects and the 450GL/year.
- **Second**, there are reasons to be concerned that the Authority is applying, or proposes to apply, a triple bottom line approach to its analysis, including in considering what recommendations or 'options' should follow from the initial SDL assessments;
- **Third**, there are reasons to be concerned that the SDL analysis and Discussion Paper may be broadly undermined by inadequate data collection and monitoring, as well as transparency, both of which are important to the Authority meeting its legal obligation to act on the best available science.

118. These issues are discussed in turn below.

Concerns that the ‘initial’ SDL assessments lack scientific rigour and undermine the Discussion Paper’s analysis

Lack of transparency around the elicitation process underpinning the initial surface water SDL assessments

119. The *SDL Assessment: Surface Water Technical Methods* report⁷³ describes the application of an ‘elicitation process’ to assess environmental conditions across the surface water unit SDLs, a core part of the SDL assessment. We understand that the process, in summary, involved the appointment of seven staff members of the Authority who were tasked with applying ‘condition ratings’, and assigning a confidence to these ratings, against six metrics used to characterise ecosystem health for each of the surface water SDL units. The Discussion Paper does not explain the specific qualifications of each Panel member and how their respective qualifications were relevant to the technical questions posed.⁷⁴
120. We have several concerns about the elicitation process and, therefore, the Authority’s conclusions:
- The process is highly technical in nature and requires deep subject matter expertise and in-depth knowledge. The task required the 7 panels members to assign standardised condition scores for environmental themes in each SDL unit (e.g. waterbirds, native fish) based on a wide variety of datasets in different formats and with different geographical coverage to the SDL units.
 - Two key evidence sources were (1) the Matter 8 reports from the Basin States which use different reporting approaches (e.g. the states report on different themes, and use different indicators), and (2) the Sustainable Rivers Audit, which reports on environmental condition in each river valley, not SDL units.⁷⁵ The panel was also required to answer complex and critical questions such as: *Do you consider pattern and volume of flow to be the most influential driver for the condition rating you assigned to this [theme] in this SDL resource unit?*
 - Despite the highly technical nature of this task, the Authority specifically reports that the panel members ‘were not formal subject matter experts’. Further material provided by the Authority to the EDO says the panel members had ‘relevant experience and an informed understanding of the Basin’ but does not explain what that expertise was or how the panel members were qualified. This lack of transparency makes it impossible for the public to have confidence that the panel members who undertook this work had relevant and appropriate expertise given the nature of their task. It also makes it very difficult for independence scientists to form a view about how much weight should be given to the analysis.

⁷³ Murray Darling Basin Authority ‘The SDL Assessment: Surface Water Technical Methods’ (February 2026). Available online at: [The SDL Assessment: Technical Methods - The SDL Assessment: Surface Water Technical Methods - MDBA Library](#).

⁷⁴ EDO sent an email to the Authority asking for more information about this. Our email, and the response received, is annexed to submission. We don’t think the Authority’s response fully addresses the concerns we have raised.

⁷⁵ Ibid 29-30.

- The Authority reports that ‘in some cases, very little or no data was available to inform the ratings. In these cases, panel members sometimes drew on system knowledge and professional judgement to provide a judgment’. In these circumstances it becomes even more critical for the community to understand what expertise and experience each panel member had, to what tasks it was applied, and what weight each members’ views were given about specific issues.
- More broadly, it is unclear whether the elicitation process has been subject to any form of independent review.

121. These are important concerns about whether the *process* applied was fit for such an influential and important analysis.

Failure to act on climate change projections

122. The impacts of climate change were not meaningfully incorporated into the initial SDL assessments and have not been incorporated into the options presented in the Discussion Paper.

123. The comprehensive hydroclimate modelling commissioned by the Authority unequivocally demonstrates that the most likely future scenario is a hotter, dryer basin, particularly the Southern Basin.⁷⁶The Authority states that:

*Overall, it is very likely that average runoff will decrease, particularly in the south. This is very likely to bring more severe droughts that will occur more frequently...*⁷⁷

124. The median model projections are for an 8-9% decline in runoff in the southern basin, and a ~5% decline in the northern basin by 2030 relative to a 1990 baseline. By 2050, the median model projection is for a 14% decline in the Southern Basin, and a 6% decline in the Northern Basin⁷⁸. Acknowledging there is significant uncertainty in rainfall-runoff projects for the northern basin, the SDL assessment and options do not in any way appear to incorporate the ‘very likely’ reduction in water availability in the Southern basin by 2030, and increase in drought frequency and severity across the whole Basin.

125. Because future climate change impacts on water availability were not incorporated into the into the initial SDL assessment (because they were based primarily on line of enquiry 2) the initial SDL assessment reporting is confusing and difficult to understand. In some cases the statements about risks to environmental outcomes (which do consider future climate change impacts) appear to be inconsistent with the initial SDL assessments (which do not consider future climate change impacts). This appears to be because they are based on different climate scenarios. For example, the Discussion Paper states that there is concern the Gwydir surface water SDL unit may not support Basin Plan environmental outcomes or reflect an ESLT,⁷⁹ while the the Initial SDL

⁷⁶ Anjana Devanand, Zaved Khan, Francis Chiew, Hongxing Zheng, Nick Potter, David Robertson, David Post, Guobin Fu, Michael Grose, ‘Hydroclimate Projections for the Murray-Darling Basin’ (Report from Module 1 of the MDB Sustainable Yields Project, Commonwealth Scientific and Industrial Research Organisation, July 2025), 131.

⁷⁷ Murray-Darling Basin Authority, ‘The Future of climate and water availability in the Murray-Darling Basin’, 2025, 18.

⁷⁸ Ibid.

⁷⁹ Discussion Paper 23-24.

Assessment for the Gwydir surface water unit states that '[i]t is likely that the SDL reflects an environmentally sustainable level of take for this unit'.⁸⁰ At the same time, the Authority also reports in the initial SDL assessment that:

- there is a risk that environmental outcomes are not being met in this unit; and
- '[f]low-dependent ecosystems and species face heightened vulnerability due to reduced breeding opportunities, restricted migration, and shrinking refuge habitats during drought sequences'.

In addition, the Authority says that its confidence in the data it has used for five out of six of the environmental themes in the Gwydir is 'low'.

126. We are also concerned that by relying primarily on line of enquiry 2, and therefore not incorporating climate change impacts on water availability, the initial SDL assessments do not apply the best available science.
127. This analysis is also relevant to Keystone Issue Two: The Basin Plan must meaningfully respond and adapt to the impacts of climate change.

Concerns that changed benchmarks obscure the true state of the environment

128. The Authority has used a different baseline for assessing ecosystem health for the purpose of this Review compared to past assessments.
129. For this Review, the Authority has used a baseline⁸¹ that incorporates the impacts of European colonisations and subsequent development across the Basin. In previous sustainable rivers audits, a pre-European, pre-development baseline was used.⁸²
130. In setting a baseline that is post-colonisation, the Authority appears to be comparing apples with oranges. EDO is concerned that the changing benchmark means the trend in environmental outcomes over the course of the Basin Plan cannot be accurately assessed, which casts doubt over the reliability of the conclusions reached in the Discussion Paper about the state of the Basin's health. This is important because the conclusions have informed the Discussion Paper's options, including the absence of any proposal to adjust the SDLs.
131. EDO is concerned that the overall trend in environmental outcomes may be worse than the Discussion Paper reveals – as discussed above, independent science shows a declining trend for many components of the natural environment⁸³.

⁸⁰ Murray Darling Basin Authority, Gwydir (SS22) Initial SDL Assessment. Available online at: [Gwydir \(S22\) SDL Assessment](#)

⁸¹ A baseline is a reference state that is used to allow change to be objectively measured through time, through comparison with the same reference state. In this case, the point of the baseline is so that environmental condition in the Basin can be tracked through time, to identify trends.

⁸² Murray Darling basin Authority, Sustainable Rivers Audit, 2025, 15. Available online at: [Sustainable Rivers Audit | Murray-Darling Basin Authority](#).

⁸³ Matthew J. Colloff et al, 'Murky Waters Running Clearer? Monitoring, Reporting and Evaluation of the State of the Murray-Darling Basin after More than Three Decades of Policy Reform'.

Assumptions about delivery of the SDLAM projects and 450GL/year undermine the SDL analysis

132. The Discussion Paper’s approach to the SDLs, and the ‘initial’ SDL assessments, appear to be based on assumptions that are unrealistic based on historical experience,⁸⁴ including the following:
- First, there will be full delivery of the 605GL/year required by the SDLAM – either via the SDLAM projects or some other way (‘water is recovered to address any SDLAM shortfall, estimated at 300 gegalitres (GL)’).⁸⁵
 - Second, that the extra 450 GL/year will also be delivered in full.
133. As discussed earlier, progress to date in achieving both deliverables has been difficult and slow and there is no evidence provided to indicate that a viable way of recovering the SDLAM shortfall has been identified. The assumptions undermine the initial SDL assessments and the Authority’s conclusions about them.
134. This is compounded by the fact that:
- (a) there remains serious doubts about whether the projects that are delivered will in fact deliver environmental outcomes equivalent to water recovery; and
 - (b) there are credible concerns that the reconciliation process will not accurately assess whether the projects have delivered the assumed outcomes.
 - (c) The Authority has not used temporary diversion limits, as provided for in ss 22, item 7 and sec 24 of the Water Act. Temporary diversion limits are limited to a maximum period of 5 years.⁸⁶

The Authority must avoid a triple bottom line approach to SDL

135. As is well known, the SA Royal Commission found that when the Authority set the original Basin-wide ESLT and SDLs, it unlawfully applied a ‘triple bottom line’ approach.
136. This refers to an approach that gives equal weight to environmental, social and economic considerations.
137. The Commissioner found that the object in 3(c), to promote the use and management of Basin water resources in a way that optimises economic, social and environmental outcomes is expressly qualified by the first part of that provisions which states that it is limited to the extent that it implements the relevant international agreements.⁸⁷
138. The SA Royal Commission found:

There is no ‘triple bottom line’ legislated in the Water Act concerning the setting of a SDL that must reflect an ESLT, or in the scientific judgement to be made as to what are key environmental assets, ecosystem functions and environmental outcomes. That phrase is an

⁸⁴ These assumptions are troubling and unrealistic in particular because of the historic experience of delay in implementing both measures.

⁸⁵ Discussion Paper 22.

⁸⁶ Water Act ss 22 (item 7), 24(5).

⁸⁷ SA Royal Commission Report, 131.

*inappropriate figure of speech or political slogan that the MDBA has unwisely adopted. Any optimisation of environmental, social and economic outcomes must come later. In any event, it is not possible to optimise all three simultaneously in determinations such as the setting of an ESLT or SDL.*⁸⁸

139. The Royal Commission also pointed out the illogic of the concept of a triple bottom line:

*“If all three dimensions are operating equally and simultaneously, as the slogan and the statutory term ‘optimises’ might at first sight suggest, how does a statutory decision-maker adjust – up or down – the recovery target by reference to each of the three dimensions? They are, at least partially, incommensurables.”*⁸⁹

Instead:

‘... the true, single, bottom line is that no more water may be taken than at the level beyond which the key environmental values would be compromised.’

140. EDO is concerned that the Discussion Paper suggests the Authority is applying, or proposes to apply, a triple bottom line approach to this Review, including decisions about whether the SDLs should be amended.

141. For example, the Authority says, on the one hand, that there must be ‘difficult decisions’ and ‘trade-offs’ and ‘there will be circumstances where we will not be able to support the Basin Plan’s environmental outcomes and protect environmental assets’. Yet on the other hand, the Authority concludes, as stated above, that ‘surface water [Sustainable Diversion Limits] are supporting Basin Plan environmental outcomes and are assessed as continuing to reflect an environmentally sustainable level of take.’ This is a contradiction, with no clear explanation.

142. The Authority must explain clearly what it means when it says that an Environmentally Sustainable Level of Take allows for trade-offs. What is the scientific basis for this conclusion? What is being traded off (i.e. is the environment being traded off against social and economic outcomes?). How are these ‘trade offs’ to be calculated? Under which part/s of the Water Act are such trade offs contemplated and on what basis would such trade-offs be lawful where the Water Act clearly prioritises environmental outcomes.⁹⁰

143. In its *Investigation Into Complaints of Corruption in the Management of Water in NSW*, the NSW Independent Commission Against Corruption (**NSW ICAC**) (in November 2020) agreed with the Royal Commission’s analysis.⁹¹ Importantly, the NSW ICAC also found that the approach taken by NSW in relation to its State-based water sharing plans⁹² – which mirrored the Authority’s approach to SDLs – was misdirected and potentially unlawful. NSW ICAC noted that since the Basin Plan

⁸⁸ Ibid, 53.

⁸⁹ Ibid, 20.

⁹⁰ See [37]-[40] of this submission.

⁹¹ Independent Commission Against Corruption New South Wales, ‘Investigation into Complaints of Corruption in Management of Water in NSW and Systemic Non-Compliance with the *Water Management Act 2000*’ (November 2020), 25. Available online at: [NSW Government - allegations concerning management of water in NSW and systemic non-compliance with the Water Management Act 2000 \(Operations Avon and Mezzo\) - Independent Commission Against Corruption \(NSW ICAC Report\)](#).

⁹² Which are made under the *Water Management Act 2000* (NSW).

commenced, state government arrangements 'have had to be reconciled with the overarching environmental objectives set by the Commonwealth' and that the misdirected application of a 'triple bottom line' approach had 'obvious implications for the validity and even lawfulness' of NSW state based water sharing plans.⁹³ Given the Authority's central position in the regulatory scheme, it has flow on effects – both of legal and policy nature – for Basin States. Getting this right is critical for legal integrity and reliability, for environmental outcomes, and for regulatory coherence across the Basin.

Data collection and transparency

144. Parliament recognised the importance of good science, including data collection and analysis, in the Water Act, both in establishing the Authority and in the functions given to it. The responsibilities and powers of the Authority include, for example:⁹⁴
- Measuring, monitoring and recording the quality and quantity of the Basin water resources.
 - Measuring, monitoring and recording the condition of water-dependent ecosystems.
 - Supporting, encouraging and conducting research and investigations about the Basin water resources, including research and investigations.
 - Collecting, analysing and interpreting information about the Basin water resources and water-dependent ecosystems.
145. The proper exercise of these functions is critical to managing Basin water resources and to the proper fulfilment of the legislative purposes and requirements of the Water Act and the opportunities provided by this Review.
146. In particular, transparency of data and analysis is fundamental to complying with the legal requirement to act on the best available science.⁹⁵ Lack of transparent data undermines good decision making, reduces government accountability, and erodes public confidence. Inadequate data collection undermines the quality of regulatory decisions and functions of the Authority in undertaking this Review.
147. There have been ongoing concerns about the Authority's lack of transparency about Basin Plan decision making since its establishment. These concerns were highlighted in the SA Royal Commission Report.
148. More generally, despite measuring, monitoring, recording and analysing data being core functions of the Authority, EDO is concerned that the Authority has not collected adequate data to track the health of the Basin and assess whether the Basin Plan is working to the degree needed for such a diverse, large, and complex watershed. Examples include the lack of a coordinated monitoring

⁹³ NSW ICAC Report 25.

⁹⁴ Water Act, s 172(1).

⁹⁵ As discussed by the SA Royal Commission 54 [5.5a].

strategy for threatened species,⁹⁶ and lack of adequate monitoring of Ramsar wetlands.⁹⁷ Meanwhile, independence scientific analysis has not been clearly incorporated into the analysis underpinning the Discussion Paper, suggesting that the Authority is not yet acting on the best available science.

A concerning proposal to reduce reporting requirements

149. In this context, and in the absence of any clear options in the Discussion Paper, EDO is very concerned that the Discussion Paper proposes that Basin Plan monitoring, evaluation and reporting be ‘consolidated’ into 5 yearly cycles, with the Authority ceasing ‘low-value annual reports’.
150. This is a backward step. It is certainly possible that there are ways to tighten up existing reporting requirements to avoid resource allocation to ‘low-value’ tasks. However, there remain clear issues with data collection, transparency, and reporting and in this context, any proposal to reduce reporting requirements, particularly without clear measures to address existing issues, is concerning.

Constraints remain an obstacle to achieving water recovery

151. Removal of constraints⁹⁸ is crucial to realising the full environmental benefits of the water recovery targets.⁹⁹ Six of the SDLAM projects are constraints relaxation projects and, according to independent assessments, these will not be completed by December 2026 (either in part or in full).¹⁰⁰
152. The 2025 Basin Plan Evaluation identified constraints as an obstacle to water delivery at some Ramsar sites.¹⁰¹ However, the 2025 Basin Plan Evaluation did not provide comprehensive, transparent reporting on the full list of Ramsar sites so it is difficult to understand the true significance of constraints beyond the sites identified .
153. The Authority’s ‘initial’ SDL assessments have been conducted on the assumption that ‘constraints are not relaxed’.¹⁰²
154. The Authority must explain this assumption further, addressing questions like:

⁹⁶ Matthew J. Colloff et al ‘Murky Waters Running Clearer? Monitoring, Reporting and Evaluation of the State of the Murray–Darling Basin after More than Three Decades of Policy Reform’.

⁹⁷ Erin Kirsch, Matthew J. Colloff and Jamie Pittock, ‘Lacking Character? A Policy Analysis of Environmental Watering of Ramsar Wetlands in the Murray–Darling Basin, Australia’ (2022) 73 *Marine and Freshwater Research* 1225. Available online at: <https://doi.org/10.1071/MF21036>

⁹⁸ Constraints are physical and operational barriers (such as bridges) that limit the ability to deliver environmental flows.

⁹⁹ See e.g. SA Royal Commission Report 60 and 349.

¹⁰⁰ Department of Climate Change, Environment, Energy and Water ‘Independent Assessment of the Murray–Darling Basin’s Supply and Constraints Measure’ (July 2024) 2-3. Available online at: <https://www.dcceew.gov.au/sites/default/files/documents/independent-assessment-murray-darling-basins-supply-constraints-measures.pdf>.

¹⁰¹ Murray–Darling Basin Authority, ‘2025 Basin Plan Evaluation’ (2025). Available online at: [2025 Basin Plan Evaluation | Murray–Darling Basin Authority](#).

¹⁰² Discussion Paper, 22.

- Why has the assumption been applied?
 - How is omitting constraints relaxation (which by extension appears to assume that some parts of the Basin simply will not be watered) consistent with the requirement that SDLs must be determined so as to reflect an ESLT?
 - Noting that constraints relaxation remains critical to achieving environmental outcomes across the Basin, what happens if/when constraints are relaxed? Are the additional flows considered outside of / in addition to what is required for an ESLT? How will it impact the reliability of the initial SDL assessments relied on in the Discussion Paper?
155. There is an urgent need to implement constraints relaxation. This was recently highlighted in April 2026 when flows to the Gwydir wetlands stopped, resulting in the deaths of turtles, waterbirds and frogs, and requiring University of New England researchers to intervene to save broad-shelled turtles. This event has also been reported to have caused distress to and have impacted the Kamilaroi/Gomeri traditional owners' connection to the wetlands.¹⁰³ . It has been reported that environmental flows were stopped after a decision by WaterNSW, although this is not confirmed.¹⁰⁴
156. The recent events in the Gwydir catchment demonstrate that improving water flows to wetlands via constraints relaxation is crucial to achieve positive environmental outcomes. Further, that Commonwealth oversight of Basin States' constraints relaxation programs must remain, including via the Roadmap.
157. In light of these challenges, implementation of the Constraints Relaxation Implementation Roadmap should be prioritised, in consultation with First Nations, Basin States and the Commonwealth.¹⁰⁵ This was legislated in 2023 and is critical towards delivering constraints relaxation.

Recommendations

Sustainable Diversion Limits must reflect an Environmentally Sustainable Level of Take, and this requires rigorous SDL assessments

1. The Authority must acknowledge that Sustainable Diversion Limits do not currently, and without changes will not, reflect an Environmentally Sustainable Level of Take.
2. The 'initial SDL assessments' undertaken for this Review are inadequate. The Authority must, as a priority, complete a proper assessment of Sustainable Diversion Limits using the best available science.

¹⁰³ Lisa Cox, 'WaterNSW Criticised for "Appalling" Decision after Hundreds of Turtles Left to Die in Wetlands' *The Guardian* (online, 21 April 2026). Available online at: <https://www.theguardian.com/environment/2026/apr/21/water-nsw-criticised-for-appalling-decision-after-hundreds-of-turtles-left-to-die-in-wetlands>.

¹⁰⁴ Ibid.

¹⁰⁵ Environmental Defenders Office, Submission No 61 to the Senate Standing Committee on Environment and Communications, *Water Amendment (Restoring Our Rivers) Bill 2023* (November 2023) 10. Available online at: <https://www.aph.gov.au/DocumentStore.ashx?id=989acc30-3ac7-42ff-a0f2-5b2b9d8b5f81&subId=749285>

The assessments **must**:

- Be entirely transparent in their decision-making by making publishing the data, methodology, and the decision framework applied when concluding whether Sustainable Diversion Limits are consistent with an Environmentally Sustainable Level of Take. This is also important to enable independent peer review.
- Rigorously incorporate the impacts of climate change into projections of future water availability.
- Account for constraint relaxation.

The assessments **must not**:

- Assume any water recovery for the purposes of these assessments until or unless it is actually recovered (e.g. full recovery of the Sustainable Diversion Limit Adjustment Mechanism ('water saving') projects where the Authority currently predicts a 300 GL/year shortfall, and recovery of the 450GL/year)
3. Once the Authority has completed an adequate Sustainable Diversion Limit assessment, as recommended above, the Authority should propose any necessary changes to the Sustainable Diversion Limit to the Minister. These changes must ensure the Sustainable Diversion Limits are consistent with the core object of the Water Act, being to 'return extraction to an environmentally sustainable level of take', and must prioritise environmental outcomes as required by the Act rather than unlawfully applying a 'triple bottom line' approach.

The 450GL/year must be delivered in full

4. The 450 GL/year must be delivered in full.

Adequate data collection, analysis and transparency are critical to the Authority's functions, including the SDL assessments

5. The Authority must collect adequate data to track the health of the Basin and assess whether the Basin Plan is achieving its environmental objectives.
6. The Authority must publish data sets, analyses and decision-making frameworks concerning the state of ecosystems and species of the Basin, Sustainable Diversion Limits assessments, and any other matters relevant to water take or delivery.
7. The Authority must also release its historical and current modelling underpinning Sustainable Diversion Limit calculations and assessments and future water availability forecasting under climate change.

Constraints relaxation must be prioritised to achieve the full benefits of water recovery

8. The Authority must prioritise the relaxation of constraints. Constraints need to be relaxed to deliver water to disconnected ecosystems, including Ramsar listed wetlands. Constraints relaxation must occur in parallel with adopting ecologically sustainable limits on water extraction.

Keystone issue two: The Basin Plan must be updated to meaningfully respond to the impacts of climate change

Introduction

158. Climate change is already affecting the Basin. Rising temperatures, prolonged droughts, and extreme weather events caused by climate change will continue to harm the Basin. This will make it increasingly difficult to restore and protect water sources and their dependent ecosystems. Australia's National Climate Risk Assessment specifically recognises that First Nations peoples across the Basin are particularly vulnerable to the impacts of climate change.¹⁰⁶
159. Despite this, the Authority proposes to postpone any meaningful response to climate change for another 10 years, including in relation to the volume of water can be taken from the Basin. Options for the management of climate change risks are also entirely missing from the Discussion Paper's list of 'options'.
160. This is a significant gap and particularly surprising given the Authority identified climate change as one of four key themes it intended address in the Review.¹⁰⁷ This is a failed opportunity that must be addressed, both as a matter of law and public policy.
161. This part of our submission addresses this issue, highlighting in particular the Authority's failure to propose changes to the SDLs, instead opting to delay responding to climate change for another decade or more.

This Review must consider climate change and to act on the best available science

162. As described above¹⁰⁸ in conducting this Review, including in relation to assessing the SDLs, the Authority must act on the basis of the best available scientific knowledge¹⁰⁹ and take into account the principles of ecological sustainable development (**ESD**).¹¹⁰
163. The principles of ESD include the precautionary principle and the principle of inter-generational equity. These are particularly important principles in the context of climate change.
164. The Water Act also directs the Authority to consider the management of climate change risks in this Review. This requirement was introduced in late 2023, via amendments to the Water Act. When introducing the amending legislation, the former Commonwealth Water Minister said that climate change means '*Basin flows could fall by as much as 30 per cent by 2050*' and acknowledged

¹⁰⁶ Australian Climate Service (a partnership of the Bureau of Meteorology, CSIRO, Australian Bureau of Statistics and Geoscience Australia), 'Australia's National Climate Risk Assessment (2025)', 46, 177. Available online at: [National Climate Risk Assessment | Australian Climate Service Website](#)

¹⁰⁷ Murray Darling Basin Authority, *Roadmap to the 2026 Basin Plan Review*, 6. Available online at: <https://www.mdba.gov.au/sites/default/files/publications/bpr-review-roadmap.pdf>.

¹⁰⁸ Introduction at [43]-[44]

¹⁰⁹ Water Act s 21(4)(b).

¹¹⁰ *Ibid* s 21(4)(a).

that '[W]ater will always involve difficult decisions in this country. But that's not an excuse to shy away from making the necessary decisions.'¹¹¹

165. The objects of the Water Act and the Basin Plan also include giving effect to relevant international agreements.¹¹² The Water Act also provides that the Basin Plan must be prepared to enable effect to be given to relevant international agreements.¹¹³
166. Several 'relevant international agreements' are listed in the Water Act, including the Climate Change Convention, ratified by the Australian government in December 1992. The Convention is also one of the international laws that gave the Federal Government the power under the Australian Constitution to make the Water Act in the first place.
167. The Climate Change Convention reflects global progress and commitments to address the risks of climate change. Article 4(b) includes a commitment to implement measures to facilitate adequate adaptation to climate change.¹¹⁴
168. In November 2025, at the 30th COP, the decision about national adaptation plans noted the importance of incorporating Indigenous Peoples' knowledge, local knowledge systems, ecosystem-based adaptation and nature-based solutions into adaptation plans.¹¹⁵ The COP reiterated that action on adaptation must be based on the best available science and Indigenous Peoples' knowledge.

The Authority must consider and act on climate change projections in its assessment of Sustainable Diversion Limits

Climate change was not factored in when the Sustainable Diversion Limits were first set

169. The Authority failed to account for climate change projections when it first determined the Environmentally Sustainable Level of Take, Sustainable Diversion Limits, and water recovery targets in 2012. As noted by the SA Royal Commission, the SDL modelling did not include projected reductions in water availability due to climate change and failed to ensure ongoing adjustments.¹¹⁶ This failure is one of the reasons the SA Royal Commission Report concluded that the original setting of a Basin-wide Sustainable Diversion Limit was unlawful because it ignored the best available science and was not based on the principles of ESD.¹¹⁷

¹¹¹ Commonwealth, *Parliamentary Debates*, House of Representatives, 6 September 2023, (Minister for Environment and Water the Hon Tanya Plibersek. Available online at: [ParInfo - BILLS : Water Amendment \(Restoring Our Rivers\) Bill 2023 : Second Reading](#).

¹¹² Water Act s 3, 20.

¹¹³ *Ibid* s 21.

¹¹⁴ See also article 4(e) which includes a commitment to develop and elaborate appropriate and integrated plans for water resources; and Article 4(i) which include a commitment to promote and cooperate in public awareness related to climate change and encourage the widest participation in this process.

¹¹⁵ United Nations Framework Convention on Climate Change, *National Adaptation Plans*, Draft Decision - /CP.30, FCCC/CP/2025/L.19 (22 November 2025). Available online at: https://unfccc.int/sites/default/files/resource/cp2025_L19E.pdf

¹¹⁶ SA Royal Commission Report 267.

¹¹⁷ SA Royal Commission Report 55 [6.5].

Climate Change science considered by the Authority in this review

170. The impacts of climate change on the Basin are already being felt. Current global climate models applied to the Basin predict with high confidence that there will be less water in the Basin by 2030, only four years from now.¹¹⁸ The climate projections for 2030 show, relative to a 1990 baseline:
- an increase of evapotranspiration of 2.6-3.6% for both the southern and northern Basin; and
 - a decline in mean annual runoff by 2030 is highly likely particularly for the southern basin.¹¹⁹
- These declines in water availability will become more severe, with a projected decline in mean annual runoff of 7.4% in the northern basin and 14.3% in the southern basin by 2050.¹²⁰
171. Further, climatic extremes are likely to be more frequent and intense. Climate modelling commissioned by the Authority also predicts that:
- hydrological droughts are very likely to become more extreme and more frequent;
 - the duration and severity (water height) of large floods may increase; and
 - hydroclimatic variability may increase (relevantly, rainfall, river flows and groundwater levels (i.e. water availability) may all become more variable).
172. As required by the Act, the Authority has considered these models in preparing the Discussion Paper. However, the Authority has not taken the next step of identifying or proposing responses to address these predictions. We expand on these issues further below.

The Authority does not propose changes to the Sustainable Diversion Limits and instead delays consideration of climate change for another decade

173. As noted above, the SA Royal Commission Report found that the original Basin-wide SDL assessments were unlawful, including because of a failure to consider and act on climate change projections. The Authority declined to give evidence before the Royal Commission but did publish a report in response.¹²¹ In that report, the Authority claimed that the Basin Plan *itself* is a climate adaption measure because it can, among other things:
- adapt management over time in light of emerging climate science; and
 - buffer the ecosystem against climate change impacts (through substantial water recovery).¹²²

¹¹⁸ Murray Darling Basin Authority, 'The Future of climate and water availability in the Murray-Darling Basin', 2025. Available online at: [The future of climate and water availability in the Murray-Darling Basin: Sustainable Yields report | Murray-Darling Basin Authority](#).

¹¹⁹ Median model prediction is a decline of 8-9% for the southern basin, and ~5% for the northern Basin by 2030 – acknowledging the uncertainty in northern basin projections.

¹²⁰ Murray Darling Basin Authority, 'The Future of climate and water availability in the Murray-Darling Basin'.

¹²¹ Murray Darling Basin Authority 'MDBA response to the South Australian Royal Commission' (February 2019). Available online at: [MDBA response to Royal commission](#)

¹²² Ibid 13-14.

The Authority's response also included an undertaking to factor in updated estimates about climate variability in this Review.¹²³

174. Despite this undertaking, the Authority has not identified any options to address the projected reduction of water availability caused by climate change in the Discussion Paper.

175. The current Review represents a key opportunity to adaptively manage extraction limits in the face of climate change and to 'buffer the ecosystem against climate change impacts (through substantial water recovery)'. The Authority itself recognises that the 10-yearly Basin Plan reviews required by the Water Act are an appropriate mechanism for assessing whether the SDLs continue to support the Basin Plan's environmental outcomes in view of plausible climate change scenarios, and an opportunity to recommend changes to the Basin Plan as a result.

176. Yet, the Authority's position is stated in the Discussion Paper as follows:

*Given the wide range of plausible climate futures, the Authority is not proposing changes to the [Sustainable Diversion Limits] in response to climate change in 2050 through this review. Our approach is to assess and guide the management of Basin climate risks and enable climate change adaptation over the long term.*¹²⁴

177. Accordingly, and as discussed above, climate change impacts on water availability have not been incorporated into the Discussion Paper's 'initial' SDL assessments, which are the basis for the Authority's proposal not to amend the SDLs to respond to climate change impacts. This is because they were based primarily on 'line of enquiry 2'. Line of inquiry 2 assumes full Basin Plan implementation and *historical climate* conditions.¹²⁵ This is contrary to the best available science including the matters set out above.

178. Bearing in mind the Authority's undertakings in response to the Royal Commission and its later acknowledgement about climate change impacts on the Basin, it is illogical – and contrary to the best available science – for the Authority to now defer any changes to the SDLs in response to climate change to the next Basin Plan review. That is, in 10 years' time:

179. In EDO's view, the Authority's proposal is inconsistent with the overarching objectives of the Water Act and Basin Plan and is arguably unlawful, noting that the Authority acknowledges, for example, that:

- climate change 'is already affecting the Murray-Darling Basin';
- there will be less water in the Basin by 2030, in 4 years' time;
- 'we must prepare for periods of low water availability... [and] longer dry periods present a greater threat to the Basin's resilience under climate change';
- '[t]he Basin's future climate will differ significantly from the past'; and
- '[c]limate change brings significant environmental, economic, cultural and social impacts'.

¹²³ Ibid.

¹²⁴ Discussion Paper 7.

¹²⁵ Murray Darling Basin Authority 'The SDL Assessment: Surface Water Technical Methods' (February 2026), 10. Available online at: [The SDL Assessment: Technical Methods - The SDL Assessment: Surface Water Technical Methods - MDBA Library](#)

180. The SA Royal Commission Report found that relying on a 10-year review as ‘a means of facilitating [climate] adaptation is irrational and hence unscientific.’¹²⁶ It is concerning that the Authority appears to be perpetuating the mistakes made when the Sustainable Diversion Limits were first determined.
181. This approach is inconsistent with the best available science and fails to apply ESD, including the precautionary principle and the principle of intergenerational equity. The approach is also inconsistent with Australia’s National Adaptation Plan.¹²⁷
182. In its 2020 evaluation of the Basin Plan, the Authority acknowledged that:
- Climate change will require difficult decisions to be made at national, Basin and local scales. An almost certain outcome is that there will be insufficient water resources – or unpredictable rainfall/runoff patterns – to continue business as usual.*¹²⁸
183. In 2023, when Parliament updated the Water Act to require the Authority to report on the management of climate change risks in this review,¹²⁹ the Commonwealth water minister at the time cautioned the Authority not to shy away from making necessary decisions even if they are difficult. Further, the Upper House Inquiry into the 2023 bill recommended that ‘following the MDBA’s 2026 review, the Australian Government embed the impacts of climate change in the *Water Act 2007* and Basin Plan’.¹³⁰
184. The Authority must act decisively, and this must occur now, not in 2036 or sometime after that.¹³¹

Recommendations

The Basin Plan must respond and enable adaptation to the impacts of climate change

9. The Authority must consider and act on climate change projections and impacts in its assessment of whether Sustainable Diversion Limits reflect an Ecologically Sustainable Level of Take (see **Recommendation 2** and **Recommendation 3** for further recommendations about the need to complete and report on rigorous SDL assessments).
10. The Authority must act on climate change projections now, not wait for another decade or more.

¹²⁶ SA Royal Commission Report 254.

¹²⁷ Referred to below at [201].

¹²⁸ Murray Darling Basin Authority ‘The 2020 Basin Plan Evaluation’ (2020), 120. Available online at: https://www.mdba.gov.au/sites/default/files/publications/bp-eval-2020-full-report_0.pdf

¹²⁹ Water Act s 50(4A)(c).

¹³⁰ Senate Standing Committee on Environment and Communications, Parliament of Australia, *Water Amendment (Restoring Our Rivers) Bill 2023*, (Report, November 2023), Recommendation 14. Available online at: [Chapter 2 - Sustainable Diversion Limit Adjustment Mechanism projects – Parliament of Australia](#).

¹³¹ SA Royal Commission Report, 270.

More generally, the Authority must consider and report on the management of climate change risks and act on best available science

No actual ‘options’ identified for addressing climate change

185. The Discussion Paper identifies several ‘options’ for addressing issues with the Basin Plan. Despite the recognition by the Authority about the impacts of climate change, options to address climate change risks are entirely missing, apart from a single reference to the need for further monitoring.
186. Where the Discussion Paper does refer to climate change, it merely says the Authority is ‘exploring options’ and ‘proposals’ that relate to climate impacts/risks.¹³² It is difficult to meaningfully engage with such vague, incomplete and/or hypothetical, concepts.
187. On balance, the Authority does not yet appear to have done what should be a core piece of work for this Review – that is, considering, developing and proposing potential practical responses for managing those issues. This work must be undertaken before the Review is completed.
188. The Discussion Paper also fails to engage with whether/how the ideas suggested relate to, or depend on, how much water is generally in the system. In other words: while concluding generally that the Authority does not propose to amend most of the Sustainable Diversion Limits (as discussed above), the Discussion Paper refers to climate change adaptation measures that rely, for their success, on there being sufficient flows in the system. The Discussion Paper does not grapple with the potential interrelationship between these factors (i.e. if there are no climate adaptation responses to increase the volume of water in the system, can the other proposed adaptation responses be effective?).

The Authority should consider options to enable extraction limits to be adjusted in response to climate change impacts

189. The Discussion Paper asks “*Are there other issues and options that should be considered?*”. EDO considers that the Authority should consider and report on management options that ensure extraction can be adjusted flexibly to respond to increasing climatic variability and to ensure water take is ecologically sustainable. Such mechanisms include:
 - Incorporating a climate change buffer into the Sustainable Diversion Limits, to support a more adaptive approach to managing flows without compromising the relationship between Sustainable Diversion Limits and ecological sustainability.
 - Incorporating a mechanism that enables rapid adjustments to Sustainable Diversion Limits to respond to increasing climate variability caused by climate change.

¹³² Discussion Paper 6. For example, ‘The Authority is exploring options to... strengthen Basin Plan provisions on water quality and river connectivity, as climate change raises risks in both areas’.

Recommendation

The Basin Plan must respond and enable adaptation to the impacts of climate change

11. The Basin Plan is not currently drafted to manage the risks of climate change. The Authority must identify mechanisms to ensure extraction can be adjusted flexibly to respond to increasing climatic variability. This is critical to ensure water take is ecologically sustainable. See [189] of this submission for examples of ways this might be done.

Climate Change risks to Planned Environmental Water not adequately considered

190. Planned Environmental Water faces disproportionate risks from climate change when compared to other categories of water under the Basin Plan.¹³³
191. The Water Act requires that the Basin Plan ensure there is no reduction in the protection of planned environmental water.¹³⁴ The Basin Plan applies this requirement to water resource plans.¹³⁵
192. The Discussion Paper cautions that:

‘Under future conditions not all Basin Plan outcomes will be achievable, and not all environmental assets will be able to be protected to the same extent. Initial assessments of [Sustainable Diversion Limits] show some environmental outcomes may not be achievable now under some plausible future climate scenarios’

and

‘Climate adaptation will involve difficult decisions about priorities and trade-offs. There will be circumstances where we will not be able to support the Basin Plan’s environmental outcomes and protect environmental assets’
193. This commentary also seems to assume that where there is a need for trade-offs and difficult decisions, the loser will always be the environment. This is not only a troubling policy approach, but it appears to be inconsistent with the requirements of the Water Act.

¹³³ Commonwealth Environmental Water Holder (2024) *Commonwealth Environmental Water Holder: 2024 Matter 7 Report – Overview Report*, p 68 (available online at: <https://www.mdba.gov.au/sites/default/files/publications/commonwealth-environmental-water-holder-matter-7-overview-report.pdf>)

¹³⁴ Water Act s 21(5).

¹³⁵ Basin Plan 2012 s 10.28.

194. The Authority has not explained how this is consistent with the requirement that there be no reduction in the protection of planned environmental water or how this risk will generally be managed, pursuant to section 50(4A) of the Water Act.
195. In relation to held environmental water (environmental water held pursuant to a water licence by a Basin State or Commonwealth environmental water holder) it is critical that the Review also consider the impacts of climate change on the volume and reliability of environmental water licences.

Recommendations

The Basin Plan must respond and enable adaptation to the impacts of climate change

12. In comparison to licensed water, Planned Environmental Water (PEW) will be disproportionately impacted by climate change. The Authority must identify and recommend amendments to the Basin Plan to protect PEW volumes from being eroded due to the impacts of climate change.

The Principles of Ecologically Sustainable Development must underpin climate change adaptation

196. As a matter of both law and public policy, the Authority must take into account the principles of ecologically sustainable development (**ESD**) in conducting this Review.
197. There are two principles that are particularly important in the context of climate change: the precautionary principle and the principle of intergenerational equity:

The precautionary principle: *If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation*

Intergenerational equity: *That the present generation should ensure that the health, biodiversity and productivity of the environment is maintained or enhanced for the benefit of future generations.*

198. One way to adopt a precautionary approach to environmental regulation is to adopt adaptive management measures.
199. One of the key objectives for the Basin Plan as a whole is 'to establish a sustainable and long-term adaptive management framework for the Basin water resources, that takes into account the broader management of natural resources in the Murray-Darling Basin'.¹³⁶ Adaptive management is also defined in the Basin Plan.¹³⁷

¹³⁶ Basin Plan cl 5.02(1)(b).

¹³⁷ Basin Plan cl 1.07(1).

200. Climate adaptation more generally (the process of adjusting to actual or expected climate change and its effects) is also recognised as critical in the face of accelerating climate change.¹³⁸
201. Australia’s National Adaptation Plan¹³⁹ was released in late 2025. It responds to the findings of Australia’s first National Climate Risk Assessment.¹⁴⁰ The National Adaptation Plan sets out a framework for adapting to nationally significant physical climate risks. It specifically describes ‘bringing the Murray-Darling Basin back to a healthy level through the Murray-Darling Basin Plan’ as a key adaptation action that is *currently underway*.¹⁴¹
202. As noted above and discussed in more detail elsewhere in this submission, it is not at all clear that the Basin Plan is, on balance, either adaptive or bringing the Basin back to a healthy state. The emphasis in the National Adaptation Plan on adaptation in the Basin underscores the importance of this Review:
- identifying gaps in the Basin Plan – in both substance and implementation; and
 - proposing regulatory responses to those gaps.
203. The Authority recommends adaptive management as a means of managing climate change risks. Yet, the Discussion Paper fails to propose any meaningful changes that would be adaptive. The Authority has not identified any clear options to manage climate change risk. This is despite this Review representing, as suggested in the Authority’s response to the SA Royal Commission (see p 16), a key adaptive management mechanisms currently in the Basin Plan.
204. The Authority must apply an adaptive management lens to climate change in the Basin in accordance with the principles set out in the Water Act, including the principles of ESD including the precautionary principle and the principle of intergenerational equity.

Recommendations

Climate adaptation and the principles of ESD

13. In implementing recommendations in relation to SDL assessments and climate change (**Recommendations 1-13**), the Authority must consider the principles of Ecologically Sustainable Development. The principles of Ecologically Sustainable Development include the precautionary approach and intergenerational equity. By applying these principles, climate adaptation should do the following:

¹³⁸ See for example, the Department of Climate Change, Energy, Environment and Water, ‘National Adaptation Plan’ (2025), 37 and 55. Available online at: [National Adaptation Plan](#).

¹³⁹ Ibid.

¹⁴⁰ Australian Climate Service (a partnership of the Bureau of Meteorology, CSIRO, Australian Bureau of Statistics and Geoscience Australia), ‘Australia’s National Climate Risk Assessment (2025)’. Available online at: [National Climate Risk Assessment | Australian Climate Service Website](#).

¹⁴¹ National Adaptation Plan 36.

- Ensure smoother and incremental transitions, to help communities adapt.
- Provide for **certainty** in water allocation, by foreshadowing potential changes in advance.
- Account for the **lifetime of any decisions** about adapting to climate change.
 - Measures to adapt to climate change impacts must take into account the time it takes from deciding to act through to benefits taking effect – including the time taken to implement the decision. History plainly shows that reform of the Basin Plan is complex, difficult and slow.
- Consider **distributive justice** across generations (**intergenerational justice**): fairness between the present generation and future generations.

Failure to take decisive action now will leave future generations bearing the burdens of historical overextraction compounded by climate change.

Keystone issue three: The Basin Plan must be updated to address critical issues specific to First Nations

Introduction

205. First Nations are the Traditional Owners of lands and waters across the Basin and have cared for Country for tens of thousands of years.
206. Yet, Australian water law is built on the legal fiction of aqua nullius.¹⁴² Aqua Nullius refers to the incorrect assumption that water belonged to no-one at the time of European colonisation. This foundational flaw continues to impact the rights, responsibilities and opportunities of First Nations people across the Basin, and the health of Basin ecosystems.
207. The Water Act, as amended in late 2023, requires this Review to consider and report on important questions about whether the Basin Plan is working for First Nations peoples.¹⁴³
208. The Discussion Paper does not do this. For the most part, the Discussion Paper misses this important opportunity to engage with, and propose ways to meaningfully address, critical issues faced by First Nations across the Basin. These issues include:
- water dispossession;
 - a lack of meaningful participation opportunities;
 - failure to provide for cultural flows; and
 - lack of access to clean drinking water.
209. Further, the Discussion Paper:
- fails to clearly demonstrate that there has been adequate, appropriate consultation with First Nations that reflects the rights and principles in the United Nations Declaration on the Rights of Indigenous Peoples; and
 - proposes options that would *further weaken* the already inadequate requirements for First Nations involvement in developing Water Resource Plans.
210. The following expands on these concerns.

Legal Requirements regarding First Nations water rights and interests

The Water Act requires this Review to consider matters ‘relevant to Indigenous people’

211. When conducting this Review, the Authority must consider and report on the following:
- Matters ‘relevant to Indigenous people’ in relation to water management in the Basin (s 50(4A)). The range of matters that *could* be considered are open-ended but the Act specifically *requires* the Authority to consider to what degree Basin water resources can be

¹⁴² Sarah Bourke, Bradley Moggridge, Clint Hansen, Margaret Shanafield ‘How the Myth of “Aqua Nullius” Still Guides Australia’s Approach to Groundwater’ (17 December 2025) *The Conversation*. Available online at: [How the myth of ‘aqua nullius’ still guides Australia’s approach to groundwater](#).

¹⁴³ Water Act s 50(4A)(a)-(b).

managed to improve the spiritual, environmental, cultural, social and economic conditions of Indigenous People

- To what extent does the Basin Plan:
 - recognise and protect the interests of Indigenous people?
 - support opportunities for Indigenous people to participate in water management?
 - support participation that reflects free, prior and informed consent?

The Authority's general functions

212. One of the Authority stated functions is to engage 'the Indigenous community on the use and management of Basin water resources'.¹⁴⁴

The Basin Plan and relevant international agreements

213. A core purpose of the Basin Plan is to give effect to the 'relevant international agreements' which provided the constitutional basis for the Water Act. This includes the Convention on Biological Diversity and the Ramsar Convention.

214. In addition to supporting the environmental goals of the Water Act, the Biodiversity Convention specifically provides for the protection of First Nations' interests in 'biological diversity' and 'biological resources'.¹⁴⁵ More specific commitments relate to, for example, respecting, preserving and maintaining knowledge and practices; and protecting and encouraging customary use of biological resources in accordance with cultural practice.

215. The Awke: Kon Guidelines are voluntary guidelines made under the Biodiversity Convention.¹⁴⁶ They relate to the conduct of cultural environmental and social impact assessments in relation to proposed developments on, or likely to impact, lands and waters traditionally occupied or used by First Nations Peoples.

216. The text of the Ramsar Convention does not refer to First Nations Peoples. However, resolutions made by the Conference of the Parties (**COP**) do. For example, in 1999 the COP adopted the Guidelines for establishing and strengthening local communities' and indigenous people's participation in the management of wetlands.¹⁴⁷ The Guidelines identify, for example, that engagement with First Nations communities requires – among other things - trust, flexibility, proper and continuous resourcing.

¹⁴⁴ Water Act s 172(1)(ia).

¹⁴⁵ Biodiversity Convention Articles 8(j) and 10(c).

¹⁴⁶ Secretariat of the Convention on Biological Diversity (2004) *Akwe: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental and Social Impact Assessment regarding Developments Proposed to Take Place on, or which are Likely to Impact on, Sacred Sites and on Lands and Waters Traditionally Occupied or Used by Indigenous and Local Communities* (CBD Guidelines Series). Available online at: <https://www.cbd.int/doc/publications/akwe-brochure-en.pdf>.

¹⁴⁷ 7th Meeting of the Conference of the Contracting Parties to the Convention on Wetlands, San Jose, Costa Rica, 10-18 May 1999, Resolution VII.8. Available online at: https://www.ramsar.org/sites/default/files/documents/library/key_res_vii.08e.pdf.

Water Resource Plans, Chapter 10, Part 14 of the Basin Plan, and ‘Indigenous values and uses’

217. First Nations Rights are poorly recognised in the Basin Plan. Chapter 10, Part 14 is the only part of the Basin Plan that imposes direct obligations on the Authority to engage with First Nations. It requires some level of consultation with ‘relevant Indigenous organisations’ in order to determine ‘Indigenous values’ and ‘Indigenous uses’ of water resources.
218. A handful of other provisions require the Authority to have regard to ‘Indigenous values’ and ‘Indigenous uses’ in relation to environmental watering.¹⁴⁸

Additional relevant legal principles and requirements

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and Free, Prior and Informed Consent

219. The statutory review of the Water Act which is now underway will must (as a matter of law) identify opportunities to promote the principles set out in the United Nations Declaration on the Rights of Indigenous Peoples (**UNDRIP**). Because of the relationship between the Water Act and the Basin Plan, we think it is crucial for this Review to consider and engage with UNDRIP.
220. Some of the rights and principles of UNDRIP that are particularly relevant to this Review include, for example:
 - the right to self-determination (Arts 3, 4, 5);
 - the right to participate in decision-making through self-chosen representatives in matters which would affect rights (Art 18);
 - an equal right to enjoy the highest attainable standard of physical and mental health (Art 24);
 - the right to lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired (Art 26);
 - the right to redress for lands, territories and resources that have been taken, occupied used or damaged without FPIC (Art 28); and
 - the right to conservation and protection of the environment (Art 29).
221. The Commonwealth Department of Climate Change, Environment, Energy and Water (**DCCEEW**) has adopted the United Nations Food and Agricultural Organization definition of Free, Prior and Informed Consent for application across the Department. This offers a model for the Authority to consider when exploring options for amending the Basin Plan. The DCCEEW definition of FPIC can be generally summarised as follows:¹⁴⁹
 - Free, Prior and Informed Consent:

¹⁴⁸ Basin Plan 2012 ss 8.15, 8.29, 8.35.

¹⁴⁹ Department of Climate Change, Energy, Environment and Water, *First Nations Engagement: the principles of Free, Prior and Informed Consent – Better practice engagement with First Nations communities and people*. Available online at: <https://www.dcceew.gov.au/sites/default/files/documents/free-prior-informed-consent-guidelines.pdf>.

- must be given voluntarily and involve a process that is self-directed by the community giving consent, without coercion, expectations or timelines that are externally imposed;
 - must be sought sufficiently in advance of any authorisation or commencement of activities;
 - requires information to be provided in advance, and in an ongoing fashion;
 - requires a collective decision made by the appropriate rights holders, reached through customary decision-making processes determined by the relevant community/ies.
222. Equal access to financial human and material resources is also critical to the concept of FPIC so that Basin Nations can meaningfully contribute.¹⁵⁰

Closing the Gap Inland Waters Target

223. Outcome 15 of the National Agreement on Closing the Gap is that Aboriginal and Torres Strait Islander people maintain a distinctive cultural, spiritual, physical and economic relationship with their lands and waters. Target 15c seeks to increase Aboriginal and Torres Strait Islander legal rights and interests in inland water bodies.¹⁵¹
224. Rather than a national target, work towards target 15c is focussed on setting jurisdictional (i.e. state based) targets. State and Territory Governments are to develop these targets by the end of this year (2026).¹⁵²

The Discussion Paper misses opportunities to engage with, and propose ways to address, critical issues

225. This Review is an opportunity for the Authority to recommend amendments to the Basin Plan so that it does, in fact, give effect to relevant international water agreements in relation to First Nations water rights and justice and to support state-based targets under Closing the Gap. However, the Discussion Paper misses opportunities to engage with and propose ways to address critical issues for First Nations across the Basin, including the following:
- Aboriginal water dispossession generally;
 - increasing Aboriginal water ownership/rights, including in the context of the Closing the Gap Inland Water Target 15c;
 - the concept of cultural flows, including how the Basin Plan could be amended to provide for cultural flows for the benefit of First Nations people;

¹⁵⁰ Australian Human Rights Commission, 'Native Title Report 2005: Annexure 3: Summary of free, prior and informed consent'. Key Element 5. Available online at: <https://humanrights.gov.au/resource-hub/human-rights/native-title-report-2005-annexure-3-summary-free-prior-and-informed-consent#:~:text=As%20a%20core%20principle%20of,Share%20this%20Page>.

¹⁵¹ Closing the Gap, 'National Agreement on Closing the Gap', Target 15. Available online at: [Closing the Gap targets and outcomes | Closing the Gap](#).

¹⁵² Joint Council on Closing the Gap 'Fourteenth Meeting of the Joint Council on Closing the Gap' (Communique, 20 June 2025). Available online at: [Joint Council on Closing the Gap Communique - 20 June 2025](#).

- the United Nations Declaration on Indigenous Peoples, including how the Basin Plan could be amended to embed the rights and principles set out in UNDRIP (for example establishing roles for First Nations peoples as co-managers of water resources) and embedding the principles of Free, Prior and Informed Consent;
 - the well-documented shortfalls in relation to many First Nations consultations for the purpose of preparing water resource plans, and how to improve both procedural consultation rights and material outcomes in relation to water resource plans (Chapter 10, Part 14); and
 - the critical need to ensure First Nations receive adequate and ongoing resourcing to support self-determined, meaningful and continuous engagement in water planning and management processes, as co-managers.
226. Although the Discussion Paper refers to Free, Prior and Informed Consent (**FPIC**) it does not: explain what is meant by this in a practical sense; say how the Authority proposes to implement FPIC; or consider whether the Basin Plan should be amended to embed FPIC into certain Basin Plan processes and decisions.
227. These issues, and EDO’s recommendations in response to them, are discussed in the next part of this submission.

Reversing First Nations water dispossession and providing for cultural flows

228. Water law in Australia is underpinned by the erroneous assumption of aqua nullius. The term aqua nullius describes the attempted extinguishment of Indigenous Water Laws on the erroneous assumption that the waters belonged to no one at the time of colonisation.¹⁵³ This calls into question the foundations of settler government water laws – including the Water Act and Basin Plan.¹⁵⁴
229. Historical circumstances and structural inequality have shaped water entitlements since colonization. In the Basin, First Nations people own less than 0.2% of the surface waters and 0.02% of the ground water across the Basin.¹⁵⁵ Yet, 5.3% of the Basin population is Indigenous.¹⁵⁶ These figures reflect a long history of water dispossession and grossly inadequate contemporary governance and legal frameworks. This Review must prioritise providing and protecting cultural flows.

¹⁵³ Virginia Marshall, *Overturning Aqua Nullius: Securing Aboriginal Water Rights* (Aboriginal Studies Press, 2017).

¹⁵⁴ Erin O’Donnell, ‘Water Sovereignty for Indigenous Peoples: Pathways to Pluralist, Legitimate and Sustainable Water Laws in Settler Colonial States’ (2023) 2(11) *PLOS Water*. Available online at: [Water sovereignty for Indigenous Peoples: Pathways to pluralist, legitimate and sustainable water laws in settler colonial states | PLOS Water](#).

¹⁵⁵ Lana D Hartwig, Francis Markham and Sue Jackson, ‘Benchmarking Indigenous Water Holdings in the Murray–Darling Basin: A Crucial Step towards Developing Water Rights Targets for Australia’ (2021) 25(2) *Australasian Journal of Water Resources* 98. Available online at: [Full article: Benchmarking Indigenous water holdings in the Murray-Darling Basin: a crucial step towards developing water rights targets for Australia](#).

¹⁵⁶ *Ibid.*

230. 'Cultural Flows' are defined in the Echuca Declaration:

'Cultural Flows' are water entitlements that are legally and beneficially owned by the Indigenous Nations of a sufficient and adequate quantity and quality to improve the spiritual, cultural, environmental, social and economic conditions of those Indigenous Nations. This is our inherent right.

*Cultural Flows are water rights that we hold in our own name and are not held in trust by Government AND provide us with enough clean water to improve all parts of our lives.*¹⁵⁷

231. Article 2 of the Echuca Declaration explains how the lives of Basin Nations will be improved by cultural flows.

232. The Basin Plan adopts the definition of cultural flows developed in the Echuca Declaration and states that:

*[t]he provision of cultural flows will benefit Indigenous people in improving health, wellbeing and provides empowerment to be able to care for their country and undertake cultural activities.*¹⁵⁸

233. The 'Acknowledgement of the Traditional Owners of the Murray-Darling Basin' that appears at the beginning of the Basin Plan also states that the Authority 'supports the belief ... that cultural flows will provide beneficial outcomes for Traditional Owners.'

234. However, and in a practical sense, the Basin Plan falls far short in recognising and supporting cultural flows. The Plan goes no further than requiring that Water Resource Plans prepared by Basin States to [have] regard to the views of Indigenous People with respect to cultural flows.¹⁵⁹ The opportunity to address this must not be missed.

This Review must progress tangible efforts to address water dispossession

235. Water dispossession is a reflection of the grossly inadequate historic and contemporary governance and legal frameworks. The injustices of water dispossession are compounded by the serious and ongoing environmental harms caused by large-scale river regulation and ongoing over-extraction, which impact Country and constrain the potential benefits of cultural flows. Governments must take meaningful action to reverse water dispossession.

236. In addition to adverse impacts on important food sources and cultural sites, overallocation means that some First Nations communities do not have reliable access to healthy drinking water. Due to declining flows some communities in the Northern Basin are forced to buy expensive bottled water or drink bore water containing excessive sodium levels. For example, there are serious concerns that highly saline bore water is exacerbating the impacts of chronic diseases present in

¹⁵⁷ Murray Lower Darling Rivers Indigenous Nations, *Echuca Declaration* (2007), Article 1. Available online at: https://culturalflows.com.au/~culturalflowscom/images/documents/Echuca_declaration.pdf

¹⁵⁸ Basin Plan 2012, Schedule 1—Basin resources and the context for their use [31].

¹⁵⁹ Basin Plan 2012 cl 10.54.

the local Aboriginal community of Walgett, NSW (see below for more information about First Nation water dispossession and overallocation in Walgett, NSW).¹⁶⁰

237. As noted above, State and Territory Governments are to develop Closing the Gap targets by the end of this year.¹⁶¹ In this Review, the Authority should anticipate there *will* be targets (rather than waiting for the next 10 year review) and take this into account. This is one of several reasons the Authority should consider and identify measures as to how the Basin Plan can support increasing First Nations rights and interests in water.
238. Reversing Aboriginal water dispossession is also a critical to promoting the rights and principles set out in UNDRIP. In particular the right to lands, territories and resources; the right to enjoy the highest attainable standard of physical and mental health; and the right to conservation and protection of the environment.¹⁶²
239. The Authority should consider ways that the Basin Plan can contribute to reversing First Nations water dispossession. As a starting point, the Authority should consider and propose mechanisms to provide and protect cultural flows. This must occur in consultation with Basin Nations, applying the principles in UNDRIP and the principles of FPIC.

Recommendation

The Basin Plan must be amended to progress First Nations water justice in the Basin

14. The Basin Plan has never set aside water for Basin Nations. The Authority should examine and identify mechanisms for providing cultural flows. Cultural flows must benefit the spiritual, cultural, environmental, social and economic conditions of Basin Nations. This process must occur in consultation with self-determined Basin Nation governance bodies.

Embedding the principles of UNDRIP and Free, Prior and Informed Consent (FPIC) into the Basin Plan

240. This Review is an opportunity to consider and propose amendments that will embed the rights and principles set out in UNDRIP, ahead of and complementary to the Water Act review. As the instrument that operationalises the Water Act, identifying opportunities and amendments to the Basin Plan now will support Water Act review's objective to identify opportunities under the Act to promote the principles set out in the United Nations Declaration on the Rights of Indigenous

¹⁶⁰ Dharriwaa Elders Group, Murray Lower Darling Rivers Indigenous Nations, Environmental Defenders Office Ltd, 'Submission to the UN Special Rapporteur on Human Rights and the Environment: Procedural Elements of the Human Right to a Clean, Healthy and Sustainable Environment' (10 November 2020). Available online at: <https://www.edo.org.au/wp-content/uploads/2020/12/Submission-to-UN-Special-Rapporteur-on-Human-Rights-and-the-Environment-101120.pdf>

¹⁶¹ Joint Council on Closing the Gap 'Fourteenth Meeting of the Joint Council on Closing the Gap' (Communique, 20 June 2025). Available online at: [Joint Council on Closing the Gap Communique - 20 June 2025](#)

¹⁶² *United Nations Declaration on the Rights of Indigenous Peoples*, GA Res 61/295, UN GAOR, 61st sess, 107th plen mtg, Agenda Item 68, UN Doc A/RES/61/295 (13 September 2007). Arts 24, 26 and 29.

Peoples (UNDRIP) consider and report on opportunities to deliver First Nations economic, environmental, social, spiritual and cultural outcomes.¹⁶³

241. The Discussion Paper fails to engage with these crucial issue.
242. In addition, the Discussion Paper fails to clearly demonstrate that there has been adequate, appropriate consultation with First Nations in *this Review* that reflect the principles set out in UNDRIP, including FPIC. This includes that First Nations have been given a meaningful opportunity to determine, and explain to the Authority, what it *means* to improve *spiritual, environmental, cultural, social and economic conditions*, nor to identify the *interests of Indigenous people*. This is critical in order for the Review to fulfil the mandatory legal requirement set out in the Water Act.
243. To achieve all of the above would require, for example First Nations peoples to have the agency to determine engagement and representation methods for this Review. By necessity, FPIC requires that First Nations decide who are the appropriate people to speak for Country and that those with the relevant cultural authority are determined by Basin Nations themselves. UNDRIP also specifically recognises that indigenous peoples possess *collective* rights; engagement between the Authority and First Nations people must acknowledge and account for this.
244. FPIC would also require recognition and allowance for legal pluralism; adequate time; and proper resourcing.
245. EDO cannot speak for whether the engagement to date for this Review has in fact achieved these things; this must be assessed by First Nations people who have authority to speak for relevant parts of the Basin. It is concerning however that the Discussion Paper does not demonstrate that this has occurred.

Recommendations

The Basin Plan must be amended to progress First Nations water justice in the Basin

15. The Authority must identify ways to embed the principles of the *United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)* into the Basin Plan and recommend amendments to the Basin Plan to give effect to those principles. The Basin Plan could be amended, for example, to:

- establish a framework for First Nations to operate as co-managers of water resources that flow through a Nation's Country;
- ensure that First Nations participation in decision making is meaningful to First Nations people;
- empower and support Basin Nations to play a key role in the conservation and protection of Basin ecosystems within each Nation's Country.

¹⁶³ Water Act s 50(4A)(a).

Such measures must be developed in collaboration with self-determined Basin Nation governance bodies.

16. The Authority should propose amendments to the Basin Plan that would embed the principles of Free, Prior and Informed Consent (**FPIC**). Fundamental prerequisites to FPIC that should be protected in the Basin Plan include, for example:

- Basin Nation governance structures must be properly and reliably resourced, including for the purpose of engaging in government consultations;
- timelines for all First Nations consultations must be sufficient to ensure meaningful participation; and
- membership of any First Nations representative bodies that Government proposes to consult must be self-determined – or at least endorsed - by Basin Nations.

These measures must be developed in collaboration with self-determined Nation governance bodies.

Opportunities for effective and meaningful participation of First Nations in the Basin Plan must be strengthened

246. Existing opportunities for First Nations to participate in water management under the Basin Plan are extremely limited and weak. They appear in Chapter 10, Part 14 of the Basin Plan. They are confined to the processes for drafting and accrediting water resource plans (**WRPs**).
247. The Basin Plan requires Basin States to consult with ‘relevant Indigenous organisations’ to find out about ‘Indigenous values’ and ‘Indigenous uses’ of local water resources.¹⁶⁴
248. The current Basin Plan only requires Basin States to ‘have regard to’ Indigenous values, Indigenous uses of water resources, as well as some other specific matters including native title rights and cultural heritage.
249. There are **no** mechanisms in the Plan for ongoing participation of Basin Nations in water resource management, nor to ensure that participation will actually influence the final form of WRPs or other aspects of implementing the Basin Plan.
250. In relation to how the meagre existing requirements have been implemented, there was initial enthusiasm by some First Nations about how WRPs could promote better recognition of water rights and strengthen protection of cultural values.¹⁶⁵ However, the implementation of these requirements has been mixed.
251. As the below case study demonstrates, in NSW, First Nations have raised serious concerns, including that participants were not properly supported or resourced, the consultation was rushed

¹⁶⁴ Basin Plan 2012 s 10.52.

¹⁶⁵ MLDRIN, ‘First Nations Kick off Assessment of NSW Water Plans’ (22 July 2026). Available online at: <<https://mldrin.org/first-nations-kick-off-assessment-of-nsw-water-plans/>>.

and the process was tokenistic. Such criticisms, as well as clear recommendations that some WRPs did not meet the basic requirements of the Basin Plan, has not stopped the Commonwealth Water Minister from signing off on those plans.

Case study: The experience of WRP consultation with First Nations in NSW

The process of preparing and accrediting WRPs has taken many years. In NSW, once the NSW Government submitted proposed WRPs to the Commonwealth for accreditation, the Authority engaged MLDRIN to assess whether the WRPs satisfied Basin Plan requirements relating to Indigenous values and uses.

MLDRIN is a confederation of First Nations in the southern Murray Darling Basin and is named in the Basin Plan.¹⁶⁶

MLDRIN sought input directly from Traditional Owner representatives and prepared detailed assessment reports. The reports raised a range of issues (see example report here), for example:

- Failure of consultations to meet minimum standards;
- Lack of resourcing and support for community members to participate;
- Compressed timeframes and rushed delivery of consultation;
- Failure to explain the purpose and scope of the consultation;
- Failure to collect views about important matters

The NSW Government did not engage in additional First Nations consultations to address the issues raised. Ultimately, the Commonwealth Water Minister accredited the WRPs. In 2023, represented by EDO, MLDRIN brought legal proceedings against the Murray Darling Basin Authority and the Commonwealth Water Minister about one of the NSW WRPs. MLDRIN argued the WRP was legally invalid because of shortfalls with the First Nations consultations. Ultimately, the Court did not determine the consultation issues because the WRP was found to be invalid for other reasons.

The above issues highlight the struggle faced by First Nations across the Basin to ensure that even the most basic of consultation requirements are satisfied.

This sits against a backdrop of grossly inadequate governance and legal frameworks that fail to require FPIC and lack practical measures to improve First Nations water rights and to provide for and protect cultural flows.

The Discussion Paper proposes water resource planning options that would be a backward step

252. The Discussion Paper proposes two options to ‘streamline WRPs’ (DP p 76). The options are described in extremely vague terms which makes it difficult to provide useful feedback. However, the key implication is that WRP requirements would be pared back and at least some Basin States would be able to self-assess WRP compliance. The current role of the Federal Environment Minister in assessing WRPs against the Basin Plan criteria would be removed, or at least weakened.

¹⁶⁶ Basin Plan Ch 10 part 14.

253. Given the WRP requirements that relate to First Nations rights and interests are already so limited, and implementation has been fraught, this is highly concerning. EDO recommends both options on page 76 of the Discussion Paper be firmly rejected.

Recommendations

The Basin Plan must be amended to progress First Nations water justice in the Basin

17. As the only mechanism in the Basin Plan that currently requires any First Nations engagement in Basin water resource management, it is crucial that in relation to Water Resource Plans:

- the existing provisions of Chapter 10 Part 14 of the Basin Plan; and
- Commonwealth oversight of State WRPs;

are strengthened, **not** watered down. EDO expressly opposes the options set out at page 76 of the Discussion Paper.

Aspects of the Chapter 10 Part 14 provisions that we suggest requires updating in consultation with First Nations (applying the principles of FPIC) including the following:

- there is no provision requiring ongoing participation after WRPs are made;
- the provisions merely require Basin States to ‘identify’ and ‘have regard to’ matters of critical importance to First Nations, with no mechanism to ensure these matters actually influence content of WRPs (or other aspects of implementing the Basin Plan); and
- the provisions do not identify specific requirements that apply to the First Nations consultation process. Provisions could for example apply minimum requirements in relation to time frames, adequate resourcing of Nations to enable meaningful participation, and ensuring ICIP protection throughout and after the conclusion of the WRP consultation process.

More generally, these provisions should clearly provide for First Nations in the Basin to decide who are the appropriate people from each Nation to speak for their Country.

Other issues

Floodplain harvesting

Introduction

254. Floodplain harvesting occurs during wet periods, when large volumes of water can breakout over the riverbanks and spread across vast floodplains. This water then flows into wetlands or downstream, or soaks into aquifers. Floodplain harvesting is where this water is captured, stored and used e.g. for irrigation.
255. A 2021 analysis found that floodplain harvesting in the northern Basin diverts an average of 778GL/year from the Darling Baaka River and its tributaries.¹⁶⁷ This has significant consequences. For example, floodplain harvesting has directly contributed to fish kills¹⁶⁸ and, in combination with other consumptive use and climate change, to severe deterioration in environmental health in the Darling/Baaka.¹⁶⁹ Any severe reduction in flows also impacts adversely on other water uses in the Basin, including First Nations.¹⁷⁰
256. In addition to the serious, well documented environmental consequences of floodplain harvesting, the approach taken by the Authority and the Basin States – particularly NSW – to regularise floodplain harvesting by informally adjusting sustainable diversion limits raises significant legal issues.
257. Unfortunately, the Discussion Paper has not grappled with the substantial concerns about floodplain harvesting, save to recognise that it raises challenges in relation to SDL accounting¹⁷¹ (essentially, there are shortfalls in floodplain harvesting measurement and this undermines SDL monitoring and compliance activity).¹⁷²

¹⁶⁷ Fenner School of Environment and Society Australian National University, and Slattery and Johnson, 'Inquiry into Floodplain Harvesting' (30 August 2021), 1. Available online at: [0285 Fenner School of Environment and Society, ANU and Slattery and Johnson.pdf](#)

¹⁶⁸ Australian Academy of Science, 'Investigation of the causes of mass fish kills in the Menindee Region NSW over the summer of 2018 – 2019' (18 February 2019), 2. Available online at: [academy-science-report-mass-fish-kills-digital.pdf](#).

¹⁶⁹ Professor Fran Sheldon, Australian Rivers Institute, Griffith University, report prepared for NSW Natural Resources Commission, 'Technical Review of the Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources 2012' (August 2019). Available online at: [Technical Review of the Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources 2012](#).

¹⁷⁰ See 'Aboriginal and cultural heritage impacts' section of EDO's blog post: 'Floodplain harvesting: without the necessary protections, legal action is a risk', December 2020. Available online at: [Floodplain harvesting: without the necessary protections, legal action is a risk - Environmental Defenders Office](#).

¹⁷¹ Discussion Paper, 68.

¹⁷² This has been identified elsewhere, see e.g. Fenner School of Environment and Society Australian National University, and Slattery and Johnson, 'Inquiry into Floodplain Harvesting' (30 August 2021) 4. Available online at: [0285 Fenner School of Environment and Society, ANU and Slattery and Johnson.pdf](#). Also note the following: the 'high degree of uncertainty and lack of monitoring of floodplain harvesting hinders attempts to achieve a comprehensive and transparent water accounting system, undermining attempts at water reform and the implementation of the Basin Plan' (R Quentin Grafton and John Williams, 'Thirst for Certainty: The Urgent Need for a Water Audit of the Murray–Darling Basin' (2019) 16(2) *Farm Policy Journal* 14).

Adjusting SDLs to account for additional floodplain harvesting is unlawful and threatens the core legislative objective of environmental sustainability

258. When the Plan was first made, the amount of water being taken by floodplain harvesting was significantly underestimated.¹⁷³ This is important because:
- (a) the Basin Plan defines water resource unit SDLs as a formula that is calculated by reference to the ‘baseline’ level of diversion (being the estimated level of take as at 30 June 2009). At risk of oversimplification, the SDL is the BDL minus the water recovery targets; and
 - (b) this formula has been used by Basin States to assert that if the BDL turns out to be higher than first thought (i.e. because of unaccounted for floodplain harvesting), the SDL should also be increased by a corresponding amount.
259. Ultimately, this means Basin States – NSW in particular – have increased SDLs in water resource units where floodplain harvesting occurs *outside the legislated SDL-adjustment mechanisms under the Water Act*.¹⁷⁴ These adjustments have been controversial and arguably unlawful. Importantly, the informal approach taken to adjusting the SDLs means there has been no assessment of whether increased SDLs remain environmentally sustainable. This is despite the fact that achieving environmentally sustainable levels of take is the core objective and legal requirement of the Act.¹⁷⁵
260. We note that NSW has also amended the BDL for SDL units in relation to other forms of take, where floodplain harvesting doesn’t occur. For example, the BDL was adjusted by approximately 12GL of additional water in the NSW Murray and Lower Darling Water Resource Plan.¹⁷⁶ The BDL was adjusted by approximately 122GL of additional water in the Murrumbidgee Surface Water Resource Plan.¹⁷⁷

¹⁷³ Fenner School of Environment and Society Australian National University, and Slattery and Johnson, ‘Inquiry into Floodplain Harvesting’ (30 August 2021) 4. Available online at: [0285 Fenner School of Environment and Society, ANU and Slattery and Johnson.pdf](#).

¹⁷⁴ Water Act ss 23A-23B allows SDL adjustment using the SDLAM; and Part 2, Division 1, Subdivision F of the Water Act allows for SDLs to be adjusted via amendment to the Basin Plan.

¹⁷⁵ Water Act s 23(1). It also explains why the Act in fact only provides for SDL adjustments under limited circumstances and subject to specific legislative processes.

¹⁷⁶ NSW Department of Planning and Environment, Intersecting Streams Surface Water Resource Plan, 169, Schedule F Table F-6, (accessed 1 May 2026), <<https://www.mdba.gov.au/sites/default/files/publications/nsw-murray-and-lower-darling-surface-water-resource-plan-sw8.pdf>>.

¹⁷⁷ NSW Department of Planning and Environment, Intersecting Streams Surface Water Resource Plan, 161, Schedule F Table F-6, (accessed 1 May 2026) <<https://www.mdba.gov.au/sites/default/files/publications/murrumbidgee-sw-murrumbidgee-surface-water-resource-plan-sw9.pdf>>.

261. The Authority’s rationale for signing off on this approach without requiring an amendment to the Basin Plan is set out in its 2015 Position Statement¹⁷⁸ and on its website.¹⁷⁹ In other words, formal statutory processes have been bypassed in order to ‘regularise’ substantial volumes of floodplain harvesting.

262. The SA Royal Commission has also criticised the Authority’s approach to revising the BDL and SDLs. The Commission Report:

ultimately [the Authority’s] proposal to increase the SDLs by reference to increases to BDLs is unjustifiable... Any proposal to do so necessarily assumes that the ESLT can be determined (to increase) by reference to changes in consumptive use. That is plainly wrong. The ESLT must be established independently from consumptive use, not because of it.¹⁸⁰

263. This finding has since been supported by the NSW Legislative Council Select Committee on Floodplain Harvesting in 2021.¹⁸¹ For more information, please refer to EDO’s past submissions on these issues.¹⁸²

264. Most recently, the Inspector General for Water Compliance has raised concerns with the adjustments to the BDLs, and corresponding SDLs:

*By basic definition, a baseline should be a starting point which does not change and can be used consistently over time for comparison.... This makes compliance, accountability and monitoring outcomes very difficult as the goalposts are moving. It also has consequence for public trust and confidence.*¹⁸³

265. The Inspector General has also raised concerns that floodplain harvesting is not properly measured, and that this undermines SDL compliance assessments. The Inspector General argued that this Review must examine and publicly ventilate these issues.¹⁸⁴

The Discussion Paper does not grapple with the problem of floodplain harvesting

266. The Discussion Paper is silent on floodplain harvesting, including the practice of adjusting the BDLs and SDLs, apart from a brief observation that ‘[b]etter information is needed to improve the

¹⁷⁸ Murray–Darling Basin Authority, *Water Resource Plan Requirements: Position Statement 3D — Changes to BDL* (20 August 2015). Available online at <https://www.mdba.gov.au/sites/default/files/publications/wrp-position-statement-3d-changes-to-bdl0.pdf>.

¹⁷⁹ Murray–Darling Basin Authority, Changing limits (webpage, accessed 1 May 2025, last updated 27 June 2023) <<https://www.mdba.gov.au/water-use/water-limits/changing-limits>>.

¹⁸⁰ SA Royal Commission Report, 605.

¹⁸¹ New South Wales, Parliament, Legislative Council, Select Committee on Floodplain Harvesting, *Floodplain Harvesting (Report No 1)* (December 2021), 86-87. Available online at: [Select Committee on Floodplain Harvesting](#)

¹⁸² Environmental Defenders Office, ‘Murray-Darling Basin Plan: Implementation Review 2023’ (Productivity Commission) (11 August 2023) 9-15. Available online at: [Environmental-Defenders-Office-Submission-MDB-PC-Review-2023.pdf](#). See also [Floodplain harvesting: without the necessary protections, legal action is a risk - Environmental Defenders Office](#).

¹⁸³ Inspector-General of Water Compliance, ‘Sustainable Diversion Limit Compliance Statement for 2023-2024’ (August 2025) 4. Available online at: [Sustainable Diversion Limit Compliance Statement for 2023-2024](#).

¹⁸⁴ *Ibid.*

accuracy and integrity of SDL accounting, including interception by ... floodplain storages'. Nevertheless, the Discussion states that '[n]o change is proposed ... in this review' and that 'technical work and investigations will inform the next Basin Plan review'.

267. As with climate change, EDO considers such delay cannot be justified either as a matter of law or public policy.

Recommendations

Floodplain harvesting

18. The Authority must assess whether the SDLs, as increased by incorporating floodplain harvesting into the baseline diversion limits, are consistent with an Environmentally Sustainable Level of Take. The results of this assessment must be published.

19. The Authority must propose amendments to the Basin Plan to ensure floodplain harvesting does not push extraction above an Environmentally Sustainable Level of Take, either due to:
 - informal adjustments to SDLS via adjustments to BDLs; or
 - inadequate or inaccurate measurement of floodplain harvesting.

Critical Human Water Needs in the Northern Basin

Introduction

268. The Basin Plan must be prepared having regard to the fact that Basin State and Federal governments agree that critical human water needs (**CHWNs**) are the highest priority of water uses.¹⁸⁵ The Basin Plan has not been effective at protecting CHWNs.
269. This part of the submission considers the impacts of water management, regulation and overextraction on system's ability to deliver critical human water needs in the Northern Basin.

Legal requirements

270. **Critical human water needs** is a term defined in the Water Act.¹⁸⁶ Critical human water needs are the needs for a minimum amount of water, that can only reasonably be provided from Basin water resources, required to meet:

- core human consumption requirements in urban and rural areas; and
- non-human consumption requirements that, if not met, would cause prohibitively high social, economic or national security costs.

An example is drinking water.

271. The Water Act states that:¹⁸⁷
- the Commonwealth and the Basin States agree that **critical human water needs** are the highest priority water use for communities who are dependent on Basin water resources; and
 - the Basin Plan must be prepared having regard to that.
272. Further, under the Basin Plan, WRPs must set out 'measures to meet critical human water needs' during specified extreme events.¹⁸⁸ However, the Basin Plan does **not** require these measures to ensure that critical human water needs are actually met.
273. In the River Murray System, the protection of CHWNs under the Water Act is more robust. The Act specifically requires that certain amount of water required to be in the river at all times for the purpose of meeting CHWNs. This minimum amount is called *conveyance water*.¹⁸⁹
274. Provisions for the protection of CHWNs were introduced to the Water Act in 2008.¹⁹⁰

¹⁸⁵ Water Act Part 2A.

¹⁸⁶ Ibid s 86A(2).

¹⁸⁷ Ibid s 86A(1).

¹⁸⁸ Basin Plan cl 10.51.

¹⁸⁹ Water Act s 86A(3)(4).

¹⁹⁰ Water Amendment Bill 2008 (Cth), Part 2A.

Critical human water needs are the ‘highest priority’ yet extraction is compromising safe drinking water access in the Northern Basin

275. The Northern Basin is characterised by highly variable rainfall and runoff due to the influence of multiple climatic drivers including the El Niño–Southern Oscillation, Indian Ocean Dipole, and Southern Annular Mode.¹⁹¹ The highly variable rainfall and runoff means river systems are vulnerable to the compounding impacts of drought, climate change and the over-extraction of water during periods when river flows are already low.
276. Cotton is the dominant crop in the region, accounting for over 75% of the water consumed for irrigation in the northern Basin. An estimated 778 GL is taken per year on average for floodplain harvesting to irrigate cotton crops.¹⁹² In 2018-2019, when the Darling stopped flowing and the Menindee Lakes fish kills occurred, irrigation consumed 2000 GL.¹⁹³
277. The natural variability in river flows in the northern Basin, in particular the Barwon–Darling River, has been used to claim that the river system is characterised by naturally highly variable hydrology with long periods of zero flow. However, a 2024 study showed that over the period 1885-1950, prior to river regulation, the Darling River flowed 92% of the time, and even during droughts, there was consistent baseflow (flowing water) 85% of the time, and near annual, landscape-scale flow pulses.¹⁹⁴
278. Indeed, prior to river regulation, the study found that the Barwon–Darling River was characterised by only short spells (generally less than one month) of zero flow.¹⁹⁵ This is in stark contrast to the Tinderbox drought of 2018–19, when there was zero flow in the Darling River at Bourke for 433 days (29th August 2018 to 4th November 2019).¹⁹⁶ During this period, over 100,000 ML was captured in tributary headwater dams, which is a typical volume of inflows for a severe drought.¹⁹⁷

¹⁹¹ H. J Simpson, M. A. Cane, A. L. Herczeg, S. E. Zebiak, J. H. Simpson ., ‘Annual River Discharge in Southeastern Australia Related to El Niño–Southern Oscillation Forecasts of Sea Surface Temperatures’ (1993) 29 *Water Resources Research* 3671. See also Andrea S. Taschetto, Shane McGregor, Dietmar Dommenges, Zoe E. Gillet, Neville Nicholls, Sur Sharmila, Peter van Rensch, Danielle Verdon-Kidd, Ghyslaine Boschat, Christine Chung. ‘Climate Impacts of the El Niño–Southern Oscillation on Australia’ (2026) 7 *Nature Reviews Earth & Environment* 103.

¹⁹² Patrick Brown, Matthew J. Colloff, Maryanne Slattery, William Johnson, Fiorenzo Guarino ‘An Unsustainable Level of Take: On-Farm Storages and Floodplain Water Harvesting in the Northern Murray–Darling Basin, Australia’ (2022) 26(1) *Australasian Journal of Water Resources* 43.

¹⁹³ Maryanne Slattery, Bill Johnson and Rod Campbell, *Owing down the River: Mortgaging the Future Flows of the Barwon–Darling/Baaka River* (Australia Institute, 2019). Available online at:

https://australiainstitute.org.au/wp-content/uploads/2020/12/P685-Owing-down-the-river-WEB_4.pdf

¹⁹⁴ Martin Mallen-Cooper and Brenton P Zampatti, ‘Restoring the Ecological Integrity of a Dryland River: Why Low Flows in the Barwon–Darling River Must Flow’ (2020) 21(3) *Ecological Management & Restoration* 218., 9. Available online at: [Martin Mallen-Cooper and Brenton P Zampatti, Restoring the ecological integrity of a dryland river.pdf](#).

¹⁹⁵ Ibid 3.

¹⁹⁶ Ibid 6, citing WaterNSW, Continuous water monitoring network <<https://realtimedata.watersw.com.au/>>.

¹⁹⁷ Ibid.

279. During the same period, in the summer of 2018–19, over a million fish died in a 30km reach of the lower Darling River, which was attributed to a combination of factors including low flows and high-water temperatures.¹⁹⁸
280. This period of zero flows in the Darling River at Bourke was not solely the result of rainfall drought but also due to active management of headwater storages and water extraction from the river channel for consumptive use.¹⁹⁹
281. Since the 1960s, the river’s hydrology has been substantially modified by flow regulation, in the form of water storages and extraction.²⁰⁰ There are now eight major headwater dams in the eastern tablelands, multiple weirs, pumped extraction with off-stream storages, and floodplain water harvesting, which modify the river’s hydrology and fragment the riverine ecosystem.²⁰¹
282. The below case study demonstrates the impacts of water management, regulation and extraction in the northern Basin on critical human water needs in the town of Walgett (NSW) in the northern Basin, and demonstrates the unresolved tension between the statutory priority of critical human water needs and extraction.

¹⁹⁸ Ibid 7, citing Vertessy R., Barma D., Baumgartner L., Mitrovic S. and Sheldon F. (2019) Independent Assessment of the 2018–19 Fish Deaths in the Lower Darling. Report to the Federal Government of Australia, 99p.

¹⁹⁹ Ibid 6-7.

²⁰⁰ Ibid 2.

²⁰¹ Ibid 2-3.

Case study: Over extraction and safe drinking water in Walgett, NSW

Walgett in NSW is in the Northern Murray Darling Basin, on Gamilaraay, Ngayiimbaa, Wayilwan and Yuwaalaraay Country. Walgett is situated at the junction of two significant rivers: the Ngamaay (Namoi) and the Baawan (Barwon). Historically, these rivers have been the primary source of drinking water for the Walgett Community. These rivers have also historically provided food and supported cultural and recreational activities for the Walgett Aboriginal community.

The Dharriwaa Elders Group (DEG) DEG is an Aboriginal cultural organisation which works to support Elders' wellbeing, protect Aboriginal cultural heritage, promote local Aboriginal cultural knowledge, values and identity, and manage natural and knowledge resources.²⁰² DEG also works for community development and promoting relationships between Aboriginal Elders and other generations of the Walgett Aboriginal community.

DEG's programs of work include *Caring for Country and Water* and *Food and Water 4 Life*. Both of these relate to DEG's advocacy about the health of the rivers and the negative impacts of declining flows on culture, health and wellbeing. DEG is seriously concerned about the reliability and quality of the town drinking water. DEG and the Walgett Aboriginal Medical Service (**WAMS**) have been working for decades to improve access to safe drinking water and fresh food in Walgett.²⁰³

Although the Walgett Shire Council has a high security town water supply licence for the provision of drinking water, the town has had to switch to bore water for drinking water at times of low inflows.

Between 2018 and 2020, the local river water supply started steadily declining. This is due to extended droughts coupled with increased extraction upstream, including floodplain harvesting, which has reduced run-off and surface water flows. This in turn has impacted drinking water quality and local supplies of freshwater fish.²⁰⁴ This resulted in the extended and ultimately the exclusive use of groundwater sourced from the Great Artesian Basin as the town water supply.²⁰⁵

Walgett groundwater has been found to have sodium levels almost twice the Australian Drinking Water Guidelines for palatability and 15 times the levels recommended for people with high blood pressure.²⁰⁶

In 2018, DEG sought expert advice from (then) Associate Professor Jacqui Webster, Director of the WHO Collaborating Centre on Salt Reduction. In Professor Webster's opinion:²⁰⁷

The sodium levels in the Walgett water supplies are concerning. 300mg/Litre is much higher than the Australian Drinking Water guideline of 180mg/L - and this guideline is based on palatability, not health. No health-based guideline value is proposed for sodium. However, the guideline does state that "Medical practitioners treating people with severe hypertension or congestive heart failure should be aware if the sodium concentration in the patient's drinking water exceeds 20 mg/L.

This is unacceptable, since hypertension is already 30% higher in Aboriginal and Torres Strait Islander communities than the general Australian population.²⁰⁸ As such, First Nations in Walgett are disproportionately impacted by poor water quality.

On top of high sodium levels, the community has reported various issues, including supply interruptions and poor aesthetic quality, particularly unpalatability.

In 2024 a study was published measuring food and water insecurity in Walgett. The study comprised of a sample size of 250 Aboriginal people, or those living with/caring for Aboriginal people, in Walgett town and nearby Gingie and Namoi villages. The study found that:²⁰⁹

- Almost all participants (91%) were concerned about the quality of the water.
- The most commonly reported water security issues were feeling angry about the water situation (68%), worrying about not having enough water (67%) and having the household's main water supply interrupted or limited (66%).
- More than four in five participants reported relying on purchased or donated bottled water due to main water source interruption (83%) or water quality issues (86%).

DEG reports that it has no expectation that it will be able to rely on river water in Walgett in the long-term unless changes are made to water resources management in the Basin to reduce extraction levels from rivers in the region.

The efforts of DEG and WAMS have been critical in raising awareness of the health impacts of the drinking water quality issues in Walgett. Their advocacy drove the establishment of a reverse osmosis (RO) water filtration facility. Unfortunately, operational challenges limit the effectiveness of the RO system. Currently, the RO system is switched off due to a range of factors including limitations on waste disposal and trained staff shortages. In partnership with the Walgett Shire Council DEG and WAMS continue their advocacy for long term reliable healthy drinking water.

DEG's Walgett River Rangers have been monitoring water quality and publishing its findings on its website.²¹⁰ Monitoring has identified concerning levels of industrial chemicals in river water, some substances that are not included in the Australian and New Zealand Guidelines for Fresh

²⁰² Dharriwaa Elders Group, 'About Us' (Web Page, accessed 1 May 2025). Available online at:

<https://www.dharriwaaeldersgroup.org.au/about-us>.

²⁰³ Loretta Weatherall, Alinta Trindall, Trish Tonkin, Joseph Alvin Santos, Dori Patay, Ruth McCausland, Wendy Spencer, Greg Leslie, Eileen Baldry, Keziah Bennett-Brook, Julieann Coombes, Tamara Mackean, Janani Shanthosh, Ty Madden, Bruce Moore, Ann-Marie Deane, Nial Earle, Christine Corby GDip, Melissa Nathan, Sera L. Young, Emalie Rosewarne, Jacqui Webster, 'Measuring Food and Water Security in an Aboriginal Community in Regional Australia' (2025) 33(1) *Australian Journal of Rural Health* e13214. Available online at: <<https://onlinelibrary.wiley.com/doi/epdf/10.1111/ajr.13214>>

²⁰⁴ Ruth McCausland, Wendy Spencer, Peta MacGillivray, Virginia Robinson, Vanessa Hickey, Eileen Baldry & Elizabeth McEntyre, 'CommUNITY-Led Development: A Partnership to Realize Aboriginal Elders' Vision for Change' (2021) *Community Development* 573.

²⁰⁵ above n 207.

²⁰⁶ Niall Earle, Wendy Spencer, Ruth McCausland, Pauline Futeran, Jacqui Webster and Greg Leslie, 'Yuwaya Ngarra-li Briefing Paper: Walgett's Drinking Water (2023), 9. Available online at:

<https://www.unsw.edu.au/content/dam/pdfs/edi/2023-06-yn-news/2023-06-YN-Briefing-Paper-Walgett-Drinking-Water-Feb23.pdf>.

²⁰⁷ Dharriwaa Elders Group, Statement of the Elders Council (30 Nov 2018). Available online at:

<FinalDEGSaltWaterStatement30November2018.pdf>

²⁰⁸ above n 207., citing Australian Institute of Health and Welfare, 'High Blood Pressure (1.07)' (2023)

<https://www.indigenoushpf.gov.au/measures/1-07-high-blood-pressure>.

²⁰⁹ Ibid.

²¹⁰ Dharriwaa Elders Group, 'Water Quality Testing'. Available online at:

<https://dharriwaaeldersgroup.org.au/waterquality>

and Marine Water Quality, and some that are banned in other countries. This is another reason why DEG believes the Walgett community can no longer safely consume river foods and drinking water.

The failure to provide safe drinking water to the Walgett community is both the result, and a further example, of Aboriginal water dispossession in the Murray-Darling Basin, as well as an infringement of numerous established human rights, of which the right to water is derivative.²¹¹

Had the Basin Plan been effective at prioritising critical human water needs as the highest priority water use, Basin communities and their representative organisations (such as DEG and WAMS) would not have to expend their finite human and financial resources advocating for their right to reliable healthy drinking water - a basic human right that people living in larger and capital cities take for granted.

283. Walgett is not an isolated case in the Northern Basin. Recent media reports tell a compelling story about the frequency of critical water shortages experience by communities in the Northern Basin including that:²¹²

[D]uring the last major drought, in 2019, water was delivered into Louth, Tilpa, Wilcannia, Menindee and Collarenebri because sedimentation and blue-green algae blooms made water unsafe to drink.'

Where the Discussion Paper falls short

284. The Discussion Paper acknowledges that communities in the Basin are experiencing water insecurity, including for the following reasons:
- Water that is meant for town drinking water may be taken by other users before it reaches towns.
 - In some towns, there is not enough equipment, facilities or operational capacity to treat emergency groundwater reserves to make it safe for drinking.
 - There is limited funding for pipelines, alternative water supplies and water recycling.
 - The cost of water supply in regional towns is rising and is unaffordable in some places.
285. Unfortunately, the Authority offers very little by way of a proposed response to this issue, saying that the Basin Plan has a 'very limited role in supporting critical human water needs' outside of the River Murray system. The Discussion Paper says the Authority is 'considering the value of introducing minimum standards for state-based critical human water planning via improved water resource plan requirements'. Although EDO supports, this, the measures described are confined to the very limited purposes of improving consultation, transparency and analysis; they would not directly require better outcomes.

²¹¹ International Covenant on Economic, Social and Cultural Rights, opened for signature 16 December 1966, 993 UNTS 3 (entered into force 3 January 1976). Art 6 (the right to life), Art 11 (the right to an adequate standard of living), Art 12 (the right to the highest attainable standard of health).

²¹² Esme Mathis, 'Of Droughts and Flooding Rains' (3 March 2026) *Australian Geographic*. Available online at: <https://www.australiangeographic.com.au/science-environment/2026/03/of-droughts-and-flooding-rains/>.

286. It is not clear why the Authority has shied away from this important issue, and concluded that '[m]ost of the town water supply issues in the northern Basin cannot be resolved through the Basin Plan'. This is an abrogation of both moral and legal responsibility and should be explained. Further, any relationships between critical human water needs, floodplain harvesting volumes and the Sustainable Diversion Limits in particular should be thoroughly explored.
287. The Authority's approach in the Discussion Paper is particularly concerning in the context of the findings of the Productivity Commission in 2023, which included that:²¹³
- The Basin Plan should play a greater role in improving water quality and securing critical human water needs in the northern Basin; and
 - Improving water quality and meeting critical human water needs in the northern Basin should be a key priority for the 2026 Basin Plan Review.
288. To the extent the Authority considers that the Basin Plan requires amendment to support or empower the Authority to take more effective steps to address CHWN in the Northern Basin, such observations and recommendations are very much within the scope and purpose of this Review. Such observations and recommendations would also support the current review of the Water Act.

Recommendations

Critical human water needs

20. The Authority must consider and propose amendments to the Basin Plan to ensure:
- critical human water needs are given the highest priority water use in both the northern and southern Basin;
 - critical human water needs are always protected; and
 - there is a compliance framework that establishes an enforceable duty to ensure that critical human water needs are satisfied.

²¹³ Commonwealth Government, Murray Darling Basin Plan: Implementation review 2023 *Inquiry Report* (Report, 2023), 206 (Recommendation 7.1) <https://assets.pc.gov.au/2025-07/basin-plan-2023.pdf?VersionId=pEjy7pi8wtbtV0JVR8GV_nICRaT3JKg>.

Invasive Species

Introduction

289. Other than insufficient water flows, a major driver of environmental decline in the Basin is the presence of invasive species. The Basin is a global hotspot for invasive species.²¹⁴ A recent assessment of priority drivers of change for the Basin found that invasive species is one of the four ‘most important drivers for the management of water assets now and into the near future to mid-century’.²¹⁵
290. The relationship between water resource management and invasive threats is complex; both suppression and restoration of flows can benefit certain invasive species. For example, suppression of natural flooding can benefit invasive plants such as willow, but restoration of floodplain connectivity can stimulate invasive fish spawning.
291. For this reason, research and data are critical to better understand the relationship between water resource management decisions and invasive threats, and ultimately to take effective management decisions. This is more important than ever, so that we can understand how climate change interacts with the impacts of invasive species on Basin ecosystems.
292. Incorporation of Indigenous-led approaches and perspectives in relation to invasive species management in accordance with the principle of Free, Prior and Informed Consent and other international human rights obligations²¹⁶ will also be vital. This will require effective safeguards of Indigenous Cultural and Intellectual Property and, more broadly, meaningful co-design with relevant Basin Nations as to how to their knowledge and expertise in caring for Country over millennia can be embedded in Basin management.

Programs are showing positive results, and must continue to be funded

293. Some programs have already been established to respond to invasive species. This includes, for example, the construction of five dams in NSW with multi-level outlets aimed at reducing cold water pollution. Cold water from dam outlets benefits invasive fish relative to native fish, as invasive fish such as carp, redfin, and trout have lower breeding temperature thresholds than native species.²¹⁷
294. Programs such as the building and retrofitting of dams with mechanisms to reduce cold water pollution need ongoing funding and monitoring to establish the most effective operating strategies, as has been demonstrated for the Burrendong dam where successes have been had

²¹⁴ Fabien Leprieur, Olivier Beauchard, Simon Blanchet, Thierry Oberdorff, Sebastien Brosse, ‘Correction: Fish Invasions in the World’s River Systems: When Natural Processes Are Blurred by Human Activities’ (2008) 6(12) *PLOS Biology* e322. Available online at: <https://doi.org/10.1371/journal.pbio.0060322>

²¹⁵ Leonie J. Pearson and Jo Mummery, Centre for Environmental Governance, University of Canberra, ‘Resilience, Adaptation and Drivers of Change in the Murray-Darling Basin’ (23 June 2025), 5. Available online at: [Resilience, Adaptation and Drivers of Change in the Murray-Darling Basin](#).

²¹⁶ See in particular UNDRIP, Articles 25, 26 & 29.

²¹⁷ Allan Lugg and Craig Copeland, ‘Review of cold water pollution in the REVIEW Murray-Darling Basin and the impacts on fish communities’ (2014) 15(1) *Ecological management and restoration*. Available online at: <https://onlinelibrary.wiley.com/doi/10.1111/emr.12074>

with mitigating temperature pollution alongside operating challenges.²¹⁸ Ten major dams in the Basin are considered to cause substantial cold-water pollution, impacting spawning, recruitment and growth in over 3,000 km of MDB rivers.²¹⁹ The learnings and innovative work to retro-fit existing dams that has been done at Burrendong and is underway at Pindari²²⁰ needs to be built upon and implemented at all major dams causing cold water pollution.

The Basin Plan does not adequately address invasive species

295. The Basin Plan does not currently explicitly regulate or require the management of invasive species. Despite this, responding to and mitigating harm caused by invasive species is necessary to achieving core objects of the Water Act, including, for example:
- (a) Protecting, restoring and providing for the ecological values and ecosystem services of the Basin;²²¹ and
 - (b) giving effect to relevant international agreements²²² – in this case, specifically the Convention on Biological Diversity (**Biodiversity Convention**).
296. The Biodiversity Convention is one of the international laws that gave the Federal Government the power under the Constitution to make the Water Act. Article 8(h) of the Biodiversity Convention requires parties to ‘prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species’.

The Discussion Paper does not address the serious threat of invasive species

297. The Discussion Paper recognises that ‘managing invasive species needs targeted control, exclusion measures at breeding sites, detection, suppression and prevention efforts’, as well as ongoing monitoring. However, the ‘option’ proposed by the Authority is vague: to ‘[ensure] there are multi-pronged approaches to manage invasive species such as carp’. No further information or detail is provided to meaningfully critique or engage with the ‘option’.
298. The Basin Plan should be amended to establish requirements that could improve the regulation and management of invasive species.

²¹⁸ Laura E Michie, James N Hitchcock, Jason D Thiem, Craig A Boys and Simon M Mitrovic, ‘The Effect of Varied Dam Release Mechanisms and Storage Volume on Downstream River Thermal Regimes’ (2020) 81 *Limnologia* 125760 <https://doi.org/10.1016/j.limno.2020.125760>

²¹⁹ Allan Lugg and Craig Copeland, ‘Review of cold water pollution in the REVIEW Murray–Darling Basin and the impacts on fish communities’ (2014) 15(1) *Ecological management and restoration*. Available online at: <https://onlinelibrary.wiley.com/doi/10.1111/emr.12074>

²²⁰ WaterNSW, *Pindari Dam Cold Water Pollution* (Web Page, accessed 1 May 2026) <<https://www.watarnsw.com.au/projects/pindari-dam-cold-water-pollution>>.

²²¹ Water Act s 3(d)(ii).

²²² Water Act s 3(b).

Recommendations

Invasive Species

21. The Authority has already established some programs for reducing the impacts of invasive species, which are a key threat to Basin ecosystems. Full roll out of existing programs must be prioritised to reduce the impact of invasive species, such as reducing cold water pollution.
22. The Authority must establish a data monitoring work program targeted at invasive species (alongside other urgently needed monitoring). This program must be specifically directed at understanding interactions between water resource management and invasive species, taking into account the impacts of climate change.
23. The Authority must consider and recommend amendments to the Basin Plan to require and facilitate optimal management of invasive species.
24. Amendments to the Basin Plan to improve management of invasive species should be co-designed with First Nations to enable First Nations knowledge and expertise to be embedded in Basin management. This process must reflect UNDRIP principles, including Free, Prior and Informed Consent, and ensure that Indigenous Cultural and Intellectual Property rights are effectively safeguarded.

Supporting and strengthening the role of the Inspector General of Water Compliance

Introduction

299. When the Water Act became law in 2007, it established the Authority and ascribed to it a range of functions, including the development and implementation of the Basin Plan and responsibility for compliance and enforcement under the Water Act. This included civil offence provisions.
300. In 2018, a Productivity Commission Report recommended that the Authority be ‘split into two separate institutions – the Murray-Darling Basin Agency and the Basin Plan Regulator’.²²³ In response to this recommendation an interim, non-legislated Inspector General of Water Compliance (**Inspector General**) was appointed. The role was then formally established via amendments to the Water Act in 2021.
301. These were important developments as they responded to significant weaknesses in the original compliance and enforcement framework under the Water Act – including the absence of criminal offence provisions, and failure to vest compliance and enforcement functions in an independent, specialist agency.²²⁴
302. The Inspector General’s role is to strengthen accountability, integrity and public trust in the Basin Plan by providing independent oversight, investigation and enforcement. Parts 9A, 10AA and 10AB of the Water Act set out the core functions or responsibilities of the Inspector General as well as special compliance and inquiry powers.

The importance of the Inspector General in ensuring compliance and enforcement

303. EDO continues to support the critical role of the Inspector General as offering independent oversight of compliance with the Plan, the performance of functions and exercise of powers by the Commonwealth and Basin State agencies under the Water Act, and the implementation of Basin intergovernmental agreements.²²⁵
304. The Inspector General has observed that ‘implementing the Basin Plan is not merely managing a program or delivering projects, it is delivering one of the most complex, contested and important pieces of public policy this country has attempted’.²²⁶ This complexity underscores the value and importance of the Inspector General within the regulatory framework.
305. It is perhaps unsurprising that in this complex and contested space there have been many hurdles in the implementation of the Basin Plan – several of which are discussed elsewhere in this

²²³ Productivity Commission (Cth), *Murray-Darling Basin Plan: Five-year Assessment* (Inquiry Report No 90, 2018), 2. Available online at: <https://www.pc.gov.au/inquiries/completed/basin-plan/report/basin-plan.pdf>.

²²⁴ Ibid. The Productivity Commission found, for example, that the ‘MDBA has conflicting roles. It supports Basin Governments (as their agent) to implement the Plan is also required to ensure compliance with the Plan’.

²²⁵ See EDO’s earlier 2021 analysis: [Analysis: Compliance boost for the Murray-Darling Basin with new Inspector-General - Environmental Defenders Office](#)

²²⁶ Inspector General of Water Compliance, *Northern Basin Toolkit Inquiry Report* (April 2026), 2. Available online at: [Inspector-General of Water Compliance Northern Basin Toolkit Inquiry Report](#)

submission.²²⁷ Each of these highlight the ongoing critical importance of maintaining a strong, independent office for compliance and enforcement activities. The importance of this role is demonstrated by the following case studies.

²²⁷ For example: challenges developing and accrediting water resource plans; slow progress on constraints relaxation; and serious issues delivering on the SDLAM projects.

Case study: The importance of the Inspector General and the review of the Northern Basin Toolkit Measures

In 2018 the Commonwealth amended the Basin Plan after a 2016 Northern Basin Review found that water take could increase by 70GL a year. To compensate for that 70GL reduction in water recovery and associated ecological outcomes, the Commonwealth, NSW and Queensland governments committed to implement a program of ‘complementary measures’, known as the Northern Basin Toolkit (**Toolkit**). The Commonwealth Government committed more than \$166 million of taxpayer money to support the delivery of the Toolkit measures by (the extended deadline of) December 2026.

Given the environmental outcomes and taxpayer money at stake, delivery of the Toolkit measures is critically important.

Since the Toolkit measures commenced, concern about their implementation has consistently arisen. This includes those expressed by two Productivity Commission reports and the Independent Assessment of the 2018-19 fish deaths in the lower Darling regarding whether timeframes will be met for Toolkit delivery, accountability for this delivery, and overall public transparency.²²⁸

It was in this context that the Inspector General commenced his first inquiry, which was inquired into Toolkit implementation - ‘including the reasons for non-delivery, the effectiveness of governance and funding arrangements, and the outcomes achieved’.²²⁹

In the Northern Basin Toolkit Inquiry Report (**Report**), the Inspector General wrote that ‘the implementation of the [Toolkit]... came to represent one of the first critical tests of the commitment by governments to deliver on the environmental outcomes promised under the [Plan].’²³⁰ While the Inspector General found some measures have delivered environmental outcomes,²³¹ 14 other findings were made regarding the failure to deliver what Basin States and the Commonwealth promised when 70GL was returned to the consumptive pool. These findings include the following:

- That the NSW Gwydir Constraints project (including \$37 million in Commonwealth funding) was overly ambitious and will not achieve its core objectives by December 2026.²³²
- That the NSW Reconnecting the Northern Basin Project has been significantly reduced in scope and is unlikely to be completed. This project aimed to reconnect more than 2,000 km of reconnected aquatic habitat. This was then reduced to 579 km and to date, only 64 km has been completed.
- That the Toolkit lacks meaningful incentives and accountability mechanisms for state delivery. 70 GL of water was returned to the consumptive pool before project delivery agreements were finalised, and there were no financial penalties, adjustments to water recovery targets, or other consequences linked to delivery of Toolkit measures or outcomes.
- That public communication about Toolkit implementation, including project scope reductions, has been inadequate.

Overall, the Inspector General found that ‘not delivering Toolkit projects to their initially agreed and funded scope and timeframes has real environmental consequences’.²³³ The Inspector

General made seven corresponding recommendations to improve delivery of the Toolkit, and identified 11 lessons for future Basin programs that go beyond the Toolkit.

The Report acknowledged that the Inquiry came about after ‘many of the problems with the delivery of [the Toolkit] were already suspected but not clearly articulated or documented’.²³⁴

This Report demonstrates one aspect of the important role the Inspector General can play in conducting inquiries and placing on the public record a comprehensive, independent assessment of important measures under the Basin Plan and Water Act. Through examination of issues related to the Toolkit, the Inspector General has also importantly identified themes which ‘have emerged that... have a broader application across the Basin’.²³⁵

Case study: Basin accounting: SDL assessments

The Inspector-General’s August 2025 SDL Statement for 2023-2024²³⁶ found that ‘I am unable to fully assess surface water and groundwater SDL compliance in NSW’, which was attributed to a range of factors including that ‘the annual provision of data from the basin states to the MDBA, and subsequently from the MDBA to the Inspector-General, is too slow’.

In doing so, the Inspector General has played an important role in bringing to light a fundamental issue relating to the core regulatory mechanism established by the Water Act – the development of Sustainable Diversion Limits.²³⁷

²²⁸ Inspector General of Water Compliance, *Northern Basin Toolkit Inquiry Report* (April 2026), 24. Available online at: [Inspector-General of Water Compliance Northern Basin Toolkit Inquiry Report](#)

²²⁹ Ibid 7

²³⁰ Ibid 1.

²³¹ Toolkit Measures 1 – 4, as found by the Inspector General in his Review Inspector General of Water Compliance, *Northern Basin Toolkit Inquiry Report* (April 2026), Finding 2 Page 9.

²³² See above at [151]-[157] for discussion on the importance of delivering constraints relaxation measures including in the Gwydir catchment).

²³³ Inspector General of Water Compliance, *Northern Basin Toolkit Inquiry Report* (April 2026), 7. Available online at: [Inspector-General of Water Compliance Northern Basin Toolkit Inquiry Report](#).

²³⁴ Ibid 1.

²³⁵ Ibid 7.

²³⁶ Inspector-General of Water Compliance, *Sustainable Diversion Limit Compliance Statement 2023–2024* (Report, Australian Government, August 2025). Available online at:

<https://www.igwc.gov.au/sites/default/files/documents/2025-08/sustainable-diversion-limit-compliance-statement-2023-2024.pdf>

²³⁷ We also note that the Wentworth Group of Concerned Scientists recently published Blueprint observes that ‘we lack a robust, independent and publicly transparent auditing framework for Basin water accounting’ and without this ‘confidence in allocation decisions and SDL compliance is weakened’. Relevantly, recommendations include that there be ‘increased data sharing between Commonwealth and State regulatory authorities (e.g. the Inspector General) in relation to auditing’: Wentworth Group of Concerned Scientists, *Blueprint for the next Murray-Darling Basin Plan* (22 April 2026), 20. Available online at: [Blueprint for the next Murray – Darling Basin Plan](#).

The Inspector General’s role should be strengthened and supported

306. Given the importance of the Inspector General’s role, and the clear need for ongoing and enhanced compliance and enforcement activity in relation to the Plan, EDO is concerned that the Discussion Paper says little about this topic. The only option identified in relation to the Inspector General is the proposed option to ‘streamline’ water resource plans to reduce the scope of the Inspector General’s oversight role. EDO strongly opposes this proposal.
307. We acknowledge the role of the Inspector General is currently undergoing a separate statutory review.²³⁸ However given the substantial intersection between this statutory role and the Plan itself, the Review must consider opportunities to *strengthen* the Inspector General’s powers and role to assist with delivery of the Basin Plan. Amendments to the Water Act could be usefully identified, for further consideration in the Water Act review.

Recommendations

Inspector General of Water Compliance

25. The Inspector-General of Water Compliance plays a critical role as the independent compliance agency in the Basin. The role must be supported, including by identifying opportunities to strengthen powers of the Inspector General that could support and enhance achievement of the Basin Plan’s objectives.
26. The Inspector-General’s powers must not be wound back.

²³⁸ Department of Climate Change, Energy, the Environment and Water, ‘2026 statutory review of the role of the Inspector-General of Water Compliance’ (3 February 2026). Available online at: [2026 statutory review of the role of the Inspector-General of Water Compliance - DCCEEW](#).

The Snowy Scheme is associated with serious environmental harm

Introduction

308. The Murrumbidgee River is part of the Murray-Darling Basin and the third longest river in Australia. It starts in the Snowy Mountains and flows through NSW and the Australian Capital Territory, rejoining the main river below Burrinjuck Dam and eventually flowing west to the riverine plains where it connects with the River Murray near Balranald.²³⁹ The Murrumbidgee River valley is considered to comprise three distinct management areas: the upper, mid, and lower Murrumbidgee. Each have distinctive geomorphic, hydrological, and land-use characteristics.²⁴⁰ This submission focuses on the Upper Murrumbidgee, which is the mountainous part of the catchment extending from the headwaters to Burrinjuck Dam.
309. While the Upper Murrumbidgee is part of the Murrumbidgee River and Murray-Darling Basin, it has a unique management structure in place due to the Snowy Mountain Hydro-Electric Scheme (**Snowy Scheme**). Management of the Snowy Scheme presents significant challenges to the health of the diverted montane rivers, including the Upper Murrumbidgee (north of Burrinjuck Dam).
310. The Discussion Paper acknowledges that the Snowy Hydro scheme has caused environmental harms to the Upper Murrumbidgee River due to reduced flows. Unfortunately, the Review has not adequately addressed the concerning condition of the Upper Murrumbidgee. In particular, it has not identified options for delivering on the core objects of the Water Act in this integral part of the river system. This should be addressed.

The Basin Plan only applies to the Upper Murrumbidgee to the extent the Plan is consistent with the Snowy Scheme's licence

311. The Upper Murrumbidgee falls within the Basin Plan area. However, under s 21(6) of the Water Act, the Basin Plan must not be inconsistent with the provisions of the licence issued for the Snowy Scheme (pursuant to the *Snowy Hydro Corporatisation Act 1997* (NSW)). In effect, this means that the Basin Plan applies to the Upper Murrumbidgee River, except to the extent it is inconsistent with the licence.
312. The licence gives effect to the Snowy Water Inquiry Outcomes Implementation Deed (2002) (**SWIOID**), which governs the Snowy Hydro operations. The SWIOID is a 2002 agreement between NSW, Victoria and the Commonwealth and was intended to manage the environmental impacts of the Snowy Scheme. However, under the SWIOID, the Upper Murrumbidgee has received on average only 7% of its annual natural flows over the period 2008-2022.²⁴¹ As a result, the riverine

²³⁹ Murray Darling Basin Authority, Murrumbidgee Catchment. Available online at: <[²⁴⁰ Jon Olley and Anthony Scott, Sediment supply and transport in the Murrumbidgee and Namoir Rivers since European settlement” Technical Report 9/02. CSIRO Land and Water, 2002.](https://www.mdba.gov.au/basin/catchments/southern-basin-catchments/murrumbidgee-catchment#:~:text=The%20impounded%20water%20is%20redirected,Murray%20and%20Snowy%20river%20systems.>: Murrumbidgee catchment | Murray-Darling Basin Authority</p></div><div data-bbox=)

²⁴¹ Anna McGuire, Jamie Pittock. (2025) Environmental flows in the upper Murrumbidgee River: evaluating flow delivery and governance to inform future environmental flow agreements. *Marine & Freshwater Research* 76, MF24286. <https://doi.org/10.1071/MF24286>

environment has been altered by chronic low flows, sediment build-up, and many other related impacts, and is in a severely depleted and precarious state.²⁴²

The Snowy Scheme diverts water, reduces environmental flows, and constrains environmental release timing

Diversion

313. The Snowy Scheme diverts a significant amount of water from the rivers/waterways of the Upper Murrumbidgee, altering natural flows. Tantangara dam captures and diverts 90-99% of flow from the headwaters of the Murrumbidgee, which has resulted in the Murrumbidgee below Tantangara dam receiving on average 7% of its average annual natural flow.²⁴³

Inadequate environmental flows

314. The current environmental release target is 27 GL/yr. Actual deliveries are lower than this target in the majority of years. This is because, based on the terms of the SWIOWD, the amount of water available for environmental release in the Murrumbidgee depends on several factors. These include water availability in the western catchment storages lower down the river systems.²⁴⁴
315. Based on river condition surveys and quantification of the amount of water diverted by the dam, scientific enquiries have found that the target is insufficient to restore river health.²⁴⁵ The Snowy Scientific Committee recommended a total annual flow of at least 76-89 GL/yr from Tantangara dam is required to mimic natural flows including high Winter and Spring flows to flush sediment and trigger fish spawning.²⁴⁶

Timing of environmental release

316. DCCEEW's 2025 review analysis of the SWIOWD found that the complex regulatory conditions and licence requirements make it difficult to time environmental releases to align with natural conditions.²⁴⁷ In the period December 2019 - January 2020, the Murrumbidgee River ceased to flow at the Tharwa township, and no environmental water was available for release.²⁴⁸

²⁴² Snowy Scientific Committee (2010) The adequacy of environmental flows to the upper Murrumbidgee River. (SSC: Canberra, ACT, Australia); Upper Murrumbidgee Demonstration Reach Project (2022) Upper Murrumbidgee habitat review. Available at: [Upper Murrumbidgee Demonstration Reach Project](#); ACT Government, 2024, ACT 2024 FIVE-YEARLY MATTER 8 REPORT BASIN PLAN 2012, SCHEDULE 8, MATTER REPORT, report prepared by Alluvium Consulting Australia for the EPSDD, Canberra, ACT.

²⁴³ Anna McGuire A and Jamie Pittock. (2025) Environmental flows in the upper Murrumbidgee River: evaluating flow delivery and governance to inform future environmental flow agreements. *Marine & Freshwater Research* 76, MF24286. <https://doi.org/10.1071/MF24286>

²⁴⁴ NSW Government, Annual plan for the Snowy Mountains and montane rivers increased flows 2022-23, (Report, 2022). Available online at: <<https://www.environment.nsw.gov.au/sites/default/files/annual-plan-for-the-snowy-and-montane-rivers-increased-flows-2022-23-220397.pdf>>.

²⁴⁵ Ibid.

²⁴⁶ Snowy Scientific Committee (2010) The adequacy of environmental flows to the upper Murrumbidgee River. (SSC: Canberra, ACT, Australia)

²⁴⁷ Commonwealth Government, Snowy Water Inquiry Outcomes Implementation Deed Review Issues Analysis, (Report, 2025), 13 <<https://www.dcceew.gov.au/sites/default/files/documents/review-issues-analysis-snowy-water-inquiry-outcomes-implementation-deed.pdf>>.

²⁴⁸ [Snowy Water Inquiry Outcomes Implementation Deed Review Issues Analysis](#) 12-13.

The Snowy Scheme is causing significant environmental harm and reduced water security

317. The Upper Murrumbidgee has been degraded by chronic flow reduction, reducing and changing habitat, and changing flora and fauna assemblages. Sediment in-filling and channel contraction have reduced in-stream habitat and habitat diversity. Vegetation on the riverbanks has changed to be adapted to low flow variability, and channel in-filling with fine grained silty, muddy sediments has lead to vegetation colonizing the channel.²⁴⁹ Macro-invertebrate fauna and native fish assemblages have been recorded as in poor to very poor condition in assessments of river health (conducted in 1996, 2008, and 2025).²⁵⁰
318. In the 2025 Sustainable Rivers Audit, native fish recruitment was rated as ‘very poor’, and the other two measures of native fish population health were rated as ‘poor’. For example, the endangered Macquarie Perch has been adversely impacted by the reduced river flows.²⁵¹
319. The Discussion Paper acknowledges that the Snowy Scheme has caused environmental harm and reduced water security. The Discussion Paper notes that most river water goes to power generation and irrigation; that ‘river base-flows have dropped markedly’; and that this has ‘harmed the environment’. This includes a decline in native fish habitat and reduced water quality. It also notes that the risk of not meeting critical human water needs has risen during dry periods.²⁵²
320. In relation to the initial SDL assessments,²⁵³ (conducted for the Review), the Discussion Paper reports that surface water SDLs may not support Basin Plan environmental outcomes in the Murrumbidgee SDL unit.²⁵⁴ The Discussion Paper also identifies the Murrumbidgee as an area where key environmental assets are not recovering, and several environmental outcomes have

²⁴⁹ Snowy Scientific Committee (2010) The adequacy of environmental flows to the upper Murrumbidgee River. (SSC: Canberra, ACT, Australia)

²⁵⁰ Ibid; Davies P, Harris J, Hillman T and Walker K (2008). A report on the ecological health of rivers in the Murray Darling Basin, 2004-2007. Prepared by the Independent Sustainable Rivers Audit Group for the Murray-Darling Basin Ministerial Council. Canberra. June 2008; Murray–Darling Basin Authority. (2025). *Basin Plan Review: 2025 Sustainable Rivers Audit*. Canberra City, ACT: Murray-Darling Basin Authority. <http://nla.gov.au/nla.obj-4157136188>.

²⁵¹ The Macquarie Perch requires shallow, fast flowing water for spawning, which has not been delivered due to inadequate flows and the outlet of the Tantangara dam being inadequate for the flow volume required. Other factors driving the decline of the Macquarie Perch include the reduction in food availability and spawning grounds due to habitat change, increased competition from invasive species, and low flows preventing migration: [Macquarie Perch \(Macquaria australasica\) - ACT Government](#); McGuire A, Pittcock J. (2025) Environmental flows in the upper Murrumbidgee River: evaluating flow delivery and governance to inform future environmental flow agreements. *Marine & Freshwater Research* 76, MF24286. <https://doi.org/10.1071/MF24286>; ACT Government, 2024, ACT 2024 FIVE-YEARLY MATTER 8 REPORT BASIN PLAN 2012, SCHEDULE 8, MATTER REPORT, report prepared by Alluvium Consulting Australia for the EPSDD, Canberra, ACT.

²⁵² Discussion Paper, 84.

²⁵³ Which are discussed elsewhere in this submission, in particular at 116-148.

²⁵⁴ Discussion Paper, 24.

been initially assessed to be at risk,²⁵⁵ with drivers including constraints to flow – noting that ‘flows are significantly reduced downstream of the Tantangara storage’.²⁵⁶

321. The Discussion Paper reports that drivers of these risks and poor outcomes include ‘constraints to flow and fish passage’ noting that in the Upper Murrumbidgee ‘flows are significantly reduced downstream of the Tantangara storage’.
322. In sum, it is clear that the Snowy Hydro project is causing significant environmental harm and reduced water security in the Upper Murrumbidgee.

First Nations co-design

323. All aspects of managing the Murrumbidgee should be co-designed with relevant First Nations, and in accordance with principles of Free, Prior and Informed Consent. It is absolutely clear that this is an issue ‘relevant to Indigenous people in relation to the management of Basin water resources’, and a matter the Water Act requires the Authority to consider and report on.²⁵⁷

The Discussion Paper does not propose options to address the issues in the Upper Murrumbidgee

324. The ‘option’ identified in the Discussion Paper to mitigate these risks is to continue the Murrumbidgee Reconnecting River Country program.²⁵⁸ The EDO supports this program. However, the project only implements measures in the mid and lower sections of the Murrumbidgee River, and has no relevance to the Upper Murrumbidgee. The Discussion Paper does not mention the Restoring the Upper Murrumbidgee River Program. The EDO also supports this program, although it does not contain any measures that address the core problem of critically inadequate flows.²⁵⁹
325. Separately, the Discussion Paper proposes ‘adding a Basin Plan monitoring requirement for the New South Wales – Australian Capital Territory region’ which would ‘improve transparency and accountability for water flows and build evidence to guide future decisions including local environmental watering needs, responding to vulnerabilities and planning for critical human water needs’.²⁶⁰
326. It is unclear whether this second point is intended to be one of the ‘options’ the Authority is currently seeking feedback about.

²⁵⁵ Specifically: Flows and connectivity issues in floodplain and wetlands; native fish populations; and native vegetation: Discussion Paper, 27-28.

²⁵⁶ Discussion Paper, 28.

²⁵⁷ Water Act s 50(4A)(a) and (b). For guidance directly from Murrumbidgee Traditional Owners, EDO draws the Authority’s attention to the *Murrumbidgee Catchment Nations Declaration* (February 2026). Queries about the Declaration can be referred to eo@mldrin.org.au.

²⁵⁸ Discussion Paper, 57

²⁵⁹ Australian Government, *Restoring the Upper Murrumbidgee River Program*, (Web Page, accessed 1 May 2026) <<https://www.dcceew.gov.au/water/policy/programs/water-reform/improving-health-upper-murrumbidgee/program>>.

²⁶⁰ Discussion Paper, 84 (Box 11.2).

327. EDO supports the inclusion in the Basin Plan of a monitoring requirement in respect of the Upper Murrumbidgee. However, monitoring alone is not sufficient to address the immediate and pressing environmental impacts of the Snowy Scheme.

The Review is an opportunity for the Authority to identify options to address environmental harm in the Upper Murrumbidgee

328. As noted above, it is clear from the evidence that the Snowy Scheme means flows are far from environmentally sustainable in the Upper Murrumbidgee catchment; this means the core Water Act and Basin Plan objectives are not being met.

329. This Review is an important opportunity for the Authority to engage meaningfully with this issue. The Authority should consider the consequences of s 21(6) of the Water Act on whether, and to what degree, the objectives of the Water Act and Basin Plan can be achieved, and to what degree the Basin Plan can be used to do this. The Authority should also consider ways the Basin Plan could be amended to meaningfully address the issues – including any necessary associated amendments to the Water Act.

330. The Authority should also closely examine and report on all options available within the current legal framework that could tangibly improve the health of the Upper Murrumbidgee catchment.

Recommendations

27. The Authority must consider, by reference to the best available science, how the Basin Plan could be amended to support improved environmental outcomes in the Upper Murrumbidgee to, for example:

- increase the volume of environmental flows; and
- facilitate improved timing of environmental water releases.

28. The Authority must consider and report on the matters identified in s 50(4A)(a) and (b) specifically in relation to the Upper Murrumbidgee, including considering how the relationship between the Water Act, Basin Plan and Snowy Hydro Scheme influence these matters.

29. First Nations co-design must be embedded in all aspects of managing the Upper Murrumbidgee, in accordance with the principle of Free, Prior and Informed Consent.

*Thank you for the opportunity to make this submission.
Please do not hesitate to contact our office should you have further enquiries.*

Annexure: Correspondence with the Authority about the elicitation process

Office of the Chief Executive

Ref: EC26-000342

Ms Emily Long
Special Counsel
Country & Cultural Heritage
Environmental Defenders Office
Emily.Long@edo.org.au

Dear Emily

RE: Basin Plan Review: Query regarding “elicitation process” panel members to inform community submission process

Thanks for the email shared on Wednesday 22 April, and for participating in the Basin Plan Review submissions process.

The purpose of the elicitation process you refer to in your email (and described in the [technical methods](#) document) was to bring together a range of environmental monitoring information and provide environmental condition ratings for purposes of the initial SDL assessments. The environmental condition for each surface water SDL resource unit is expressed in terms of the environmental themes of *flows and connectivity, ecosystem functions, waterbirds, native fish, native vegetation, and other species*.

The elicitation process allowed the MDBA to draw on best available information regarding the last 15 years of observed on-ground effects of the Basin Plan. This information was brought together with hydrological and eco-hydrological modelling for the purposes of the initial SDL assessments through a science synthesis process adapted from [Norris et al \(2012\)](#).

The MDBA adopted the process of [Hemming et al \(2018\)](#) for the elicitation panel, under which each panel member assessed the available information to provide ratings and these ratings were combined through a statistical process. The combined ratings were further reviewed by Basin jurisdictions.

An important component of the elicitation process was to consider variations in data and analysis coverage (i.e. some environmental themes are more comprehensively monitored than others). Hence each environmental theme rating has an associated *confidence level*.

The elicitation panel consisted of 7 MDBA staff members drawn from across the science, policy and river operations arms of the organisation. These staff members possess an array of relevant academic qualifications including diplomas, Bachelor, Honours and Masters degrees and PhDs in science, environmental sciences and ecology, conservation ecology, botany, biology, and computer sciences. They also possess many years of applied experience

in environmental condition monitoring, the interpretation of information, and understanding of the application of this information for water policy & planning purposes. This experience has been developed through decades working as MDBA employees, State and Federal government employees, academics and fieldworkers, and environmental consultants.

Regarding the application of First Nations knowledge:

- The initial SDL assessments were informed by discussions with the MDBA's Basin Community Committee, the Advisory Committee on Social, Economic and Environmental Sciences, and endorsed by the Authority. Each of these committees has First Nations membership.
- There is a range of contextual information available about matters relevant to First Nations people and their perspective on the condition of the Basin – for example, the [work of the First Nations Leadership Group](#) that contributed to the 2025 SRA.
- The MDBA is committed to FPIC and ICIP, and we do not have permission to use this information specifically for SDL assessments.
- First Nations people are currently contributing through the BPR submissions process, and for this purpose we have been supporting a large scale on-Country engagement approach.

Science is at the core of what we do at the MDBA. Our staff are highly tuned to the water policy, planning and management landscape of the Murray–Darling Basin, and are well equipped to conduct, apply and connect science and knowledge in support of decision making. If you and your colleagues are interested, more information on the MDBA's approach to science and knowledge can be found [here](#) on our website.

Again, thanks for participating in the Basin Plan Review submissions process.

Please reach out if you need any further information ahead of the submissions period closing.

Yours sincerely



Andrew McConville

29 April 2026

From: [Zoe Neumayer](#)
To: [Zoe Neumayer](#)
Subject: FW: Basin Plan Review: Query regarding "elicitation process" panel members to inform community submission process
Date: Friday, May 1, 2026 12:18:21 PM
Attachments: [image001.png](#)

----- Original Message -----

From: Emily Long <emily.long@edo.org.au>;
Received: Wed Apr 22 2026 17:14:00 GMT+1000 (Australian Eastern Standard Time)
To: grace.mang@mdba.gov.au;
Cc: Harriet Ketley <harriet.ketley@edo.org.au>; Nadja Zimmermann <nadja.zimmermann@edo.org.au>; andrew.mcconville@mdba.gov.au; Rhonda.Wolens@mdba.gov.au;
Subject: Basin Plan Review: Query regarding "elicitation process" panel members to inform community submission process

Dear Ms Mang

Basin Plan Review: Query regarding "elicitation process" panel members to inform community submission process

EDO and EDO stakeholders are currently reviewing the Authority's Discussion Paper for the purpose of participating in the Basin Plan Review.

We can see that the Authority has adopted an "Elicitation Process" which involved appointing seven panel members who "were not formal subject matter experts" but had "multi-disciplinary expertise". We understand that this panel played a central role in assessing ecosystem health for the purpose of the Authority's initial SDL assessments.

Unfortunately, the publicly available documentation does not appear to provide any further information about the qualifications or expertise of the panel members. Nor does the documentation appear to indicate whether First Nations knowledge was incorporated into the elicitation process.

In our view it is critical that the community be provided with this information so that community members can meaningfully consider the initial SDL assessments, including what weight should properly be given to those assessments. This information is therefore essential to enable community members to consider and respond to the options posed by the Authority in the Discussion Paper.

We would be grateful if the Authority could please provide the following information at your earliest convenience and **before close of submissions for the Review (1 May)**:

1. **At the time of the elicitation process:**
 1. **what formal qualifications did each panel member hold; and**
 2. **what relevant professional experience did each panel member bring to the process?**
2. **Did the elicitation process incorporate First Nations knowledge? If so, how?**

Kind regards

Emily



Environmental
Defenders Office

**Emily Long — Special Counsel, Country &
Cultural Heritage**

Suite 2-3A, 60 Leicester Street, Carlton, VIC 3053

P: +61 3 7037 7142

E: emily.long@edo.org.au

I use she/her pronouns.

I work 4 days over 5.

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EDO recognises the traditional owners and custodians of the land, seas and rivers of Australia. We pay our respects to Aboriginal and Torres Strait Islander elders past and present, and aspire to learn from traditional knowledge and customs so that, together, we can protect our environment and cultural heritage through law.

Please note that I sometimes send emails outside of business hours. If I do, this is because it is convenient to me. I do not expect you to respond outside of business hours.