



**Nature Conservation Council**

The voice for nature in NSW

## **Submission on the NRC review of the Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2016**

**10 March 2025**

## About NCC

The Nature Conservation Council of New South Wales (NCC) is the state's peak environment organisation. We represent over 200 environment groups across NSW. Together we are dedicated to protecting and conserving the wildlife, landscapes and natural resources of NSW.

[www.nature.org.au](http://www.nature.org.au)

**For further information about this submission, please contact:**

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## Acknowledgement

The Nature Conservation Council NSW acknowledges that we live and work on the land of First Nations. This land has been cared for since time immemorial by Traditional Owners, whose sovereignty was never ceded. We pay our respects to the Traditional Owners past and present of the many Countries within so-called New South Wales.

We respect the leadership of Traditional Owners in caring for Country and support the development of treaties that meaningfully empower them to do so. We acknowledge the dispossession of First Nations People, and the harm inflicted on people and Country since colonisation began. We acknowledge that colonisation is an unjust and brutal process that continues to impact First Nations people today. As people living and working on First Nations Country it is incumbent on us to play our part in righting the historical and ongoing wrongs of colonisation. Indeed, our vision of a society in which nature and communities thrive together depends upon it.

The Nature Conservation Council of NSW (NCC) respects and supports all First Nations people's right to self-determination as outlined by the UN Declaration of the Rights of Indigenous Peoples (UNDRIP), which extends to recognising the many different First Nations within Australia and the Torres Strait Islands. NCC commits to maintain open lines of communication and to build respectful mutual relationships with First Nations people in all the work we do and wherever possible, seek aligned outcomes with and support the goals of First Nations groups.

We commit, as an organisation, to empower and work together with First Nations people to protect, conserve and restore the land, waters, air, wildlife, climate and culture of the many First Nations people in NSW.

10 March 2025

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Natural Resources Commission

By email: [nrc@nrc.nsw.gov.au](mailto:nrc@nrc.nsw.gov.au)

To whom it may concern

**SUBMISSION: NRC REVIEW OF THE WATER SHARING PLAN FOR THE MACQUARIE AND CUDGEGONG REGULATED RIVERS WATER SOURCE 2016**

Nature Conservation Council NSW (NCC) is pleased to provide comment to the NRC on the Water Sharing Plan for the *Macquarie and Cudgegong Regulated River Water Source 2016 (WSP)*. This area covers the Country of Wiradjuri and Wayilwan Nations.

NCC has been represented on the Macquarie and Cudgegong Environmental Flows Reference Group, now the Macquarie/Wambuul Cudgegong Environmental Water Advisory Group (EWAG) since its establishment. **Environmental water in the Macquarie Wambuul catchment is very well managed.**

The WSP does not apply the principles of ecologically sustainable development, nor does it protect, enhance and restore the water source. **Significant shortcomings include no protection for flows above requirements, and the ineffectiveness of floodplain harvesting management rules to limit extraction.**

## **Review Questions**

To what extent do you think the plan has contributed to environmental outcomes?

The inclusion of a 160,000 ML Macquarie environmental water allowance (EWA) in the WSP is a critically important asset for the environment. The Macquarie EWA is managed in conjunction with the Commonwealth water for the environment as one bucket, maximising the effectiveness of environmental water in the catchment. The translucent Macquarie EWA works well in practice. It was used to good effect at the start of the 2023/24 water year, when a well-timed inflow into Burrendong dam in the first few days of July triggered a peaky flow that primed the system for the managed active environmental release.

The 11,400 ML Cudgegong EWA that has replaced translucency rules in Windemere dam is being used well, and we expect it would already be contributing to environmental outcomes.

Advice is sought from the Environmental Water Advisory Group regarding the management of all environmental water in the catchment, which replaced the long-established Macquarie Cudgegong Environmental Water Advisory Group. The group is a mix of agency staff and community representatives, including the irrigation industry and environment groups. The EWAG works very

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well, drawing information from experts and community members with decades of lived experience with water management in the catchment.

The objective to improve habitat for wildlife including native fish could be matched with a rule that further compels WaterNSW to deliver the three outstanding fish passage projects that are outstanding offsets from the dam safety upgrade in 2009. Cold water pollution is also a significant issue in the Macquarie/Wambuul.

The objective to achieve longitudinal and lateral connectivity within and between water sources is not met through the rules in the WSP, as there is no Connectivity EWA or end of system flow targets to provide base flows. When the Macquarie Marshes are holding water, achieving ecologically significant connection to the Barwon with water for the environment is an objective that is regularly achieved. We have requested a summary from the NSW environmental water team of the number of days that ecologically significant connectivity has been achieved since 2020, report is still pending. Having end of system flow targets in the regulated WSP for base flow, small flush annually and biannual large flush would keep the Marshes in a more naturally wetter state, which would make it even easier to connect to the Barwon and result in huge efficiencies as the Marshes wouldn't need as much water to rewet.

The objective for water quality is not supported by any effective rules in the WSP, nor a water quality EWA.

Active management to protect some types of environmental water in the unregulated system does not extend to all types of environmental water, including translucent EWA.

**Compliance with the long term annual average extraction limit (LTAAEL) is not a method of obtaining environmental outcomes.** The LTAAEL is based on historic take, not defined in terms of the ecological requirements of the water source, connected downstream water sources, nor does it consider climate change projection data.

What changes do you think are needed to the water sharing plan to improve environmental outcomes?

- **LTAAEL be redefined so that it protects ecological requirements of water source and dependent ecosystems and species; the health of hydrologically connected water sources and dependent ecosystems and species; future climate change projections and have a precautionary and adaptable approach.**
- Cudgegong EWA releases are not permitted once Windemere reaches 110,000 ML, which is too high. 70,000 ML or other lower volumes should be considered.
- The Rocky Water Hole constraint limiting environmental releases to 1,500 ML/day needs to be resolved. In reality, WaterNSW won't release more than 800 ML/day because of complaints from the public.
- NCC strongly opposed the clause that allows the socialisation of Cudgegong EWA back to the consumptive pool once it enters Burrendong dam. All EWA should remain EWA all through the Basin.

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- The translucent Macquarie EWA can only be used between 15 March and 30 November. It should be able to be used all year, and the clause that permits the Minister to further constrict those dates should be removed.
- NCC objects to the clause (5) *Releases must not be made, or must cease, if the Minister determines that the release of translucent sub-allowance water will not significantly improve the health of the Macquarie River segment of the water source, its effluent rivers, or the Macquarie Marshes.* This clause unnecessarily exposes environmental flows to the discretion of the water minister.
- EWA should have the highest priority over consumptive water in channel sharing arrangements.
- The volume of all EWAs should incrementally increase as evapotranspiration increases.
- A connectivity EWA is required. Both existing EWA's are limited in their effectiveness due to the lack of end of system targets to provide base flows, small flushes and large flushes as per the Environmental Watering Requirements in the Long-Term Watering Plan. **There is constant pressure for base flows to be provided by Cudgegong and Macquarie EWA and Commonwealth HEW.** This water source should be considered for a full suite of connectivity rules like the Border Rivers, Gwydir and Namoi.
- A water quality EWA is required
- The increase from 33 GL to 45 GL of the volumetric trade limit in Bulgeraga Creek made when the water resource plan was developed should be reversed. This creek system is a major delivery route for environmental water releases to the Macquarie Marshes. The channel capacity and sharing issues have been exacerbated.
- Active management should protect all types of water for the environment including translucent EWA.
- The role of the EWAG should be mandated in the WSP.
- There is a need for long term funding for monitoring and reporting of the environmental condition of the water source.

## To what extent do you think the plan has contributed to social outcomes?

Water can only be provided for basic landholder rights (BLR) when the WSP is operational.

**Burrendong dam dips to critically low levels roughly every 10 years, increasing the likelihood of the WSP being suspended – which, when it happens, is a failure of the system.**

The capping of the drought of record to before 2004 limits the planning horizon to about 2 years, which is dangerous and irresponsible given the increasingly extreme climatic conditions. There is also no drought reserve in Burrendong dam acting as a reserve of critical environmental needs and water for basic landholder rights.

When the WSP was turned off at the start of the 2019/2020 water year, the river was physically cut off at Warren weir, and no stock and domestic deliveries were able to be made downstream until the



BLR replenishment flow rules contain the words 'up to' the volume, which leaves WaterNSW able to determine how much is being delivered.

There has been a regression in the detail of public information available from WaterNSW regarding water releases from the dams. The 'Water Balance' report was able to be accessed on the WaterNSW website, and while it was not in a clear format, it was possible from these reports to determine all types of water releases from Burrendong dam, including evaporation, delivery water and all licence types. Now the 'Water Balance' report is on the WaterInsights page, and there is no download button to obtain the detail. Only very basic information is shown.

What changes do you think are needed to the water sharing plan to improve social outcomes?

- Update the drought of record in the WSP and accelerate the minimum inflows review.
- Establish a drought reserve in Burrendong dam 3-4 years critical environmental and human needs.
- Remove the words 'up to' to describe the replenishment flow requirements for management areas.
- There should be improved data on replenishment flows and all water releases from Burrendong dam. Return of the full detail 'Water Balance' report on the WaterNSW website.

To what extent do you think the plan has contributed to economic outcomes?

The rules in the WSP and the way they are applied maximises economic outcomes at the expense of the principles of the *Water Management Act 2000*, which are to prioritise the ecosystem and its dependent ecosystems.

Planned Environmental Water (PEW)

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The WSP does not protect flows above requirements as Planned Environmental Water (PEW). These flows are allocated to water users and are referred to as 'surplus flows', a term that is not defined in the WSP.

Inflows from tributaries downstream of the dam are used to meet customer orders. There is apparently an account for the 'tributary utilisation rate', however this term is not in the WSP, and the volumes are not made public, despite many attempts by community members to find out.

The Macquarie Wambuil Water Security Project shortlists an option to look at increasing the full supply level of Burrendong dam into the flood mitigation zone. Any increase to the full supply level would cut natural flood events even shorter, risking water birds abandoning their nests and populations becoming extinct. NCC will strongly oppose any increase of the full supply level of Burrendong dam which would regulate the last of the remaining free flows in the regulated catchment.

The lack of protection of water above requirements transfers most of the risks of a heating climate onto the environment, which should have priority protection under the law.

**The only water considered environmental water in the water source is delivery water, evaporation from the dam, EWA and Commonwealth Held Environmental Water (HEW). All other water is available to be allocated to users' accounts. This is inadequate to meet the principles of the *Water Management Act 2000*. There is also increasing commentary from industry that environmental water and irrigation water have the same conditions and priority, because most Commonwealth HEW is general security.**

*Long-term annual average extraction limit (LTAAEL)*

The WSP rules and their application prioritise the maximisation of extraction up to the LTAAEL. It is difficult for the community to understand what the limits to extraction are given the way the LTAAEL is described.

The modelling used to determine the LTAAEL is opaque, and the community lack confidence in its results. One proven example of the inaccuracy of the Integrated Quality and Quantity Model (IQQM) is given in the peer reviewed scientific paper *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*<sup>1</sup>. The report compares actual flows in the Wambuil-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 flows due to regulation, when the observed data shows there is a 43% reduction in flows.

<sup>1</sup> [\*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, April 2011



Actions to address noncompliance with LTAAEL should reduce available water determination (AWD) for general security irrigation accounts, not supplementary and FPH which only occurs when it's wet.

### *Floodplain Harvesting*

Another way that the WSP prioritises economic outcomes over the environment is by having floodplain harvesting management rules that don't place any restrictions on water diversions.

Floodplain harvesting management rules allow diversions when flows reach 3,400 ML/day at Marebone. This is below the level when flows break the banks and floodplain harvesting can occur, a large flush is 4,000 ML at Marebone. The 3,400 ML/day trigger to allow floodplain harvesting overrides the Menindee trigger of 195 GL storage. The management rules cannot restrict floodplain harvesting diversions.

Floodplain harvesting is managed and accounted for in the regulated WSP, however the activities are mostly in the unregulated WSP area. This could be to take advantage of the high LTAAEL in the regulated plan area.

Allowing carryover up to 500% means that in theory up to 244, 555 ML could be diverted in a flood year based on the issuing of 48,911 ML of entitlement.

The rainfall runoff exemption should be limited to the harvestable right of 10% of rainfall capture. Anything over that should be licenced.

The trading of floodplain harvesting entitlements should not be allowed. Entitlements that have been issued for works that have not been used could be traded to bigger users. This would see an overall increase of entitled take.

While not managed by the WSP, other concerns about floodplain harvesting include:

- Metering should have been compulsory before entitlements were issued. The deadline for metering floodplain harvesting in the WSP area was March 2024, and NRAR reports the Macquarie is significantly lagging.
- Levees that were not approved should not have been licenced, especially the 6 works that were flagged as 'hotspot' works, that impede critical flood flow paths<sup>2</sup>. These works are now being assessed by the Natural Resources Access Regulator.
- The extent of floodplain works that were unapproved in 2021 can be determined by comparing the 2018 draft Floodplain Management Plan to the final plan that was gazetted in 2021:
  - 2018 plan shows 106,200 hectares of land enclosed by flood works
  - 2021 plan shows 32,600 hectares of land enclosed by flood works.

<sup>2</sup> Questions in parliament 8 Dec 2021



The difference is the unapproved works were not shown in the final plan. There was a rush of approval applications through WaterNSW just before the floodplain harvesting legislation passed for the final time, so it is not known how many unapproved works remain.

What changes do you think are needed to the water sharing plan to improve economic outcomes?

**Changes to the WSP that claw back economic outcomes are required:**

- PEW should be codified as a stand-alone priority throughout the WSP.
- The definition of PEW should be consistent with the definition in unregulated water sources.
- The tributary utilisation rate should be publicly available.
- LTAAEL should be expressed numerically
- All data, assumptions, inputs used in river models transparent, calibrated with observed data and audited.
- LTAAEL non compliance should be addressed as soon as possible with reductions to general security extractive licenses (excluding environmental general security accounts).
- Floodplain harvesting should be restricted whenever supplementary access is restricted.
- Floodplain harvesting accounting rules allowing high rainfall runoff and carryover should be reassessed with reference to the duty under s9 of the *Water Management Act 2000* to protect, enhance and restore the ecological requirements of the water source and its dependent ecosystems.

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To what extent do you think the Plan has contributed to cultural outcomes?

**The WSP has made no contribution to cultural outcomes to date that are apparent.**

There has been a successful native title claim by the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan people that covers the regulated river from Warren downstream, yet no water licences have been granted under that claim.

The specific purpose Aboriginal Cultural licence allowance of 10 ML per head is very limited in what it can be used for. There has been an application for three specific purpose Aboriginal Cultural licences made recently to provide top ups for the Goan waterhole, a registered Aboriginal Cultural site, so we'll get a chance to see how they deliver for Traditional Owners. Natural flows to the Goan Waterhole and the Trangie Cowal have been completely cut off (except in large floods) when the then Auscott cotton property built a levee across the Cowal completely blocking it in the 1980s. That levee was approved only in recent years.

There is no cultural water allocation, or water for closing the gap issued to Traditional Owners in the WSP area.

The work of the Committee of Aboriginal and Torres Strait Islander Interest (CAWI) for first draft of National Water Agreement update in 2024 saw the values and interests of Aboriginal People woven throughout the document. The work included incorporating principles from UN Declaration of the Rights of Indigenous Peoples (UNDRIP) through the draft document. This included the right to Free, Prior Informed Consent, which would benefit the whole community given the Department can at times struggle to do consultation well.

The second draft of the agreement unfortunately unwound a lot of that work and condensed the interests and values of Aboriginal People into one section of the agreement. This work should not be wasted.

What changes do you think are needed to the water sharing plan to improve cultural outcomes?

- A new WSP should observe the dual naming protocol and include Wambuul when the river is named.
- High security water entitlements should be granted to the native title holders.
- Water for the purpose of closing the gap commitments should be granted to Traditional Owners. This water should not be in place of cultural water, or the specific purpose access licence.
- Cultural water should be issued to Traditional Owners after agreements have been reached with Traditional Owners on the way that water can be identified and managed.

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- Free Prior Informed Consent as described in UNDRIP should be included in WSPs and water policy.
- The work of CAWI to incorporate the interests of Aboriginal and Torres Strait People in the first draft of the National Water Agreement refresh should be considered by the Department to improve policy and consultation.

**Thank you for the opportunity to participate in this consultation.**

Your key contact point for further questions and correspondence is [REDACTED]  
[REDACTED] We welcome further conversation on this matter.

Yours sincerely,

**Jacqui Mumford**  
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**Nature Conservation Council of NSW**

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