

MURRAY VALLEY PRIVATE DIVERTERS (INC)

PRODUCTIVITY SUBMISSION – MURRAY DARLING BASIN PLAN FIVE YEAR ASSESSMENT

PUBLIC SUBMISSION

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Introductory Statement:

Murray Valley Private Diverters (MVPD) represents irrigation interests for direct pumpers, trusts and private water delivery organisations in the NSW Murray Valley.

MVPD coverage in the NSW Murray Valley extends from Tocumwal to east of Swan Hill and includes the Murray, Edward and Wakool River systems.

MVPD welcomes the opportunity to provide input in to the Productivity Commission's five-year review of the Murray Darling Basin Plan.

This is perhaps one of the last opportunities to significantly improve aspects of the Basin Plan that have been highlighted by regional industries, irrigation groups, riparian landholders, businesses and communities, all reflected in meetings, submissions and inquiries over many years.

Importantly where solutions and additional options have been submitted to politicians, various Federal or State inquiries and the MDBA itself, there has been little response and a continued failure to incorporate a more adaptive approach.

This will continue to lead to waste of taxpayer's funds, diminished outcomes for the environment, failure to resolve issues in the Coorong, Lower Lakes and Murray Mouth and an inability to resolve long standing concerns about the lack of baseline flows in the Northern Basin and Barwon Darling system.

MVPD strongly encourages the Productivity Commission to investigate the issues of concern and guide a fresh and more adaptive and flexible approach to resolve long standing issues of community concerns with the Murray Darling Basin Plan.

MVPD is concerned that the Productivity Commission's questions are limited in nature by the scope of the review and this may prevent required improvements to the Basin Plan

FEDERAL WATER ACT 2007

The Federal Water Act established the political strategies for management and use of water in the Murray Darling Basin. There has been considerable criticism of the Act over a sustained period and from a variety of legal, community and industry interests.

Continued criticism of the Murray Darling Basin Plan's failures can be traced to the wording in the Water Act 2007 and its legal interpretation by the Murray Darling Basin Authority when formulating the Murray Darling Basin Plan.

This includes the way the Water Act 2007 places primary emphasis on the environmental outcomes.

To enable a mechanism for the Federal Government to take control of water from the States, the Water Act utilised Australia's constitution external affairs provisions (Section 51). To remain within these legal powers, the Water Act 2007 gives primary recognition to International Environmental Agreements (eg Ramsar, CAMBA etc).

The Federal Water Act 2007 has been subject to a number of amendments including in 2008 during the Millennium Drought, when legal interpretation of the Act identified that the environment had precedence over critical human water needs. The amendment (2008) gave higher recognition to critical human water needs.

In 2012 further amendments included the establishment of an Environment Special Account which also gave provision for acquisition of an additional 450GL and funding of \$1, 775 million (\$1.7 billion) over 10 years. This included \$200 million for constraints removal and makes particular reference to achieving benefits for the Coorong (salinity), Lower Lakes and Murray Mouth.

There are serious questions about why the Murray Darling Basin Plan and the 2012 amendments, places priority outcomes, for the Coorong, Lower Lakes and Murray Mouth in South Australia.

The Murray Darling Basin Authority (MDBA) in interpreting the Act and developing the Murray Darling Basin Plan has attracted significant criticism as to whether:

- it has met the objects of the Water Act 2007 (in particular whether it has balanced social, economic and environmental interests) (*Refer Appendix A*)
- whether the MDBA acted according to its charter of an 'independent' organisation in formulating and delivering the Murray Darling Basin Plan

A Federal Senate's Legal and Constitutional Affairs Reference Committee report (A Balancing Act: Provisions of the Water Act 2007) June 2011 recommended:

- Australian Government release the legal advice on the Water Act 2007
- Appointment of an independent panel to give security of legal underpinnings and certainty for all involved and affected

- The MDBA and the Minister are granted discretion to give appropriate weight to economic, social and environmental considerations in order to balance the interests against each other

To date the failures of the Water Act 2007 and the resulting Murray Darling Basin Plan to balance social, economic and environmental interests, continue to attract strong criticisms from regional stakeholders and related communities.

MVPD Recommends:

- The development of new mechanisms in the Basin Plan to achieve an indisputable balance of social, economic and environmental outcomes to be consistent with the objects of the Water Act 2007 (note: refer to impacts NSW Murray and Northern Victorian)
- Review the adequacy of the MDBA's Basin Plan Regulatory Impact Statement (RIS 2012) to assess whether decisions in the Basin Plan and conclusions in the RIS meet the objects of the Water Act 2007
- Ensure the Murray Darling Basin Authority (MDBA) broadens their assessment of social and economic impacts beyond *how water is recovered*, to include impacts on:
 - Water Market (ie temporary trade), irrigation schemes viability and risks to cost structures
 - Sections of the community also impacted by the Basin Plan but not recognised in any social and economic impacts assessments to date: (eg riparian landholders, non-irrigators whose land also be the Constraints Management Strategy or flooded by proposed changes to Murray River operations outlined in the Basin Plan and related local agricultural businesses impacted by any reductions in irrigated agriculture,)
- Amend the Sustainable Diversion Adjustment Mechanism to ensure a more flexible and adaptive approach achieving environmental (eg part revision of existing, development of new projects/methodology)
- Review the basis of the Water Act 2007 Amendment (2012) which established the Environment Special Account (2012) – to recover an additional 450GL (\$1.7 billion)
 - Noting: That additional water recovery cannot be achieved with social and economic neutrality in the Southern Basin
 - Noting: That this additional component of the Basin Plan did not require an accompanying Regulatory Impact Statement assessment
- The 450GL is not proceeded with at all; OR equivalent environmental outcomes are achieved through investments made directly in South Australia for the CLLMM; and through improvements in water management in the Northern Basin (eg metering, compliance, re-establishment of baseline flows)

MURRAY DARLING BASIN PLAN:

Key themes that continue to undermine public confidence in the Basin Plan include:

1. Has the **information** the Murray Darling Basin Authority (MDBA) relied upon to develop a new Murray Darling Basin Plan been of sufficient standard to underpin the expenditure of \$13 billion, substantially reconfiguring the historical use of water in Australia's largest food bowl – the Southern Basin?
2. Did the Murray Darling Basin Authority (MDBA) act in accordance with its charter of an **independent** organisation?
3. Is the **2000 GL** additional water for South Australia's Lower Lakes, Coorong and Murray Mouth both required and justified?
4. Why when new information has emerged, does the MDBA and the Basin Plan not have sufficient flexibility to **incorporate new knowledge**.

The Murray Darling Basin Plan sets a water recovery target of 2750GL of which 2289 GL is to come from the Southern Basin. The majority of this water being recovered out of productive agriculture, is occurring in the NSW Murray and Northern Victoria. Together water acquisitions and major changes to Murray River, Snowy Hydro and Hume Dam operations outlined in the proposed Sustainable Diversion Adjustment Mechanism Projects, adds to the disproportional social and economic affects that will occur in this region of the Southern Basin.

2000GL of the water recovered within the 2750GL is to flow to South Australia out the Murray Mouth on a three-year rolling average.

In the final stages of the 2012 the Basin Plan, a further political deal in South Australia saw a further 450GL added to the Plan taking the total volume to 3200GL of water to be obtained for the environment.

1) Key Themes: Information & Data

In formulating the Basin Plan, the Murray Darling Basin Authority (MDBA) relied on 'available information' (eg *MDBC Ministerial Council Salinity Audit (1990's)*, the Sustainable Rivers Audit (*only 1 report of projected 3, where data was obtained during the peak of the Millennium Drought*), information from South Australia on the need for additional water requirements for the Coorong, Lower Lakes and Murray Mouth

It is highly questionable whether the new MDBA Board had sufficient experience in water management, appropriate timelines in which to adequately develop a new Murray Darling Basin Plan and sufficient quality science available, to underpin decisions.

At this point in the Basin Plan, it is clear that there are major errors in their assumptions. This includes baseline models, Murray River capacities, Northern Basin flow data, and major localised contributing factors within South Australia leading to the decline of the Coorong, Lower Lakes and Murray Mouth.

The MDBA has to its credit, on a number of public occasions, acknowledged in regards to their proposals of the use of environmental water – *‘they will learn as they go’*.

Evidence available since 2012 has provided the MDBA with an opportunity to incorporate new knowledge, but to date they have refused to do so.

The Basin Plan in its current form once fully implemented:

- Will not resolve the lack of baseline flows from the Northern Basin Darling River system (eg Qld & NSW Barwon Darling)
- Will not resolve sedimentation risks in the Murray Mouth or address hyper saline conditions in the Southern Lagoon of the Coorong
- Will cause severe bank erosion and increased sedimentation risks severely compromising the future capacity of the Murray River (Yarrawonga to Barmah Choke). There are also major concerns about high flow objectives to South Australia impacting the stability of the natural river banks on the Edward River system.

2) Key Themes: MDBA Independence

The MDBA identify that pre Basin Plan, long term modelled average flows currently out the Murray Mouth in South Australia is 5100 GL/year with the average flow being 4000 GL.

The Murray Darling Basin Plan will add an additional 2000 GL over a three-year rolling average to these averages with a minimum flow required of 650GL annually.

This approach is consistent with the objectives of South Australia who claim that these flows are required at all times and additional water is required to cover the below average years.

In the months prior to the MDBA’s release of the first draft of the Basin Plan (*Guide to the Proposed Basin Plan Oct 2010*) South Australia released a number of reports on water needs for the CLLMM.

South Australia’s objectives outlined in *Securing the Future – A Long Term Plan of Management for the Coorong, Lower Lakes and Murray Mouth* (May 2010) are then mirrored by the MDBA in the Murray Darling Basin Plan.

The SA Plan acknowledges South Australia, pre-basin plan, already receives an average flow of 4000GL (*ie double its minimum entitlement flow of 1850GL*) but argues that more water is required to cover the below average years (*ie when SA is restricted to its entitlement flow of 1850GL under the River Murray Agreement*)

Securing the Future Plan states:

- 'large flows down the Murray River will maintain an open mouth and transport salt and other pollutants to the ocean via natural processes'. P 13
- 'When **flows are adequate to maintain the Lower Lakes at or near optimal operating range, minimal intervention is required** and adaptation actions that aim to build and maintain a resilient ecology at the site are possible':13

The SA Plan includes in its objectives:

- Lake Alexandrina & Albert remain predominantly freshwater
- The Murray Mouth is predominantly kept open by end-of-system flows
- There is a return of amenity for local residents and their communities
- Tourism and recreation businesses can utilise the lakes and Coorong
- Productive and profitable primary industries continue 13

The SA Plan also states:

Section 6.5 (page 80)

'identifies that drawing from the best available information (CSIRO) it is **reasonable to base the plan for the Lower Lakes around fresh water**. The development of the **Basin Plan is a most significant initiative contributing to an adequate end-of-system freshwater flow**'.

'Given these **predictions for fresh water, the option of admitting seawater into the Lower Lakes by permanently opening the barrages is not seen as a necessary,**

Government of South Australia Technical Report (May 2010) Development of Flow Regimes to Manage Water Quality in the Lower Lakes states:

'to achieve desired ecological character to meet salinity objectives for the Lower Lakes of 700 EC, 1000EC and 1500 EC targets average annual inflows of 4850GL, **2850** and 1850GL were required' (*note: the Basin Plan = 2750GL + 450GL*)

The Murray Darling Basin Plan sets very specific salinity (EC) targets for Lake Alexandrina

- 1000 EC 95% of years
- 1500 EC 100% of years

The MDBA in its final determinations on the Murray Darling Basin Plan also included in the Sustainable Diversion Adjustment Mechanism:

- 'The Limits of Change' – where projects submitted by the States could not 'compromise the objectives for the Coorong, Lower Lakes and Murray Mouth (CLLMM)

The MDBA's Long Term Watering Plan for the Coorong, Lower Lakes and Murray Mouth also states its intentions to make the long term average flow (5100GL) currently received by South Australia to this site, the minimum flow.

The actions of the MDBA in relation to its decisions on the Basin Plan for the CLLMM suggest an innate bias towards outcomes for South Australia.

When challenged the MDBA refer to achieving an end of system flow as meeting a whole range of environmental objectives for sites along the Murray River.

However, this does not provide adequate reason on why the MDBA set very specific targets for the site that focussed on obtaining additional freshwater from upstream states and ignored information from a range of sources on alternative information or methodologies to achieve the localised environmental outcomes. For example:

- Inclusion of the South East of SA Catchment areas within the Basin Plan watershed to properly assess baseline flows
- Return of a portion of SE of South Australia's natural flows (currently diverted to the sea) – main SE of SA Drainage Schemes & from the Upper SE of SA Drainage & Flood Mitigation Scheme
- Revision of a Federal Funding condition for the Upper SE of SA Drainage & Flood Mitigation Scheme which prevents any more than 40GL of water (over a 10 yr rolling average) flowing into the Southern Lagoon of the Coorong
 - *(note: a subsequent SA SDL Project, only proposes to return a small additional % of the Upper SE of SE Drainage & Flood Mitigation Scheme flows to the Coorong)*
- Localised infrastructure options (including fully automation of the barrages to achieve Lake Alexandrina salinity (EC) objectives
- Localised infrastructure options to address sedimentation risks in the Murray Mouth
 - *Note: the October 2016 Catastrophic flood in the mid Murray proved beyond doubt that additional flow volumes down the Murray will not resolve sedimentation risks in the Murray Mouth, 3 weeks after flood waters reached the Murray Mouth, dredging of the Mouth resumed*

The Murray Darling Basin Plan has prescribed flow targets for the CLLMM

- An additional 2000 GL to flow over the barrages (SA) Lake Alexandrina on a three-year rolling average
- Southern Coorong salinity targets achieved by increased flows down the Murray River
- Lake Alexandrina salinity levels: 1000 EC salinity levels 95% of years and 1500 EC 100% of years
- Control of sedimentation in the Murray Mouth (depth and mouth openness targets)
- Environmental Watering Plans that prescribe new flow targets of 60 – 80 GL at the South Australian border (5 – 6 weeks annually)

To meet the above targets to South Australia, the MDBA has assumed that only 6% of the flows influencing Murray River flows to South Australia were sourced from the Darling River system.

Information on flows and water management regimes in the Northern Basin Darling System have guided *water recovery* decisions in the Southern Basin and have also affected decisions on the Southern Basin Sustainable Diversion Adjustment Mechanism (SDL)s.

The MDBA when determining water recovery strategies and setting new flow rates for South Australia measured at the SA Border, higher targets have been set for the Murray River and less from the Barwon Darling River system.

The Northern Basin (in particular the Barwon Darling system) has been subject to a range of less rigid management regimes and reduced compliance enforcement. Conclusions by the MDBA on what flow regimes occur in the Barwon Darling system and how such flows contribute to the Menindee Lakes and to South Australia therefore are open to question and should be reviewed.

This data relied upon by the MDBA ignores cumulative extraction changes that have occurred over a sustained period in sections of the Northern Basin. For example, the volumes and extent of floodplain harvesting, extensions of on farm storage capacities, 2008 regulatory amendments, and 2012 amendments to Licences on the Barwon Darling which has resulted in permitted extractions of medium to low flows.

These changes have all impacted on baseline flows in the Barwon Darling system impacting flows into Menindee Lakes and Lower Darling.

There is additional risk to NSW Murray irrigated agriculture when, the lack of baseline flows from the Northern Basin directly impacts on annual water allocation announcements in NSW Murray. Under the River Murray Agreement, any reduction in flows in the Barwon Darling system are then sourced as additional flows, from the NSW Murray Hume Dam.

3) Key Themes: Is the additional 2000GL for the CLLMM justified?

4) Key Themes: Is the Basin Plan flexible?

The MDBA has received substantial evidence on why aspects of the Basin Plan need to be amended.

This has occurred through submissions, direct meetings with the MDBA, hosted tours and evidence of capacity constraints in the mid Murray River region to achieving the objectives of South Australia.

Scientific evidence has also been provided but too data has been ignored.

In addition, there is also the prior scientific report commissioned by the former Murray Darling Basin Commission: *River Murray Flows – Environmental Flows, A report for the Murray Darling Basin Commission (2000)*

The report's recommendations included the following infrastructure options:

- Automate the barrages gates for more flexible operations and sensitivity to ecological needs
- Modify the Mundoo barrage to increase flow capacity and operate preferentially to limit sedimentation in the Murray Mouth
- Evaluate options for relocation and revised management of the barrages to enlarge estuarine areas to increase the range of habitats

For 7 years, stakeholders in the mid Murray region have also identified to the MDBA capacity constraints in the Murray River. The natural river banks of the Murray River downstream of Yarrawonga Weir (ie below Tocumwal) are limited in height and the width of the Murray River (ie at the Barmah Choke) also is significantly reduced.

There is already widespread scouring of the river banks (Millewa and Barmah Choke) and Edward River offtake regions and other sections near the Barmah and Moira Lakes.

Despite known risks to the stability and integrity of the Murray River banks, the MDBA has not amended its flow objectives for South Australia and continues to adopt an approach to push increased flows down the Murray.

In the same period, stakeholders/private property owners - have also provided information about risks to private property, either as individuals, or through formalised advisory committee processes (eg Yarrawonga to Wakool Junction Constraints Advisory Committee). Despite this, the MDBA continued to advise the Federal and State Governments of the appropriateness of its original higher (above bank) flow targets for the Murray River in this river reach (ie 77,000 ML/d) . This is substantially higher than the natural river bank capacity flows of approximately 10,600 under regulated conditions.

In 2016, the mid Murray region of NSW experienced a minor level natural flood in September (approx. = to or > 77,000 ML/d) of similar magnitude to the MDBA's proposed flow targets under the Basin Plan.

The Barmah Millewa forest was inundated (wetted up) by this late September event. As per the risk identified to the MDBA over a sustained number of years, a post September flood rain event over mountain catchments and a series of decisions by the MDBA River operations team, resulted in a subsequent catastrophic flooding which occurred in the 1st week of October, particularly affecting the NSW side of the Murray river extending also into the Edward Wakool rivers system.

When floodwaters reached South Australia's Murray Mouth in late December, three weeks later, dredging was required to be resumed to clear sand deposits brought in by incoming tides.

This event, confirmed exactly what historic evidence as shown, including photographs, that pushing vast volumes of water down the Murray River is not a sustainable solution for the Murray Mouth or Coorong.

Questions must be asked:

- has the MDBA acted according to its charter of an independent organization and;
- why when new information has emerged and been made available to the MDBA, it has not acted.

INFORMATION REQUEST 1

The Commission welcomes feedback on its approach to assessing the Basin Plan

MVPD is concerned that the Productivity Commissions questions appears focused on examining issues how to implement the Basin Plan (eg in its current form)

The above sections in this submission outline some major issues that could be drawn into the review and this could also improve decisions within the Sustainable Diversion Adjustment Mechanism (Southern Basin) and other implementation decisions of the Plan.

This would enable more sustainable long-term outcomes for the environment and substantial savings for the taxpayers, to be achieved.

Many of the objectives of the Water Act 2007 can be achieved through some modifications to the Basin Plan.

This includes a fresh approach to:

- achieving outcomes for the Coorong Lower Lakes and Murray Mouth through localised infrastructure solutions,
- a more flexible and adaptive approach to the Sustainable Diversion Adjustment Mechanism
- resolutions to the public concerns on the Northern Basin (Barwon Darling)
- deliver new opportunities to meet environmental objectives of the Water Act 2007.

INFORMATION REQUEST 2

Southern Basin: Sustainable Diversion Adjustment Mechanism (SDLs)

A feature of the SDL Adjustment Mechanism for the Southern Basin was the capacity to achieve environmental outcomes through SDL projects and operational efficiencies to deliver 650GL of 'offset projects' and thus reduce further acquisition out of water from irrigated agriculture.

Under current proposals, a number of projects (SDL) affecting the NSW Murray will involve substantial changes to Murray River operations. This is likely to have detrimental impacts on MVPD irrigators (smaller creek/system reliability impacts) and private property owners in the NSW Murray region.

The decision framework for SDL Projects is:

- too restrictive and
- fails to account for the need to have an adaptive approach towards developing environmental outcomes.

In 2014 external consultants prepared an audit of the proposed SDL projects. The report identified a '*plausible*' 508 GL of offset projects only and even with this figure, there was considerable risks that the scoring system established by the MDBA would mean this figure may not be reached.

The Report also assumed incorrectly that there was consent from private property owners in relation to 'easements to flood' under the Constraints Management Strategy and acceptance of other changes to Murray River and Hume Dam operations.

In 2017 (30th June) SDL business cases were lodged with the Federal Government for funding. There was no clarity around the assessments of risks, third party impacts or capacity to have detailed and meaningful consultation with stakeholders prior to the development of business cases.

Other community-based projects put forward as alternatives or additional options, did not progress within the NSW Government and therefore were not included:

The PC needs to be aware:

- Some broader irrigation sectoral interests (eg National Irrigator's Council, NSW Irrigator's Council, major Irrigation Corporations etc) continue to push for the implementation of SLD projects as submitted by the NSW Government or as joint NSW/Vic projects.
- However, with the impacts of the majority of SDL projects occurring primarily in the NSW Murray Region, it is highly questionable that the issue of equity is being applied.
- Current proposals focus risks primarily on irrigation and/or riparian interests outside the main irrigation corporation regions. (ie on Murray Valley Private Diverters – small schemes private property)
- The SDL framework currently prohibits new projects that are essential to achieving environmental outcomes and preventing adverse environmental and social impacts.

NB: This is a major failing of the decisions frameworks around the SDL Adjustment Mechanism.

An example of an essential project not included in final list of SDL Projects submitted to the Federal Government for funding, is 'bank stabilisation programs for the Mid Murray Region'

The integrity of the Murray River upstream of the Barmah Choke is at risk due to increasing demands placed on the natural river system. The demands on the Murray River will only increase once the Basin Plan is fully implemented in its current proposed form. This combined with increasing water demands from water trade moving to new almond plantations downstream of the Barmah Choke, will cause further deterioration in the integrity of the Murray River banks.

Already progressive erosion, increased sedimentation and turbidity is reducing the natural capacity of the Murray River in the mid Murray region.

Downstream of Yarrawonga Weir, the Murray River through the Millewa and Barmah Choke region is at maximum capacity and it is estimated that since 2000 approximately 1000 – 1500 Megalitres in daily flow capacity has been lost. For example the Barmah Choke original flow capacity has gone from 8500 down to an estimate of 8000 ML/per day and is reducing.

The Millewa Choke capacity has gone from 10,600 ML to around 10,000 ML/per day and is also reducing. Increased sedimentation further upstream below Tocomwal, is also seeing the Murray River widen, become more shallow with extensive bank erosion occurring on the outside bends of the river meanders.

There are major concerns that further river bank de stabilisation will lead to increased tree collapses on the narrow banks of the Murray River where it sits as a perched river above the forest floor near the Barmah Choke. Once the narrow natural river bank is breached via falling trees, flow capacities in these sections of the Murray River both upstream and downstream of the Barmah Choke will be compromised.

This will have huge implications for flow demands downstream of the Barmah Choke and significant additional risks to NSW Murray Irrigators and other businesses reliant on current flow regimes of the Murray and Edward Wakool River system. Water will disperse at will into the forest areas, slowing flows to meet downstream demands and impact on transmission losses through the region.

It is vital therefore the Sustainable Diversion Adjustment Mechanism includes projects that protect the integrity of the existing Murray River itself. Current proposals outlined in the Basin Plan to send even more water to South Australia will increase river bank erosion, sedimentation and water quality issues (eg turbidity)

A river bank stabilisation (revetment) project in the mid Murray region is time critical as non-inclusion through the SDL Adjustment Mechanism is likely to result in no action being taken on bank stabilisation. **It is not a question of years before work is required, it is immediate.**

Information Request 2

a) Risks to implementing SDL Adjustment Mechanism

MVPD concerns include but are not limited to:

- Inflexible Project lodgment date of 30th June 2017. No new projects can be submitted after 30th June 2017
- Failure of due process with the development of projects. Initially projects were to go through 3 phases, 'pre-feasibility, feasibility, business cases' but projects went straight to business case descriptions and were submitted for Federal Government funding as such.
- SDL Projects under developed. NSW and joint NSW/Vic Business cases can only be described as 'concept plans' and business cases therefore have not properly costed
- Business cases directly affecting private irrigation infrastructure or private property were withheld from affected stakeholders prior to lodgment on 30th June 2017 – an existing condition for Federal Funding was that the States require support from affected parties (ie is the project supported). This condition has not been met. The

suite of projects lodged by NSW and joint NSW/Victorian projects are not supported in their current form by affected stakeholders:

- Risk assessments on business cases lodged were assessed internally by NSW Office of Water without consultation with affected stakeholders. This includes:
 - Constraints Management Strategy Hume to Yarrawonga (no consultation at all)
 - Constraints Management Strategy Yarrawonga to Wakool Junction (limited consultation, business case submitted not supported by stakeholders)
 - Menindee Lakes Project – no consultation on potential implications on NSW Murray resource/allocations occurred, requests for information was denied on the basis of ‘privacy issues’
 - Snowy Water Licenses changes
 - Hydro Cues project
 - Flexible fall rates Murray River downstream of Hume Dam rule change
 - Hume Dam airspace pre-release rules
 - Murray Valley National Parks project
- The decision and restrictive framework for the development of SDL projects has not allowed more strategic approaches to achieving environmental outcomes.
- The NSW and joint NSW/Victorian Government have made a set of assumptions on achieving relaxation of constraints on the Murray River (Albury through to Wakool Junction) that are not supported.
- The MDBA has required the inclusion of “pre requisite policy measures (PPMs), these were based on incorrect assumptions by the MDBA on actual Murray River capacity and associated risks (eg impacts on private property and elevated flooding risks)
- “Limits of Change” - The types of SDL projects submitted by the States are also restricted by specific conditions noted for South Australia:
 - “limits of change” restrictions places conditions on SDL projects that they cannot compromise the objectives for the Coorong, Lower Lakes and Murray Mouth (CLLMM) currently only measured/achieved by increased flows down the Murray River.
- Urgent major projects not included on the list submitted by the 30th June 2017 are excluded
 - Eg Mid Murray River Bank stabilisation works

MVPD Recommends:

- The Sustainable Diversion Adjustment Mechanism is reviewed to enable new projects to be included
- Existing SDL projects have the capacity to be revised, amended or deleted under the principles of adaptive management and the inclusion of new information

Information Request 2

b) The extent of adopting a different definition of 'neutral or improved socio/economic outcomes for efficiency measures affecting the likelihood of projects being delivered on time and in full

Political calls for the Basin Plan to be implemented on time and in full when known areas of the Basin Plan should be reviewed because of systemic failures, and failure to address documented risks, is likely to cause increased hostility and negative reaction to the implementation phase of the Basin Plan, while it remains in its current form.

If the Productivity Commission's question on neutrality relates to the need for an improved definition of social and economic outcomes in order to gain public support and speed up delivery time for the Basin Plan, then this position could be supported.

However, if the PC question relates to further reducing the definition of social and economic impacts, it is likely that further negative stakeholder reactions will slow the implementation of the Basin Plan resulting in increased costs to taxpayers.

- MVPD argues that it is critical that the MDBA, Federal and State Governments adopt a more comprehensive approach to identifying and meeting social and economic outcomes.
- The current MDBA definition of meeting neutral or improved social and economic outcomes is misleading and ignores the major distortions for where social and economic impacts are occurring. The MDBA refusal to accept known risks or social and economic impacts is leading to mistrust, continued resentment and is likely to result in areas of legal challenge.
- The risks to the NSW Murray Valley from proposals outlined in the Sustainable Diversion Adjustment Mechanism is also likely to continue to attract strong community concern and resentment if there is not a substantial change in approach by the politicians and the MDBA to the implementation phase of the Basin Plan.
- The lack of consultation and deliberate exclusion of NSW Murray stakeholders gaining access to SDL project Business Cases, has heightened tensions particularly as new information emerges on potential risks associated with 'efficiency measures' and SDL projects.
- The additional 450GL is not possible to achieve with social/economic neutrality

Basin Plan target 2750GL:

In 2017, the MDBA internal review of social and economic impacts from the Basin Plan water has identified inequitable distribution of social and economic impacts in the NSW Murray

region and Northern Victoria's Goulburn Valley. This is consistent with local evidence and is further confirmed by independent reports commissioned in Northern Victoria's Goulburn Valley and a range of stakeholders in the NSW Murray Valley which looked at the impacts on irrigated agriculture in the region.

In 2017, RM Consulting Group's report also confirmed the following:

NSW Murray Valley – to date has lost 471 GL of General Security irrigation entitlements resulting in :

Regional Impacts:

- \$77 million lost in regional businesses
- 207 further jobs lost in Processing, Transport, Services

Irrigated Production impacts:

- \$120 million lost in irrigated production
- 471 jobs lost in irrigation

Goulburn Murray Irrigation District (GMID) – to date has lost 350GL High Security entitlements resulting in:

Regional Impacts:

- \$360 million lost in regional processing
- 500 jobs lost in regional economy

Irrigated Production Impacts:

- \$225 million lost in irrigated production
- 500 jobs lost in irrigation

The report confirmed that while these figures were of major concern, the full impacts of water recovery under the Basin Plan will not be felt until after a period of 3 to 5 years.

These two reports (MDBA 2017 & RM Consulting Group) are in sharp contrast to the original assessment of impacts by the MDBA in 2012.

The **MDBA's** Regulatory Impact Statement (2012) described the impacts of the Basin Plan as '**modest**'. Their assessment of this impact was based on two key principles:

- Government was acquiring water through buyback /efficiency programs
- The Sustainable Diversion Adjustment Mechanism which potentially reduced the need for further direct water acquisitions to reach the 2289 GL target (within the 2750GL Basin Plan)

There was an over reliance on the presumption that, because Governments were acquiring water through buyback and efficiency programs, social and economic impacts were negated. This incorrect assumption was also pushed by a range of irrigation representatives seeking to reduce Government's entry into the water market.

The MDBA's Regulatory Impact statement however did not address social and economic impacts arising from:

- Impacts on water trade market (eg Temporary trade prices)
- Impacts on irrigation schemes
- Totality of impacts on agricultural related businesses
- Long term industry impacts (eg Dairy, Rice)
- Impacts on non-irrigators from the proposed Sustainable Diversion Adjustment Mechanism projects
- Elevated levels of flooding risks affecting private property from proposed changes to Murray River and Hume Dam operations

Basin Plan target 450GL:

The capacity to achieve social and economic neutrality in the Southern Basin is further impacted by the proposed additional water recovery target of 450GL.

The Federal Government's neutrality test associated with the additional 450GL is flawed:

- an individual irrigator participating in an efficiency program is defined as meeting the social and economic neutrality test (*even if in another state*)
- There is no inclusion in the neutrality test for others sectors of the community impacted, including the direct and major impacts to riparian landholders arising from additional water targets (450GL) to be delivered in the river systems.

There is substantial evidence to date the social and economic consequences of the Basin Plan have far exceeded the original MDBA opinions. Therefore, it is essential that all aspects of the Basin Plan, including any efficiency or supply measures do not add further to the social and economic consequences in the NSW Murray Valley.

However, this should also mean that other smaller irrigators/or non-- irrigation sectors of the community are not sacrificed to prevent further impacts to major irrigators/irrigation schemes either within or outside of the NSW Murray Valley.

The focus should be on a cost benefit analysis as to whether the environment actually needs the volumes of water proposed by the Basin Plan, additional to what has already been recovered to date.

MVPD recommends:

- **a complete revision of the social and economic neutrality assumptions applied to the Basin Plan water recovery target of 2750GL**
- **Revision of the 450GL neutrality test**
- **Deletion of the additional 450GL water recovery target and replaced by direct strategies:**
 - **In the Northern Basin to address public concern on the lack of baseline flows**

- **Ensure Northern Basin is fully metered including for floodplain harvesting**
- **Direct infrastructure investment in the Coorong, Lower Lakes and Murray Mouth region to achieve Basin Plan objectives for the site, including salinity targets, reduction in Murray Mouth sedimentation risks and Lake Alexandrina and Lake Albert water quality issues.**

Information Request 2

c) Whether there are other novel approaches to recovering water for the environment that can contribute to the Basin Plan while achieving neutral social and economic outcomes

This question by the Productivity Commission assumes that further water is required to be recovered to deliver environmental outcomes. The question assumes that additional water is the only mechanism that delivers environmental outcomes.

This is not the case and is contrary to Australia's previous approach of Catchment Management as a 'whole of system approach' and also ignores other much needed mechanism for achieving environmental outcomes (eg infrastructure, or native fish breeding projects, bank stabilisation works etc)

The MDBA and the Commonwealth Environmental Water Holder (CEWO) have not yet established the need for additional water recovery over and above what has already been achieved under cumulative environmental water recovery strategies, pre and including the Basin Plan.

When questioned whether key environmental sites can also be watered within current Murray River capacity constraints limitations, the Commonwealth Water Holder office can identify that with the Living Murray Infrastructure works now in place, the majority of key environmental sites objectives can currently be watered.

NSW Office of Environment and Heritage however do set objectives for some localised over bank flows for the mid Murray region to achieve outcomes in the Barmah Millewa forest but this can be achieved through more localised strategies and does not necessarily relate to a requirement for additional water or a complete whole of river Constraints Management Strategy. The Barmah Millewa Forest for example, already has a specific water entitlement (eg up to 150,000 ML) obtained pre-the Murray Darling Basin Plan.

A major principle to incorporate in the Basin Plan is an adaptive framework for achieving environmental outcomes, free from the current rigidity and inflexibility the Basin Plan current prescribes.

MVPD recommends: The Basin Plan allow:

- A revised emphasis away from measuring environmental outcomes through volumes of water being returned and delivered in the Murray River
- Complementary measures to achieve environmental outcomes (eg native fish stocking, river bank restoration programs, European carp control strategies,)
- Capacity for the Commonwealth Water Holder to lease water entitlements from irrigators and sell excess water on a temporary basis to raised funds for works.
- Localised infrastructure to enhance environmental outcomes in specific regions of the Basin
- Direct investment in local infrastructure for the Coorong, Lower Lakes and Murray Mouth to meet Basin Plan salinity targets, Murray Mouth sedimentation targets and Coorong objectives

Information Request 3 – NORTHERN BASIN

Should SDLs occur in the Northern Basin?

It is disappointing that the questions raised by the Productivity Commission in relation to the Northern Basin are confined to the issue of whether SDL's should be permitted in the Northern Basin. While the principle of an SDL Adjustment mechanism for the Northern Basin may be an option, MVPD does not see the reasons to negate the need to restore baseline flows.

The PC has an opportunity to highlight major failings in the Basin Plan, particularly as it relates to the Northern Basin and the flow-on impacts of water recovery on the Southern Basin. The PC also has the opportunity to provide comment on the proposed NSW Government Reform Action Plan instigated as a response to the ABC 4 Corners Program and ICAC inquiry.

The lack of baseline flows reaching the Lower Darling is critical also for NSW Murray irrigators, a lack of contributing flows to South Australia via the Barwon Darling, is required to be made up from the Murray River headwaters region (eg Hume Dam) under the River Murray Agreement and this directly impacts on water availability to NSW Murray Irrigators.

In response to the recent ABC's 4 Corners Program, the NSW Government has implemented an Action Plan to Reform Water Management in NSW for the Barwon Darling system.

Goals outlined in this reform include:

- Best practice for water management
- Strong compliance and enforcement regime
- Transparency
- Build capacity for the implementation of water reforms

It is disappointing therefore, that the proposed NSW Government papers for public consultation do not provide assurance or build confidence that substantial change in the Northern Basin will occur, nor in a timely manner.

- The NSW Government's approach to water management reforms (Northern Basin) can be interpreted as levels of reforms that will occur well after water recovery and implementations decisions proposed by the Murray Darling Basin Plan.
- a number of decisions relating to metering and equity in water sharing for downstream requirements, are not signaled as major components of the proposed water reforms.
- NSW Government water reform package must place higher emphasis on 'connectivity' and the need to ensure baseline flows for downstream systems and river water users. This issue does not appear to adequately covered in the proposed reforms.
- Environmental water acquired by the Federal Government should not replace baseline flows in the Barwon Darling system. While this is not articulated in the Water Reform Action Plan consultation papers specifically, it has been interpreted that way in various forums and is suggested by decisions in this Water Reform Package.

The Productivity Commission 5-year review of the Basin Plan provides an opportunity to encourage the NSW Government to apply fairness and equity to the Southern Basin and ensure that sufficient flows from the Barwon Darling occur right through Menindee Lakes and to the junction of the Darling and Murray at Wentworth.

In considering equity, it is also useful to refer to some prior work done by the NSW Government (Department of Water Resources) 1992. The document *Interim Unregulated Flow Management Plan for the North West* described actions and outcomes to improve flows along the Barwon Darling and priorities for river health and riparian flows

Improving flows down the Barwon Daring have been recognised as a requirement since at least 1992.

It is disappointing that the NSW Government's latest water reform package for the Barwon Darling, is still not requiring the implementation of rules, actions and metering in a timely manner and that implementation of some actions (eg metering on direct river extractions) can extend out to 2024.

The Disallowance Motion on the Northern Review is not specifically commented in this submission, however it should be noted caught up in the disallowance motion were amendments in relation to Groundwater. Aspects of wording improvements and some adjustment on groundwater, were included within the Northern Basin Review and thus the disallowance motion not only affected the Northern Basin surface water issues, but also affected groundwater amendments.

It is vital that any future proposed amendments for the Northern Basin clearly differentiate and separate groundwater related amendments from surface water issues

Northern Basin Floodplain Harvesting

The NSW Government developed the NSW draft Floodplain Harvesting Policy (2012) which was to provide a framework for licensing floodplain harvesting extractions.

Only works constructed on or before 3 July 2008, or for which a valid application under Part 2 or Part 8 of the Water Act 1912 or the Water Management Act 2000 was made on or before that date, are eligible for assessment under this policy. It is not clear what actions will be taken on unlicensed storage dams. It is also not clear what licensing arrangements will be provided to any amendments to infrastructure made over a number of years.

Key outcomes in the implementation of this policy were to occur in five stages:

- Registrations of interest (to achieve authorisation of floodplain harvesting activities)
- Determination of eligibility
- Issuing work approvals – Eligible works and applications for such works will be assessed to determine their capability to harvest floodplain water. The Office will issue work approvals to individuals.
- Incorporating floodplain harvesting in water sharing plans – Existing water sharing plans will be amended to set the floodplain harvesting long-term average annual extraction limit, establish rules for the management of floodplain harvesting, and provide that floodplain harvesting access licences will be exercised in accordance with those rules. For new plans, these actions will be taken as necessary at the time the plan is made.

Implementing the NSW Floodplain Harvesting Policy (2018) consultation paper however suggests some variations to the original intent of the NSW Floodplain Harvesting Policy.

The paper suggests a more robust compliance and enforcement regime and no change to the overall water take amounts as these are described as already capped. This is not evident in the proposed new rules.

The inclusion of rainfall run off as part of floodplain harvesting reforms can be regarded as a relatively minor issue compared to the larger issue of actual diversions from overland flows into private storages.

The consultation paper states:

- Currently there is no transparent monitoring of floodplain harvesting diversions
- Suggests new types of measurement eg measuring volumes through gauge boards and calibrated storage curves
- The paper specifically excludes the requirement for metering
- Suggests the new rules will achieve new Baseline Diversion Limits (Basin Plan)

- Manage future growth in extractions
- Suggest equal distribution of impacts amongst individuals
- Suggest meets objective to manage the effects on river flows
- Enables unlimited carryover up to an account balance of 500% of entitlement

The policy raises examples in the Gwydir water sharing plan which indicates the water sharing plan recognises and is based on limits at 1999/00 levels (eg on farm floodplain storage infrastructure)

It should be asked, how confident can the public and other water users downstream be if the accuracy of limits of floodplain harvesting were not really known at the time of developing water sharing plans in the Northern basin?

The NSW Government is inviting floodplain harvesters to have their infrastructure licensed in 2012 (retrospectively) under their new Floodplain Harvesting Policy. **If the totality of structures was unknown prior to this date and the licensing is still to be finalised at some future time yet to be determined, it is highly likely that the totality of floodplain extractions even at this point is still unknown** (*impacting on MDBA 's Basin Plan decisions*)

The NSW Department of Primary Industries (Water) Draft Floodplain Harvesting Monitoring Policy (March 2017) also notes the following:

- Support the accessibility of floodplain water into the future
- Support the reliability of water supply for downstream users

The draft policy also states:

- Ease for floodplain harvesters to implement to minimise regulatory burden, activities required are simple, streamlined, require minimal effort and time and use known practises where appropriate.
- The draft policy also states:
 - Policy minimises costs of measuring, recording and reporting floodplain harvesting take
 - License holders will calculate the volume of water taken in that year

The treatment of floodplain harvesting and inadequacies of baseline flows in the Northern Basin is having a detrimental flow on downstream river health and other water users. Flows not reaching the Lower Darling, Menindee and the Murray directly impact on NSW Murray River communities and irrigators.

MVPD argues that:

- NSW floodplain harvesting should be fully metered and subject to compliance rules consistent with the NWI metering standards
- Floodplain harvesting policy must recognise and implement baseline river flows of sufficient standard to avoid damaging river health and ensure end of system base flows to avoid impacts to other interests in the Basin (including stock and domestic users, irrigation supplies Lower Darling)

- Floodplain Harvesting Policy must be amended to ensure connectivity of baseline flows essential to achieve equity in Water Resource Plans

The original method to determine the November 2016 draft entitlement volumes may also need view. The consultation paper states entitlements were developed on the basis of river flows 1890 to 2013 using historic climate records. While that methodology in itself may be valid, when combined with the lack of data in relation to total overland flows extractions particularly from the 1990s on, it is likely that the setting of those volumes did not account for impacts on flows to Menindee lakes and impacts to the Lower Darling and broader Murray system.

- MVPD remains concerned that insufficient regard has been applied to the impacts on downstream environments and users shares in relation to the setting of licensed volumes for floodplain harvesting in the Northern Basin

Northern Basin Water Take and Measuring

MVPD recognises that different applications of a NSW State wide metering policy may be required in different regions. For example, on coastal valleys a cost benefit analysis on smaller scale pumping may require standards that are reflective of usage and/or regional extractions rules.

In relation to the Murray Darling Basin Northern Basin irrigation extractions, MVPD argues for:

- Consistent metering standards in the Northern Basin and Southern Basin as agreed under the National Water Initiative (NWI)
- Telemetry metering for accurate extraction reporting, monitoring and water sharing plans
- Full metering consistent with the new Australian standards on irrigation extractions in the Northern regions of the Murray Darling Basin and these are mandatory
- Floodplain harvesting is fully metered at the point of floodplain diversions and is monitored to a standard consistent with the Southern Basin
- Northern Basin metering is not delayed and is given a roll out period of less than two years
- Consistent application of NSW commitment and public statements '*no meter no pump policy*' and this rule also applies to floodplain harvesting in the Northern basin
- Floodplain harvesting is not subject to self-reporting as proposed in the consultation paper

The NSW Government consultation paper identifies an increase in compliance and enforcement assisted by increased resourcing of \$9.5 million per year.

However, three key issues stand out:

1. Floodplain harvesting will not require metering and will have a system of measurement that relies on self reporting
2. Application of the NSW Statewide Metering Policy consistent with the National Water Initiative (NWI) is still not being applied in the Northern Basin
3. The timeframe for the roll out of metering requirements in the Northern Basin extends to 2024 after decisions on water recovery to meet environmental needs under the Basin Plan have occurred.

Northern Basin: Environmental Flows

MVPD argues that the management of basic river health requirements on the Barwon Darling should be consistent with standards applied to the Murray River from its headwaters to the SA border.

In particular that the principles to achieve baseline flows, stock and domestic needs, town water supplies and downstream irrigation commitments, are equally applied in the Northern Basin as in the Southern Basin (albeit recognition of the unique rules for different valleys).

Whole of river connectivity is an essential component of achieving a level of equity between the Northern Basin and Southern Basin.

MVPD believes there is an opportunity for Northern Basin Irrigators to develop localised solutions with the NSW Government, the MDBA and the Commonwealth Water Holder to restore baseline flows prior to the application of any new rules for the protection of environmental flows in the unregulated systems of the Northern Basin.

At this point MVPD does not put forward a position as to the preferred type of protection for managing environmental flows in the Barwon Darling.

MVPD expresses strong concerns that the proposed amendments for the protection of environmental flows in NSW should NOT be applied in the Southern Basin in regulated systems.

- This is because protection of environmental requirements has already been achieved over a sustained number of years and within water rule changes (eg Murray Cap, NWI and 2004 Water Sharing Plans, Barmah Millewa Water, Snowy River flows etc)
- The Basin Plan water recovery strategies have resulted in major social and economic inequities on the NSW Murray Valley

Information request 3 – Constraints

a) Why progress to remove constraints has been slower than expected

b) Implications of this slow progress

c) Options to remove constraints in a more timely manner

The MDBA was repeatedly warned for 7 years about natural physical Murray River limitations in relation to achieving higher flow objectives for South Australia in the Basin Plan.

- The MDBA denied that constraints issues were relevant within the Basin Plan water recovery target of 2750GL and continued to provide incorrect advice to the Federal and State Governments on this issue up to and beyond 2010.
- In 2012 the MDBA did recognise constraints issues but only within the additional water recovery target of 450GL.
- Together with the on- going community/stakeholder concerns with the Basin Plan and its emphasis on the Murray River and flow objectives for South Australia's Coorong, Lower Lakes and Murray Mouth, the failure of the MDBA to provide correct advice on constraints issues has led to a complete breakdown of trust in the MDBA and will lead to further delays.

Community concerns on the failure of the MDBA to accept local knowledge and advice was heightened in 2010 when environmental flows were released in late 2010.

In late December 2010, environmental flows reduced the natural recession rate of the Murray River which had been experiencing above average flows as is normal with wet years following extended drought.

Environmental flows released during the harvest period for cereal crops in the NSW Murray region prevented access with a number of properties adjacent to the Barmah Millewa Forest. As the Murray River was 'topped up' with environmental flows, this led to corresponding height increases in adjacent creeks and river systems and the subsequent interference with private property access. (note: this was not a flood event)

Impacts to individual properties and businesses arose when property access was interrupted and harvest was delayed. A subsequent substantial rain event led a number of businesses to experience total or partial crop losses, the first of their cereal crops grown post the Millennium Drought. Financial impacts were extensive and this event confirmed previous risk advice from local stakeholders, the exact situation that had been long denied by the MDBA.

Following this event, State Governments intervened and required the MDBA to develop a Constraints Management Strategy.

The MDBA established the Yarrawonga to Wakool Junction Constraints Advisory Group. For a period of 18 months affected landholder representatives met with the MDBA to provide advice on risks, extent and types of constraints issues.

- At the end of that period, in late 2014 the MDBA released its Constraints Annual Report.
- The flow regimes that the advisory committee had rejected, then appeared in the report as 'feasible, with community acceptance for further investigation'
- Objections and request from the committee to correct the report or provide letters advising of errors to Federal and State Governments was refused by the MDBA.
- The MDBA continued to provide advice to the Federal and State Governments that constraints were only relevant with the additional 450 GL and was not relevant to the 2750GL. This was not correct.

In 2016, further decisions by the MDBA caused even higher social and economic impacts.

Evidence on risks from proposed changes to Murray River operations and above bank flow regimes proposed in the Basin Plan were again confirmed.

- In September 2016 a smaller natural flood mimicked the proposed levels of environmental flows outlined in the MDBA's Basin Plan watering strategies. This natural event was followed by a Bureau of Meteorology forecast of an additional 100 ML rainfall over the mountain catchments.
- Affected property owners hold the view the MDBA did not implement measures to acknowledge and manage flood risks despite rainfall forecasts by the BOM.
- The MDBA then released 20% of the Hume Dam in one week. This caused major flooding downstream of Albury and catastrophic flooding downstream of Tocumwal when Victorian tributaries merged with the Murray River.
- The Central Murray Floodplain Plan failed and extensive crop losses occurred below Tocumwal with major flooding extending into the Edward Wakool River network.
- As per prior local community's warnings, pre-filling or pre-wetting up of the Barmah Millewa Forest System whether naturally or through the release of environmental flows gives rise to additional flooding risks if subsequent rain events occur over the catchments of Hume or Dartmouth Dam and the unregulated Victorian Rivers (eg Kiewa and Ovens rivers). Such risk need to be acknowledged and carefully managed.
- If the forest floor is dry and river and creeks systems not pre-filled, the capacity to absorb future high flow events is greater. If, however the forest has been pre-wetted by natural or environment flows enhanced risks management strategies for flooding are essential.
- This combined with how releases from the Hume Dam were managed despite forecast rain events, has led to a complete breakdown in trust of the MDBA impacting on the Constraints Management Strategy.

Progression to remove constraints has also been slowed by approaches of the NSW and Victorian Government on constraints issues.

The SDL Adjustment Mechanism has included projects for the Hume to Yarrawonga and Yarrawonga to Wakool Junction reaches of the Murray River. In Victoria, the Goulburn River was also subject to a Constraint project.

Business cases for Hume to Yarrawonga were not provided to private property representatives and as such consultation on the proposed SDL project had not occurred prior to their formal lodgement by NSW and Victorian Governments. Yarrawonga to Wakool Junction Business Case was also not supported in its submitted form

Concerns include:

- The development of the business case for Yarrawonga to Wakool Junction was subject to 'conflict of interests' and the business case submitted was not supported by the relevant advisory group
- The List of SDL Projects presented to MINCO give a false impression that Yarrawonga to Wakool Junction Business Case would achieve flows up to 30,000

with buffers for flows to 50,000 ML/d. This was misleading and actually involved a project costing scenario not a flow scenario. It is likely that this was done to increase the scoring capacity of the SDL project consistent with the MDBA's scoring system

- The inter related flood risks known to occur between the Goulburn River (Vic) and the Murray and Edward Rivers and associated forest systems has not been recognised or addressed
- No consultation has occurred on the business case submitted for the Hume to Yarrawonga section of the Murray River – it is noteworthy that this region also has existing legal easements in place and thus has an historical compensable right
- SDL projects for the above were developed separately despite strong requests that river flows between the rivers and sections are related and bear direct relevance to potential private property impacts and elevated flooding risks.
- It is highly likely that the 2010 environmental flow event and subsequent failure of the MDBA to manage flood risks which caused significant crop losses in the mid Murray immediately upstream of the Barmah Choke will increase the mistrust of the MDBA.
- These events combined with cumulative failures of the MDBA to heed local knowledge and warnings will delay progress and eventual achievements of the constraints proposals. This includes the MDBA's lack of progression in acknowledging known bank erosion risks to this section of the Murray and Edward Rivers.
- This together with known environmental risks to the Murray River from proposed higher flows to South Australia above the natural bank capacities will cause bank erosion, increased sedimentation and turbidity issues.
- Pre-the formal Constraints Management Strategy, early phase investigations of constraints (Bullatale Creek region/Millewa Forest) which were built on constructive dialogue stalled due to failings of both the MDBA and senior staff in NSW DPI (Sydney) negatively impacting on the success of investigation of options with local DPI/OEH staff/landholders
- There are major negative legacy issues that must be deal with by the MDBA and the NSW Government in order to progress investigations of Constraints issues
 - Restoration of trust will require substantial recognition of past errors and major changes in how future processes are shaped and implemented.
 - There is zero trust as the MDBA, CEWH, NSW and Victorian Government have not been prepared to focus on practical options for the mid Murray River

d) Strategies to achieve Basin Plan objectives when constraints cannot be removed

The Constraints Management Strategy arose out of repeated community/stakeholder warnings that the MDBA's flow rates proposed under the Basin Plan were not realistic, particularly when the focus on achieving those flows was predominantly from the Murray River.

There has been no accounting for the damage such flows will have on the integrity of the Murray River itself, nor on the private property and business impacts.

The cost of 'relaxation' of constraints remains unknown and is far beyond the proposed \$200 million enabled by funding associated with the 450GL.

The 2016 catastrophic flood also identified that sending large volumes of water as proposed under the Basin Plan are not solutions to sedimentation of the Murray Mouth or the Coorong.

There are however a significant number of options that can deliver on Basin Plan objectives:

- Revise MDBA's current reliance on achieving localised objectives for the Coorong, Lower Lakes and Murray Mouth via increased flows down the Murray River
- Include the natural catchment areas of the Coorong within the Basin Plan and incorporate strategies to return a % of natural flows to the Coorong from the South East of South Australia (note: natural flows to the Coorong have been redirected to the Southern Ocean via two extensive drainage schemes)
- Revise current focus on increased Murray River flows to achieve new EC salinity targets for Lake Alexandrina of 1000 EC 95% of years and 1500 EC 100% of years and incorporate infrastructure strategies to exclude sea water intrusions that regularly occur during southerly swells
 - Fully automate the barrages
 - Revise current operations of the Mundoo barrage to enable strategies to reduce sedimentation of the Murray Mouth
- Revise the MDBA's focus to include additional flows from the Barwon Darling system and remove reliance on the Murray River downstream from Albury
- Broaden the 'thinking' on the suite of complementary options/programs/projects that can achieve environmental outcomes.
- Re focus efforts and strategies on achieving realistic flows in the Murray River to achieve environmental outcomes – levels that private property owners can support and work with Government(s) to achieve
- It may be argued that Murray Irrigation Mulwala Canal can 'overcome' constraints in the mid Murray – while the Mulwala Canal has played and may continue to play a role in bypassing the Barmah Choke, there are system limitation (capacity) and regardless of any capacity enhancement projects, the water must still go into the Edward Wakool River system which also has capacity limits.

Information request 5

- a) Extent to which Australian Government's strategy to recover water in areas where gaps remain will be cost effective, align with Basin Plan's environmental objectives and be transparent**
- b) Risks to achieving water recovery targets by 1 July 2019**
- c) Examples of water recovery (infrastructure & purchases) that have been well implemented or had major deficiencies**

a) Gaps

The Murray Darling Basin Plan in its current form is not a cost-effective method for achieving environmental outcomes in the Murray Darling Basin. The focus on measuring environmental outcomes by sending large flows down the Murray River has taken achieving environmental outcomes back decades.

The Plan remains fundamentally flawed and there has been no cost benefit analysis to assess Basin Plan objectives, expenditure of taxpayer's funds on water recovery or consideration of the broad short and long social and economic impacts of the scale of water recovery that is occurring in the Southern Basin

At the end of the Basin Plan, problems of lack of baseline flows from the Northern Basin and the Barwon Darling system will remain unresolved, dredging in the Murray Mouth will still be required and under current proposals of the MDBA, the integrity of the mid Murray River's natural banks will fail.

As a matter of urgency, a cost benefit analysis on objectives outlined in the Basin Plan for the Coorong, Lower Lakes and Murray Mouth and new flow targets of 60 – 80 ML/d to the South Australian border should be independently implemented.

- At this point, when questions are raised with the MDBA, Federal or State Governments about how this target will be met from each Basin Valley – there is a deathly silence.
- It seems that the MDBA's approach that the lions share of meeting this target will occur from the Murray River is actually what is intended.

Therefore, the issue of cost effectiveness for the tax payer become paramount.

The Southern Basin has inequitably borne the majority of social and economic impacts to date from water recovered for the environment. Further impacts are still to occur as a number of SDL projects will also impact on irrigation reliability particular to MVPD members (ie outside large irrigation corporation areas)

In addition, the delivery of proposed environmental flows in peak months places severe disadvantage on other river users (eg tourism) and riparian landholders with substantial impacts to private property and increased flooding risks.

In answering question a), it is hoped that this question does not lead to assumptions by the Productivity Commission in its report, that further water recovery in the Northern Basin could be deemed as 'too difficult' and thus this would lead to further risks to the Murray Valley both in terms of providing the 450GL and /or through further changes to Murray River or eastern storage dam operations

MVPD argues that it is simply not cost effective for the Federal Government to continue with its Basin Plan in its current form.

There needs to be a significant realignment/revaluation of Basin Plan objectives and a refocus on achieving environmental outcomes through a suite of options unrelated to increased flows down the Murray River.

b) Risks to Water Recovery Targets

There is a high risk that targets will not be met by 1 July 2019. It **is not** just a matter of additional time; the important factor is to identify:

- What is it the Basin Plan was trying to achieve
- Were the original assumptions valid
- Is the Basin Plan sustainable or cost effective in its current form?

C) Examples of projects (positive & where deficiencies)

The MDBA's Regulatory Impact Statement (2012) and a number of industry strategies have placed high focus on minimising social and economic impacts through the way water has been purchased.

This has focussed only on the early stages of water recovery, initial investments/outcomes eg on farm efficiencies programs and or Private Infrastructure Operator Programs (PIOP).

There were however a set of assumptions made by the MDBA and also certain industry groups, that such programs would be socially and economically neutral. This is not the case!

- As the volume of water available to agriculture is reduced, cost of temporary water rises to unaffordable levels is now leading to stranded assets (including irrigation efficiencies)
- Ad hoc purchases are leaving a swiss cheese effect, with those irrigators remaining on the systems bearing a higher running costs for continued irrigation supplies
- Program roll outs, while well-funded in themselves have not always achieve maximum efficiencies or met future risks (ie through design faults, system failures or restrictive frameworks in which funding applications are made)]
- Lack of use of local knowledge has been a critical failure in (program design and roll out)

Major deficiencies have also occurred within the Basin Plan, because the guidance of water recovery strategies (eg MDBA setting of 'end of valley targets and how the 971GL shared component was achieved) did not account for how the volumes of water being recovered were then going to be delivered.

The success of many Natural Resource Management Programs in Australia can often be linked back to how programs were designed, local partnerships, incorporation of local knowledge and the capacity of the project to be supported by local people.

This is well known but surprisingly this approach has not been implemented by the MDBA in its approach to the Basin Plan.

It is useful to look at one major project in the Mid Murray to identify the success or failures of options.

- The Perricoota/Koondrook Flood Enhancement Project was initially supported by local farmers/stakeholders.
- Over time though the use of local knowledge was undervalued/ignored and resulted in project errors and cost blow outs to budgets.
- Initial cost was at \$58 million but project costings to date are over \$100 million (\$110 approx) and the 2004 project is still not yet operational.
- This Living Murray project is related to Basin Plan outcomes, its funding was not directly associated with water recovery decisions under the Basin Plan but its operation is.
- It is important to understand what the failings were and why they occurred. Lessons learnt can then be applied in this next phase of the Basin Plan.

In the Southern Basin NSW Murray region, the projects and water recovery strategies to date have focussed on water recovery from irrigated agriculture.

There was no assessment of what volumes could be physically and safely be delivered prior to the purchase program. This is despite documented warnings and requests for pausing of further purchases until the issues/risks were further investigated.

It took to 2013 before stakeholder warnings on physical limitations of the Murray and Goulburn Rivers were acknowledged.

The Constraints Management Strategy which has continued since then, did not result in a re thinking of the volumes of water proposed for acquisition under the Basin plan, instead the focus became on 'how to remove or relax constraints'

This is a major example where announcements of water recovery and associated funding are made, where there is not a corresponding strategy that could have identified alternate options through for example a cost benefit analysis.

Federal programs /strategies are ad hoc, and do not take into account all aspects such decisions should take.

SDL Projects:

- SDL projects are also not designed necessarily as cohesive as projects.
- An example is the non-alignment of the two major SDL projects in the Southern Basin
 - 1) NSW Millewa National Park Project
 - 2) Constraints Manage Strategy as it affects private land in the Barmah Millewa Forest region
 - The Millewa National Park put forward by NSW in a relatively short time frame which also affects private irrigation infrastructure and is linked to the broader Constrains Management Strateg – is not designed to deal with the issues together.
 - This will lead to one aspect of the Millewa National Park project (ie where it affects private irrigation infrastructure) being designed for one flow level but the Constraints Management Strategy is proposing a different flow level.

- This will result in poorly design projects that are incompatible with each other.
- The system to make SDL decisions is too rigid, and there seems an incapacity to break through political or bureaucratic processes in NSW to gain common sense outcomes

Landholders and MVPD members in the Edward Wakool region have participated constructively in many programs to facilitate environmental outcomes both on and off farm. A key component of that is 'shared decision' making which is seen as critical.

In the same area also, it is possible to have the opposite experience where 'top down' processes have then resulted in negative reactions from landholders and a reduction in environmental outcomes.

One program most recognised by politicians, is the Environmental Water Advisory Group (EWA). While this program does have value, it is of major concern that the dominant members of EWAG are Government agencies and environmental groups. There is only one local landholder member.

Information Request 6

- a) Assistance for communities*
- b) Extent of assistance*
- c) Evidence that assistance has met intended outcomes*
- d) Whether future structural adjustment is necessary*

MVPD: Structural Adjustment is a political solution, not a community solution!

This is because structural adjustment does not replace industries that close or job losses that result in the short or long term. This is not to say it doesn't have a place , but the more important question to ask, were the original political decisions for industry/community impacts sound.

In regards to the Basin Plan, the answer is NO

It would be more cost effective to revise the decisions even at this point in the Basin Plan to achieve indisputable balance between social, economic and environmental outcomes. They are not impossible and should not be mutually exclusive. The MDBA in interpreting the Water Act 2007 has indeed made this approach the norm.

There are many things that the MDBA could do even at this point, and within the political challenges in which decisions can be made.

Sadly, these choices are not considered by the MDBA and therefore potential to progress more cost effective and sustainable solutions have stalled.

The NSW regions of Deniliquin and Wakool are recognised as the areas most negatively impacted by the Basin Plan. Even within this MDBA analysis and external consultancy reports, only impacts from an irrigation perspective were considered.

Other impacts for example to riparian landholders and/or tourism were excluded.

It is noteworthy also to reflect on the MDB Regional Economic Diversification Program and whether it dealt with the negative social and economic impacts in Deniliquin and Wakool.

In fact, these two highly impacted regions received virtually no significant funding. In Round 1 only a couple of businesses received funding and in Round 2, a similar story emerged. The majority of funds went to areas not impacted or not within irrigation dependent communities.

In regards to riparian landholders impacted by mistake with the release of environmental flows (2010) and subsequently with elevated risks of flooding, such interests also could not qualify for funding. This is despite impacts of and in excess of \$200,000 or \$300,000 and face further uncertainty in the implementation decisions of the Basin Plan.

- Structural adjustment packages are not the solution but where provided, programs need to be target directly to those areas/or individuals most impacted
- Rigidity of the application process excludes valid programs, many of the options are measured in immediate jobs directly gained at the time of the project funding. This ignores potential benefits of options where there is a much greater cumulative effect from a successful project, than just the measure of employees in a single business application
- Project applications are also impacted by decision processes. There is no capacity to bypass rigidity of shire boundaries – projects may bring multiple benefits across boundaries but can be excluded because of jurisdictional challenges

Information Request 7

a) Water Resource Plans (WRP)

b) – e)

Water Resource Plans

- There is significant non-alignment with decisions in the Basin plan that mean achievement of Water Resource plans cannot be delivered by the timeframe deadline of mid 2019
- Lack of connectivity between the Murray Lower Darling Plan and the Barwon Darling (*connectivity to achieve baseline flows from the Barwon Darling is seen as critical*)
- NSW Department restructures have ensured that WRP being delivered on time is unlikely, there is also a high risk that decisions may be taken that undermine the property rights of irrigation entitlements and risks factors are not adequately understood or consulted on within the restructured departments. (eg Menindee Lakes, or Murray River operational changes)
- WRP are still dependent on MDBA baseline data and associated assumptions – many of these are non- transparent and have been open to challenge
- Final decisions under the Constraints Management Strategy will impact on decisions within the WRP but there will be years of separation of final positions
- WRP are still required to implement MDBA decisions that may or may require a more adaptive review

- MDBA assumptions on new flow rates required for the (Murray River) to meet 'end of system flow targets (SA CLLMM)
- Pre-Requisite Policy Measures
- SDL Mechanism projects (eg changes to river operations, major storage dams, snowy licenses call out, Barmah Millewa0
- NOTE: there has been little meaningful consultation on these issues, however it is assumed by the MDBA timelines that such decisions will be completed for inclusion in the WRP by mid 2019

Information request 8

- a) Environmental Water Planning – is or is not achieving environmental objectives and within legislated timeframes**
- b) How effective and efficient the delivery of environmental water is, and how barriers could be reduced**
- c) Alignment of Australian and State Government objectives for environmental water**
- d) The Extent to which the Pre-Requisite Policy Measures (PPMs) will be in place by June 2019, for the Plan's environmental objectives under the SDLs agreed by Governments**
- e) Any opportunities to better integrate environmental water planning and natural resource management programs and complementary works**

a) Achieving environmental objectives:

The Basin Plan was developed primarily on data and information obtained during the peak of the Millennium Drought. An example of this is the MDBA's reliance on the Sustainable Rivers Audit.

Australia has experienced sustained drought throughout its history and prolonged drought is usually followed by above average rain events and floods. Australia's history repeated itself following the Millennium Drought with higher than normal rainfall events, with flooding or higher river levels in various Basin Valley's.

The environments of the Southern Basin recovered as per normal with post drought climatic conditions.

In responding to question a) – Will environmental objectives be achieved within legislated timeframes?

Northern Basin:

- The Basin Plan aim to improve river health and environments will not be achieved in Northern Basin as the MDBA have not established sufficient baseline or 'end of system' flows on the Darling River system (eg Barwon Darling) and applied methodologies to achieve them
- It is not clear how or if the 143 GL 'end of valley' flow target to Menindee Lakes will occur or be protected to achieve that objective

- NSW Government will not mandate ASA4747 Standard metering until 2024
- Floodplain harvesting will not be metered at all and will rely on a 'system of measurement' to be developed to 2024 and then a system of self reporting

There is little chance the Northern Basin will meet the overall objectives of the Basin Plan within legislated timeframes. The Basin Plan decision framework and targets for the Northern Basin contradicts the MDBA's objectives for a healthy Murray Darling Basin

Southern Basin:

- Environmental recovery has been a naturally occurring response following prolonged drought (return of average to above average rainfall)
- Post drought, has also seen a resumption of the National Water Initiative NSW Water Sharing Plans and implementation of further objectives for the environment (under NWI)
- The Commonwealth Water Holder's use of the environmental water portfolio has also added to localised outcomes
- It remains a challenge to separate and apportion environmental outcomes purely to use of the environmental water portfolio and objectives of the Basin Plan

In the Southern Basin over 2000 GL of water for the environment has already been recovered. There is sufficient environmental water already held by the Commonwealth Environmental Water Holder (CEWH) to meet objectives within the 2750GL framework of the Basin Plan

The CEWH has the capacity to utilise their water portfolio within assets noted in the Basin Plan under existing frameworks.

The Plans objective for the Coorong, Lower Lakes and Murray Mouth will not be achieved.

- Coorong, Lower Lakes and Murray Mouth (CLLMM) - the Basin Plan primary reliance on additional flows down the Murray without localised infrastructure improvements in South Australia will not work
 - In 2010 sustained high flow events in the Murray River did not result in reduce sedimentation risks to the Murray Mouth
 - In 2016 catastrophic flood in the Mid Murray region did not clear the Murray Mouth and three weeks after water went through the mouth, dredging was resumed
- The Southern Lagoon of the Coorong will continue to be hyper saline as flows down the Murray River are not geographically linked to the extent necessary for Murray River flows to actually reach the Southern lagoon

The Commonwealth Water Holder has a unique opportunity to set positive examples for achieving environmental outcomes with government/community partnerships.

b) The productivity Commission questions focusses on how barriers for the efficient delivery of can be removed.

In terms of removal of barriers, the MDBA's approach to affected stakeholders is seen as a major barrier to maximising opportunities for additional environmental outcomes.

- The MDBA in developing the Basin Plan, applied a top down approach to its decisions and the Plans' implementation.
- The MDBA has not valued community relationships and developed the Basin Plan with communities affected by decisions
- The MDBA has ignored the scale of community impacts to occur in the NSW Murray Region and local knowledge on risks. This is despite sustained and documented advice, hosted tours and evidence of the private property and flooding risks actually occurring.
- The MDBA's approach to the Constraints Management issue can only be described as appalling leading to increased community resentment and reduced likelihood of public acceptance for the MDBA achieving 'easements to flood' in the Murray River system.
- Finding mechanisms to achieve the efficient delivery of environmental flows should be based on enhancing community capacity to work collaboratively with Government (s) and the MDBA to investigate options
- MDBA needs to realistic and prepared to amend its original Basin Plan decisions on flow targets (based on original incorrect assumptions)
- Under the current decision framework the opposite is occurring leading to further disenfranchisement of private property owners.
- Hume to Yarrawonga has legal easements in place for current river regulated conditions – the MDBA, NSW and Victorian Governments have not consulted with the known landholder representative Group (Murray River Action Group) and made questionable assumptions including that legal easements will be amended ie new 'easements to flood'
- Yarrawonga to Wakool Junction – the scale, extent and costs to taxpayers to create 'easements to flood' private property access and increased flooding risks have not yet been determined. Risks outlined to Government(s) , and the MDBA have been ignored. This is eroding capacity to develop options around constraints

Murray Valley Private Diverter members have a strong history of working with environmental water and environmental programs in the Murray, Edward and Wakool system. Such an approach is built on respect and genuine two-way exchange of information to form meaningful partnerships essential for success. This is particularly relevant when considering:

- The majority of river frontage is private property (NSW)

- There are major opportunities for increased and long-term monitoring and evaluation if the relationship with private property owners is working through positive partnerships
- There is currently a narrow approach by the MDBA to measurement of environmental watering outcomes, largely in part because of the Basin Plan's focus on volumes of water as a measure of success.

In contrast the Basin Plan:

- Avoided the principle of working with local communities - this is a major failing of the Basin Plan process. *Consultation was 'telling people what was to happen and community responses did lead to change'*
- MDBA failure to meet community expectations and standards for consultation on the Basin Plan and its approach to the Constraints Management Strategy has left a lasting negative legacy

There was an opportunity to improve potential outcomes in the next phase of the Constraints Management Strategy, but sadly when NSW Government took over constraints, a similar failing occurred. Affected property owners were treated with a top down approach, capacity to include more accurate information only partially occurred, capacity to amend consultant's business case was limited. This was then presented to the Federal Government (as SDL projects) when there was no consent from relevant stakeholders. There was also 'conflict of interest' issues in both the appointment of the Chairman and the consultant.

The Productivity Commission should review:

- a. Are the high flow targets (above bank) for the Murray River valid given new knowledge?
- b. Will high flow targets for the Murray River achieve the specific objectives for the CLLMM?
- c. Were there alternative options to achieve environmental outcomes?
- d. How will increased degradation to the integrity of the Murray River natural banks (Mid Murray) be addressed.
- e. Is the MDBA prepared to revisit its initial high flow targets for the Murray River?

d)

The extent PPM's will be in place by 2019

- No meaningful consultation with affected stakeholders on PPM's has occurred in the NSW Murray region
- It is impossible to assume that other factors relating to PPM's (eg the Constraints Management Strategy) will be agreed to or completed prior to 2019

e)

Integration of environmental planning and complementary works

- The Basin Plan's focus on water volumes as a measure of environmental success is contradictory to over 20 years of total catchment planning
- A foundation principle for the success of natural resource management planning outcomes is the achieving of positive partnerships with those most well placed to assist delivering outcomes (local landholders/local people)– this has been absent from the Basin Plan, PPMs, SDLs, and the Constraints Management Strategy
- Complementary works are critical to achieving Basin Plan objectives. This should include but not limited to:
 - Localised infrastructure to assist with the achievement of environmental outcomes
 - Restocking programs for native fish/improving fish passage
 - Bank stabilisation works for the Murray River system (mid Murray) and Edward Wakool where applicable

Information Request 9

a) Water Quality - inconsistencies in standards and guidelines

The Basin Plan infers that 'end of valley' targets will help achieve water quality objectives and baseline flow outcomes.

These achievements are not achieved through the MDBA's current approach

- The Mid Murray River region is required to deliver 'end of system' /'end of valley' targets to ensure additional connectivity with downstream users and river objectives in water planning and outcomes determined in the Basin Plan
- The Northern Basin (eg Barwon Darling) is not required to meet the same standards, for example there is no transparent outcomes for how the Basin Plan will achieve 'end of valley' flow targets to Menindee and the Lower Darling
- The Murrumbidgee River also has unclear 'end of valley' outcomes and transparency around the achievement of shared flow targets to South Australia

The MDBA application of the standards is being inconsistently applied.

When the MDBA and NSW Department of Primary Industries is questioned about which valleys will contribute to the Basin Plan's proposed flow target to the South Australian' border (60 – 80GL), no answer is forthcoming. The only valleys that appear to be contributing to that target is the NSW Murray and the Goulburn River (Vic)

Water Quality issues in the Lower Darling are of major public and local concern – they are not being resolved under the Basin Plan. This question should be posed to the MDBA.

This issue is further evident when there is no connectivity between Water Resource Plans (except in the Murray to South Australia)

Repeated requests in the Mid Murray Region to ensure 'connectivity' between Water Resource Plan regions is failing to achieve changes in approach at either MDBA level or by the NSW Government.

To achieve improved water quality a number of factors need to be addressed:

- The MDBA need to provide transparent information about risks to water quality (including sedimentation /turbidity) in the mid Murray region arising from MDBA high flow objectives for the Murray River (bank erosion)
- Repeated outbreaks of blue green algal blooms in the Hume Dam require urgent investigation (particularly in relation to source of nutrients and risks from aging sewer systems in holiday zones)
- Black water events are a naturally occurring issue in red gum forest regions of the Mid Murray. However, the frequency and subsequent native fish deaths in the Edward Wakool system due to Hypoxic water quality conditions, cannot be attributed to claims of lack of flows. More frequent flooding/watering may actually increase the frequency of such events as vegetation/leaf growth is maximised with the inevitable follow up of dry periods. Maximum leaf litter may increase risks, but whatever public opinion is, to manage further risks, it is imperative that science is open to further investigation to identify options to better manage risks.

Information Request 10 – Water Trading

The MDBA, sections of Government and public commentary have often assumed that it is possible to introduce standardised trade rules in the Basin.

- It is important that trade rules respect regional difference and account for the complex nature of types of water sources and delivery systems.
- There is an increase risk that trade of water is not sufficiently recognising natural restrictions in physical capacity of the Murray River
 - Trade of water for example upstream of the Barmah Choke to downstream Almond Plantations must not be permitted if this leads to reduction in prior rights to extract water by existing irrigators within the Murray or associated river systems
 - Unrestricted trade is likely to lead to the introduction of river channel sharing restrictions impacting on the property rights of existing irrigators
 - A solution is to recognise existing limitations and ensure that any new large irrigation development that trades in water (ie permanent or temporary) must work within existing limits and rules – there is a high risk that such developments may seek to amend rules and thus cause third party impacts to existing irrigators
 - Land planning assessments are also currently inadequate to address these risks
 - There is a high risk that developers will continue in full knowledge of known restricted capability to get water from the Hume Dam to downstream of the Barmah Choke (ie to Western Vic, SA new developments) – and will call for freeing up of trade

- Recognise system constraints and existing rights of those with a history of extraction on a system
- Water Act 2007 and resulting rules being implemented by the ACCC are adding increased regulatory burdens to smaller irrigation schemes
 - Increased reporting when such reporting is not justified
 - Assumptions on requirements for reporting when the scale of schemes does not warrant it
 - Expectations that smaller schemes require additional scrutiny by the ACCC when the volume of trade cannot justify the reporting requirements

Government and the MDBA have also made assumptions that trade will help resolve negative social and economic impacts from water recovery strategies under the Basin Plan. This is not correct.

In many instances, freeing up of trade conditions is further impacting on the effects of the Basin Plan and when this is combined with impacts on water trade of Governments now being the largest water holder in Australia, the affects are very damaging to regional businesses.

- The Basin Plan has had a major impact on water trade, availability and price
- The volume of the trade bucket has diminished by the volume Governments have acquired from irrigated agriculture
- Farmers reliant on the temporary market pre-basin plan - now face new business challenges in a more competitive market
- Farmers reliant on the temporary market post basin plan - if they have sold a portion of their permanent water (through efficiency programs and/or drought) may have insufficient water available to maximise their (& govt) on farm efficiency investments

The separation of land and water has achieved some benefit however, for every benefit there are substantial dis-benefits including the concentration of water removal from districts or irrigation systems and new entrants into the trade market in the form of speculators and investors.

- The treatment of water as a tradeable commodity (versus an input into agricultural production) does bring new risks to historic use of water in irrigation dependent businesses and communities.
 - Trade prices may discourage agricultural production in a region, causing flow on effects to regional/local communities (jobs) and associated agricultural dependent businesses
 - Fluctuating nature of the movement of water under fa further freeing up of trade existing trade arrangements may then lead to agricultural businesses (eg machinery dealerships, repair companies, contractors) moving from a locality as the volume of remaining work is reduced. This leads to increased costs for remaining irrigators when requiring services of agricultural support businesses that may have relocated to another region

- A perverse outcome of the free trade approach is that the price of temporary water will **drive down agricultural production and diversity.**

Changes to trading rules

- a. Governments have pushed the concept of water to move to 'high value crops'. The measure of which is unclear and unreliable. A high value crop one day can be a low value crop the next year. Equally the concept of water chasing a notional high value end point, presents huge risks to water delivery systems in terms of capacity demands (ie new demands on the Murray River from Almond Plantations downstream of the Barmah Choke)
- b. Water trade outside of valleys can lead to stranded assets (irrigation infrastructure and individuals remaining on a system)
- c. The concept of free trade needs to be tempered with the retention of and new rules that protect existing users (eg new demands on area of limited capacity should not lead to the reduction of property rights of existing irrigators)

Information Request 11

Critical Human Water Needs (CHWN)

Risks to Critical Human Needs

a)

- Southern Basin: Critical Human water needs provisions are already well protected in NSW Murray water sharing and resource planning, Victorian Planning – all provisions for both states and South Australian needs are well protected and there is no need for change
- There is one exception: in times of extreme drought critical human water needs are not protected in the Edward Wakool System. The Basin Plan 86B highlights communities dependent on the waters of the Edward-Wakool systems downstream of Stevens Weir are excluded from the mandatory content of the Basin Plan (arrangements for critical human needs). **This is a major oversight of the Basin Plan.**
- Northern Basin: CHWN however in the Northern Basin has not met basic rights to the extent necessary to ensure baseline flows are achieved in the Barwon Darling. This has meant since approx. 2000 insufficient baseline flows have occurred in the Barwon Darling to meet basic water rights (Stock & domestic) and human requirements in the Lower Darling.
- Maximising CHWN in times of protracted and extreme drought will need a revised approach to the use of fresh water to maintain the Lower Lakes water levels. It makes no sense for precious freshwater resources to be used to maintain a former estuary as a freshwater system in times of extreme drought.

- A more flexible and adaptive approach achieved with new infrastructure in the Lower Lakes will provide significant water savings benefitting South Australian irrigators, and NSW Murray and Victoria's Goulburn Valley CHWN needs
- The peak of the Millennium Drought (ie 2007, 08, 09) led to many rivers and creek systems being cut off from basic CHWN flows in order to continue to provide water to South Australia
- The closure of the Edward Wakool River system created major environmental, social and economic impacts as CHWN as water savings by closure of this extensive network of natural waterways, was then used to underpin supplies to South Australian irrigators and to maintain baseline flows for human needs
- Private property owners along the Bullatale Creek, and Edward Wakool systems were without water for CHWN as a result – many having to truck in water for human and stock needs and/or install bores to ensure basic water supplies

b)

- In NSW Water Resource Plans for the Barwon Darling and Murray and Lower Darling systems are not linked
- Lower Darling landholders have repeatedly called for action to ensure baseline flows on the Barwon Darling to meet human requirements for water and stock and domestic supplies – to date. The same requests have called for linkages to achieve these objectives in Water Resource Plans however there is no indications that the NSW Government is prepared to act upon these requests
- Extreme dry conditions and current extractions rules in the Barwon Darling system do not permit basic rights and even CHWN to be met.
- The Basin Plan in its current form does not address the issues on the Barwon Darling

Information Request 12

a) Risks to MDBA's monitoring and enforcement capacity from July 2019

b) Extent to which non-compliance with the Basin Plan will be addressed by Governments

c) Any further changes that are required

- The political framework for decisions on the Basin Plan have not led to optimum decision making or required time to implement the scale of changes proposed in the Plan
- Assumptions have been made also that PPM's (in particular piggybacking of environmental flows) where it affects private land are a resolved issue – this is not the case
- Risk assessments on a number of SDL Projects were internally done for example within NSW and in Victoria (eg joint NSW/Vic Projects). It is highly likely that the complexities of proposed changes to Murray River operations will require an

extension of time and a more adaptive framework that allows amendments to SDL projects submitted on 30th June 2017

- No cost benefit analysis has occurred on the Constraints Management Strategy (CMS) – only preliminary desk top assessments with incomplete knowledge and mapping have occurred. As further information on the scale of ‘relaxation of constraints’ emerges, a more flexible approach to achieving environmental outcomes (such as strategic infrastructure to water wetlands or improve outcomes CLLMM) may be required.
- Rigid timeframes as proposed in the Basin Plan may need to be adjusted to ensure a more robust, adaptive approach to decisions (timeframes were set prior to actual knowledge on scale and extent of issues)

b) Compliance

- The Basin Plan is not implementing standardised metering consistent with the agreements under the National Water Initiative
 - The Southern Basin irrigation extractions are metered (eg telemetry) (eg MVPD members)
 - NSW Government Water Reform Action Plan for the Northern Basin will not require:
 - accredited Australian standard meters to be implemented until 2024
 - Meters on floodplain harvesting
- MVPD contends that the discrepancies in application of standards /rules/enforcements between the Northern Basin and Southern Basin is inequitable leading to poor outcomes in water planning under the Basin Plan and lack of connectivity of baseline flows in Water Resource Plans

c) Any further changes required

- Northern Basin irrigation extractions should be fully metered including floodplain harvesting
- Coastal and smaller scale levels of take should have extractions monitoring/measurement commensurate with levels of extractions and risks – extractions where there are low levels of risk and sufficient methodologies for monitoring and enforcement should not require the installation of costly meters where the cost benefit ratios confirm such actions would not be valid

Information Request 13

- The Basin Plan monitoring and evaluation methodology will be inherently unreliable – its will be a case of the MDBA marking their own homework
- To date the MDBA has not shown a strong disposition to correct original assumptions that underpin the Basin Plan when subsequent evidence should require them to do so. Examples include:
 - MDBA continued to provide advice to Governments that constraints issues were relevant within flow targets of the Basin Plan (2750GL)

- MDBA advised Governments that CMS was only relevant within the additional 450GL
- MDBA – continued to provide advice to Governments that their proposed flow targets for the Murray River (77,000 ML/d below Yarrawonga) was ‘feasible with community acceptance for further investigations’. This was despite documented evidence that flows were not supported or considered feasible by the Yarrawonga to Wakool Junction Constraints Advisory committees and via/stakeholders/private property owners
- Request to correct the 2014 Annual Constraints Report was denied
- MDBA have shown an entrenched position that promote the positives of the Basin Plan and avoid transparency around aspects of the Basin Plan that are not working or where incorrect original assumptions were made
 - Eg The MDBA assumed that larger flows down the Murray River would clear the Murray Mouth. Following the 2016 which confirmed over seven years of documented evidence – the response from the MDBA expressed ‘surprise that flows did not clear the Murray mouth’
- Achieving environmental outcomes require an adaptive and flexible approach as opposed to rigid positions that are then defended with little regard for social and economic impacts and waste of taxpayers’ dollars
- Lessons Learnt in relation to environmental water events should lead to opportunities for gaining and incorporating new knowledge into future decisions.
 - To date there is little evidence that the MDBA intends to proceed with such methodologies
- It is critically important that both the Commonwealth Water Holder and the MDBA have an open and adaptive approach to decision making and equally report on positive and negatives outcomes from watering decisions and decision frameworks outlined in the Basin Plan
- To achieve successful monitoring and evaluation, there are enormous opportunities to work closely with local landholders who are at the ‘coal face’ and well placed to provide information or work with scientists to assess environmental responses or conditions in particular localities. – This will require a fresh approach by the MDBA to new relationships that value local knowledge, incorporate new information and a genuine partnership model for Basin Plan decisions is achieved

Information Request 14

- a) Whether current institutional and governance arrangements provide sufficient oversight of the Basin Plan**
- b) Risks to achieving objectives of the Basin Plan**
- c) Potential institutional and governance arrangements fit to assess the implementation phase of the Basin Plan**

The Basin Plan is guiding investment of the majority of funding outlined in the Federal Water for the Future Program. As such the MDBA and the Basin Plan should be assessed whether

indeed it is of sufficient standard to warrant the expenditure of the majority of the \$13 billion recognised to date

- Documentary evidence and the failure of the MDBA to act on evidence suggests that the MDBA requires external and independent oversight – free from Australian political interference
- Any external assessment (preferably international) would need to be free to take any steps required to independently assess the MDBA and the Basin Plan including whether the current approach is sufficiently robust to meet the objectives of the Water Act 2007 and where the MDBA's interpretation of that Water Act 2007 is consistent with its charter of an 'independent organisation'
- Particular reference to whether the Basin Plan in its current form is the best methodology for achieving sustainable outcomes for the environment in its current form – to date there is sufficient available data to suggest it is not
- There is substantial opportunity in the 5-year review – to establish improved relationships with regional communities and stakeholders, to significantly improve decision making and find new opportunities to maximise environmental outcomes - MVPD strongly encourages the Productivity Commission to pursue this as an urgent option in the 5-year review

Conclusion:

The Basin Plan in its current form requires substantial improvements to achieve the objectives of the Water Act and find a balance between social, economic and sustainable environmental outcomes in the Southern Basin – NSW Murray Region

The current focus of measuring Basin Plan success through flow targets is short sighted and not reflective of achieving long term outcomes for the environment.

A lack of community confidence in the Basin Plan can be linked to the MDBA's approach and backgrounding of its decisions. There are serious concerns as to whether the MDBA has acted as 'independent organisation'.

The Productivity Commission's questions should be only part of the review considerations.

Robust analysis should extend to why there is continued community concerns since 2010 on the social, economic and environmental integrity of the Basin Plan.

Appendix A: Water Act 2007 objectives

The objects of this Act are:

- (a) to enable the Commonwealth, in conjunction with the Basin States, to manage the Basin water resources in the national interest; and
- (b) to give effect to relevant international agreements (to the extent to which those agreements are relevant to the use and management of the Basin water resources) and, in particular, to provide for special measures, in accordance with those agreements, to address the threats to the Basin water resources; and
- (c) in giving effect to those agreements, to promote the use and management of the Basin water resources in a way that optimises economic, social and environmental outcomes; and
- (d) without limiting paragraph (b) or (c):
 - (i) to ensure the return to environmentally sustainable levels of extraction for water resources that are overallocated or overused; and
 - (ii) to protect, restore and provide for the ecological values and ecosystem services of the Murray-Darling Basin (taking into account, in particular, the impact that the taking of water has on the watercourses, lakes, wetlands, ground water and water-dependent ecosystems that are part of the Basin water resources and on associated biodiversity); and
 - (iii) subject to subparagraphs (i) and (ii)—to maximise the net economic returns to the Australian community from the use and management of the Basin water resources; and
- (e) to improve water security for all uses of Basin water resources; and
- (f) to ensure that the management of the Basin water resources takes into account the broader management of natural resources in the Murray-Darling Basin; and
- (g) to achieve efficient and cost effective water management and administrative practices in relation to Basin water resources; and
- (h) to provide for the collection, collation, analysis and dissemination of information about:
 - (i) Australia's water resources; and

Appendix B – Southern Basin Issues

The NSW Murray Valley in the Southern Basin has a strong history of regulation, metering and compliance regime. Southern Basin irrigation extractions were metered prior to the 1997 Murray CAP on extractions.

Prior to the NSW Murray Darling Basin Plan, the NSW Murray Valley has already made extensive adjustments from historical irrigation levels to deliver additional water to the environment.

In particular these include, but are not limited to:

- The Murray Darling Basin Cap
- The Barmah Millewa Water Management Plan (1994)
- Barmah Millewa Entitlement Provisions (50,000 ML NSW, 50,000 ML Vic + 50,000 additional provisions)
- NSW Snowy Water Initiative (water recovery for Snowy, Murray & Snowy Montaine Rivers)
- NSW Wetland Working Group Programs (NSW Office of Environment and Heritage)
- Living Murray (2004) Water Recovery Program
- National Water Initiative (new environmental provisions delivered under new 2004 NSW Water Sharing Plans Southern Riverina)

In 2004 the NSW Government was a signatory to the National Water Initiative.

2004 **National Water Initiative** – (COAG) founding principle of the NWI was to achieve a balance between social, economic and environmental considerations

Under the NWI governments are required to:

- Prepare water plans with provision for the environment.
- Deal with over-allocated or stressed water systems.
- Introduce registers of water rights and standards for water accounting.
- Expand the trade in water, including cross-border trade.
- Improve pricing for water storage and delivery.
- Meet and manage urban water demands.

In 2004 new NWI consistent Water Sharing Plans were completed in the Southern Basin.

In 2010 All Governments had agreed to National standards for water meters developed under the National Water Initiative (NSWI).

The standards apply to meters that are installed after 1 July 2010. After that date, new water meters are required to be pattern approved (by the meter manufacture or supplier) in accordance with requirements of the National Measurement Institute.

The NSW Government developed its Statewide Metering policy to reflect new metering standards and principles agreed to in the NWI.

In the Southern Basin the NSW Government gained Federal Government funding to implement new metering standards (telemetry) to meet its obligations under the NWI and its NSW Statewide Metering Policy.

The Southern Basin Metering Project has been applied in the Southern Basin (AS4747) and required the replacement of existing functioning meters.

- Any water recovered through new metering standards was transferred to the Federal Government (early phase SDL project) .
- Landholders received no compensation for loss of water incurred through amended meter readings arising from the Southern Basin Pilot metering project.

The NSW Government Statewide Policy however agreed to under the National Water Initiative has not been applied in the Northern Basin

Despite the extensive 'water reform' programs affecting the Southern Basin, the Federal Water Act 2007 and the resulting Murray Darling Basin Plan has set the 'lions share' for meeting new water recovery targets in the NSW Murray, when taking into account water acquisitions and SDL Projects.

In the NSW Murray Valley (Southern Basin) there is reform fatigue and the region has incurred a disproportional impact in terms of the recovery of water for the environment under the Basin Plan.