



## MRSRG Response to Connectivity Stakeholder Reference Group “Critical Dry Conditions Triggers Options Paper”

The Murray Regional Strategy Group (MRSRG) comprises industry, indigenous, community organisations and irrigation groups from the food and fibre producing region in the Murray Valley, Southern NSW.

Our membership incorporates a diverse range of backgrounds allowing MRSRG to provide a community focused approach to advocacy in the water space.

We appreciate the opportunity to provide comment on behalf of farmers, businesses and community across the Murray Valley who are dependent on the availability, reliability, and affordability of water – all of which will be further impacted by Northern Basin end of system flow targets proposed by the DRAFT water restriction triggers in the Northern Basin.

### **Opening statement on connectivity in the Murray Darling Basin:**

MRSRG is seeking a rebalancing of levels of take for both surface and floodplain harvesting extractions to ensure sufficient levels of connectivity are regained between the Darling River system and the Murray River.

Ensuring connectivity between the Darling and Murray River systems is necessary and reflected in rules of management, licensing and Water Sharing Plans.

MRSRG does note permanent connectivity must recognise periods of sustained drought when low or no flows occur. However, MRSRG impresses upon NSW to meet their obligations to deliver their section of the basin plan, particularly in regards to this review, Chapter 8 of the MDBP, Environmental watering plan, 8.06 Protection and restoration of ecosystem functions of water-dependent ecosystems, (3) An objective is to protect and restore connectivity within and between water-dependent ecosystems, including by ensuring that: (b) ecological processes dependent on hydrologic connectivity: longitudinally along watercourses, laterally between watercourses and their floodplains (and associated wetlands and vertically between the surface and subsurface are protected, restored and maintained. This is measured through Schedule 7—Targets to measure progress towards objectives Schedule 7—Targets to measure progress towards objectives (2) There are improvements in the following: (b) hydrologic connectivity between the river and floodplain and between hydrologically connected valleys.

**Connectivity should not be limited to Critical Dry Conditions, or First Flush Rules.**

Connectivity should be achieved through rule changes, licensing and infrastructure to ensure the Darling system has a base flow in all years;

- adequate flows reach Menindee Lakes and
- management rules ensure the Darling River system co-contributes to South Australia’s minimum entitlement flow of 1850GL in non – drought years, as it always did pre–Northern Basin 1990’s development increase

MRSNG understands this would and did involve an average contribution of 720,000ML and is not a guarantee under dry conditions.

MRSNG does not support NSW Government or the Murray Darling Basin Authority’s (MDBA) current position to downplay historical flow connectivity between the Darling and the Murray Rivers.

MRSNG does not support the current NSW Government position of only requiring surface and Floodplain Harvesting Plans/licensing systems to achieve a flow of 200ml/day as prescribed in the Barwon Darling Water Sharing Plan. All other upstream plans also refer to this low figure of 200ML/d requirement.

MRSNG is therefore seeking assurance and evidence from the NSW Government downstream connectivity rule requirements are not limited to the following:

- Critical Dry Condition Triggers
- Northern Basin Water Sharing Plans (Surface & Flood Plain Harvesting) where a low figure of 200ML/d is the only connectivity requirement from the Northern Basin to Wilcannia.

MRSNG believe impacts from the proposed changes to the end of system targets in the Northern Basin to NSW Murray include:

- Baseline extraction increase in QLD
- End of System Flow Targets in the Northern Basin
- Flood Plain Harvesting (FPH) in both QLD and NSW
- Murray Darling basin plan and Murray Darling basin cap on extractions
- Conveyance weightings

## **Background:**

### **End of System Flow Targets in Northern Basin**

The basin plan was based on data which included a flow target of 1721(GL)at Menindee, a figure which appears to be forgotten.

Prior to implementing changes DPIE must consider further the impacts to the Southern Basin, as the Southern Basin will need to meet baseline flows and Basin Plan commitments if the Darling remains dry and the Northern Basin are unable to meet their share of targets. The notion NSW Government wishes to remove fixed targets from the Northern Basin and puts further stress on Southern NSW by removing all accountability from the Northern Basin. <sup>1</sup>

NSW Department of Water Resources ‘Interim Unregulated Flow Management Plan for the Northwest’ (June 1992) recognised the following: <sup>2</sup>

<sup>1</sup> MDBA Technical report 2010/20 of *Supporting information for the preparation of the Guide to the Proposed Basin Plan*

[Water Resource Assessments for Without Development and Baseline Conditions \(mdba.gov.au\)](https://www.mdba.gov.au/water-resource-assessments-for-without-development-and-baseline-conditions)

<sup>2</sup> NSW Department of Water Resources ‘Interim Unregulated Flow Management Plain for the Northwest’ June 1992 <https://nla.gov.au/nla.cat-vn1890003>

- “The time for unfettered access to water was over (as at 1992)”
- “No matter what sharing system is finally adopted, off – allocation management, environmental priorities; claims of downstream water users to supply and the inter-State obligations which now apply to use of Murray-Darling water”

### **Flood Plain Harvesting (FPH)**

FPH has impacted NSW MGS (NSW Murray General Security) allocation. In recent times, both unregulated and unmetered FPH has taken increasing volumes of water from the system and stopped the Darling River from flowing, significantly contributing to the loss of annual flows, including the 1721GL of annual flows into Menindee (which the Basin Plan was based on). Despite the NSW Government being reminded repeatedly a license and AS4747 metering is needed to extract water, it continued unabated.<sup>3</sup>

FPH in high flood events is not the problem, it is the loss of flows from small to medium flows which have the biggest impact on connectivity and NSW Murray General Security.

### **Murray Darling Basin Plan (2012) & Murray Darling Basin CAP on extractions (1997)<sup>4</sup>**

The Murray Darling Basin Cap was set in 1994 to prevent overextraction– it is the legislated legal level of take. For FPH that cap was set at 64GL, and the SDL is 46GL. In 1994 storage volumes in the north were 574GL and have grown to 1397GL in 2020.

NSW is proposing to license FPH to 346GL plus 500% carryover, potentially allowing 1700GL of take in anyone year. Licensing of this volume is well above Cap and is nearly three times above the volume of storage which was available in 1994. This licensing volume is modelled on storage volumes even though many are illegal structures and should be decommissioned and or acquired by the NSW Government and re-directed using SDL or WESA buckets of money to provide pulses into the Darling River and her tributaries.<sup>5</sup>

The Upper House Inquiry into FPH<sup>6</sup> has recently released 24 recommendations and 15 findings which include;

- Clear evidence water extractions are within legal limits and mandated environmental and other downstream outcomes are achieved.
- Government develops clearly defined enforceable access rules based on downstream flow triggers on minimum flow targets needed to maintain/improve outcomes for cultural, environmental, and basic landholder requirements.
- a thorough review of cease flow data, assessment of downstream economic, social and cultural environmental impacts.
- allocation of FPH must be within existing SDL limits.

<sup>3</sup> MDBA Technical report 2010/20 of *Supporting information for the preparation of the Guide to the Proposed Basin Plan*

[Water Resource Assessments for Without Development and Baseline Conditions \(mdba.gov.au\)](https://www.mdba.gov.au/sites/default/files/archived/cap/SETTING_THE_CAP.pdf)

<sup>4</sup> Setting the cap – report of the independent audit group

[https://www.mdba.gov.au/sites/default/files/archived/cap/SETTING\\_THE\\_CAP.pdf](https://www.mdba.gov.au/sites/default/files/archived/cap/SETTING_THE_CAP.pdf)

<sup>5</sup> DPIE modelling reports for Namoi, Gwydir, Barwon-Darling, NSW Border Rivers, Barwon- Darling/Baaka.

[Slattery and Johnson Licensing Floodplain Harvesting in Northern NSW analysis and implications report.](#)

<sup>6</sup>Upper House Inquiry to Flood Plain harvesting recommendation:

<https://www.parliament.nsw.gov.au/lcdocs/inquiries/2818/Report%20no.%20-%20-%20Select%20Committee%20-%20Floodplain%20harvesting%20-%20December%202021.pdf>

- implement no meter no pump rule.
- Abolish the Healthy Floodplain Harvesting Committee and replace with an independent panel to deal with the appeals.
- FPH licensing must be strictly non compensable.
- FPH has contributed to a reduction in downstream flows

MRSRG support these recommendations which go a long way toward ensuring connectivity of the Darling and the Murray and resulting in better outcomes for the Southern Basin economically, socially, and environmentally by contributing at least 39% (720,000ML) of the 1850GL required to be delivered to SA annually under the Murray Darling Basin Agreement.<sup>7</sup>

Conveyance is increasing because the Murray River is making up for the Darling River shortfall – water in Vic dam storages must travel further distances than water that comes down the Darling increasing conveyance and potential system losses. Further to this NSW are yet to limit downstream demand or development below the choke. The shortfalls of the Darling River are not only having social and economic impacts but also environmental impacts from increases in suspended sediment due to riverbank notching. All of this continues to occur despite another objective of the MDBP where it sets out what to avoid when managing water courses - Schedule 10—Key causes of water quality degradation, 2 Elevated levels of suspended matter: Sediments entering Basin water resources, which is contributed to by: (iv) practices that over the long-term cause decline of stream morphology, leading to near stream processes of gully erosion, side wall cut and head migration.

The last metered point on the Darling is at Wilcannia, you cannot have true connectivity of a river system unless metering is implemented at the end of the Darling at Wentworth. In fact, their needs to be improved metering along the length and breadth of the system.

The Darling River has underpinned NSW General Security since 1915 delivering on average an 84% reliability over a 115-year cycle and should continue to do so. The Cap, MDBP and Water Act do not allow extractions that will have third party impacts.

### Conveyance

- Conveyance to run the river has increased alarmingly to 2690GL in 2021<sup>8</sup>
- In 2011 the figure was 800GL<sup>9</sup>
- Since water was separated from land there has been an exponential increase in permanent plantings downstream of the Barmah choke. It makes little sense in the driest continent on earth to continue to support unregulated development of permanent plantings so far away from dam storages. The majority of permanent plantings are irrigated through the purchase of temporary water which means water is sold and transferred from one zone into another.
- Conveyance is allocated before productive water and is impacting reliability of NSW Murray GS.

<sup>7</sup> Murray Darling Basin Authority. (2012). *Assessment of environmental water requirements for the proposed Basin Plan: Lower Darling River System*.

[https://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0008/166832/barwon-darling-background.pdf](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0008/166832/barwon-darling-background.pdf)

<sup>8</sup> NSW Murray and Lower Darling – Water Allocation Update 16<sup>th</sup> August 2021

[Water Allocation Statement - NSW Murray and Lower Darling - 16 August 2021](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0005/405689/WAS-Murray-Lower-Darling-20210816.pdf)  
[https://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0005/405689/WAS-Murray-Lower-Darling-20210816.pdf](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0005/405689/WAS-Murray-Lower-Darling-20210816.pdf)

<sup>9</sup> River Murray System Annual Operating Plan 2011/12

[River Murray System Annual Operating Plan 2011-12 Public Summary \(mdba.gov.au\)](https://www.mdba.gov.au/river-murray-system-annual-operating-plan-2011-12-public-summary)

## **Recommendations from Murray Regional Strategy Group**

The Basin is bound by strict flow targets to South Australia via the Murray Darling Basin Agreement. There are also a variety of other downstream targets which must be met including flows to the Lower Lakes and dilution flows.

In contrast there are currently no end of system flow targets in the northern basin WSP. Improvements in land forming and a growth in storage capacity from 574GL in 1994 to 1397GL in 2021 have allowed unmetered and unlicensed FPH to grow significantly. These development have impacted on baseline flows by capturing water in not only high rainfall events but low and medium events, reducing flows dramatically down the Darling while the obligation to SA remains unchanged and is met solely by the Murray River, impacting productive allocations in both NSW and Victoria.

In MRSG's opinion:

- Strict end of system flows targets must be in place in northern basin WSPs to ensure river connectivity and must be supported by policy and infrastructure and adopted at a state and federal level.
- Allocation of floodplain harvesting volumes and entitlements must be within existing sustainable diversion limits, any changes must be lawful and in accordance with basin law under the basin plan and WMA. This is limited to 46GL for FPH and if the NSW Government wishes to allocate any more then this must be taken off other license categories to remain within cap. NSW government must put a halt to any increase in demand for water downstream of the choke and put exchange rates on water moving from one zone to another. Implementing exchange rates has already been legislated in schedule 3 of the Water Act and remains idle. If NSW fail to adopt these policy changes it will signal the NSW Government are yet again prepared for the Murray Valley to become the losers
- A case study on the Clarence scheme must be undertaken to determine the cost and viability of its construction. This then needs to be released to the NSW public for the public to decide whether it is viable, not some distorted internal process which does not genuinely seek public feedback.
- No decisions about licensing be made until metering is in place to measure volumes taken.
- Start negotiations with the QLD government about the Bradfield scheme.
- Examine the potential of expanding dams in the Murrumbidgee which could provide relief to the Murray, allocation for them and flooding mitigation for everyone below the dams.

MRSG Recommendations: NSW Government: Critical Dry Conditions Triggers:

- Licensed extractions and rules for water access (both surface Water Sharing plans and Floodplain Licensing and management) must be consistent with achieving and maintaining connectivity between the Darling, Menindee Lakes and the Murray River
- Connectivity requirements must not be limited to Critical Dry conditions
- Connectivity requirements must be a key component of all Water Sharing Plans and Water Resource Plans to ensure no adverse impacts to downstream users (inclusive of Menindee Lakes/ Murray River)
- Connectivity for non-drought years must also be included in rules of management for the Darling River system

- Wilcannia should not be considered the main point that measures ‘connectivity’ as this does not reflect downstream connectivity requirements beyond Wilcannia (note: the current 200ML/d target is not supported, in addition, the 90day clock trigger if flows below 200ML/d continues to reflect further poor policy on connectivity)
- Connectivity rules should also ensure a level of baseline flows (inclusive of non -extreme drought years) to maintain a portion of flow or partially wetted base within the bed of the Darling River system to maximise future flow movement necessary for downstream connectivity following rain events
- Connectivity rules for critical dry conditions should also be sufficient to avoid:
  - negative water quality issues affecting human health
  - loss of human or stock water
  - large scale fish death
- The proposed draft triggers signal management action should be undertaken to reduce risks, but the triggers themselves are inadequate to prevent situations arising and reactive, not proactive or preventative of loss of connectivity or decline in river health
- The draft triggers are inadequate in themselves
  - Proposed ‘cease to pump’ responses relate to a prediction of cease to flow period of 120 days at Wilcannia or:
    - Menindee Lakes fall below 195GL capacity or:
    - Barwon Darling River section is classified as Drought Stage 4 (critically)
- MRSRG is concerned the 195 GL trigger in Menindee is too low, and timing is not clear to protect future supplies or prevent mass fish kills if predicted future inflows do not materialise
- MRSRG requires further explanation on the 60GL re-start. Proposed rule changes suggest a component of the Lower Darling entitlement is inclusive of the 60GL re start, but there is a lack of clarity if the additional provisions of inflows are being secured from rules for the Darling River itself or relates to rules of management once in Menindee and thus the effects are on Murray Lower Darling Water Sharing Plan, and not related necessarily to rules relating to Darling River critical threshold conditions.
- Rules of management for the Darling, inclusive of Water Sharing Plans, First Flush requirements, and/or proposed Critical Dry Conditions triggers, do not account for ‘conveyance’ requirements, necessary to ensure downstream connectivity
  - Murray River Agreement has historically been inclusive of ‘harmony rules’ that have recognised the role of the Darling and Menindee Lakes in delivering water below Wentworth in the River Murray
  - Harmony Rules were designed around limitations of the Murray River itself, Goulburn River (Vic) to physically deliver water without co contributions from the Darling
- Consistency in rules of management:
  - Both the Southern and Northern Basin have components of unregulated rivers; however, NSW Policy suggests that Northern Basin unregulated systems does not require connectivity downstream.
  - This is not consistent with the Southern Basin

Further technical evidence can be provided upon request.