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Murray-Darling Basin Authority
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Submission - Murray-Darling Basin Plan Review

Healthy Rivers Dubbo is a grassroots community group providing a strong voice for our rivers, aquifers and wetlands for the benefit of wildlife, plants and people. We welcome the opportunity to make a submission to the review of the Murray-Darling Basin Plan.

Despite the intent of the 2012 Murray-Darling Basin Plan to restore rivers to health, Basin ecosystems continue to decline. Healthy Rivers Dubbo recognises that in principle the Basin Plan is a world leading cross borders water management policy with the potential to lead the world out of water bankruptcy - however its implementation has been overly influenced by politically powerful vested interests, resulting in the Plan being derailed.

The 2026 Basin Plan Review Discussion Paper lacks the ambition necessary to reverse ecosystem decline, nor does it centre the discussion on the performance of the Plan in giving effect to the objects of the Water Act, or the matters that the law requires the review to consider and report on.

This submission will comment on:

- the extent that the Basin Plan has given effect to the objects of the Water Management Act 2007 (Cwlth):
 - Give effect to international agreements
 - Ensure extraction limits reflect an environmentally sustainable level of take
 - Take into account spiritual, cultural, environmental, social and economic matters relevant to Indigenous people
- the management of climate change risks
- the need for data transparency and improved water accounting



Give effect to international agreements

Problem: The Basin Plan is failing to give appropriate effect to international Migratory Bird agreements such as the Ramsar Convention.

Recommendation: Adequate water must be returned to the environment and constraints relaxed to halt and reverse the rapid ecological decline of internationally significant wetlands in the Murray-Darling Basin.

Australia has an obligation under the Ramsar Convention to maintain the ecological character of listed sites and to prevent any deterioration.

Macquarie Marshes

In 2009, a notification of likely change in the site's ecological character was submitted to the Ramsar Secretariat under Article 3.2, following a prolonged drought that caused the site to shift from a semi-permanent to an ephemeral wetland system. The primary cause was identified as changes to the flow regime resulting from river regulation and extraction.

In January 2026, the wetlands and inner floodplains of the Macquarie Marshes were listed as an endangered ecological community under the EPBC Act¹. **There is a very high risk that the Macquarie Marshes will become extinct in the next 20 years.** The primary cause of the ecological decline leading to this listing remains the same as in 2009 - the alteration of the natural flow regime through river regulation and water extraction.

The Coorong

River Murray downstream of the Darling River and its connected aquatic floodplain systems, including the Coorong Lagoon are listed as a critically endangered ecological community as of January 2026. The scientific evidence shows the river's decline is a result of lost hydrological connectivity, long-term over-extraction, river regulation, salinisation, invasive species and the accelerating impacts of climate change. **There is an extremely high risk that the South Australian Murray and Coorong will become extinct in the next ten years.**

¹ Department of Climate Change, Energy, the Environment and Water. (2026). Guide to the Wetlands and inner floodplains of the Macquarie Marshes threatened ecological community.
<https://www.dcceew.gov.au/environment/biodiversity/threatened/publications/guide-wetlands-inner-floodplains-macquarie-marshes-threatened-ec>



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Waterbird populations are in long-term decline in the Murray-Darling Basin². **The Basin Plan has not reduced the impact of river regulation and over extraction on the Coorong or the Macquarie Marshes, resulting in them being listed as critically endangered and endangered under federal law.**

Environmental water must be able to reach minor flood level every five years or so to assist the recovery of wetlands. The project to relax constraints needs to be progressed as a high priority and with implementation as soon as practicable.

Ensure extraction limits reflect an environmentally sustainable level of take

Problem: The Sustainable Diversion Limits do not represent an Environmentally Sustainable Level of Take.

Recommendation: Sustainable Diversion Limit assessments must include updated ecological modelling that incorporates the best available scientific knowledge and climate change projections.

The Water Act 2007 requires that Sustainable Diversion Limits reflect an Environmentally Sustainable Level of Take - defined as the level at which water can be taken from a water resource which, if exceeded, would compromise:

- A. key environmental assets of the water resource;
- B. key ecosystem functions of the water resource;
- C. the productive base of the water resource; or
- D. key environmental outcomes for the water resource.

The ecological modelling that underpins the Sustainable Diversion Limits has not been updated since 2011. In the intervening 15 years, we have experienced the millennium and tinderbox droughts, significant changes in climate patterns, and widespread shortfalls in meeting ecological water requirements.

²<https://www.unsw.edu.au/research/ecosystem/our-research/rivers-and-wetlands/eastern-australian-waterbird-survey>



Since the Basin Plan was enacted in 2012:

- only 26% of all assessed environmental flow requirements have been achieved³;
- the Darling/Baaka River has experienced the biggest fish kill events in recorded history;
- A 2024 peer reviewed study found 74% of Basin Plan success indicators were not met, showing either no improvement or worsening conditions. Five of seven economic targets relating to irrigated agriculture showed improvement, only two of the twenty Indigenous, environmental, social, and compliance targets were met⁴;
- The South Australian Murray and Macquarie Marshes have been listed as critically endangered and endangered under federal law respectively.

The evidence is overwhelming that the existing Sustainable Diversion Limits are in excess of an Environmentally Sustainable Level of Take, rather they are a politically negotiated compromise that leaves the Murray-Darling Basin's ecosystems in a state of ongoing peril.

Spiritual, cultural, environmental, social and economic matters relevant to Indigenous people

Problem: The Basin Plan does not reverse the injustice of Aqua Nullius.

Recommendations:

1. Embed the principles of the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) including Free Prior and Informed Consent throughout the Basin Plan
2. Legislate cultural flows as defined in the Echuca Declaration

Australian water law is built on the fiction of Aqua Nullius⁵. Only 0.2% of water in the Murray-Darling Basin is owned by Aboriginal People. The Basin Plan has done nothing to rectify this injustice, and there is no level of ambition in the discussion

³ <https://wentworthgroup.org/wp-content/uploads/2023/09/MDB-EWR-Report-8-Sept-2023-1.pdf>

⁴ <https://connectsci.au/mf/article/75/18/MF24193/81933/Murky-waters-running-clearer-Monitoring-reporting?guestAccessKey=>

⁵ <https://theconversation.com/terra-nullius-has-been-overturned-now-we-must-reverse-aqua-nullius-and-return-water-rights-to-first-nations-people-180037>



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paper to return water to Traditional Owners as a sovereign right. Cultural flows have been defined in the Echuca Declaration⁶. The Basin Plan discusses how important cultural flows are, and this review is the time to go ahead and create them.

There are no mechanisms in the Basin Plan for ongoing participation in water management for Aboriginal People once states have sought input into Water Resource Plan development. The Basin Plan only requires Basin States to 'have regard to' Indigenous values, Indigenous uses of water resources. **There must be stronger obligations on the government based on Aboriginal Rights under the Native Title Act and the UN declaration of the Rights of Indigenous People (UNDRIP) including the principles of Free Prior and Informed Consent.**

Management of Climate Change Risks

Problem: Climate change projections are not considered in the setting of extraction limits.

Recommendations:

1. The Sustainable Diversion Limits must be adjusted to be adaptable to the impacts of climate change in this review process.
2. Compel NSW through Water Resource Plan accreditation to implement the recommendations of the Connectivity Expert Panel.

The 2012 Basin Plan did not consider the impacts of climate change when setting extraction limits. Legally this Basin Plan review must address the management of risks arising from climate change, yet the discussion paper does not propose any meaningful action be taken in response, inferring any action can wait another ten years.

There is already an extremely high risk that the South Australian Murray will become extinct within ten years. **Failure to act now by adapting extraction limits so they are reduced as the climate dries would be negligent.**

There can be no adaptation for a drying future without the provision of base flows as a fundamental principle of water management. NSW water sharing plans do not provide for base flows, which allow Basin rivers to hydrologically connect. **NSW must be compelled through the Water Resource Plan accreditation process to provide base flows using end of system flow targets.** The NSW Connectivity Expert Panel report recommendations should be implemented as intended in the

⁶ https://culturalflows.com.au/~culturalflowscom/images/documents/Echuca_declaration.pdf



report, rather than the incremental piecemeal direction that the NSW government is taking.

Improved Transparency Required

Problem: There is a lack of reliable, verifiable modelled and actual data used for Basin water management.

Recommendations:

1. All hydrological models operated by the states to be independently audited annually and accredited as described in Section E of the Murray-Darling Agreement.
2. Adopt double-entry water accounting to account for and protect Planned Environmental Water.

State based hydrological models and their inputs cannot be independently scrutinised. In NSW floodplain harvesting diversions are estimated only, and large volumes of rainfall runoff capture are exempt from licencing and accounting all together.

There is an **unacceptable risk that modelling assumptions can be adjusted in ways that influence reported outcomes, rather than providing an accurate account of actual water extraction.**

One proven example of the inaccuracy of NSW's Integrated Quality and Quantity Model (IQQM) is given in a peer reviewed scientific paper⁷. The report compares actual flows in the Wambuul-Macquarie River with results from the government's IQQM system. The report shows that the IQQM model considerably underestimates large flows in the unregulated river, and overestimates flows in the regulated river. **This has led to the government claiming there is a 22% reduction in flow due to regulation, when the observed data shows there is a 43% reduction in flow.**

Planned Environmental Water - or the water outside of the market - wears the greatest risk from climate change impacts. Planned Environmental Water needs to be clearly and consistently defined, protected from extraction and accounted for across the Basin. **Double-entry water accounting would create a level of accountability that is currently missing.**

⁷ Statistically Integrated Flow and Flood Modelling Compared to Hydrologically Integrated Quantity and Quality Model for Annual Flows in the Regulated Macquarie River in Arid Australia, Shiquan Ren & Richard T. Kingsford, 17 November 2011



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Summary of Recommendations

Adequate water must be returned to the environment and constraints relaxed to halt and reverse the rapid ecological decline of internationally significant wetlands in the Murray-Darling Basin.
Sustainable Diversion Limit assessments must include updated ecological modelling that incorporates the best available scientific knowledge and climate change projections.
Embed the principles of the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) including Free Prior and Informed Consent throughout the Basin Plan
Legislate cultural flows as defined in the Echuca Declaration
The Sustainable Diversion Limits must be adjusted to be adaptable to the impacts of climate change in this review process.
Compel NSW through Water Resource Plan accreditation to implement the recommendations of the Connectivity Expert Panel.
All hydrological models operated by the states to be independently audited annually and accredited as described in Section E of the Murray-Darling Agreement.
Adopt double-entry water accounting to account for and protect Planned Environmental Water.

Thankyou for the opportunity to provide comment on the Murray-Darling Basin review.

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