

## **INQUIRY INTO FLOODPLAIN HARVESTING**

**Organisation:** Murray Valley Private Diverters (MVPD)

**Date Received:** 31 August 2021

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**MURRAY VALLEY  
PRIVATE DIVERTERS (INC)**

**Public Submission to:**

**NSW Parliament  
Inquiry into Floodplain Harvesting**

**August 2021**

## **Introduction:**

Murray Valley Private Diverters (MVPD) represents private entity river pumpers in the NSW Murray Valley (Southern Basin). Individual members and smaller organisational memberships (eg schemes or Trusts) generally are family owned farmers who individually have relatively small extraction licenses and are located in riparian zones.

MVPD members are facing both a reduction in irrigation entitlement reliability and elevated flooding risks from the Murray Darling Basin Plan's additional 'end of system flow' targets for the Coorong, Lower Lakes and Murray Mouth in South Australia.

MVPD does not support the NSW Government's proposed licensing of NSW Floodplain Harvesting in its current form as systemic failures over many decades have caused inequities with decisions on water management in NSW and the Murray/Darling Basin.

While MVPD is strongly supportive of licensing and full metering of NSW Floodplain Harvesting, current proposals are considered inadequate.

MVPD is a voluntary organisations that has spent immeasurable time and resources towards encouraging the Federal, NSW State Government and the Murray Darling Basin Authority (MDBA), to address publicly known failing for water management in the Murray Darling Basin.

MVPD like many other community- based organisations, has experienced significant political blockages and bureaucratic failures.

MVPD appreciates the considerable effort members of the NSW Upper House have made towards investigating the merits of the NSW Government current licensing proposals for Floodplain Harvesting.

We strongly encourage this inquiry to consider this may well be the last chance to ensure fairness and sustainability for managing irrigation extraction in the NSW section of the Northern Basin.

MVPD still considers however, a Royal Commission is needed to ensure full transparency to the public, why and how water decisions have been made.

Were the processes for determining winners and losers compatible with the majority of Australian's understanding of good governance and why did such decisions lead to ordinary people's lives being decimated in the process?

What were the parallel objectives within the Federal Water Act 2007, proposed to the public as an 'environmental outcomes' and how did these influence decisions on the Murray Darling Basin Plan?

MVPD appeals to this inquiry, to adequately consider how the NSW Government's approach to Floodplain Harvesting, affects connectivity between the Northern and Southern Basin and how the lack of data on extractions to date, has been detrimental to effective water planning decisions including in NSW Government Water Sharing Plans and the Murray Darling Basin Plan.

This submission also includes Attachment A, a previous joint submission on the Murray Darling Basin Plan social and economic impacts – Southern Basin. This submission was lodged by Murray Regional Strategy Group (MRSG) of which Murray Valley Private Diverters is a member and who co-authored the document. We trust that background information contained in Attachment A will also be useful to this inquiry.

### **Inquiry: Terms of Reference**

- (a) The Legality of Floodplain Harvesting practises
- (b) The water regulations published on the 30<sup>th</sup> April 2021
- (c) How Floodplain Harvesting can be licensed, regulated, metered and monitored so that it is sustainable and meets the objectives of the Water Management Act 2000 and the Murray Darling Basin Plan
- (d) Any other related matters

### **Legality of Floodplain Harvesting Practises**

The NSW Government's website describes the Healthy Floodplains Project as reforming management of flood water in the NSW northern Murray-Darling Basin (northern Basin).

*"In the northern Basin valleys of the Barwon-Darling, Border Rivers, Gwydir, Macquarie and Namoi, modelling shows that floodplain harvesting has grown above the legal limits described in NSW water sharing plans and the Murray-Darling Basin Plan"*

The NSW Government has also made mention during public consultation in the Southern Basin;

*" The Healthy Floodplain project will help manage future growth"*

Floodplain Harvesting in the Northern Basin (Qld /NSW) has remained outside accepted Murray Darling Basin standards for licensing, regulation, metering and monitoring of water take for irrigation purposes for decades.

Public hopes for effective regulations to manage Floodplain Harvesting to ensure fairness and equity across the Basin, are not identified in the proposed regulations

Conflicts between floodplain graziers and irrigators in the Northern Basin over many decades has also led to public confusion in management standards imposed in the Southern Basin compared to that in the Northern Basin.

Politicians and the public currently consider that the Murray Darling Basin Plan (in its current form) will resolve outstanding issue but this is not necessarily the case.

The Murray Darling Basin Plan remains a politically influenced plan that continues to proceed with major errors both in background modelling, targets and assumptions, including on environmental outcomes.

Post expenditure of \$13 billion dollars Water for the Future Program (which includes the Murray Darling Basin Plan), the public may well ask, how did it all go so wrong?

The Murray Darling Basin Authority (MDBA) discounted the effects of Floodplain Harvesting in its modelling that underpinned the Basin Plan. Instead the MDBA described in community meetings held at Deniliquin, that Floodplain Harvesting was factored into their modelling as ‘*loss or seepage in the Northern Basin landscape*’.

This statement together with the fact the MDBA relied on New South Wales and Queensland information when assessing the volumes of take for Floodplain Harvesting in the baseline models, ensures that the foundations of the Basin Plan contained serious errors. These are not limited to Floodplain Harvesting however.

- The Murray Darling Basin Plan focussed water recovery targets on the Southern Basin
- MDBA’s 2018 Northern Basin Review, further reduced Darling River flow contributions to the Menindee Lakes, Lower Darling and NSW Murray and this also did not account for the unresolved issues of lack of metering, effective monitoring and also Floodplain Harvesting.
  - This review also reduced environmental flow targets to Menindee Lakes from 143GL to 41GL.

### **1912 Water Act**

- NSW Government did not establish a system of licensing and monitoring of Floodplain Harvesting

**1992: NSW Government Department of Water Resources: *Interim Unregulated Flow Management Plan for the North West (June 1992)*.**<sup>xi</sup> The Plan was developed following a significant algal bloom in the Barwon Darling in November and December 1991. The interim plan proposed:

- Revise the management of unregulated flows to achieve immediate gains in river health without causing severe adverse impacts to water users
- Provide for fairer and efficient sharing of water between users, to protect flows to meet interstate obligations, and alert irrigators that access to unregulated flows will be limited
- The report notes (page 7); “***the time for unfettered access to water is over***”

**Post 1992:** Northern Basin extraction levels continued to grow in the form of new development off river storages, expansion of existing and failures by the NSW Government to ensure adequate management, monitoring and licensing of 'take'

**1997: The Murray Darling Basin Ministerial Council to CAP** extractions at 1993/94 levels of extraction.

- Northern Basin – CAP on extractions implementation timeframes extended for Queensland and Northern Basin (NSW), <sup>xii</sup>
- Post 1997, Barwon Darling in regular breach of Basin CAP requirements <sup>xiv</sup>
- Post 1997, Barwon Darling merged with Lower Darling for CAP reporting purposes (Instances of non- CAP compliance continued) <sup>xv</sup>
- 2012, NSW revised CAP model for Barwon Darling, extraction rules were increased in Barwon Darling Water Sharing Plan (2012) <sup>xvi</sup>

**2020: NSW Government: Planning, Industry & Environment legal advice**  
(DPIE.FPH.544)

MVPD encourages this inquiry to review all legal opinion to ensure equity, but also note information contained within the document, DPIE.FPH.544

- *“...taking of water in the course of floodplain harvesting, without an access licens, from an unregulated river water source that is covered by a water sharing plan would constitute an offence under s60A of the Water Management Act 2000 (WM Act)”*
- *“there are no circumstances where Floodplain harvesting would be permitted under the Water Act 1912 (the 1912 Act)”*
- *“passive take is not defined by the WM Act or in other legislation”. DPIE’s document titled “Assessment of taken and protection during first flush flows in the Northern Basin”, passive take is described as ‘water entering gravity fed storages that cannot be restricted by a pump, pipe or regulator and rainfall run-off collected in tailwater drains’.*

MVPD is concerned that the term “*passive take*” when utilising water sources derived off farm, captured through man- made infrastructure and then used for the purposes of irrigation, **should be** incorporated into NSW proposed licensing regime for Floodplain Harvesting.

Any exemption should only apply to the re-use or recycling of existing licensed take establishment through entitlements or rules, or water that can be accounted for as ‘harvestable right’ (ie in NSW West of the Great Dividing range it is currently 10% )

Passive take in the context of Floodplain Harvesting should be clearly defined to within these parameters to avoid misuse, legal ambiguities, and to assure the public of clearly defined permitted elements of the term ‘take’.

## **NSW Government: Regulations published on the 30<sup>th</sup> April 2021**

### **Water Management (General) Amendment (Floodplain Harvesting Access Licences) Regulation 2021** under the Water Management Act 2000

#### **Schedule 1:**

#### **Part 2A Replacement floodplain harvesting access licences**

Murray Valley Private Diverters (MVPD) expresses concern over the Part 2A utilisation of the term **Replacement Floodplain Harvesting Access License**

- MVPD is not clear in the proposed regulation why the NSW Government is suggesting that the creation of new entitlements as proposed under the 30<sup>th</sup> April regulations or;
- NSW Government is giving the impression through this wording (replacement), that an existing license entitlement existed under the Water Act 1912.
- DPIE Legal advice contained in DPIE: FPH.544 stated '*there are no circumstances where floodplain harvesting would be permitted under the Water Act 1912*'
- MVDP suggests accuracy of wording is required to avoid public confusion

#### **23B Eligibility for replacement floodplain harvesting access licences**

(1) The Minister is to determine if a landholder is eligible for a replacement floodplain harvesting access licence.

(2) A landholder is eligible if the Minister is satisfied that, on 3 July 2008 a water supply work capable of floodplain harvesting—

(a) was fully constructed on the landholder's land and a relevant approval was in force that specified the work, or

(b) was fully constructed on the landholder's land without a relevant approval because a relevant approval was not required to use the work, or

(c) was fully or partially constructed, or proposed to be constructed, on the landholder's land and an application for a relevant approval that specified the work was made but not determined.

(3) In determining whether or not a landholder is eligible, the Minister must consider relevant information provided by the landholder in relation to the water supply work.

### **MVPD response:**

Granting retrospective licenses for FPH back to July 2008 is not considered an appropriate date for ensuring equity to water access across the Basin, if current conditions associated with granting of those license are enabled.

NSW Government did not perform due diligence in managing extractions for Floodplain Harvesting (FPH) from 1912 to 2008. The proposed regulations (April 2021) that grant retrospective licenses with the associated carryover and exemption conditions, does not pass the public credibility test.

The NSW Government water policies in the Northern Basin also ensure the term connectivity is limited to achieving some level of flow connectivity only within the Northern Basin valleys.

Connectivity requirements to the Southern Basin are not identified within the FPH policy, nor expressed in Water Sharing Plans.

As such, the NSW Government is effectively condoning the disconnection of the Darling River system from the Murray River and ensuring that connectivity flows to the Southern Basin, are most likely to only occur during major flood events that would potentially pass beyond Wilcannia.

Currently NSW Northern Basin Surface Water Sharing Plans (which will include FPH Plans) all make reference to the **Barwon Darling Water Sharing Plan** which specifies only a small flow target to **Wilcannia of 200 ML/per day**

Further, assurances that actual FPH licensed volumes will reflect the Murray Darling Basin CAP do not appear consistent with that objective.

- Levels of take (500%) linked to access rules and/or carryover provisions do not appear consistent with meeting objectives of the CAP
- How such volumes of take will be included including through NSW or MDBA approved Water Sharing Plans for the Northern Basin. (Qld/NSW) is also not clear

MVPD is also concerned that retrospective granting of a fully compensable license up to July 2008 and beyond through an appeals process, would also lead to potential levels of take outside the 1995 CAP.

- There is no publicly documented evidence on how the regulations would meet 2008 CAP levels. These include but are not limited to:
  - Proposals for the definitions of 'passive take' in the draft regulations
  - Legalising the use of temporary storages, where water volumes stored will not require a license, until such volumes are transferred into a permanent and thus licensed on farm storage.
  - The use of temporary storages could mean high levels of 'take' beyond license conditions



- There is no evidence that NSW DPIE or Water NSW would or could monitor any mis-use of the term temporary storage or account for how water contained in such storages could become forms of 'take'
- Variation of metering rules that are particular to the Northern Basin
- Unsustainable and generous accounting and carryover provisions specific to the Northern Basin eg 500% carryover or annual access over a specified period

MVPD does not support regulations (April 2021) that in effect will license up to 390GL levels of take (FPH)

The MDBA Basin Plan models had assumed 210 GL of 'take' attributed to FPH, NSW share was 46.2 GL.

- MVPD is concerned the NSW Government will approve license levels beyond Basin Plan modelling and the Murray Darling Basin Authority (MDBA) has already indicated it may adjust its models to reflect FPH licensing volumes

### **Regulation: Part 23D**

2) Determination of licences based on maximum crop areas

3) the Minister in granting that license considers relevant information provided by the landholder in relation to the supply works on crop years of determined by applicant

MVPD is concerned that the granting of retrospective licenses on cropping data is open to misuse of information.

Further given public concerns about the quality or lack of metering and monitoring in the Northern Basin on more general levels of water take, it is difficult for the public to have confidence that 'errors' or 'potential for misuse of data' that may relate to usage of unregulated water supply access and/or bore water use, is a risk in the granting of volumetric licenses.

MVPD strongly recommends that the granting of Floodplain Licenses is delayed until the NSW Government implement the following:

1. Establish and increase specific end of system flow targets beyond Wilcannia to ensure adequate flows (on average) to Menindee Lakes and to ensure connectivity between the Darling and the Murray River
2. Disclose the proposed total of volumetric take for FPH over all water sources
3. Identify how FPH licenses with proposed conditions, will be incorporated in Water Sharing Plans (WSP) and how the total levels of take over the life of a 10 years WSP will not exceed CAP levels.

# **Water Management (General) Amendment (Floodplain Harvesting Measurement) Regulation 2021**

## **238B Mandatory floodplain conditions**

238C

- 1) Minister may grant an exemption if it is not possible for water captured or stored using the approved works to be measured by:
  - a. Point of intake metering
  - b. Storage metering equipment

MVPD response:

- There is insufficient clarity where it is not possible for water captured to be metered (point of intake and/or storage metering equipment)

238F Measurement period – approved works

MVPD response:

- The measurement period relates to approved works only. There is no or insufficient regulatory control on works that still capture external (ie off farm) water but will still sit outside ‘approved works’ under the proposed regulations
- These may include, temporary storages, surge works, field water capture achieved during a flood event

238G Measurement Period – Records part 1 & 2

- (1) The approval holder must record, in the approved form, the amount of water captured and stored using the approved works during each 24 hour period throughout the measurement period for the works

MVPD response:

- A reliance on self reporting on levels of take in the proposed format is not sufficient to ensure trust and levels of take consistent with the CAP
- The process should be refined to be consistent with National Metering Standards including telemetry recording of take
- If FPH applicants make a case against national telemetry standard due to their individual complexities with ‘take’ activities, then new standards or clear separation of ‘take’ components should be introduced

Division 3B Metering equipment standards for particular water supply work approvals

238K mandatory requirements of point-of-intake metering equipment

238L Mandatory requirements for storage metering equipment

238M Storage curve documents

### **MVDP response:**

- Metering requirements apply to approved works however the definition of approved works may not be applied to 'temporary storages' (which can also include capture of 'off farm water')
- There appears to be insufficient regulation, the strong potential to mis-use temporary storages in relation to capture of flood waters over and above 'approved storages'.
- It is not clear why point of intake metering equipment should not be applied to temporary storages and any harvestable right (eg 10% run off) , or recycling of irrigation water, can be accounted for as permitted in the regulation (238G) – where approval holders are required to record and keep records

### **Division 3D Transitional provisions**

- 238U If primary metering was installed on or before 14 February 2020 on a water supply work, such works may continue to be used for the life of the equipment, despite a new condition imposed under Division 3A

### **MVPD response**

- NSW Government regulations will permit the retention of MACE meters indefinitely that sit outside National Standards AS4747, if the meter can be continually repaired. This is contrast to conditions imposed in the Southern Basin
- Government owned meters in the Southern Basin, that were mandatory under the Southern Basin Metering Project, are to undergo an additional application for data loggers over and above existing telemetry on Government owned meters
- MVPD points out that there remains a difference in the application of standards between the Northern and Southern Basin.
- Floodplain Harvesting metering will also have continued lack of transparency and confidence in measurement of actual take, ie through different meter standards and sites that will be deemed NOT to require a meter (eg temporary storages)

## **Water Management (General) Amendment (Rainfall Run-off Collection) Regulation 2021**

### **Schedule 1: Amendment of Water Management (General) Regulation 2018**

- 1) Clause 39 B
  - Exemption relating to use of tailwater drain
- 2) Schedule 4 Exemptions
  - 17C Rainfall run-off

MVPD supports recognition that capturing irrigation run off in a tailwater drain and for the purposes of recycling water is a legitimate and accepted farming practise

However MVPD has the following concerns in relation to Floodplain Harvesting:

- Temporary storages will not be subject to FPH licensing
- Temporary storages may still be utilised to capture flood water and may/or may not actually result in conveyance of the water to 'storages that are subject to an actual licensed volume'.
- There appears insufficient regulatory controls to ensure that floodwaters captured in temporary storages or via use of temporary fields, is not actually utilised as floodplain harvesting
- Temporary storages that also enable capture of flood waters during an event, should be subject to further regulation and full transparency to ensure compliance and avoidance of exceedance of licensed volumes
- Regulations should ensure that water captured in temporary storages utilising recycling or capture of rainfall run-off is 'merged' with FPH water capture and thus any component of FPH water capture is not missed in the licensing process

### **How Floodplain Harvesting can be licensed, regulated, metered and monitored so that it is sustainable and meets the objectives of the Water Management Act 2000 and the Murray Darling Basin Plan**

It is important that this inquiry adequately recognises what affects the failure to license and ensure compliance of Floodplain Harvesting within the 1995 Murray Darling Basin Cap has had on both the Federal and State Government decisions in relation to water management.

This includes the design of the Federal Water Act 2007, decisions of the Murray Darling Basin Authority and how it developed the 2012 Basin Plan.

The lack of regulation for FPH continues also to shape water policy responses by NSW at Murray Darling Basin Ministerial Council level.

MVPD encourages the Committee to read Attachment A (MRSG submission to the Keelty Inquiry) and Attachment B (Sefton Review into Social and Economic impacts of the Basin Plan)

It has been publicly identified for decades that Floodplain Harvesting in NSW and Queensland has operated outside accepted standards for water management.

Failure by successive NSW Governments to address FPH, lack of effective regulatory and licensing controls, and on-going public conflict between Northern Floodplain Graziers and irrigators was a significant contributor to the following:

- Public demand for actions on 'water recovery for the environment' during the Millennium Drought

- The Political response – Water Act 2007 and the Murray Darling Basin Plan
- The Murray Darling Basin Authority's decisions to primarily rely on the Murray River system Albury to SA border and Goulburn River (Vic), to meet the Basin Plan higher 'end of system flow targets in South Australia'
  - 2000 GL (3 yr rolling average) for SA Coorong, Lower Lakes & Murray Mouth
- To achieve this, MDBA's Basin Plan set an additional downstream water recovery target to South Australia (971 GL).
  - NSW Government was required to contribute 458GL.
  - NSW Government determined that the NSW Share of the downstream target will be achieved via the SDL Adjustment Mechanism projects, which are being applied primarily to NSW Murray Valley and the Lower Darling.
  - The Murrumbidgee River like the Darling, does not have specific additional end of Valley flow targets
- To meet the above objective, the MDBA proposed new flow target of 77,000 ML/day (set periods) for the Mid Murray Region below Yarrawonga Weir on the Murray River upstream of the Barmah Choke

77,000 ML/d is seven times the natural bank capacity of the Murray River

- MDBA's modelling that underpinned the Basin Plan, which relied on 'available data' from the Northern Basin assumed levels of take for FPH in the Northern Basin as 210 GL
  - NSW FPH levels were modelled by the MDBA at 46 GL
  - Natural Resource Commission report (2010) acknowledged low levels of accuracy with the 210GL calculations
- The Basin Plan set very limited flow environmental targets from the Darling River to Menindee Lakes

MDBA's 2018 Northern Basin Review **reduced environmental flow targets** from the Darling River to Menindee Lakes from 143GL to 41GL

- The NSW Government actions appear aligned with decisions to protect the Darling and Murrumbidgee Rivers which remain predominantly in NSW control.

The Terms of Reference for this inquiry asks the question:

*"how can FPH be licensed, regulated, metered and monitored so that it meets the objectives of the Water Management Act 2000 and the Murray Darling Basin Plan?"*

To answer this question, MVPD encourages the inquiry members to review the objectives.

## **Objectives – NSW Water Management Act 2000**

The objects of this Act are to provide for the sustainable and integrated management of the water sources of NSW for the benefit of both present and future generations and, in particular:

1. Ecologically sustainable development
2. Protect, enhance and restore water courses
3. Recognise and foster social and economic benefits
4. Recognise the role of the community
5. Provide efficient and equitable sharing of water
6. Management of water sources with other aspects of the environment including native vegetation and native fauna
7. Encourage the sharing of responsibility and efficient use of water
8. Encourage best practice management and use of water.

### **MVPD response:**

- Ecologically sustainable development has not and will not occur under proposals for licensing FPH in NSW
- NSW is applying different standards to protection, enhancement and restoration of water courses in the Northern and Southern Basin
- There is a disproportionate social and economic impacts of water policy in NSW and how this also has related to decisions by the Murray Darling Basin Authority on the Basin Plan
- Floodplain Harvesting is not enabling the efficient and equitable sharing of water. Connectivity requirements are limited to sharing waters between irrigation extractions within the Northern Basin Valleys. In addition, there is no clarity how licensing of FPH will ensure equity between floodplain environments, floodplain graziers, and FPH irrigators

## **Objectives of the Murray Darling Basin Plan (2012)**

### **The Federal Water Act 2007 aims to:**

- improve water security for all uses of water resources in the Basin
- promote the use and management of the Basin's water resources in a way that optimises economic, social and environmental outcomes
- ensure the return to environmentally sustainable levels of extraction for water resources that are overallocated or overused
- protect, restore and provide for the environment of the Basin
- maximise the economic returns to the Australian community from the use and management of the Basin's water resources

- implement relevant international agreements to address the threats to the Basin's water resources
- ensure that the management of the Basin's water resources takes into account the broader management of natural resources in the Basin
- achieve efficient and cost-effective water management and administrative practices in relation to the Basin's water resources
- to provide for the collection, collation, analysis and dissemination of information about:
  - Australia's water resources
  - the use and management of water in Australia.

**The MDBA describes the Basin Plan balancing** social, economic and environmental demands on the Basin's water resources, to ensure there are:

- Strong and vibrant communities with sufficient water of a suitable quality for drinking and domestic uses (including in times of drought), as well as for cultural and recreational purposes
- Productive and resilient industries that have long-term confidence in their future, particularly for food and fibre production
- Healthy and diverse ecosystems with rivers regularly connected to their creeks, billabongs and floodplains, and ultimately the ocean.
- Australia's Murray–Darling Basin At the heart of the Basin Plan is the need to increase the amount of water for the environment of the Murray–Darling Basin and ensuring sufficient water for all users.
- To achieve this balance, the Basin Plan reduces the amount of water that can be taken from the rivers by setting sustainable diversion limits (SDLs) for both surface water and groundwater for each catchment area in the Basin.

#### **MVPD response:**

- The Murray Darling Basin Authority (MDBA) Basin Plan is inconsistent with the objectives of the Water Act 2007
- The Guide to the Proposed Basin Plan (2010) resulted in significant public responses, including social and economic reports, public meetings and submissions and inquiries.
  - Disproportionate social and economic impacts were identified, primarily in the Southern Basin (NSW Murray, Northern Victoria and Lower Darling)
- The Murray Darling Basin Plan (2012) cemented known inequities which continue to 2021 and beyond.
- There are major community concerns about the quality of data that underpinned Basin Plan modelling and the SDL targets.



## MVPD recommendations:

- Water Management in the Northern Basin must be consistent with standards applied by the NSW Government in the Southern Basin
- Licensing of Floodplain Harvesting **should not** be permitted until:
  - full transparency of proposed licensed volumes are made publicly available
  - NSW Governments publicly discloses how FPH licenses and related conditions, affect the Northern Basin sustainable diversion limits and the 1995 CAP on extractions
  - the total extractive licensed volumes (including access conditions/rules) is assessed over a proposed 10 year license period in order to assess future CAP compliance
  - that the issuing of FPH licenses based on current on-farm storage capacity and self assessment of crop history as a means of determining FPH historical usage, should be reviewed to assess total sustainable levels of extraction
  - that historical flow and connectivity data between the Northern and Southern Basin is adequately considered in granting of FPH volumetric licenses to ensure baseline connectivity between the Northern Basin Darling River system and Southern Basin Murray River. (note: such data should be inclusive of all historical records and not limited to the last 20 years)
  - That end of system flow targets are established in the Darling River system for each valley of sufficient nature to ensure baseline flow volumes (subject to rainfall /climatic conditions) prior to granting of compensable licenses
  - That Northern Basin Water Sharing Plans established baseline average flow targets to Menindee and the Murray River for environmental, social, economic and cultural needs
    - Flows targets to ensure connectivity are incorporated and recognised in NSW Water Sharing Plans.
- Metering of Floodplain Harvesting must include any floodplain water capture in temporary storages. Rules should permit exclusion of water derived as a result of recycling of irrigation water, or rainfall capture within the 10% harvestable rights
- The NSW Government in conjunction with the Murray Darling Basin Authority revises the Northern Basin Sustainable Diversion Limits to include the volumetric licenses for FPH.
  - MDBA should not be permitted to adjust SDL limits to deliver positive extraction limit benefits to the Northern Basin with additional levels of take (licensed extraction) identified as part of the FPH licensing regime
  - Adjusted SDL limits that will account for FPH should be reflected in the Murray Darling Basin Plan and adjustment in modelling should be reflected in a reduction in water recovery demands for NSW Murray Valley



## MVPD further recommends that:

- NSW Government **does not** license FPH until the **Downstream affects reports** are available for each Water Sharing plan region
  - That modelling data that underpins the Downstream Affects Report is made publicly available and subject to independent review

## Any other related matters

Water management in the Murray Darling Basin has historically recognised contributing flows from multiple sources.

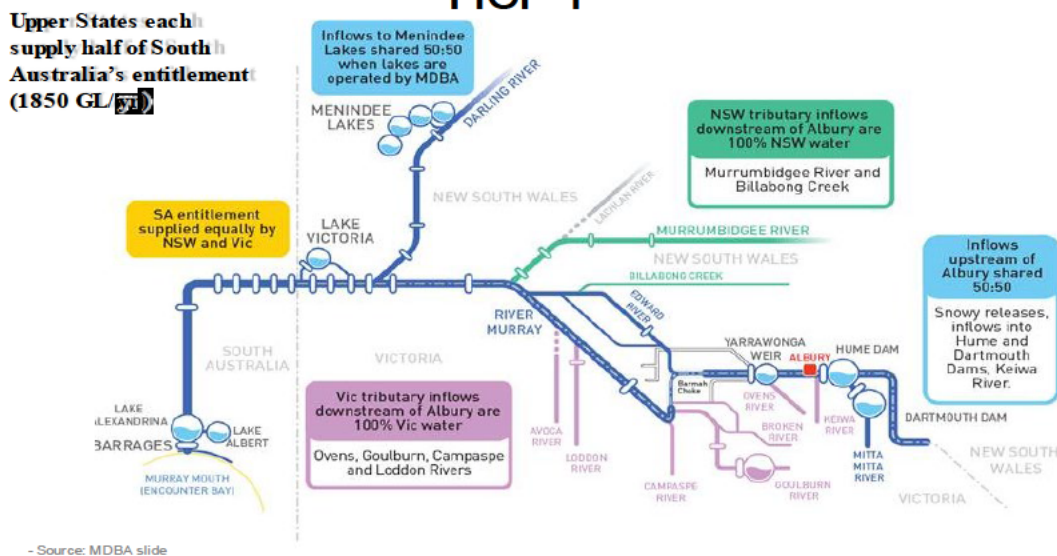
Management and delivery of water to meet environmental, human, and economic needs has traditionally factored in natural river capacities, major head water and/or on route storages, tributary inflows, regional catchment and climatic conditions.

The role of the Darling River system has been instrumental in meeting South Australia's minimum entitlement flow of 1850GL.

If the Darling River is not contributing sufficient flows to Menindee Lakes due to adverse climatic conditions or from increased levels of extractions, current rules have increased pressure on other regions to make up the shortfall in meeting South Australia's minimum entitlement flow of 1850GL.

This leads to increased demand on natural river system capacities, and a reduction in water allocations primarily to NSW Murray General Security entitlements holders and similar impacts to Norther Victorian irrigators.

## The 'Recipe' for Water Sharing in Tier 1



Increased pressure on the Murray, Edward Wakool (NSW) and Goulburn Rivers in Victoria, are leading bank erosion and increased sedimentation of waterways.

Northern Basin data should also have been highly relevant when the MDBA set Murray Darling Basin Plan targets to recover water for the environment

The lack of accuracy of modelled inflows and extraction data, has heavily influenced multiple decisions points by the Murray Darling Basin Authority. This includes baseline modelling for the Basin Plan. For example, MDBA modelling assumed a total of 210GL of 'take' for Floodplain Harvesting (Qld/NSW) which is now considered highly inaccurate.

The lack of accurate extraction data, licensing, metering and monitoring in the Northern Basin (including QLD – 32% metered) has increased pressure on the Southern Basin to meet new 'end of system' environmental flow targets at the Murray Mouth.



Source; Map MDBA website

**Basin Plan Environmental  
Water Recovery target =  
2750GL**

**Southern Basin**

- 2289GL minus 650GL SDL offset projects  
+ 450 GL (neutrality test)  
**(total inflows: 15,959GL/Y)**

**Northern Basin**

- 390GL minus 70G as per MDBA's Northern Basin Review (2018)
- Review also reduced env flows to Menindee from 143GL to 41GL  
**(total inflows 13,547GL/Y)**

- 1) Loss of irrigation reliability (annual allocations against entitlements) for NSW Murray General Security entitlement holders as water shortfalls are made up from the Murray system to address reduction in flows down the Darling River
- 2) Basin Plan new higher 'end of system flow' targets mean greater social and economic risks are applied to NSW Murray Valley communities through both water recovery and water delivery.
- 3) The Basin Plan additional SA deal for a further (2750GL+450GL – for environmental flows delivered in specific timeframes, has increased further pressure on natural river capacities as the volumes of water are being primarily sourced from NSW Murray/Edward/Wakool system and Northern Victoria's Goulburn Valley region



## Basin Plan

- Concentrates water recovery Murray River— Southern Basin to achieve ‘end of system flows’

- Watershed of SE of South Australia not included— despite Basin Plan applying specific targets for area (Basin Plan assumes benefits will result from increasing Murray River flows)

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- 4) MDBA modelling and decisions, did not adequately factor:
  - a. natural river capacities in the Southern Basin
  - b. did not include the South- East of South Australia natural water shed catchments that historically delivered water to the Coorong, Murray Mouth
  - c. significantly underestimated levels of ‘take’ for irrigation purposes in the Northern Basin including for Flooplain Harvesting.
  
- 5) Erosion levels in the Murray and Edward River systems have increased with related declines in river capacity
  - d. Murray River - Millewa Choke capacity declined from 10,660 ML/d to 9,200 ML/d
  - e. Murray River – Barmah Choke capacity declined from 8,500 ML/per day to 7000 ML/per day
  - f. Murray River – at Barham, significant river bank erosion with deep incised lines in banks. Damage to trees, localised infrastructure is continuing
  - g. Edward River upstream and downstream of Deniliquin has corresponding natural capacity limitations



Murray River – Millewa Choke



Murray River erosion (Barham 1.5 hrs drive) downstream of Barmah Choke

- 6) Murray Darling Basin Authority (MDBA) strategies include overcoming natural capacities utilising the term *Constraints Management Strategy (CMS)*
  - a. CMS concept originally only related to the additional target of 450GL
  - b. CMS while described as necessary to deliver higher environmental flows within the 2750GL, is likely in future scenarios to be used to deliver higher operational flows above natural bank capacities, to meet new irrigation developments, eg Sunraysia and South Australia regions (Almonds) and to make up shortfall inflows that no longer are contributed from the Darling River system
- 7) Multiple pressures continue to be placed on the Murray River and Edward Wakool system in NSW. This includes elevation of flooding risks as Hume Dam storages are maximised to the limit to ensure higher levels of storage for irrigation and environmental supplies.
- 8) Why has the pressure increased to current extent?
  - a. If the Darling River is off- line, additional pressure is applied to NSW Murray and Edward Wakool River systems to deliver multiple outcomes.
    - i. new environmental flow objectives and higher operational flows for commercial benefit
  - b. The NSW Government decision for the NSW Murray Valley to incur the majority of Sustainable Diversion Adjustment Mechanism offset projects, places further pressure on the Murray system with increased social and economic risks to Murray Valley communities, including elevation of regional flooding risks
- 9) Have Government(s) and the MDBA adequately factored the range of risks into decisions? What influences on the political process are driving decisions.
  - a. No. The Basin Plan continues in its original form even though more accurate information for baseline flows, system capacities, social and economic impacts, elevated flooding risks is now known!
  - b. In 2018, the NSW Government moved an amendment to the Water Act 2000 to remove itself from any future liabilities (impacts to private property) as a result of the release of environmental flows
  - c. Has the MDBA and the NSW Government adequately considered environmental risk (lack of supply Darling), increased system pressure on the Murray?
  - d. What is the NSW Governments approach to management of the Murrumbidgee River?



### **Request to Inquiry Members:**

- Murray Valley Private Diverters (MVPD) is a community driven organisations that has continually expressed its desire to work cooperatively with the MDBA and Governments to address risks and develop solutions
- MVPD does not support Governments/MDBA current strategies that are preventing practical, cost efficient and operational and environmental outcomes
- MVPD believes there are multiple environmental benefits that can be achieved by working with local people with a fresh approach based on respect, honesty, trust and where all risks are acknowledged by Governments/MDBA and solutions can constructively be designed with communities
- MVPD remains strongly concerned that political decisions on the Northern Basin continue to adversely affect the environments and social and economic well-being of people in the NSW Murray Valley and the Lower Darling.
- MVPD encourages this inquiry to also consider the role of the Murray Darling Basin Authority (MDBA) and its inability or unwillingness to ensure an adaptive Murray Darling Basin Plan, that incorporates new or more accurate information since 2012.
- MVPD encourages recognition of additional regulatory requirements prior to granting of Floodplain Harvesting licenses



### **Mid Murray 2016 Flood**

