Nature Conservation Council
The voice for nature in NSW

Response to MDBA Basin Plan Evaluation 2025 Questions

15th December 2023

1. What hasn't worked well?

Basin Plan Objectives and Outcomes

Operation of the SDL Adjustment Mechanism Objective

"Adjust SDLs in a way that increases environmental outcomes while maintaining or improving social and economic outcomes" – this objective is not aligned with the objectives of the *Water Act 2007*, which specifically prioritises the environment over economic outcomes.

Trading in the Water Market Objectives

"d) recognise and protect the needs of the environment" would be stronger and better aligned with the *Water Act 2007 (*Sch 3 - *"restrictions to water trading are required when:*

- *avoiding environmental impacts*
- *protecting water quality*
- *facing delivery constraints*
- *geographical features are being impacted*
- *major indigenous, cultural heritage or spiritual significance would be impacted")*

if it read closer to "*d) restrict trade when necessary to prioritise avoiding environmental and cultural impacts".*

Trading in the Water Market Outcomes

Two of the outcomes listed for water markets contradict the outcomes listed for environmental outcomes and long-term sustainable diversion limit.

"*a) facilitates water reaching its most productive use"* - leaves 'most productive' open to interpretation (for example, highest monetary value), therefore missing the opportunity to address issues such as food security.

"*b) enhances the productivity and growth of water-dependent industries"* - the growth of water-dependent industries means an ongoing increase in water use, which is in contradiction to the environmental and long-term SDL outcomes. Even when efficiency projects seek to reduce water use, experience has shown that this often leads the perverse outcome of increased water use. For example, when the Trangie-Nevertire irrigation scheme channel was lined, seepage was limited and water was saved, some of which was then transferred to the environmental water holder. However, the lining of the channel means that irrigators on the scheme can call on water far more frequently than before, leading to an increase in water use. Reference: The paradox of irrigation efficiency

Water Quality and Salinity Objectives and Outcomes (Northern Basin Perspective)

In the Darling/Baaka River and tributaries, degraded water quality has been an ongoing issue. It is not apparent that there are any policy levers that can be used to manage degrading water quality in the Northern Basin.

Communities like Walgett, Wilcannia and Menindee suffer continuously, whether in drought or flood, with undrinkable water. The Dharriwah Elders in Walgett have had to fund their own non-salty drinking water fountain for public use, which was opened this week (commencing 11 Dec 2023). Previously, donations of bottled water were trucked in from Sydney for communities in Wilcannia and Menindee during the 2019 drought.

Unparallelled fish kills in the Lower Darling/Baaka clearly illustrate that the water is of such low quality that it cannot support fish. The knock-on effects on water quality of tens of millions of decomposing fish is tremendous. The water being released into the Menindee Lakes system in order to manage ongoing declining conditions is being debited from the Commonwealth Environmental Water Holder's account, whereas it should be coming from a water quality account.

A policy to enforce the protection of water quality may have compelled the previous NSW government to assess the cumulative environmental impacts of floodplain harvesting on downstream ecosystems before issuing licences.

Policies and water accounts that manage water quality and give effect to the objectives and outcomes of the Basin Plan are required.

Water Resource Plans

Water resource plans need to be uniform. Requirements for water resource plans must be more prescriptive so that states can't just present a list of their own instruments, as has previously been the case.

Recommendation: That a template for water resource plans be developed, and that all state water resource plans be remade in time for the commencement of the next Basin Plan in 2026.

While states can update water resource plans as state-based rules and instruments change, without a firm maximum lifespan in effect, water resource plans can be, and have been, accredited indefinitely. An example of an unacceptable outcome of this lack of a mandated review date is that states can indefinitely rely on materials provided during consultations that may be sub-par.

Water resource plans must be independently reviewed at regular intervals, (a) against the objectives of the Basin Plan and the Water Act and (b) each state's performance against their own commitments in those water resource plans. Traditional Owner input must be a required inclusion in these mandated reviews.

Recommendation: Water resource plans must be regularly and independently reviewed to assess their performance against the objectives of the Water Act and Basin Plan, as well as the state's own commitments. Statutory expiry periods or maximum set review periods must be set in the Basin Plan or Water Act.

Connectivity

The Basin must be managed as a connected whole. Water resource plans must be required to interact with adjacent plan areas. This connectivity includes plan areas that are side by side, as well as overlapping groundwater and surface water plan areas, including in NSW where plans appear to have been developed in isolation.

The Water Act states only that:

"s 63 (2) If the water resource plan area is adjacent to a water resource plan area located in another Basin State, the proposed water resource plan must be prepared in consultation with that other Basin State."

'In consultation' is not descriptive of an adequate process to develop adjacent water resource plans with rules that prioritise and protect connectivity. Within state borders, there is no requirement for adjoining water resource plans to have adequate connectivity described in the rules.

Rules such as end of system flow targets based on the environmental watering requirements of the downstream catchment should be developed, included in water resource plans, and activated or enshrined through state legal instruments. However, that power currently lies with the states and they are not required to include end of system flow targets in WRPs. The next iteration of the Basin Plan must mandate that the states include rules that prioritise connectivity (like end of system flow targets), to address the impacts of climate change.

Recommendation: Adjoining water resource plans must include rules (such as end of system flow targets) that prioritise and protect connectivity between valleys, and between surface water and groundwater systems.

Planned Environmental Water (PEW)

PEW in the C'th Water Act and the Basin Plan has a different definition to those in state legal instruments. For example, PEW is not defined in Victoria, and is inconsistently defined in NSW. Within NSW, the definition of PEW is different in most regulated water sources to how it is defined in unregulated water sources, making it difficult to quantify and therefore protect.

The poor performance of NSW under the previous Coalition government in relation to submitting water resource plans has been widely reported, and has drawn strong commentary from the Inspector General of Water Compliance. One of the sticking points in the prolonged process of submission and rejection of NSW water resource plans has been the way PEW is defined. Many of the rejected Water Resource Plans contained definitions of PEW in the included water sharing plans that were not consistent with the definition in the *NSW Water Management Act 2000*.

Recommendation: That the water resource plan template requires PEW to be clearly and uniformly defined by each state to ensure the Minister can be confident that the rules allow for no net reduction in PEW.

Complexity and Lack of Transparency

The complexity and ambiguity of many policies, terms and concepts used in water management not only evokes mistrust in stakeholders, but it is also a barrier to community members raising their concerns about river management.

Constraints

Publicly owned environmental water must be able to be released at sufficient flow rates and durations to provide critical regular small over-bank flows. These flows allow wetlands and low-lying floodplains to connect to the river. These small regular over-bank flows keep the level of organic matter on floodplains at a healthy level, and kick start the food web and breeding cycles of native fish and other aquatic wildlife. Long running resistance to the use of environmental water on natural floodplains and wetlands has paralysed governments. It is vital that progress on constraints relaxation in NSW and Victoria occur in lockstep, so that both sides of the Murray receive the benefit of increased environmental flows.

SDLAM Supply Projects

Sustainable Diversion Limit Adjustment Mechanism projects (SDLAM) seek to artificially pool water in a handful of redgum wetlands. The significant majority of wetlands along the Murray would not receive replenishment from environmental water and would be lost as a result. The concept behind SDLAM projects is that an environmental equivalence test can be applied, and an offset determined so that 605 GL of water can remain in irrigation accounts.
The South Australian Royal Commission report found that there were 'real doubts' that these projects were based on the best available scientific knowledge. Peer reviewed research published by the CSIRO confirms this finding.

For more than a decade, 605 GL has continued to be used by irrigators while the environment has not received the environmental offsets due. As the CEO of the MDBA Andrew McConville said, "The credit has been banked, but the payment still needs to be delivered."

First Nations Consultation

A peak First Nations group has commenced legal proceedings over the alleged lack of consultation on the Fractured Rock Water Resource Plan.

Up until recently, the only reference to First Nations in the Water Act was that the Minister should 'have regard' to First Nations Values.

First Nations advocated for the principles of United Nations Declaration of the Rights of Indigenous People (UNDRIP) to be included in the objectives of the Water Act, which didn't occur. However, the principles of the Euchuca Declaration were included, and the Water Act will be reviewed against the principles of UNDRIP. We now wait for the changes made through the Restoring Our Rivers bill to be inserted into the objectives and outcomes of the Basin Plan, and wait to see how these objectives are operationalised.

2. What has worked well?

The Water Act, Basin Plan and the MDBA themselves are critically important.

The establishment and operation of the Commonwealth Environmental Water Holder has been effective in the delivering the water recovered so far by the Plan.

Environmental Water Advisory Groups consisting of community members and agency representatives are a very good way to plan for the delivery of environmental water. The Macquarie Environmental Water Advisory Group is an excellent example illustrating the value of cumulative local knowledge.

State and Commonwealth-owned environmental water being used as one 'bucket' has worked well in the Macquarie catchment. Greater environmental outcomes are possible when the two portfolios are managed together, and processes streamlined.

MDBA Peak Body meetings are useful for stakeholders to share their concerns and areas of priority. The timetable of four meetings per year is appropriate timing.

3. Did anything unexpected happen?

While the licencing of floodplain harvesting in NSW was not unexpected, the volumes that were licenced and the generous carry over rules and rainfall run exemptions were highly unexpected. The rules that manage FPH allow for up to five times the licence entitlement to be taken in a given year. The rainfall run off exemptions allow for the capture of rainfall runoff that is unmetered and unlicenced. To allow this large volume of new extraction to be licenced, the Base Line Diversion Limit and the Sustainable Diversion Limit in the five catchments were increased outside of the parliamentary process.

Evidence points to a 142% growth in floodplain harvesting diversions in the Northern Murray-Darling Basin since 1994/95, when growth in take was supposed to be capped[1]. These findings are in line with the experiences of people living and working on the Darling-Baaka and its tributary rivers.

[1] Floodplain water harvesting in the Northern New South Wales Murray-Darling Basin February 2021 – Slattery & Johnson

However, the NSW government were able to issue brand new floodplain harvesting licences for:

- 115.606 GL in the Gwydir
- 51.665 GL in the Border Rivers
- 52.537 GL in the Wambuul-Macquarie
- 51.320 GL in the Barwon-Darling
- Volumes in the Namoi are still pending

With most of these valleys able to carry over up to 500% of entitlements, it is possible that over 1,800 GL of water could potentially be diverted in one year.

Despite the strong evidence to the contrary, DPE maintains, with the MDBA's support, that the licenced volumes above are the volumes that were being diverted in 1994/95. The pathway taken by DPE and the MDBA to increase the Base Line Diversion Limit and the Sustainable Diversion Limit to accommodate this level of floodplain harvesting diversion is remarkably complex, and key pieces of information are not available to the public for verification.

The official cap models that were accredited by the MDBA were not used to licence floodplain harvesting, rather DPE presented 'cap scenario' models that do not seem to have any official relationship to the official cap.

These 'cap scenario models' were used to increase the Base Line Diversion Limits of the relevant catchments, with the MDBA arguing in a Parliamentary hearing that:

"*…the BDLs (see schedule 3 of the Basin Plan) are descriptions, not fixed volumes, and s10.49 of the Basin Plan requires WRPs to be based on the best available information*."[2] A NSW modeler claimed that the baseline diversion limit, and subsequently the sustainable diversion, can be changed "*…at anytime and as often as we like"* according to emails obtained under standing order 52[3].

Among the findings of the NSW Parliamentary Inquiry into Floodplain Harvesting:

- The modelling used by the NSW Government to determine floodplain harvesting volumes lacks transparency and accountability, does not provide for validation against actual flows, and does not have the public's confidence.
- The process the NSW Government is undertaking to amend the Sustainable Diversion Limit as described by the NSW Department of Planning, Industry and Environment has the potential to be unlawful.
- The NSW Government has failed to meet its obligations under the Murray-Darling Basin Agreement by allowing the unchecked growth of unregulated floodplain harvesting extraction to volumes well in excess of the 1994 Murray-Darling Basin Cap.

Recommendation: The descriptions of the Sustainable Diversion Limit in Basin Plan Two must be strong enough to ensure that SDLs are based on an environmentally sustainable level of take and can't easily be redefined "anytime and as often as we like".

[2] MDBA. (2021). Rural and regional affairs and transport, Answers to Questions on Notice: Question No. 149, 26 March 2021. Canberra: Australian Parliament House. Rural and Regional Affairs and Transport – Parliament of Australia (aph.gov.au)

[3] Brown. (2021). Email: Draft notes – today's BDL/LTDLE meeting. Sydney: NSW Parliament. Obtained under Standing Order 52, Order for Papers – Water Modelling, 5 May 2021.Document DPIE.WM.3028

4. What/where/how could we do better?

Climate Change

Basin Plan One must address over allocation before Basin Plan Two can address the very critical issue of climate change impacts on rivers.

Researchers from the Australian National University and the University of NSW found "poor water management and excessive extraction are the primary causes of declining flow and the poor state of Australia's Darling River".

'The Guide to the Proposed Basin Plan 2010' found that at a minimum, annual extractions would have to be reduced by 3,000-4,000 GL to attain ecosystem health. The bare minimum volume of 3,200 GL is still a long way off being achieved, less than one year out from the deadline (pre-RoR Bill).

Only once this volume has been achieved as actual water entitlements (not dubious unproven offsets), can the serious and urgent consideration of the impacts of climate change on the river system be incorporated in the Sustainable Diversion Limits for Basin Plan Two.

The impacts of climate change are already being felt. If serious steps to reduce extraction aren't taken, the risk of catastrophic ecological collapse is concerningly close. The sooner meaningful structural adjustments to water management and extraction are introduced, the less severe the consequences of climate change will be felt by industry.

Modelling (NSW Perspective)

There is a lack of transparency, and therefore trust, around the models that states use to calculate diversions limits and water determinations.

An example of the consequences when modelling is not updated with observed data is explored in the scientific paper '*Statistically Integrated Flow and Flood Modelling Compared to Hydrologically Integrated Quantity and Quality Model for Annual Flows in the Regulated Macquarie River in Arid Australia' - Shiquan Ren, Richard T. Kingsford, April 2011.* This report compares actual flows in the Wambuul-Macquarie River with results from the government's Integrated Quality and Quantity model (IQQM) system.

The report shows that the IQQM model considerably underestimates large flows in the unregulated river, and overestimates flows in the regulated river.

This has led to the government claiming there is a 22% reduction in flows due to regulation, when the observed data shows there is a 43% reduction in flows.

The long term annual average extraction limit is calculated using the model data, which in turn is used to establish the 'Plan Limit' - the volume of water that can be extracted in that water sharing plan area.

Recommendations:

- PEW in NSW should be consistently defined and adequately protected;
- Extraction limits in surface water sharing plans must be updated to ensure they are informed by climate change modelling;
- There must be drought reserve 'floors' in public dams, and available water determinations must not be made on predicted inflows, only on water that is physically in the dams;
- There must be mandated priority flow targets in regulated water sharing plans to ensure connectivity is prioritised, adequate downstream water security and quality, protection of Ramsar wetlands, and First Nations right to access water;
- The rules that manage floodplain harvesting and supplementary access must be bought in line with the environmental watering requirements of the catchments.
- River models used by the states should be available for to the Commonwealth to review and adjusted annually with observed data.

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