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SUBMISSION

Inquiry into management of Murray– Darling Basin water resources

January 2020



Introduction

The NSW Irrigators' Council (NSWIC) is the peak body representing irrigation farmers and the irrigation farming industry in NSW. Our Members include valley water user associations, food and fibre groups, irrigation corporations and commodity groups from the rice, cotton, dairy and horticultural industries. Through our members, NSWIC represents over 12,000 water access licence holders in NSW who access regulated, unregulated and groundwater systems.

NSWIC engages in advocacy and policy development on behalf of the irrigation farming sector. As an apolitical entity, the Council provides advice to all stakeholders and decision makers.

Irrigation farmers are stewards of tremendous local, operational and practical knowledge in water management. With over 12,000 irrigation farmers in NSW, there is a wealth of knowledge available. To best utilise this knowledge requires participatory decision making and extensive consultation to ensure this knowledge can be incorporated into best-practice, evidence-based policy. NSWIC and our Members are a valuable way for Governments and agencies to access this knowledge.

NSWIC welcomes this public exhibition as an opportunity to share local, practical and operational knowledge and expertise in water management. NSWIC offers the expertise from our network of irrigation farmers and organisations on an ongoing basis to ensure water management is practical, community-minded and follows participatory process.

This submission represents the views of the Members of NSWIC with respect to the *Inquiry into management of Murray–Darling Basin water resources*. Each member reserves the right to independent policy on issues that directly relate to their areas of operation, expertise or any other issues that they deem relevant.



NSW Irrigators' Council's Guiding Principles

Integrity	Leadership	Evidence	Collaboration
Environmental health and sustainable resource access is integral to a successful irrigation industry.	Irrigation farmers in NSW and Australia are world leaders in water-efficient production with high ethical and environmental standards.	Evidence-based policy is essential. Research must be on-going, and include review mechanisms, to ensure the best-available data can inform best-practice policy through adaptive processes.	Irrigation farmers are stewards of tremendous knowledge in water management, and extensive consultation is needed to utilise this knowledge.
Water property rights (including accessibility, reliability and their fundamental characteristics) must be protected regardless of ownership.	Developing leadership will strengthen the sector and ensure competitiveness globally.	Innovation is fostered through research and development.	Government and industry must work together to ensure communication is informative, timely, and accessible.
Certainty and stability is fundamental for all water users.	Industry has zero tolerance for water theft.	Decision-making must ensure no negative unmitigated third-party impacts, including understanding cumulative and socio-economic impacts.	Irrigation farmers respect the prioritisation of water in the allocation framework.
All water (agricultural, environmental, cultural and industrial) must be measured, and used efficiently and effectively.			Collaboration with indigenous nations improves water management.



Overview

NSWIC strongly welcomes the Interim Inspector General (IIG) *Inquiry into management of Murray–Darling Basin water resources*.

The scope of this Inquiry is:

- *Impact of changing distribution of inflows to the southern Basin on state shares under the Murray–Darling Basin Agreement.*
- *Any consequential impacts on state water shares resulting from reserves required under the Murray–Darling Basin Agreement. This includes how these interact with state water allocation policies.*

NSWIC has provided the IIG with the key concerns of irrigation farmers in NSW in November 2019. Our response to this public consultation is in addition to the concerns raised in our earlier correspondence. To note, the NSWIC letter (November 2019) to the IIG raised:

“Whilst focus tends to be on the Murray-Darling Basin Plan, it is important that the Murray-Darling Basin Agreement receives adequate attention. There are concerns that the Agreement has become outdated, particularly in the context of increasingly frequent, severe and long droughts (particularly in the upper Basin). Concerns have been raised regarding the extent to which the Agreement allows appropriate sharing of drought risk/impact across the states. For example, questions should be asked regarding the appropriateness of special accounting provisions, state entitlements to water (Division 1, Subdivision B, 88) during extreme events particularly when Menindee is offline. There is a perception that the Agreement is a ‘product of history’ and has become outdated.”

Submission

General Comments and Core Considerations in Recommendations

It is timely to review the Murray-Darling Basin Agreement (MDB Agreement) and ensure it remains appropriate to contemporary times. The climatic and regulatory environment is fundamentally different today, than at the time the MDB Agreement was developed. To be effective, the MDB Agreement must reflect the contemporary climatic and regulatory conditions. However, any transition to do so must be exceedingly cautious to not impact the property rights of entitlement holders (including the reliability of allocations against entitlements), not cause instability or uncertainty for farming businesses and not have third party impacts.

It is important to recognise and consider the historic development of the MDB Agreement in an inquiry of this nature. Many aspects of the MDB Agreement, and water policy more generally, have unique *raison d'être* (reasons for being). Within the MDB Agreement, the *raison d'être* of many components results from a lengthy process of negotiations and compromise. A full understanding of why the MDB Agreement ‘is what it is’ will be critical to constructively developing recommendations for change.

It should always be remembered that less water, through climate, drought and water reforms, results in a reduced capacity to grow food and other crops. A reduced capacity



certainly undermines the economic viability of rural Australia, but it also means higher prices for consumers, and raises the potential of food security issues for Australia.

NSWIC notes that the scope of this Inquiry has a particular focus on the Southern Basin. Given the interdependencies between the Southern and Northern Basin, it is important that any changes resulting from this Inquiry undergo thorough and meaningful consultation across the Basin.

Inflows and supply into the Murray–Darling Basin

Supply Issues

Fundamentally, there is a supply issue at present in the Basin.

According to WaterNSW figures, total inflows into the Northern NSW river systems for the first six months of 2018-19 were just 30GL - less than 1% of average (4000GL). In the 2018-19 water year, River Murray system inflows were close to 2,810GL, placing it within the driest 7% of years during the 128 years of historic observation.¹

It is important to consider that, according to the MDBA:

“Average temperatures are increasing, droughts are occurring more often and the volume of inflows into the Murray–Darling Basin have decreased over the last 20 years.”²

Furthermore, both the Murray–Darling Basin Sustainable Yields (MDBSY) project and the South Eastern Australian Climate Initiative (SEACI) found an increased likelihood that rainfall would decline in the Basin, and particularly that water availability in the Southern Basin would continue to decline.

There is evidently a water supply crisis in the Basin, brought on by a significant reduction in inflows. Climate modelling projects that these conditions will be more frequent and more extreme. Water management must be able to reflect these changes to be able to operate effectively within these new parameters. The climatic realities of today, and the projected climatic conditions into the future, are fundamentally different to the climatic conditions at the time the Agreement was written.

Mythbusting - Healthy Floodplains Project, Metering and Compliance

NSWIC is concerned that many people misunderstand the critical supply issues as relating to Floodplain Harvesting (FPH), metering or water theft. On the one hand – the Northern Basin (and almost all of the NSW Basin) is in such a dry state that there simply isn't any water to take. Around Bourke, in most cases pumping hasn't occurred since May 2017. On the other hand, even if there was water available, there has been an overhaul of water management in NSW in recent times, and it is important that the regulatory changes are finalised and implemented appropriately, the public and industry recognise those improvements, and that we can all have confidence in the system.

¹ <https://www.mdba.gov.au/sites/default/files/pubs/mdba-annual-report-2018-19.pdf>

² <https://www.mdba.gov.au/sites/default/files/pubs/Climate-change-discussion-paper-Feb-19.pdf>



The fact remains that, as the name suggests, FPH only can occur during flood conditions – conditions which have been far from occurring in recent times.

However, moving forward, it is critical that the NSW Government *Healthy Floodplains Project* progresses. This project involves making FPH subject to a volumetric cap (*Floodplain Harvesting Program*) and a range of measures to improve floodplains such as by minimising future changes to flooding behaviour, improving the environmental health of floodplains, and increasing awareness of the risk to life and property from floods (*Floodplain Management Plan Program*). The Healthy Floodplains Project is supported by NSWIC, and our Members in the impacted valleys have been calling for it to be done in a timely and efficient manner.

In NSW, the new *NSW Non-Urban Water Metering Policy* and creation of the *Natural Resources Access Regulator*, has seen an overhaul of water metering and compliance. This new system should be able to give people confidence that metering is of a high standard, and that ‘illegal take’ is far from the cause of supply issues. NSWIC and our industry have zero tolerance for water theft, and anyone breaching laws should face the full force of the law.

What remains critical is that these programs are appropriately implemented, and that public (and industry) confidence in these matters can be restored through communication and understanding of these changes. Misconstruing critical supply issues, with matters of this kind, would be a major distraction from finding improvements to water management to manage critically dry periods of low supply.

Recommendation:

- 1) Respond and adapt to a changing climate of water availability by investing in innovative infrastructure to enhance the water conservation capacity of the Basin, to be more resilient to prolonged dry periods.
 - a. A study into whether existing water storages are sufficient for towns, farms and the environment to withstand longer and more frequent dry periods.
 - b. A program for the identification, construction and operation of innovative infrastructure to improve the total available water balance for all water users (including farmers, the environment, towns and communities) is required.
- 2) Invest in a Centre of Excellence for water use in agriculture, to enhance water productivity.
- 3) Ensure timely and efficient implementation of the Healthy Floodplains Project in NSW, and improve communications around recent regulatory changes to metering and compliance to restore confidence.

Delivery of water

There are changing patterns of water demand in the Basin. This involves the timing, location, volume, frequency and use of water.



Deliverability

Water users, particularly in the Southern Basin, are concerned with the mounting issue of managing the deliverability of water. Deliverability refers to the ability for water to be physically delivered to the water user, relating to the channel capacity of river systems and constraints within the system. Simply, there is growing concern that the river system simply cannot deliver the required volume of water to water users. This is a result of increasing downstream demand (from growing irrigation developments, particularly permanent plantings), and large parcels of environmental water delivery), and a declining capacity of the river (siltation, erosion, etc.).

The consequence for existing irrigation farmers is a risk to both the reliability of water entitlements, and risk to the accessibility of allocations. The risk to reliability is a result of substantial losses in the system reducing the total water balance; and the risk to accessibility is a result of the physical capacity of the system to deliver desired volumes of water.

NSWIC maintain the position that an implied delivery right of water entitlements exists.

Under the MDB Agreement, a delivery shortfall is left to the states, whom can only really manage such a shortfall by limiting access to their entitlement holders. This means that, in effect, entitlement holders bear the risk of a delivery shortfall. Given a delivery shortfall occurs due to system management, this assignment of risk is not appropriate.

Losses

There is concern around the accountability and management of losses in the system. Losses impact on total water availability, which impacts on the reliability of allocations. There are a number of contributing factors that determine the extent of losses. The three primary causes are seepage, evaporation and transpiration, but also include temperature, wind, rainfall, evapotranspiration, river flows, the location of where water is held, and the location of where water is demanded. In 2018-19, the MDBA attributed the main factors influencing water losses to be “*hot dry conditions combined with low inflows, high demands and the need for overbank transfers through the Barmah Millewa Forest*”.

River systems have chokes which are characterised by limited channel capacity, which reduces the volume of water that can be conveyed through that point in the system. The changing demand for water, which has seen the demand for water relocate to further downstream, places increased pressure on chokes to deliver water, as well as the subsequent environmental degradation. Not only does this damage the river system through erosion and siltation, but conveyance losses are increased when the river bank overflows, which reduces the reliability of general security allocations. It is essential that water is managed most efficiently and effectively.

The idea of ‘overbank transfers’ adopts a ‘water delivery at all costs’ mentality, which has enormous losses as well as damage to riverbanks, and is thus condemned by many



water users.³ Due to the environmental damage it causes, and impacts on property rights from high losses, delivery of consumptive water should not be overbank.

Data

Data availability and transparency has been identified as a key issue around deliverability. Data availability requires improvement for river operations to be efficient, effective and have security for all water users.

Recommendations:

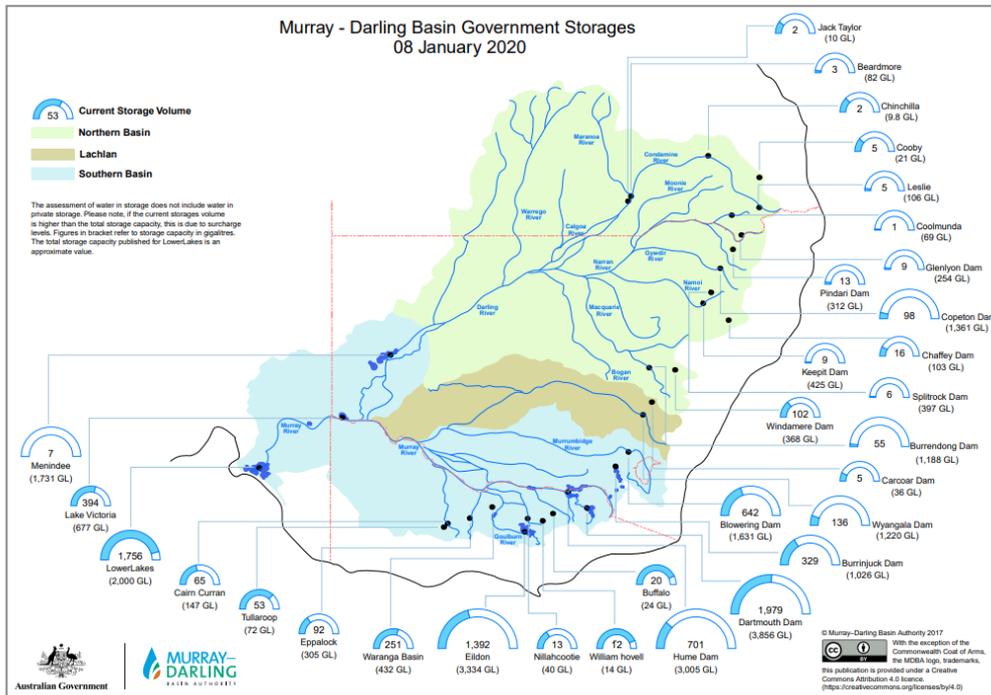
- 1) Policy options to address deliverability must:
 - Protect the property rights of entitlement holders (i.e. water availability, accessibility, reliability).
 - Ensure no negative unmitigated third-party impacts (including for the environment);
 - Be agnostic to (not discriminate between) agricultural industries;
 - Require the order of prioritisation for water delivery to ensure risk is borne by new developers;
 - Seek to minimise operational losses – with delivery of productive water not being overbank;
 - Maintain entitlement characteristics;
 - Enforce trade rules;
 - Improve the understanding of risk, and the management of risk, for all water users (historical and new);
 - Provide certainty through formalised regulations;
 - Ensure regulations are developed in consultation with stakeholders.
- 2) The NSW Government must formalise the channel capacity rule sharing agreement between NSW and Victoria in peak demand.
- 3) Due to significant environmental damage, and significant losses, delivery of productive water must not be overbank. Government policy must understand the channel capacity of individual river reaches, and adhere to it, in the delivery of productive water.
- 4) Data availability and transparency (particularly around losses) requires improvement for river operations to be efficient, effective and have security for all water users.
- 5) The environmental benefits from the delivery of productive water should be recognised, and accounted for.

³ See: <https://www.mdba.gov.au/sites/default/files/pubs/River-murray-system-losses-report.pdf>



Water sharing

Looking at the MDBA *Water in Storages* reports, it becomes immediately clear why concerns exist that the drought impacts are not flowing downstream.



Source: Murray Darling Basin Authority (January 2020)⁴

The below table illustrates why many are concerned about water sharing arrangements.

Table 1: Water in Storages in the Murray Darling Basin

Catchment	Water in Storages (%)	Water in Storages (GL)
Border Rivers	4%	23 of 635 GL
Gwydir	7%	98 of 1,364 GL
Macquarie	8%	157 of 2,046 GL
Namoi	3%	32 of 923 GL
Lachlan	11%	141 of 1,253 GL
Lower Darling	0%	7 of 1,731 GL
Murrumbidgee	36%	970 of 2,659 GL
Upper Murray	39%	2,680 of 6,861 GL
Lower Lakes**	91%	1,756 of 1,924 GL

⁴Data sourced from the Murray Darling Basin Authority, January 2020⁵

** Water in the Lower Lakes is a combination of South Australian entitlement flow, volume for dilution to reduce salinity and to mitigate the impact of seawater intrusion.

⁴ See: <https://www.mdba.gov.au/managing-water/water-storage>

⁵ <https://www.mdba.gov.au/managing-water/water-storage>



NSWIC recognises that as part of negotiations, a compromise was reached for a lower volume of water to South Australia for higher reliability. However, that arrangement, combined with trends of water demand moving downstream, the requirement for large parcels of environmental water to move downstream, and the extensive drought across the Basin has put enormous pressure on the Murray.

It is critical that drought risk and burden is appropriately shared.

At present, with no or low inflows coming into the Basin system, and many northern rivers no longer running, there is enormous pressure on the Southern Basin to meet water requirements (such as those to South Australia). This management regime effectively concentrates the drought burden on the Murray. Unlike other parts of the Basin, water users along the Murray physically can see water, but the regulatory arrangements mean they must watch it flow by. This means that some of the most fertile productive land is currently idle as there simply isn't any allowable water access. In effect, due to the physical lack of water in the Northern Basin, the impacts of the drought have now been concentrated on the Murray as that region now must meet the full water volume requirements. There is evidently a need to reassess how water sharing arrangements have led to that outcome, and the significant impacts on communities and agricultural production that have resulted.

NSWIC are also aware of arising suggestions that the new portfolio of environmental water may offset the need for dilution flows (696GL). This is one example where changes to the regulatory environment create the need to re-evaluate historic management arrangements.

Recommendation:

When Menindee Lakes are offline, that should be a trigger point to reduce intergovernmental flow entitlements by the proportion of the Darling's contributions. If that does not occur, the Murray faces unfeasible requirements to compensate for this amount.

Potential opportunities for enhancement

Please refer to the boxes contained at the conclusion of each previous section.

Conclusion

NSWIC strongly support the Inquiry into the management of Murray–Darling Basin water resources. NSWIC and our Members are available to provide further information upon request.

Kind regards,

A handwritten signature in black ink, appearing to read 'Iain Simpson', is located below the text 'Kind regards,'.

NSW Irrigators' Council.