

Response to “Northern Basin Review – NSW Synopsis” published by DPI NSW, November 2016

On 22 November 2016 the MDBA released the findings from the Northern Basin Review. The purpose of the review was re-examine the sustainable diversion limits (SDLs) set with the Basin Plan in 2012. The review was adopted with the recognition that the 2012 decision was based on knowledge that, while the best available at the time, could be improved through further research and ongoing community consultation.

The findings from the review recommended a reduction in the total volume of water to be recovered for the environment across the Northern Basin. In light of the updated research and local community feedback, the MDBA are recommending that the volume set in 2012 (390 GL) be reduced to 320 GL provided there are commitments from governments to implement a range of complementary ‘toolkit’ measures.

Over the next few weeks the MDBA will be consulting with Basin state governments and the broader community regarding the proposed updates to Basin Plan settings. Submissions from all interested parties are welcome, and will contribute to the final diversion limits to be recommended for adoption by the Federal Minister. Formal submissions must be received by 10 February 2017.

The NSW government recently released a fact sheet on the Northern Basin Review findings. The MDBA acknowledge the ongoing support of the NSW government to fully implement the Basin Plan, which will require the cooperation of all levels of government and the community to achieve the desired outcomes.

In their fact sheet, NSW noted that they support the reduced target recommended by the review. NSW also noted that they support the range of complementary measures that have been brought forward by State governments and communities. Both NSW and the MDBA believe that these measures are able to provide enhanced environmental outcomes without additional water recovery. As part of the review, the MDBA have recommended that the adoption of these measures is a vital element towards achieving the desired triple-bottom line outcomes of the Basin Plan.

NSW also raised a number of issues in regard to the research conducted as part of the review. Some of these issues require clarification, which is set out below.

1. Environmental science: SFIs structured on regulated systems

The MDBA have used site-specific flow indicators (SFIs) to translate specific flow patterns (e.g. 6,000 ML/d for 20 days) into environmental outcomes (e.g. inundation of snags providing fish spawning opportunities). NSW stated that the concept of SFIs is largely structured on regulated systems. This is not correct.

While it is true that the active delivery of SFI events is possible only in regulated systems, this does not alter the scientific validity of SFIs — they are able to serve the same flow-to-ecology translation function in both regulated and unregulated systems.

The SFIs for the Northern Basin are based on the best available, generally catchment-specific science. The premise of the Northern Basin Review was to conduct more research and investigations due to its inherent difference to the southern, more regulated system. The MDBA commissioned a range of new on-ground environmental research projects in the

Condamine-Balonne and Barwon-Darling catchments, including research carried out by NSW government departments, to better understand the unique flow-ecology relationships of the rivers in the North. Comprehensive reviews of existing peer-reviewed academic literature on flow ecology relationships were also conducted to ensure SFIs were set using the best available information. Where there were knowledge gaps at a catchment level peer-reviewed literature from other catchments in the Basin were used to inform the SFIs. The multiple lines of evidence used to set SFIs is documented in the [Environmental Water Requirements reports](#) (including the updated [Barwon-Darling](#) and [Condamine-Balonne](#) reports).

2. Environmental outcomes insensitive to recovery volume

NSW stated that “specific flow indicators (SFIs), show a lack of response to changes in the volume of water recovery, i.e. environmental outcomes are largely insensitive to the different water recovery scenarios.” This is not correct.

Environmental outcomes are sensitive to water recovery scenarios. As identified in the [environmental outcomes](#) report, the number of flow indicators achieved improves with increasing water recovery. Of the 43 SFIs, the number achieved in the modelled scenarios ranges from 16 to 24. In the Barwon-Darling, the water recovery scenarios explored show changes from 2 out of 11 indicators being met (remaining at Dec 2015 recovery volumes) to 5 out of 11 indicators being met under a 415 GL scenario. Overall, there is a clear trend of SFIs responding to changes in recovery volume.

3. Some SFIs relate to flows outside of range of influence

MDBA acknowledge that some SFIs are outside the range of influence, and have therefore not attempted to actively deliver these types of flows.

For some SFIs, MDBA has assumed that regulated releases can be made to supplement existing unregulated flows in the system. There are two primary reasons behind this assumption:

- Supplementing flows provides the most efficient use of water (i.e. we are not seeking to create environmental events from scratch)
- Environmental releases would supplement pre-existing ecological processes that have already been triggered by unregulated flows

A key outcome of the Northern Basin Review was the identification of mechanisms other than water recovery that have the potential to improve Basin Plan outcomes. MDBA are eager to work with NSW, the Commonwealth Environmental Water Holder, and other interested parties to further investigate the options for supplementing unregulated flows in Northern catchments.

4. Coordinated watering

NSW stated that the modelling for the 390 GL recovery scenario was based on the assumption of coordinated watering.

It is true that a coordinated watering approach was included in the NBR modelling. The purpose of this approach was to represent a future in which environmental water holders are able to efficiently coordinate their water to achieve desired flows through the Barwon–Darling.

However, the MDBA recognise that this type of coordinated watering is not currently possible, and would require substantial upgrades to existing flow forecasting capacity and operational practices. For this reason, a second 390 GL scenario was completed in which the operational capacity is more in line with current practices (i.e. no flow coordination).

The modelling indicates that some form of flow coordination has the potential to provide additional enhancements. The modelling also showed that flow coordination would only be appropriate under certain conditions (i.e. in a minority of years).

The MDBA believe that the actual outcomes achievable are dependent on the amount of future investment in flow predictive capacity and operational upgrades.

5. Demands did not obey accounting

An over-arching principle for all Basin Plan modelling is that environmental water use is subject to existing accounting and allocation arrangements, and therefore will not have a negative impact on the access rights of other users. For this reason, the environmental demand series are limited to an annual accounting mechanism. This accounting is conducted external to the modelling, and therefore contains inherent uncertainties, but it does not alter the over-arching principle of environmental accounting.

6. Raised pumping thresholds and event protection

NSW stated that the MDBA modelling assumes that Barwon–Darling pumping thresholds would be lifted and that event protection would occur through the Barwon–Darling. This is not correct.

The original Basin Plan modelling (prior to 2012) used raised pumping thresholds as a model representation of SDL compliance, but this modelling approach has since been abandoned based on feedback from NSW. Also, the modelling does not assume event protection through the Barwon–Darling. For the Northern Basin Review, MDBA adopted a long-term volumetric protection mechanism for environmental flows that is in line with water sharing plan gazetted by NSW.

The MDBA is committed to working further with the NSW government and other stakeholders to implement the Basin Plan in full and with the best triple-bottom line outcomes.

MDBA

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