*An inquiry into the  
implementation of the  
Northern Basin Toolkit  
Draft for Member Feedback*

To the Inspector General Water Compliance

29 November 2024

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# Background

The National Irrigators’ Council (NIC) is the peak industry body for irrigated agriculture in Australia. NIC is the voice of irrigated agriculture and the industries producing food and fibre for domestic consumption and significant international trade. Put simply, our industry is helping to feed and clothe Australia and our trading partners.

Irrigated agriculture in Australia employs world leading practices in water management. Industry has extensively adopted and embraced new technologies and knowledge to ensure we are consistently growing more with less water. Australian farmers also operate under strict regulations and compliance mechanisms. These factors mean we lead the world in both farming practices and produce quality.

NIC’s policy and advocacy are dedicated to growing and sustaining a viable and productive irrigated agriculture sector in Australia. We are committed to the triple bottom line outcomes of water use - for local communities, the environment, and for our economy.

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# Introduction

Thank you for the opportunity to provide input into this current inquiry into the implementation of the Northern Basin Toolkit, (‘the Toolkit’) set out in Schedule 3 of the *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin*, June 2013 (as amended in August 2019)[[1]](#footnote-2) (the Agreement).

As background, the Toolkit is a set of measures intended to target improved water management and environmental outcomes across the northern Basin.[[2]](#footnote-3) The original commitment in the Agreement was to implement all measures by 30 June 2024 which were extended as part of the Restoring our Rivers (RoR) Act 2023 and are now due for completion by 1 December 2026.

The Toolkit was the solution provided through the Northern Basin Review to provide a series of investments over-and-above the Murray Darling Basin Plan assumptions and existing levers of just adding water, to enhance environmental outcomes in the Northern Basin without the need to purchase any more water above the remaining local requirements. It was acknowledged that the socio-economic impacts of further water recovery were not commensurate to the likely environmental benefits to be achieved with just more water. As a result, the Toolkit essentially became an initial foray into strategic Government investment into complementary measures within the Northern Basin.

Once completed, the Toolkit projects, will provide critical data to inform the value and benefit of the complementary measures pursued in the Toolkit. This information should be of note to all future governments about the opportunities that investing in ways to enhance and optimise the environmental water that already exists and the value to the Australian taxpayer that this approach presents compared with just adding water.

Ironically, despite the MDBA saying that community support would be needed to make sure the outcomes [of the toolkit] are achieved[[3]](#footnote-4), of the six measures, only the Gwydir Constraints and the measures to implement targeted environmental works and measures to promote fish movement and habitat in the northern Murray-Darling Basin had significant community involvement and this is primarily due to the direct access and/or impact/opportunity, that these projects had on individual landholders.

All the measures were directly recommended from the Northern Basin Review, were government designed and led with inter-agency working groups and limited non-government oversight. Any failures to implement these on time, within scope and on-budget is therefore, the sole responsibility of the Australian Government and the respective jurisdictions of New South Wales and Queensland and not the communities or industry in these regions. This is particularly important when considering it is the environment, industry and communities at risk if Government’s fail to achieve the outcomes and demonstrate how complementary measures could be incorporated into the Murray Darling Basin Plan.

Our submission focuses on how Government’s communicated and engaged with industry and the likely benefits of the industry involved measures.

We note that this inquiry was made under section 239AB of the Water Act regarding your legislated responsibilities to monitor and provide independent oversight of the performance of functions of the agencies, Basin States and their obligations in relation to the Basin Plan and the management of Basin water resources and any agreements.

Whilst we welcome this oversight for the Northern Toolkit, we also encourage your office, to consider similar inquiries into the other elements of the Murray Darling Basin Plan, where there is high levels of uncertainty and risk for Basin communities of failure to implement Government-led programs, such as:

* **Sustainable Diversion Limit Adjustment Mechanism** progress, where a shortfall of nearly 300 gigalitres is reported.
* **Framework for delivering the additional 450 gigalitres of environmental water**, where all options were provided yet progress on water purchases appears to be prioritized without implementation of promised regional development funding.

# Terms of Reference

The terms of reference for this inquiry are to inquire into and to make findings and recommendations in relation to:

1. the:
   1. extent to which the Northern Basin Toolkit has been implemented
   2. progress that has been achieved in relation to the Measures (including the work done by any corporation and/or other business pursuant to arrangements entered into for the purpose of implementing the Northern Basin Toolkit)
   3. extent to which outcomes sought have been attained
   4. work left to do to implement the Northern Basin Toolkit.
2. the extent to which the Commonwealth, New South Wales and Queensland governments have implemented their respective commitments in Schedule 3 of the Agreement
3. the extent to which the governance arrangements referred to in clauses 9 to 12 of Schedule 3 of the Agreement have been effective, both in relation to design and implementation of those governance arrangements
4. reasons for the non-delivery of all the Measures by June 2024 and the reasons for the request for an extension of time to deliver the Measures until 31 December 2026
5. the amount that has been spent respectively by the Commonwealth, Queensland and New South Wales governments in relation to implementation of the Northern Basin Toolkit and the particular items and associated deliverables on which that money has been spent
6. the effectiveness of the Agreement to deliver the Northern Basin Toolkit.

# Specific Comments

## Transparency and accountability

A general criticism of government-led non-purchase program elements of the Murray Darling Basin Plan, there is limited transparency on the design, implementation and oversight – who approves or rejects projects, and how is progress reported. The Toolkit is no different.

For example, the Northern Basin Review in November 2016 clearly outlined the Toolkit projects in Appendix B, however Schedule 3 of the Agreement was not amended until August 2019 and the first of the ‘projects’ were approved in March 2021, with more agreed in November 2022. There is no detail or reasoning on how or why it took Governments five-years to develop and approve the first of the Toolkit projects. Its noted that policy projects appear to be progressed immediately upon signing in 2019 as they did not require businesses cases.

The program does not have a clear process for reporting, which means that there is also no systematic process for public accountability. Which means, whilst there is work being undertaken is not often visible outside of the agencies or the working groups and not regularly reported. Annual progress reports were found on the MDBA website starting in August 2022 but there is no update for August 2024. The lack of reporting process limits external oversight and interrogation of the reasons why the program was behind schedule and opportunities for feedback.

Of the information available, it is often sporadic and via multiple sources and it’s not easy to determine what is accurate or not. A search for the Northern Basin Toolkit revealed the following webpages, with slightly different status and updates:

* [MDBA](https://www.mdba.gov.au/water-management/northern-basin/northern-basin-toolkit) – provides an overview of projects, responsibilities and engagements.
* [MDBA](https://www.mdba.gov.au/water-management/northern-basin/projects-northern-basin-toolkit) – a separate page that outlines in more detail the 10 projects (despite DCCEEW having 11 apparently funded), considerably outdated with 11 project funded and status does include updated timeframes.
* [MDBA](https://www.mdba.gov.au/publications-and-data/publications/northern-basin-toolkit-progress) – progress reporting page providing two updates, August 2023 and August 2022. Not updated for August 2024.
* [DCCEEW Federal](https://www.dcceew.gov.au/water/policy/mdb/northernbasin/northern-basin-toolkit) – outlines the projects, includes the business cases of the not approved projects but not the approved projects, provides an overview, no status.
* [DPIE Water NSW](https://water.dpie.nsw.gov.au/our-work/water-infrastructure-nsw/northern-basin-projects/northern-basin-toolkit) – outlines the NSW program, doesn’t include links on policy information only works and measures, links to these provide up to date status.
* [Fish Screens Australia](https://fishscreens.org.au/) – overview of fish friendly projects in NSW and QLD with links back to both NSW DPI Fisheries and Southern Queensland Landscapes

Future programs must consider increased transparency this can be achieved though several ways including:

* Public project management plans.
* Quarterly reporting rather than annual.
* A single location for project information and deliverables.
* Stakeholder reference groups or oversight.
* Partnership arrangements that account for co-design and joint implementation.

## Progress

As government-led programs, progress is best answered by the jurisdiction. However, our discussions and review of the publicly available information revealed that the majority of measures are complete or near complete. As raised above this was found on multiple sites and often inconsistent. Progress includes:

* The Australian Government has recently closed another tender round for remaining Bridging the Gap responsibility, this was the third attempt to purchase the remaining gap in some of these areas.
* There are policy steps still to be explored and implemented by NSW in regard to accounting for unregulated flows in the interconnecting streams, however all other policy areas are understood to be completed. These include:
  + Protection of environmental flows.
  + Accounting for water across the QLD:NSW Border.
  + Event based water management options.
* The Gwydir Constraints remains behind schedule and has an uncertain future, pending landholder negotiations with Southern Basin Constraints. The MDBA is also undertaking a Constraints Roadmap due next month, which should also include recommendations on the Gwydir Constraints project.
* The NSW and QLD fish friendly programs are on track for the new deadline having been impacted by administration delays, high river flows and on-site complications.
* Works and measures for the Macquarie enhanced water project are finalized.
* No information on project 11, Pindari Dam Cold Water pollution could be found.

## Challenges

It must be acknowledged that implementation of the Toolkit occurred during a challenging time within the Northern basin and, indeed, the world. The program started with drought initially in the Northern Basin, then Covid-19 and the economic effects, then flooding and high river levels.

These all impacted the ability for governments to engage with community, consult appropriately and the supply and access to sites, where works and measures were being undertaken. It likely increased material costs for works and measure programs such as steel for the fish screens.

For some landholders and water users, they were overwhelmed as they were disproportionately involved as the policy and projects, were directly targeted to them. For example, landholders and water users in the Lower Gwydir and Gingham have had a lengthy constraints engagement and discussion, as well as active management consultation and considerations during the Toolkit operations which often overlapped with other policy programs.

In the Barwon Darling, a range of policy reforms directly targeted those communities and water users has fatigued many. The differentiation of whether this is Toolkit, Basin Plan or other reforms, is not relevant.

In discussion with the fish screening team, high river levels throughout the installation period were problematic which has delayed installations in some locations. As each site is custom designed and built, it much be acknowledged that these types of infrastructure projects will take time and timeframes must allow for proper contingencies for these issues.

Future programs must establish realistic timeframes for implementation including contingencies for drought and floods and allow appropriate time for community engagement and co-design elements.

Future programs must also consider how these complementary measure projects can contribute or be accounted toward Murray Darling Basin Plan outcomes. For example, event-based arrangements in unregulated catchment, where the Commonwealth may lease water from landholders or temporary purchase, does not contribute to the achievement of Sustainable Diversion Limits in those regions. These projects definitely align with the objectives of the Murray Darling Basin Plan but not the current measures, which are volumetric in nature.

## Outcomes

As some projects are yet to be fully completed, the full understanding of outcomes from the Toolkit is not yet known. Whilst some of the policy reforms and projects are challenging in nature, nonetheless the success of the Toolkit in terms of finding solutions to enhance environmental outcomes that otherwise were not possible through Murray Darling Basin Plan implementation should be celebrated.

To highlight these, we have investigated a few key outcomes that may not be well communicated.

### Additional water protected through the Northern Basin

Following the completion of policy changes to protect water through the Northern Basin, from within Queensland across the border into New South Wales and along the Barwon-Darling to Menindee, more water than assumed under the Murray Darling Basin Plan has been delivered to the Barwon-Darling and available at Menindee Lakes since active management was implemented in December 2020[[4]](#footnote-5). Without these protections, environmental water from upstream catchments was at risk of extraction if license conditions had been achieved.

The use of held environmental water for connectivity provisions from upstream catchments into the Barwon-Darling by the CEWO subsequently increased following active management. Table 1 below highlights that the volumes of water protected has increased, this was from zero in 2020 which has resulted in more than 662GL protected, which is 9.5 times more water than the 70 GL reduction to water recovery in the Northern Basin as a result of the Toolkit measures.

A review of NSW Water Insights portal indicated the following volumes protected:

Table 1: Summary of CEWO HEW protected in the Northern Basin since 2021

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Volume Protected Barwon Darling (GL) | NSW Tributaries (GL) | QLD Tributaries (GL) |
| 2021 | 68GL |  |  |
| 2022 | 45GL |  | 245 (GL) |
| 2023 | 16GL |  | 104 (GL) |
| 2024 | 64GL | 31 GL\* | 89GL |

\* this figure was calculated from known events delivered into the Barwon Darling via MDBA presentation and inisghts.

In 2024, a trial of shepherding this additional water received into Menindee Lakes through the Lakes was undertaken with support of Basin States and the Australian Government. The decision to operate a trial, recognises the value of the additional water being delivered to Menindee Lakes that the new policy initiative of active management along upstream catchments delivers, which was made possible through the Toolkit investment.

We note that the NSW Government has prepared a report on the trial[[5]](#footnote-6) and that the Murray Darling Basin Authority is currently reviewing this work. NIC reserves the right for further comment and consideration of this trial, following review of this information.

We encourage the Inspector General to provide the much-needed independent oversight on this trial to ensure that there are no impacts on reliability to water users from the implementation of the trial, to ensure transparency and accountability of the process for all users across the three main states. Of particularly, the NIC is interested in understanding and validating the calculation and assessment of the volume of water available for shepherding and the determination and suitability of loss factors being applied to shepherded water to ensure there are no third-party impacts from this new policy option.

### Native fish protected

The implementation of fish friendly extraction in New South Wales and Queensland is one of the great success stories of the Toolkit. The programs were over-subscribed by landholders which meant the agencies could strategically target sites that were fit for purpose and provides the greatest environmental outcome for the investment. Upon completion of this program it is anticipated that the expected environmental outcomes will be larger than reported to-date and much needed economic data will also be available.

A summary of outcomes indicates from the Australian Fish Screens website indicates:

* NSW invested $20M to provides screens on 28 pumps, from Moree to Wilcannia which is estimated to protect ~791,000 native fish per annum.
* QLD invested $6.6M on 5 Screens with 3 more manufactured, to protect ~231,000 native fish per annum.

Which means that for less than $30M nearly 1 million native fish can be protected from extraction annually, providing more opportunity for native fish to populate our rivers. This presents significant value for money, compared to the equivalent investment in water would result in approximately 2.4GL[[6]](#footnote-7) of NSW Border Rivers (Geneal Security A) entitlement (not LTAAEL or actual water annually) or 3GL[[7]](#footnote-8) of Lower Namoi General Security entitlement (again not LTAAEL or actual water annually) that doesn’t guarantee to protect native fish.

Many lessons learnt on how to design and implement fish screens on larger and existing sites were collected from this investment which will be critical to review and consider for any future programs.

### Novel ways to deliver water to environmental assets

Event based mechanisms have been explored by the Commonwealth Environmental Water Holder to add value to natural flows and supplement existing environmental allocation or deliveries to provide novel ways to achieve better environmental outcomes. In September 2023, these approaches were independently reviewed by Greg Claydon for the CEWO[[8]](#footnote-9) which provided an overview of the program and outcomes.

In summary, it was outlined that event based mechanisms can be:

* temporary purchase of water harvesting allocations;
* purchase and release of water from private storage;
* no pump arrangements; and or
* more sophisticated arrangements like permanent at-call options.

These approaches by the CEWO targeted in Queensland provided new opportunities for water delivery to help rebuild waterbird colonies, resulting in the opportunity to extend breeding in 2023 creating a second opportunity in less than 10-years for waterbird breeding at the site. Natural flows were not available in 2023 to provide the water to extend the breeding event. The type and location of event-based mechanisms applies are summarized in Table 2.

Table 2: Summary of Event Based Mechanisms and outcomes

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Location and type | Volume | Outcome |
| 2020 | Lower Balonne River – no pumping | 9GL | Improved waterbird habitat. |
| 2023 | Narran River – release from storage | 6.5GL | Extended waterbird breeding event |

Event based mechanisms provide a very clear opportunity for enhanced environmental benefits to be realized, particularly in unregulated catchments.

However, one challenge is they can be difficult to negotiate and do not directly contribute to the achieve of Sustainable Diversion Limits. Processes to overcome these challenges should be considered for future governance and program designs.

<insert> CEWO Hansard record to Senate Estimates.

# Key Considerations for future programs

## Governance

It is evident that improved governance arrangements for any future program, similar to the Toolkit, should be established. These arrangements should provide clearer transparency and accountability of project deliverables, community awareness and empower community support.

## Partnerships

As all the programs were government-led and determined for communities, rather than by them. To broaden community support some projects could have been implemented in partnership with non-government organisations which would have increased the local engagement and support. This may have helped to overcome barriers to implementation and provided the opportunity to implement the fish friendly programs as a grant scheme.

## Optimising environmental water

A large focus of water reform over the previous two decades, and particularly the Murray darling Basin Plan has been ‘rebalancing’. The Toolkit provided the first strategic investment by government in other tools, to optimize and enhance environmental outcomes from the water already recovered in the Northern Basin. With significant volumes of water now available throughout the Basin, both adaptively and directly as held environmental water, the next era of water management must seek to instead focus on the optimization of that water within the established water shares. This may take the form of:

* Identifying management strategies for the use of environmental water, to optimize outcomes (such as timing of releases, coordination of releases, and joint-release strategies);
* Complementary measures to sit alongside environmental watering;
* Integrated catchment management through land and water partnerships.

Scientists have highlighted that:

*“While recovering water will provide good outcomes, as a sole intervention, it is not enough to deliver the desired environmental benefits… … recovering water is not enough to deliver all the anticipated environmental benefits. In a highly modified system, equal attention should be given to addressing other threats that water delivery alone cannot ameliorate.”[[9]](#footnote-10)*

These authors identify 10 examples of complementary measures, such as:

* Integrated aquatic pest control (such as carp control);
* Addressing cold water pollution;
* Enhancing fish passage;
* Habitat restoration;
* Re-establishing threatened species;
* Integrating complementary measures into Basin-scale flow delivery strategies

While of value to every river system, this should be a primary focus for developed river systems that have undergone transitions to achieve sustainable diversion limits, such as the Murray-Darling Basin. For example:

*“The Murray-Darling Basin Plan and earlier reforms have reduced diversions to an annual average 28% of inflows, within acceptable impacts in global frameworks for the ecological limits of hydrologic alteration. However, non-water components, known as complementary measures, have received little attention, despite being considered equally important to deliver all anticipated environmental benefits.”[[10]](#footnote-11)*

This has also been emphasized by the MDBA in their ‘Early Insights Paper’ as part of the Basin Plan Review, with a section on “Moving beyond ‘just add water’”. The Paper says:

*“Providing water for the environment has been essential to achieving Basin management outcomes, but ‘just adding water’ is not sufficient. Achieving Basin Plan environmental outcomes depends not only on the quantity of water for the environment, but on other legislation, rules and practices. These inform how:*

* *river operators run the river*
* *environmental water holders manage their portfolio*
* *land managers maintain and improve riparian areas”.[[11]](#footnote-12)*

Part of taking this more holistic and integrated approach is the importance of working together with landholders, water users and communities through collaborative partnerships. For example:

*“A contemporary paradigm of best-practice based on participation and co-benefit outcomes not only offers significant further opportunity for environmental outcomes, but also to work with communities to begin rebuilding trust, ownership and acceptability of water management in the Basin.”[[12]](#footnote-13)*

# Conclusion

Thank you for the opportunity to provide input into your Inquiry into the Northern Basin Toolkit.

The Toolkit was the solution provided through the Northern Basin Review to provide a series of investments over-and-above the Murray Darling Basin Plan assumptions and existing levers of just adding water, that aimed to enhance environmental outcomes in the Northern Basin without the need to purchase any more water above the remaining local requirements. The Northern Basin Review acknowledged that the socio-economic impacts of further water recovery were not commensurate to the likely environmental benefits to be achieved with just more water. As a result, the Toolkit essentially became an initial foray into strategic Government investment into complementary measures within the Northern Basin.

Once completed, the Toolkit projects, will provide critical data to inform the value and benefit of the complementary measures pursued in the Toolkit. This information should be of note to all future governments about the opportunity that investing in ways to enhance and optimise the environmental water that already exists, and the value this will bring the Australian taxpayer compared with just adding more water.

We acknowledge that there were significant governance and engagement gaps with the design and implementation of the Toolkit, and recommend improvements to any future programs.

We welcome similar inquiry by the Inspector General Water Compliance into other areas of implementation of the Murray Darling Basin Plan.

**Ends.**

1. The Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin, June 2013 (as amended in August 2019) is an agreement for the purposes of section 215C(1)(c), see section 215C(3)(b) of the Water Act. [↑](#footnote-ref-2)
2. Explanatory Statement to the *Basin Plan Amendment Instrument (No. 1) 2018* at page 2. [↑](#footnote-ref-3)
3. Page 2, The Northern Basin Review, Murray Darling Basin Authority, 2016 [www.mdba.gov.au/sites/default/files/publications/Northern-basin-review.pdf](http://www.mdba.gov.au/sites/default/files/publications/Northern-basin-review.pdf) [↑](#footnote-ref-4)
4. <https://water.dpie.nsw.gov.au/our-work/projects-and-programs/environmental-water-management-in-nsw/what-we-are-working-on-now/river-connectivity-archive/northern-to-southern-basin-environmental-flow-protection-trial> [↑](#footnote-ref-5)
5. <https://water.dpie.nsw.gov.au/__data/assets/pdf_file/0011/619589/monitoring-flow-and-water-quality-in-the-lower-darling-river.pdf> [↑](#footnote-ref-6)
6. Most recent trade data indicated $12,500/ML of NSW Border Rivers General Security A entitlement. [↑](#footnote-ref-7)
7. Most recent trade date indicated the highest trade of $9,913/ML of Lower Namoi General Security entitlement. [↑](#footnote-ref-8)
8. https://www.dcceew.gov.au/sites/default/files/documents/independent-review-narran-lakes-release-event-based-mechanism-2023.pdf [↑](#footnote-ref-9)
9. Lee J. Baumgartner, P Gell, J D Thiem, C Finlayson, N Ning (2019) “Ten complementary measures to assist with environmental watering programs in the Murray–Darling river system, Australia”: <https://onlinelibrary.wiley.com/doi/abs/10.1002/rra.3438> [↑](#footnote-ref-10)
10. [Take it as a compliment: integrating complementary measures as the next chapter of Murray–Darling Basin water management: Water International: Vol 49 , No 3-4 - Get Access (tandfonline.com)](https://www.tandfonline.com/doi/full/10.1080/02508060.2024.2325790) [↑](#footnote-ref-11)
11. [Early Insights Paper publication – Basin Plan Review | Murray–Darling Basin Authority (mdba.gov.au)](https://www.mdba.gov.au/publications-and-data/publications/early-insights-paper-publication-basin-plan-review) [↑](#footnote-ref-12)
12. [Contemporising best practice water management: lessons from the Murray-Darling Basin on participatory water management in a mosaiced landscape: Australasian Journal of Water Resources: Vol 27 , No 2 - Get Access (tandfonline.com)](https://www.tandfonline.com/doi/full/10.1080/13241583.2022.2097365) [↑](#footnote-ref-13)