



Five-year assessment of the Murray Darling Basin Plan

Submission to the
Productivity Commission

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Southern Riverina Irrigators

SRI is a peak organisation providing advocacy for our membership comprised of five landholder associations representing irrigators operating within the footprint of Murray Irrigation Limited in the southern Riverina of NSW.

Formed in the 1960s, SRI now represents over 1,600 water users committed to producing food and fibre through environmentally and economically sustainable practices.

Our key principles are:

- We recognise the property rights of water entitlements
- Water reform must deliver against the “triple bottom line”.

Key industries

Our region is highly productive utilising water sourced from the NSW Murray above the Barmah Choke. Industries have developed to suit the highly variable water product that is predominant in the region. Despite seasonal variabilities, we continue to produce high quality crops sustainably and efficiently contributing significantly to the gross value of irrigated agricultural production.

| Industry | 2015-16 (\$M) (23% water allocation) | Average 2010-2016 (\$M) |
|------------------------------|---|----------------------------|
| Rice | \$26.5 | \$105.3 |
| Cereals | \$72 | \$60.8 |
| Other broadacre (inc cotton) | \$10 | \$10 |
| Dairy | \$112 | \$99 |
| Livestock | \$58 | \$56 |

Source: ABS Gross Value of Irrigated Agricultural Production 2015-16, NSW Murray

Compliance

Our irrigators operate in the Murray Irrigation network. We have had our water use metered since the system was designed and constructed. Effective metering gives our landholders confidence that water use is measured and managed. Metering enables the system operator to better monitor the resource and realise system efficiencies that in turn benefit water users.

Since 2012 Murray Irrigation has been rolling out their Private Irrigation Infrastructure Operator Program to upgrade all farm outlets that show a history of use. This upgrade has resulted in improved system efficiency and better on-farm management of water. The addition of telemetric data transfer means that landholders can access up to date and relevant account information which improves compliance.

SRI is pleased to provide the following comments to the Productivity Commission as they undertake the first five-year assessment of the Murray Darling Basin Plan.

Summary

The Murray Darling Basin Plan is a significant water reform designed to re-balance river operations and management in the context of a working river system by identifying the long-term sustainable diversion limits – or the limit of water that can be extracted or diverted from the river systems to maintain environmental health.

The key is that the reform always acknowledged the working river nature of the system and the fact that the system has been modernised through the construction of dams, weirs and barrages. The intent of the reform is to find the “near natural” balance position, not return to a natural system.

“We must also accept that human settlement over the past 200 years has altered the landscapes and placed constraints in the system, which make it physically impossible to return to a natural, pristine environment. So, this Plan is not about returning the rivers to their natural state. It’s about finding the optimal balance between the environment, economies and communities.” Craig Knowles, MDBA Chair, 2012¹ (emphasis added).

For water users, that re-balancing has seen significant changes in how we do business and on the businesses we rely on.

Some of the consequences of the reform have been positive. Increased water use efficiencies on farm have led to higher yield per ML. Irrigation network upgrades within Murray Irrigation have led to system-wide efficiencies, better metering, account transparency and accessibility for farmers.

However, the negative impacts of this large-scale water reform cannot be ignored. The reduction of water available in the consumptive pool has led to higher water prices on both the permanent and temporary markets. There has been restructure of industries particularly in the dairy and rice industries which has flow-on impacts for processing and milling. Irrigation infrastructure operators (IIOs) are now delivering less water but have the same network operating and maintenance costs which are passed on to the remaining farmers.

At the same time, there is no clear end to the reform. Basin states must be SDL compliant by 2019 however final calibration of compliance will not occur until 2024. The SDL Adjustment Mechanism (SDLAM) has the potential end the need for further water acquisition to meet the 2,750GL recovery target yet the Basin Plan allows for a further 450GL to be acquired up to 2022 based on a very loose test for social and economic neutrality.

SRI wants to see the implementation of the Basin Plan, with recognition of offsets under the SDLAM to put an end to water reform so we can all focus on stabilising for the future.

¹ Delivering a healthy working Basin, MDBA, April 2012, Foreword.

1. Assessment approach

SRI is concerned that the focus of the review has fallen into the trap of viewing Basin Plan outcomes as a fixed volume. The approach to assessment is focussed on whether water recovery is on track rather than whether the Plan is on track to achieve its objectives.

The continued focus on water recovery as a number that has pervaded across the public commentary on the plan risks undermining the ongoing efforts by states and communities to deliver a Basin Plan that can operate in the working basin environment to support the triple bottom line.

In undertaking its assessment, we urge the Productivity Commission not to look at finalising the Basin Plan at least cost, but to consider what will lead to the best outcomes for Basin productivity. While groups like the Wentworth Group will argue that buybacks are the cheapest form of water recovery², that statement only holds true if \$/ML is the only factor to be assessed. This short-sighted perspective does not take into account the multiplier cost across basin communities and businesses from buybacks. We believe the remit of the Productivity Commission must rightly be broader to assess the cost of reform and the impact of that cost on productivity and social outcomes.

The other assessment that must be made is the impact of water reform on Government funded projects. While the Federal Government has invested significant funds into IIOs throughout the Basin through both off-farm projects and on-farm projects, the same reform is undermining the long-term viability of those regions. Meanwhile, the failure of holistic planning requiring consideration of water and land uses means that development of non-irrigation regions is putting pressure on river operators at the same time as it is diverting volumes away from traditional irrigation zones that have, now underutilised, infrastructure that is fit-for-purpose.

2. Risks to achieving Plan objectives

2.1. SDL Adjustment Mechanism

The SDL Adjustment Mechanism (SDLAM) is one of the most crucial components of the Basin Plan in terms of implementation. The SDLAM delivers on the commitment of the MDBA to include adaptive management into the Plan.

During the development of the Basin Plan, the MDBA acknowledged the benefits that can be delivered by works and measures, as indeed they should because they are responsible for the design and construction of many of them under The Living Murray (TLM).

“It is noted that TLM environmental works at both Gunbower Forest and Koondrook-Perricoota Forest/Hattah Lakes/Riverland-Chowilla floodplain (built, under construction and/or proposed) could assist with meeting environmental outcomes through the delivery of water through works instead of through the delivery of high flows.”³

Of the projects proposed, seven of them have been constructed under the Living Murray program, which was stage one of a multi-phased program that was superseded by the Basin Plan, and at least four are projects to complement or enhance the TLM works.⁴

² <https://www.farmonline.com.au/story/4758309/purse-string-appeal-basin-water-buyback-push/>

³ *Hydrologic modelling to inform the proposed Basin Plan: methods and results*, MDBA, February 2012

⁴ <https://www.mdba.gov.au/sites/default/files/docs/Package-constraint-supply-efficiency-measures.pdf>

These are projects that will realise existing Government investment. A further 10 projects are rules based, six are constraints measures and the remaining are new infrastructure expenditure.

The issue preventing progress on SDL projects and constraints measures is the uncertainty as to whether the associated amendments to the Basin Plan will be accepted. SRI has urged caution that further taxpayer money should not be invested unless there is an absolute commitment by all parties to deliver.

SRI supports the NSW government's current position⁵ to withdraw from the Basin Plan if the Federal Parliament or any other jurisdiction fails to deliver on earlier commitments to support the full suite of SDLAM projects.

While this approach preserves the tax-payers dollars, it is a significant risk to irrigators and communities throughout the Basin. The risk of the SDLAM amendments being rejected, or the projects not delivering on the assumed offsets lies squarely on irrigation communities that will see Governments return with the cheque-book in an effort to acquire water to meet the Basin Plan targets.

In the event of the failure of SDLAM amendments to pass the legislative process, or to later meet the offset assumptions, SRI would recommend a stocktake of take to establish if changing practices have led to the required reduction in extractions without the need for further purchase.

In a report released by the MDBA in 2017, found that Basin water extractions are on track to meet SDL targets when assessed against transitional diversion limits in line with water recovery to date which would indicate extractions are adjusting to a future with less water and therefore may reduce or negate the need for further recovery.

2.2. The definition of social and economic neutrality

As irrigators operating in a joint scheme, we understand all too well the reality of the flow-on impacts of water recovery.

Under the Basin Plan, it is assumed that an individual's voluntary participation in an efficiency program is evidence of neutral or beneficial social and economic outcomes⁶. What this overly simplistic definition fails to acknowledge is the cumulative impacts that result from a reduced volume of water available for consumptive use.

In 2015, our IIO analysed the impact of water recovery on our business and the business adjustments the Company must make to ensure financial sustainability over the long-term for a submission to the Senate Select Committee reviewing the Impact of the Basin Plan.

"Our analysis shows that the reduction in consumptive water entitlements in our region impacts on our on-farm deliveries which is the activity that underpins the financial sustainability of our

⁵ <https://www.industry.nsw.gov.au/media/media-releases/2018-media-releases/people-over-politics-to-save-basin-rivers>

⁶ Basin Plan, MDBA, 2012, Chapter 7, Section 7.17(2)

business. It clearly shows that regardless of an individual's participation in water recovery programs, there is an impact on their business if they are located within a group scheme".⁷

The cumulative impact and broader regional impacts were acknowledged by Ernst and Young in their 2017 report to the Basin Ministerial Council:

"There is evidence to suggest that past programs of water recovery and on and off-farm water efficient infrastructure have affected irrigators, irrigation networks, communities and the Basin as a whole. These impacts vary in their magnitude, timing and nature and have complex interrelations with other changes occurring such as demographic, industry and climatic changes."⁸

SRI submits that the definition of social and economic neutrality must be expanded to a regional scale, particularly within group schemes to prevent exacerbating issues already being faced by these regions.

Further, Governments must be willing to identify efficiency measures outside the consumptive agricultural pool. Ernst and Young found that there are water savings to be found through urban and industrial users. Agriculture has done all of the lifting with regards to water recovery to date and it is time other users and industries contributed to the Basin Plan that was sold as essential for the health of the entire nation.

2.3. Northern Basin Review

SRI refers the Productivity Commission to the open letter signed by industry representatives imploring the Senate not to support the disallowance motion that saw the Northern Basin Review rejected by Federal Parliament. (Attachment A)

The disallowance debate was a classic example of politics getting in the way of good policy. Ironically, many of the Senators speaking in support of the disallowance were expressing concern that environmental flows were not protected throughout the system; yet the intergovernmental agreement drafted to give effect to the northern basin review across jurisdictions was designed to do just that. By disallowing the amendments, the Senators rejected the tool-kit measures that included environmental flow protection.

SRI does not agree with the issues paper contention to roll out actions to achieve the Northern Basin SDLs, rather the focus must be on returning the Northern Basin amendments to the Parliament so the tool-kit measures can be honoured.

⁷https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Murray_Darling_Basin_Plan/murraydarling/Submissions submission number 224.1

⁸Analysis of efficiency measures in the Murray-Darling Basin: Opportunities to recover 450GL in additional environmental water through efficiency measures by 2024, with neutral or positive socio-economic impacts, p 65

3. Constraints Management

Like the tool-kit measures, constraints management is another key measure to ensure the environmental objectives of the Basin Plan can be fully realised.

A clear failing of the Basin Plan development was the assumption that high-level over bank flows outside generally accepted operating levels would be feasible and acceptable. This, despite assurances by the MDBA at the time that the Basin Plan was based on current operating conditions.

For example, the modelling has been conducted on the basis that flows at the Barmah Choke have been “relaxed” to 40,000ML per day⁹. That is four times the river channel capacity of the choke and well in excess of the current operating practice of flows downstream of Yarrawonga Weir of 10,000ML/day¹⁰. While exceeding the capacity of the Choke is appropriate when watering the upstream and surrounding Barmah-Millewa Forest (currently regulated to 18,000ML/day), it is not appropriate for extended periods in order to attempt to send water downstream. The risks of raising the constraint limit of the choke have the potential to lead to devastating results in Australia’s largest river red gum forest, as well as the surrounding private property holders.

The other issue concerning landholders regarding constraints is liability. Who would be liable if, as a result of environmental watering, private property or public infrastructure such as roads and river/creek crossings are damaged or degraded?

The key to progressing constraints is to ensure landholders and Councils are confident that the issue of liability is covered and agreement and compensation for land impacts is negotiated so that negative third-party impacts are mitigated.

4. Environmental water recovery

“With current water recovery, including contracted deliveries, this means that no further gap bridging water recovery would be required to meet the southern connected Basin’s 2289 GL contribution to meeting the Basin wide target of 2750 GL.”¹¹

As mentioned previously, the MDBA has reported that all Basin Valleys are on their way to meeting SDLs when measured against assumed transitional diversion targets. If the SDLAM projects are then successfully implemented the Basin Plan will have succeeded in both reducing extractions to sustainable levels and delivering a regime whereby environmental water can be managed to build ecological resilience throughout the Basin, including utilising infrastructure to target wetland and forest watering and creating a level of lateral connectivity.

The only remaining water recovery therefore, is the 450GL “up-water” which SRI does not support.

This volume, that was announced at the 11th hour without community consultation, was politically motivated and not based on science or need.

⁹ Hydrologic modelling to inform the proposed Basin Plan: Methods and results, MDBA, February 2012, p207.

¹⁰ River Murray system – Annual operating plan 2017-18, MDBA, p4

¹¹ Sustainable Diversion Limit Adjustment Mechanism, Final Draft Determination, MDBA 2017, p2

Public rhetoric about the 450GL in recent times has largely been led by South Australia and created the impression it is for the benefit of South Australia only

“South Australia is holding out on endorsing the latest Murray-Darling Basin Plan’s water saving projects until it can get a guarantee that the 450GL of ‘up-water’ will be handed over.”¹²

SRI submits that if the extra volume is to ensure the health of the end of the system, then the end of the system should be the focus of future efficiency measures. This is consistent with our policy for environmental watering where we submit that environmental water must be prioritised for use in the region from whence it came (Section 7 below).

SRI has long highlighted the need to address the Southern Coorong from the south rather than by trying to circulate water through the narrow neck at the north. Others, including South Australian ecologist David Paton now also accept that flows from the north alone will not be sufficient to protect the Coorong¹³.

South Australia is the only State in Australia that has virtually guaranteed inflow through the entitlement flows and dilution flows proscribed in the Murray Darling Agreement. They also have access to additional dilution flows that are not linked in any way to salinity outcomes instead being released when storages reach certain levels.

As at March, South Australia had deferred 232GL of their entitlement¹⁴ instead choosing to hold it in storage. Despite having a desalination plant, largely federally funded, they continue to maintain they need to hold water for critical human needs in upstream storages. They have made these decisions regardless of requests from the CEWH not to do so to support the goals of the Basin Plan.

SRI submits that any further water recovery must be sourced from off-farm solutions such as utilising the Adelaide desalination plant and release the deferred entitlement which has averaged over 100GL a year since 2015.¹⁵

5. Structural Adjustment

The MDBA has recently released a range of community profiles that track community changes from 2001 to 2016. These profiles include changes to water entitlement ownership, demographics and employment.

A failing of structural adjustment packages in the past has been the untargeted rollout of funds. As long as the post code fell within the Basin, the project could be assessed regardless of the regional dependence on irrigation and the community need for Basin Plan related adjustment.

SRI believes that any future structural adjustment packages must be targeted to the regions that have faced the most change due to the water recovery.

For example the Wakool community has seen a decrease in its agricultural workforce of 61% since 2001 and a 71% decline in its irrigated agriculture workforce. Water entitlements in the area have reduced by

¹² <https://www.irrigationaustralia.com.au/news/south-australia-digs-in-over-water>

¹³ <http://www.abc.net.au/news/2017-01-23/coorong-weir-proposal-to-stop-water-dropping/8202310>

¹⁴ <https://www.waterconnect.sa.gov.au/Content/Flow%20Reports/DEWNR/RM-Flow-Report-and-WR-Update-20180316.pdf>

¹⁵ <https://www.waterconnect.sa.gov.au/River-Murray/SitePages/River%20Murray%20Flow%20Reports.aspx>

48%. Yet in the first round of the Murray-Darling Basin Regional Economic Diversification Fund, the Wakool Council was unsuccessful at gaining funding.

Structural adjustment in the future must be targeted to address the impact of the untargeted and non-strategic water recovery that has occurred in the past.

6. Water Resource Plans

SRI is concerned that Water Resource Planning in NSW has fallen victim to the response to allegations of water theft in the northern Basin.

The response to these allegations has led to multiple departmental restructures, a churn of staff across the departments and a sense of staff playing catch-up.

Luckily NSW Water Sharing Plans already exist and meet some of the criteria of WRPs including outlining water sharing in a region, planned environmental water and water allocation prioritisation. Key WRP issues yet to be resolved include how the pre-requisite policy measures (PPMs) will be incorporated, whether any changes are required under current salinity management strategies and how the WSP relates to the environmental watering plan.

Due to the dwindling timeframe, it is important for the state agencies to work closely with the MDBA through out the WRP drafting process to guide its development to ensure compliance and streamline accreditation.

7. Management of environmental water

SRI refers the Productivity Commission to our submission to the current Standing Committee on the Environment and Energy inquiry into the use and management of environmental water which recommends:

- Environmental water must be prioritised for use in the region from whence it came or traded back into productive use if not needed for the local environment;
- The use of environmental water must be measured to the same standard as consumptive water use;
- Environmental water activities must be conducted in conjunction with local communities and landholder groups.

Management of environmental water in our region is a collaborative process between the CEWO and the NSW Office of Environment and Heritage (OEH). Local watering initiatives including the private property wetlands watering program (OEH) and the watering of ephemeral creeks and streams are carried out with full cooperation of landholders and Murray Irrigation. This region is an example of effective and collaborative environmental water management.

A concern for SRI is the impact that PPMs, which were policy assumptions made by the MDBA in modelling for the Basin Plan but not yet implemented, may have on existing water users.

For example, current rules require that environmental water can go into Barmah Forest, but any flows that return to the river downstream are then re-socialised and can be used to meet downstream demand. This limits the amount that is required to be released from upstream storages.

The MDBA and WaterNSW are currently trialling return flows through the system, which will deliver on the PPM for environmental water reuse¹⁶. What is not clear is what impact this has on storages and therefore allocations. Nor is it explained the impact the practice will have on capacity sharing constraints such as the Barmah Choke.

SRI is calling for the release of calculations or assumptions made for use and losses along the way. If 100GL is delivered into the Barmah-Millewa forest, how much of any return flow is assumed to be environmental or operational water (operational water includes volume to meet downstream demand)?

These assumptions must be made public and be reported against annually as is a requirement of all irrigation infrastructure operators to ensure the community can have faith that the water held is being used efficiently and responsibly with no adverse risk to third parties.

8. Water quality and salinity

SRI believes water quality should be measured at Morgan consistent with the Basin Salinity Management Strategy. We support salinity monitoring along the length of the system, including downstream of Morgan, to identify where salt incursion occurs; however, there must be no requirement for upstream regions to respond to spikes in salinity downstream that are not matched by data at Morgan.

In the NSW Murray salinity management has been an ongoing priority since the 1980s. Through the Land and Water Management Plans (LWMPs), long-term mitigation measures including drainage, vegetation and changed land use practices have resulted in significant improvements of soil salinity and addressed rising water tables. The recession of water tables and the improvement in soil quality in our region is a success story that has not been given enough credit.

Some issues experienced in the NSW Murray and particularly the Wakool districts were the result of development on areas without enough understanding or knowledge of the shallow water tables and sub-soil structures in the area. They were lessons learned over generations that were addressed by landholders through the LWMPs. Murray Irrigation now has an ongoing monitoring program with a series of piezometers throughout the region and reports annually on water tables and salinity levels.

While the LWMP and monitoring have been a success in that region, we now see large-scale development of greenfield sites downstream in areas that, as far as we are aware, have not been assessed for suitability for intensive irrigation. We have no idea what those developments will do to either soil salinity, the salt-load transfer to ground or surface water or what impact will these developments have on salinity targets under Basin Plan monitoring.

SRI recommends the publication of benchmarks so the ongoing monitoring throughout the system can be used to identify the source of the problem. Similar to the end of the system, we do not want to face the burden of addressing salinity issues that are caused by downstream developments.

We discuss the impact of water trade and greenfield developments in the next section.

¹⁶ <http://www.environment.nsw.gov.au/research-and-publications/publications-search/flow-management-in-the-southern-connected-basin>

9. Water trade

The establishment of the water market has had positive and negative outcomes for irrigation regions. The market establishes a property right for water which has long been called for by irrigators. However, the separation of land and water has enabled water to be transferred out of irrigation districts to their detriment.

Perversely what has occurred is a shift of water from established irrigation districts with associated infrastructure to greenfield sites without associated consideration for deliverability within the operational system.

SRI holds grave concerns that the result of downstream development could be the application of delivery restrictions across all water users if demand exceeds capacity at any given time.

To this end, the current allowance for trade restrictions associated with physical capacity to deliver must be maintained.

10. Compliance

SRI refers the Productivity Commission to our submission to the NSW Water Reform Action Plan discussion paper on metering and measurement.

SRI supports the use of effective measurement and metering to improve resource management and underpin public confidence in our river management. Metering requirements should apply consistently across NSW and other States and across all water users, including the environment.

The key compliance issue under the Basin Plan is compliance with the SDLs. The MDBA must monitor and ensure water take in each WRP area is compliant with the SDLs. It is then up to the States to ensure individuals comply with rules under the WSP.

The most important thing for irrigators is to have a clear understanding of who is responsible for what and to know the reporting chain, know where to get information about compliance and know how to report concerns.

In NSW irrigators pay for compliance activities and we expect a comprehensive compliance regime. While recent allegations of non-compliance are concerning, we are pleased to see the NSW Government taking steps to improve and enhance compliance. We do not, however, accept that this should come at any extra cost to irrigators.

11. Ongoing governance

SRI believes it is premature to make recommendations regarding governance prior to the finalisation of the implementation of the Basin Plan.

Once the Basin Plan is complete, we would support a wholesale review of the role and function of the MDBA and River Murray Operations.