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Submission

New South Wales Irrigators' Council
Northern Basin Connectivity

May 2026

Contents

Executive Summary

New South Wales Irrigators' Council (NSWIC) strongly opposes the proposed Northern Basin Connectivity (NBC) changes to Water Sharing Plans (WSPs) in the northern Murray-Darling Basin (Northern Basin). We consider that the documents released and consulted on by the NSW Department of Climate Change, Energy, the Environment and Water (NSW-DCCEEW) do not accurately represent river management and are insufficient to justify such wholesale changes to northern water management in such a quick timeframe.

Our fundamental position is that 320GL water recovery in the Northern Basin is sufficient to satisfy the ecologically sustainable level of take (ESLT) requirements of the *Water Act 2007* (Cth). Recent Sustainable Diversion Limit (SDL) assessments from the Murray–Darling Basin Authority (MDBA) suggest that current diversion limits are providing adequate connectivity, with the only identified issue relating to the "pattern of flow" in the Barwon-Darling.

Connectivity is a whole-of-Basin issue and must be addressed as such. This means the MDBA must independently assess these proposals and other Basin states, particularly Queensland, must also contribute to any connectivity outcomes. As it currently stands, NSW is considering materially reducing its irrigation industry without a concomitant contribution from Queensland, despite Queensland's considerable contribution to downstream Northern Basin flows.

NSWIC is also concerned by the lack of coordination between concurrent State and Commonwealth processes. NSW has continued progressing the NBC program while the MDBA is undertaking its Basin Plan Review, which incorporates consideration of Northern Basin connectivity and SDL settings, and while the Commonwealth Government is actively tendering to purchase more water in the Northern Basin. At the same time, NSW is modelling scenarios for further water recovery with limited acknowledgment of the interaction between these programs. This creates a significant risk of overlapping interventions, inconsistent modelling assumptions, and decision-making that fails to properly assess the cumulative impacts of multiple concurrent reforms on water users and regional communities.

NSWIC considers this approach inconsistent with the principles of adaptive management and good public policy development. Active management requires time for implementation, monitoring, evaluation and reporting before further reforms are pursued. Good public policy development requires clear policy objectives, transparent evidence-based decision-making, proper assessment of cumulative impacts and trade-offs, meaningful stakeholder consultation, and sufficient time for implementation and evaluation before additional reforms are introduced.

Water users across the Basin cannot continue responding to overlapping policy changes introduced at pace and without adequate modelling or assessment of cumulative impacts. This submission highlights the significant changes already made to northern water management before and since implementation of the Basin Plan, and the risks associated with poorly sequenced reforms that may mischaracterise water use and system performance in the Northern Basin.

Under the proposed NBC documents, the financial and operational impacts on water users and irrigation-dependent communities would be considerable. NSWIC cannot support the program

in its current form, particularly in the absence of a clearly defined policy objective, a transparent assessment of cumulative impacts, and clarity regarding how the NSW process aligns with the MDBA's own investigations into Northern Basin connectivity.

It is difficult to see how NSW Cabinet could support this proposal either. The proposal includes modelling that does not appropriately reflect reality, does not include a socio-economic assessment of the impacts to water users and irrigation-dependent communities, and has no transparency on the value of compensation that the NSW Government would face under this proposal, including to its own Government departments through payments arising from reducing held environmental water allocations.

An appropriate way forward at this critical juncture is for NSW-DCCEEW to design and develop a reform program with key stakeholder (including other governments, water users, and impacted communities) to examine objectives and options leading to a business case process.

Summary of key positions

1. NSWIC does not support rules-based changes

The fundamental position of the New NSWIC is that the recovery of 320GL in the Northern Basin is sufficient to satisfy the ELST requirements under the *Water Act 2007* (Cth). NSWIC therefore does not support further water recovery in the Northern Basin beyond the volume already contemplated under the Act.

If governments nonetheless pursue additional environmental water recovery, NSWIC's position is that any recovery must occur on a voluntary and compensated basis. This would require a shift in current policy settings of the NSW Government, which have increasingly prioritised rules-based changes as a mechanism for water recovery in preference to direct entitlement purchase or other voluntary approaches.

NSWIC does not support rules-based changes for environmental water recovery and considers such measures to operate, in substance, as a form of compulsory acquisition. In NSWIC's view, this approach is inconsistent with the principles underpinning the Murray–Darling Basin Intergovernmental Agreement, including the longstanding commitment to voluntary, market-based water recovery.

2. Procedural issues

NSWIC is concerned that future recovery of the additional 450GL in the Northern Basin has not been transparently incorporated into current modelling, nor adequately coordinated between the Commonwealth and NSW Governments. This creates significant uncertainty and risk for water users, irrigation-dependent businesses, and regional communities, particularly where multiple water policy reforms are being progressed concurrently without a clear assessment of their combined impacts.

In NSWIC's view, the absence of coordinated planning and cumulative impact assessment undermines confidence in the policy process and increases the likelihood of unintended social, economic, and operational consequences across Basin communities. Northern Basin water users are already managing the effects of existing recovery measures, evolving compliance

frameworks, floodplain harvesting reforms, constraints management proposals, and changing operational rules. Proceeding with further recovery measures in the absence of integrated modelling and intergovernmental coordination risks compounding these impacts without a transparent evidence base to justify the outcomes sought.

3. Hydrologic modelling

NSWIC is concerned that the hydrologic modelling underpinning the connectivity analysis does not reflect real-world operational conditions in the Northern Basin. In particular, the modelling appears to assume an absence of Held Environmental Water (HEW), even though environmental water is already actively managed and deployed to support connectivity outcomes. Recent SDL assessments in the Northern Basin indicate that existing recovery volumes are sufficient to support connectivity objectives, and evidence from the Commonwealth Environmental Water Holder (CEWH) demonstrates that environmental water is routinely used to maintain and enhance connectivity outcomes across the system.

NSWIC also considers that several assumptions adopted by the Connectivity Expert Panel do not adequately account for the highly variable and ephemeral nature of river systems in northern NSW. Connectivity outcomes in these systems are inherently influenced by climatic variability, flow intermittency, and event-based hydrology, which cannot be assessed through static or overly simplified assumptions. Further, NSWIC is concerned that the Department of Climate Change, Energy, the Environment and Water (NSW-DCCEEW) has not modelled allocation impacts across a representative range of hydrological conditions, including very dry, dry, average, wet and very wet years. Without this analysis, stakeholders are unable to properly assess the operational, economic and community implications of the proposed changes.

4. Economic impacts

NSWIC considers the economic assessment for NBC is materially incomplete and likely to understate the true impacts of the proposed changes. The proposed rules-based changes will result in considerable economic impacts across all licence categories, with modelling already indicating significant reductions to irrigator reliability and productive capacity. These impacts are understated as the methodology adopted relies heavily on data from the southern connected system developed by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), which does not adequately reflect the characteristics of Northern Basin water markets. Northern systems are comparatively thin, less liquid, and more concentrated, meaning that reductions in reliability and availability are likely to produce sharper market distortions and more severe economic consequences than the modelling suggests.

The economic assessment undertaken by NSW-DCCEEW is incomplete and fails to account for several material impacts. In particular, the studies do not appear to consider the effect of rules-based reductions on:

- the value of farm assets, including water entitlements and irrigated land
- consequential increase in financial risk exposure for primary producers and lenders
- broader socio-economic assessment of the upstream and downstream economic effects beyond the farm gate, including the dependence of regional communities, processors, suppliers and service industries on irrigated agriculture

- impacts to WaterNSW revenue, including the increased administrative and operational costs associated with implementing and managing the proposed changes
- potential compensation liabilities arising from reduced access to water, including any compensation implications relating to the CEWH.

The project cannot advance without these impacts being modelled and publicly consulted on.

5. Economic benefits

NSWIC does not accept that the economic benefits attributed to the proposed changes have been robustly established. In particular, NSWIC considers that the reliance on willingness-to-pay studies has produced inflated estimates of public benefit that are not grounded in observable market behaviour or demonstrated economic outcomes. While such methodologies may provide a broad indication of community preferences, they are inherently sensitive to survey design, framing assumptions and hypothetical valuation scenarios, limiting their reliability as a basis for significant policy intervention.

NSWIC further considers that the estimated economic value assigned to the modelled flow outcomes overstates the likely positive impacts of the proposal. The methodology adopted appears to rely on assumptions and valuation approaches that are not sufficiently transparent or empirically tested within the context of Northern Basin river systems and communities. In NSWIC's view, greater scrutiny is required to ensure that claimed environmental and social benefits are evidence-based, proportionate, and assessed against the full economic costs and trade-offs associated with the proposed changes.

6. Environmental benefits

NSWIC considers that the purported environmental benefits associated with the NBC proposals are overstated and insufficiently supported by the available evidence. In particular, NSWIC notes that the methodology used to assess environmental improvements is largely qualitative in nature and characterised by a high degree of uncertainty, limiting confidence in the magnitude and reliability of the projected outcomes. In contrast, SDL analysis undertaken by the MDBA has indicated that the environmental benefits associated with recovering additional water in the Northern Basin are likely to be negligible.

Importantly, existing analysis highlights that the timing, coordination and pattern of flows are more significant determinants of environmental outcomes in the Barwon–Darling system than simply increasing recovered volumes. NSWIC considers that the current connectivity proposals place disproportionate emphasis on additional recovery while failing to adequately consider alternative and complementary measures capable of delivering environmental improvements. These alternative measures include:

- the role of operational and infrastructure changes at Menindee
- the positive contribution of HEW, riparian restoration activities
- targeted water quality management
- pest and invasive species control.

In NSWIC's view, a more balanced and evidence-based approach would prioritise practical river management outcomes over additional uncompensated water recovery.

Recommendations

1. Pause the Northern Basin Connectivity program pending completion of Basin Plan recovery measures

The NSW Government should not proceed with the proposed NBC changes prior to completion of the remaining Basin Plan recovery measures in December 2027. No amendments to Northern Basin Water Sharing Plans should occur until:

- The MDBA has completed an independent assessment of the proposals and their consistency with Basin Plan objectives.
- Cumulative impacts of existing and proposed recovery measures have been assessed across the Northern Basin
- Hydrologic and economic modelling has been updated to reflect realistic operational conditions, including the use of Held Environmental Water (HEW).

2. Undertake a comprehensive reassessment of economic impacts and benefits

NSW-DCCEEW should prepare a revised economic assessment and regulatory impact analysis that:

- Reflects the characteristics of Northern Basin water markets, rather than relying on southern connected system assumptions.
- Quantifies impacts on water entitlement values, irrigated land values, farm infrastructure and regional investment confidence.
- Undertakes a socio-economic assessment of all impacts of the proposal.
- Assesses upstream and downstream economic impacts beyond the farm gate.
- Incorporates impacts on WaterNSW revenue and implementation costs.
- Evaluates potential compensation liabilities, including in relation to environmental water holdings.
- Assesses direct environmental and economic benefits using observable outcomes and empirical evidence, rather than hypothetical willingness-to-pay methodologies.

The revised assessment should be publicly released for consultation prior to any further policy progression.

3. Remodel the hydrological and connectivity analysis

NSW-DCCEEW should revise the hydrological modelling underpinning the NBC proposals to:

- Incorporate existing HEW holdings and historical environmental watering practices.
- Account for recent and proposed policy changes across the Northern Basin, including floodplain harvesting and unregulated water sharing plan reforms.
- Incorporate the implications of future 450GL recovery measures.
- Assess impacts across a full range of hydrological conditions, including very dry, dry, average, wet and very wet years.

- Test alternative operational and flow management scenarios focused on improving the timing and pattern of flows, rather than solely increasing recovery volumes.

4. Alternative proposals for NBC should be explored

Before pursuing further environmental water recovery through rules-based changes, governments should assess alternative measures capable of improving connectivity and environmental outcomes, including:

- operational and infrastructure improvements at Menindee
- targeted environmental watering strategies using existing HEW
- account management approaches that improve environmental outcomes without reducing overall entitlement reliability
- water efficiency and infrastructure projects
- riparian restoration, water quality improvement, and pest and invasive species management initiatives.

Any future program should adopt a whole-of-Basin approach, including meaningful participation and contribution from Queensland.

5. All water recovery should be voluntary and compensated

If the above have all been undertaken and change is still considered necessary and appropriate, including through a revised cost-benefit analysis, water must be purchased on the market.

Voluntary water purchase has long been standard practice for environmental water recovery and NSWIC does not support departing from this. Water recovery through buybacks is voluntary and provide structural adjustment money for willing sellers. Water purchase is also easier and likely cheaper, given the unclear and largely untested compensation framework under the *Water Management Act 2000* (NSW).

NSWIC does not support rules-based changes to water entitlements, allocation or reliability. Rules-based changes to water rights are inconsistent with Section 2 of the Intergovernmental Agreement on Implementing Water Reform in the Murray-Darling Basin Plan.[1]

[1] Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin, June 2013.

Sustainable Diversion Limits and water management changes

Implementation of the SDL was the foundation of the Basin Plan and has delivered considerable amounts of environmental water back into rivers. The Northern Basin ESLT was deemed to be 320GL and that target has been nearly fully delivered, with just 8.95GL remaining to Bridge the Gap. The SDL and other pre-Basin Plan reforms have had the effect of considerably lowering diversions for consumptive use.

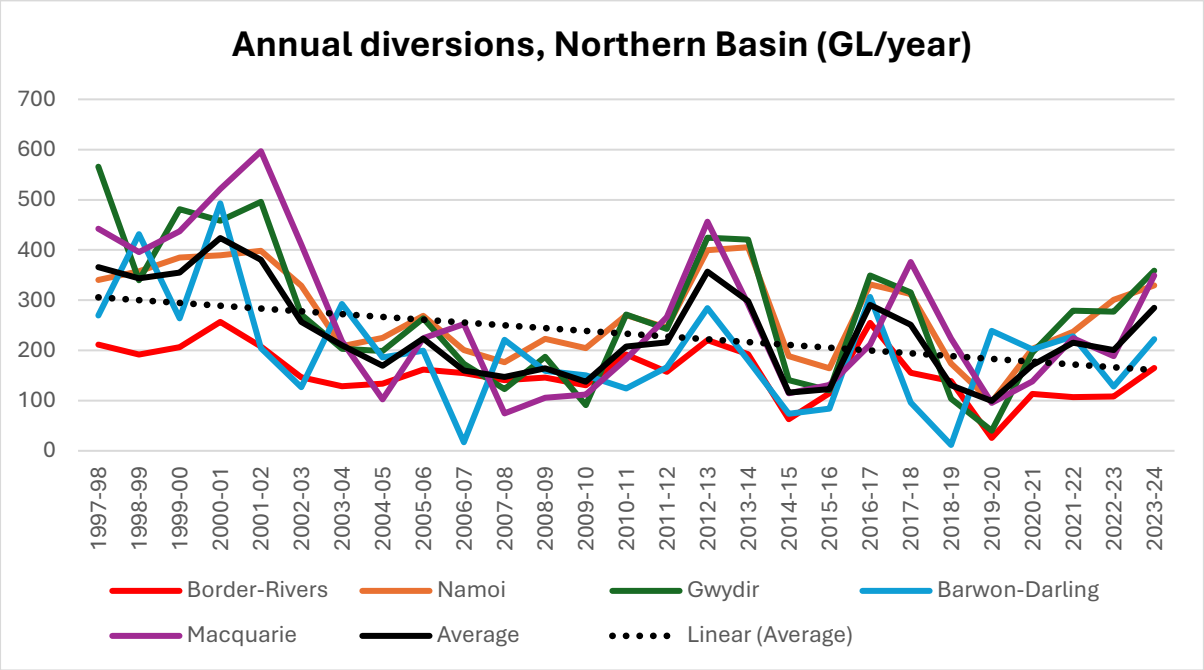

Chart 1. Annual diversions in the Northern Basin from 1997-2024[2]

1. Basin Plan review and SDL Assessments

Recent SDL assessments as part of the Basin Plan review illustrate the limited utility of additional flows. The MDBA considered that the three key upstream tributaries (Gwydir, Namoi and Border Rivers) were "more likely than not" to be meeting the needs for flows and connectivity, with

[2] Data taken from Table 4 of Murray-Darling Basin Cap register to 2023-24.

assessments showing that additional water recovery under line of enquiry (LoE) 2 did not increase connectivity outcomes.[3]

Theme	The *likelihood* that the pattern and volume of flow will support the objectives for each ecological theme							
	Line of enquiry	Very unlikely	Unlikely	About as likely as not	More likely than not	Likely	Very likely	Confidence
Flows and connectivity	LoE 1				●			●●○
	LoE 2					●		●●○
Ecosystem functions	LoE 1			●				●●○
	LoE 2				●			●●○
Waterbirds	LoE 1		●					●●○
	LoE 2		●					●●○
Native fish	LoE 1			●				●○○
	LoE 2					●		●○○
Native vegetation	LoE 1				●			●●○
	LoE 2				●			●●○
Other species	LoE 1							N/A
	LoE 2							

Table 1. Initial likelihood assessment of whether the pattern and volume of flow supports the objectives for ecological themes in Barwon-Darling.[4]

While the MDBA has flagged the Barwon-Darling as potentially not meeting the requirements of an ESLT, it acknowledges that the main risk comes from management of low flows during extended dry periods. It notes that the challenge for the Barwon-Darling is "pattern of flow", rather than "sufficiency of flow".[5] It is also worth noting that even under the LoE 1 the Barwon-Darling score indicates that it is more likely than not that it meets its connectivity requirements under the LoE 1, the same score that has been given the Gwydir, Namoi and Border Rivers. This suggests that the current volume of flows through the Barwon-Darling are sufficient.

2. Extraction limits in Barwon-Darling

Extraction in the Barwon-Darling represents 6% of long-term average annual extractions. The long-term annual extraction limit (LTAAEL) in the Barwon-Darling is 214GL, with water for the environment representing 94% of flows.[6] Given the already low level of extractions, it is difficult to see how additional water recovery would make a material difference to downstream flows,

[3] See Gwydir (SS22), Namoi (SS21) and Border Rivers (SS23).
[4] LoE 1 refers to Line of Enquiry 1 - Basin Plan implementation as of June 2024 and LoE 2.
refers to Line of Enquiry 2 - full Basin Plan implementation. Full Basin Plan implementation assumes full 450 and SDLAM recovery, with 100GL of the 450 from the Northern Basin. LoE 2 assumes constraints are not relaxed and remaining SDLAM offsets are met via direct water recovery.
[5] MDBA | 2026 Murray-Darling Basin Plan review, Discussion Paper.
[6] Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources 2012.

while maintaining a viable agriculture industry in the region and continuing to support regional NSW's economy.

3. Causes of low flows

In its Basin Plan Review, the MDBA flagged the Barwon-Darling and Lower Darling as a concern only with regards to "inadequate base and low flows".[7] However, it is important that upstream extraction is not singled out as the cause of low flows, and that impacts of climate variability and climate change are also acknowledged.

Data shows climate variance since 1900: 1900-1950 was fairly dry, 1951-1990 was relatively wet, and the period since 1990 has been dry again. While unfortunate, it is also necessary to acknowledge that climate change will make the achievement of certain ecosystem objectives and environmental outcomes more challenging, particularly for a long stretch of an ephemeral river running through a naturally hot and dry landscape.

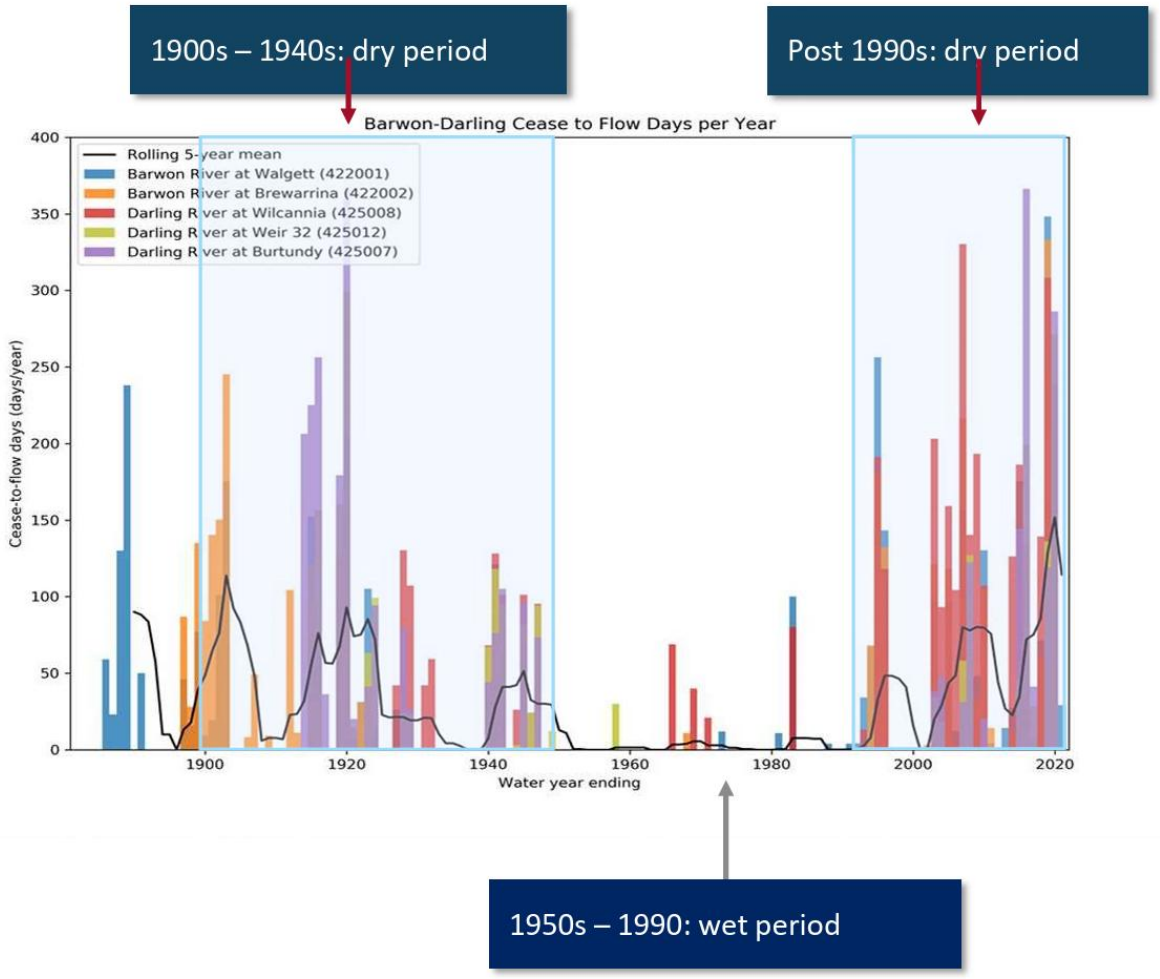

Figure 1. Barwon-Darling cease-to-flow days at Walgett, Brewarrina, Wilcannia, Menindee and Burtundy in the historical record.[8]

[7] Discussion Paper: Murray-Darling Basin Authority.
[8] Cease-to-flow and low-flow events in the Barwon-Darling River, NSW Department of Planning, Industry and the Environment.

The document "Cease-to-flow and low-flow events in the Barwon-Darling River" outlines the trends in climate and how these relate to cease-to-flow events. It notes that the river has stopped flowing naturally flow time to time and that "indications are that the increasing cease-to-flow events are predominately due to changing climate."[9] Upstream extraction contributes to reduced water available downstream. However, it is important to acknowledge the smaller role water diversions play in periods of low flows, as typically there is no extraction allowed during periods of low flows.

The MDBA notes the main factors that impact flows into Menindee Lakes are:[10]

- climate conditions and rainfall
- water management infrastructure such as weirs and dams
- irrigation development, water take and interception in the Northern Basin
- water recovery for the environment
- landscape changes such as land clearing, levee and road construction.

The MDBA notes that "the river has stopped flowing a number of times, even when there was little water infrastructure and extraction in the Northern Basin." This highlights that there should not be a singular focus on limiting extraction, noting the multitude of relevant factors.

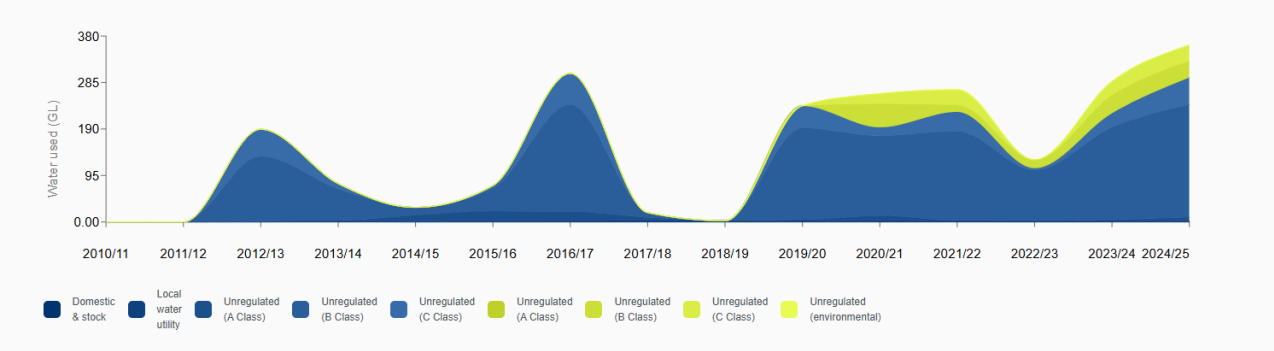

Figure 2. Water use in the Barwon-Darling 2010-2025. Note: includes only licenced water with other categories missing (PEW, domestic and stock, etc.)

There have also been considerable reforms in the Barwon-Darling in recent years. As part of the Claydon Review in 2021, numerous rules changes were made to this stretch of river. These have included a first flush rule, raising A-Class licence pumping levels and adding Individual Daily Extraction Components (IDEC).[11] Those changes will reduce the frequency of short (less than one-month) low-flow events by 11% and the frequency of short (less than one-month) no-flow events by 36% on average across Bourke, Brewarrina and Wilcannia gauges over the long term.[12] It is important to note that these first flush rules have never been properly assessed, as there has been no major drought-breaking flood since they were implemented.

[9] Ibid.
[10] MDBA | Menindee Lakes Review, Technical report.
[11] NSW-DCCEEW | Final update on the implementation of the 19 key recommendations from the Claydon Review.
[12] NSW-DCCEEW | Western Regional Water Strategy.

In February 2026, the NSW-DCCEEW announced its plans to raise the floodplain harvesting (FPH) trigger at Menindee in mid-2026 (although at the time of writing it has not been implemented).[13] It is understood this is in response to the inlet regulator at Lake Pamamaroo requiring structural repairs and, if so, represents another example of water users wearing the risk of successive government's failure to prioritise much needed infrastructure upgrades and instead focus on water recovery.

As shown in Table 2, raising the FPH trigger to 195GL active would have noticeable impacts to diversion in upstream valleys. NSWIC notes that Table 2 shows supplementary impacts, rather than FPH, and although we assume these proposed changes will impact diversions, we have not seen any clear modelled impacts. NSWIC is unsure how the proposed changes to FPH triggers in northern WSP are treated in the modelling.

195 GL trigger based on Pamamaroo, Wetherell and Tandure lakes not including inactive storage	• Border: 6.1% • Gwydir: 3.8% • Namoi: 3.7% • Macquarie: 0.2% • Barwon–Darling: 2.8% • Average: 3.3%. No significant change for general security licences in the NSW Murray.	• Border: 43% • Gwydir: 19% • Namoi: 56% • Macquarie: 10% • Barwon–Darling: 61%.

Table 2. Average and maximum annual impacts on supplementary licences, and B-Class and C-Class licences from the proposed Menindee triggers.[14]

4. Sustainable Diversion Limit and extraction limits in Namoi

Table 3 shows that an additional 100GL of water in the Namoi does not improve outcomes for flows and connectivity (or any of the other ecological measures). Table 3 shows that under LoE 1 (conditions in the Basin as of June 2024), most indicators are "more likely than not" being met, with a reasonable degree of certainty. This data is based on years of research and data, drawing upon SDL assessments and work done for the Sustainable Rivers Audit and 2025 Sustainable Yields report.

[13] NSW DCCEEW | 2026 water sharing plans omnibus amendment order.
[14] NSW DCCEEW | Western Regional Water Strategy, Attachment 3.

Theme	The *likelihood* that the pattern and volume of flow will support the objectives for each ecological theme							
	Line of enquiry	Very unlikely	Unlikely	About as likely as not	More likely than not	Likely	Very likely	Confidence
Flows and connectivity	LoE 1				●			●●○
	LoE 2				●			●●○
Ecosystem functions	LoE 1				●			●●○
	LoE 2				●			●●○
Waterbirds	LoE 1		●					●●○
	LoE 2		●					●●○
Native fish	LoE 1				●			●○○
	LoE 2				●			●○○
Native vegetation	LoE 1				●			●●○
	LoE 2				●			●●○
Other species	LoE 1							N/A
	LoE 2							

Table 3. Initial likelihood assessment of whether the pattern and volume of flow supports the objectives for ecological themes in the Namoi.

The Namoi valley likewise notes "by limiting long-term average extractions to an estimated 238,000 megalitres per year this Plan ensures that approximately 73% of the long-term average annual flow in these water sources (estimated to be 870,000 megalitres per year) will be preserved and will contribute to the maintenance of basic ecosystem health."[15] The 27% of water that is licenced includes irrigation water, HEW and town water supply. Given these low diversion levels, it is unsurprising that additional HEW does little to improve ecological outcomes.

5. Sustainable Diversion Limit and extraction limit in Border-Rivers

Similarly for the Border Rivers, the SDL is seen as more likely than not to be met. Border Rivers also scored particularly well in the MDBA Sustainable Rivers Audit (SRA), with longitudinal connectivity seen as very good (see Table 6). According to MDBA assessments, total long-term average inflows are 2,002GL, with pre-Basin Plan diversions of 408.8GL.[16] Assuming 17.1GL of water recovery under the Basin Plan, total long-term diversions are 391GL per year. This means that only 19.53% of water is diverted for consumptive use (noting some uncertainty with these figures).

[15] Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2016.
[16] MDBA | Water resource assessments for without-development and baseline conditions.

Theme	The *likelihood* that the pattern and volume of flow will support the objectives for each ecological theme							
	Line of enquiry	Very unlikely	Unlikely	About as likely as not	More likely than not	Likely	Very likely	Confidence
Flows and connectivity	LoE 1				●			●●○
	LoE 2				●			●●○
Ecosystem functions	LoE 1				●			●●○
	LoE 2				●			●●○
Waterbirds	LoE 1				●			●●○
	LoE 2				●			●●○
Native fish	LoE 1				●			●●○
	LoE 2				●			●●○
Native vegetation	LoE 1				●			●●○
	LoE 2				●			●●○
Other species	LoE 1				●			●○○
	LoE 2				●			●●○

Table 4. Initial likelihood assessment of whether the pattern and volume of flow supports the objectives for ecological themes in the Border-Rivers.

6. Sustainable Diversion Limit and extraction limit in Gwydir

Similarly, the Gwydir also scores well for all environmental indicators in the SDL assessment. Flows and connectivity are more likely than not to be sufficient, with a fairly high degree of certainty. Planned environmental water (PEW) makes up 66% of the Gwydir Valley, with the WSP noting:

> by limiting long term average annual extractions to an estimated 392,000 megalitres per year this Plan ensures that approximately 66% of the long-term average annual flow in this water source (estimated to be 1,141,000 megalitres per year) will be preserved and will contribute to the maintenance of basic ecosystem health.[17]

There is also 64.32GL of NSW and Commonwealth environmental entitlements additional to these 66% of flows.[18]

[17] Water Sharing Plan for the Gwydir Regulated River Source 2016, Part 3, Section 13(b).
[18] GVIA | Environmental Water and Management.

Theme	Line of enquiry	Very unlikely	Unlikely	About as likely as not	More likely than not	Likely	Very likely	Confidence
		The *likelihood* that the pattern and volume of flow will support the objectives for each ecological theme						
Flows and connectivity	LoE 1				●			●●○
	LoE 2				●			●●○
Ecosystem functions	LoE 1				●			●●○
	LoE 2				●			●●○
Waterbirds	LoE 1			●				●○○
	LoE 2			●				●○○
Native fish	LoE 1				●			●○○
	LoE 2				●			●○○
Native vegetation	LoE 1				●			●●○
	LoE 2				●			●●○
Other species	LoE 1				●			●●○
	LoE 2				●			●●○

Table 5. Initial likelihood assessment of whether the pattern and volume of flow supports the objectives for ecological themes in the Gwydir.

	Longitudinal connectivity	Freshes and bankfull flows	Low floodplain connectivity	High floodplain connectivity	Floodplain tree stand condition	Fish species expectedness	Fish nativeness	Fish recruitment
Northern Basin								
Border Rivers	Very Good	Good	Fair	Good	Good	Good	Fair	Fair
Castlereagh	-	Very Good	Fair	Fair	Fair	Poor	Fair	Very Poor
Condamine	Fair	Good	Poor	Fair	Fair	Fair	Good	Poor
Darling	Good	Good	Poor	Fair	Good	Poor	Fair	Fair
Gwydir	Very Good	Very Good	Poor	Fair	Fair	Fair	Fair	Fair
Macquarie	Very Good	Very Good	Fair	Fair	Good	Poor	Fair	Very Poor
Namoi	Very Good	Good	Fair	Fair	Poor	Fair	Fair	Poor
Paroo	-	-	Fair	Fair	Good	Poor	Poor	Poor
Warrego	Very Good	Very Good	Poor	Fair	Fair	Fair	Fair	Poor

Table 6. Sustainable Rivers Audit scores for Northern Basin.

Connectivity and fish outcomes

While the MDBA has modelled improvements in native fish outcomes, it is worth noting the context for fish health across the Basin and in the Barwon-Darling. For one, numerous other SDL units have low scores on native fish, despite adequate volumes and longitudinal connectivity. This is because many factors beyond low flows can negatively impact fish health.

In the case of the Darling, the biggest issue is the dead zone between Menindee Main Weir and Weir 32. Because most water is released from the less efficient Menindee and Cawndilla Lakes, the stretch of river that runs from the Main Weir to Weir 32 becomes stagnant from a lack of flows. This, alongside a lack of fish passage, has contributed to two fish death events in recent years. This was summarised in a recent MDBA report:

> *"In the lead up to the 2023 mass fish deaths, the preceding few years provided ideal conditions for carp and bony bream populations to boom. The lack of fish passage effectively meant that water management infrastructure at the top of Weir 32 created a barrier to prevent migration upstream. The vast population of fish, and hence high respiration rates, coupled with low dissolved oxygen water being released into the Menindee weir pool to manage the flood recession, and algal blooms, resulted in the deaths of millions of fish."*

On the back of these deaths, NSW committed $25 million in funding to:

- improve monitoring at Menindee
- install a temporary fish ladder
- improve governance and coordination, and
- conduct a business case for improved fish passage.

NSW also released its Northern Basin Fish Strategy, that outlines a number of different options, including improving infrastructure, installation of fish screens, preventing cold water pollution, and managing invasive species. The NSW Diversion Screening Strategy alone states that it could protect 8.8 million native fish and year.[19]

These infrastructure solutions must be prioritised through to completion before further consumptive water reductions are entertained, as the evidence clearly shows add more water in the absence of complementary measures will not resolve key issues.

1. Changes in water management since 2019 fish deaths

Considerable reform has been undertaken since 2019 when a fish death occurred in Menindee. The Vertessy Report was undertaken and released off the back of this event and made 27 recommendations. Of these, three related to increasing water volumes into Menindee (recommendations 1, 6, 15) through protecting fish flushes and limiting upstream extraction (A-

[19] NSW DPIRD | The New South Wales Diversion Screening Strategy.

class licences in the Barwon-Darling).[20] All three of these changes were then made as a result of the Claydon Review in 2021.[21]

Since late 2020, NSW has had procedures in place to account for and protect Northern Basin Active Environmental Water (NBAEW) along the Barwon–Darling and into Menindee Lakes. As the MDBA's Menindee Review technical report notes, recovery of water entitlements in the Northern Basin and their protection as active environmental water has resulted in water remaining in the Barwon–Darling River that would previously have been extracted. The NBAEW contributes an additional inflow to Menindee Lakes that was not available before NSW adopted its active management procedures and the Commonwealth and NSW governments recovered environmental water.[22]

Licencing of FPH began in 2022 and is now in place in all northern valleys (with the Namoi delayed). These reforms have lowered overall diversions, for example in the Gwydir, from 30% of overall diversions down to 23%. That is, FPH diversions now account for 23% of total diverted water for irrigation (with the remaining 77% coming from high security, general security and supplementary).

More recently, there has been a proposal to raise the trigger for FPH from 195GL to 250GL at Menindee. On top of this, there were changes made to three unregulated water sharing plans, with the initial proposals impacting 28GL of licences.[23]

NSW-DCCEEW has not presented any modelling on potential impacts for downstream connectivity or estimations of how much environmental water will be returned to the system due to these changes. Further impacts to consumptive water use cannot be made in the absence of transparent data accounting for the changes already made, and the allocation and reliability impacts to water users and their communities.

We also note that HEW from Queensland has also been excluded from NBC modelling, despite the significant contribution it makes to downstream targets. Between 2021 and 2025, over 481GL of HEW moved across the NSW border. Large volumes of HEW can now be shepherded from Queensland to South Australia, as part of the Northern-Southern Murray-Darling Basin connectivity trial, with important outcomes for downstream connectivity.[24] Again, this water has not been accounted for in any of the modelling. NSWIC is unsure how environmental water in the Barwon-Darling has been treated, noting the flows in Image 1 do make a contribution to environmental water.

[20] Independent assessment of the 2018-19 fish deaths in the lower Darling.
[21] NSW-DCCEEW | Final progress update – January 2026.
[22] MDBA | Menindee Lakes Review: Technical Report.
[23] NSW DCCEEW | Proposed revised access rules for water sharing plans.
[24] Inspector-General of Water Compliance | Northern Basin Toolkit Inquiry Report.

Hydrologic modelling

NSWIC is particularly concerned with the omission of HEW from NSW-DCCEEW modelling on NBC. Without accounting for this water in the modelled assumptions, environmental conditions under "base case" do not represent reality. NSW-DCCEEW itself acknowledges the concerning impact of this omission:

> "it is likely that a full held environmental water representation in the models would indicate improved downstream flow outcomes relative to the base case. This means that the models are likely to overestimate the quantum of intervention required to achieve specific flow targets."[25]

NSWIC understands the rationale for excluding HEW, as the CEWH uses its water in sometimes unpredictable ways (particularly in the NSW and Queensland Border Rivers and Namoi). However, in practice, the CEWH uses a good portion of its portfolio for connectivity, as is shown in Figure 4 and Figure 5 below. Further, improving connectivity is explicitly included in CEWH goals in the Northern Basin. As a result, and to more appropriately reflect reality, NSWIC considers that the hydrological modelling must be strengthened to account for some HEW contributing to connectivity.[26]

Two key events in 2018 and 2019 represent notable examples of HEW events contributing to connectivity. The 2018 Northern Connectivity Event released 23GL, eventually reaching Menindee Lakes. In 2019 the Northern Fish Flow used 36GL of HEW that connected and improved water quality across 1500km of river.[27] These two events do not, but arguably should, appear in the modelling used by NSW-DCCEEW.

This can be clearly illustrated by comparing base case data with real world graphs. As shown below, in Figure 2 there is the base case, which shows that in late 2018 to early 2019 flow never went above 500ML per day Bourke.[28] Figure 3 shows a similar time period, according to actual data at Bourke.[29] In the base case, flows never exceed 500ML, although in reality HEW pushed through two smaller freshes and one larger one in between April and July 2018.[30] While these pulses do not align perfectly with the modelled combination scenario, they coincide with the Tinderbox Drought and clearly illustrate the missing impact of HEW in the connectivity modelling.[31]

[25] NSW-DCCEEW | Analysis of the Connectivity Expert Panel recommendations, Information Paper.
[26] Ibid.
[27] IGWC | Northern Basin Toolkit Inquiry Report.
[28] Ibid.
[29] Australian Government, Department of Agriculture, Water and Environment | Final report on the Northern Connectivity Event (April – July 2018).
[30] Commonwealth-DCCEEW | Final Report on the Northern Connectivity Event (April-July 2018).
[31] The time periods here are a few months apart during the 2017-2019 drought.

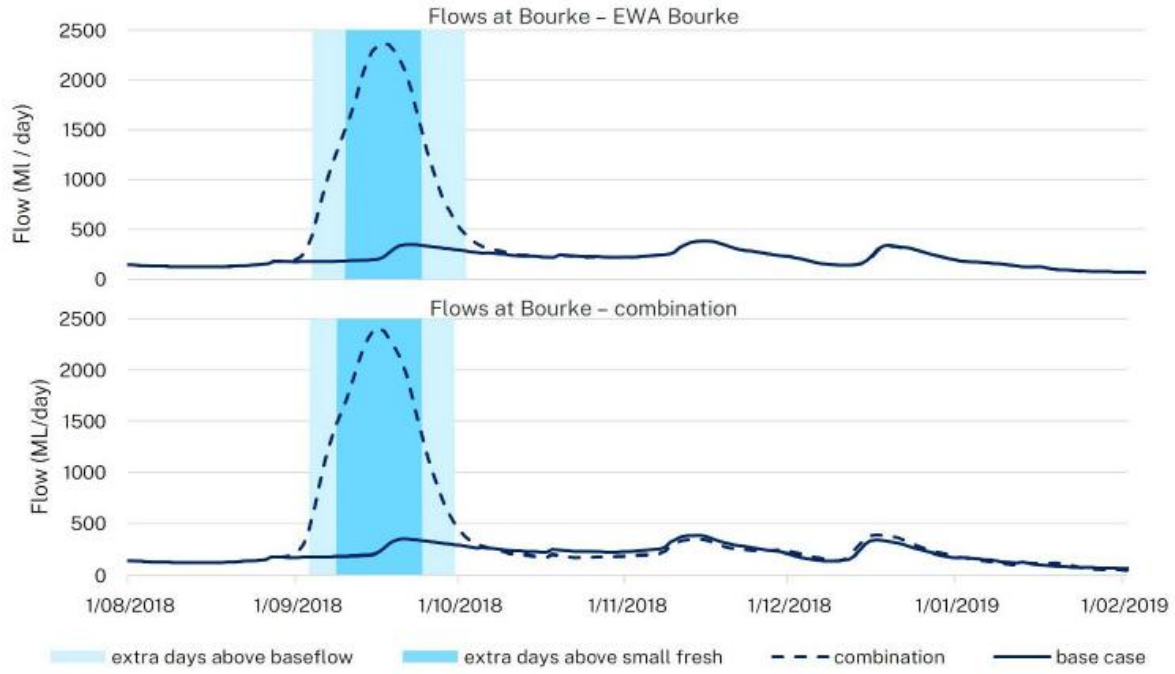

Figure 2. Modelled large fresh due to combination scenario at Bourke.

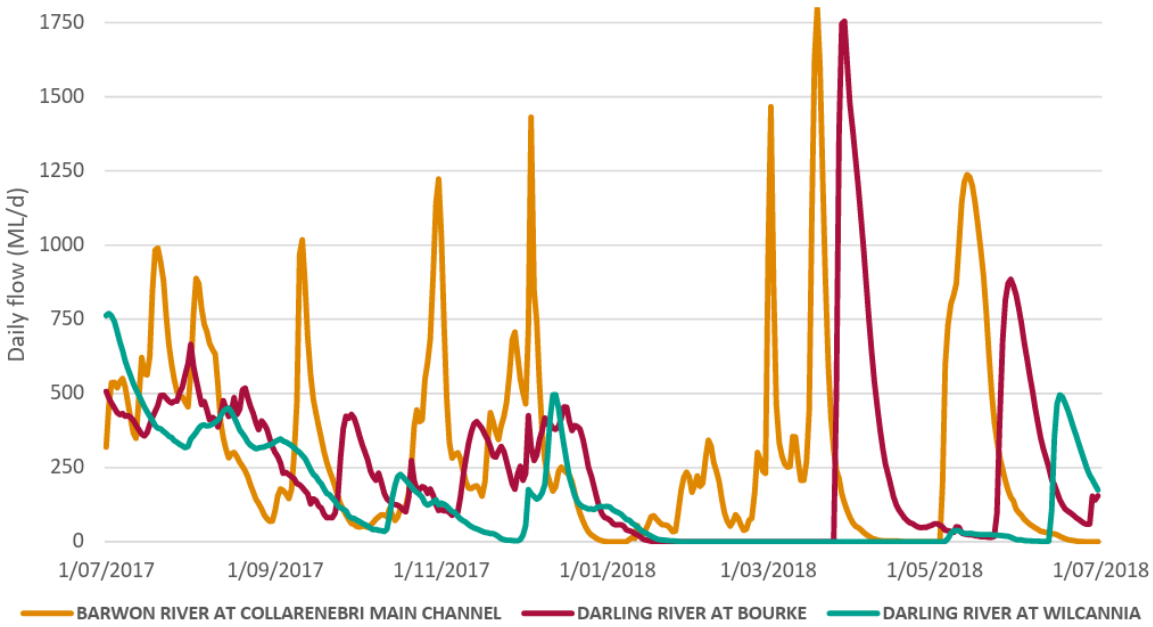

Figure 3. Actual daily flow at Collarenebri, Bourke and Wilcannia from 01/07/2017 until 01/07/2018.

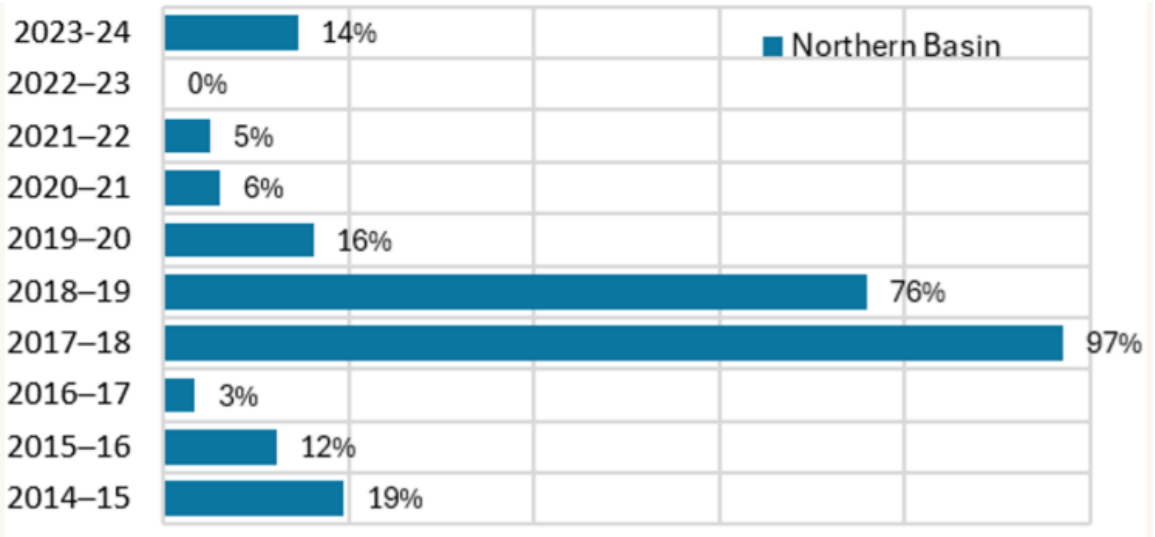

Figure 4. Percentage increases in the annual flow volumes in the Northern Basin (as measured at the Darling River at Bourke). Up to water year 2021-22, Louth was used as the point of evaluation.[32]

The CEWH expressly uses its portfolio for connectivity, as is demonstrated in Figure 4 and Figure 5. Excluding this water from modelling gives a distorted picture of how regularly flow targets are being met. NSWIC does not support advancing on connectivity proposals until a reasonable assumption of HEW is included in the models. Without this, the proposals will overestimate the volume of water needed to reach environmental goals. This risks excessive and unnecessary water recovery, far beyond what is reasonably required by the *Water Management Act 2000* (NSW). Further, the Basin Plan reforms have delivered nearly 320GL in the Northern Basin, yet the current proposals largely ignore this.

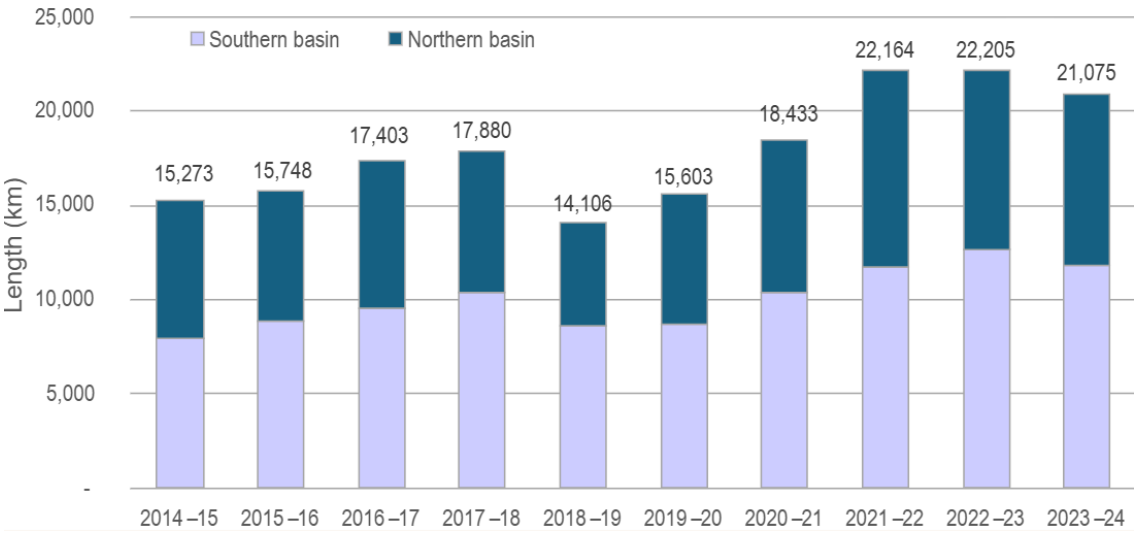

Figure 5. Length of waterway connectivity annually supported by the CEWH.[33]

[32] Commonwealth Environmental Water Holder | River Flows and Connectivity, Evaluation against the strategy, Longitudinal Connectivity.
[33] Ibid.

1. HEW can and should be used to achieve connectivity

One of the clear aims of the CEWH is to maintain connectivity. Therefore, it is reasonable to assume that the CEWH will use a portion of its portfolio for connectivity in any given year. This is expressly why HEW was purchased in the Basin Plan – to set purchase environmental water to improve downstream flows and ecosystem health.

It is not appropriate, nor logical, to exclude this water when designing modelling for a water management plan. To do so brings into question the very justification for the Basin Plan. If HEW was purchased for connectivity and it is used by the CEWH for this exact purpose, then excluding it from these new rules also ignores how the system actually operates. These proposals would effectively recover water a second time (beyond the Basin Plan) in order to achieve the same outcome.

2. Assumptions of the Connectivity Expert Panel misrepresent the variability of river flows in northern NSW

The flow-based connectivity targets proposed by the Expert Panel completely misunderstand the variable nature of flows in northern NSW. The Panel's proposals aim to maintain connectivity at all costs and seem to assume that connectivity can be maintained 100% of the time. There is no acknowledgement that it is not abnormal, now or historically, for the Barwon-Darling to stop flowing for long periods or that the small headwater dams cannot support constant flows.

This is most obvious in the Panel's proposal for "End of system – high security account" translucency approach. The proposals show an average reduction of 54.2% in the Border Rivers. This number doesn't even give the full picture, as it is likely that this proposal would almost completely stop any allocations in drier years. These end of system flow targets proposals show a limited understanding of how northern NSW inland rivers flow.

Despite the apparent preference from the Connectivity Expert Panel to use PEW to achieve these modelled flow targets (baseflow, small fresh, large fresh, etc.), NSWIC does not believe that this is feasible, based on the large, modelled reductions under these scenarios. A combination of small dams, long distances and high evaporation means that obtaining constant connectivity in line with pre-development conditions would do irreparable damage to northern irrigators and their communities.

Under the end of system, high security account (translucency) the Border Rivers would require water recovery more than three times higher than what was required under the Basin Plan (17.1GL was recovered from the entire Border Rivers, including Queensland). It is difficult to reconcile the Panel's recommendation for an additional 50.5GL recovery, on top of existing HEW, with the operational realities and hydrological characteristics of northern Basin systems.

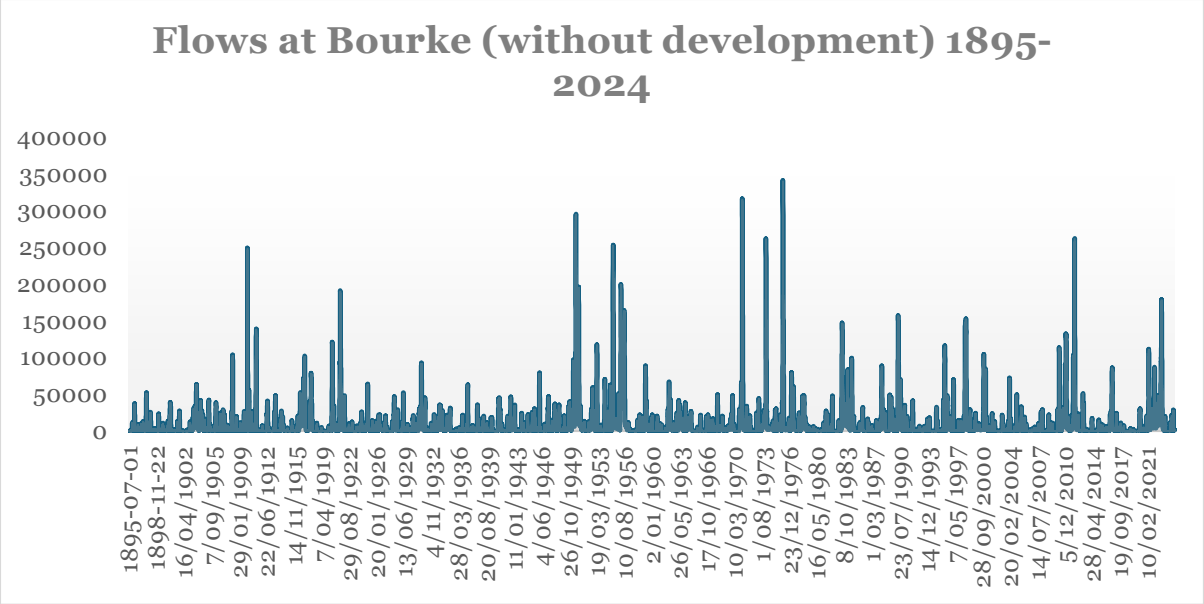

Figure 5. Flows at Bourke (ML) from 1895-2024 Source: SEED Dataset[34]

Even with no extraction (no development), there is huge variability in flows in the Barwon-Darling (and upstream tributaries). The notion that flow targets should be hard-wired into WSP would lock river operators into unrealistic targets that allow no flexibility and would require WaterNSW to pulse scarce water down the river regardless of the circumstances. The economic cost of this approach is clear from the reductions to GS allocations.

Given these unique circumstances, the northern rivers should be managed as systems whose environmental needs are adaptive and flexible. Setting in flow targets will set governments up to fail, as in dry times there is little that can be done to maintain the flow targets proposed by the Panel. NSWIC supports the strategic use of HEW to pulse where required, alongside the PEW (that makes up most of the water in northern rivers).

3. Impacts to allocations must be shown as a range, not an average

NSWIC requests that all modelled impacts to water allocations is also be published as a range, not simply as an average. Given the immense variability in climate in northern NSW, displaying average reductions does not give growers a complete picture of impacts. NSWIC expects NSW-DCCEEW to publish in a timely manner:

1. Reductions to allocations across a range of years (very dry, dry, average/median, wet, very wet).
2. Reductions to allocations at key dates in the year (15 July, 15 September, 15 February, 30 July).

[34] NSW Government | SEED.

Scope creep

The Connectivity Panel Terms of Reference (TOR) sets out that it should examine WSP rules to assess "critical dry conditions triggers and North-West Flow Plan targets" to assess the adequacy of the proposed changes for "the critical needs of the environment, basic landholder rights, domestic and stock access licence holders and local water utility access licence holders in the Barwon-Darling River and the water source".[35]

Crucially, the TOR is tasked with looking at "critical" needs. NSWIC believes that many of the modelled options go far beyond "critical" needs and move towards trying to ensure baseflows at all costs. Many of the proposed scenarios are unrealistic and fail to acknowledge that the Barwon-Darling ran dry pre-development. The "high security account" scenario appears to assume that the priority of the Expert Panel is to maintain a baseflow for as long as possible, not to ensure critical needs are met.

The NBC Program is premised on getting water to Menindee and beyond at important times (resumption flows, reducing cease to flow, supporting fish movement), not about ensuring constant baseflows. Evidence from the MDBA shows that connectivity is not an issue in the upstream tributaries, with the Barwon-Darling only being seen as at risk when it is moving out of extreme drought. It is unclear how this could be improved, noting the low levels of extraction in the Barwon-Darling and the recent changes to WSP rules that already address this issue.

It is incumbent on NSW-DCCEEW to acknowledge that it is impossible to completely "de-risk" a river system. The MDBA's assessments show that in Barwon-Darling, the current rules provide sufficient flows for the vast majority of times, with the only risks arising when moving in or out of extremely dry periods. During extensive dry periods, no amount of HEW or management changes can fully safeguard from all negative impacts. While unfortunate, it is the reality of water management in an ephemeral system that is experiencing a prolonged dry period (since 1990) and long-term climate change impacts.

1. Requests

- NSW-DCCEEW waits until models capable of properly accounting for HEW have been developed to be re-run on these proposals.
- These models should also incorporate any water purchased as part of the 450 tender that is ongoing in the Northern Basin.
- Any work undertaken by NSW-DCCEEW is also analysed by the MDBA.

[35] Connectivity Expert Panel Final Report, July 2024.

Economic impacts

NSWIC believes that the economic impacts have been vastly understated. For one, they have relied on water market modelling that is not suitable for the Northern Basin. The methodology of the economic impacts is based on the *marginal value of water* which assumes that:

- If an individual has a higher marginal value than the market price, we expect them to purchase additional water.
- If a water licence holder has a marginal valuation below the market price, we expect them to sell water.

However, as the paper notes, it "will not be universally true due to geographic constraints or thin markets".[36] The model is based on ABARES' work that has been built for the southern connected Murray-Darling Basin. While water markets and trade are quite active in the southern connected system, the northern market is much thinner and more consolidated in ownership.

Based on internal discussions, the numbers provided do not align with assumptions for value that are used by members. For various reasons, the numbers in the report are likely a significant underestimation of impacts. NSWIC is concerned that these numbers could be used to understate impacts to decision makers and that these incorrect numbers could be used when determining potential compensation. NSWIC asks that these models are re-done with assumptions that are realistic for northern water markets.

1. Impacts to asset values

Reviewing the potential lost revenue from direct cropping income only does not capture the wider implications to asset values and how this flows on to regional economies. As Ricardo noted in a recent assessment of water pricing impacts:

> *"For many farm enterprises, water entitlements represent a substantial proportion of their total asset value and form part of the security against which debt is held. A decline in entitlement value will reduce balance sheet strength and equity. This will constrain their refinancing capacity, limit access to working capital and increase financial stress, particularly for leveraged businesses."*
>
> *"Reduced asset values will also have flow-on regional effects. Lower farm equity and diminished retirement proceeds could translate to less capital circulating within these regional communities. This could affect local spending, service demands and broader business activity. Over time, sustained downward pressure on irrigated asset values may contribute to reduced investment in the impacted valleys, further impacting the community."*[37]

It is important to understand that rules changes do not just reduce the amount of water available but also undermine farm assets and put pressure on bank loans. Irrigators make significant

[36] The Centre for International Economics | Analysis of the Northern Basin Connectivity Expert Panel's recommendations Economic impact on water users.
[37] IPART: 2025-26 review of WaterNSW's prices Impacts of potential WaterNSW price increases on representative irrigation farms in regional NSW.

capital investments (pumps, meters, channels, etc.) on the assumption that the long-term reliability of water is relatively stable. Reducing reliability by ~8-9% could substantially threaten these investments, putting pressure on bank repayments.

2. Impacts to WaterNSW revenue

The proposed changes would also put even more stress on WaterNSW revenue. While not explicitly stated, the modelled changes appear to be converting previously licensed water into PEW, thereby codifying it into WSPs. This would be yet another reduction in revenue for WaterNSW, given that no charges are levied on PEW. Given the financial pressures already on WaterNSW, this is yet another cost that will either be passed onto the taxpayer or WaterNSW.

NSWIC also understands that operationalising these changes would require considerable staffing increases. Fundamentally, these rules would create more complexity in river management and operations and require more staff to oversee it. They may also require more management of on-ground infrastructure like weirs. NSWIC asks that at minimum the budget impacts on WaterNSW are included and that water users are not the end recipient of WaterNSW's further financial burden.

3. Compensation costs must be transparent

Compensation costs of the NBC work must be transparent and also included in the connectivity proposals. Based on our understanding of the risk assignment framework (RAF), compensation will be payable under most of the modelled scenarios. The lack of transparency on this point, and genuine conversations with affected water users on the compensable value, is unacceptable, represents a significant failure in process, and undermines confidence in the integrity of this program. NSW must also consider that these changes may trigger compensation for the CEWH, as the reliability of its existing entitlements will also be negatively impacted.

NSW Treasury and NSW Cabinet will need to fully understand the scale of these potential costs. NSWIC is concerned that these liabilities do not appear to have been comprehensively modelled, despite representing a material consideration in determining whether the NBC proposals are economically justified or capable of progressing. Potential litigation fees should also be considered in these costings.

4. Recommendations

- Economic and socio-economic impacts are remodelled based on more realistic assumptions for water markets in the Northern Basin.
- Negative consequences for the valuation of water licences and connected assets are modelled (including impacts to CEWH).
- Consequences for WaterNSW revenue is modelled, noting the considerable financial pressure on its business model.
- Cost estimates for compensation to licence holders and potential litigation fees included in cost-benefit.

Economic benefits

NSWIC considers that the economic benefits of connectivity changes have been grossly exaggerated, with highly uncertain use of willingness to pay (WTP) and discrete choice experiment (DCE) studies used to assess the added economic value of additional flows. These methods consistently show an overestimation of value, large differences between what people say they will pay and what they do actually pay, and an insensitivity to the scope and scale of the problem.[38] This uncertainty is acknowledged throughout the non-market valuation report.

The report states that "the NSW Treasury cost-benefit analysis guidelines acknowledge that valuation evidence for non-market benefits may not be definitive, and researchers may need to use judgement to reach a transparent and defensible conclusion."[39]

The hypothetical benefits are not rigorous enough to justify such large impacts to water use.

1. Uncertainty surrounding willingness to pay

The non-market values report states that "benefits are defined as any positive effect, material or otherwise, and in some contexts, for which identifiable impacted parties are willing to pay or what they are willing to accept as compensation if forgone."[40] It is unquestionable that people and communities place some value in having healthy waterways and that they are willing to pay to improve waterway condition. However, WTP to pay studies consistently show that there is a vast gap between what people say they are willing to pay and what they will actually pay.

Scenario	40-year PV	Equivalent annual value ($/yr)
Extended resumption of flow	$315,300,000	$17,360,000
End of system – high security accounts	$427,300,000	$23,530,000
End of system - translucency	$355,200,000	$19,560,000
Connectivity EWA – dam inflow trigger	$297,000,000	$16,360,000
Connectivity EWA – Bourke flow trigger	$297,900,000	$16,410,000
Combination (extended RoF, EoS - translucency, EWA – Bourke)	$354,300,000	$19,510,000

Table 7. 40-year and annual values of improvements in waterway condition of the Barwon-Darling River and its tributaries, DCE method, central case.

[38] J Hauson (2012) Contingent Valuation: From Dubious to Hopeless, Journal of Economic Perspectives.
[39] Marsden Jacobs | Non-market value of changes in river Condition Northern Basin Connectivity Program.
[40] Ibid.

2. Overestimation of benefits

The WTP study has grossly inflated the economic benefits of the connectivity work and is not in keeping with previous studies done on Australian riverways. As is consistently noted in the report, there is considerable doubt on the valuation used and whether the claims of participants would translate into actual added value.

The Murray-Darling Basin Plan Regulatory Impact Statement (RIS) instead valued water recovery using direct benefits – that is use values, like improvements to tourism, floodplain agriculture, recreational and commercial fishing, recreational boating and improvements in salinity, water quality, and preventing erosion. The RIS found 2750GL of water recovery added $100 million in benefits per year ($160 million in 2026 dollars).

The figures in Table 7 claim that an additional 85GL of water under the "Combination" approach will add $19,510,000 per year. This equates to $229,529 per GL – compared to $58,181 per GL in the Basin Plan – nearly four times higher. It is evident that these non-market values have inflated the positive impacts of water recovery. A more accurate analysis would include only direct and measurable positive impacts.

3. Hypothetical bias

Hypothetical bias is evident when the results of the non-market analysis are compared to actual payments to fund ecosystem improvements.

For example, the budget for the Water Administration Ministerial Corporation was $80 million in 2024-25, equating to about $17 annually per person.[41] This is a far more accurate picture of what the public will actually pay for environmental programs, and is far lower than the figures found by Marsden Jacobs. It demonstrates that there is a gulf between people's hypothetical priorities and their actual contribution. This must be accounted for in the modelling undertaken by NSW-DCCEEW; there is insufficient evidence in the current approach to justify its use.

4. Scope insensitivity

A further issue with WTP studies is "scope insensitivity". This shows that people often show similar WTP for small versus large quantities of the same good. This is because people ignore or do not properly appreciate the scope (or magnitude) of a good.

For example, the Marsden Jacobs report notes that people would be willing to pay $1.26 for every 100 kilometres of river. This equates to NSW residents each paying $730 per year for five years to cover the 58,000km of riverways in NSW. The study found individuals would pay $4.81-4.82 per kilometre of riverway health, leaving them with a payment of $3367-$3374 for the 700km of the Barwon-Darling. It is not clear from the report whether participants were told of the scale or nature of the environmental outcome sought, and so we do not know if they appreciate the scope of the payments.

[41] This assumes 4.5 million working individuals in NSW.

5. Recommendations

NSW-DCCEEW should remodel the economic improvements based only on direct economic benefits, not highly uncertain willingness to pay surveys.

Environmental benefits

NSWIC notes that the anticipated impacts of these changes are "measurable" with a high degree of uncertainty in the methodology. The study "Analysis of the Connectivity Expert Panel Recommendations. Attachment 3, Assessment of Ecological Outcomes of Flow Changes", conducted "within a relatively constrained time frame", lacks any on-ground assessment and is solely based on perceptions of improvements.[42] NSWIC treats these findings with a high degree of uncertainty, due to the inferred nature of these scores.

Given the proposed scale of changes under the various connectivity scenarios, NSWIC does not see that these studies are robust enough to justify wholesale changes to northern water sharing plans (WSP). These scenarios have proposed water recovery targets of up to 85GL – an additional 26% on top of the original Basin Plan target.[43] Impacts for general security users up to 50.5% under some scenarios are immense and would devastate irrigation and communities in the northern valleys.

Compared to the analysis that was undertaken for the initial Basin Plan and the Basin Plan review, the Analysis of the Connectivity Expert Panel Recommendations is inadequate. Much of what is purported to improve ecological outcome has not been found by the MDBA in its recent assessment of SDL units. NSWIC asks for a stronger ecological study to be conducted before any changes are proposed and for this to be cross-checked by the MDBA.

1. Recommendations

- NSW-DCCEEW to conduct more robust environmental study using real-world data and updated ecological findings.
- MDBA to provide more environmental scores based on its recent Sustainable Rivers Audit and recent SDL assessments.

Explore alternative proposals for connectivity

1. No net negative third party impact proposals

NSWIC's fundamental position is that the current water balance is adequate and provides a suitable balance for the environment and industry. However, NSWIC notes there may be other alternatives for achieving connectivity outcomes in line with the NBC goals. If any changes are

[42] Analysis of the Connectivity Expert Panel Recommendations. Attachment 3, Assessment of Ecological Outcomes of Flow Changes.
[43] Assuming total water recovery of 320GL in the Northern Basin.

pursued, we would propose exploring other options that do not involve third-party impacts or cause immense economic harm on regional communities.

An important caveat is that the following ideas **have not** been discussed in detail with NSWIC and, as such, should not be taken as automatically supported. NSWIC can only consider options on their merits and only if deemed acceptable by our membership. However, as a principle, the Council generally supports programs that can ensure no impacts to licence holders and regional communities.

A possible idea is adopting account management options that allow for no net reduction in overall allocations. This may be possible if a first-flush rule is adopted but is unlikely to be feasible on impacts to general security (GS). We understand that these rules are difficult to execute without having third-party impacts and as such, may be challenging to implement.

A second alternative is to consider other offsets options (including water efficiency programs) to ensure no net reduction in water use in Northern Basin. Given the large economic impacts of these proposals, it may be more cost effective to realise any additional water via infrastructure improvements. For example, the Resilient Rivers Water Infrastructure Program has approved five projects worth 23.4GL of savings for $346.97 million – a price of $12,824 per ML.[44]

The $12,824ML price tag is not considerably different to current prices for permanent purchases of GS water in much of the Northern Basin. NSWIC believes that there would be considerable economic costs associated with each of these modelled scenarios and that. on balance, efficiency offsets may be more cost-effective (noting that these ensure no net impact on agricultural production).

NSWIC does not explicitly support any of the above as any alternative proposal would have to be assessed on its merits by the Council, but it shows that other options exist that ensure no third-party impacts and should be contemplated.

Invest in complementary measures

There is no shortage of interventions that would improve the health of the Barwon-Darling without adding additional water. These are spelled out in great detail in Section 5.2 of the Barwon-Darling Long Term Water Plan Part A.[45] Among the environmental risks are:

- degraded riparian areas
- grazing pressure from stock, feral and native animals
- invasive species like European carp
- instream barriers and structures obstructing fish passage
- water quality issues and turbidity
- climate change impacts.

[44] Australian Government, Department of Climate Change, Energy, the Environment and Water | Off-farm Efficiency Program.
[45] NSW DPIE | Barwon-Darling Long Term Water Plan Part A.

There was also little acknowledgement of infrastructure problems at Menindee by the Expert Panel. It is notable that the two most recent fish deaths occurred while going into a dry period and while coming out of one. It is conceivable that the proposed rules would not have made much difference to the fish deaths had they been in place at the time, given the scale of shifts in the climate during these periods and the physical barriers impeding fish at Menindee. No amount of additional environmental water would have addressed these issues.

Conclusion

NSWIC has significant concerns relating to process, cost-benefit analysis. modelling assumptions, and transparency used for this program. Our view is that the original Connectivity Panel work was unattainable and showed a severe lack of understanding of northern systems. The Panel assumed that baseflows are easy to achieve and would require much smaller water volumes than what was eventually proposed. The Panel's original work was based on the flawed notion that river operators have perfect information and the ability to forecast weather events several weeks into the future. This has led to inappropriate scenarios in NSW-DCCEEW's modelling, unrealistic proposals for connectivity, and large and unjustified modelled impacts to water users.

While DCCEEW's modelling improved on this original body of work, the inability to model HEW properly means that we still do not have a complete picture of what is possible with existing environmental water. As shown, HEW provides vital connectivity outcomes during dry periods and is a stated goal of the CEWH. Given that there is 320GL of environmental water in the Northern Basin missing from the models, NSWIC cannot support proceeding with changes until this is properly understood.

NSWIC also notes the many recent changes to WSP rules in the Northern Basin and that further environmental water in the Northern Basin is currently being tendered for purchase by the Commonwealth Government. These are important changes to water allocation and reliability, as well as the connected communities, which must be considered in any modelling and analysis.

In light of the above assessment of the NBC documents, is undoubtedly critical that NSW-DCCEEW undertake further work, with fully transparency, on this proposal. However, it is fundamental to good governance and process that this work be paused until the Basin Plan has been finalised in December 2027 and we have a clear assessment of the water balance.

For the reasons above, NSWIC does not support this program.

An appropriate way forward at this critical juncture is for NSW-DCCEEW to design and develop a reform program with key stakeholder (including other governments, water users, and impacted communities) to examine objectives and options leading to a business case process.