



National Irrigators' Council

Submission on the draft report:
Independent assessment of social
and economic conditions in the
Basin

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NIC position on draft findings & recommendations

<p style="text-align: center;">Agree</p>	<p style="text-align: center;">Disagree and/or conclusion wrong</p>
<p>Draft findings 1 to 6</p> <p>Draft finding 7</p> <p>Draft recommendation 1</p> <p>Draft recommendation 2</p> <p>Draft finding 14</p> <p>Draft finding 15, 16 & 17</p> <p>Draft finding 18</p> <p>Draft finding 19</p> <p>Draft finding 19,20 & 21</p> <p>Draft finding 22 & 23</p> <p>Draft finding 25, 26 & 27</p> <p>Draft finding 30</p> <p>Draft finding 32 & 33</p> <p>Draft finding 35</p> <p>Draft finding 38, 39 & 40</p> <p>Draft recommendation 6</p> <p>Draft recommendation 7 & 8</p> <p>Draft recommendation 9</p> <p>Draft recommendation 10 & 11</p> <p>Draft recommendations 12 & 13</p> <p>Draft findings 41, 42 & 43</p> <p>Draft finding 46 & 47</p> <p>Draft recommendation 14</p> <p>Draft recommendation 15</p> <p>Draft recommendations 16 & 17</p> <p>Draft recommendations 19 & 20</p>	<p>Draft finding 29</p> <p>Draft finding 34</p> <p>Draft finding 48</p> <p style="text-align: center;">Agree in part or with suggestion for more development</p> <p>Draft finding 9</p> <p>Draft recommendation 3</p> <p>Draft recommendation 4</p> <p>Draft finding 28</p> <p>Draft finding 31</p> <p>Draft finding 36 & 37</p> <p>Draft recommendation 5</p> <p>Draft finding 44</p> <p>Draft recommendation 18</p>



Background: Irrigated Agriculture in the Murray Darling Basin

Australia built irrigation infrastructure to enable farmers to grow food and fibre in dry years. Irrigation is a critical part of the production of food and fibre for Australian consumption and for the export income that contributes directly to the standard of living enjoyed by every Australian.

The Murray Darling Basin is a key part of that. According to ABS data ([Gross Value of Irrigated Agricultural Production 2017-18](#)) Murray Darling Basin irrigators grew \$8.6 billion worth of product (wholesale price) in 2017-18 (Australian Bureau of Statistics, 2019).

It is a simple fact that without Murray Darling Basin irrigation, cities including Sydney, Melbourne and Adelaide would not have fresh fruit and vegetables on their supermarket shelves and Australians would have a lower standard of living.

On the 2017-18 figures, Basin irrigators grew 36.36% of the value of total agricultural production in the Basin; nearly 49% of all Australian irrigated agricultural production and nearly 15% of total Australian agricultural production.

Those 2017-18 figures show why we have irrigation infrastructure in the Basin. Over this period, the Basin and much of eastern Australia went into drought. Our irrigation storages are designed so that we can continue to produce in dry years and that's exactly what happened in that year.

ABS water use statistics (Australian Bureau of Statistics, 2019) show that the amount of irrigation water used increased in 2017-18; that was to be expected as stored water was utilised to maintain production and supplement crops with a shortage of natural rainfall. This is what the system is designed to achieve.

Basin irrigators used 7,870GL in 2017-18, the drought made that some 30% less than the Sustainable Diversion Limit and, combined with water returned to the environment, more than 40% less than the pre Basin Plan use.

In 2016-17 Basin irrigators grew \$7.2 billion worth of agricultural product, 29% of the Basin's total production, in the drier 2017-18 year that went up to \$8.6 billion worth or 36%.

Overall Gross Value of Production figures show that the proportion of Australia's fruit and nuts (by value) produced by irrigators in 2017-18 increased from 83.3% to 92.5%, while dairy went from 44% to 52.3%.

In 2017-18 Basin irrigators grew more than 70% of all Australia's grapes, 41% of fruit and nuts, 20% of our vegetables, 99% of rice and 82% of cotton – among other products. Overall, Australia's irrigators produced 82.5% of our vegetables, 92.5% of fruit and nuts, 92% of grapes, 92% of cotton, 100% of rice, 52.5% of dairy, 52% of sugar cane and reflecting drought conditions 14.4% of hay.

Climate change is reducing run-off into dams, but also producing more extreme weather events including severe storms. This is why water storage infrastructure is so important for producing the food and fibre Australia relies on, but also for storing water to help ameliorate some (unfortunately it's just not possible to ameliorate all) the negative environmental impacts of climate change.



General comments

With some noted exceptions, NIC generally supports the content of the Panel's draft report. We recognise that there are areas where some communities may have had expectations of the report going further than its terms of reference allowed. While NIC continues to be opposed to any further buyback of water we recognise that it was made very clear at the outset that the Panel was not reviewing the Basin Plan.

Nevertheless, the report does provide substantial evidence to support the clear message from previous studies that buyback of water is unequivocally negative for communities and the final report should clearly state this.

Many of the key messages in the draft report accord with points NIC has been making for some time and the recommendations are justified. Our concern is that perhaps in some cases the recommendations are general, and we need to understand the path to action.

We welcome the fact that this report draws in part on the Productivity Commission's five-year review of the Basin Plan and that it endorses, or makes similar recommendations in, some key areas relating to the remaining aspects of implementation. The concern we and many in our communities have is that we have seen so many reports with recommendations that are welcomed or endorsed by government but with little to show that they are actioned.

There are key parts of this draft report that need action, just as there were in the Productivity Commission report.

The themes of the report are as expected. The evidence is clear that the Basin Plan has produced uneven impacts, as has the operation of the water markets vis a vis drought. In particular, NIC notes conclusions relating to water recovery. Areas which took up efficiency funding have done better than those where water was purchased through buyback; and this has been exacerbated by the reduction in water available, the drought and operation of the water markets. Our members, communities and NIC have been saying this for many years.

The draft report clearly indicates the potential negative impacts of recovering more water but in a catch 22, it also highlights that more efficient areas have a competitive advantage. The question that needs to be answered is how can the areas at a competitive disadvantage be given the opportunity to improve? This might be an area for further consideration in the final report.

The draft report highlights the differentiation between communities that are optimistic and growing; and those that see a bleak future (for themselves). There are several comments in the draft report about giving communities more control over their own destinies.

That's difficult to put into practice, particularly in an environment with a nationally determined Basin Plan and markets moving water around. Nevertheless, government needs to do more to enable communities to plan what their future might look like and to ensure that any structural adjustment measures align with that vision, rather than in an ad hoc way.

NIC supports extending adjustment or economic development programs, as long as they build industries that provide long term jobs and income for communities.



Expanded recommendations around community leadership capacity in the Panel's final report would be very welcome.

Community capacity, leadership and attitude are key tenets of resilience, and are necessary qualities that make the difference between towns who go forward after serious economic shock and those that go into decline. The final report could do more to specify the sort of programs that might help develop community capacity, leadership (maybe even optimism?) to drive positive futures.

On environmental water, NIC agrees wholeheartedly with the need to be measuring and communicating outcomes; engaging communities and catchments in planning and ensuring a better and broader understanding not only of how best to use the water, but the benefits it brings if effectively used (for example, community and regional benefit from the restoration of habitat). NIC has long advocated this in our submissions and other forums. The key is to see it happen!

This draft report very strongly reiterates some key findings, from the Productivity Commission, which NIC has also endorsed and it is hoped this report gives them added impetus:

- Timeframes must be extended, particularly for the SDLAM and efficiency elements of the Basin Plan:
- Capacity to deliver the additional environmental water must be taken into account in the timing of seeking to achieve the 450GL of efficiency savings.

NIC has long advocated a refocus, that is a move from flow targets to environmental outcomes and look at other ways these outcomes might be achieved (consistent with our submission to the WESA review).

In the sections below we make comment on the draft report broken into its chapters and its findings, and included at the end of each chapter, our comments in response to the draft recommendations. NIC has attempted to include the draft recommendation in with the chapter to which we feel it relates.

Chapter 2 – How are Basin rural and regional communities faring?

The draft report identifies a range of factors impacting rural and regional communities from demographic changes, technology and changes to agricultural practices among others. NIC acknowledges, as do other socio-economic reviews, that changes in agricultural practices have led to changes in the workforce, and as a result, changes to population and demographic profile in small centres particularly, and they are a part of the picture. Water reform however is certainly also a key part of the picture of negative impacts on some communities.

NIC welcomes the confirmation in the draft report that there is uneven impact on communities. That is why we have consistently dismissed economic commentary that has sought to make Basin wide comparisons. The Basin is not homogeneous, and it would be erroneous and meaningless to include social and economic statistics from the Basin's bigger cities in any assessment. NIC is pleased to see the committee has not done this.

NIC **agrees with draft findings 1 to 6**. In many cases they are common sense and to be expected. Similarly, the related recommendations but with a desire for more definition in some cases.

It is particularly concerning to see the conclusion in **draft finding 7** that 'First Nations communities appear to be experiencing poorer and sometimes worsening social and economic conditions, the gap is widening, not closing.' In drawing out actions to address this, NIC certainly agrees with the need for First Nations communities to have greater control over their own destinies and over programs designed to assist. The report discusses investment in education which many would agree is a key to a healthier future.

NIC would also like to see recognition of the role irrigation and agriculture in general can play in the economic future of First Nations communities.

Draft finding 9, highlights the range of factors and many significant external influences on Basin communities. We would disagree to some extent with the comment that it is difficult to disentangle them from each other.

Elsewhere in the report it is very clear that it is possible to differentiate between communities that have had Basin Plan water recovered via efficiency measures versus buyback. NIC would suggest this needs to be explicitly acknowledged in this chapter as well.

In terms of specific responses to draft recommendations:

Draft Recommendation 1 - communities: Agreed

Philosophically NIC strongly agrees with the points around consultation, planning and community representation. The real challenge for government is to put these principles into practice.

Basin communities have consistently told the Panel, and other consultation processes, that they are over consulted. They make significant effort to participate in a variety of consultation processes but there is often a lack of visibility in terms of any action. Though, we do recognise that people will often feel they have not been listened to if the final position, on a particular issue, is different to the one they advocated. In a contentious area like water policy, that is almost always going to be the case.

A significant issue with Basin Plan implementation, and a frustration for communities, is that there remain significant differences in messages coming from Basin Governments.

Taking a broader view, the Panel might consider strengthening the recommendation; it is not so much about what the type of mechanism for engagement but the need to ensure that the engagement is long term and consistent.

NIC would like to see the final dot point on local leadership expanded with greater guidance for government on how they might best act to develop community capacity and leadership, and through what policy and mechanisms.



Community leadership and attitude is often a key success factor for the country communities that survive economic shock or structural adjustment. The 'leaders' who take the community through this journey may be, but often are not only, the existing or elected leaders.

This can be a 'luck of the draw' thing for communities; some communities just happen to have the people with the enthusiasm, the skills and positivity to make things happen and some do not. We often witness this type of enterprise during times of drought.

A program that helped to identify willing and enthusiastic people in communities and help them to build skills, networks and capacity to deal with government would be very worthwhile.

Community capability can also be borne out of the willingness of an individual and/or a family with foresight and the preparedness to establish an industry that can attract jobs into a community. In this case, it is also critical that local government plays a role in providing the right environment and other necessary tools for that industry to be established.

NIC feels this recommendation might be fleshed out to give more guidance on the type of government assistance that could help to facilitate this.

NIC agrees with the dot point draft recommendations on the water markets. NIC expects the ACCC review to consider the type of information to enable markets greater transparency and accessibility, as well as provide timelier information for participants, There is however an ongoing need to ensure people understand how markets work and why they are there.

NIC has previously provided input into MDBA reviews as well as inquiries like the ACCC, and in those we have emphasised the need to make it easier to, engage in and, understand the market. This is discussed in more detail in other parts of this submission.

Draft Recommendation 2 – timing of water recovery: Agreed

NIC strongly agrees with the draft recommendation that the *“Australian Government should time further water recovery to match the capacity to deliver water to where needed to achieve enhanced environmental, social and working river outcomes. This approach means slowing further recovery in the Basin, and accelerating efforts to relax delivery constraints.”*

This recommendation is entirely consistent with the recommendations from the Productivity Commission's five-year review of the Basin Plan and the NSW/Victorian independent review of constraints. NIC has consistently advocated for the implementation of both.

The supporting comment on the draft recommendation in the draft report is well considered and accurate. There is also a fundamental reality that Basin Governments must recognise that it is now not possible to meet the timelines outlined in the Basin Plan.

Slowing the pace on this does not mean pushing these challenges off, never to be achieved. On the contrary, our view is that approached sensibly and cooperatively Basin Governments could put in place an achievable timeline with milestones.



The draft report's recognition of the potential for huge cost to communities and taxpayers is absolutely critical and it is also important to recognise that without action there will be a failure to deliver some environmental outcomes.

This submission expands on these issues below.

Draft Recommendation 3 – economic development: Agreed but with a need for more detail

NIC would agree that economic development programs need to have much longer time frames, with consistent frameworks. As discussed in the body of other sections, we feel that these programs need to focus on long term job generating economic activity underpinned by sound planning and driven by a region's vision for its own future.

An expansion of this recommendation reflecting actions that focus on long term job generation and sustainable economies would be useful.

Draft Recommendation 4 – economic development targeting: Agreed

NIC strongly agrees with the need to target economic development programs on communities that have suffered throughout the process of water reform. These programs must be focused on initiatives that build a long-term competitive future not short-term one-off projects.



Chapter 3 – Impacts of Basin water reforms on social and economic conditions in communities

The complicated and inconsistent nature of costs and benefits of water reform is well highlighted by this chapter.

The point that water reforms have had different impacts across Basin communities is a critical frame for all consideration of socio-economic impact and responses. Too often public debate about impacts, including submissions to a variety of inquiries, sees community by community analysis dismissed in favour of Basin wide assessment.

The Basin is a wide area with some communities and cities experiencing strong growth over the last decade while others have experienced the opposite. For example, NIC welcomes the Panels exclusion of Canberra from its assessment; that has not always been the case in other inquiries/reviews.

Noting that this is not referring to buyback, NIC agrees with 3.2.1's statement that 'the Basin has benefited from water entitlement, market and planning reforms, but the benefits have not been evenly spread across communities' (p.43) and with **draft finding 14** that 'water entitlement, planning and market reforms have delivered substantial and important benefits'.

The principles around the establishment of the water market have been largely met, that is water is moving to its highest value uses. That brings winners and losers, but the fact that the irrigation sector has succeeded in increasing the value of production over a period where entitlements available for irrigation have decreased by 20% is a great credit to irrigating farmers.

It is a tough comment, but NIC agrees with the draft report's statement that the '*Australian Government should not be held responsible for farmers who are caught on the wrong side of the market when prices rise or fall, except when government interference in the market causes the price change*' (p.44).

NIC agrees with **draft findings 15, 16 and 17**.

Draft finding 19 on environmental flow regimes is an important issue and one that NIC has been raising in reviews for many years. There are still a number of fundamental issues that need to be improved in this area:

- Flow targets are not the same as environmental outcomes; we need to see a greater focus on outcomes as part of the Plan and to show how and where environmental allocations are delivering environmental benefit;
- There is a recognition from environmental water holders that there is still much learning to be done about the most effective use of the water. Catchment communities (including First Nations) must be actively involved in ground up processes for planning and monitoring the management of this water;
- Environmental water holders must apply greater effort to show the public what they aim to achieve (e.g. the sites and the desired benefits) and what they have achieved.

Previous reviews have talked about how some of these objectives could be achieved. These include the Productivity Commission's review of the National Water Initiative and the Basin Plan; the House of Representatives Inquiry into management of environmental water and a



number of reviews undertaken by the CEWO itself. NIC submissions to these inquiries are on our web site www.irrigators.org.au.

NIC agrees with **draft finding 19** (on page 47 of the report) as it stands. However, it would be useful if the accompanying **draft recommendation 14** provided more guidance around measures that might address the issues.

There is limited comment around operational issues on water markets and the report recognises that the ACCC is looking at the issue in much more detail. Nevertheless, the points about the need for greater education, information and transparency summarised in **draft finding 18** and **draft recommendation 1** are valid. The complexities of the markets do make them difficult to understand and participate in and the apparent lack of transparency (which is probably really just the complexity) makes it hard to make judgements on whether manipulation of any particular market or product is able to occur.

The draft report does not appear to address options to improve transparency but the 'single register' objective is a reasonable long-term goal. In the medium term NIC would hope that the ACCC review provides a basis to at least move state-based water registers in the Southern Basin to a single register, with the immediate first step being standardising the information collected and made available.

In addition to this there is a need for more market related information to be made available in a useable and accessible format. That should include information relating to water supply, allocations and use among other things.

NIC supports the legitimate aspirations of First Nations people in the water area and see a need for better and more effective engagement in planning and decision making along with engagement through ownership of water for cultural and economic purposes. NIC would agree with **draft findings 19, 20 and 21** (on page 47); along with the **draft recommendations in 9, 10 and 11**.

Irrigators have always acknowledged the importance of the 'hierarchy' of water allocation which puts critical human needs and allocations for rivers in front of irrigation allocations. Irrigating farmers live in areas that have been so severely affected by drought and they are a part of those rural communities. On that basis they would support **draft findings 22 and 23** on town water supplies.

3.2.2 Water recovery programs

For irrigation farmers and the communities in which they live, this is perhaps one of the most important sections of this report as it relates to the immediate futures of those communities.

NIC strongly agrees with **draft findings 25, 26 and 27** and the point made on page 51 that *"irrigators and regions that have received on-farm water infrastructure grants have received a comparative advantage over irrigators and regions where on-farm infrastructure grants were used less to recover water"* is a vital point and it is one (but not the only) of the reasons we have seen such disparity of outcomes.

The analysis on page 51 indicating that "upgrades result in farm gate production value increasing by 15% on average, irrigated area increasing by more than 15% on average and

water use increasing by more than 20% on average”, gives a very strong pointer to the way irrigation efficiency and productivity can assist a community.

On this point, it is important to note that the increase in land and water use on individual properties, does not, as some media have suggested, mean more water overall is being used. The additional water used by a more efficient operator is taken from a pool of productive water that is 20% smaller than it was before the Basin Plan. In other words, it is being purchased from other owners of water.

The point the draft report makes about this creating a relative disadvantage for irrigators and communities that have not received upgrades is one of the most problematic challenges.

Government can say – and is right to say – that any owner of entitlement in the Basin could have taken up irrigation efficiency funding in exchange for giving (generally) 50% of the water saved to the Commonwealth Environmental Water Holder. Unfortunately for a variety of reasons some regions took up the funding enthusiastically and some did not. Some areas had also seen a lot more permanent entitlement sold during the millennium drought leaving those farmers unable to access the funding.

Draft finding 28 summarises the situation well but does not sufficiently highlight the ‘catch 22’ situation we now find ourselves in. The areas, farmers or regions, now suffering competitive disadvantage in the water market need to work out either how to become more competitive or identify an alternative future for themselves and their families. However, for the most part those regions are still diametrically opposed to participating in efficiency funding programs that require them to give up water.

NIC has for many years advocated efficiency programs (separate to the Basin Plan) for the benefit they provide to communities by increasing production and generating economic benefits for communities. However, it is understood that while ever the 450GL ‘efficiency’ or ‘up-water’ component of the Basin Plan exists, irrigators are unlikely to be offered no strings attached funding.

With high water prices there are strong commercial reasons for irrigators to self-fund greater efficiency, though for many areas that have suffered the ‘comparative disadvantage’ mentioned above, it is a vicious circle, compounded by (in some cases) poor commodity prices; drought and high water prices are putting financial pressure on growers and they are not in a position to finance the work.

It should be recognised that there is a finite and smaller pool of productive water and the movement in recent years in the expansion of irrigation in a number of areas and in some areas a bigger irrigation footprint, means ultimately that it is likely that less competitive irrigation areas could end up as dry land farms.

This challenge of competitive advantage needs to be at the heart of the panel’s recommendations on adjustment and regional development programs. At the core of this is the need for communities seeing what their positive future is, being able to envisage it, plan for it and getting consistent long-term government support to get there.

NIC notes findings in other parts of the report about funding more government services (also something that rural communities would welcome) but at the heart of a successful community there must be economic activity to generate the jobs and attract the population.

NIC would contend that irrigated agriculture remains one of the most effective rural job generators; we would also acknowledge that in a country that seeks to be internationally competitive without agricultural subsidies the scale of that activity has, and is, changed.

On that basis it would be desirable for the panel's final report to develop some of its recommendations to give irrigation regions facing those challenges of competitive disadvantage, the capacity to take a longer term strategic region wide look at what they need to do to become competitive.

Off-farm infrastructure programs

NIC feels the conclusions and recommendations relating to this section need to be clarified and broken out into different cases.

We would argue that the conclusions about lack of broader benefit from off-farm infrastructure investment are hard to sustain as is a contention that water has not been returned to the environment.

It is very hard to see an argument about lack of community and economic benefit from off-farm infrastructure being valid in an area like Griffith, for example, where infrastructure improvement within the Murrumbidgee Irrigation district has seen a substantial increase in efficiency and productivity.

The Trangie Nevertire system is another example where 30GL was returned to the environment, the system became far more efficient and farmers were able to increase production. The system improvements recently won an international water saving award.

The statement in the draft report that off-farm efficiency projects do not take water out of the consumptive pool or do not return water to the environment is not correct. Each program has returned water to the environment.

The point made in ***draft finding 29*** around ongoing cost of infrastructure needs clarification.

It is true to say that in some Irrigation districts the new systems with a much greater technology component may bring higher maintenance costs, it is possible in some cases this could lead to the conclusion in finding 29. However, it is by no means always the case.

We would acknowledge and agree with the comment on page 14 about long term cost challenges for IIOs. This does depend though on the type of system so the level of concern is not consistent.

It is not necessarily true to say that the off-farm efficiency projects lead to higher costs in general. It really depends on what type of infrastructure, its ongoing cost and utilisation. Some off-farm improvements have led to renewal and significant improvement of existing aged infrastructure, that improvement has often reduced running costs. Again though there may be a need to differentiate rather than making a broad all-encompassing conclusion.

One area of increased cost that is not addressed by the Panel is the significant increases in energy costs experienced by many irrigators as a result of moving to more water efficient systems. Moving to any system that involves pumping water leads to greater use of energy and in the past few years massive energy cost increases have reduced the viability of many

irrigators. This is not considered in the report currently or in this section but it is real consideration for people seeking to become more water efficient.

It is noted in the response to the specific recommendation on this below that there are significant differences in off-farm infrastructure. The recommendation could be very relevant for new infrastructure on rivers for example and less so for some irrigation districts. The conclusions and recommendation need work to differentiate and better explain the problem the Panel wants to address.

Return flows

In the introduction to this chapter a comment is made about the off-farm efficiency being dubious because of return flow impacts. This short statement is not justified. It appears to accept a view of return flow impacts postulated by one small academic group which is disputed by many others, including by other independent scientific studies.

That is not to say there is no return flow impact from becoming more efficient, there is, but it is extremely varied, and it is simply not valid to make single basin wide calculations. As a starting point we know that currently in the CEWH account there is 640 GL of water obtained via efficiency programs. This is from on and off-farm programs.

The return flows argument revolves around how much water would previously have been returned to the river system or into a groundwater system because of less efficient practices. Committee members may remember that thirty years ago many irrigation areas had major problems with salinity because of inefficient practices causing rising water tables. Efficiency in irrigation has largely solved those issues and produced many other benefits including greater production per litre and reduction in nutrient rich run-off from irrigation farms.

An objective of efficient irrigation therefore is a very reasonable one with a broad community benefit. It is also an inevitable goal once a country creates a water market. In the case of the Basin Plan it has also produced real gains for the environment via the return of water savings.

There is no doubt that as irrigation becomes more efficient it does reduce return flows via ground water systems. It may also reduce some run-off into other water bodies, but it should be clear that irrigation systems had generally stopped all run-off back into rivers well before the Basin Plan.

One academic (Professor Grafton) has constructed a basin wide mathematical model and he has used it to suggest in many media interviews that there may be no net return to the environment from efficiency programs.

Fortunately, those assertions are not supported by the MDBA's experts or importantly by other independent scientists who have actually looked at the variety of programs used to deliver efficiency savings, the different soil types etc.

For example, an efficiency program that reduces evaporation has no negative impact on return flows. Programs like the Barrenbox wetland and Lake Mokoan projects fit that bill.

It is also important to note that much of the work undertaken by irrigators and irrigation districts to eliminate or reduce return flows was undertaken well before the Basin Plan.

Scientists from the University of Melbourne have undertaken an independent study on return flows. Critically their study recognises that there are a variety of different types of efficiency programs and geological structures, and also takes into account prior actions. Their estimate of loss from return flows is around 121GL per year. The MDBA has stated that Basin Plan does take that into account.

[The University of Melbourne study](#) concluded that:

“Irrigation efficiency projects recover a total of 1179 GL/yr across the Basin, of which 757 GL/yr or 64% is transferred to environmental entitlements. These irrigation efficiency projects are found to reduce return flow by 121 GL/yr. The reduction represents 10% of the total recovery, or 16% of the recovery transferred to environmental entitlements. An uncertainty range of 90 GL/yr to 150 GL/yr is suggested.

The largest reduction is in ground return flow, making up 80% of the total reduction in return flow. The timeframe for the reduction in ground return flow is 20 years or much longer depending on the catchment. This timeframe is the lag time between seepage reduction and equilibrated river response.” (Q J Wang, 2018)

The Productivity Commission essentially supported the MDBA and University of Melbourne view, concluding that that:

“The Department of Agriculture and Water Resources has accounted for the impacts of improving irrigation efficiency on return flows in some major water recovery projects but has not done so in all cases. The Department has committed to monitor impacts in future water recovery programs, but the framework for doing this is not yet clear.

The overall impact of improved irrigation efficiency on water resources is not precisely known, but recent independent work indicates it to be relatively small.” (Productivity Commission , 2019, p. 36)

In undertaking their research, the University of Melbourne researchers, quoted above, undertook consultation with a range of other independent scientists and river experts. It is relevant to consider return flow impacts in overall Basin wide water accounting but based on evidence it is not reasonable to make any conclusion that questions whether water savings have been delivered at all. There is consistent proof that they have been delivered and with a significant net benefit.

Impacts of Buybacks

There are portions of this section that seem to be quite inconsistent with the research and consultation based findings of previous chapters, in particular the finding that communities where most water was recovered through efficiency have a competitive advantage over those that did not participate in those programs.

It follows, and the evidence is quite stark, that communities where most of the recovery was through buyback have suffered significant negative impacts. This is supported by the work undertaken by the MDBA in their socio-economic analysis – which to this point still appears to be the most thorough community by community analysis.

It is also clear just by visiting communities. Griffith and Goondiwindi for example, versus Deniliquin and Dirranbandi.

A key point to note about the comments on page 54 is that while the individuals who participated in buyback might have received a beneficial outcome, for example reinvesting their funds or exiting (with properties turned over to dry land farming); communities have suffered.

In general, a dryland farming operation (while also very valuable to communities and Australia) is far less intensive than an irrigation operation, it employs many fewer people and pumps less money into regional businesses.

[NIC's recent submission to a Senate Inquiry into the Basin Plan](#) pointed to a couple of examples of the vital role agriculture and irrigation farming in particular has in generating economic activity in irrigation communities. In that submission we said:

“Irrigation businesses tend to be more intensive than dryland agriculture, so their multiplier impact is far greater. This is rarely taken into account by external commentators.

As an illustration, it is worth looking at the local statistics for the number of businesses in the Edward River Shire as provided by the ABS for 2018. In total they record there being 915 businesses in the Shire, 290 of those are agriculture, forestry or fishing. Of the other 625, the 24 in manufacturing are likely to be largely servicing farmers, similarly many of the 64 in wholesale and retail; the 55 in transport, postal or warehousing; the 59 in professional, scientific and technical and so on. In that year just five houses were approved for the Shire, so it is likely most of the 113 businesses involved in construction were working for agriculture related businesses. For the Edward River Shire that means the private sector driver of employment is agriculture and that drives the reason families stay in the area.

We know from many rural areas that when there is no work available, people leave those towns. That is why shires like Wakool, where the Basin Plan saw 39% of water entitlements purchased for the environment, have seen population decline. This type of impact has been well documented by the MDBA in its very detailed community by community economic analysis.

Another illustration of the flow on benefit of an irrigation business comes from one single family farm growing irrigated cotton near Narromine. This property employs one person (in addition to the owner), so for a cotton farm it is relatively small, but a tally of its expenditure showed that it spent more than \$1.2 million directly with businesses in the Narromine Shire (alone) in a single year. If you add expenditure in nearby Dubbo and multiply that by the number of similar irrigating business in the region, you have a key reason some of these towns continue to exist.” (National Irrigators Council, 2020, p. 13)

We would agree that farmers may have continued irrigating with allocation or temporary water, but it is equally clear that during the drought their financial position and viability has become precarious. NIC would suggest that while there may be benefits for the environment and the taxpayer, from the point of view of the economic position of rural communities, buyback is always negative.



Draft finding 30 would be agreed, but NIC would recommend amending **draft finding 31** to make that consistent negative impact for communities clearer.

Draft findings 32 and 33 are agreed, impacts of reform are still being felt and there is no doubt the response has not kept up in a way that could help to prepare and help communities to adapt.

NIC finds **draft finding 34** difficult to justify (or perhaps understand) The first paragraph should refer to water recovery overall increasing risks of higher prices, with the water market providing the mechanism for water moving to other sectors/regions as mentioned in the finding.

The second point in 34 needs clarification.

Some new infrastructure would be expected to bring down operating costs, in areas where it replaces aged infrastructure and it would be reasonable to conclude in those cases that government funding has actually reduced the cost that would have been born by customers. In others it might go up, particularly if it is replacing 'simple' systems with higher tech, shorter life span, equipment.

The point in the draft finding is relevant if it refers to additional infrastructure on the rivers owned by government. In that case there is a constant and very real debate about how much of the maintenance and operating cost is borne by irrigators and to what extent others might benefit, (ie recreation), including a wider social benefit (ie infrastructure with an environmental benefit).

It is therefore suggested that this finding is amended and/or clarified. The related draft recommendation, which NIC takes to be number 18, would also benefit from greater clarity and perhaps some breaking down into different components.

NIC agrees with **draft finding 35**, however the question is what should governments do about it? NIC has advocated a short-term moratorium on greenfields development below the Choke until we have a system in place. NIC's position on this issue is:

The issue of delivery constraints has become more pronounced over recent years where nil inflows from below Choke tributaries (including the Darling) have seen the MDBA running the upper Murray at high levels, damaging the river environment in those areas and causing major losses. At the same time, it has created major concern for permanent plantings downstream of the Choke.

In the interim, NSW, Victoria and South Australia should agree to a mechanism to temporarily halt (or establish a moratorium) on new green fields irrigation developments on the Murray below the Choke.

3.4 Social and economic effects on communities of water recovered to enhance environmental and working river outcomes

NIC has made a large number of submissions to inquiries over the years highlighting key points about environmental water. It is perhaps not the task of the Panel to go into great detail on this area as other specific inquiries into environmental water management have done. However, NIC seeks to make some points here. In essence they support **draft findings 36 and 37**, although greater detail might be useful. In particular either in this section or at another point in the report NIC would like to see a focus on the need for complementary, or non-flow, measures to ensure we are getting the best possible environmental outcomes from the water returned to the environment. This approach was endorsed by the Productivity Commission and referred to in their report as complementary waterways management.

There is a core principle attached to this in that flow is an input and not an outcome. Too much of the Basin Plan is couched in terms of achieving flow targets which is not the same as deriving environmental outcomes.

[NIC's 2019 Federal election policy](#) called for two things in this area:

1. Maximise community involvement, and build confidence, in environmental watering (National Irrigators Council, 2019)

We must be proactive in building a new stream of work to focus on maximising the benefits of environmental water by building community and catchment involvement in environmental water decisions; better coordinating environmental watering with natural flows and releases and undertaking complementary measures to improve the river habitat and riparian zones.

NIC advocates using local knowledge as a critical part of broader approach to decision making around managing environmental water to ensure delivery of water to important environmental assets, mitigate potential negative impacts and where possible provide flow on benefits for communities.

The deployment of local knowledge could work well in collaboration with the existing team of local engagement officers appointed by the Commonwealth Environmental Water Holder (CEWH). They are currently playing an important role working with communities and delivery partners (state agencies, river operators and local advisory groups) to ensure the delivery of water to important environmental assets.

Complementing the work of the local engagement officers, NIC recommends an approach that focuses on maximising the benefits of environmental water by building community and catchment involvement in environmental water decisions, engaging with local communities, landholders and catchment management authorities specifically to support coordination of environmental watering with natural flows and releases.

2. Allocate an additional \$500 million to put in place Complementary or non-flow Measures designed to enhance the river environment.

The irrigated agriculture sector has long advocated the need for complementary measures to improve connectivity and habitat for native fish, concerted action on terrestrial and aquatic animal and plant pest species, and to address cold water pollution. A dedicated focus on

these measures is becoming increasingly pressing, where it is underpinned by the outcome of scientific work on native fish, impacts of terrestrial and aquatic pest species etc.

Without complementary measures, the water reserved for the river and the environment will not produce actual environmental outcomes. A flow target is not an environmental outcome, but just one part of the mechanism to achieving an outcome.

NIC submits that Complementary Measures (also known as toolkit measures in the Northern Basin) facilitate:

- delivering equivalent ecological outcomes required to meet Basin Plan objectives that will not be met through existing water recovery measures
- supporting the rehabilitation of native fish species
- improving productivity within aquatic ecosystems
- increasing the resilience of threatened species
- improving social and economic prosperity from aquatic resources
- contributing to the achievement of cultural water objectives

These are critical measures designed to underpin short, medium and long-term outcomes to ensure that native species have the greatest opportunity to thrive. This approach will deliver the Basin Plan's environmental objectives over time without additional collateral damage to regional communities. 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.

NIC will provide further information on the following complementary or, non-flow, measures:

- a) Carp control through the release of the Carp Herpes virus
- b) appropriate management of cold-water pollution
- c) improvement of fish migration through fishways along the Barwon-Darling & tributary catchments
- d) restoration of native fish habitat
- e) feral animal control in wetlands such as the Narran Lakes, Gwydir Wetlands and Macquarie Marshes.
- f) Riparian land management
- g) Weeds eradication.

The irrigated agriculture sector has for some time viewed complementary measures as potentially so effective that they could achieve better environmental outcomes than recovering further water. We strongly advocate consideration of these measures as a part of achieving the remainder of the Basin Plan.

3.5 Managing social and economic impacts of Basin water reform

NIC has dealt with a number of the issues raised in this section in our comment above on water recovery particularly. This includes comment on the need to provide structural adjustment assistance in a way that enables communities, that have been disadvantaged or who have found themselves at a competitive disadvantage, with a way forward to build a future based on sustainable industries that produce long term jobs and economic activity.

We would strongly agree that past funding programs to support towns and regions have not been effective. Indeed, the only structural adjustment funding that can confidently described



as having produced sustainable long-term jobs and economic activity is the irrigation efficiency funding.

On that basis we agree with **Draft finding 38, 39 and (strongly) 40** about the effectiveness and targeting of economic development funding.

Draft Recommendation 5 – up-water: Agreed with suggestion for amendment

NIC recognises that this recommendation and NIC’s position is inherently controversial going as it does to one of the most contentious remaining parts of the Basin Plan – the recovery of 450GL of so called ‘up-water’.

For context the draft says *“where an up-water recovery proposal fails to meet established neutrality criteria, this failure should trigger a formal process to consider and agree on whether and how third party impacts could be offset in a way that is acceptable to those negatively affected by the change. This process must be community led.*

The Panel considers this process would likely stimulate a more diverse range of community led recovery proposals, which may alleviate an otherwise protracted and even more painful and unmanaged transition for regions.”

NIC has developed a position on up-water in a number of our previous submissions including to the Productivity Commission. Our 2019 election policy said “when the 450GL efficiency component of the Basin Plan was announced by former Prime Minister Gillard and former Minister Burke, a guarantee was given that there would at least neutral or positive community impacts. NIC expects governments to meet this condition by:

- Retaining the definition of socio-economic impact agreed by basin water Ministers in December 2018;
- Pursuing all off-farm options towards achieving the 450GL goal first;
- Engaging with communities to design any future programs so they meet the needs of those communities” (National Irrigators Council, 2019, p. 3).

This recommendation does move away from a strict criterion as set down by the Ministers, however if it was combined with other recommendations on more reasonable time frames and not recovering water until it could be delivered it may be more achievable.

The 450GL up-water component of the Plan has been highly unpalatable for the irrigated agriculture sector. We have however, consistently said we don’t think the 450GL will go away and that our members are willing to be cooperative in looking for ways to achieve the environmental outcomes in ways that do not damage irrigation communities and production.

NIC made a detailed submission to the WESA review which urged a fundamental change to this program to focus on achieving the environmental outcomes rather than just flow targets. That means examining other initiatives that could achieve the desired outcome (eg supply measures style capital works).

NIC suggests that this recommendation includes an additional component that recommends amending the up-water component of the Basin Plan to allow the environmental outcomes to be achieved through means other than water recovery.



We strongly support a ground up process where regions could design programs that suit their own needs, including programs that might involve on farm efficiency. We have for some time indicated concern with a 'lazy' top down approach of just advertising for applicants rather than investing money on the ground in developing community proposals.

Attention is drawn to comments in other parts of this submission around the 'catch 22' of regions that have not embraced efficiency funding now being less competitive. This approach may offer a way of addressing this.

In addition, and disappointingly, there is little visibility of any effort by the states who committed to put forward off-farm projects towards achieving the 450GL. There could also be a role for local government to offer up projects. Flagged some time ago, examples were by way of urban and industrial projects, waterways conservation, catchment management and revised water conservation measures.

Draft Recommendation 6 - Constraints: Agreed

NIC has been an advocate of transparent and cooperative government action to addressing delivery issues in the system. We also recognise that constraints are a key part of achieving the 605GL supply measures targets and if they are not achieved then we can expect additional water recovery with very negative impacts.

Frankly, governments have done a poor job to date in this area. The NSW / Vic constraints review provides a positive basis for a way forward and it might be worthwhile referencing that in this recommendation. The remainder of the recommendation, in particular relating to certainty around deliverability of water, is supported.

Draft recommendations 7 & 8 – town and urban water supplies: Agreed **Draft recommendation 9 – First Nations water: Agreed**

As mentioned in this submission NIC supports legitimate aspirations from First Nations for cultural and economic water. As well as recognising the important cultural and social significance of water in its own right, as an irrigator group, NIC believes First Nations involvement in productive irrigated agriculture can play an important part in improving economic and social outcomes for many communities.

Draft recommendations 10 & 11 – First Nations involvement: Agreed **Draft recommendation 12 & 13 – research & monitoring community wellbeing: Agreed**

NIC strongly agrees in better research and reporting on a range of factors across the Basin including the wellbeing of communities.

4. Future conditions and Challenges

It is noted that the Panel's work on research for this section was not fully concluded for the draft report. Nevertheless, there are a number of key points which reinforce the challenges that will be faced by the irrigated agriculture sector, related industries and communities.

Australia's irrigation farmers are world leaders, and through improved water efficiency are delivering enormous benefit to Australia and country communities. Much of that efficiency is driven by the fact that Australia has always had water constraints and variability – and that is why irrigation infrastructure was built, to enable the continued production of food and fibre (and flourishing industries) in such a variable climate.

The water market has also driven efficiency and has facilitated the movement of water to its highest value uses. This is a process that produces an overall benefit, though there are some, for example, people, regions and commodities who perhaps see less benefit, or find themselves losers in the process.

The Panel's chapter 4 does highlight the fact that these challenges have been compounded by the Basin Plan's removal of 1 in every 5 litres of water previously available for productive use and by drought - and that these challenges will become more pronounced in future as climate change impacts run-off and more water is recovered for the environment.

On top of that it is very relevant to highlight the challenges around growth in permanent plantings and the changes in where water is being used.

We note the concerns about servicing demand from permanent plantings as young almond orchards mature and the fact that, as highlighted on p.71, the very constrained market means that very small changes in water availability can lead to big changes in water prices. The ABARES advice that a "3% change in average rainfall results in a 17% increase in temporary water market prices..." is certainly a concern (Independent Assessment of Social and Economic Conditions in the Basin, 2020, p. 71).

Noting that a number of the community impacts are dealt with in other chapters we would agree with ***draft findings 41, 42 and 43.***

Draft finding 44 is valid though the first paragraph perhaps could be misinterpreted. NIC acknowledges there are substitution effects on any decision to allocate government funding to one area rather than another. Analysis of what an alternative expenditure might produce is relevant, however the text of the report seems a little light on whether the alternative use would produce better impacts than irrigation investment.

NIC notes the analysis on p.77 regarding the number of jobs generated by infrastructure upgrades in the longer term. There is a suggestion that they produce a positive employment benefit.

NIC suggests that the important part of that is that by virtue of these programs, agriculture in an area has increased rather than decreased employment. The assessment needs to be on a net basis, ie what is the difference in employment between the decline that would have occurred if water was removed without efficiency funding and the increased amount. Any analysis must also include flow on impacts and multipliers.



The commentary on the potential for investment in other government services to produce benefit is also noted. We would obviously want to see the communities our members live in provided with the best possible education, health and government services and, in the case of education particularly, they are a vital investment in the future of regions.

We would contend however that for any region to have a healthy economic future and for it to retain population it must have industry that is generating the employment and economic activity and therefore the clients to attend those government services.

We would not disagree with the statement that spending should be across a range of areas and not just on infrastructure however we would be concerned if the panel's consideration was taken to mean a regional community could be given a healthy future on the back of government spending on recurrent services.

Building into this section a focus on investment in related industries or alternative industries would be a more positive approach, for example opportunities to develop further downstream processing and packaging, engineering or professional services etc. Why for example wouldn't it be a good investment to see government funds assisting with feasibility and infrastructure needed to set up a cotton spinning and weaving factory in a regional centre?

This section does need to differentiate between whether it is talking about one off capital assistance from government or the recurrent funding required for many ongoing government services.

NIC agrees with **draft findings 46 and 47** but as discussed above **does not agree with the first sentence of draft finding 48.**

Draft recommendation 14 – monitoring and tracking: Agreed

This is quite a complex task summarised by the recommendation saying *“improvements in monitoring and evaluation should include creating a solid baseline and tracking environmental outcomes from water reform, and how these impact Basin communities’ social and economic wellbeing. Measures should include, but not be limited to, demonstrating how enhanced environmental outcomes of water reform affect tourism, recreation, liveability, human health and wellbeing, and cultural values. This tracking is a critical need, and communities should be more involved in the design of this program compared with previous efforts.”*

In other parts of this submission we have discussed the importance of better engaging the community on environmental outcomes and planning. This should go hand in hand with those processes and building a shared appreciation of what is, and is intended to be, achieved.

Draft recommendation 15 – future farming: Agreed

NIC recognises continuing challenges resulting from lower inflows, market impacts and changes to farming systems (discussed in more detail above). This recommendation is critical, and it is important to ensure there is a practical on the ground outcome of greater investment in research and development and extension.



**Draft recommendation 16 & 17 – Govt investment in infrastructure:
Agreed**

This remains critical for many communities and rural businesses. Good infrastructure, particularly communications and transport is fundamental to productivity and competitiveness. It is for these regions an important microeconomic and productivity reform.

Draft recommendation 18 – Community service obligations: Agreed with clarification

In the body of the submission above, we point out that the findings relating to this section along with the draft recommendation need to be clarified. The draft recommendation is relevant if it is relating to government owned and operated infrastructure on the rivers, in particular infrastructure that provides a much broader community benefit than just to irrigators. For example, broad social benefits through amenity, recreation or to the environment.

For IIOs there is concern about operating and maintenance cost of some new infrastructure, particularly if it is higher tech or underutilised, however this is not a universal concern. It differs and it would be useful to draw this out with more detail.

**Draft recommendations 19 and 20 – communities, services and future:
Agreed**



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