



National Irrigators' Council

***Submission to South Australian  
Royal Commission  
Murray Darling Basin Plan***

*April 2018*

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*The National Irrigators’ Council (NIC) is the national peak body representing irrigators in Australia. The Council supports thirty two (32) 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 Council represents the voice of those involved in irrigated agriculture who produce food and fibre for Australia and significant export income. The total gross value of irrigated agricultural production in Australia in 2014-15 was over \$15 billion (ABS). The sector produces essential food such as milk, fruit, vegetables, rice, grains, sugar, nuts, meat and other commodities such as cotton and wine.*

*The Council 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.*

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## Why Basin Irrigation is important

Australia's irrigators are among the world's most efficient producers; they are committed to sustainable production and the health of the environment and the rivers. 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, wine and other commodities like cotton.

Without a healthy, efficient and, importantly, growing irrigated agricultural sector, Australia will not reach its potential to meet Australia and our region's increased demand for food and fibre, and thereby, not generate jobs and higher living standards for Australians.

In 2015-16, the total Gross Value of Irrigated Agricultural Production (GVIAP) for Australia was \$15.0 billion, which rose by 3 percent (or \$509 million) over the previous year. Total GVIAP represented 27% of Australia's total Gross Value of Agricultural Production (GVAP) of \$56.0 billion in 2015-16. *{Australian Bureau of Statistics}*

2015-16 figures show that on dollar values 78% of Australian vegetable production is irrigated, 90% of fruit and nuts; and 94% of grapes. South Australia would not have a fruit or nut industry and a significantly reduced wine and grape industry without Murray Darling irrigation, 95% of fruit and nuts and 96% of grapes produced by irrigators. (The South East of SA is not in the MDBA region and is a large producer of vegetables.)

The importance of irrigation for Murray Darling Basin states is further highlighted by the fact that 80% of NSW's vegetables are grown by irrigators, 76% of fruit and nuts and over 90% of grapes. For Victoria it is 75% of vegetables from irrigators, 95% of fruit and nuts and 97% of grapes. In Queensland, it's 74% of vegetables grown, 89% of fruit and nuts and 98% of grapes.

Irrigators extract less than a third of the water in our Basin rivers; they use it to produce more than 40% of Australia's agricultural product. In doing so they produce tens of thousands of jobs in local communities across the Basin, supporting population growth, local business and viability of local services.

The irrigation sector recognises, and indeed has been a driver of, the importance of achieving greater productivity using far less water. In doing so they have produced more food, using less water making massive strides along the way to addressing the salinity issues which once dogged the Basin.

Supplying Australia's cities with fresh food, wine and fibre and growing some of Australia's key and fastest growing exports, Murray Darling irrigation contributes to a better living standard for every single Australian.

## Introduction

National Irrigators' Council (NIC) welcomes the opportunity to provide input to the South Australian Royal Commission on the Murray Darling Basin Plan.

NIC will seek to address the specific terms of reference. However, it is important that the issues in the terms of reference should not be considered in isolation from the broader issues that are part of the implementation of the Murray Darling Basin Plan. We refer particularly to the role of the irrigated agriculture sector, irrigation dependent communities and the impact of water reforms in recent years.

The language in the terms of reference might give the impression that the Basin Plan, and all its moving parts, is failing to deliver. NIC would contend that it is important to implement the plan and it is not possible to judge its success while we are only half way through that process. Early reports are also indicating significant improvements in key indicators of environmental health across the Basin.

The issues that form part of the implementation of the Plan should be considered in a broader context that takes into account those states beyond South Australia, and that takes a balanced approach between the role and needs of Australia's irrigated agriculture sector, dependent communities and the needs of the environment. This reflects the promised 'triple bottom line' approach during the development of the Plan.

While recognising the key elements of the Plan that are yet to be secured, at this juncture it would be a gross error to divert in any significant way from the Plan, acknowledging the level of sacrifice made by the irrigated agriculture sector and its dependent communities to Australia's water reforms.

It is not an overstatement to suggest that our members, and the sector more broadly, are suffering from reform fatigue. Those who have played a role in the Basin Plan implementation must be afforded certainty. The sector and communities have borne the brunt of many years of change and reform, while their contribution to Australia's economy and their participation, signing up in good faith to the reform process, has often gone unrecognised by decision makers, the wider population and city media.

As the Commission examines and seeks to clarify the issues raised in the terms of reference, we seek to inject balance into the story that is part of the implementation of the Basin Plan and its various complexities.

The Basin Plan's progress must be measured in outcomes. Firstly, the triple bottom line outcome and what it was designed to achieve; and in terms of the environment, actual environmental outcomes not just flow targets.

Our organisation and our members have consistently said that positive outcomes are about more than flow, and it is critical that the Commission understand this. The health of the rivers is built on the entire ecosystem. That means achieving a healthy system, involves (in addition to flow), a range of complementary (or non-flow) measures like dealing with cold water pollution, pest species, connectivity etc.

It is hoped that the Royal Commission will acknowledge the role of irrigated agriculture in the life of Australia's rural communities, the contribution it makes to the fortunes of those communities and the Australian population more broadly, through food and fibre production.

Examination of the reforms that have occurred in Australia's water resources sector should not be considered in isolation from Australia's capacity to remain competitive. The Productivity Commission report into the Regulation of Australian Agriculture, delivered to Government in March 2017, observed that *'frequent changes to water regulations also created uncertainty for farmers and can undermine the confidence of farm businesses to innovate and invest'*.

It is hoped the Commission will recognise the negative social and economic impacts of further removal of water from productive use for entire communities and for Australia overall. To be clear that negative impact will occur in every Basin state including South Australia. Outcomes of water reform must be balanced; they must consider the needs of people, communities and food and fibre production in parallel with the environment.

Australian irrigators have undertaken substantial efficiency improvements, both government and self-funded. They have embraced research and development and taken advantage of technological change and broadened their knowledge to improve their bottom line, while at the same time increasing their water use efficiency. It could be argued that the sector is now viewed as a 'world's best practice' model producing more food and fibre, more efficiently.

Australian farmers continue to be innovators; they have had to become efficient while increasing productivity, and they have looked for solutions when faced with tough climatic conditions.

Government investment in infrastructure projects is driving system improvements where on-farm schemes are enabling some water savings to be retained on farm and contribute directly to employment in the sector. Water left in production also enhances opportunities for the development and expansion of local industries, providing the social and economic underpinnings of irrigated agriculture communities.

The Basin Plan was a difficult compromise that came after more than a century of argument. No-one would argue that it is perfect and without contention. However, it is an agreed legislated solution to restoring the environmental health of our rivers while at the same time recognising that the Basin is Australia's most important food and fibre production area, within which live two million people in mostly regional communities.

NIC would suggest that the Commission must be cognisant in its consideration that a compromise Plan no longer exists if one side or other is able to remove the parts it does not like, and keep the parts it does.

## Responses to Terms of Reference

- 1. Whether the Water Resource Plans defined by the Act and Basin Plan (which are to include the long-term average sustainable diversion limits for each Basin water resource) will be delivered in full and in a form compliant and consistent with the Basin Plan by 30 June 2019.***
- 2. If any Water Resource Plans are unlikely to be delivered in full and in a form compliant and consistent with the Basin Plan, the reasons for this.***

The Basin Plan incorporates 36 Water Resource Plans (WRPs). They set out how water will be shared and managed within each area. WRPs cover surface water or groundwater resources, or might be surface water and groundwater. Each WRP should be specific to its area.

A key concern for our members is that WRPs do not end up being a 'one size fits all' policy. They need to be developed and implemented with a level of flexibility in their design which will enable adjustment over time, allowing for the variability which exists in the system.

NIC members are concerned about progress on the development of WRPs and the likelihood of meeting timeframes set out in the Basin Plan. WRPs must be compliant and delivered by the due date of 30 June 2019. The greatest concern exists in New South Wales which is to develop and have accredited twenty (20) of the thirty three (33) WRPs. Delays in New South Wales may be attributed to the staff changes that have occurred in relevant water related departments in that state.

These changes have been the result of restructuring over a number of years along with significant changes in recent months as a direct result of the various reviews that have been undertaken in NSW. While many of the issues relate to (now) historical resourcing and frequent changes, it is also fair to acknowledge that delays caused, for instance, by the Senate disallowing the Northern Basin amendment, do not help.

In terms of the second terms of reference, NIC would hope that any consideration on this matter will reflect constructive suggestions on a way forward.

NIC members are reporting that the process of developing the WRPs is a concern due to the many competing issues that the relevant agencies are dealing with, including the lack of corporate knowledge of those charged with delivery of the WRPs. NIC also has reservations about the ability of the MDBA to process a large number of WRPs, once they are received, in what will be a short period of time.

In Queensland, the Warrego-Paroo-Nebine WRP was accredited as being consistent with the Basin Plan by the Government by way of legislative instrument in the parliament on 15 June 2017. We are also aware that Queensland has in recent weeks released other plans for comment.

***3. Whether the Basin Plan in its current form, its implementation, and any proposed amendments to the Plan, are likely to achieve the objects and purposes of the Act and Plan as variously outlined in ss.3, 20, 23 and 28 of the Act, and the 'enhanced environmental outcomes' and additional 450 GL provided for in s. 86AA(2) and (3) of the Act, respectively.***

NIC notes that the Commission is considering this issue at the same time as the Productivity Commission is undertaking the scheduled five year review of the Basin Plan. The Commission's consideration of this should be informed not only by submissions, but also by the MDBA's recent five year review along with the Productivity Commission's draft report which should be available prior to the conclusion of this Royal Commission process.

The Basin Plan is only part way through its implementation. At the core of the Commission's consideration, there should be recognition that it is far too early to make a judgement on whether environmental outcomes will be achieved. It must also be recognised that the Plan's objects include

social and economic outcomes – that at its core, the Plan was a compromise in order to achieve the triple bottom line outcome.

It is vital that the Commission recognise that the Plan, as agreed by the Parliament, included a Sustainable Diversion Limit (SDL) which would be reached with 2750GL of water recovery, with those amounts able to be varied with:

- The outcomes of the Northern Basin Review;
- Up to 650GL of downward variation in the SDL as a result of SDL adjustment measures; and
- 450GL of upward variation in the SDL as a result of efficiency measures known as up-water that would proceed only if those measures were able to be delivered in a way which had a neutral or beneficial social and economic impact.

In very broad terms the various reviews so far indicate that the Plan is on track.

It is estimated that contracted water recovery in the Murray–Darling Basin, as at 31 December 2017, is 2,106.4 gigalitres (GL), which represents 76.6% of the 2,750 GL surface water recovery target outlined in the Basin Plan.

Other elements of the Plan yet to be secured include the Northern Basin target and the Sustainable Diversion Limit (SDL) Adjustment Mechanism. The legislative instrument relating to the Northern Basin target, represents an amendment to the Plan which reduces the target from 390GL to 320GL.

The review of the Northern Basin, conducted by the MDBA, clearly demonstrated the socio-economic impacts on communities in the north, where towns like Collarenebri, Dirranbandi and Warren (in particular) have paid a high price in jobs and economic activity for water recovery.

The legislative instrument, currently in the Australian parliament, relating to the SDL Adjustment Mechanism represents 605GL contained in a package of measures.

Beyond the Northern Basin amendment and the SDL Adjustment Mechanism related amendment, there remain few valley specific surface water targets to be met. A recent announcement for the Condamine Alluvium means it is likely that the major outstanding ground water target will likely also be met.

NIC is committed to the implementation of the Basin Plan in full and on time. There are significant elements of the Plan that have been very hard for irrigation communities and our industry, and there are elements we do not like. However, we recognise that the Plan was a compromise and that we cannot just choose to implement the bits we like and throw out the bits we do not.

It is a concern that in developing the terms of reference for this Royal Commission, there appears to be an underlying implication that this could happen.

One part of the Plan irrigators did not like is the 450GL of so called ‘up-water’. The concern about this is not confined to NSW, Queensland and Victorian irrigators; South Australian irrigators have also expressed concern. We have however, made it clear that as it is a part of the Plan, we will work cooperatively with all governments on that element, as long as it meets the absolute commitment made in 2012 by the then Prime Minister that this water would only be recovered if it came with improved or at least no negative socio-economic impacts.



We remain concerned that the definition included in the Basin Plan, as passed by the Parliament, does not meet that commitment. The Basin Plan definition is a single property test. That is, if the property owner accepts funding for a project then that is deemed to have met the socio-economic neutrality test. The NIC and many other groups have made it clear that measures envisaged under the Plan, in particular on-farm efficiency programs, have external impacts and these must be considered.

The Ernst and Young (EY) report cited numerous times the distributive effects of the previous on-farm efficiency programs.

These external impacts can take many forms; they may manifest as a loss of critical mass within a given industry; reduced demand for delivery services from a group-owned irrigation scheme; loss of economies of scale; reduced employment and/or increased reliance (and therefore increased pressure on) the temporary water market. These themes are explored in a recently released report by Ernst and Young (EY) and NIC strongly supports EY's findings that the recovery of up-water must be underpinned by further economic analysis, deliberate planning and very detailed industry and community involvement in the related planning.

NIC broadly supports Basin governments pursuing measures outlined in the EY report. We recognise that many of those measures will require further work prior to any implementation, or even before potential gains in held water could be properly estimated. However, they do provide a way forward. Implementation and any associated programs should be designed in consultation with communities, recognising individual characteristics of communities and irrigation districts. Programs need to include off farm efficiency works, system wide works and urban water saving.

When considering the impact of amendments in meeting the objectives of the Basin Plan, it does need to be very clear that the amendments envisaged in the original Plan are critical to achieving its objectives. That includes the Northern Basin amendments and the SDL Adjustment Measures (605GL of downwater).

The Northern Basin amendment has been assessed as achieving better environmental outcomes than the original. It does that by incorporating the so called 'toolkit' measures; these include the complementary measures NIC has been advocating along with protection of environmental water. It also helps to achieve the Basin Plan's triple bottom line goal by reducing further negative socio economic impacts.

The measures included in the SDL Adjustment amendment are critical to the delivery of water to the environment. They include a range of measures (including many in South Australia) which, if successful, will help to meet environmental flow requirements. Without these measures, the goals of the Plan cannot be met.

It should also be noted that without such measures, irrigation communities will be left with a substantial water recovery target. In South Australia, for example, the 40GL target would be the equivalent of completely shutting down the Barossa and Loxton irrigation districts. As NIC has detailed in its recent submission to the Productivity Commission (attached), 100% of the risk on these projects is actually being borne by irrigators and irrigation communities; that is because in 2024 there is a reconciliation and if the equivalent savings are not delivered, the water has to be recovered.

To be successful and meet the Plan's goals, these SDL adjustment projects must be implemented in a way which gives state governments plenty of room to be adaptive. A strong recommendation along those lines would be a useful outcome of this Commission.

***4. Whether the underlying assumptions in the original modelling used to develop the objects and purposes of the Act and the Basin Plan have been sufficiently adjusted for the impact of improved technologies.***

The Plan is built on substantial modelling used to justify the flow requirements placed in the Plan, the proposed SDLs and so on. It is important that modelling and its limitations are recognised. Modelling is laden with assumptions that may or may not be correct, there are error bands in its outputs. Modelling is a value tool to inform decision-making. Improvements are being made to the models and there is no doubt that over time many aspects of that modelling could be reviewed and improved, partly based on new knowledge and partly because of new technology or better measurement.

Some may argue that better modelling might reveal that some flow targets at particular points are impossible to deliver or that some environmental outcomes are unable to be achieved. Just as others might argue that base line figures covered periods that did not reflect likely long term inflows.

The Plan however, had to have a base line and there would be many aspects of the modelling underpinning the planning that water users and irrigators might like to see reviewed. We are however, part way through a very complex process of implementation of the Plan. Any suggestion that the 'original modelling used to develop the objects and purposes' should be revisited would essentially amount to throwing out the Plan and starting again.

That would be entirely counterproductive.

NIC would argue that the SDLAM is a case of the modelling using innovation, changes and new investment to improve environmental outcomes.

In the longer term, better modelling and measurement might improve aspects of the running of the system and that is to be encouraged, particularly when it comes to better management of rivers and ensuring water reaches the areas it is intended with the desired results.

***5. If the Basin Plan is unlikely to achieve any of the objects and purposes of the Act and Basin Plan and/or the 'enhanced environmental outcomes' and the additional 450 GL referred to above, what amendments should be made to the Basin Plan or Act to achieve those objects and purposes, the 'enhanced environmental outcomes' and the additional 450 GL?***

It is important to remember that the actual objects and purposes of the Basin Plan as included in the Water Act of 2007 include the triple bottom line outcome NIC has highlighted numerous times during this submission. Any consideration of this point by the Royal Commission must refer to those actual agreed objectives.

The Water Act says that 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) giving effect to relevant international agreements (to the extent to which those agreements are relevant to the use and management of the Basin water resources); and
- (b) the establishment and enforcement of environmentally sustainable limits on the quantities of surface water and ground water that may be taken from the Basin water resources (including by interception activities); and
- (c) Basin-wide environmental objectives for water-dependent ecosystems of the Murray-Darling Basin and water quality and salinity objectives; and
- (d) the use and management of the Basin water resources in a way that optimises economic, social and environmental outcomes; and
- (e) water to reach its most productive use through the development of an efficient water trading regime across the Murray-Darling Basin; and
- (f) requirements that a water resource plan for a water resource plan area must meet if it is to be accredited or adopted under Division 2; and
- (g) improved water security for all uses of Basin water resources."

As the Basin Plan is only part way through implementation, it is too early to make a judgment on whether the Plan is 'unlikely to achieve its objects and purposes' or the enhanced environmental outcomes. In that sense it would also be quite inappropriate for any party (including irrigators) to advocate amendments that were not envisaged in the original Plan.

The formal processes for regulation, evaluation and review as provided for in the Plan, enable a checking of progress by, for example, the MDBA and now the Productivity Commission. The recent review conducted by the MDBA was useful and it provided very clear evidence about the impacts of recovery of water on communities and showed some of the early environmental results. During the period of Basin Plan implementation, these reviews are helpful milestones.

In addition, the official review processes are also supplemented by a plethora of other analysis via parliamentary and judicial inquires; analysis of parts of the Plan or parts of the system by various agencies; and reviews from organisations with particular agendas.

It is perhaps inevitable that this has presented the public with a somewhat confused assessment of the Basin Plan implementation to date. The Plan is the result of years of debate and argument; it is a contested area and those with particular agendas are inevitably going to be attempting to support their view with what they might claim to be 'independent' work.

In the longer term, it is critical that formal reporting arrangements include regular reporting on all the objectives of the Basin Plan by the MDBA, CEWH and with an external review by the Productivity Commission. All reports should focus on outcomes and impacts, and should clearly reflect the promised 'triple bottom line' objectives of the Plan – that is - environmental, social and economic objectives and against the commitment made to irrigators, and the communities that depend on them, about their futures being more certain and more sustainable.

NIC cautiously welcomes the results of the 2017 MDBA evaluation of the first five years of Basin Plan implementation, which has shown early signs of environmental improvement where significant ecological benefits from Commonwealth environmental water are being observed. Examples from the evaluation reveal:

- over the past year the largest Murray cod spawning event has occurred in twenty years, and

- the first recorded pelican breeding was also observed at Nimmie-Caira.
- improved protection of threatened species such as the southern bell frog and the Murray hardhead fish through improved wetland and river health.

The evaluation notes that some areas of aquatic vegetation, which supports fish and birds, have recovered to levels not seen since before the millennium drought. The evaluation recommends however, that Basin governments should continue with full implementation of the Basin Plan by 2024, recognising that the management of constraints and implementation of all aspects of the SDL Adjustment Mechanism (605 GL suite of projects) are critical to getting the best possible environmental outcomes. In terms of the SDL projects, the evaluation recommends that Basin governments must involve Basin communities in the design, implementation and delivery of the nominated projects *to build community understanding and acceptance of the projects*.

NIC agrees with the fundamental point made in the MDBA review that environmental recovery will take a considerable length of time and it is far too early to judge success, or more importantly to say it has failed. We stress that any assessment of whether the Basin Plan is achieving its objectives and the 'enhanced environmental outcomes' must be undertaken in full recognition of the climatic variability and therefore the wide flow variability that naturally occurs in the Basin rivers, and should not confuse conditions caused by a naturally occurring dry sequence with a failure of the Plan.

While NIC views that amendments to the Plan, which were not envisaged in the original Plan, would be counterproductive, we would highlight that, in a range of submissions, we have pointed to ways to ensure the Plan achieves environmental outcomes. Further detail on aspects of this are included in the other matters at the end of this submission.

***6. Any legislative or other impediments to achieving any of the objects and purposes of the Act and Basin Plan and/or the 'enhanced environmental outcomes' and additional 450 GL referred to above, and any recommendations for legislative or other change if needed.***

As noted earlier, the Northern Basin target and related legislative instrument, and the Sustainable Diversion Limit (SDL) Adjustment Mechanism and its legislative instrument are yet to be secured in the Australian parliament.

These amendments are critical to achieving the outcomes of the Basin Plan.

Beyond these amendments, there should be no further legislative changes to the Basin Plan. Those who have played a role in the Basin Plan implementation must have confidence and be afforded certainty, and not the least of which is confidence in terms of investment for industry.

With regard to the 'enhanced environmental outcomes' and additional 450GL, it should be clear that these will only be achieved by all Basin state governments continuing to engage in a cooperative and conciliatory process of implementing the Plan. They certainly will not be able to be implemented if Basin States pull out, or if other elements of the Plan (such as the SDLAM and NBR) are disallowed.

The biggest impediment to achieving the objects of the Basin Plan would be to advocate change which failed to meet the Plan's triple bottom line objectives.

The CEWH now holds significant volumes of water, in the regulated southern system the best opportunities for delivering on the objectives of the Act are to apply adaptive management and to learn from the experience of delivering environmental water.

***7. The likely impact of alleged illegal take or other forms of non-compliance on achieving any of the objects and purposes of the Act and Basin Plan, and the 'enhanced environmental outcomes' and the additional 450 GL, referred to above.***

***8. In relation to any found instances of illegal take or work, whether appropriate enforcement proceedings have been taken in respect of such matters and if not, why.***

NIC has zero tolerance for water theft and any allegations of such activity serves to tarnish the reputation of the overwhelming majority of irrigators who operate within the rules of water policy in Australia. Water is a valuable and expensive asset and irrigators are disadvantaged if someone else is able to undercut others in their production costs.

The compliance issues highlighted in NSW and Queensland are a concern to irrigators and it must be understood that, in some cases, irrigators themselves have been raising concerns for some time.

Irrigators want and need effective compliance regimes.

However, this issue should be viewed with perspective. The ABS says there are more than 9,500 irrigation businesses in the Basin; a handful of these have been accused of wrongdoing. Many of the rest feel offended by unjustified generalisations. There has also been a gross exaggeration of the proportion of Basin water included in allegations of theft or by legal take of environmental water.

The vast majority of the water flowing through the Basin rivers is in the Southern Basin, and the reviews and reports have all shown high standards of metering in that area. The key area where issues have been identified is in unregulated rivers; the alleged theft – while inexcusable – is a tiny proportion of the Basin's average annual 32,500GL.

It is absolutely critical to ensure comprehensive and effective compliance, yet ridiculous comments tarnishing all irrigators, or suggesting South Australia is having most of its water stolen, should be challenged.

The response to terms of reference 7 then, is that while it is vital we get compliance right and give the community confidence, in reality, it has very little impact on the Basin Plan overall, and nil on the enhanced environmental outcomes and 450GL – since they have not been implemented.

**Actions in NSW & Qld in response to allegations of theft and poor compliance**

The New South Wales Government Independent Inquiry, conducted by Ken Matthews, and his subsequent report, highlighted faults in compliance. The report recommended independent authority, better resourcing and 'no meter no pump policy'. The more recent Ombudsman's Report, the Murray

Darling Basin Authority, and Independent Panel reviews all pointed to breakdown of compliance systems in New South Wales.

The New South Wales Government has implemented the key Matthews recommendations, that is:

- established a Natural Resources Access Regulator and with an independent board chaired by the Hon Craig Knowles, reporting to Parliament, and committed (in principle) to implement all recommendations following consultation.
- transferred regional water responsibilities to the New South Wales Industry Department, and passed the Act to establish the new regulator, and increased compliance funding by \$9.5m.

The New South Wales Government has released an exposure draft of amendments to the NSW Water Act as a part of their water reform action plan; this includes consultation on protection of environmental water and transparency policy.

New South Wales also committed, as part of the Northern Basin review, to fix issues around protecting environmental flows and low flows in some unregulated rivers. It should be noted that this commitment is a part of the Northern Basin amendment disallowed by the Senate.

The Queensland Government is currently undertaking a compliance review. Queensland recently conducted a full compliance review of a rainfall event on the Balonne River. It is understood the Queensland review will deal with issues raised in relation to compliance activity in the Border Rivers region. In addition it is understood a police investigation is underway in relation to one property.

The MDBA had a national review and independent report, and agreed to the implementation of recommendations. This includes an Independent Assurance Committee and (following a resolution from the Basin Ministers) the appointment of Dr Wendy Craik (Chair of the Climate Change Authority) into a separate oversight role for Ministers.

New South Wales ICAC (Independent Commission Against Corruption) has received referrals and as a result, two businesses have been charged.

It is appropriate for compliance activity to be a State matter and it is essential that each State Government appropriately resource the activity.

NIC would point out that compliance would be important whether or not there was a Basin Plan and it is vital to ensure not only fair use of a valuable resource but also community confidence. Irrigators are working actively and positively with Government particularly in NSW to ensure an effective and practical compliance regime.

It is clear that NSW is taking comprehensive action to upgrade its compliance regimes. It seems reasonable to acknowledge that work and give it time to be implemented and proven prior to making further judgement about whether the measures need further refinement. Queensland has also taken action and at this stage the NIC does not know what will come out of their review. Once again though irrigators will cooperate in reasonable and practical measures to ensure compliance.

### **Why is so much water in the Northern Basin unmetered?**

Given that the key focus for allegations around take has been in the unregulated rivers in the Northern Basin, it is important to explain why the area is quite different from other rivers.

While it is possible to meter all significant take from watercourses, it is not possible to meter overland flows. In those cases the take needs to be 'measured' rather than metered. In the Basin overall, 90% of take from watercourses is metered, while 70% of overall take from all surface water is metered.

In the Southern Basin, including Southern NSW, Victoria and South Australia, 98% of take from watercourses is metered with 74% from all watercourses (a figure that depends on flooding). Small users, including stock and domestic, generally are not metered.

The Northern Basin is different; it has huge variability including flooding overland flows. The MDBA says that in 2015-16, 30% of overall take in the Northern Basin was 'metered', which does not mean that the other 70% was not 'measured'. The year 2015-16 was a high rainfall year and take from overland flows are much harder to meter; they can however be measured.

MDBA's compliance review noted: *Harvesting of overland flows (also called floodplain harvesting) in the Northern Basin is the most prominent example of non-metered take - with recent estimates of annual take as high as 210GL. Farm dams and forestry plantations are also instances. For these forms of take, the hydrometric network and hydrological modelling are the way in which estimates are derived. It is important that there are accurate methods to quantify non-metered take.*

The MDBA review recommendation is that "95% of take by non-metered floodplain harvesting is measured by accurately calibrated storage level recorders by 30 June 2022". Ministers have accepted this and a pilot has been completed in the Gwydir Valley that will form the basis of new measurement systems for floodplain harvesting in NSW as part of the licensing of this water take under Supplementary licences.

## **Impact of Northern Basin changes on the lower Darling, South Australia and the Environment**

Implementation of the Northern Basin amendment has been assessed as producing better environmental outcomes than the original Plan; this is because it includes "toolkit" measures to improve the river environment for native fish and birds etc.

The Basin Plan, including the Northern Basin amendments, results in an increase in water over the pre Basin Plan baseline that will reach Menindee Lakes, estimated at an average annual increased inflow into Menindee of 150GL. Because of evaporation the difference in South Australia from a 70GL change is negligible. Menindee Lakes loses 480GL per year from evaporation, and addressing those losses will result in far more water for South Australia and the Lower Darling.

### ***9. Whether, in any event, the enforcement and compliance powers under the Act are adequate to prevent and address non-compliance with the Act and the Basin Plan, and any recommendations for legislative or other change if needed.***

NIC would suggest that the current action being taken in NSW to enhance compliance will ensure that adequate power is held by the State Governments. NIC agrees that primary responsibility for compliance should rest with state governments. We note the recent federal review and would agree with its position on the role for the MDBA in compliance and that the MDBA have taken proactive steps to ensure the undertake their compliance role effectively in collaboration with the States. The recent MOU between the MDBA and the Natural Resources Access Regulator is an example the co-operation and collaboration required.

**10. Whether monitoring, metering and access to relevant information (such as usage data) is adequate to achieve the objects and purposes of the Act and Basin Plan and the ‘enhanced environmental outcomes’ and additional 450 GL referred to above.**

NIC and irrigators support strong compliance action. The same applies to irrigators’ expectations in relation to standards on metering and monitoring, and in this regard it is important to build confidence in the irrigation industry, based on measures that are practical and deliverable.

Recent state and federal reports have all consistently set the objective of metering all extraction from rivers and for measuring take from overland flows. These are important objectives. Along with those, will come the ability to better and more transparently report usage figures which are necessary for informing the implementation of the Basin Plan.

Technology around metering and monitoring is advancing fast and that will enable much better information in the medium term. It is important though, that in implementing standards, it should be practical as well as allowing flexibility for improvement.

With regard to overland flows the MDBA review recommendation is that “95% of take by non-metered floodplain harvesting is measured by accurately calibrated storage level recorders by 30 June 2022”. Ministers have accepted this and a pilot has been completed in the Gwydir Valley that will form the basis of new measurement systems for floodplain harvesting in NSW as part of the licensing of this water take.

Compliance cannot be achieved with technology alone; compliance officers on the ground will play an important role, building knowledge and links with irrigators and communities.

The NSW Government is currently undertaking consultation about its proposed framework for metering, and in part it states that:

- *Accuracy: meters must meet the Australian Standard 4747 Meters for non-urban water supply. This standard focuses on the accuracy of meters.*
- *Pattern approved: all meters must be pattern approved. Pattern approval means the design of these meters has been verified by the National Measurement Institute (NMI) to meet national metrological specifications. There may not currently be pattern approved models for every type of meter, such as open channel meters. Interim arrangements may need to be developed for these meters until the market responds.*
- *Installation and validation: meters must be installed correctly. The NSW Government will develop an installer accreditation and competency framework with which all meter installers will be required to comply. While this is being developed, all meters must be installed or recertified by a Certified Meter Validator which appears on the Irrigation Australia Meter Validator/Installer list (see [www.irrigationaustralia.com.au](http://www.irrigationaustralia.com.au)).*
- *Seals: all meters must have tamper-proof seals.*
- *Maintenance schedule: meters must be maintained by an accredited installer every five years. This ensures that meters are maintained to an acceptable standard and remain accurate.*
- *Data capture: the meter must have the capacity to record: volumetric flow rate and the date, time and duration of water taken. Data loggers allow for this data to be captured. This is important for the data to be auditable and verifiable.*



- *Transmission of data: it is proposed that all meters have telemetry, or some mechanism that allows for the information captured by the metering equipment to be remotely collected by WaterNSW and reviewed by regulators.*

In principle, we agree that accurate measurement is critical and the NSW objectives are sound. However, we caution that there should be transition processes in particular for requirements like compliance with AS4747. To date, that standard has proved difficult for manufacturers to comply with - some might say impractical. If the standard for AS4747 was to be in place now not only would most of the very modern meters in NSW not comply but nor, as we understand it, would the meters in South Australia and Victoria.

This is a problem that is a direct result of a poor process of developing the National Metering Standard (NMS). It was a process that developed an aspirational but impractical standard with no real consultation with irrigators and meter manufacturers. NIC understands that there is not a single meter (i.e. one that can be used in a river or large-scale open channel irrigation system) that has been pattern approved. The approval process requires meters to conform with many parameters under many conditions and there are only two laboratories in Australia that can undertake such work – the related testing takes months.

It is important to understand that even very modern meters, being funded under modernisation programs, are not fully compliant with AS4747. This is a significant problem and it results in the industry being given an impossible task. Participants comply because, through no fault of their own, there is no appropriate compliant meter available. The primary issue is AS4747's requirement for meters to be pattern approved, for some meters (e.g. large, open channel meters) is this impractical and for manufacturers with multiple meter size and configurations extremely costly.

NIC suggests that this is an important area for consideration. NIC recommended to the Productivity Commission that the National Metering Standard should be revisited and revised. That process must include engagement with manufacturers, the irrigation industry and other interested parties and should include provision to recognise reputable international accreditation (eg. US or EU).

***11. Whether water that is purchased by the Commonwealth for the purposes of achieving the objects and purposes of the Act and Basin Plan and/or the 'enhanced environmental outcomes' and the additional 450 GL referred to above will be adequately protected from take for irrigation under water resource plans, and any recommendations for legislative or other change if needed.***

NIC agrees that the protection of environmental flows is an important issue, as is the ability to protect low flows in some rivers. In particular, we note that low flows in the Barwon Darling are critical for downstream communities and users.

It is important to recognise that this problem does not affect the vast majority of environmental flows in the Murray Darling Basin. Most of the Basin's water is in regulated rivers and these rivers do not (generally) have the type of licenses that are involved in the problems outlined.

It should also be clear that legal interaction of some licenses on unregulated rivers and environmental flows does not constitute theft.

NIC has zero tolerance for any illegal water take, whether that is by an irrigator or anyone else. Irrigators pay large sums of money for water; it is a substantial input cost of their business and if another producer is taking water then it not only undermines the integrity of the system, but it harms other water users and gives an unfair business advantage. We have made numerous public statements on this indicating support for effective compliance regimes and for implementation of the independent recommendations made in a range of reports into the issues.

Irrigators pay substantial contributions from their fees for compliance. It is Government's role as the regulator to enforce the rules, and industry has consistently called for more effort in that area – and indeed, for the funding which comes from the sector to be used appropriately to do the job.

The issue of legal take of environmental water is quite separate to illegal take. It occurs in unregulated rivers where licences exist that allow pumping when the river reaches certain levels. These licences pre-date the Basin Plan, and in many cases they pre-date Government's owning environmental water. They reflect rivers which do not have storages and have extremely variable flows. Again, for clarity, most of the rivers in the Basin are regulated, which means they have dams or water storages.

The licences in question were established when the only flows coming down the river were from nature. An irrigator, for example, may have a licence that specifies that they can turn their pump on when the river is a certain height or volume and they have to switch it off again when it falls below that level. The problem is when that height is reached because the environmental water holder has released water from a regulated river with the intention of that flow reaching down the unregulated river.

The usage rules for these classes of licences were in place when the Commonwealth purchased environmental water in the Northern Basin. The Commonwealth was well aware of the interaction and the way these rules worked when they made those purchases.

Despite this, we acknowledge this problem and the need to address it. We would point out though that where a property right is to be changed, it should be done in full consultation with the owners of the right.

NIC is aware that many of the irrigators affected by this have been willing for some considerable time to discuss solutions with the Government, indeed they had been initiating the contact.

NIC also acknowledges concerns expressed by communities about low flows in the Darling. We note that this issue is a key part of the NSW Government's water reform proposals, currently out for community consultation. That proposes expanding the Minister's ability to protect flows.

NIC does not disagree with the NSW Government proposal in principle, however we would say that there should be transparent and clear operational guidelines around this so that all interested parties can be clear about what components of flow come from particular sources. It should also be clear that if decisions reduce the reliability of a legally obtained entitlement, that will have a financial impact on a business and compensation may be necessary.

While we are happy to work with Government on the protection of environmental flows in unregulated rivers, it is important to point out that there should be no change to the characteristics of different types of water right. In this context, water owned by a commercial irrigator has exactly the same characteristic and right as the same type of water owned by the Government. For example high security water owned by the CEWH in a valley is the same as high security water owned by an irrigator. One does not get priority over the other either in the allocation or in delivery.

**12. Whether the Basin Plan in its current form, its implementation, and any proposed amendments to the Plan, are adequate to achieve the objects and purposes of the Act and Basin Plan, the ‘enhanced environmental outcomes’ and the additional 450 GL referred to above, taking into account likely, future climate change.**

In many previous submissions, NIC has made the strong point that the risks on climate variability must be appropriately shared, not carried only by irrigators. NIC is not opposed to monitoring ‘risks to the continued availability of Basin water resources’ but would be concerned if that became a vehicle to revisit the whole Basin Plan.

While irrigators and farmers in general are very aware of climate variability and would welcome research into its impacts, the Basin Plan does not provide for new SDLs to be established within the life of the Plan. Irrigation allocations do vary according to climatic conditions in that allocations are based on availability of water; that variability also applies equally to water owned by environmental water holders. In that context there is a very real measure of responsiveness to climate variability already built into water management in the Basin.

NIC would argue that when the Basin Plan is fully implemented it will need time to settle in, be monitored and with some considerable time to see environmental benefits fully flow through. For irrigators and Basin communities, 2024 needs to mark successful implementation of the Basin Plan and a period of certainty in water regulation, not the start of a new process.

**13. Any other related matters**

**Sustainable Diversion Limit Adjustment Measures (SDLAM) projects**

It must be made clear that SDLAM projects are an integral part of the Basin Plan as agreed in 2012. Such projects are not, as some seek to portray, taking back water from the environment; they are critical to achieving environmental outcomes.

It is important that the Commission understands that the 605GL adjustment that is contemplated, is not a risk in terms of the Plan’s water recovery goals. If in the final analysis, the projects failed to generate the related efficiencies, there is a provision in Plan that would allow the gap to be recovered by way of acquisition of additional water entitlement.

Many of the projects require a significant amount of work; that is not a criticism of the projects or even at this stage of the process. It is early days for most of the projects and there is a substantial amount of planning still to be undertaken. We support that process and advocate extensive community consultation as a part of it.

It is vital that implementing the SDL adjustment measures projects, state governments are able to adopt an adaptive approach; they must be given the flexibility to modify projects (with the Commonwealth’s concurrence) and be encouraged to bring forward new proposals in the light of new knowledge - there is no downside to allowing maximum flexibility. Irrespective of the final shape of projects in an equivalent flow sense, there will be a full reconciliation in 2024.

There is a misconception that SDL adjustment projects represent a risk to the Basin Plan’s environmental objectives. The projects need to be seen as investments in modernising the way water is stored, conveyed and ultimately delivered within and across river systems. If state governments fail to deliver the agreed projects or the projects fail to generate the envisaged benefits, it will be irrigators and ultimately irrigation communities who will be required to give up more water entitlement. In that

sense, 100% of the risk is effectively being born by food and fibre producers and irrigation communities.

## Complementary Measures

As mentioned above, NIC has consistently advocated for complementary (or non-flow) measures to be included to ensure that the Basin Plan is able to achieve the environmental outcomes it is intended to achieve.

In the **attached submissions** we detail what those complementary measures entail and have not sought to fully detail in this submission.

There is a need to recognise that a river environment is more than just the water flow. A river that is too cold for example will be a great breeding ground for carp while native fish are unable to breed. A river corridor overrun by weeds and feral pigs, for example, is also unlikely to produce the healthy natural environment we would all like to see.

As a result we advocate a wider range of complementary projects to provide 'triple bottom line' benefits under the Basin Plan. Such measures include:

- carp control through the release of the Carp Herpes virus
- appropriate management of cold water pollution
- improvement of fish migration through fish-ways
- restoration of native fish habitat
- feral animal and weed control in wetlands and riparian areas
- increased ability for Commonwealth Environmental Water Holder (CEWH) to trade water to help fund these measures.

## Trading of environmental water

NIC has long argued for increased flexibility in relation to the proceeds of sale of environmental water, including the carryover of water allocations. We made the case in our submission to the 2014 review of the Water Act 2007, suggesting that the CEWH be enabled to trade water for environmental reasons and use the derived funds for environmental purposes within the Murray Darling Basin.

We have argued for a shift from flow targets and volume, to a greater focus on outcomes. NIC strongly argues that flow targets are not an adequate measure of the health of a river and that the success of the CEWH's work needs to be measured in environmental outcomes. To do this, the river environment needs to be healthy and NIC has advocated that a range of complementary or non-flow measures to achieve this.

We refer in this submission to a suite of non-flow, or complementary, measures, which include improving the river as habitat for native fish species, restoring fish passage, eradicating feral species, and other measures. Our view is that funding some of these measures via water trading is fundamental to achieving the CEWH's objectives.

Recently, the Productivity Commission as part of its review of National Water Reform, endorsed the need for an outcomes focus, and included a series of strong draft recommendations about environmental water management and complementary measures.

We refer Commissioners to NIC submission<sup>1</sup> provided to the CEWH *Framework for Investing in Environmental Activities* consultation process, where we suggested CEWH funds be directed to a range of initiatives and measures, including:

- the national carp control program
- delivering community benefit by supporting habitat and/or recovering threatened species and threatened ecological communities and critical ecosystems to improve ecological outcomes in partnership with a private landholder by using Commonwealth water in a productive system
- consideration of enhanced social, economic and cultural wellbeing to improve a community's capacity to attract industry, business and tourism opportunities, and by extension with potential to grow a region's health, education and skills capabilities
- alignment with, and/or enhancement of, other federal government programs
- a project should not involve issues of competitive advantage in line with competitive neutrality principles.

We advocated for consideration of investment in projects with an Irrigation Infrastructure Operator (IIO) to support the targeted delivery of environmental water to sites. These should be developed in collaboration with the IIO and other relevant stakeholders. Activities might include assisting in the restoration of an area, for example a floodplain or wetlands, for broader environmental and community benefit.

It is critical that through the *Investment Framework*, the CEWH works in collaboration with state environmental water holders, local government and/or community organisations to leverage investment opportunities that will deliver multiple objectives. This might include wetland watering and pest and feral animal control. Funding could be used to enable and support integrated project delivery.

To undertake the types of initiatives suggested, in-kind contributions to CEWH activities could be made by other delivery partners by way of provision of machinery, labour, the use of services and facilities, the use of existing irrigation infrastructure, and professional advice and services. Delivery partners might include farmers/private landholders, irrigation infrastructure operators, fishing and other sporting groups, local government, state governments, indigenous groups, local industry, naturalist groups, Catchment Management Authorities (CMAs), Local Land Services and local Landcare groups, naturalist groups and many other community organisations.

NIC also advocated for the use of Commonwealth water in a productive agricultural system, in a controlled and managed way for environmental benefit and to potentially extend to broader community benefits through greater management of ecological outcomes. There is also opportunity to invest in the creation of habitat features within irrigation infrastructure. The construction of islands and mud flats within water storages and reuse system would see significantly improved habitat created from infrastructure that was primarily developed for productive purposes.

## About the National Irrigators' Council

The National Irrigators' Council (NIC) is the national peak body representing the irrigated agriculture sector in Australia. The organisation supports 32 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.

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<sup>1</sup> *National Irrigators' Council submission to the Commonwealth Environmental Water Holder: Framework for Investing in Environmental Activities, October 2017*

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.

NIC 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.

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. NIC advocates to governments, statutory authorities and other relevant organisations for their adoption.

NIC aims to develop policy and projects to ensure the efficiency, viability and sustainability of Australian irrigated agriculture and the security and reliability of water entitlements.

### **NIC Guiding Principles**

NIC objectives are to:

*To protect or enhance water as a property right and to champion a vibrant sustainable irrigation industry.*

NIC is the voice of irrigators and believes in the following principles to guide future policy decisions:

- 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.



National  
Irrigators'  
Council

Submission to the  
Productivity Commission's  
five year review of the  
Murray Darling Basin Plan

April 2018

Contact: Steve Whan  
CEO: National Irrigators' Council

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## Summary of key points

- Judgment on the progress of the Basin Plan must reflect whether the triple-bottom line - environmental, social and economic - objective is being met.
- Recognise that the Basin Plan is only partially implemented. Full environmental outcomes will take decades and current assessment needs to acknowledge the early stage the process is at.
- Ultimate success of the Basin Plan will be determined by outcomes, not just flows - environmental outcomes, social outcomes and ability to continue to produce food and fibre. It is important in considering those things that 'proxies' relating essentially to flow targets are not inflated above other long-term outcomes.
- Sustainable Diversion Limit Adjustment Measures (SDLAM) - integral to the Basin Plan. Projects are investments in modernising the way water is stored, conveyed and ultimately delivered within and across river systems.
- State governments must be able to adopt an adaptive approach to implementing SDLAM projects, they must be given the flexibility to modify projects and be encouraged to bring forward new proposals in the light of new knowledge - there is no downside to allowing maximum flexibility. Irrespective of the final shape of projects in an equivalent flow sense, there will be a full reconciliation in 2024.
- If State governments fail to deliver the agreed SDLAM projects or the projects fail to generate the envisaged benefits, it will be irrigators and ultimately irrigation communities who will be required to give up more water entitlement. In that sense, 100% of the risk is effectively being born by food and fibre producers and irrigation communities.
- Efficiency Measures – The guarantee that the 450GL of so-called 'up water' would only be recovered if it came with improved, or at least no negative, socio-economic impacts is critical.
- Measures proposed in the Ernst and Young report need much more work before they could be implemented, however they offer a way forward and NIC supports using them as a basis for work.
- Productivity Commission should recognise that implementation of efficiency projects cannot be via a one-size fits all efficiency program.
- Northern Basin - NIC strongly supports the Northern Basin Review's inclusion of 'toolkit' measures. Getting positive environmental improvement is about "more than flow".
- Basin Plan had Northern Basin Review as a key inclusion. The Review results must be implemented.
- Constraints Management - Achieving Constraints removal will require detailed and extensive work to plan, map, engage and resolve community and individual concerns. This means genuine engagement with local communities.
- There is no magic bullet that will speed up the process; the only way it will be achieved is by thorough and painstaking work, and by decision makers being brave enough to revisit flow regimes if they are proven unrealistic.
- Assessment of water recovery as being 'cost effective' must take into account a full range of flow-on impacts and strategic value of targeted purchases. It should not be a simplistic assessment that only compares the dollar value per mega litre to the taxpayer
- Cap Factors - Irrigators have concerns about the longer-term accounting for water and in particular adjustments that may be made to Cap Factors in various valleys

- Water Resource Plans - NIC members are concerned about progress on the development and the difficulty meeting timeframes set out in the Plan
- Environmental watering - NIC agrees with a number of the points made last year in the Productivity Commission's National Water reform draft report regarding the importance of local input into environmental watering. It is vital to engage local communities in environmental watering planning and decision making.
- NIC emphasises again that to achieve improved ecological outcomes a range of complementary, or non-flow, measures must be implemented.
- NIC acknowledges the importance of water to indigenous communities in the Murray Darling Basin and the importance, wherever practical, of environmental water planning assisting those communities in meeting their social and cultural objectives.
- Water trading - rules applying to trade can be complex and any work to explain or make processes more transparent would be worthwhile. There is a need for greater public education about the water market.
- Compliance - NIC has zero tolerance for water theft. Water is a valuable and expensive asset and irrigators are disadvantaged if someone else is able to undercut them in their production costs.
- NIC supports implementation of the independent recommendations made at State and National level on compliance. Irrigators will work with Government's to achieve practical effective rules that comply with established water principles.
- The National Metering Standard should be revisited. That process must include engagement with manufacturers, the irrigation industry and other interested parties and should include provision to recognise reputable international accreditation (eg. US or EU).

## NIC 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.

## Why is Basin irrigated agriculture important?

Irrigation is a critical driver of Australia's potential to supply food and fibre, of jobs and of regional development. It plays a key role in meeting the ever-increasing global demand for Australia's clean, green produce.

Australia's irrigators are proud of the fact that they are among the world's most efficient producers. They are committed to sustainable production and the health of the environment and the rivers. Murray Darling Irrigators live and rely on the rivers and that's why a core National Irrigators' Council principle is 'a healthy environment is paramount - Sustainable communities and industries depend on it'.

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.

In 2015-16, the total Gross Value of Irrigated Agricultural Production (GVIAP) for Australia was \$15.0 billion, which rose by 3 percent (or \$509 million) over the previous year. Total GVIAP represented 27% of Australia's total Gross Value of Agricultural Production (GVAP) of \$56.0 billion in 2015-16.

The Australian Bureau of Statistics (ABS) Gross Value of Irrigated Agricultural Production 2015-16 figures show that on dollar values 78% of Australian vegetable production is irrigated, 90% of fruit and nuts; and 94% of grapes. For the Murray Darling Basin States the importance of irrigation is highlighted by the fact that 80% of NSW's vegetables are grown by irrigators, 76% of fruit and nuts and over 90% of grapes.

Victorians get 75% of their vegetables from irrigators, 95% of fruit and nuts and 97% of their grapes. In Queensland, its 74% of vegetables grown, 89% of fruit and nuts and 98% of grapes; and in South Australia 95% of the vegetables come from irrigators, 95% of fruit and nuts and 96% of their grapes.

Irrigators extract less than a third of the water in our Basin rivers, they use it to produce more than 40% of Australia's agricultural product. In doing so they produce tens of thousands of jobs in local communities across the basin – driving population retention, local business and viability of local services.

By supplying Australia's cities with fresh food and fibre and by growing some of Australia's key and fastest growing exports, Murray Darling irrigation contributes to a better living standard for every single Australian.

## Introduction

The Basin Plan was agreed, with bipartisan support, in 2012 by the Federal Parliament and the Basin States. From the time, it was first proposed, by then Prime Minister Howard in 2007, negotiation was difficult. The Plan was a compromise and reviews of progress must focus on reviewing progress on the Plan as agreed.

It attempted to balance three difficult objectives, to, as the Act says in part, “promote the use and management of the Basin water resources in a way that optimises economic, social and environmental outcomes.”

These goals reflect the NIC’s objectives which include “a healthy environment is paramount” and concern to ensure that we have healthy regional communities and an ongoing capacity to produce the food and fibre Australians consume and export.

Any judgment on the progress of the Basin Plan must reflect on whether the much promised triple-bottom line - environmental, social and economic objectives - is being met.

No-one got exactly what they wanted out of the Basin Plan, and there are elements of the Plan that have caused significant sacrifice for irrigators and pain for basin communities, but it holds the prospect of providing some certainty for Australia’s most important food and fibre production area; and the opportunity to reverse and repair damage to the environment.

NIC supports the implementation of the Basin Plan and our members have worked to establish and implement the Plan. That’s not because the Basin Plan is perfect for irrigators, it is because we recognise that all parties need to accept the Plan, as agreed, and work toward it.

The Basin Plan was struck in 2012 and while that may seem a long time ago in political and media cycles, the Plan will not be fully implemented until 2024. While it is appropriate to review the progress of the Plan to date, those who criticize the environmental outcomes to date are very premature in their judgments. The MDBA and the CEWO both make the point repeatedly that the proof of the extent to which the environment is recovering is something that can only be properly measured over a minimum of a decade. That being the case, this Review should focus on whether things are on track and opportunities to improve implementation, not whether all goals have been met – particularly when that comes to the environment.

NIC has long argued the case for a balance between social, environmental and economic outcomes to ensure the Basin Plan is fair and workable. This relates directly to the confidence that irrigators and irrigation dependent communities have in the Plan. For more than a decade, irrigators along with other groups, have worked together to participate in the development and implementation of the Basin Plan. The Plan boldly seeks to achieve the essential balance between environmental outcomes and the social and economic health of our Basin communities. Our commitment remains to a viable, productive irrigated agriculture sector in Australia.

Irrigators have been, and continue to be, willing to work with all Governments and all other interest groups, including environmental groups, to ensure that the Basin Plan is fully implemented; as long as the 2012 promise is kept that there will be no further negative impacts on communities.

In general progress on the Basin Plan as outlined in 2012 could be considered to be on track. That doesn’t mean it has been an easy or smooth process and there are still significant challenges. However there is reason to be positive about what has been achieved so far:

- As at 31 December 2017 the [Federal Department of Agriculture and Water Resources showed that 2,106.4GL of surface water had been recovered](#) for the environment, 76.6% of

the first recovery target of 2,750GL. Only 6.7% of the groundwater target had been recovered but NIC notes that there is ongoing negotiation about groundwater recovery in Southern Queensland, with producers keen to participate.

- Projects estimated to be the equivalent of 605GL have been put forward as a part of the Sustainable Diversion Limit Adjustment Measures (SDLAM) amendment.
- The [Commonwealth Environmental Water Holder reports that](#) as of 31 January 2018, over 7,999GL of Commonwealth environmental water has been delivered to rivers, wetlands and floodplains of the Murray-Darling Basin.
- The MDBA's reporting on progress was able to show good early environmental results from the Basin Plan. This confirmed State based reporting showing positive impacts on native fish in some areas from environmental flows.

However, there are some key matters that have yet to be resolved and the final form of these matters will ultimately determine whether the Plan does deliver the promised triple bottom line and succeeds or fails.

These key matters include:

- Parliamentary agreement to and progress on the SDL offsets;
- The Northern Basin amendment;
- Constraints Management Strategies;
- Recognition that a healthy river environment is about more than just flow and commitment to complementary measures; and
- The need to ensure that efficiency programs to recover 450GL of "up-water" do not create negative impacts in communities.

For reasons that NIC considers to be purely political, certain parties now appear intent on distancing themselves from key elements of the Plan (such as the Northern Basin Review and a commitment that up-water would only be recovered in ways that would be socially and economically beneficial or at a minimum socially and economically neutral). NIC wishes to make it clear that its continued support for the Plan is now very dependent on all elements of the Plan, including these commitments, being included.

In this submission we talk about the importance of assessing outcomes and not just flow targets. However, in talking about flow targets and flows overall it is also important that any assessment compares like measures. It is not acceptable for example to compare Basin Plan calculations which are based on long term average flows with shorter term averages in drought periods.

The other key point we would like to make relates to separating the key parts of implementing the Basin Plan from issues which need to be addressed, but are separate to the Plan itself.

Compliance is critical to confidence in the operation of the river system and in the Basin Plan outcomes; NIC has strongly supported the need to address compliance and has endorsed the recommendations out of the large number of inquiries held federally as well as in NSW and Queensland. No matter what the water sharing framework or policy around water use compliance is critical.

However, the overall implementation of the Basin Plan should not be put on hold because of concerns over compliance. Compliance is an ongoing job, strong compliance regimes are needed no matter what the overall policy is.

It is critical that the inquiries emerging from recent media stories do not impede progress on the rollout of the Basin Plan. Irrigation communities seek certainty above all and a clear space that enables the Plan to continue under its many and sometimes complex moving parts, for both the sake of their respective industries and irrigation dependent communities.

In making our submission NIC will respond to the committee's discussion paper questions. In doing so NIC is guided by a series of principles which highlight irrigators' commitment to a triple bottom line outcome from the Basin Plan. NIC is happy to provide any further evidence if required.

## Responses to information requests

### 1. Approach to assessing the Basin Plan

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

National irrigators Council has consistently said that the Basin Plan objectives rely too much on flow measures rather than environmental outcomes.

It would be a concern if the proxies used by the Productivity Commission reflected this same narrow criteria. As the discussion paper indicates, the ultimate success of the Basin Plan will be determined by outcomes not just flows - environmental outcomes, social outcomes and ability to continue to produce food and fibre. It is important in considering those things that 'proxies' relating essentially to flow targets are not inflated above other long-term outcomes.

NIC recognises that flow indicators have been used in the Basin Plan and remain key targets, those targets however fail to recognise that the health of the river is about more than just flow.

The NIC has said consistently that we believe it is vital that overall health of the river is considered and that the future Basin Plan include complementary measures. It is noted that the Commission refers to complementary measures later in the report, however we would suggest they need a higher profile in determining success as well.

For instance, what progress is being made to address cold water pollution, fish passage or what impacts is the Plan having on feral pest species (including terrestrial species like pigs). In looking for appropriate measures the Productivity Commission needs to consider the work undertaken by a variety of authorities, including MDBA's recent environmental review, reporting by the CEWH and work undertaken within relevant Basin State agencies.

The measures utilised by the Productivity Commission must also include social economic impact data and the capacity to produce food and fibre as these were both key objectives of the Basin plan. NIC notes a reference in the background paper to looking at progress of water recovery and looking at the cost or efficiency of water recovery.

While NIC understands that the Productivity Commission must have regard for cost efficiency, Council urges the Commission to look beyond simplistic arguments around the merits of buyback. The Commission needs to understand that when the Commonwealth recovers water entitlement through investment in modernisation programs at the system or on-farm levels, it is a co-investor, rather than a sole funder. For example, if the Commonwealth pays \$1500/ML for water that has a market value of \$850/ML, the irrigator surrendering the related entitlement is required to re-invest the market value to modernise their operation and the Government is paying the above market 'premium' of \$650/ML. Such co-investment by the Commonwealth needs to be seen as a concrete commitment to structural adjustment – and in a form that is likely to have a more lasting effect than attempts to create "alternate futures".

NIC would note also the approach to reporting on whether water recovery is meeting target objectives i.e. timeframes. It does appear to the NIC that most timeframes are currently on track however it would be worthwhile considering whether in light of knowledge gained since the Basin Plan was

introduced any of the timeframes should have recommendations for change. In particular are timeframes for the recovery of 450 GL of so-called 'up-water' realistic and would better long-term result be able to be achieved if the timeframes were extended?

## 2. Risks to achieving Plan objectives

*The Commission is seeking information on:*

- a. *risks that may prevent Basin States from successfully implementing SDL adjustment projects*
- b. *the extent to which adopting a different definition of 'neutral or improved socioeconomic outcomes' for efficiency measures to what is in the Basin Plan would affect the likelihood of projects being delivered on time and on budget*
- c. *whether there are other novel approaches to recovering water for the environment, such as purchase of entitlement options, that may contribute to Basin Plan outcomes while achieving neutral socioeconomic outcomes.*

### **Risks on Sustainable Diversion Limit (SDL) Adjustment projects**

It is important to understand where the risks in these projects lie and NIC welcomes the Productivity Commission looking into the area.

It needs to be very clear that the SDLAM projects are an integral part of the Basin Plan as agreed in 2012. Such projects are not, as some seek to portray, taking back water from the environment, they are critical to achieving environmental outcomes.

It is important that the Commission understands that the 605GL adjustment that is contemplated is not a risk in terms of the Plan's water recovery goals. If in the final analysis, the projects failed to generate the related efficiencies there is a provision in Plan that would allow the gap to be recovered by way of acquisition of additional water entitlement.

Many of the projects require a significant amount of work; that is not a criticism of the projects or even at this stage of the process. It is early days for most of the projects and there is a substantial amount of planning still to be undertaken. We support that process and advocate extensive community consultation as a part of it.

It is vital that implementing the SDL adjustment measures projects, State governments are able to adopt an adaptive approach, they must be given the flexibility to modify projects (with the Commonwealth's concurrence) and be encouraged to bring forward new proposals in the light of new knowledge - there is no downside to allowing maximum flexibility. Irrespective of the final shape of projects in an equivalent flow sense, there will be a full reconciliation in 2024.

There is a misconception that SDL adjustment projects represent a risk to the Basin Plan's environmental objectives. The projects need to be seen as investments in modernising the way water is stored, conveyed and ultimately delivered within and across river systems. If State governments fail to deliver the agreed projects or the projects fail to generate the envisaged benefits, it will be irrigators and ultimately irrigation communities who will be required to give up more water entitlement. In that sense, 100% of the risk is effectively being born by food and fibre producers and irrigation communities.

### **Efficiency Measures and neutral or improved socioeconomic outcomes**

This is a significant and very controversial issue for irrigation communities.

When the then Minister and Prime Minister announced that the Basin Plan would include 450GL of so-called 'up water' in 2012, their statement made it clear that this water would only be recovered if it came with improved or at least no negative socio-economic impacts.

The definition included in the Basin Plan as passed by the Parliament does not meet that commitment. The Basin Plan definition is a single property test. That is, if the property owner accepts funding for a project then that is deemed to have met the socio-economic neutrality test. The NIC and many other groups have made it clear that measures envisaged under the Plan, in particular on-farm efficiency programs, have external impacts and these must be considered.

These external impacts can take many forms – they may manifest as a loss of critical mass within a given industry; reduced demand for delivery services from a group-owned irrigation scheme; loss of economies of scale; reduced employment and/or increased reliance (and therefore increased pressure on) the temporary water market. These themes are explored in a recently released report by Ernst and Young (EY) and NIC strongly supports EY's findings that the recovery of up-water needs to be underpinned by further economic analysis, deliberate planning and very detailed industry and community involvement in the related planning.

NIC supports Basin governments pursuing measures outlined in the EY report. We recognise that many of those need much more work before they could be implemented, or even before potential gains in held water could be properly estimated. However, they do provide a way forward

We would urge the Productivity Commission in its consideration to recognise that implementation cannot be via a one-size fits all efficiency program such as the current COFFIE program.

Programs must be designed in consultation with communities, recognising individual characteristics of communities and irrigation districts and implemented with the support of communities. Programs need to include off farm efficiency works, system wide works and urban water saving.

Irrigators have opposed the 'up-water' component of the Basin Plan, noting that it was an 'add on' to the original Plan and many of our members remain resistant to it. However, NIC recognises that it is a part of the Basin Plan that was ultimately accepted by the Parliament in 2012. In this context, there is also recognition that the sector must engage with governments and with communities to determine how it could be achieved whilst, importantly, maintaining the commitment given by the Minister and the Prime Minister at the time it was made.

The Commission's point 2C links back in some respects to the points made around the recovery of water for the 450GL up-water component of the Basin Plan. The potential for additional water to be recovered for held water via better management of river systems and a range of other off farm initiatives certainly needs to be a focus.

There should also be a degree of flexibility that follows the development of new products in the water market. NIC has consistently supported the Environmental Water Holder trading water and using the proceeds to fund complementary measures to improve environmental health across the Basin. In theory we would also be willing to see temporary or allocation purchase noting, however, the very strong potential the CEWH has to influence the market and the need to avoid negative impacts.

### 3. Northern Basin

*The Commission is seeking information on actions governments should now take to achieve SDLs in the Northern Basin.*



NIC notes that the Commission's question has been overtaken to some extent by the Senate's recent disallowance of the motion to amend the water recovery target from 390GL to 320GL. NIC further notes that the disallowance motion was largely prompted by political opportunism and since then the Opposition, Government and even some crossbench Senators have indicated that they are not ruling-out the change recommended by the northern basin review.

It would be premature for government to proceed with recovery of water for 390 GL target before this issue is ultimately resolved.

NIC is calling on the government not take any action until the issue is finally resolved. We would certainly hope that happens well before the Productivity Commission delivers its final report and would hope that the final outcomes is the target set at the levels recommended by the extensive northern basin review.

In saying this we recognise that there are a number of questions that need to be answered and that information has been sought by opposition and others. NIC encourages government and opposition to continue to discuss those needs in particular to clarify issues of modelling, indigenous engagement and other questions. We also strongly supported the New South Wales government's actions in establishing a new compliance regime to ensure that, in medium to longer term, every reasonable person can have confidence that water is going where it is intended.

NIC strongly supports the Northern Basin Review's inclusion of so called 'toolkit' measures. These measures align generally with the complementary measures that we have been advocating for some time. Our members have consistently said that getting a positive environmental improvement is about "more than flow".

The toolkit measures we believe are critical in the Northern Basin include action on connectivity for native fish, eliminating cold water pollution, tackling animal and plant pest species (in the river and out) and projects to improve the river habitat (snagging etc). The toolkit measures also include protecting low and environmental flows again important measures to address river health. Our detailed position on the Northern Basin is included in our [submissions to the Northern Basin review](#).

In addressing this question the Commission might also consider the future of over recovered water. It has been acknowledged that over recovery has occurred in the Lachlan and potentially the Macquarie Rivers. At this stage there is no clear path for how this will be dealt with. It is understood that the NSW Government is committed to considering how to address over recovery within the process of developing WRPs but ultimately the Commonwealth must address the same matter as it will impact on the finalisation of water diversion cap factors

Currently the MDBA statements indicate that there is the potential for – but no commitment to – over recovered water being sold or traded as long as that is consistent with the CEWH's guidelines. NIC would suggest that once over recovery has been confirmed the Government needs to work closely with other water users in the relevant system about how the issue is resolved.

While NIC has long advocated for the CEWH to be able to trade water that it considers to be in excess of its requirements in a given year, this should not be considered a default position for what is a permanent level of over-recovery in the Lachlan and Macquarie catchments. In some areas that might include consideration of withdrawing the over recovery from the pool, thus enhancing reliability of entitlements for all water holders including the environment.

Not surprisingly given our comments, NIC would be reluctant to suggest areas where water could be further recovered in the Northern Basin at this stage and we would suggest it is also premature for the Productivity Commission to make recommendations in this regard.

Depending on where the process is up to, it may however be appropriate for the Commission to briefly review the process undertaken to achieve the Northern Basin Amendments.

## 4. Constraints Management

*The Commission is seeking information on:*

- a. why progress to remove constraints has been slower than expected*
- b. the implications of this slow progress*
- c. what can be done to ensure that constraints are removed in a more timely manner while managing impacts on third parties*
- d. strategies that are, or could be, put in place to increase the extent to which Basin Plan objectives are met when constraints cannot be removed.*

Constraints Management remains one of the key challenges of the Basin Plan. It is clear that the original Basin Plan underestimated the difficulties of removing constraints. Progress has been slow fundamentally because some of the flow regimes and timetables for Constraints Management indicated in Plan are unrealistic.

Constraints removal is a key part of the Sustainable Diversion Limit Adjustment Measures (SDLAM) package and that if this amendment is disallowed by the Senate, it will be impossible to address and remove the constraints which prevent the projected environmental flows reaching their targeted destinations, including the South Australian border. Noting also that if the SDLAM amendment is disallowed by the Senate NSW and Victoria will not longer be participants in the Basin Plan meaning the end of the Plan.

Constraints Management has been slow because it requires very detailed work in identifying amelioration requirements, engaging those who are affected and bringing them along. In particular, the risk of flooding of individual properties has proven to be an extremely volatile and emotional issue for those potentially affected.

To date this has been a stop start process, with a lack of clarity at individual property level about what proposals mean in practice. It is important that the process is not dominated by particular interests and that Government's engage widely in implementing it.

Governments and all those involved in the Basin Plan must recognise that resolving the issues will require detailed and extensive work to plan, map, engage and resolve community and individual concerns. In the context of the latter, this means genuine engagement with local communities.

There is no magic bullet that will speed up the process of achieving constraints removal; the only way it will be achieved is by thorough and painstaking work, and by decision makers being brave enough to revisit flow regimes when they are proven to be unrealistic

Clearly, there are serious implications if constraints cannot be removed or bypassed. At the highest level it seems it would be impossible to deliver the volumes of water required to achieve overbank flows and flows to critical environmental sites (particularly in South Australia) if constraints are not able to be addressed.

Those criticising failure to remove constraints need to be aware that every person involved deserves a fair hearing and an opportunity to offer a solution to their individual property problems. NIC recognises that in the long-term, achieving the flows dictated in the Basin Plan is going to cause some inundation of private property. However, this needs to be handled in a way which gives everyone involved the right to a fair hearing and the ability to avoid livestock losses, property or asset damage and personal hardship.

Government must work with infrastructure operators to identify where existing or new infrastructure offers an opportunity to bypass a constraint. Government and river operators must recognise that infrastructure owners are obliged to seek a fair return for the use of their infrastructure, including for long-term impacts and replacement costs.

The Commonwealth and Basin States need to explore every opportunity to utilise privately-owned irrigation infrastructure to deliver water efficiently and to overcome system constraints e.g. the use of MIL's system to overcome some of the limitations imposed by the Barmah Choke. However, the use

of privately-owned systems cannot be assumed by governments and needs to be the subject of proper contract negotiations.

Governments may need to look at whether new infrastructure might be used to overcome limitations in the capacity to deliver overbank flows in some areas.

## 5. Recovery of water for the environment

*The Commission is seeking information on:*

- a. *the extent to which the Australian Government's strategy to recover water in areas where gaps remain will be cost effective, align with the Basin Plan's environmental objectives, and be transparent*
- b. *risks to achieving water recovery targets by 1 July 2019 and, where not already addressed under current arrangements, how any shortfalls may be resolved*
- c. *examples of water recovery (both infrastructure projects and purchases) that have been either well implemented or had major deficiencies, including risks to securing contracted but not yet delivered water from water saving infrastructure projects.*

It would appear from the information included in recent reports that the Government has been largely successful in recovering environmental water. Assuming the Northern Basin target is eventually amended by 70GL (to 320GL) and the 605GL of SDLAM package of measures is allowed, then there are few valley specific surface water targets remaining to be met.

There remain shared recovery targets in the Northern Basin even if the Northern Basin amendment is reintroduced and approved. There is also a substantial ground water recovery target remaining in Queensland which is dealt with in some more detail later in this section.

The exception to this is the 450GL of so called 'up-water'. Clearly, this is a task still to be undertaken and one which must be undertaken in a way which meets the commitments on socio-economic impact.

As a general point, NIC would strongly suggest that assessment of recovery being 'cost effective' must take into account a full range of flow-on impacts and strategic value of targeted purchases. It should not be a simplistic assessment that simply compares the dollar value per mega litre to the taxpayer, as has been suggested by some.

It is true that on a straight dollar cost to taxpayers, buyback is generally cheaper than recovery of water through infrastructure investment. However, such simplistic assessments ignore the flow-on impacts in communities, the value of future production and employment opportunities. The MDBA's recent review of the Southern Basin, along with its prior review in the North, demonstrated very clearly that buyback has a detrimental impact on communities. A number of previous reviews have also provided evidence of that point.

Buyback has been shown by government and independent inquiries to be a very blunt instrument and those who advocate its continued use do so for self-serving purposes. Recovery of water entitlement through governing co-funding is a strategic approach which goes some way to honouring government commitments to a balanced Plan and is a tangible form of structural adjustment.

It was clear from the Northern Basin Review that the only areas with positive outcomes overall where the areas where recovery had been achieved through infrastructure projects.

It is critical that flow-on impacts be taken into account.

NIC finds some of the criticism of the on-farm investment, to date, hard to accept. The most spurious of the criticism to date has been from a prominent academic who has argued that irrigators should not be encouraged to become more water efficient because that will result in less run-off to river systems

Efficiency works on farm and in system have been very successful and there are numerous examples of areas where production has been able to either increase or at least over the same while substantial quantities of water and return to the environment. NIC supports an ongoing role for Government in supporting efficient use of water and greater productivity (including separate to the Basin Plan), noting however the comments above about the importance of implementing future Basin Plan programs in a way which does not produce negative outcomes for communities.

There have been many efficiency projects funded and implemented from the Basin Plan. Most have been very successful though, of course, there will be varying levels of success, and depending on local circumstances, quite varied costs per ML of water recovered.

As mentioned above there is a substantial groundwater recovery target remaining in Queensland. This target has been the subject of extensive negotiation between the irrigators, the Queensland and Federal Governments. Irrigators in the area are keen to resolve the issue and see the recovery undertaken, indeed they have been proactive in offering solutions. It appeared a few weeks ago that the Commonwealth and Queensland may have been close to agreeing but at the time of writing this again appears to have stalled.

This is different type of recovery to surface water but if it is still not resolved as the Commission undertakes it draft report it would be worth a closer look. To be clear, irrigators recognise that the recovery needs to occur, they want it settled on a fair basis and they are frustrated by the inability of Government to make a decision.

When it comes to specific recovery projects (question 5C) there are, of course, numerous examples of successful projects.

NIC's members and the groups the Commission is consulting with in communities would be able to provide information on projects at local levels. NIC is aware of a number of areas where investment in infrastructure for water recovery has been extremely successful. The Trangie-Nevertire scheme on the Macquarie for example where channel lining, some piping and technology improvement reduced losses from 40% to 5% returning 29GL to the environment, or on a bigger scale, the huge savings made in the Murrumbidgee and Coleambally schemes.

### ***The risk posed by uncertainty on Cap Factors***

Irrigators do have concerns about the longer-term accounting for water and in particular adjustments that may be made to Cap Factors in various valleys. Changes to the cap are likely to mean two things: an increase in the amount of water to be recovered by the Commonwealth and a demand by banks for increased equity where irrigator borrowings are underpinned by encumbrances against their water entitlements. Irrigators were promised that the Basin Plan would deliver them greater certainty but the Commonwealth's desire to amend cap factors across the Basin will do exactly the opposite.

There are only two catchments where the case to amend the cap factors has been proven – in the Gwydir and the Macquarie and the related adjustments have been recommended by the MDBA (via the Northern Basin Review). NIC notes that in recent times the MDBA has preferred to indicate that cap factors are a matter for the Basin States to determine within the development of their Water Resource Plans – but ultimately these plans have to be accredited by the MDBA. For the avoidance of doubt, NIC will consider any attempt by the MDBA to alter cap factors in other than the Gwydir and the Macquarie as a redrawing of the proverbial 'line in the sand' and a matter which it would cause it to reconsider withdrawing its support for the Basin Plan.

## 6. Structural Adjustment

*The Commission is seeking information on:*

- a. *what specific assistance has been provided to help communities adjust to the Basin Plan*
- b. *the extent to which this assistance has supported particular industries or regions*
- c. *evidence that this assistance has facilitated adjustment that would not have otherwise occurred and has contributed to meeting the intended outcome of the Basin Plan, including more resilient industries and communities with confidence in their long term future*
- d. *whether future structural adjustment assistance is warranted, and if so, what lessons can be learnt from past programs.*

NIC notes that one of the key decisions made when the Plan was introduced in 2012 was that a focus on efficiency measures for water recovery would minimise the need for structural adjustment funding.

Recent social economic studies in the Northern and Southern Basins by the MDB confirm that buyback has a much more serious socio-economic impact than measures which recover water through efficiency. This submission has dealt with the regional impacts of buyback versus infrastructure funding for efficiency above. It is a clear cut case.

Anecdotally, it would appear that structural adjustment funding provided so far during the implementation of the Basin Plan has been ineffective. Presumably, if it had been effective then we would not have expected to see the large drops in employment which some towns have experienced as a result of water buyback and which have been detailed in the MDBA's socio-economic studies (among others).

Structural adjustment funding, where it is provided, must be targeted in ways which ensure long-term economic activity for a community.

NIC is concerned with suggestions made by some that buyback should be used as the major way to recover water (justified by simple cost) but with adjustment funding delivered to communities via investment in government services.

The academics who make this suggestion fail to acknowledge that funding provided by Government for these programs is generally one-off capital funding. That means that programs must be able to generate ongoing benefits. Where funding is directed to infrastructure, particularly efficiency programs, the ongoing benefit is achieved by maintaining or expanding production.

It isn't possible to match that ongoing benefit by funding Government services. These services require recurrent funding, which is not envisaged under any of the Basin Plan programs, and is unlikely to be provided instead of capital funding.

Well targeted structural adjustment funding can have a positive impact on communities but it must be applied in a way which builds up a community's competitive advantage and provides for a long-term increases in jobs and production. It should not be about photo opportunities or providing one local business with a competitive advantage over another.

NIC is unaware of how much funding has been provided directly in the form of structural adjustment to date, but commitments via programs like strengthening Basin communities have been very small when seen in the context of the entire Basin. In NIC's travels across the Basin, it sees plenty of evidence of negative social and economic consequences of the Plan and little evidence of successful structural adjustment other than that achieved through investment in water efficiency at the system and on-farm levels.

## 7. Water Resources Plans

*The Commission is seeking information on:*

- a. *the main risks to remaining WRPs being finalised and accredited by mid 2019*
- b. *how, and to what extent, recent measures to make the WRP accreditation process more efficient and streamlined have sped up the preparation of WRPs and whether there are opportunities to further streamline the accreditation process for WRPs*
- c. *other ways WRPs or associated planning processes (e.g. consultation, modelling inputs) could be changed to better meet the objectives of the Basin Plan*
- d. *how effective Basin States have been in consulting with all relevant stakeholders*
- e. *the main risks to planning assumption work being finalised on time.*

NIC members are concerned about progress on the development of water resource plans (WRPs) and the likelihood of meeting timeframes set out in the Plan. Clearly that concern is greatest in New South Wales which has 20 of the 33 of WRPs to finalise and has undergone significant changes in staff in the relevant departments.

The development of NSW's WRPs has been complicated by reorganisation of all of the roles and responsibilities of its public water authorities/agencies and the related staff turnover. The requirement for NSW to further deal with the issues alleged in a recent Four Corners program, and the succession of government inquiries that were subsequently generated, has further complicated the delivery of those WRPs.

The NSW irrigator groups that are members of NIC report that the process of developing the WRPs is bordering on chaotic because of the many competing issues that the relevant agencies are dealing with and the lack of corporate knowledge of those charged with delivery of the WRPs. Quite apart from the particular challenges faced in NSW, NIC has serious reservations about the MDBA's ability to process a large number of WRPs, once they are received, in what will be a short period of time. In sum, NIC and its members lack confidence in the WRP process.

The rejection of the Northern Basin review by the Senate has placed another risk in this area. It is now not clear what the SDL target will be in the Northern Basin and that makes it difficult to finalise WRPs. It is critical that Government work with all stakeholders, including opposition and cross bench parties, to reintroduce the Northern Basin amendment, to enable progress on the WRPs to continue.

## 8. Environmental Water management

*The Commission is seeking information on:*

- a. *how environmental water planning under the Environmental Management Framework is, or is not, facilitating achievement of the Basin Plan's environmental objectives within legislated timeframes, and what improvements should be made.*
- b. *how effective and efficient the delivery of environmental water is — including through coordination among owners of held environmental water, managers of planned environmental water and other stakeholders — and how any barriers could be reduced*
- c. *whether Australian and State Government objectives for the delivery of environmental water align, any examples of where this has not been the case, and how differences are resolved through the Environmental Management Framework*
- d. *the extent to which the Prerequisite Policy Measures (PPMs) assumed to exist under the Basin Plan will be in place by the target date of 30 June 2019, so that the Plan's environmental objectives can be achieved under the SDLs agreed by governments, and how any identified concerns should be addressed*

- e. *any opportunities to better integrate environmental water planning and management with natural resource management programs and complementary works to facilitate achievement of the Basin Plan's environmental objectives.*

Management of environmental water will be one of the key ongoing roles for Government once the Basin Plan is fully implemented. It is a complex task that must be focused on planning the use of water in way which produces positive environmental outcomes and where possible positive flow on outcomes for communities and local economies.

It needs to be managed with a high degree of cooperation with other water managers and in a way which builds on natural events. NIC would add that it is critical that the informal 'good neighbour' policy adopted by the last and current Commonwealth Environmental Water Holder (CEWH) continues into the future.

NIC agrees with a number of the points made last year in the Productivity Commission's National Water reform draft report regarding the importance of local input into environmental watering. "Localism" is mentioned further on but in general it is vital to engage local communities in environmental watering planning and decision making.

NIC would also acknowledge the importance of water to indigenous communities in the Murray Darling Basin and the importance wherever practical of environmental water planning assisting those communities in meeting their social and cultural objectives.

With regard to the Environmental Management Framework NIC notes that it is intended to:

- co-ordinate the planning, prioritisation and use of environmental water on both a long-term and an annual basis
- enable adaptive management to be applied to the planning, prioritisation and use of environmental water
- facilitate consultation, co-ordination and co-operative arrangements between the Authority, the Commonwealth Environmental Water Holder and Basin States.

As part of the 2017 evaluation of the Basin Plan, the Murray Darling Basin Authority (MDBA) has evaluated the effectiveness of the Framework, examining whether:

- the key components of the Environmental Management Framework have been delivered or on track?
- there are effective processes to coordinate planning, prioritisation & use of environmental water, and
- the principles to be applied in environmental watering are influencing the behaviour of environmental water holders and managers?

NIC notes that the MDBA's evaluation says, in part, that:

- the Basin-wide Environmental watering strategy was delivered in November 2014
- the long-term watering plans were delivered in November 2015 in Victoria, South Australia and Queensland.
- Further long term watering plans are on track to be delivered in NSW, ACT, Queensland and South Australia in June 2019
- State annual environmental watering priorities are being delivered by 31 May each year as agreed; and,
- Basin Annual environmental watering priorities are being delivered by 30 June each year.

In terms of effectiveness of delivery and coordination NIC has noted a number of positive assessments in recent times of environmental watering events. In particular, events where experience of previous efforts has been used to determine the best way to coordinate Commonwealth flows with natural flows or State water holder releases.

We have noted a number of positive assessments of this work on fish breeding in some areas along with other results and the MDBA 5-year review highlights early positive results from the Basin Plan overall but also specifically on watering events.

Anecdotally (and in a number of the reviews) it is clear that there is still a lot of learning to do about the most effective timing of events and how to ensure best results. That is not surprising given the early stage the Plan is at and the relatively new science of environmental water management.

We would continue to strongly encourage close cooperation and communication between all levels of management of rivers along with river experts and local communities. We need to communicate that the expectation is that it will take time to get arrangements right. In terms of barriers, NIC is aware that there are different arrangements in each state for water and catchment management which may lead to differing levels of success. We note the Commission's very positive comments last year's National Water reform report regarding arrangements in Victoria. While it is not NIC's place to advocate one set of arrangements over another, NIC agreed with many of the points the Commission made.

In terms of question d) on pre-requisite policy measures, we know that beyond the Environmental Management Framework, measures such as PPMs, mechanisms to protect environmental flows and the proposed relaxation of operational and physical constraints are intended to enhance the benefits of environmental watering.

State Governments are better placed to respond to the Commission's related questions. That said, NIC knows from its interactions with senior government officials working to implement the Basin Plan that there are very significant matters of detail in relation to PPMs, protection of environmental flows and the relaxation of operational and physical constraints that remain unresolved. NIC suggests that the resolution of these matters by 30 June 2019 cannot be assumed.

Progress on constraints measures, some of which form part of the suite of projects embedded in the 605GL of SDL projects, are dependent on a successful outcome in the related legislative instrument (or disallowance motion) currently in the parliament. We have commented further on constraints above.

In response to question e) NIC has long advocated that to achieve improved ecological outcomes (which we support) a range of complementary, or non-flow, measures (referred to earlier in this submission), should be examined. These are measures which are complementary to the use of environmental water.

NIC supports the capacity of the CEWH to trade held water and has advocated that the proceeds of trading should be used to fund complementary measures. Basin state water Ministers have requested Basin officials to undertake the necessary work to examine complementary measures. It is not clear what progress is being made on this work.

Any investment approach should involve a range of measures designed to support the Basin Plan's environmental objectives over the short, medium and long-term to ensure native species have the greatest opportunity to thrive. Such an approach will deliver the Basin Plan's environmental objectives over time without further collateral damage to regional communities.

The Northern Basin Review also made recommendations about the need to implement complementary, or non-flow, measures. In 2017, the Productivity Commission as part of the review of National Water Reform, has itself endorsed the need for an outcomes focus, and included a series of strong draft recommendations about environmental water management and complementary measures. Such complementary waterway management activities, or complementary measures, fall into two categories, fundamental interventions or actions required to achieve improved ecological



outcomes in our river systems, or new opportunities for operation and management of environmental resources.

NIC has detailed complementary measures in many of our submissions including previously to the Commission. The summary of some is included below for completeness.

### **Complementary Measures**

#### **a) Carp control through the release of the Carp Herpes virus**

Carp make up around 80% of the fish biomass in the Murray Darling Basin, and this level of presence costs the nation up to \$500 million in lost opportunity annually. Empirical evidence clearly shows carp impact on water quality, plankton levels, the frequency and duration of algal bloom, native fish, macrophytes and water birds<sup>1</sup>. Unfortunately, much of this impact is wrongly attributed to productive water-users.

Research has shown that a carp specific virus known as Cyprinid herpesvirus 3 is highly effective on the carp species present in Australia. International case studies indicate the virus will kill 70-100% of carp in a native population within a very short time. The virus also has been shown to only affect Common carp and Koi carp (same species) and that it not impact adversely on other fish species, birds, reptiles, amphibians, mammals or crustacea.

While the types of environmental flows built into the Basin Plan might deliver some benefits to some valuable components of the ecosystem, they are also known to increase carp breeding if delivered onto floodplain habitats during warmer months.

In 2016, NIC welcomed the Australian Government's announcement of a \$15 million to undertake the necessary work with a plan to release a carp-specific herpes virus into waterways. The National Carp Control Program, led by the Fisheries Research and Development Corporation is leading the process, the focus of which work is to:

- Undertake research and development to address key knowledge gaps
- better understand and manage risks around carp control
- plan for an integrated approach to control carp in Australia's waterways
- build community awareness and understanding of the proposal to release the carp virus;
- identify and address stakeholders' and communities' concerns about that proposal
- develop detailed strategies for carp control and subsequent clean-up; and,
- support national coordination on all elements of the Plan's development.

To ensure that carp numbers do not rebuild after release, it will be necessary to employ additional measures to suppress carp and promote recovery of native fish communities (with the latter being estimated at 10% of pre-existing condition). With 30-40% of the freshwater fish species in the Murray-Darling now listed as threatened or conservation dependent, it will be critical that a series of policy actions are put in place sufficient to recover stocks.

While carp is the biggest threat to the health of aquatic ecosystems across the Basin, other factors are contributing to the decline of native species, including:

- degradation of habitat and water quality;
- overfishing;
- thermal pollution; and,
- barriers to fish migration.

Significant social and economic benefit, derived from improved inland fish resources, is likely to occur as a result of the eradication of carp and the rectification of the above matters.

NIC recommends that the any carp biocontrol program and improvements to environmental flow delivery need to be accompanied by parallel efforts to:

- re-establish populations of locally extinct native fish species through re-stocking following carp removal
- mitigation of cold water pollution at four priority dams
- restore native fish habitat along river reaches within priority river valleys through the Murray-Darling Basin.

#### **b) appropriate management of cold water pollution**

The importance of water temperature for breeding, feeding, growth and larval survival in native fish species has been well understood for over a decade, as is the impact of cold water pollution on aquatic organisms and river health in the Murray-Darling Basin. A study in 2014 noted that mortality levels in Murray cod eggs can reach 100% at 13 degrees Celsius, and that low water temperatures can dramatically reduce growth rates in species including Freshwater catfish and Murray cod, and can cause up to 30% mortality in Silver perch<sup>ii</sup>. All of these species are 'listed' under either national or state environmental legislation and over 2500km of riverine environment is now understood to be affected by thermal pollution in the Murray-Darling Basin.

There are cost effective engineering solutions to cold water pollution and these measures must be afforded a proper place in the Basin Plan.

#### **c) improvement of fish migration through fishways along the Barwon-Darling & tributary catchments**

Many native fish species are now known to migrate during various stages of their life and barriers to migration are now listed as a key threatening process in state and Commonwealth threatened species legislation.

Future-focussed investment from the MDBA in the Sea to Hume program has seen fish passage restored to over 2225 km of riverine habitat by installation of fishways at 15 barriers in the southern MDB. Reinstatement of fish passage at 13 barriers in the main stem of the Darling, Barwon, Paroo and Warrego Rivers would reinstate continuous access 5180 km. This outcome would exceed the Sea to Hume program, which is currently, and rightfully, lauded as one of the largest ecological rehabilitation projects undertaken in Australia. Tributary fishways also open up significant kilometres of passage and improve environmental outcomes associated with instream site specific indicator sites.

#### **d) restoration of native fish habitat**

A healthy habitat is vital to the condition of native fish communities. Numerous studies throughout Australia have demonstrated the value of restoring fish habitat for native fish communities. In the Condamine River for example, habitat improvement along the Dewfish Demonstration Reach resulted in significant increases in Golden perch (5 x increase), Murray cod (from absent to captured every survey), Spangled perch, Bony bream (11 x increase), Carp gudgeon (1200 x increase), and Murray-Darling Rainbowfish (60 x increase).

Re-snagging in the lower Murray resulted in a threefold increase in Murray cod, and was estimated to significantly increase overall population size<sup>iii</sup>. It would also result in lower flow thresholds being required if re-snagging occurred at lower heights to provide adequate habitat that is submerged for periods long enough to be of benefit.

#### **e) feral animal control in wetlands such as the Narran Lakes, Gwydir Wetlands and Macquarie Marshes.**

Feral pigs are one of Australia's most successful and widespread invasive species. Their success is largely due to their omnivorous diet, comprising mostly green grasses and herbs. They also eat a variety of native vertebrate species including reptiles, amphibians, birds and mammals.

Feral pigs have been present in the Macquarie Marshes since 1896 and they threaten important native wildlife species in the marshes such as the snipe, storks and ibis.

Studies undertaken on the stomach content of feral pigs in the Macquarie Marshes have revealed grasses, roots, ferns, fruits, crops, frogs, lizards, snakes, turtles, birds, mammals, invertebrates and carrion. Five different vertebrate species were found, including eastern bearded dragon, barking marsh frog, green tree frog, spotted marsh frog and De Vis banded snake.

In recent years, pig populations in the Gwydir region have exploded. This is partly due to the delivery of environmental water to wetland areas during dry-sequences as this is assisting the pigs to survive during drought.

#### **f) Riparian land management**

The health of our waterways is inextricably linked to the surrounding land and land use.. Grazing management adjacent to water ways is essential to maintain stream bank stability and limit erosion, sedimentation and poor water quality.

Riparian buffers should continue to be encouraged in high risk and vulnerable locations as should programs to encourage improved grazing and cropping strategies upstream, to limit poor quality runoff. It is critical that measures be implemented to mitigate the significant damage occurring due to livestock and feral animals on icon sites such as Gwydir Wetlands, Macquarie Marshes and Narran Lakes, beneficiaries of government water.

#### **g) Weeds**

Weeds are well known as a significant threat to Australia's natural environment and primary production industries. They displace native species, contribute significantly to land degradation, and reduce farm productivity. Aquatic weeds continue to spread through flooding, moving the plants to other waterways. Many aquatic weeds have been introduced or have colonised new waterways.

Invasive species, including weeds, animal pests and diseases, represent the biggest threat to biodiversity after habitat loss. Weed invasions change the natural diversity and balance of ecological communities, threatening the survival of many plants and animals as the weeds compete with native plants for space, nutrients and sunlight.

It is estimated that nationally, the impact of invasive plants continues to increase with exotic species accounting for about 15% of all flora. This figure is increasing yearly by about ten new species per year.

#### **Summary**

In summary, a more integrated, holistic Plan focused on non-flow measures is the key to undoing the damage that has been, and continues to be, done to communities. Such a focus would:

- deliver equivalent ecological outcomes required to meet Basin Plan objectives that will not be met through existing water recovery measures
- lead to the rehabilitation of native fish species
- improve productivity within aquatic ecosystems
- increase the resilience of threatened species
- improve social and economic prosperity from aquatic resources
- contribute to the achievement of cultural water objectives.

#### ***Focus on 'localism'***

Improved environmental outcomes can be achieved by engaging local people, who are based in catchments and who have water knowledge and are able to work with environmental water planners to identify initiatives that make full use of opportunities on public and private land.

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.

We welcome the current approach of the CEWH in acknowledging the importance of local information and experience in being able to effectively manage and deliver Commonwealth environmental water.

The *CEWH Investment Framework* (detailed earlier) is a further opportunity for community engagement and awareness in the management of environmental water. We look forward to the Framework facilitating closer engagement between the CEHW, through local engagement officers, and communities. We expect as a result, collaborative partnerships in the effort to identify potential projects designed to deliver positive environmental outcomes for community and broader benefit.

## 9. Water quality and salinity objectives

*The Commission is seeking information on:*

- a. *any inconsistencies between the various national water quality guidelines and the water quality management plan requirements in WRPs and whether these inconsistencies are being resolved and managed*
- b. *the adequacy of the actions of water managers to achieve the water quality objectives of the Basin Plan.*

NIC does not have a detailed comment on this question. We have made comment under other questions about the reliance on flow rates as the measures or targets for the Basin Plan. In that sense we would probably suggest again that outcomes need to be the targets and those logically include water quality. It is recognised that there are many targets for salinity at various points built into the Plan and it certainly appears that water managers are very conscious of those.

NIC would note that one of the major success stories of the last 30 years has been the reduction in salinity. That is one reason we find some arguments criticising efficiency programs so illogical.

NIC would emphasise again that water quality must involve creating a healthy aquatic environment and that needs investment in complementary measures.

## 10. Water trading

*The Commission is seeking information on:*

- a. *whether the Basin Plan trading rules advance the water trading objectives and outcomes stated in chapter 5 of the Plan*
- b. *whether changes to state trading rules made to date as part of implementation of the Basin Plan adequately recognise and protect the environment and third party interests*
- c. *whether implementation of the Basin Plan has improved access to market information and what further actions Basin States, irrigation infrastructure operators or the MDBA might need to take*
- d. *whether processes for reviewing Basin State trading rules — including the roles of the MDBA and the water trade working group — are sufficiently transparent, evidence based and consultative.*

The water market was introduced to ensure that water went where it would be used most productively and generated the best return. At that level, the water market is working as intended. NIC has as one of its fundamental principles protecting and enhancing water property rights and we support the water market.

There are significant complexities in the rules applying to trade along the system. Where these reflect real physical and geographic constraints then they are reasonable, it is important these are reviewed regularly to ensure they are appropriate.

NIC notes, for example, concerns about the physical capacity to deliver water downriver in the Murray and notes this could be exacerbated by new developments requiring larger transfers down the river. This issue points to the need to note that constraints on trade may change over time, not just as a result of work to overcome physical constraints, but because of changes in where water is intended to be used or in the types of crops being grown.

That suggests that trade rules may need to be able to be reviewed to incorporate some of these issues (to the extent that is possible in an open market environment).

While NIC understands the frustration that sees some irrigators call for a cessation of water trading or restrictions which would close the market to other than irrigators, it considers such calls unrealistic.

The rules applying to trade can be complex and any work to explain or make processes more transparent would be worthwhile.

There is a need for greater public education about the water market.

Media reports last year, made it clear that there is a poor understanding of the market. The market was put in place by Australian Governments, it wasn't put there at the behest of small groups of irrigators in particular river systems and it shouldn't come as any surprise that once there is a market people will seek to make money from it.

A clear lack of public knowledge about the water market was exposed in some of the erroneous (or perhaps deliberately misleading) comments made in media reports last year about water trading in the Northern Basin and the Barwon Darling in particular.

On a more general level NIC supports Governments working to speed up processing times of trades, ensuring some constancy of times and improving timely information flows. The market is difficult to understand and it is often not easy to use or access.

NIC made a number of additional comments on the water market in our submission the Commission for [the National Water Reform inquiry \(April 2017\)](#) which may also be relevant for this inquiry.

## 11. Critical human water needs

*The Commission is seeking information on:*

- a. *risks to meeting critical human water needs (CHWN) under the Basin Plan, how the Plan addresses these risks, and what, if any, further measures are required*
- b. *any concerns about provisions in WRPs relating to CHWN under extreme conditions.*

NIC has no comment on this area, other than to continue to agree with the priority given to CHWN under the Basin Plan. NIC is not aware of any current issues which would make the threat under extreme conditions (ie serious drought) any greater than it currently is.

CHWN remains the priority in all proposed water sharing plans.

## 12. Compliance

*The Commission is seeking information on:*

- a. *risks to the MDBA's ability to monitor and enforce compliance with the Basin Plan and WRPs from July 2019, and what, if any changes should be made to address these risks*
- b. *the extent to which non compliance with the Basin Plan will be addressed by recent changes to compliance and enforcement announced by governments*
- c. *any further changes that should be introduced to increase water take compliance across the Basin.*

NIC recognises that significant compliance issues have been identified by independent reviews in New South Wales and at Commonwealth level over the past eight months. We strongly support action to ensure that an effective compliance regime is in place.

NIC has zero tolerance for water theft. Water is a valuable and expensive asset and irrigators are disadvantaged if someone else is able to undercut others in their production costs.

We note the findings of the Commonwealth's review undertaken by the MDBA and the independent expert panel which suggested that the MDBA had some work to undertake to become an effective Commonwealth compliance agency. The review did acknowledge that State Governments should retain primary responsibility for compliance, we agree that is the appropriate responsibility and would be concerned at any duplication.

The combination of recommendations from New South Wales, federal government and other inquiries has produced an extensive list of actions in the compliance area. These will take some years to implement and while Productivity Commission consideration of these actions is relevant, it might be premature to make significant additional recommendations without first allowing the existing ones to be implemented and bedded down.

Queensland is also currently undertaking a review of compliance. As the review has not been finalised NIC is not aware of the recommendations it might make but again we would welcome recommendations which provide assurance for all owners and users of water along with the community more broadly.

NIC would emphasise some important points on reform proposals in this area. Firstly compliance requirements must be effective, including cost effective, and practical. They must be achievable and not set up to fail.

Compliance must be properly resourced, with adequate on the ground compliance officers. The cost of this must be shared recognising that there is a broad community benefit from compliance as well as a cost appropriately born by irrigators.

One key area of recent reviews and commentary has been protection of environmental water in unregulated rivers. NIC recognises that this is an issue that needs to be addressed and points out that irrigators in the Northern Basin have been indicating a willingness to cooperatively address this for some time. It must be noted that in doing this a core principle remains that water entitlements

have the same characteristics, ie that one ML of General Security water in a particular river has exactly the same characteristics whether it is held by an irrigator or the CEWH. This is a fundamental principle, changing it would undermine the water market.

### **NSW action on compliance & meter standards**

The New South Wales government has announced an extensive range of actions to address compliance problems identified in independent reports.

NIC is confident that overall the process being undertaken by New South Wales will address issues that have caused a loss of public confidence in compliance in New South Wales and the need to ensure a 'culture of compliance' in New South Wales.

It is noted that irrigators continue to fund compliance activities in New South Wales. We do expect that money to be spent wisely and effectively. We do not believe increases in those charges are currently justified. Compliance has a community benefit as well as a benefit to irrigators and any increase in funding should be shared across the community.

As mentioned above, irrigators support strong compliance action and we support the practical implementation of recommendations made by independent reviews, one caution we would introduce into this is to ensure that consultation occurs to make implementation practical.

This applies to expectations and standards on metering and measuring. It is important to build confidence based on measures that are practical and deliverable.

It is possible to meter all significant take from watercourses, it is not possible to meter overland flows, in those cases the take needs to be 'measured' rather than metered.

In the Basin overall, 90% of take from watercourses is metered, while 70% of overall take from all surface water is metered. In the Southern Basin, including Southern NSW, Victoria and South Australia, 98% of take from watercourses is metered with 74% from all watercourses (a figure that depends on flooding). Small users including stock and domestic generally are not metered.

The Northern Basin is different. It has huge variability including flooding overland flows. The MDBA says that in 2015-16 30% of overall take in the Northern Basin was 'metered' – that does not mean the other 70% was not 'measured'. 2015-16 was a high rainfall year and take from overland flows are much harder to meter. They can however be measured.

MDBA's compliance review said: *Harvesting of overland flows (also called floodplain harvesting) in the Northern Basin is the most prominent example of non-metered take - with recent estimates of annual take as high as 210GL. Farm dams and forestry plantations are also instances. For these forms of take, the hydrometric network and hydrological modelling are the way in which estimates are derived.*

It is important that there are accurate methods to quantify non-metered take. MDBA review recommendation is that "95% of take by non-metered floodplain harvesting is measured by accurately calibrated storage level recorders by 30 June 2022". Ministers have accepted this and a pilot has been completed in the Gwydir Valley that will form the basis of new measurement systems for floodplain harvesting in NSW as part of the licensing of this water take under Supplementary licences.

It is important not to assume that compliance can be achieved just with technology. There will always need to be adequate compliance officers on the ground, building knowledge and links with irrigators and communities.

The NSW Government is currently undertaking consultation about its proposed framework for metering. In part it currently says:

- *Accuracy: meters must meet the Australian Standard 4747 Meters for non-urban water supply. This standard focuses on the accuracy of meters*
- *Pattern approved: all meters must be pattern approved. Pattern approval means the design of these meters has been verified by the National Measurement Institute (NMI) to meet national metrological specifications. There may not currently be pattern approved models for every type of meter, such as open channel meters. Interim arrangements may need to be developed for these meters until the market responds.*
- *Installation and validation: meters must be installed correctly. The NSW Government will develop an installer accreditation and competency framework with which all meter installers will be required to comply. While this is being developed, all meters must be installed or recertified by a Certified Meter Validator which appears on the Irrigation Australia Meter Validator/Installer list (see [www.irrigationaustralia.com.au](http://www.irrigationaustralia.com.au)).*
- *Seals: all meters must have tamper-proof seals.*
- *Maintenance schedule: meters must be maintained by an accredited installer every five years. This ensures that meters are maintained to an acceptable standard and remain accurate.*
- *Data capture: the meter must have the capacity to record: volumetric flow rate and the date, time and duration of water taken. Data loggers allow for this data to be captured. This is important for the data to be auditable and verifiable.*
- *Transmission of data: it is proposed that all meters have telemetry, or some mechanism that allows for the information captured by the metering equipment to be remotely collected by WaterNSW and reviewed by regulators*

In principle, we agree that accurate measurement is critical and the NSW objectives are sound. We would caution though, that there needs to be transition processes in particular for requirements like compliance with AS4747.

So far that standard has proved difficult for manufacturers to comply with - some might say impractical. If the standard for AS4747 was to be in place now not only would most of the very modern meters in NSW not comply but nor (as NIC understands it) would the meters in South Australia and Victoria.

This is a problem that is a direct result of a very poor process of developing the National Metering Standard (NMS). It was a process that developed an aspirational but impractical standard with no real consultation with irrigators and meter manufacturers. NIC understands that there isn't a single meter i.e. one that can be used in a river or large-scale open channel irrigation system that has been pattern approved. The approval process requires meters to conform to many parameters under many conditions and there are only two laboratories in Australia that can undertake such work – the related testing takes months.

The Commission needs to understand that even very modern meters being funded under modernisation programs are not compliant.

This is a very significant problem and it results in the industry being given an impossible task. They can't comply because, through no fault of their own, there is no appropriate compliant meter available.

NIC would suggest that this is an important area for the Commission to make a strong recommendation. The National Metering Standard should be revisited and revised. That process must include engagement with manufacturers, the irrigation industry and other interested parties and should include provision to recognise reputable international accreditation (eg. US or EU).

### **13. Monitoring, evaluation and reporting**



*The Commission is seeking information on:*

- a. *how well current arrangements for monitoring, evaluation and reporting support the delivery of the objectives of the Basin Plan; and how they could be improved to increase the likelihood of the objectives being met*
- b. *whether there is a clear delineation of responsibilities for monitoring, evaluating and reporting on the Basin Plan, and, if not, how it could be improved*
- c. *the usefulness of the MDBA's Framework for Evaluating Progress and its recent application in evaluating the Basin Plan*
- d. *how data and information obtained through monitoring, evaluation and reporting could be made more useful for decision making and evaluation of the Basin Plan (including how to make this data and information more outcomes focused)*
- e. *the general information required to provide confidence to communities and others that the Plan is being implemented well and is achieving its objectives*
- f. *whether processes are in place to monitor key risks to the continued availability of Basin water resources.*

The Basin Plan sets out formal processes for regular evaluation and review by the MDBA and now by the Productivity Commission. The recent review conducted by the MDBA was useful and it provided very clear evidence about the impacts of recovery of water on communities, the early environmental results and so on.

In a period where the Plan is still being implemented that is very useful.

The official review processes are currently being supplemented by a plethora of other analysis via parliamentary and judicial inquires; analysis of parts of the Plan or parts of the system by various agencies; and reviews from organisations with particular agendas.

This has presented the public with a somewhat confused assessment of the Basin Plan implementation to date. In some respects that is inevitable. The Basin Plan is the result of years of debate and argument, it is a contested area and those with particular agendas are inevitably going to be attempting to support their view with what they might claim to be 'independent' work.

In the longer term, it is critical that formal reporting arrangements include regular reporting on all the objectives of the Basin Plan by the MDBA, CEWH and with an external review by the Productivity Commission. All reports need to focus on outcomes and impacts. To be clear, such review and reporting must be in the context of the triple bottom line objectives of the plan i.e. environmental, social and economic objectives and against the commitment made to irrigators, and the communities that depend on them, about their futures being more certain and more sustainable.

While the Basin Plan is still in the process of being implemented, the reviews will necessarily have a different focus to what might come when it is fully implemented. The MDBA's work on community impacts recently is critical input to decisions still to be made on implementation.

Point f in the Commission's paper opens up an interesting question. NIC has certainly noted comment from some saying that climate change is not built into the Basin Plan calculations and questioning base line estimates used regarding water resources.

NIC's view is that while there are a number of Basin Plan estimates we could also argue, it would not be helpful to be doing that while attempting to implement the Plan.

In many previous submissions, NIC has made the strong point that the risks on climate variability need to be appropriately shared, not carried only by irrigators. NIC is not opposed to monitoring 'risks to the continued availability of Basin water resources' but would be concerned if that became a vehicle to revisit the whole basin plan.

While irrigators and farmers in general are very aware of climate variability and certainly welcome research into its impacts, the Basin Plan does not provide for new SDLs to be established within the life of the Plan. Irrigation allocations do vary according to climatic conditions in that allocations are based on availability of water, that variability also applies equally to water owned by environmental water holders. In that sense there is a very real measure of responsiveness to climate variability already built into water management in the Basin.

NIC would argue that when the Basin Plan is finally fully implemented it will need time to settle in, be monitored and some considerable time to see environmental benefits fully flow through. For irrigators and basin communities, 2024 needs to mark successful implementation of the Basin Plan and a period of certainty in water regulation not the start of a new process.

## 14. Institutional and governance arrangements

*The Commission is seeking information on:*

- a. *whether current institutional and governance arrangements provide for sufficient oversight of the plan and support engagement with the community*
- b. *whether there are risks to the achievement of the objectives of the Plan that arise from the current institutional and governance arrangements*
- c. *what improvements can be made to ensure that institutional and governance arrangements are fit for the next phase of implementing the Plan.*

We are still at an early stage of implementation of the Murray Darling Basin Plan and at this stage it would appear that the overall governance arrangements are working reasonably well. In the longer term government will need to consider whether policy and regulatory functions need to be further separated and whether that has implications for the future direction of the Murray Darling Basin Authority.

The long-term governance of the CEWH should also be considered. NIC has noted criticism of the current structure for lacking independent external governance.

NIC supports environmental water management having far greater input from communities and a far greater local focus. We also support, in principle, the recommendations made in the previous Productivity Commission report the National Water Initiative relating to better coordination of environmental water management.

The CEWH has a very big job in working through how to develop management and planning structures that achieve that local focus at the same time as meeting its basin wide obligations. It is noted that it will now also have a growing role in the water market with active trading, management of the biggest water portfolio in the country and potentially large sums of money raised from trading and available for disbursement to projects.

This does raise the question about whether the current structure will remain fit for purpose. NIC does not have a firm view on the question but feels that an independent board structure needs to be considered as part of the CEWHO's future.

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<sup>i</sup> Vilizzi, L., Tarkan, A.S. and Copp, G.H., 2015. *Experimental evidence from causal criteria analysis for the effects of common carp *Cyprinus carpio* on freshwater ecosystems: a global perspective*. *Reviews in Fisheries Science & Aquaculture*, 23(3), pp.253-290.

<sup>ii</sup> Lugg, A. and Copeland, C., 2014. *Review of cold water pollution in the Murray–Darling Basin and the impacts on fish communities*. *Ecological Management & Restoration*, 15(1), pp.71-79.

<sup>iii</sup> [http://www.depi.vic.gov.au/\\_data/assets/pdf\\_file/0013/282001/Murray-River-resnagging-fact-sheet-2014.pdf](http://www.depi.vic.gov.au/_data/assets/pdf_file/0013/282001/Murray-River-resnagging-fact-sheet-2014.pdf)



National Irrigators' Council

**Senate Rural and  
Regional Affairs  
Committee  
Inquiry on the  
Murray Darling Basin**

Submission  
September 2017

Contact: Steve Whan  
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[www.irrigators.org.au](http://www.irrigators.org.au)

## Introduction

The National Irrigators Council welcomes the opportunity to contribute to the Committee's inquiry. We do so however with some disappointment about the way that this has come about.

Obviously, we are disappointed to see allegations of misuse of water and we have been disappointed to hear the preliminary findings of the NSW Government's Matthews report which have confirmed that compliance in NSW has not been adequate and that some allegations remain unresolved.

It is essential that the community and water users can have confidence that water is going where it is intended. NIC has zero tolerance for water theft; it robs neighbours, communities and the environment. The law in New South Wales includes gaol and fines of up to \$2.2 million; if an offence is proven, then the sanctions should be applied.

However, we are also very disappointed to see the many ill-informed comments that have followed this public discussion. Comments that fail to understand the water market, have very little idea of the work irrigators have done over the past twenty years as part of a massive water reform process, which fail to appreciate the efficiency of and contribution irrigated agriculture in the basin makes and, most importantly, which undermine the basin plan.

Australia's political leaders need to be considered in their response to claims about irrigators and the Murray Darling Basin plan.

After many decades of argument, a bipartisan basin plan was agreed in 2012. It meant significant sacrifice for irrigators and major social and economic pain for basin communities but it held the prospect of providing some certainty for Australia's most important food and fibre production area; and the opportunity to reverse and repair damage to the environment.

When the basin plan is fully implemented 75% of the water that goes into the catchment will NOT be diverted. The majority of water in every river in the system is – quite properly – left in the river for the environment. That includes the Barwon Darling.

Irrigators extract a small portion of the water in our basin rivers, they use it to produce more than 40% of Australia's agricultural product. That includes most of our fruit and vegetables; almost all our grapes, oranges, plums and pears; most of our wine; almost all the rice and almonds and all of our cotton. It is all produced by farmers who year in and year out take the risks to produce our food and fibre and who in doing so employ tens of thousands of Australians directly and indirectly.

NIC has long argued the case for a balance between social, environmental and economic outcomes to ensure the Basin Plan is fair and workable. This relates directly to the confidence that irrigators and irrigation dependent communities have in the Plan. For more than a decade, irrigators along with other groups, have worked together to participate in the development and implementation of the Basin Plan. The Plan boldly seeks to achieve the essential balance between environmental outcomes and the social and economic health of our Basin communities. Our commitment remains to a viable, productive irrigated agriculture sector in Australia.

Irrigators have been, and continue to be, willing to work with all Governments and all other interest groups, including environmental groups, to ensure that the Basin Plan is fully implemented, as long as the 2012 promise is kept that there will be no further negative impacts on communities. To do that there must be an environment where frank dialogue can occur with Government officials.

NIC has played a significant role in assisting with the implementation of the Basin Plan; NIC has challenged elements of the Plan at appropriate times, we have advocated for improvements and argued our case, engaging our members and broader stakeholders on key issues.

There has been too much progress under the Basin Plan to change course. The MDBA estimates that the contracted water recovery in the Murray–Darling Basin, as at 30 June 2017, is 2,083.3 gigalitres (GL), which is 75.8% of the way toward meeting the 2,750 GL surface water recovery target outlined in the Basin Plan.

Under the SDL Adjustment measures, progress is also being made, with a significant package of measures put forward by the states towards the 650 GL target under the SDL Adjustment Mechanism. Preliminary advice provided to Ministers at the 16 June 2017 Murray-Darling Basin Ministers meeting noted that the SDL Adjustment Mechanism indicated the package is likely to achieve an SDL offset in excess of 600 GL, and that there was a ‘high level of confidence’ that the final SDL AM outcome, combined with remaining contracted water recovery projects, would be sufficient to fully offset the remaining water recovery ‘gap’ in the southern Basin.

It is critical that the inquiries emerging from recent media stories do not impede progress on the rollout of the Basin Plan to continue to meet statutory requirements. Irrigation communities seek certainty above all and a clear space that enables the Plan to continue under its many and sometimes complex moving parts, for both the sake of their respective industries and irrigation dependent communities.

#### **Why does Australia grow cotton?**

- **Cotton is a desert plant – it’s suited to our climate and it is only planted when there is water available**
- **It’s a natural fibre we all use**
- **Australia is the world’s most water efficient cotton producer**
- **Over the last 10 years Australian cotton growers have reduced chemicals by 90%**
- **The industry creates jobs in more than 152 country communities**
- **The people who work on Australian cotton get fair work & fair pay**

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. In 2014-15, the total Gross Value of Irrigated Agricultural Production (GVIAP) for Australia was \$15.1 billion, which rose by 3 percent (or \$509 million) over the previous year. The total Gross Value of Agricultural Production (GVAP) was \$53.6 billion, an increase of 5 percent from the previous year.

The three commodities with the highest GVIAP were:

- fruit and nuts (excluding grapes) at \$2.88 billion
- dairy products at \$2.83 billion; and
- vegetables at \$2.68 billion.

Combined, these three commodity groups accounted for 56 percent of total GVIAP for the 2014-15 year. *{Australian Bureau of Statistics}* This represents a gross value of irrigated agricultural production across the Murray-Darling Basin of \$1,135 per megalitre.

In making our submission the NIC will respond to the committee's terms of reference. In doing so NIC is guided by a series of principles which highlight the commitment irrigators have to a triple bottom line outcome from the basin plan. NIC is, of course, very happy to provide further evidence at a hearing.

### **NIC 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.



#### ***Recommendation 1: That the committee:***

- ***Acknowledge the importance of Murray Darling basin irrigated agriculture to providing the food and fibre Australians consume and in generating export income, jobs and higher living standards for all Australians.***



## Response to terms of reference

### (a) **Allegations of theft and corruption in the management of water resources in the Murray Darling Basin.**

The ABC 4 Corners program televised on 24 July 2017 raised a series of issues including:

- Allegations of water theft suggesting that billions of litres of water, purchased by taxpayers to return to the environment under the Murray-Darling Basin Plan, were being pumped out by some irrigators in northern New South Wales.
- Revelations of recordings of the NSW Deputy Director General of the NSW Department of Primary Industries, allegedly offering to share internal 'de-branded' government information with a group of irrigators.

Subsequently ABC Lateline aired a story suggesting that one farmer in the Border Rivers area of Queensland had used what was alleged to be an illegal structure to retain water from overland flows. The commentary around the story suggested this was 'preventing' water getting to NSW.

It must be noted at the outset that these media reports included unproven allegations against three farming operations. They made aspersions against one large operation (including using footage of their property while alleging water theft) but no substantive allegation.

The programs both went on to make broad but unsubstantiated claims about wider issues.

Opening statements by the 4 Corners presenter included:

- *'more than a hundred years of greed, mismanagement and the plundering of one of Australia's most valuable resources'*
- *'billions of dollars of taxpayers' money was committed in the hard won deal to save the inland river system from the ravages of heavy agricultural use - particularly the thirsty work of irrigating the vast cotton plantations of northern NSW and southern Queensland',*
- *'far from saving the river, the implementation of the plan has helped create a financial windfall for a select few.'*

Commentary in the subsequent Lateline Queensland report included suggesting that the whole \$13 billion of public expenditure was in doubt and that the Plan was a 'house of cards'.

NIC would urge the committee to reject the use of ridiculous and exaggerated statements, like those above, designed to give the speaker media coverage but which insult thousands of hard working farming families (past and present).

4 Corners also made claims about the water market and ownership of water which were incorrect or misleading.

It is very hard for anyone who has looked objectively at this to see how these exaggerated and substantially incorrect statements were justified. They certainly did a grave disservice to the people who have worked hard and cooperatively over the past two decades of water reform.

The reports and editorial comments made no effort to present a balance or even meet a basic standard of proof on the specific allegations.

The NIC has made it clear, we have zero tolerance for water theft. It robs neighbours, communities and the environment. The law in NSW includes gaol and fines of up to \$2.2 million; the sanctions

should be applied, if an offence is proven. But, the vast majority of irrigators in the Basin do the right thing. They get angry if people steal water and right now they are also angry at having their reputation, hard work and even their product tarnished by unfair generalisations.

When the Basin Plan is fully implemented 75% of the water that goes into the catchment will NOT be diverted. The majority of water in every river in the system is – quite properly – left in in the river for the environment.

Irrigators extract a small portion of the water in our basin rivers, they use it to produce more than 40% of Australia's agricultural product. That includes most of our fruit and vegetables; almost all our grapes, oranges, plums and pears; most of our wine; almost all the rice, almonds and cotton. It is all produced by farmers who year in and year out take the risks to produce our food and fibre and who in doing so employ tens of thousands of Australians directly and indirectly.



For more than a decade, irrigators – like other groups in the community – have worked together to participate in the development and implementation of the Murray-Darling Basin Plan. The Plan boldly seeks to achieve the essential balance between environmental outcomes and the social and economic health of our Basin communities.

We must all be able to have confidence that water is going where it is intended and Irrigators support compliance activity and the best possible metering.

In further debate, we do expect 'experts' and political leaders to understand that it was the 2004 National Water Initiative that dictated the goal of being able to trade water along connected river systems – that was a national agreement among Labor and Coalition Governments.

Assertions made in the 4 Corners story that implied that trading was introduced in the Northern Rivers at the behest of local irrigators were wrong as were figures about the % of water owned by one company. Comment made in incredulous tones expressing amazement about water owners making money from trading were juvenile and ridiculous.

We expect people who claim knowledge of the plan to understand that licences in different river systems, that developed over a century, are complex and that moving them all to be consistent with the Basin Plan is a slow and difficult process.

And we expect our political leaders to ensure that they separate, both with actions and rhetoric, the legitimate goal of ensuring public confidence in compliance, from actions designed by their proponents to take more productive water and destroy the critical foundation of the plan - which as the Hon Tony Burke said in 2012 was to balance the needs of the “*largest environmental asset on the continent and our most important production asset*”.

Irrigators have been and continue to be willing to work with all Governments and all other interest groups (including environmental groups) to ensure that the basin plan is implemented, as long as the 2012 promise is kept that there will be no further negative impacts on communities.

NIC does not intend to deal in this submission with allegations made around so called secret meeting. It is up to Government to set the rules for its own officials to engage with industry and it is within the power of the NSW ICAC to look into that issue.

NIC would, however, make the very strong point though that unless industry and interest groups can have frank and sometimes confidential dialogue with Government officials then there is very little hope of implementing the remainder of the basin plan.

Since the 4 Corners allegations were made the NSW Government has released the interim report of the Matthews inquiry. This does raise serious questions about the effectiveness of the NSW Government’s compliance activity and NIC takes that very seriously.

Unfortunately, it did not resolve actual substantive allegations against water users and that is very disappointing for all involved – particularly those very publicly accused.

NIC is happy as an industry peak body to work constructively on ensuring compliance regimes do an effective job and our industry is very willing to continue to work with Government – as they have been for the last 20 years – on ensuring the best possible metering and on implementing the massive changes we have seen to water resource management.

We strongly object to exaggeration of claims and the attempts by some to undermine the implementation of the basin plan.

In this respect, we would agree with the comment made by the Chief Executive of the MDBA Dr Phillip Glyde who told ABC Radio National on 27 July 2017 that:

In this respect, we agree with the comment made by the Chief Executive of the MDBA Dr Phillip Glyde who told ABC Radio National on 27 July 2017 that:

- My message would be that we’ve got to stay the course – there is no plan B.
- We’re on track and we’re going to deliver.

The water debate is often misunderstood; the detail that sits underneath the operation of the Basin Plan is complex for those who do not have a role to play in the successful implementation of the Plan. This includes the dynamic relationship in the participation of each of the Murray Darling Basin states.

Since the National Irrigators’ Council was established in 2008 our members, across all Murray Darling Basin states, have been at the forefront of working with the Murray Darling Basin Authority (MDBA), with state and Commonwealth bureaucracies, with relevant state and Commonwealth Ministers towards the successful implementation of the Basin Plan. There has been significant progress in this endeavour. The MDBA estimates that the contracted water recovery in the Murray–Darling Basin, as at 30 June 2017, is 2,083.3 gegalitres (GL), which is 75.8% of the way toward meeting the 2,750 GL surface water recovery target outlined in the Basin Plan.

Under the SDL Adjustment measures, progress is also being made, with a significant package of measures put forward by the states towards the 650 GL target under the SDL Adjustment

Mechanism. Preliminary advice provided to Ministers at the 16 June 2017 Murray-Darling Basin Ministers meeting noted that the SDL Adjustment Mechanism indicated the package is likely to achieve an SDL offset in excess of 600 GL, and that there was a 'high level of confidence' that the final SDL AM outcome, combined with remaining contracted water recovery projects, would be sufficient to fully offset the remaining water recovery 'gap' in the southern Basin.

It is critical that the activities under the various inquiries emerging from the 4 Corners program do not impede progress on the rollout of the Basin Plan to continue to meet statutory requirements. Irrigation communities seek certainty above all and a clear space that enables the Plan to continue under its many and sometimes complex moving parts, for both the sake of their respective industries and irrigation dependent communities. The Northern Basin review clearly showed the downturn inflicted on many communities in the Northern Basin, including the flow on effects from the loss of jobs due to the implementation of the Plan in the north.

When the Basin Plan was first conceived as part of the Water Act 2007, and in good faith, Basin communities understood the principle that some water would be returned to the environment for the broader benefit, including to ensure sustainable extraction into the future. NIC has long supported a balanced Basin Plan with a 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.

## **The Water Market**

One quite disappointing aspect of the recent debate following media stories has been the complete lack of understanding of the water market demonstrated both by those commenting on 4Corners and by some subsequent comment.

The water market was not created to suit a few big owners. The market is the result of National initiatives agreed by Governments of all persuasions at State and Federal level from 1994 onward. It is a core part of the National Water Initiative (NWI) principles from 2004. These principles put in place the goal of being able to trade along connected systems.

Greater ability to trade is actively advocated by bodies such as the ACCC, including in their most recent submissions to the Productivity Commission review of the NWI.

At its core, the water market is about efficient allocation of water. Water will go where it generates the most effective return and its pricing will ensure that it is used most efficiently. In that sense, it is fair to say that the water market has been one of the biggest drivers of Australia's world leading position as an efficient water user. It is also the basis of the Commonwealth's ability to acquire environmental water, if water was still attached to land that process would have been virtually impossible.

Water trading has very strict rules. Owners can't bank water, except to the extent carry over is allowed and a private investment in water is worthless if it is not ultimately used on a crop.

Creating a market for water has inevitably meant that it is traded and that means corporate owners are able to buy significant amounts. Smaller farmers have often chosen to sell entitlements or trade allocations if it suits their needs. That is exactly how a market is supposed to work and some of the commentary on this in and subsequent to 4Corners was ridiculous.

4Corners attempted to imply that there was a problem with entitlements being sold (voluntarily) to two large water owners on the Barwon Darling. They also said, incorrectly, that two companies owned 70% of Barwon Darling water, in fact less than 6% of Barwon Darling water is available for any type of extraction.

The program implied there was something wrong with the Websters company owning a large water portfolio and then selling it in a dry year. That misses several pertinent issues:

- The Websters water is not all in the Northern Basin, a large part is in the Southern Basin and you can't trade between the two.
- In a dry year the Northern basin licence produces nothing because there is no flow;
- In a dry year in the Southern Basin general security water allocations are very low, naturally annual crops like cotton and rice are not planted and the more secure types of water are often sold to those who need it for permanent plantings like nuts and grapes. That is an example of the water market working the way it is intended;
- There are strict restrictions on trade throughout the system these are based on physical constraints. You can't buy water from the Murray for example and then use it in the Barwon Darling.

The water market is by no means perfect and there is still some way to go for the market to mature and provide the visibility industry would like to see. But those issues are really about Government administration of the transfer processes they are not about the behaviour of the market.

NIC notes that a call for more visibility is one of the recommendations of the interim Matthews report. Greater visibility of trading and speed of information is a reasonable objective. Transparency in this space should be the same as on the stock market – recognising, though, that there is no single exchange.

Water licences are exactly the same as a property right. Banks lend against them and they have a value. Any change to the value of that property right impacts on the value of a family or company's assets.

The productivity Commission's draft report on National water reform has looked carefully at the water market and made a number of recommendations. Overall it has concluded that water trading has been one of the big success stories of water reform, it has produced measured economic benefit, allows better ability to cope in drought conditions and encourages efficient use of the resource. It is also the basis of environmental water holdings providing the mechanism for Governments to acquire and hold water and for it to be traded to produce additional environmental benefits.

**(b) Investigation and public disclosure by authorities, including the New South Wales Government and the Murray- Darling Basin Authority, of reported breaches within the Murray-Darling Basin, including the Barwon Darling Water Sharing Plan.**

And

**(c) Actions of member states in responding to allegations of corruption and the potential undermining of the Murray-Darling Basin Plan**

Recent media allegations have focused on some parts of the Northern Basin, in NSW around the Barwon Darling and in Queensland in the Border Rivers. This is a very small part of the overall basin and the issues and characteristics of the areas are quite specific.

Nevertheless, these areas of specific allegations have been broadened by many to suggest that compliance is an issue more broadly and to make (unproven) allegations of corruption.

NSW has taken quite significant action in initiating a review by Ken Matthews that has already produced an interim report and which has seen an intense and effective investigation. Issues in NSW have also been referred to ICAC.

It should be noted that ICAC has all the powers of a judicial review.

Queensland also announced an independent review of rural water metering to report in November.

In addition, in response to the 4Corners story we have seen:

**(a) the actions of member states in responding to allegations of corruption and the potential undermining of the Murray-Darling Basin Plan.**

- The Murray Darling Basin Authority is conducting an independent review and investigation.
- The Auditor-General is investigating compliance issues regarding water sharing in the Basin Plan
- Senate orders for the production of documents relating to the Four Corners allegations and the Barwon-Darling system; and
- This Senate Rural and Regional Affairs inquiry.

In addition to these steps, the matter was referred to this Senate Rural and Regional Affairs and Transport References Committee, for inquiry and report by 5 December 2017.

The Queensland Government has also instigated an independent review into rural water metering to examine maintenance and operation of meters and water use reporting. The review will work with the findings of any national inquiry and provide its initial findings by November 2017.

The responses from the Victorian and South Australian Governments would seem to indicate that they don't believe there are any issues with compliance in their jurisdictions. Though their compliance will be covered by the Murray Darling Basin Authority's review.

The MDBA announcement of an independent assessment of the *MDBA's Basin-wide Compliance Review*, will examine the legislative, policy and practical implementation of compliance in water management in the Basin. It is focusing on compliance at a whole-of-Basin level, and also considering on-the-ground compliance issues at specific locations in the Basin. The terms of reference for the review include:

- the appropriateness of and compliance with state laws and statutory instruments (including water resource plans), the terms and conditions of water licences and entitlements and any other relevant powers or approvals;
- the adequacy of water measurement and monitoring arrangements, including metering;
- the adequacy of penalty arrangements to suitably deter and punish non-compliant water use;
- the adequacy of governance and institutional arrangements necessary to ensure legally compliant water use; and
- steps required to improve confidence in water compliance and enforcement arrangements, sufficient to underpin the integrity of Basin Plan-compliant water resource.

It is proposed the MDBA review panel will provide a separate report to Basin ministers, including on the Authority's own role in compliance and enforcement practices, and ways in which these can be improved. The MDBA will deliver its report to the Council of Australian Governments (COAG) by mid-December 2017. The independent panel's report will also be provided to COAG.

At this stage the interim "Matthews" report is the most substantive piece of work on following up allegations.

The interim report released by Ken Matthews in mid-September included the following key findings:

- The overall standard of NSW compliance and enforcement work has been poor.
- Arrangement for metering, monitoring and measurements of water extraction in the Barwon-Darling river system are below the standards required.
- Certain individual cases of alleged non-compliance have remained unresolved for far too long.
- A lack of transparency in the system is undermining public confidence

Mr Matthews recommended the NSW Government implement a far-reaching reform package, including:

- Establishing a new NSW Natural Resources Access Regulator, which would operate at arm's length from the department and make decisions on the handling of alleged serious offences.
- Introducing a "no-metering, no pumping" rule, to ensure all irrigators install pumps and scrap self-reporting mechanisms like log books.
- Enabling the public to easily access all details of individual's water entitlements, licence conditions and water trading activities.

Broadly, NIC supports an effective and enforced compliance regime for all water users. Without this, the integrity of the water property right, reaffirmed under the 2004 National Water Initiative, is undermined. It is hoped that the proposed new NSW Natural Resources Access Regulator, operating at arm's length from the department and decision-making processes, will strengthen transparency and accountability. It is a concern though that there already exists numerous agencies in NSW with a role in water management, when NIC continues to call for a reduction in red tape and remembering that it is our members who are required to report at different times to these agencies, resulting in additional burden on their respective business operations.

Broadly, NIC supports an effective and enforced compliance regime for all water users. Without this, the integrity of the water property right, reaffirmed under the 2004 National Water Initiative, is undermined.

NIC agrees in principle with the Matthews recommendations and the irrigation community is willing to work through with Government the detail of how they can be implemented. In particular NIC agrees with separating compliance functions.

It is noted that the Matthews report predominantly finds issues with the resourcing and operation of the NSW Government's internal compliance activities. It implies that the failings of the NSW Government might allow non-compliance but it does not make any finding of broad non-compliance.

It is noted that the Matthews report suggests that better definition is needed of the Murray Darling Basin Authorities role in compliance including when it would use, what the report termed, its 'reserve power'.

NIC notes that some others have suggested that the Commonwealth should take over compliance activities. NIC wants to see effective compliance at State levels and we would encourage systems that in the long term involve state's exchanging information and staff to build better understanding and skills. We do not believe it is sensible to have the Commonwealth duplicating compliance staffing or replacing state based compliance.

Compliance is costly. Expenditure on one effective system in each state is justified, duplicating the systems is not.

Currently it is the water users including irrigators and the environmental water holder that pay for compliance via costs passed through to their fees. In 2016 IPART allowed the NSW Government to collect more than \$6 million from water users to fund compliance activities. It is a significant amount

and it comes on top of a range of fees recovered which irrigators would strongly suggest already see them subsidising Community Service Obligations or infrastructure in place which has a broader community or environmental benefit.

The point is that if the committee decides it is going to recommend increased resources for compliance and in particular compliance activity at a Commonwealth level that is duplicative then it should not expect irrigators to fund that with pass through costs.

*Recommendation 2: That the committee –*

- *Acknowledge the recommendations of the interim NSW 'Matthews' report and recognise that they show a willingness to deal with rectifying issues with compliance at a state level;*
- *Conclude that it is appropriate that primary responsibility for compliance rests with State Governments and that duplication of activity should be avoided;*
- *Recognise that any recommendation relating to additional resourcing of compliance activity should be financed by Government on behalf of all taxpayers not made an additional financial burden on irrigators and environmental water holders.*

## **(d) Use of Commonwealth-owned environmental water for irrigation purposes, and the impact on Basin communities and the environment**

Media allegations about the use of Commonwealth owned environmental water by irrigators and some subsequent comment have confused real and acknowledged issues with unproven allegations.

It is important for the committee to carefully separate hearsay and unproven allegations from the real (and largely already known) issues that exist in some areas with the interaction of environmental water and irrigation entitlements.

Even if all specific allegations made in the media in recent weeks were proven to be correct then they still would NOT justify claims made by media and by some Members of Parliament that so-called theft of environmental water is jeopardising or undermining the basin plan.

That is not to say that there are not real issues in some areas between the legal extraction of water and environmental flows.

As a basic point, the committee needs to recognise that it will never be possible to completely prevent some cross over of environmental and commercial use of water. Delivering environmental water is not a precise science. Environmental flows may create secondary benefits for a landowner just as commercial watering on some private properties often creates environmental benefits (water going to wetlands on private land, or rice fields creating habitat for birds and frogs etc). Sometimes there will also be negative interactions – flooding for example or potential for increased bank erosion.

When it comes however to substantive allegations of use of environmental water by irrigators, those allegations need to be split up into actual allegations of illegal activity and impacts on environmental flow that arise from entirely legal pumping.

### **Interaction of legal extraction with environmental flows**

This interaction occurs when the release of environmental water increases the flow in a river to a level which triggers an entitlement to extract water for irrigation. In these cases, the extraction of water by an irrigator is entirely legal and within their licence.



This applies to a limited range of licences on a limited number of rivers.

The problem has been well known for some years. Indeed, the Commonwealth purchased environmental water in the Northern Basin with the full knowledge that this was an issue.

The example used in recent media stories is of Class A water in the Barwon Darling. These licences have existed for a considerable time; they reflect the fact that the area has extremely variable and extremely unreliable rainfall. In essence, this type of licence specifies that a certain (capped) amount of water can be extracted when the river reaches a specified height at specific points. For example, a particular flow over the weir at Burke.

When the river reaches that level the licence holder is entitled to extract water.

The modern problem with this occurs when the specified river height is achieved because the environmental water holder has released water with the intention of achieving an environmental benefit down river. The irrigator with the class A license is perfectly legally entitled to pump from this flow.

This situation is a problem for achieving environmental objectives but it is very clearly not water theft.

It is also not a wide spread problem. The vast majority of irrigation licences, particularly those on regulated rivers, do not have this characteristic. Class A licences in the Northern Basin represent three one hundredths of one percent of the Murray Darling basin's flows.

The negative impacts of this interaction do need to be addressed and the CEWH and MDBA have raised the issue in the past. NIC is aware that at least one large irrigator has offered to negotiate this with the CEWH but at this stage the offer has not been activated.

A solution to this problem must involve irrigators, the NSW Government and the CEWH.

The Irrigation entitlement is a property right and it would be neither fair nor legal to remove it without adequate compensation. It is noted that the Northern Basin review proposed a way forward with resolving this issue and the passage of proposed amendments to the Plan would include the obligation for the NSW Government to address it.

**Recommendation 3:** *The committee acknowledge:*

- *that irrigators with certain classes of licences including, Class A Barwon Darling licences, are legally entitled to extract water when the river reaches specified levels or flows.*
- *that basin states have been well aware of the potential for these flow levels to be achieved via environmental water releases since the basin plan was agreed.*
- *That the negative impact on achieving the objectives for environmental flows in the areas these licences exist should be addressed in a cooperative way that recognises that a water licence is a significant financial asset for a farmer or company;*
- *Amendments to the basin plan proposed as a part of the Northern Basin review will assist in starting a process of resolving these issues.*

Did changes to pump sizes or specifications enable more water to be taken? Pump size has been a theme of a number of media allegations. The core point to note in this is that the size or capacity of the pump does not change the overall amount a licence holder is licenced to pump. NIC understands that removing specifications for the size of a pump was something that was consistent with the National Water Initiative (NWI) and the NSW Water Act 2000; it was not something specifically introduced for the Barwon Darling.

It might be theoretically true to say that restricting to smaller pumps reduces the amount of water taken because an irrigator would be physically unable to extract their entitlement in the time the river was at a high enough level. If this is the argument, then it is a poor way to regulate a natural resource.

In practice, the size restriction is unlikely to have made much difference to overall take – it is the overall amount that should be regulated not the equipment used to extract it.

## **Allegations of Illegal Extraction of Environmental Water**

The National Irrigators Council has no tolerance for illegal extraction of water. We support effective compliance activity from state governments. Irrigators pay a high price for water, it is a major component of their business cost and in order to compete on a level playing field it is critical that every water user has the same cost basis.

If a water user is stealing water then they impact not only the health of the river and downstream communities but also other water users.

NIC would note that irrigators directly pay for compliance via the charges for water. In NSW those charges passed on to irrigators are determined by IPART. The charge already raise a large amount of money and we would be very reluctant to see that charge increased particularly when it appears from the Matthews report that the existing funds are not being effectively used.

It should be noted that the media stories on water theft recently made some broad allegations of what they implied was widespread water theft. This general allegation was not supported by evidence with allegations against three specific farming operations (from two ABC reports), none of which have been proven at this stage.

As in almost any area of regulation throughout Australian society (road rules etc) it is probably impossible to completely guarantee that everyone will do the right thing. That is why comprehensive compliance is so important. NIC is aware that NSW has in the past had quite good compliance backed up by very severe penalties, however the recent Matthews report would seem to indicate that the compliance standards are now not up to the task.

However, irrigators can confidently say that the vast majority of irrigators do comply. In most river systems, the commercial licenced irrigators use modern meters and have a very high level of accountability.

It is very important for the committee to understand that on most of the Murray Darling the way that licences work gives the irrigator an allocation of water which they then order with very accurate measurement and accountability.

The committee, for instance, should be familiar with the large irrigation schemes in the Southern basin where an irrigation infrastructure operator delivers water to customers. In schemes like Murrumbidgee, Murray, Coleambally and Goulburn Murray, every litre of water is measured with live information via telemetry returned to the IIO control centres. The same applies to the schemes further down the system in the Western Murray and South Australian Murray.

Generally private extraction from regulated rivers also has that same very high standard. In the Gwydir Valley for example Executive officer Zara Lowien, has pointed to the “complete scope of transformation” around compliance, saying “our valley has very sophisticated, irrigator-owned system.... We are extensively metered and irrigators see the value in reliable, accurate compliance measures.”

**Example: World leading water efficiency and measurement**

Irrigation districts including Goulburn Murray, Coleambally & Murrumbidgee have installed world leading irrigation infrastructure developed in Australia and built in Shepparton Victoria. The company Rubicon says on its web site “a well designed and managed gravity-fed surface irrigation system has the potential to deliver on-farm application efficiencies in excess of 85% and up to 95% on the right soils”.

The company is exporting its equipment to the US, Mexico, Chile and China



The picture above is from Rubicon’s hydraulics laboratory, where its metering systems are extensively tested and calibrated.

The norm right across the basin is of irrigators using modern highly accurate meters on their systems.

Australia is a world leader when it comes to irrigation efficiency and crop water use efficiency – and it is also a world leader when it comes to metering and regulation.

While the recent Matthews report has identified real issues with the management of compliance in NSW, those findings do not justify a broad conclusion that metering is inaccurate or non-existent for the overwhelming majority of licenced irrigators.

For those cases where water theft is alleged there are essentially two ways it is alleged to happen. First is via unmetered, inaccurate pumping and second through illegal structures that might result in retention of water for which a licence is not held.

As mentioned above, non-existent or inaccurate meters are the exception not the norm for commercial irrigators (ie for those whose business is irrigation as oppose to water users who just take stock and domestic water for example).

Nevertheless, NIC notes the findings of the recent NSW Matthews interim report which was extremely critical of the NSW Government’s compliance efforts. The Interim Matthews report made a number of recommendations on metering

Interim Matthews Report recommendations on metering:

- a) Make the requirement for metering universal: 'no metering, no pumping'.
- b) Remove all scope for self-reporting, such as log books in lieu of fully operational water meters.
- c) Enforce modern Australian metering standards and bring forward the date to which certain current non-compliant meters are 'grandfathered' in the Barwon–Darling and other systems.
- d) Reduce tolerance for argued differences in conditions between northern and southern areas of the Murray–Darling Basin. Standards and rules (e.g. metering) should be basin-wide unless the need for exceptional northern arrangements can be convincingly demonstrated to other states and the MDBA.
- e) Reinforce a mandatory requirement for meter readers to report defective, inoperable or apparently tampered-with meters in real time. Require random and more frequent meter reading schedules. Enforce random cross-checks of meter readings. Publish meter readings in real time.
- f) Publicly specify unambiguous responsibilities for metering costs: purchase, installation and maintenance are costs to irrigators; stream gauging, meter reading, etc. are costs to government, albeit largely cost recovered through IPART

There will be practical implementation issues with some of the Matthews recommendation but in general the philosophy of 'no metering, no pumping' as endorsed by the NSW Government, is sound. The committee should note though that as mentioned above, the vast majority of commercial irrigators already have modern meters.

Nevertheless, the industry is prepared to work with Government to ensure that there is universal use of the most technologically appropriate meter for each licenced water user. We want to achieve a system that gives the community confidence that water is going where it is meant to. In many cases those meters will be telemetric meters able to supply real time data. Obviously that ability is limited in areas with no mobile coverage.

The Matthews recommendation d above is one that will need discussion. The difference in conditions is very real, it is a different climate and on an unregulated river the licences are tailored for event based flows (ie you cant ring up and order water). There is no reason that the take can't be metered (as it is in most cases) but it is important that the compliance process recognises that there are often multiple licenses in operation.

The Matthews point C above does need to be clarified. Particularly what is meant by 'modern Australian metering standards', the National Water Initiative attempted to introduce an Australian standard for metering but even though the meters being produced and installed in Australia are world's best and extremely accurate. Very few are accredited under that Australian standard as it has proved impractical for manufacturers. More detail on this is included in other matters.

It should also be noted by the committee that it is generally not possible to meter water collected from overland flows. Nevertheless, these are regulated and licenced based on the structures on a property to retain water.

The second way water can be illegally taken is through unapproved structures on a property or a water course. That includes things like illegal block banks. A recent ABC Lateline story included this type of allegation in relation to one property in the Border Rivers region.

Water take from overland flows etc is regulated in all basin states however it is often a difficult and complex area. Particularly if a structure predates more recent regulation. They are also not always as easy to identify by regulatory authorities.

In the ABC Lateline Queensland example, the applicable legislation dictates that an assessment of all structures on the property needs to be made (by the property owner) to work out how much water they would divert or retain and this must be consistent with the licence. The regulator authority is able to audit that work. The question raised by this story – and to be fair an as yet untested and unproven allegation – is that the Queensland authorities had not undertaken any verification work.

Regulating these structures is a huge job because it is not just commercial irrigators it is all landholders running all types of farming operations who can have these types of structures. Many structures are also historic and the rules in place often allow pre-existing structures to stay.

Again, it is important to keep in perspective the issue of environmental water being used for irrigation. Whether it is legal or illegal it is a very small part of the overall amount of environmental water and it is possible to resolve with effective compliance activity or in the case of legal interaction, negotiation.

The Commonwealth Environmental Water Holder (CEWH) has very good records of where and how much water they own. They report extensively on its use and on the results. In general, those reports demonstrate that, right across the basin, environmental water is reaching its intended targets and is starting to produce positive results in what will be a long process of environmental improvement.

Regulated rivers make up most of the major irrigation use in the basin. 76% of the environmental water owned by the Commonwealth is in the Southern Basin. NIC has not heard any serious suggestion that this area is seeing substantive theft of environmental water, the same goes for the regulated rivers in the Northern basin.

As outlined above, this is not an issue that threatens the basin plan – the legal interaction needs to be dealt with constructively and not exaggerated in an attempt to undermine the plan or score political points. Illegal use should be tackled by effective state based compliance and the NIC is very happy to work with Basin Governments to ensure that happens.

## **(e) Operation, expenditure and oversight of the Water for the Environment Special Account.**

NIC understands that the Water for the Environment Special Account was established for a specific purpose, and we have not seen any evidence to suggest that its funds have been directed incorrectly. NIC notes that the Department provides an annual report on the use of the funds and in 2015-16 that report indicated expenditure of approximately \$4m on work on constraints and the COFFIE scheme.

NIC is not aware of expenditure in the 2016-17 financial year.

This account is in place to fund measures associated with the proposal to achieve an additional 450GL in efficiency measure savings known as ‘up-water’.

NIC does have significant concerns about the planned operation and expenditure in this area.

When the additional 450GL of up-water was announced as a part of the Plan by the then Prime Minister Gillard and then water minister the Hon Tony Burke, their statements were very clear in stating that this would only be delivered if it came with improved or at least no negative community impact.

NIC has argued that the socio-economic impact test must be improved for the efficiency projects as part of any spending on achieving 450 GL 'up-water'. Noting that the 450GL measure was an 'add on' to the Basin Plan, NIC's position remains, that there should be no acquisition of 450GL of 'up-water' until the existing 2750GL recovery target is met and until the 650GL under the SDL adjustment mechanism is achieved.

Recognising, however, that debate is likely to continue on the 450GL it is important to ensure that the 'game changing' implications of recent socio-economic impact work are taken into account.

The current criteria for socio-economic outcomes in the Basin Plan at Section 7.17(2): *Neutral or improved socio-economic outcomes*:

- (b) The efficiency contributions to the proposed adjustments achieve neutral or improved socio-economic outcomes compared with the outcomes under benchmark conditions of development as evidenced by:
  - (i) the participation of consumptive water users in projects that recover water through works to improve irrigation water use efficiency on their farms; or
  - (ia) the participation of consumptive water users in projects that recover water through works to improve water use efficiency off-farm; or
  - (ii) alternative arrangements proposed by a Basin State, assessed by that State as achieving water recovery with neutral or improved socio-economic outcomes.

NIC contends that the test outlined at point (b)(i) is completely inadequate being effectively a 'single person' test rather than a community impact test. In effect, an individual's willingness to accept the money is the only community impact test this involves. This test breaches the promise made when the measure was announced.

NIC welcomed the recognition of concerns about this test by Basin water ministers and their decision to engage Ernst and Young to investigate socio-economic impacts and alternatives for delivery of the 'up-water'. That report is due to be handed to Ministers in December.

Independent socio-economic impact work undertaken by the MDBA has confirmed over the past year that removal of water from productive agriculture can have significant negative impacts in surrounding communities. In some Northern Basin examples, the impact on small country communities is proven to be more than eighteen times greater than the impact on Adelaide from the closure of the Holden plant.

NIC would expect our political representatives to be cognisant of that potential impact in any recommendation.

At this stage, the special account is proposed to be mainly used for an on-farm efficiency program called the Commonwealth On-Farm Further Irrigation Efficiency (COFFIE) program. This program is completely inadequate, it is untargeted and fails completely to assess impact on communities or irrigation scheme viability.

If this remains the core use of these funds then they will cause significant harm to irrigation communities.



**Recommendation 4:** *That the Committee recommend that:*

- *efficiency measures aimed at meeting the 450GL 'up-water' goal only proceed if they are able to meet the original commitment that they either improve, or have no negative impact on, communities as determined by a more thorough community impact test.*
- *The use of the Special Account funds for the COFFIE scheme be rejected and Basin Governments be asked to propose alternative arrangements as allowed by section 7.17(2)(b)(ii) of the basin plan which meet the promise of improved or at least no negative impact on communities.*

**(f) Related matters.**

## Trading of Environmental Water

Most recently, the Commonwealth Environmental Water Holder (CEWH) released a discussion paper titled *Development of a Framework for Investing in Environmental Activities*. The changes to Section 106 of the Water Act 2007 following the review of the Act, will enable increased flexibility for the CEWH to sell water allocations if the proceeds are used for water acquisitions or environmental activities. Under the legislation, the CEWH can only invest in environmental activities that will improve environmental outcomes from the use of Commonwealth environmental water, and are undertaken for the purpose of protecting and restoring environmental assets in the Basin.

Under these changes, the option of selling water allocations and investing the proceeds in environmental activities will be considered along with other available water management options. These include carrying water allocations over into the next watering year, or purchasing water at another time or place.

NIC has been constant in our advocacy for increased flexibility in relation to the proceeds from the sale of water by the CEWH, including the carryover of water allocations. We have argued for a shift from numbers, to a greater focus on outcomes, particularly against the backdrop of the review of the Northern Basin which clearly demonstrates that the acquisition of more water for the environment will only deliver a questionable level of environmental benefit while resulting in higher levels of social and economic pain.

It should be noted that Basin Water Ministers have reaffirmed their support for complementary environmental projects in the Basin and will consider further advice at future Water Ministers meetings on how best to embed complementary measures in the implementation of the Basin Plan.

Improved ecological outcomes can be achieved through a range of non-flow, or complementary measures, similar to those used as part of the Caring for Our Country program, and improving riparian management. A package of measures, designed to deliver the Basin Plan's environmental objectives over time, and with short, medium and long-term outcomes must form the basis of any approach, to ensure that native species have the greatest opportunity to thrive.

Such measures fall into two categories, fundamental interventions or actions required to achieve improved ecological outcomes in our river systems, or new opportunities for operation and management of environmental resources.

These measures include:

**a) Carp control through the release of the Carp Herpes virus**

Carp make up around 80% of the fish biomass in the Murray Darling Basin, and this level of presence costs the nation up to \$500 million in lost opportunity annually. Empirical evidence shows the impact of carp impact on water quality, plankton levels, the frequency and duration of algal bloom, native fish, macrophytes and water birds<sup>i</sup>. Much of this impact is wrongly attributed to productive water-users.

Research has shown that a carp specific virus, known as Cyprinid herpesvirus 3, is highly effective on the carp species present in Australia. International case studies indicate the virus will kill 70-100% of carp in a native population within a very short time. The virus also has been shown to only affect Common carp and Koi carp (same species) and that it not impact adversely on other fish species, birds, reptiles, amphibians, mammals or crustacea.

While the types of environmental flows built into the Basin Plan might deliver some benefits to some valuable components of the ecosystem, they are also known to increase carp breeding if delivered onto floodplain habitats during warmer months.

NIC welcomes the Australian Government's announcement in 2016 of a \$15 million investment to undertake the necessary work with a plan to release a carp-specific herpes virus into waterways. The work will focus on:

- Planning for introduction of a carp biocontrol agent, including:
  - public consultation
  - virus preparation
  - monitoring and research
  - planning for release and clean up
- International case studies to inform clean-up methods, along with field-based research to determine carp biomass levels. Areas important to social amenity will also be mapped to inform prioritisation of clean-up efforts.
- Research will be undertaken over the next two years to improve the precision of carp biomass estimates in the Murray-Darling Basin, and to identify options for use of harvested carp biomass following the release of the virus.

To ensure that carp numbers do not rebuild after release, it will be necessary to employ additional measures to suppress carp and promote recovery of native fish communities (with the latter being estimated at 10% of pre-existing condition). We note that 30-40% of the freshwater fish species in the Murray-Darling are now listed as threatened, or are conservation dependent without appropriate measures in place to recover stocks.



While carp is the biggest threat to the health of aquatic ecosystems across the Basin, other factors are contributing to the decline of native species, including:

- degradation of habitat and water quality;
- overfishing;
- thermal pollution; and,
- barriers to fish migration.

Significant social and economic benefit, derived from improved inland fish resources, is likely to occur as a result of the eradication of carp and the rectification of the above matters.

NIC recommends that any carp biocontrol program and improvements to environmental flow delivery must be accompanied by parallel efforts to:

- re-establish populations of locally extinct native fish species through re-stocking following carp removal
- mitigation cold water pollution at four priority dams
- restore native fish habitat along river reaches within priority river valleys through the Murray-Darling Basin

#### **b) appropriate management of cold water pollution**

The importance of water temperature for breeding, feeding, growth and larval survival in native fish species has been well understood for over a decade, as is the impact of cold water pollution on aquatic organisms and river health in the Murray-Darling Basin. A recent study noted that mortality levels in Murray cod eggs can reach 100% at 13 degrees Celsius, and that low water temperatures can dramatically reduce growth rates in species including Freshwater catfish and Murray cod, and can cause up to 30% mortality in Silver perch<sup>ii</sup>. All of these species are 'listed' under either national or state environmental legislation and over 2500km of riverine environment is now understood to be affected by thermal pollution in the Murray-Darling Basin.

There are cost effective engineering solutions to cold water pollution and these measures must be afforded an appropriate place in the Basin Plan.

#### **c) improvement of fish migration through fishways**

Many native fish species are now known to migrate during various stages of their life and barriers to migration are now listed as a key threatening process in state and Commonwealth threatened species legislation.

Future-focussed investment from the MDBA in the Sea to Hume program has seen fish passage restored over 2225 km of riverine habitat by installation of fishways at 15 barriers in the southern MDB. Reinstatement of fish passage at 13 barriers in the main stem of the Darling, Barwon, Paroo and Warrego Rivers would reinstate continuous access 5180 km. This outcome would exceed the Sea to Hume program, which is currently, and rightfully, lauded as one of the largest ecological rehabilitation projects undertaken in Australia. Tributary fishways also open up significant kilometres of passage and improve environmental outcomes associated with instream site specific indicator sites.

#### **d) restoration of native fish habitat**

A healthy habitat is vital to the condition of native fish communities. Numerous studies throughout Australia have demonstrated the value of restoring fish habitat for native fish communities. In the Condamine River, habitat improvement along the Dewfish Demonstration Reach resulted in significant increases in Golden perch (5 x increase), Murray cod (from absent to captured every survey), Spangled perch, Bony bream (11 x increase), carp gudgeon (1200 x increase), and Murray-Darling Rainbowfish (60 x increase).

Re-snagging in the lower Murray resulted in a threefold increase in Murray cod, and was estimated to significantly increase overall population size<sup>iii</sup>. It would also result in lower flow thresholds being required if re-snagging occurred at lower heights to provide adequate habitat that is submerged for periods long enough to be of benefit.

**e) feral animal control in wetlands such as the Narran Lakes, Gwydir Wetlands and Macquarie Marshes.**

Feral pigs are one of Australia's most successful and widespread invasive species. Their success is largely due to their omnivorous diet, comprising mostly green grasses and herbs. They also eat a variety of native vertebrate species including reptiles, amphibians, birds and mammals.

Feral pigs have been present in the Macquarie Marshes since 1896 and they threaten important native wildlife species in the marshes such as the snipe, storks and ibis. Studies undertaken on the stomach content of feral pigs in the Macquarie Marshes have revealed grasses, roots, ferns, fruits, crops, frogs, lizards, snakes, turtles, birds, mammals, invertebrates and carrion. Five different vertebrate species were found, including eastern bearded dragon, barking marsh frog, green tree frog, spotted marsh frog and De Vis banded snake.

In recent years, the explosion of pig populations in the Gwydir is partly due to the delivery of environmental water to wetland areas during dry-sequences, where pigs are assisted to survive during drought.

**f) Riparian land management**

The health of our waterways is inextricably linked to the surrounding land and land use. Grazing management adjacent to water ways is essential to maintain stream bank stability and limit erosion, sedimentation and poor water quality.

Riparian buffers should continue to be encouraged in high risk and vulnerable locations as should programs to encourage improved grazing and cropping strategies upstream, to limit poor quality runoff. It is critical that measures be implemented to mitigate the significant damage occurring due to livestock and feral animals on icon sites such as Gwydir Wetlands, Macquarie Marshes and Narran Lakes, beneficiaries of government water.

**g) Weeds**

Weeds are well known as a significant threat to Australia's natural environment and primary production industries. They displace native species, contribute significantly to land degradation, and reduce farm productivity. Aquatic weeds continue to spread through flooding, moving plants to other waterways. Many aquatic weeds have been introduced or have colonised new waterways.

Invasive species, including weeds, animal pests and diseases, represent the biggest threat to biodiversity after habitat loss. Weed invasions change the natural diversity and balance of ecological communities, threatening the survival of many plants and animals as the weeds compete with native plants for space, nutrients and sunlight.

It is estimated that nationally, the impact of invasive plants continues to increase with exotic species accounting for about 15% of all flora. This figure is increasing yearly by about ten new species per year.

A more integrated, holistic, plan focused on non-flow measures is the key to undoing the damage that continues to be done in communities. Such a focus would:

- deliver equivalent ecological outcomes required to meet Basin Plan objectives that will not be met through existing water recovery measures
- lead to the rehabilitation of native fish species
- improve productivity within aquatic ecosystems
- increase the resilience of threatened species

- improve social and economic prosperity from aquatic resources
- contribute to the achievement of cultural water objectives

**Recommendation 5:** *That the Committee recommend the implementation of complementary, or non-flow measures, in keeping with the increased flexibility for the CEWH to sell water allocations if the proceeds are used for environmental activities, such as:*

- Carp control through the release of the Carp Herpes virus*
- Appropriate management of cold water pollution*
- Improvement of fish migration through fishways*
- Restoration of native fish habitat*
- Feral animal control in wetlands*
- Riparian land management*
- Weed eradication.*

## National Metering Standard

The National Water Initiative required the development of a national metering standard. In 2009 a National Framework was agreed which was intended to be enforced from 2010. Unfortunately, aspects of the frame work (outlined in part below) have proven to be impractical for manufacturers to achieve. The framework itself included recognition in the notes of the practical difficulties in achieving 'pattern' approval via an approved laboratory.

### [Non-urban metering framework included in the 2009 National Framework for non-urban metering](#)

Non-urban meters shall comply with the following key requirements of the Metrological Assurance Framework to ensure an acceptable level of confidence in meter performance. All non-urban meters shall be:

- Pattern approved by the National Measurement Institute (NMI) where available
- Laboratory verified by a Verifying Authority under the National Measurement Act 1960 (Cth), prior to installation
- Suited to the intended purpose, installation configuration and operating conditions
- Installed in compliance with the Pattern Approval certificate and the appropriate Australian Standards
- Validated by a certified validator after installation and before water is taken through the meter under an entitlement
- Maintained periodically in accordance with the Pattern Approval certificate and relevant Australian Standards or Technical Specifications (eg ATS 4747)
- Periodically validated by a certified validator on an ongoing basis
- Able to provide an acceptable level of confidence without in situ verification that performance of the meter is within the maximum permissible limits of error ( $\pm 5\%$ ) in field conditions
- Re-verified (either in a laboratory or in situ when and where practical and preferred<sup>3</sup>) by a Verifying Authority or certified licensee under the National Measurement Act 1960 (Cth) following maintenance affecting the metrological performance of the meter
- Audited on a regular basis by water service providers, government agencies or independent auditors in accordance with implementation plans.

The framework document itself included as notes under the above framework:

“Where pattern approval is not available for meters or measuring devices (see section 4.6, Limitations of Pattern Approval), a contemporary meter or metering system approved by the relevant jurisdictional department or agency would be acceptable. Use of an approved meter must still provide an acceptable level of confidence that it will perform within the maximum permissible limits of error in field conditions ( $\pm 5\%$ )” and

“In situ re-verification may not be possible where very large meters or measuring systems are used in high capacity applications; or where physical access is a safety concern; or where adequate facilities are unavailable; or where costs are prohibitive. However, even where it is possible to undertake in situ re-verification, laboratory re-verification may be selected as the preferred option.” (Commonwealth of Australia, 2009, p. 4)

As the above notes would seem to predict it has been impractical for manufacturers to meet the standard, particularly for high volume equipment. NIC understands only two hydraulic laboratories are accredited in Australia and the volume of work they have means they have been unable to undertake the work in reasonable time frames or for reasonable cost.

Meanwhile manufacturers themselves have their own laboratories that are enabling them to produce meters that well and truly beat the standards required.

There have however been steps on meeting the requirements for a “certified validator”, though there is some work to do with roll out. Irrigation Australia Limited runs accredited training programs to provide licenced installers or validators as required in the NWI. The aim of the requirement was to ensure that all meters were installed by properly accredited installers. The Irrigation Australia accreditation has been taken up strongly in Queensland and forms a good base for ensuring that accredited installers are utilised across the system.

Keeping in mind, though, that some irrigation companies also have their own well trained and experienced installers and as they deliver water to customers at a per ML charge they have a strong interest in ensuring that every drop is measured.

It is suggested that if the Committee wants to pursue in detail the implementation of the NWI standards in this area that it should also speak to Irrigation Australia.

It is very clear that from the time the NWI principles were put in place to now there have been massive improvements in the standard of measurement. This is very clearly illustrated by the massive advances in technology in schemes in the Southern Murray Darling basin.

Australian irrigators and irrigation systems are using very high tech exceptionally accurate meters in most locations. MACE meters and the metering produced by Rubicon Water (who have their own world class hydraulics testing laboratory) are world’s best standard.

The point in bringing this to the committee’s attention is that in looking at any recommendation on meter standards it is important to know that the 2009 standard has proved to be poorly considered.

## **Menindee Lakes**

The recent media stories seem to have resulted in quite a bit of comment about the Menindee Lakes and the Lower Darling. As the NIC understands it there are some points that don’t seem to be well understood about the basin plan and the Menindee lakes in particular:

- Once the basin plan is implemented including the adoption of the Northern Basin review an average year’s flow will result in more water getting to Menindee lakes than is the case under the baseline scenario;
- The sustainable diversion limit for the Northern Basin does not change if the Menindee lakes are reconfigured to save water from evaporation;

- Reconfiguring the Menindee Lakes does not mean more water can be taken for consumptive use up river;
- Reconfiguring the Menindee Lakes if it occurred would provide a saving in evaporation which would result in more water flowing down the lower Darling to the Murray and to South Australia. Assisting with meeting the Basin Plan targets;
- If the NSW Government goes ahead with building a pipeline from the Murray to Broken Hill it may help to facilitate reconfiguration of Menindee Lakes but it will not result in any additional water being made available to irrigators up river from the Lakes.

## About the National Irrigators Council

The National Irrigators' Council (NIC) is the national peak body representing irrigators in Australia. The Council supports thirty-one (31) member organisations across the Murray Darling Basin states, irrigation regions and the major agricultural commodity groups. Council members collectively hold approximately 5,000,000 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.

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<sup>i</sup> Vilizzi, L., Tarkan, A.S. and Copp, G.H., 2015. Experimental evidence from causal criteria analysis for the effects of common carp *Cyprinus carpio* on freshwater ecosystems: a global perspective. *Reviews in Fisheries Science & Aquaculture*, 23(3), pp.253-290.

<sup>ii</sup> Lugg, A. and Copeland, C., 2014. Review of cold water pollution in the Murray–Darling Basin and the impacts on fish communities. *Ecological Management & Restoration*, 15(1), pp.71-79.

<sup>iii</sup> [http://www.depi.vic.gov.au/data/assets/pdf\\_file/0013/282001/Murray-River-resnagging-fact-sheet-2014.pdf](http://www.depi.vic.gov.au/data/assets/pdf_file/0013/282001/Murray-River-resnagging-fact-sheet-2014.pdf)