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Senate Select Committee on the Murray Darling Basin Plan

Submission

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Executive Summary

In an interview with The Land newspaper in early 2015, when reflecting on community anger during a meeting about the development of the Murray Darling Basin Plan at Griffith, NSW in 2010, the former Chairman of the Murray Darling Basin Authority, Craig Knowles observed:

> *'At a human level, people weren't being treated with the respect they deserved or being listened to, and ……..it was a fatal error to ignore the needs and expertise of people living and operating within the river system.'*

These words resonate today.

Water is the lifeblood of many rural communities. It underpins the irrigated agriculture sector, providing food and fibre for domestic consumption and significant export income for the nation. Water provides direct employment on farms in irrigated agriculture and horticulture industries and brings prosperity into communities. It enables many communities to be self-sustaining, with flourishing processing industries and significant flow on effects into local businesses, education and health services.

The trajectory of reform under the Basin Plan is too heavily biased towards water as the only environmental management solution to address environmental decline in our river systems. The Basin Plan was designed to deliver long-term sustainability of agriculture and the environment, yet the environment is taking precedence over the welfare of people, communities and food and fibre production. Irrigators remain committed to genuine reform, but not at the expense of communities and industries.

When the Basin Plan was first conceived as part of the Water Act 2007, and in good faith, Basin communities well understood the principle that some water would be returned to the environment for the broader benefit, including to ensure sustainable extraction into the future. Unfortunately the process of water recovery commenced prematurely in 2009, before the Basin Plan had been finalised and established what the valley based sustainable diversion limits or the environmental flow targets would be.

The National Irrigators' Council (NIC) has long argued the case for a balance between social, environmental and economic outcomes to ensure the Basin Plan is fair and workable. Without this objective, communities will continue to bear the burden of an unsatisfactory Basin Plan. Our commitment remains to a viable, productive irrigated agriculture sector in Australia.

The legislated 1500 gigalitre (GL) cap on water buybacks in the Murray-Darling Basin which recently passed through the Australian parliament is a welcome outcome. The Government is commended for its commitment to irrigated agriculture and its understanding of the benefits of water left in production. Critical bipartisan support from the Labor Opposition and Labor Basin states saw the 1500 GL cap finally legislated. The cap represents an important signal to communities, helping to improve business confidence in the sector and provide a degree of longer term certainty for those who depend on the Basin's water resources.

Water recovery must not focus solely on privately held water entitlement; it must also examine operational efficiency of the **70% of water flows in the Murray Darling Basin already allocated to the environment** (inclusive of environmental holdings and base river operation flows which have environmental implications). Priorities must continue to focus on works and measures and efficiency projects identified under the localism model.

Historically, the 2004 National Water Initiative (NWI) sought to achieve economically efficient water use and investment that maximises the economic, social and environmental value of Australia's water resources. During the development of the Basin Plan the NIC raised concerns around the social and economic dislocation the recovery of 2750 GL of long term cap equivalent water would unleash on

communities across the Basin. Community resilience is eroding as historic reforms take their toll and undermine the capacity of people to continue to adapt to change through the Basin Plan implementation.

Independent studies conducted to inform the development of the Basin Plan showed that buybacks have greater localised negative social and economic impacts on irrigation dependent communities than investment in water efficiency projects[1]. **Past Government's 'no regrets' water buyback regime was ill-thought out and has left a legacy that will need to be addressed**. Government investment in infrastructure projects represents water savings being retained on farm and contributes to direct employment in irrigated agriculture. Water left in production also enhances opportunities for the development of local industries, providing the social and economic underpinnings of Basin communities.

We know that contracted water recovery in the Murray-Darling Basin is estimated at 1951 GL or 71% of the targeted 2750 GL, yet the study used to provide a baseline and justify the need for the Basin Plan, the Sustainable Rivers Audit – designed to be replicated over the long term to continually monitor ecological conditions – was one of the first activities cut by the MDBA when faced with budget cuts. Therefore, new monitoring and surveys are not immediately comparable to the baseline. **Communities need to see the evidence around how the water recovered for the environment will be used, where it will be directed and for what purpose.** The Australian public also needs to be satisfied that there is value in their investment.

Objectives must be maximised through the building and/or upgrading of existing, environmental supply measures, with a focus on projects under the localism model. If these objectives can be achieved then the Sustainable Diversion Limited (SDL) Adjustment Mechanism should be an ongoing process to recognise where new and effective supply contingencies can be achieved into the future.

The release of the SDL Adjustment Mechanism stocktake report released by the Murray-Darling Basin Ministerial Council recently, has found a supply contribution of around 500 gigalitres towards an outcome of up to 650 gigalitres. This is a welcome progress report. We suggest there must be ample flexibility around timeframes and process to enable any additional work to be completed and submitted for assessment. It is important to capture local knowledge through genuine consultation with stakeholders who may be affected by SDL supply or constraints measures, with a commitment to no negative third party impacts, no change to entitlement characteristics and no decrease to reliability.

Our view remains that there should be no acquisition of 450 gigalitres of up-water until the existing recovery target is met. It must be remembered that this measures was an 'add on' to the Basin Plan.

In keeping with the promise of 'localism' and 'adaptive management', local knowledge and input must be reflected and incorporated into Government decisions. Irrigators have long supported healthy working rivers and river systems; it is in their interests to do so and the interests of the communities in which they reside. The NIC challenges the theory of 'just add water' as the environmental solution to a complex structure of environmental challenges in the Basin. The Basin Plan must be balanced; it must consider the needs of people, communities and food and fibre production in parallel with the environment.

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[1] See for example Arche Consulting (2011) Assessing the local economic impacts of the draft basin plan - Final report Prepared for the Department of the Environment.
http://www.mdba.gov.au/sites/default/files/archived/proposed/Arche-Basin-Case-Studies-final-report.pdf
and
RMCG (2013) Cost Benefit Analysis of Farm Irrigation Modernisation Final Report, prepared for Dairy Australia
http://www.dairyaustralia.com.au/~/media/Documents/Industry%20overview/About%20the%20industry/Current-industry-issues/LMDB%209/RMCG%20CBA%20OnFarm%20Irrigation%20Efficiency%20Program%20May%202013%20DOC1357415.PDF

The China-Australia Free Trade Agreement presents new opportunities for Basin communities. China is Australia's largest agriculture, forestry and fisheries export market worth, according to the Department of Foreign Affairs and Trade, $8 billion in 2014, up from $5 billion in 2010. Yet with continued removal of water from irrigated food and fibre production, questions arise over the capacity of industries to supply the food and fibre demand to be sought under the Agreement.

Recommendations

1. **NIC Principles**: The NIC's key principles must be adopted by Governments as the standard by which decisions, which impact irrigators, are made.

2. **SDL Adjustment Mechanisms projects**: That local irrigators groups and every affected landholder are accorded the opportunity to provide input into the work undertaken to identify SDL supply projects.

3. **450 GL up-water:** There should be no acquisition of 450 gigalitres up-water until the existing recovery target is met.

4. **Northern Basin Review:** The NIC seeks

a. A comprehensive explanation as to how the numbers were generated across all the Northern Basin valleys and what assumptions were used in the models that delivered the outcomes.

b. A genuine review of the baseline modelling and local reduction requirements in the Northern Basin, i.e. to include all of the northern water resource areas not just the Barwon-Darling and Condamine Balonne.

c. A correction to the cap factors adopted for reporting the yield of entitlement recovered in the Macquarie and Gwydir Valleys – due to the inconsistency with reliability measures derived from the hydrological modelling underpinning the MDBA's determination of SDLs.

d. A commitment to address over recovery in the semi-terminal systems of the Lachlan, Macquarie and Gwydir valleys.

5. **Water Act 2007 Review recommendations**: The Federal Government to provide its response to the recommendations of the Water Act 2007 Review Expert Panel without delay.

6. **Regulation and red tape**: The Federal Government to justify and clearly explain the need for every regulation it administers in the water related portfolios. If a regulation cannot be satisfactorily justified then that regulation must be removed.

7. **Basin Plan impacts:** The NIC requests the MDBA to explain to irrigation communities in the Murray-Darling Basin, how it can properly make policy decisions and other determinations based on Basin Plan triple bottom line outcomes, when the socio economic work currently underway is incomplete

8. **Basin Plan Costs**: As the Basin Plan was sold as a product of national good/importance, the costs of both implementation and any legacy costs must be borne by all Australians, not irrigators and our communities alone.

9. **Lower Lakes:** Note the South Australian Government report released in 2014 titled Building Resilience to a Changing Climate (A climate change adaptation plan for the South Australian Murray-Darling Basin) which has identified as a priority for discussion by stakeholders the effect of sea level rise on the Lower Lakes and on barrage operations.

10. **The Barrages:** MDB farmers and irrigator groups must be fully engaged in any discussion around the future design and operation of the barrages, including the proposal for a 6th outlet to be created between the Lower Lakes to the Coorong.

11. **Carp control:** On the satisfactory completion of all research and testing by the CRC and CSIRO, the NIC would support a Carp biocontrol program that can demonstrate improved water quality and greater environmental returns.

Introduction

The National Irrigators' Council (NIC) is the national peak body representing irrigators in Australia. The Council supports twenty seven (27) member organisations covering the Murray Darling Basin states, irrigation regions and the major agricultural commodity groups. Council members collectively hold approximately 7,000,000 mega litres of water entitlements.

The national body is the policy and political voice of those who use water for commercial agricultural purposes, producing food and fibre for local consumption as well as making a significant contribution to Australia's export income.

The national body is funded by irrigators, for the benefit of irrigated agriculture which provides jobs in rural and regional communities. Members are not individual irrigators but members of their respective representative organisations. An irrigator is defined as *'a person or body with irrigation entitlement for commercial agricultural production'.*

Member organisations are located in irrigation regions across Australia within the Murray-Darling Basin and beyond. They represent a diversity of organisations from irrigation infrastructure operators, individual irrigators, processors through to agricultural commodity groups who produce and value add food and fibre for domestic consumption and significant export income.

The NIC advocates on behalf of irrigated agriculture and aims to develop projects and policies to ensure the efficiency, viability and sustainability of Australian irrigated agriculture and the security and reliability of water entitlements. The NIC advocates to governments, statutory authorities and other relevant organisations for their adoption.

Irrigated agriculture contributes to the social and economic wellbeing of rural and regional communities and to the national economy, producing goods such as milk, fruit, vegetables, rice, grains, sugar, nuts, meat and other commodities like cotton. The total gross value of irrigated agricultural production in Australia was $13.4 billion in 2012-13, constituting 28% of the total gross value of all agricultural production ($48 billion) over the same period. The total gross value of irrigated agricultural production in the Murray-Darling Basin in 2011-12 was $6.7 billion, with the volume of water applied in the same period, 5.9 million megalitres. *{Australian Bureau of Statistics}* This represents a gross value of irrigated agricultural production across the Murray-Darling Basin of $1,135 per megalitre.

Our guiding principles designed to underpin NIC's current and future policy decisions impacting on our members, go directly to the issues raised in this submission.

Guiding Principles

The objective of the National Irrigators' Council is to protect or enhance water as a property right and to champion a vibrant sustainable irrigation industry.

- A healthy environment is paramount
  - Sustainable communities and industries depend on it
- Protect or enhance water property rights
  - Characteristics of water entitlements should not be altered by ownership
- No negative third party impacts on reliability or availability
  - Potential negative impacts must be compensated or mitigated through negotiation with affected parties
- Irrigators must be fully and effectively engaged in the development of relevant policy
- Irrigators expect an efficient, open, fair and transparent water market
- Irrigators require a consistent national approach to water management subject to relevant geographical and hydrological characteristics
- Irrigators expect Government policy to deliver triple bottom line outcomes
- Regulatory and cost burdens of reform be minimised and apportioned equitably.

Terms of Reference

The National Irrigators' Council is pleased to provide comments in relation to the Murray-Darling Basin Plan, with particular reference to:

(a) The implementation of the Plan, including:
  (i) Its progress
  (ii) its costs, especially those related to further implementation
  (iii) its direct and indirect effects on agricultural industries, local businesses and community wellbeing, and
  (iv) any evidence of environmental changes to date;
(b) the effectiveness and appropriateness of the plan's Constraints Management Strategy, including:
  (i) the progress of identifying constraints and options to mitigate the identified risks, and
  (ii) environmental water flows and river channel capacity;
(c) the management of the Coorong, Lower Lakes and Murray mouth, including the environmental impact of the locks, weirs and barrages of the Murray River; and

(a) Implementation of the Plan

(i) Progress

The NIC has long supported a balanced Basin Plan with triple bottom line outcome, reflected in healthy viable communities and a sustainable environment for the future. The implementation of the Plan must occur in the manner that was promised, and that is, an unwavering adherence to the commitments given to the irrigation industry and Basin communities by the Government and the MDBA. These include:

- willingness to reduce the amount of water to be recovered through improved river management and more efficient environmental watering
- adaptive management and 'localism', and integration of environmental, social and economic modelling
- no changes that would impact on the reliability of irrigators' water allocations
- no changes to rules that would result in negative impacts on third parties
- no changes that would lead to a change in the characteristics of a class of water due to that water being transferred to the Commonwealth *(for example, the use of a megalitre of general security water held by the Commonwealth's must be governed by the same rules and terms as apply to an irrigator holding a like entitlement)*.
- the ability to deliver the Basin Plan under current constrains and operational conditions.

The MDBA continues to insist it will be able to achieve flow regimes that experienced river managers say cannot be achieved by regulated flows without negative third party impacts. For example, the lack of reality around flood events was highlighted in February/March 2012 following 300 mm of rain in the Murrumbidgee catchment which caused extensive damage to communities in upstream locations, yet the flow at the South Australian border did not reach 60,000 megalitres a day. The South Australian Government's River Murray Weekly Flow Report evidenced this:

> *'The Bureau of Meteorology advised on 21 March (2012) that flows from the Murray, Murrumbidgee and Darling Rivers are not expected to cause any flooding or access proglems to towns along the River Murray. Based on current flow projections, river heights at other forecast locations, such as Swan Hill, Robinvale, Echuca, Euston and Wentworth, are expected to remain below their respective minor flood levels.'*

It stated that the inability of these flood events to continue down the river was:

> *'due to large potential losses .....as a result of water flowing across expansive floodplains ...'*

The February 2011 floods caused hundreds of millions of dollars of damage and flooded hundreds of homes and properties in Victoria alone. The flows from these floods peaked at 93,800 ML/day as they flowed across the South Australian border. These floods damaged hundreds of homes and properties

and caused extensive damage to public infrastructure including road and rail infrastructure throughout Queensland, NSW and Victoria, yet both these floods pale in comparison to the mega floods being demanded by some scientists and environmental organisations.

The NIC seeks to understand what rule changes and/or changes in operating procedures/assumptions and pre-requisite policy measures (PPMs) does the MDBA need to be in place in the context of the Constraints Management Strategy (CMS).

It is not yet clear the nature of any work completed by the MDBA to establish that such changes will not alter the characteristics of water entitlement held by the Commonwealth, vis a vis those held by irrigators, and will not create negative third party impacts – or impact of reliability - that are unable to be mitigated. Technical assumptions must be able to be proven to satisfy Basin community confidence.

Local knowledge and feedback, through formal and informal mechanisms, around the behaviour of river systems and waterways during certain periods, is not adequately taken into account and reflected in many of the reports generated by Governments. The 'localism' approach is defined as a preparedness to work with local groups through genuine engagement, not simply 'seen to be communicating'.

As a result, community and stakeholder confidence is eroded. Examples of these concerns relate to:

- Constraints Management Strategy: the MDBA continues to rely on modelling parameters that are in some cases at odds with existing knowledge of maximum flow rates.
- Long-term Diversion Limit Equivalent (LTDLE) factors: current reliability factors adopted by the Department of Environment and MDBA for reporting the yield of entitlement recovered in Macquarie and Gwydir Valleys are inconsistent with reliability measures derived from the hydrological modelling underpinning the MDBA's determination of Sustainable Diversion Limits (SDLs).
- Northern Basin Review: community discontent that the Review process is unclear around desired objectives and outcomes. Information provided by the Northern Basin Advisory Committee (NBAC) to MDBA is not reflected in any discernible way in work programs or outcomes.

The long term diversion limit equivalent (LTDLE) factors across the Basin must be maintained at current level for all valleys, except the Macquarie and Gwydir Valleys, where it is generally agreed they are wrong. Any attempt to change these factors in other valleys will undermine confidence within irrigation communities and have the capacity to result in significant implications in situations, for example, where irrigator mortgages are secured by water entitlements.

Current reliability factors adopted by the Department of Environment and MDBA for reporting the yield of entitlement recovered in Macquarie and Gwydir Valleys are inconsistent, to an extent of up to 25%, with reliability measures derived from the hydrological modelling underpinning the MDBA's determination of Sustainable Diversion Limits (SDLs). This anomaly must be corrected as it impacts on future water recovery in the north as it would:

- result in a 30 GL accounting adjustment that will contribute substantially towards the remaining recovery effort in the Northern Basin (approximately 40 GL).
- bring about a saving to the federal government budget allocation to environmental water recovery programs and will help mitigate the social & economic impacts of further over-recovery impacts on communities

<u>SDL Adjustment Mechanism</u>

The recent SDL Adjustment Mechanism stocktake report released by the Murray- Darling Basin Ministerial Council is a welcome step. While in its early stages as at August 2015, the stocktake has found a supply contribution of around 500 gigalitres towards an outcome of up to 650 gigalitres.

The MDBA acknowledges it will not be able to model all proposals received from Basin States by the timelines specified in the Plan. Our concern is that failure to generate 650 gigalitres of offsets will result in more water removed from productive use, a prospect which is unacceptable to irrigation dependent communities. It would also represent failure to deliver on the Commonwealth's promise to deliver a plan that balances environmental, economic and social imperatives (triple bottom line).

Notwithstanding the further work to be completed on a number of projects put forward by the states, the stocktake serves as a progress report and demonstrates the work underway to develop potential supply, efficiency and constraints measures. There must be flexibility that will enable examination of any additional project proposals to be submitted so that all possible supply contributions can be achieved.

It is also critical that local irrigators and landholders, who may be impacted by SDL supply or constraints measures, are engaged at an early stage to ensure genuine feedback, consultation and local knowledge sharing. This must be incorporated into assumptions and hydrological modelling. Consultation must be undertaken on proposals to identify any potential rules changes that may result in negative impacts.

The reconfiguration of Menindee Lakes is a high priority for the irrigation industry, not purely as a way to achieve a substantial SDL offset but also to address the ongoing concern of northern irrigators about its impact on their operating rules.

Recommendation: That local irrigators groups and all affected landholders are accorded the opportunity to provide input into the work undertaken to identify SDL supply projects.

Recovery of 450 gigalitres up-water

The NIC has long supported the use of infrastructure and efficiency works over other water recovery methods as mechanisms of least harm to communities. However, the NIC position firmly remains that there should be no acquisition of 'up water' until the existing recovery target is met. It must be remembered that the 450 GL was not part of the original Basin Plan.

The Water Amendment Act 2015 which recently passed through the Parliament amends s 7.17(2) of the Basin Plan to add new sub-paragraph 7.17(2)(b)(ia) to provide for the participation of consumptive water users in projects that recover water through works to improve water use efficiency off-farm. Under the 450 GL measure, the Commonwealth is providing funding of $1.77 billion for the removal of river system constraints and water recovery through projects designed to have neutral or improved social and economic impacts/outcomes.

The 450 GL has not been subjected to the same level of scrutiny as other aspects of the Plan principally due to the fact that this measure was a last-minute inclusion to secure the support of the South Australian Government. It is noted that the MDBA completed two 'relaxed constraints' scenarios where eight key river operating constraints were relaxed in the southern connected system to model flows of 2800 and 3200 GL/year and that the MDBA concluded that *'that the constraints relaxed modelling confirmed the MDBA's previous assessment that increasing the SDL to 3200 GL/year without changing some of the restrictions on environmental watering would achieve few additional benefits'.*

The MDBA modelling at the time found that the combination of relaxing constraints and an additional 450 GL would allow it to reach 17 out of 18 targets for the River Murray compared to 13 under current constraints. Subsequently, in December 2014, the MDBA released its Constraints Management Strategy Annual Report which made it clear that not all of the eight key constraints could be relaxed and the flow targets could not be achieved, yet there are still plans to acquire the additional volume. Despite repeated requests by the NIC, there has been no clear explanation as to what benefits and

outcomes will be achieved by removing an additional 450 GL at a cost of $1.5 billion to Australian taxpayers.

Concern remains that the MDBA appears to depend on modelling parameters that in some cases conflict with existing knowledge of maximum flow rates.

Recommendation: There should be no acquisition of 450 GL 'up water' until the existing recovery target is met.

Northern Basin Review

The Northern Basin includes more than half of the Murray-Darling Basin, and is defined by the catchment area of the Barwon-Darling River and its tributaries upstream of Menindee Lakes.

As part of its commitment, the MDBA outlined its intention to draw on local community input and established the Northern Basin Advisory Committee (NBAC). Yet there is significant community discontent that the Northern Basin Review process is unclear around desired objectives and outcomes. Information provided by NBAC to the MDBA is not reflected in any discernible way in work programs or outcomes.

We make the following points in relation to the Northern Basin Review:

- The Northern Basin, and the individual valleys that comprise it, is genuinely different to the Southern Basin, each having its own characteristics determined by hydrology, community, environment, society and development; a different approach to the Basin Plan is warranted in both Basins.
- The MDBA has failed to develop a case for change to existing diversion limits in the Northern Basin established via State based legislation. On this basis, the NIC rejects the SDLs that have been set for the Northern Basin as being too low, particularly in the absence of a review of the performance of the existing limits and targets imposed by state based legislation.
- The NIC rejects the MDBA's 'just add water' approach that underpins the Basin Plan.
- There is in-principle support for the Northern Basin Review and the NBAC provided there is a clear Terms of Reference and a process of genuine engagement with irrigators *in all SDL regions* of the Northern Basin to address issues raised in the development of the Basin Plan.
- The NBAC must have the power to directly influence upward revision of the SDLs in each of the northern SDL regions where it can be demonstrated that environmental targets can be achieved with less water.
- Given the Northern Basin SDL reductions are to meet the environmental watering requirements of assets in the Northern Basin, any change to SDLs as a result of the review should have no flow on effects to the Southern Basin.

The NIC supports projects, including both environmental works and measures and irrigation infrastructure projects, as the preferred way of recovering water where there is a residual gap to meet SDLs. These projects must be developed in consultation with irrigators. There continues to be too much focus on meeting environmental objectives with apparent little regard to measuring the social and economic impacts on Basin communities.

The NIC seeks a commitment to address over recovery issues. Where it has been acknowledged that water has been recovered beyond local reduction requirements through direct state and federal Government buyback programs in the semi-terminal Lachlan, Macquarie and Gwydir systems with no community adjustment packages forthcoming, a commitment must be made to implement measures that will assist in restoring the productive capacity of these regions.

As previously noted, the cap factors adopted for reporting the yield of entitlement recovered in the Macquarie and Gwydir Valleys are inconsistent with reliability measures derived from the hydrological modelling underpinning the MDBA's determination of Sustainable Diversion Limits (SDLs) and must be corrected.

Recommendation: The NIC seeks:

a. A comprehensive explanation as to how the numbers were generated across all the Northern Basin valleys and what assumptions were used in the models that delivered the outcomes.
b. A genuine review of the baseline modelling and local reduction requirements in the Northern Basin, i.e. to include all of the northern water resource areas not just the Barwon-Darling and Condamine Balonne.
c. A correction to the cap factors adopted for reporting the yield of entitlement recovered in the Macquarie and Gwydir Valleys – due to the inconsistency with reliability measures derived from the hydrological modelling underpinning the MDBA's determination of SDLs.
d. A commitment to address over recovery in the semi-terminal systems of the Lachlan, Macquarie and Gwydir valleys.

Removing the burden of red/green tape

Through the process of the 2014 review of the Water Act 2007, the NIC resisted advocating wholesale changes to the Act and the Basin Plan. We did however make the case for rational changes and measures that would result in a reduction in red and green tape that would serve to remove impediments and on costs for the irrigation industry. While the Government is yet to respond to the recommendations of the 2014 review of the Water Act 2007, the NIC welcomes, and has provided significant input into, the measures already underway in response to several key recommendations.

One of these measures is the interagency working group led by the Bureau of Meteorology established to report to the Australian Government on:

(a) current water information reporting requirements under the Act and associated regulatory burdens for data providers, including an estimate of current costs
(b) the benefits of the suite of information products with reference to associated costs borne by data providers
(c) options to reduce the regulatory burden imposed on data providers in the order of 20 per cent or more compared to current regulatory burdens.

A further recommendation of the Water Act Review was to undertake a review of the Water Charge (Infrastructure) Rules, the Water Charge (Termination Fees) Rules and the Water Charge (Planning and Management Information) Rules. Again, the NIC provided significant input into the review undertaken by the Australian Competition and Consumer Commission (ACCC) which was tasked with focusing on reducing the cost to industry and governments and reduce the regulatory burden of providing water information to the Commonwealth. The review will identify possible amendments to the Commonwealth water charge rules, that regulate the charges imposed upon water market participants in the Murray-Darling Basin.

Recommendation: The Federal Government to provide its response to the recommendations of the Water Act 2007 Review Expert Panel without delay.

Recommendation: The Federal Government to justify and clearly explain the need for each regulation it administers in the water related portfolios. If a regulation cannot be satisfactorily justified then that regulation must be removed.

(ii) Basin Plan costs and further implementation

The July 2008 Agreement on Murray-Darling Basin Reform notes in Part 5 under *No Additional Net Costs,* that:

> *The Commonwealth undertakes that the Basin States will not bear additional net costs as a consequence of the reforms agreed between the parties and the implementation of the Water Act*

In keeping with this principle, we have frequently advocated that as the Basin Plan was developed as a product of national good/importance, the costs of both implementation and any legacy costs must be borne by all Australians, not irrigators alone.

The failure to fund the Commonwealth Water Agencies including the Commonwealth Environmental Water Holder beyond the 2016/17 forward Budget estimates sends a poor signal to Murray Darling Basin communities about the Commonwealth's long term commitment to the Basin Plan.

Former Prime Minister John Howard noted that one of the key reasons the Commonwealth became involved in water management in the Murray Darling Basin was because of *'…… under-resourcing by State and Territory Governments"*. The Commonwealth must commit to full completion of the Basin Plan and commit funds necessary in the forward Budget estimates to manage the water recovered for the environment. This stands in stark contrast to the $5.3 billion outlined in the Budget to recover productive water from communities over the next nine years.

The funding allocated to recover water includes almost $1 billion over the forward estimates to recover an additional 450 gigalitres over and above that required under the Basin Plan, yet there is no funding beyond 2016/17 in the Budget to manage or deliver the environmental water the Government has already recovered.

Prior to the implementation of the National Water Initiative in NSW, communities were promised funding for an ongoing monitoring and evaluation program. Within twelve months of the water sharing plans being adopted the funding dried up. There are numerous cases of state and federal governments cutting funding relating to water reforms. It is not surprising then that communities lose confidence.

The legacy costs of the Basin Plan are substantial and we are yet to hear how the Commonwealth and Basin governments are proposing to deliver the necessary funds to ensure that they can be met. There remains a lack of clarity around how previous reforms, including The Living Murray projects, will be funded.

Recommendation: As the Basin Plan was sold as a product of national good/importance, the costs of both implementation and any legacy costs must be borne by all Australians, not irrigators alone.

(iii) Direct and indirect effects on agricultural industries, local businesses and community wellbeing

Section 20(d) of the Water Act 2007 states:

> *The purpose of the Basin Plan is to provide for the integrated management of the Basin water resources in a way that promotes the objects of this Act in particular by providing for:*
> *(a) The use and management of the Basin water resources in a way that optimises economic, social and environmental outcomes.*

Government policies can have both negative and positive impacts on the production of agricultural commodities. Irrigated agricultural production is impacted through buybacks and resultant loss of water from production. As water is removed from production there is a significant negative multiplier effect, not only on the irrigation business, but on the sustainability of many towns and communities.

The contribution from industries such as cotton, rice and dairy to irrigation communities is well known. The cotton industry employs around 8,000 people in northern New South Wales and Southern Queensland alone. One megalitre of water produces a bale of cotton worth $500 on farm, with a three to one multiplier effect. The effects of the Basin Plan implementation represent somewhere between 25-30% less water availability based on the long term average yield.

In 2012-13, irrigated agricultural production in the Basin accounted for over 50% of Australia's irrigated produce, including almost 100% of Australia's rice, 96% of Australia's cotton, 75% of

Australia's grapes, 59% of Australia's hay, 54% of Australia's fruit and 45% of Australia's dairy. *{Source: Australian Bureau of Statistics}*

In 2011-12 the total gross value of irrigated agricultural production in the Murray-Darling Basin was $6.7 billion, with the volume of water applied during this period, at 5.9 million megalitres. *{Source: Australian Bureau of Statistics}* This represents a gross value of irrigated agricultural production across the Murray-Darling Basin of $1,135 per megalitre.

From an anecdotal perspective, irrigation dependent communities in the Basin are only too aware of the negative impacts of the Basin Plan on local economies. This becomes difficult though to quantify when the MDBA socio economic work has not been completed and the socio economic baseline was never conclusively established. The NIC recognises the considerable work being undertaken on the socio economic analysis, despite this work being three years too late. Stakeholders must see tangible positive outcomes and will no longer accept debates based solely on modelling. The absence of MDBA benchmarking the social and economic impacts that the removal of water is having on communities is leaving communities exposed.

Communities will expect the MDBA's current program of socio-economic analysis over time to provide detail of the drivers of change in communities, including detail specifically relating to water reforms. While the drivers of socio-economic change in irrigation communities are multi factorial, there remains a need to measure the impacts of the change in volume of water available for consumption that has resulted from the implementation of the Basin Plan. Analysis of impacts post-reform is essential, to generate a better understanding and confidence in the assumptions that are used in the ex-ante analysis that will inform future decision making.

Regions have faced direct buybacks without any structural adjustment measures like those provided previously, for example, under the Commonwealth's Sustainable Regions Program, which supported regions facing economic, social or environmental change.

Recommendation: The NIC requests the MDBA to explain to irrigation communities in the Murray-Darling Basin, how it can properly make policy decisions and other determinations based on Basin Plan triple bottom line outcomes, when the socio economic work currently underway is incomplete.

iv) Evidence of environmental changes to date

Contracted water recovery in the Murray-Darling Basin is estimated at 1951 GL or 71% of the targeted 2750 GL. It is unclear whether the use and delivery of this water has addressed any of the red-flags raised by the study that underpinned the need for the Basin Plan and formed an ecological baseline, the Sustainable Rivers Audit. It will never be clear as to how the Basin Plan is meeting the needs identified by that study because the MDBA no longer conducts what was to be a longitudinal study of the environmental condition of the rivers of the Murray-Darling Basin.

We remain concerned about the Sustainable Diversion Limited (SDL) adjustment mechanism and believe there must be flexibility applied to allow future projects that can deliver offsets to water recovery while achieving environmental outcomes, to be modelled and future adjustments to be made.

At the time of the Basin Plan agreement in 2012, the NIC raised concerns around the social and economic dislocation the recovery of 2750 GL of long term cap equivalent water would unleash on communities across the Basin. We cannot emphasise strongly enough just how real these concerns are in 2015.

<u>Monitoring and evaluation</u>

A healthy environment is paramount. The Basin Plan places a number of obligations on monitoring, evaluating and reporting on the use of Commonwealth environmental water. The Water Act requires an annual report on the management of environmental water be provided to the relevant

Commonwealth and State Water Ministers. We know that the report must include information on achievements against the objectives of the Basin Plan's Environmental Watering Plan, however we contend that the Environmental Watering Plan is not a plan, rather a loose framework that provides little information for communities to understand the long term and seasonal objectives.

We seek to better understand, the key objectives to be achieved through environmental watering, for example:

- Against what baselines will objectives be measured?
- How will objectives be reported?
- How will they guide future decision making?
- How will local stakeholders be engaged?

Environmental Water Holders (state and federal) must work with local stakeholders to outline the specific objectives they want to achieve out of their environmental water portfolio for each valley in which water is held, reflecting the 'localism' approach. Objectives must be based on clearly defined ecological and hydrological baselines. Baselines must be evidence based and publicly available.

Basin states are only now developing their Long Term Environmental Water Strategy which is a requirement of the Basin Plan, In doing so, it needs to be made clear how the state strategies feed into the overall strategy and how the jurisdictions are working together to achieve Basin-wide outcomes.

Monitoring and evaluation objectives must:

- be fit for purpose and recognise that a flow based solution has some limitations in achieving good environmental outcomes
- be specific enough to be measurable; and
- include indicators that demonstrate improvements over time rather than reporting conditions only at specific points in time.
    - For example The 'River Murray and fringing wetlands' is too broad to effectively monitor outcomes. The MDBA identified 18 hydrologic indicator sites that would provide a more localised but representative monitoring area.
- Environmental watering must be measurable:
    - Site specific watering at locations such as Hattah Lakes or through the Koondrook-Perricoota cutting must be metered in the same way as consumptive diversions are metered.
    - Assumptions for water use in over-bank flows must be explained
- Environmental water holders must report publicly against the objectives including:
    - Where objectives have been met and where they are not met and why;
    - Where watering occurred in isolation or in association with natural events or where outcomes were achieved only through natural events.
- All monitoring programs under the different jurisdictions must be cooperative and consistent.
    - Outcomes from one program must inform other programs
    - State and federal agencies must share knowledge and avoid duplication
- All reporting of environmental water should be viewed in the context of social, economic and environmental outcomes.
- Legacy costs must be properly determined
    - Environmental programs for the 'public good', including monitoring programs, should be funded by the 'public purse'.

The NIC seeks federal and state environmental water holders to outline the specific objectives and desired achievements from their environmental water portfolio for each valley in which water is held and how they intend to work together to achieve objectives and avoid duplication. To ensure the 'localism' model is implemented, local stakeholders must be involved in the identification of these objectives.

The impact of flow rates is far from settled; it remains a concern amongst local landholders that over bank flows will eventuate. For example, while the MDBA have announced that flows of 77,000 ML/day downstream of Yarrawonga are no longer being investigated, they are examining 65,000ML/day. A trial conducted in 2014 of flows up to 18,000ML/day downstream of Yarrawonga showed localised impacts, including restricted access and minor land inundation. The incremental impacts of increasing flows must be adequately acknowledged and addressed by the MDBA.

The issue of legal liability and responsibility for damage or restricted access floods caused by man-made manipulated flows must be addressed. Currently river operators are liable and restrict their operations to current operating protocols. The existing approach to constraints management is to exceed those current protocols and deal with local or individual parties without clarifying liability if/when those parties feel aggrieved. It is unacceptable that river operators retain liability for agreements struck between unrelated parties,

Landholders well understand that this is not an 'if' occurrence, but a 'when' occurrence – when it is impossible to accurately forecast the floods that come down the fast flowing upstream tributaries with little notice.

Streamlining Environmental Water Delivery governance arrangements

The Water Act 2007 has not addressed the issue identified by former Prime Minister, John Howard who observed in 2007 in *'A National Plan for Water Security*':

> *'Widely distributed responsibilities for the management of the Basin have led to inefficiency, blame-shifting and under-resourcing by State and Territory Governments*.'

The involvement of numerous agencies in the operations of the Basin Plan is an added complication for communities and industries. This also goes to the planning and management of environmental water. Considerable disparity exists between Basin communities and the MDBA tasked with the planning and management of the Basin's water resources. Institutional arrangements for the management of water in New South Wales across the federal and state governments, reflect nine different Government agencies with a role in managing environmental water. These include:

- Department of Environment (C'wealth)
- Commonwealth Environmental Water Office (C'wealth)
- Murray Darling Basin Authority (C'wealth)
- Department of Primary Industry - Water (State)
- Office of Environment and Heritage (State)
- Water NSW (State)
- Department of Primary Industry - Agriculture (State)
- Local Land Services (State)
- Department of Primary Industry – Fisheries (State)

This model is flawed, it is cumbersome, creates confusion and adds additional levels of red tape, contrary to aims of the Basin Plan.

The NIC has previously advocated for one Commonwealth agency controlling environmental water planning, delivery, monitoring, metering and evaluation. As the Commonwealth Environmental Water Holder (CEWH) holds the largest amount of environment water, it makes sense that the CEW Office (CEWO) should hold all Commonwealth environmental water, including the Living Murray water, to streamline environmental water management at a Commonwealth level. To achieve this, amendments would be necessary to the Water Act 2007 and subordinate legislative instruments and bilateral and multilateral agreements.

It is in the national interest to avoid duplication and this can be achieved by focusing on a single centre of excellence with a well-resourced environmental water manager responsible for delivery, planning, metering and monitoring capacity within the Basin.

Salinity Management in the Basin

The MDBA blog on 5 June 2015 notes that the Australian Government and Basin states have been working together on salinity management in the Basin for thirty years and have seen good results. The blog states that salinity has been reduced in the Basin by changing land use practices, more efficient irrigation and lowering the water table in some floodplains adjacent to the river. It references the eighteen salt interception schemes across the Basin that have played an important role, and are an example of smart engineering that is helping to manage the problem. Salt inception schemes move about half a million tonnes of salt away from the River Murray every year.

We then find that the MDBA 2013-14 Annual Report tells us the salt interception schemes are not running at optimum levels due to budget cuts. In 2013-14 the salt interception schemes which were not being run at optimum levels removed 397,000 tonnes of salt using just 21,372 megalitres of water. We query why this scheme is not running at optimum levels, when we know that a key objective of the Basin Plan is to remove two million tonnes of salt per annum. We question the lack of commitment to this measure when we have the tools to remove the salt from the system juxtaposed with the significant investment in the Basin Plan to recover potentially 3,200,000 megalitres of water from communities.

(b) The effectiveness and appropriateness of the Plan's Constraints Management Strategy

Former Parliamentary Secretary for the Environment Simon Birmingham noted during an address to the Murray Darling Association Annual Conference in October 2014 in relation to the CMS:

> *'In terms of addressing the constraints described in the Constraints Management Strategy……., from a Commonwealth perspective we will only be supporting those projects which demonstrate that they have filled this test and to demonstrate that any potential adverse third party impacts have been clearly identified and appropriately addressed'.*

The Constraints Management Strategy (CMS) is designed to identify and describe the physical, operational and management constraints affecting environmental water delivery and to unlock constraints to allow the 450GL of projected 'up water' *(over and above the 2750GL of water for the environment to be recovered in the MDP Plan)* to be delivered for environmental objectives.

The NIC seeks to continue to be fully engaged in all phases associated with the ongoing development and implementation of the CMS and we seek to highlight our agreed principles in this context:

- Water property rights must be protected or enhanced
- Characteristics of water entitlements should not be altered by ownership
- There should be no negative third party impacts on reliability or availability
- Potential negative impacts must be compensated or mitigated through negotiation with affected parties
- Irrigators must be fully and effectively engaged in the development of relevant policy
- Irrigators expect this measure to deliver triple bottom line outcomes.

Our specific views in relation to the CMS are:

- The MDBA's modelling which underpins the CMS and the recovery of an additional 450 gigalitres known as the *'Hydrologic modelling of the relaxation of operational constraints in the southern connected system: Methods and results October 2012'* makes it clear that the benefits of the additional 450 gigalitres of water will only be realised if the eight key constraints are all relaxed. If the eight key constraints cannot be relaxed within the $200

million allocated, the NIC queries the rationale for spending a further $1.57 billion to recover an additional 450 gigalitres long term average annual yield (LTAAY).

- We **do not** support compulsory acquisition of easements or any other private property
- We **do support** maximum use of environmental water which may result in achieving environmental outcomes and benefits including achieving offsets with less water and with no third party impacts.
- We **strongly support** adherence to the statement in the Constraints Management Strategy 2013-2014 document namely:

  The Strategy does not put forward anything that would mean individual water entitlements would change. One of the Strategy's overarching principles is that there will be no new risks to entitlement holders.
- While we seek genuine and effective engagement and consultation with local committees and communities, under the 'localism model, the CMS must also take into account any potential broader impacts across the Basin.
- All activity in relation to the CMS must be undertaken without negatively impacting third parties; where potential third party impacts are identified the activity should only proceed if the affected parties agree and compensation made available if negotiated.
- To date there appears to be no clear articulation of the environmental, social and economic benefits of the CMS.

Communications following CMS consultations must be clear and accurate, and fully reflect community views expressed. MDBA modelling assumes that a series of adjustments to rules and river management arrangements are in place – whereas it committed to modelling based on the status quo. There must be a high level of visibility and consultation around all the assumptions and potential changes to rules/operating procedures that underpin the MDBA work on the CMS. The MDBA has undertaken to work with the Basin states to improve consultation with the irrigation industry on this matter to enable communities to see the level of visibility of Basin States in relation to these assumptions. To do otherwise will entrench a further loss of confidence in the Basin Plan.

(c) The management of the Coorong, Lower Lakes and Murray mouth including the environmental impact of the locks, weirs and barrages of the Murray River

Management of the Lower Lakes:

The knowledge and long term observations of local farmers and irrigator groups must be incorporated into key decisions, in line with the 'localism' approach promised during the development of the Basin Plan. The irrigation industry view is that the management plan for the Lower Lakes is out of date and that the South Australian Government is not meeting its obligations in this regard.

Independent modelling undertaken in the Lake Albert Scoping Study overwhelmingly establishes that the best way to lower salinity in Lake Albert and the Coorong is through a Lake Albert-Coorong Connector. It is useful to make comparisons between Figures 23 and 29, and between Figures 24 and 30 in the Lake Albert Scoping Study Options Paper. Figures 23 and 24 show modelling results for the construction of a Coorong Connector for Lake Albert salinity. Figures 29 and 30 show modelling results for Lakes Cycling for Lake Albert salinity.

This is contrary to the South Australian Government's preferred option of lake cycling, which the study showed to be of little benefit in lowering salinity and that under certain scenarios, would in fact lead to increased salinity in both Lake Albert and the Coorong. Each lake cycle requires 400 gigalitres of water for an average decrease in salinity of 300 EC (electrical conductivity), as opposed to a Coorong connector, which was shown through modelling over a six month period, to decrease salinity by 2,000 EC, from the consumption of 150 gigalitres of water.

The Barrages

The Barrages were constructed from 1935 to 1940. While they are operated by SA Water, they are jointly owned by the Commonwealth, New South Wales, Victoria, and South Australian governments.

A key report released in 2014 titled Building Resilience to a Changing Climate *(A climate change adaptation plan for the South Australian Murray-Darling Basin)* in Chapter 7 under Future Operation and location of the barrages notes:

> *This was identified as a priority for discussion by stakeholders involved in considering the impacts of climate change on the Coorong and Lower Lakes and arose out of concerns for the effect of sea level rise on barrage operation.*

Inevitable sea level rises in the Coorong and Lower Lakes must be taken into account in any reconfiguration of the barrages. This would be a timely opportunity for the barrages to be upgraded to a higher level of automation.

Recommendation: Lower Lakes: Note the South Australian Government report released in 2014 titled Building Resilience to a Changing Climate *(A climate change adaptation plan for the South Australian Murray-Darling Basin)* which has identified as a priority for discussion by stakeholders the effect of sea level rise on the Lower Lakes and on barrage operations.

Recommendation: The Barrages: MDB farmers and irrigator groups must be fully engaged in any discussion around the future design and operation of the barrages, including the proposal for a 6th outlet to be created between the Lower Lakes to the Coorong.

(d) Other related matters

Repairing river health through carp control

Carp are widely recognised as a significant aquatic pest in Australia and make up 80% of fish biomass in the Murray-Darling Basin. They are known to alter their surroundings to suite themselves, making waters turbid, causing erosion and compete with native fish for food and resources. Economic impacts to Australia of carp infestation have been variously estimated at up to $500 million per annum. Invasive pests, including carp, are identified as factors that impact on native fish species, now listed as vulnerable or threatened with extinction, in the Murray-Darling Basin. *{Ref: Invasive Animals CRC}*

The Invasive Animals CRC is undertaking research into the potential of Koi Herpes Virus (KHV) as a biological control agent for carp in Australia. KHV is a disease of carp, koi and goldfish caused by a virus. The CRC is assessing KHV in the laboratory against Australian native species and carp strains. If the Government believes there is potential for the Koi Herpes Virus, then a whole-of-government approach is necessary to ensure there is maximum impact if and when the KHV is released.

The research has confirmed that a carp-specific virus is a 'good candidate' for the biological control of carp in Australia. CSIRO are completing extensive testing on native fish, as well as mammal, bird, reptile, amphibian and crustacean species, and have confirmed that the virus does not cause disease in any species other than common carp. International case studies have shown that the virus will kill 70-100% of carp in a very short time with CSIRO findings showing Australian carp to be highly susceptible to infection. Importantly, the virus is found to be safe for humans.

Recommendation: On the satisfactory completion of all research and testing by the CRC and CSIRO, the NIC would support a carp biocontrol program that can demonstrate improve water quality and greater environmental returns.

Conclusion

The contribution by irrigated agriculture to the social and economic fabric of rural and regional communities and to the national economy must not be undervalued. In a period of climate variability, projected increased world population and resultant pressures on global food security, there is an opportunity for the sector to play a major role in maintaining and building on Australia's recognised high level of food safety and security.

The Government's 2015 Agriculture Competitiveness White Paper made a significant point:

> ……. *'improving access to reliable water supplies and better managing existing water resources.....for the continued growth of the agriculture sector'.*