

Murray Messages

April 2016



A document prepared by:

Murray Valley Private Diverters
Southern Riverina Irrigators
Murray Irrigation Limited

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- Implement the concept of 'localism' in decisions as promised to re-build levels of confidence.
- Monitoring, evaluation and reporting of environmental water to include positives and negatives, allowing adaptive management and cost benefit analysis.

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- Ensure that implementation costs of the Water Act and the Murray Darling Basin Plan are fully funded by the Federal Government – including Sustainable Diversion Adjustment Mechanism (SDL) projects
- Obtain guarantees that SDL project expenditure is not recovered by State and Federal Governments from irrigator's fees under 'full cost recovery' principle

1. Commonwealth Water Act 2007

- *Amend Water Act 2007 to indisputably give balance to social, economic and environmental values*
- *Amend Water Act 2007 to remove reference to the 450GL and delink from the SDL Adjustment Mechanism*
- *Re-assign \$1.7 billion to other components of the Basin Plan*

Background:

The Water Act 2007 utilised section 51 xxix (External Affairs Powers) of the Australian constitution as a mechanism for the Federal Government to take power of water from the States. The Water Act gives priority recognition to International environmental agreements but importantly the country nominating a site for international recognition (eg RAMSAR) still retains control and internally develops the ecological character descriptions and plans of management which can be amended or revised. Decisions on environmental requirements for RAMSAR sites therefore are open to Australia's interpretation.

While objects of the Water Act 2007 are consistent with the National Water Initiative and do recognise social and economic values, the balance of the Act is focussed on the environment.

The Murray Darling Basin Authority (MDBA) refers to its Regulatory Impact Statement (RIS) (2012) where social and economic impacts are described as 'modest' and as being met by the:

- Water for the Future Program (Buyback, PIOP, Efficiency Programs)
- Sustainable Diversion Adjustment Mechanism (SDL)

The RIS report had serious omissions and its findings are focused on preliminary surveys with irrigators involved in the first stage of the buyback program. Broader economic and social impacts were not included and the effects on water markets had not yet materialised. Constraints issues were not considered at all.

Amending the Act to enable social, economic and environmental decisions to be balanced in all decisions is essential to enable a sustainable Murray Darling Basin Plan.

In 2012 a further 450GL (\$1.7 billion) was added to the Murray Darling Basin Plan environmental water recovery target of 2750GL.

The 450GL was contingent on neutral social and economic impacts but already there is clear evidence of adverse social and economic impacts within the 2750GL. It is highly unlikely that the additional water recovery target for the environment of 450GL can be achieved. Shifting focus to concentrating on maximising social, economic and environmental outcomes within the 2750GL will bring significant economic advantages to Governments and Australia's national interests.

An amendment to the Water Act 2007 and the Basin Plan by removing reference to the 450GL and delinking this from the SDL Adjustment Mechanism would enable \$1.7 billion to be redirected to other components of the Basin Plan.

2. Murray-Darling Basin Authority (MDBA)

- *Conduct an independent inquiry into MDBA's accountability, performance and independence*
- *Restructure MDBA's role, responsibilities and functions, including future monitoring of the Basin Plan*
- *Facilitate open access and transparency on all modelling and assumptions*
- *Review MDBA's Regulatory Impact Statement (2012)*

The Water Act 2007 required the MDBA to develop a new Murray Darling Basin Plan within tight political timeframes. The MDBA had limited experience in water management and relied on 'available' science - not specifically for the purpose of creating a new Basin Plan. Attempts to encourage inclusion of more robust science and local knowledge, has not resulted in any substantive changes to decisions of the MDBA. Consequently affected communities have lost confidence in the authority.

For example, the Sustainable Rivers Audit (SRA) established under the former Murray Darling Basin Commission Ministerial Council relied on data gathered from the period 2004-2008 during the Millennium Drought and is a key determinant of Basin river health. Subsequent reports proposed originally planned by the former Murray Darling Basin Commission were not done.

As an 'independent' body, the MDBA decisions appear closely aligned with key South Australian Government reports and assumptions. These have been incorporated into decisions with the Guide to the Proposed Basin Plan (October 2010) and the Basin Plan (2012).

Examples include:

- South Australian Government: *Securing the Future – A Long Term Plan of Management for the Coorong Lower Lakes and Murray Mouth (June 2010)* – which relies predominantly on achieving environmental outcomes through increased fresh water flows from the Murray River
- South Australian Government Salinity Technical Report: *Development of Flow Regimes to Manage Water Quality in the Lower Lakes (May 2010)*. The technical paper examined inflows, local extractions, evaporation losses, barrages flows and concluded that 2850GL is required to achieve a target for Lake Alexandrina salinity of 1000 EC. (note: the paper identifies that 1500 EC is met within existing SA entitlement flow under the Murray River Agreement of 1850GL)
- *MDBA Environmental Water Plan for the Coorong Lower Lakes and Murray Mouth (2014)*
 - Minimum annual flow required to keep the Murray Mouth open (730—1,090 GL/yr).
 - Flows of at least 2,500 GL over two years to prevent the Coorong existing in a degraded ecosystem state.
 - Flows of 6,000 and 10,000 GL per year every three and seven years respectively to achieve a healthy Coorong ecosystem state.

The Sustainable Diversion Adjustment Mechanism (SDL) (650GL) enables projects/rule changes to be put forward by the States to achieve equivalent environmental outcomes as direct acquisitions. The MDBA however have applied 'limits of change' to State submitted projects to ensure that proposed outcomes for the Coorong Lower Lakes and Murray Mouth are not compromised.

This leaves few mechanisms to enable or encourage 'end of system' infrastructure options as a means to achieve 'non flow' related outcomes for salinity, sedimentation control of the Murray Mouth or environmental benefits to the Coorong.

With a reliance on Murray River flows as the primary mechanism to achieve CLLMM environmental outcomes, Northern Victoria and the Southern Murray region of NSW remain vulnerable.

Of the 2750GL proposed to be recovered for the environment, 2289GL is to be sourced and therefore delivered in the Southern Basin. A decline in irrigated agriculture will have the greatest affects in those

regions. In addition, water acquisitions have occurred prior to any assessment of physical river capacities to deliver environmental flow targets within specific periods. This means the Constraints Management Strategy brings further economic impacts to a wider range of businesses and landholders. Proposed river and storage dam operational changes are likely to have implications on the reliability of irrigation entitlements, none of which has been included in the MDBA's Regulatory Impact Statement (2012).

Irrigation groups have requested open access and transparency on all MDBA's modelling and assumptions it has relied on for the development of the Basin Plan. Stakeholders remain unsatisfied that this request has been met.

A complete review of the roles and responsibilities of the MDBA including a reassignment of its future functions in monitoring the Basin Plan's social and economic impacts, may help partly restore a level of confidence in Murray Valley communities. Any review should consider omissions in the MDBA's Regulatory Impact Statement (2012)

3. Sustainable Diversion Adjustment Mechanism (SDLs)

- *Extend project timeframes and eligibility for SDL projects*
- *Review the appropriateness and reliance of MDBA/CSIRO scoring system*
- *Ensure SDL projects do not undermine the reliability of irrigation supplies or property rights of landholders*
- *Incorporate an allowance within the 650GL to enable adaptive management and development of further project options beyond 2016-04-18*
- *Require all business cases to be transparent and developed in full consultation with stakeholders*
- *Enable localised projects for the Coorong, Lower Lakes and Murray Mouth to deliver end of system flow environmental outcomes*

The SDL Adjustment Mechanism does provide opportunity to reduce the social and economic impacts on most affected regions. However adequately assessing risk factors and consideration of the broader issues in consultation with stakeholders is not possible given the restrictive political deadlines for States to submit projects.

Extending the political timeframes, could ensure due diligence on projects developed in partnerships with stakeholders. SDL Projects were originally to go through 3 stages – pre-feasibility, feasibility, business case. Restrictive political timeframes for projects to be submitted (June 2016) mean that business cases now are described as concept plans. Without detailed project development and realistic financial preparedness, there is a high potential for project cost over-runs and risks for adverse outcomes in the Murray Valley, including on the reliability of irrigation entitlements.

The SDL Stocktake Report (August 2015) assesses plausible projects at around 508GL. This is still short of the 650GL and there is considerable uncertainty about the veracity of the 508GL.

An adaptive component in the SDL Adjustment Mechanism of 650GL (eg 150GL) would enable the incorporation of emerging information and more robust development of sustainable projects. Under this scenario the full 650GL of offsets could still be recognised in the Water Resource Plans (2017) and the adaptive component (eg 150GL) of projects would still meet environmental objectives but within an extended timeframe from the original June 2016. Under current political scenarios, potential projects that could deliver high environmental outcomes would simply be excluded on the basis of not meeting the June 2016 deadline.

The MDBA have also set restrictions termed 'limits of change' that exclude projects if they compromise the objectives of the Coorong Lower Lakes and Murray Mouth. This means that upstream states have limited capacity to develop or encourage infrastructure options in South Australia to deliver environmental outcomes that under the Basin Plan, are to be predominantly met by environmental flows from the Murray River.

4. Coorong, Lower Lakes and Murray Mouth (CLLMM)

- *Enable localised infrastructure to deliver environmental outcomes for the CLLMM*
- *Project funding must be linked to shared interstate benefits recognised through the Sustainable Diversion Adjustment Mechanism*

In 1985, when Australia nominated the Coorong, Lower Lakes, the Southern Lagoon was described as 'hyper saline'. Under the terms of recognition by RAMSAR, within three years from nomination a full ecological character description and detailed plans of management are to be developed. It wasn't until the Millennium drought that a comprehensive ecological character description and plans of management were developed by the South Australian Government. *Securing the Future for the CLLMM* (June 2010) describes the need for additional flows down the Murray River to achieve ecological outcomes. Local cause and affect issues and options for improved localised infrastructure or management options were largely ignored.

Consistent with *Securing the Future*, the Murray Darling Basin Plan (2012) sets specific 'end of system' flow objectives for the Coorong, Lower Lakes and Murray Mouth (CLLMM).

These include:

1. Barrage flows from Lake Alexandrina greater than 2000 GL per year on a 3 year rolling average with a minimum of 650GL in any year to be achieved 95% of the time
2. Barrage flows from Lake Alexandrina greater than 600GL over any 2 year period, to be achieved 100% of the time
3. Mouth Openness: Mouth open to an average annual depth of 1 metre (-1.0mADH) or more for at least 90% of years and 0.7 metres (-0.7m AHD) for 95% of years
4. Lake Alexandrina salinity: less than 1500 EC for 100% of the time and less than 1000 EC for 95% of days
5. Coorong salinity : Southern Lagoon average daily salinity less than 100 grams per litre for 96% of days

Murray Mouth:

Sedimentation of the Murray Mouth was first predicted 1903 when the original concept for the construction of barrages to convert Lake Alexandrina to fresh water occurred. Barrage constructions and operating protocols since 1940, have increasingly led to sedimentation of the Murray Mouth as 90% of the historic tidal prism was removed. Objectives to achieve Lake levels at 0.75 ADH also mean that barrage gates can be closed for extended periods further reducing natural influences on the Murray Mouth.

A report commissioned by the former Murray Darling Basin Commission, *River Murray Barrages – An Evaluation of Environmental Flows needs in the Coorong and Lower Lakes (2000)* included:

- Establish monitoring for adaptive management
- Articulate barrage operations to meet ecological needs
- Automate barrages to ecological needs
- Investigate opportunities to manage Lake levels over a greater range
- Modify Mundoo barrage to increase flow capacity and operate preferentially to limit sedimentation
- Evaluate options to relocate barrages and revise management of the barrages to enlarge estuary
- Integrate flow management with other regional planning and management options

The report recommendations have not been acted upon or incorporated into options by the Murray Darling Basin Authority.

Additional options could also include:

- Major dredging Program to remove Bird Island combined with recommendations of *River Murray Barrages, an Evaluation of Environmental Flows needs in the Coorong and Lower Lakes (2000)*
- Incorporate management options for adaptive water levels for Lake Alexandrina to avoid barrage gate closures which prevent any water releases to the estuary and enhance sedimentation risks in the Murray Mouth
- Amend current reliance on additional barrages flows releases as the primary mechanism to control sedimentation in the Murray Mouth
- Remove the MDBA's 'limits of change' for the CLLMM to enable non flow SDL offset projects to deliver environmental outcomes

Coorong:

- Remove existing Federal Government rule for the Upper SE of SA Drainage and Flood Mitigation Scheme (1990s) which limits local inflows to the Southern lagoon of the Coorong to 40 GL per year averaged over 10 years. Enable additional local inflows to deliver environmental outcomes for the Southern Lagoon of the Coorong.
- Restore a level of surface flows from the main South East Drainage Schemes to the Coorong
- Assess any SA local unlicensed works and restore natural flow patterns to the Southern Lagoon of Coorong

The MDBA has relied on Murray River flows to achieve environmental outcomes in the Coorong. Historical impacts of the South East Drainage Scheme (1863 – 1975) and the Upper South East Drainage and Flood Mitigation Scheme (1990s) have not been factored into MDBA decisions to achieve environmental outcomes in the Basin Plan.

Proposals to enhance salinity outcomes in Lake Albert and to deliver freshes to the Coorong by a Lake Albert Coorong Connector, brings risks for additional demands on the Murray River. The proposed project avoids addressing primary cause and effect of local factors that have impacted on the health of the Coorong.

There has been no cost benefit analysis of the MDBA's reliance on increasing Murray River flows to achieve environmental outcomes in the CLLMM compared to local infrastructure and partial restoration of natural historical flows to the Coorong from South East of South Australia.

It is essential that the Federal and State Governments work cooperatively together to identify infrastructure projects to deliver improved ecological outcomes for the CLLMM. Any investments under the Water for the Future Program must bring shared benefits to Northern NSW and Murray Valley through the Sustainable Diversion Adjustment Mechanism and reduce the current reliance of 'end of system' objectives being met by flows from the Murray River.

5. Morgan must remain as the official measure point for the Murray River Salinity

- *Murray Valley regions cannot be held accountable for the Basin Plan's new Salinity targets for Lake Alexandrina of 1000 EC 95% of years and 1500 EC 100% of years.*

Morgan has been the recognised point for measuring salinity in the Murray River. The Murray Darling Basin Authority (MDBA) proposed to include measure points for Lake Alexandrina and set specific targets within the Basin Plan.

New proposed targets for Lake Alexandrina are consistent with South Australian Government strategies for salinity management but ignore a wide range of factors that contribute to salinity levels.

The South Australian Government Technical Report Development of Flow Regimes to Manage Water Quality in the Lower Lakes (May 2010) described 1500 EC salinity target in Lake Alexandrina as met within SA existing entitlement flow of 1850GL. To achieve a 1000 EC target, South Australia Government proposed Murray Flows of 2850GL. This ignores localised salts in the former estuary of the Lake Alexandrina and the need for infrastructure improvements associated with the barrages. For example infrastructure options to prevent reverse sea water inflows back into Lake Alexandrina when barrages' gates are open, would assist in meeting salinity targets with less reliance on Murray River flows.

6. Constraints Management

- *Review MDBA's proposed high flow targets to SA for the Murray River*
- *Constraints measures must be fully funded by the Federal Government*
- *Recognise \$200 million for constraints management was a political announcement prior to any assessments*
- *Provide mechanisms for local stakeholders to develop Constraints Management Strategy options under the concept of 'localism'*
- *Provide Federal funding for businesses to independently identify risks and assess business impacts.*
- *Resolve State and Federal liabilities*

The MDBA was provided advice in early 2010 that their proposed high flow regimes for the Murray River to deliver end of system flow objectives for the CLLMM could not be delivered without adverse third party impacts. This information was provided both verbally and in documentation but largely was ignored.

MDBA were aware of legal constraints between Hume Dam and Yarrawonga Weir however they proposed raising flow levels from 20,000 ML/day to 40,000 ML/day. Releases from Hume Dam were then to be timed with unregulated flows down the Victorian tributaries to achieve flow rates up to 70,000 ml/day measured below Yarrawonga Weir.

Increasing flows down the Goulburn River (Vic) would similarly involve the timing of environmental flow releases from Eildon Weir to coincide with other catchment events involving the Murray to achieve proposed high flow events to South Australia.

After adverse community reactions, in 2013 Basin State Governments instructed the MDBA to prepare a Constraints Management Strategy with the first report being released in November 2013. The issue of constraints is more complex than the MDBA first assumed. Consultation with the MDBA and stakeholders broke down resulting in the State Governments assuming responsibilities for progressing constraints investigations and options in July 2015.

The concept of 'relaxing' constraints still remains unassessed. The only announced funding for constraints was as a component of the additional 450GL (\$1.7 billion) which included \$200 million for constraints – the figure was not associated with any actual assessment of constraints issues.

The lack of trust between Government officials and landholders with constraints issues will require a fresh approach that values local input and builds outcomes based on genuine community /government partnerships. Flows must be at realistic levels and full access to independent legal and business risk advice must be provided to affected landholders. Critically, given the breakdown in trust, ownership of developing solutions must be given back to affected landholder groups.

7. Water Acquisition

- *Cease acquisition of further productive water, except for strategic benefit and under mutual agreement with relevant parties.*

The Basin Plan (2750GL) was described in political circles as bringing increased certainty to irrigators and regional communities. While this may have been the case for South Australian irrigators, in the Murray Valleys the Basin Plan has resulted in decreased certainty, increased business costs and risks and industry impacts not forecast in the MDBA's Regulatory Impact Statement (2012).

Investments in on farm efficiencies and Private Infrastructure Operators Efficiency programs (PIOP) have helped 'bridge the gap' and reduced the impacts of direct buyback. However as expected, once a tipping point or critical scale of productive water has been lost to a region has been reached, there would be an under mining of financial viability in maintaining irrigation schemes and on fees and charges scenarios to remaining irrigators.

There may be strategic closures required in irrigation areas to maintain economic viability and under these circumstances where mutual agreements is reached between all parties, water recovery and appropriate compensation may be an appropriate option.

8. Indigenous Water

- *Incorporate objectives for Indigenous Australians within water already acquired for the environment.*

Irrigated agriculture has threshold limits for future viability. Opportunities to meet cultural objectives associated with water may be facilitated with environmental flows acquired by the Federal Government.

9. Transparency and Consultation

- *Ensure Federal and State Governments are completely transparent and engage in full consultation directly with affected people and stakeholders of all MDBP implementation decisions.*
- *Implement the concept of 'localism' in decisions as promised to re- build levels of confidence.*
- *Monitoring, evaluation and reporting of environmental water to include positives and negatives, allowing adaptive management and cost benefit analysis.*

The development and implementation phase of the Murray Darling Basin Plan has been accompanied by strong criticism from affected regional communities. There are many examples where community participation and support in natural resource plans have delivered sustainable outcomes at reduced costs to Government. Incorporating community involvement in decisions from preliminary to final stages also encourages long term commitment, providing monitoring by local communities when Government funding programs are reduced.

The Basin Plan is accompanied by lack of transparency and community consultation has not met community expectations. This may have long term detrimental effects on existing and future natural resource management programs.

10. Federal / State Funding

The Water Act 2007 and the Basin Plan was to be enacted and implemented under 'no net cost' to the States. The complexities of the Basin Plan, Constraints and SDL Projects will mean that any initial payments provided to the States will be exceeded. Further risks arise when unrealistic political deadlines for SDL projects will result in failure of due diligence on projects costings. Additional payments to States and a guarantee that SDL project expenditure will not be recovered from irrigators under 'full cost recovery' principles must be supplied.



A document compiled by:

Murray Valley Private Diverters
Southern Riverina Irrigators
Murray Irrigation Limited