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SUBMISSION

Australian Freshwater Study

February 2019



Introduction

The NSW Irrigators' Council (NSWIC) is the peak body representing irrigation farmers and the irrigation farming industry in NSW. Our Members include valley water user associations, food and fibre groups, irrigation corporations and commodity groups from the rice, cotton, dairy and horticultural industries. Through our members, NSWIC represents over 12,000 water access licence holders in NSW who access regulated, unregulated and groundwater systems.

NSWIC engages in advocacy and policy development on behalf of the irrigation farming sector. As an apolitical entity, the Council provides advice to all stakeholders and decision makers.

Irrigation farmers are stewards of tremendous local, operational and practical knowledge in water management. With over 12,000 irrigation farmers in NSW, there is a wealth of knowledge available. To best utilise this knowledge requires participatory decision making and extensive consultation to ensure this knowledge can be incorporated into best-practice, evidence-based policy. NSWIC and our Members are a valuable way for Governments and agencies to access this knowledge.

NSWIC welcomes this public exhibition as an opportunity to share local, practical and operational knowledge and expertise in water management. NSWIC offers the expertise from our network of irrigation farmers and organisations on an ongoing basis to ensure water management is practical, community-minded and follows participatory process.

This submission represents the views of the Members of NSWIC with respect to Australian Freshwater Study. Each member reserves the right to independent policy on issues that directly relate to their areas of operation, expertise or any other issues that they deem relevant.



Background

The NSWIC understands that the purpose of this study is to better understand the ways philanthropic investment might transform the management of Australia's freshwater resources, protect their ecological integrity and ensure Australia's long-term water security.

The aim is to point to possible opportunities for philanthropic investment that could catalyse outcomes that benefit all Australians.

The consulting firms Point Advisory and Alluvium have been commissioned to undertake the study and have prepared a set of short issues papers covering water governance, economics, freshwater ecosystems, First Peoples' water rights, and social values.

The issues papers provide a list of major issues facing the management of fresh water in Australia as well as a general indication of options for philanthropic intervention.

The issue papers ask for:

- i. A rating of the importance of each issue in terms of the management of freshwater in Australia; and
- ii. For agreement regarding how the issue has been described.

Overview

The NSWIC welcomes, in-principle, philanthropic initiatives which catalyse opportunities to achieve positive outcomes from Australia's freshwater systems, including ensuring Australia's long-term water security, protecting ecological integrity, addressing Indigenous water rights, and further outcomes that "benefit all Australians".

For philanthropic investments to be effective and achieve positive outcomes, it is necessary that they are based on a thorough understanding of the sector, particularly given the complexities of water management. Whilst investments may be well intended, there is risk of adverse third-party impacts if the sector or regulations are not accurately understood. Thus, NSWIC welcomes the papers developed by Point Advisory and Alluvium in order to guide philanthropic investments to be effective.

There is certainly opportunity to review current freshwater management regimes to consider what has occurred historically, what has worked, what hasn't and what opportunities there are for future development and investment. NSWIC is concerned that much of the focus of the papers, particularly the economic paper, is negative about the role of the water market and investment programs as well as irrigation in general. There is far more potential for beneficial philanthropic efforts to work with existing industries and stakeholders rather than laying blame for the failures of historic policy.

The potential for philanthropic involvement is to look at the potential to improve on past efforts, particularly in areas where there is potential for new developments. Examples of current philanthropic efforts which contribute to sound ecological outcomes while complimenting existing productive capacity, include the Ricegrowers Association collaboration with Birdlife Australia for the Bitterns in Rice project, the work of the Murray-



Darling Wetlands Working Group and the recent purchase of land at the bottom of the Lachlan River including the Great Cumbung Swamp.

The NSWIC welcomes the publication of information which advises people about water systems and water management in Australia. NSWIC is of the belief that due to the complexity of water management in NSW, there is a lack of understanding about the details of water management. Increased understanding by the public will help foster more informed public debate, which in turn, may lead to more informed and evidence-based decision-making. Thus, NSWIC welcomes the development of these papers and hopes that (with revisions) these papers can contribute towards improved public understanding.

Opening statement

There is a pervasive view in the water reform rhetoric that the system is “over-allocated” and therefore adjustments must be made. Successive governments have implemented initiatives since the late 1960’s to address supply and environmental issues that were then becoming evident. This issue is covered well in the overview and associated papers.

As identified in the Overview paper, Australia has a highly variable climate and all evidence for climate change is pointing to an increase in extreme events which will exacerbate the variability.

Since the 1960s, the water management system in NSW has evolved to make best use of the highly variable availability of water while recognising the different needs of various crop types. The water products available in NSW have also proved effective to enable water licence holders to maximise the benefits offered by the water market since its early establishment to the sophisticated trading system it is today.

The water products available in NSW recognise the scale of priority and give resource managers the capacity to adjust the water take commensurate with water availability. It is a system that prevents “over-allocation” by incorporating flexibility in the allocation system. Farmers with low-reliability products such as general security entitlements know that they will only be allocated water if it is available. At the same time, there is a priority system whereby higher value uses are allocated first. Put simply, the allocation system in NSW ensures water is allocated in the following order dependent on water availability:

- System requirements and Critical Human Needs
- Planned environmental water (rules based flows)
- Stock and Domestic and High security town water needs
- High security irrigation needs (generally permanent plantings)
- Any remaining water is allocated to general security (generally broad acre annual crops)

NSWIC would submit that the allocation system in NSW is more suited to the Australian climate than that of other states that rely on a fixed supply, particularly if climate change results in more extreme events. While the system in NSW evolved after the establishment of regulating infrastructure, it is a model that should be considered as an option for any future development of systems to offer a flexible system that suits the boom or bust cycle that is the Australian climate.



Submission

General comments:

- NSWIC welcomes the information presented in these papers. It is important that these papers remain fact-based, apolitical, and non emotive. The papers should assist to provide knowledge, not opinion.
- NSWIC is disappointed to see many assumptions made about irrigation farmers in these papers which are not substantiated or justified. Having a negative bias (conveyed with emotive language) is not helpful toward the objectives of the philanthropic organisations who are seeking to benefit “all Australians”, including socio-economic benefits and improvements to communities.
- NSWIC has a number of concerns regarding the presentation of information in the Economics paper, in particular. This paper has an implicit lack of support for irrigated agriculture, and thus the connected rural communities. Given the scope of these papers is looking for opportunity to “benefit all Australians” there is a missed opportunity to identify the positive economic benefits from efficient, sustainable and compliant irrigation farming, particularly if flexible allocation systems are adopted such as outlined above.
- NSWIC supports a robust and effective compliance regime, however, strongly disagree that philanthropic organisations have a role in compliance activities, and suggest this section be removed.
- NSWIC is willing to meet with the consultants to provide further guidance to ensure the papers remain fact-based and would welcome the opportunity to discuss the value of ensuring the irrigation farming sector is accurately and fairly represented.

Core areas where NSWIC believes philanthropic organisations could have a role include:

- Funding of research into developing a best-practice methodology for Socio-Economic Impact Assessment (SEIA), and working to ensure that this is a legislative requirement in a similar manner to Environmental Impact Assessments. There is also a role for advocacy for the findings from such an assessment to be published in a mandatory Rural Communities Impact Statement (RCIS) prior to the public consultation period, so rural communities receive clear communication about the impact of water reforms. NSWIC is currently advocating for the SEIA and RCIS to become mandatory requirements of all future policy.
- Funding for Research, Development and Extension (RD&E) into irrigated agriculture, particularly to improve sustainable efficiency. Current research and development opportunities tend to be crop-specific regardless of farm systems (irrigation or dryland), creating a research funding gap for irrigation value-add more broadly. An irrigation farming specific RD&E corporation is now necessary to ensure irrigation farming in NSW (and beyond) can continue to be world’s best-practice and prosper.
- Greater research is needed towards the ecological benefits from water in transit from the water storage to the farm as well as the role on-farm irrigation and “pop-up wetlands” such as irrigated rice fields play in providing refuges and environmental opportunities.
- Funding the research and delivery of technologically advanced monitoring systems would benefit data availability, reduce the onus and time burden of farmers, and



promote public confidence in the monitoring system. NSWIC is aware of research currently being undertaken (such as by the Australian National University) into the use of space technology to monitor water movements and predict droughts.

- NSWIC has requested increased funding or policy support to enable closer collaboration and partnerships with Indigenous representative groups. This would facilitate a valuable sharing of knowledge. NSWIC is supportive of opportunities for indigenous nations through the management and use of Cultural Water in NSW.

Please contact NSWIC for further information on any of the above.

Detailed comments:

NSWIC has reviewed the Overview, Governance and Economics papers in detail. NSWIC would welcome the opportunity to meet with the consultants to discuss the other papers, given the issues and themes are recurring. Please see the detailed feedback on these three papers below. We are aware that the feedback sought included determining the importance of the issues identified. Where issues were deemed important, this was indicated, otherwise the column was marked in grey to show this was non-applicable. Extracts from the papers is shown in italics, with feedback beneath in plain text.



Issue / Heading	Importance Rating	Agreement with description
OVERVIEW		
<p>Old, flat, dry and nothing like Britain</p>		<p><i>“The Murray-Darling Basin, where much of Australia’s high-value irrigated agriculture is located, has the most unpredictable and variable rainfall of the world’s large river systems”.</i> Agree.</p> <p><i>“shaped settler management of landscapes and rivers and attempts to re-engineer Australia’s freshwater systems to fit a style of agriculture not always well suited to Australia’s rainfall patterns”.</i> It should be noted here that water and irrigation infrastructure provide a form of consistency during climatic variations, particularly rainfall variations, which allows regional communities who rely on agricultural industries to have more reliable and consistent water security. It also ensures that water which is used for agriculture, can be used optimally, and applied in a way that maximises yields and allows consistency. Without irrigation infrastructure, and a reliance on rainfall, the unpredictability and control would mean that the same given quantity of water could produce less food/fibre due to inconsistency and timing of water supply.</p> <p><i>“Most of Australia’s groundwater systems are poorly understood compared to surface water systems.”</i> The NSWIC has been advocating for increased research into Groundwater Dependent Ecosystems to identify how water use can best interact with groundwater replenishment. This has not yet occurred.</p> <p><i>“The economic and social benefits from freshwater consumption are often accompanied by negative impacts on Australia’s freshwater ecosystems”.</i> NSWIC believes that this statement is based on many assumptions and should be modified to more accurately capture the role water users play in environmental services. It should be highlighted that water users pay for water quality monitoring and management under their fixed charges. Water users pay a significant proportion of funds for water infrastructure which manages water flows. There is also insufficient research to date to measure the environmental services that occur during the delivery of water from a water storage to the site which it is used for agriculture. This movement of water (paid for by water users) provides ecological services as it moves along the waterway, and this is currently poorly understood. Further research into this would be beneficial.</p> <p>Recognition must also be given to the environmental activities that many farmers undertake on their landholding. An example of this is the Private Wetlands Watering Program facilitated by the NSW Office of Environment and Heritage and supported by irrigation farmers. Such a program is replicated and expanded</p>



	<p>on by the Murray-Darling Wetlands Watering Group who are a private, philanthropic organization that manages an environmental portfolio of water in association with landholders and government agencies to achieve ecological outcomes.</p>
<p>Water use in Australia and its environmental impacts</p>	<p><i>“The gross value of irrigated agricultural production in 2015-16 was \$15.0 billion (from 2.1 million hectares of production area which is 0.6% of the land dedicated to all agriculture). In this period, agriculture used 58% of Australia’s total water consumption, however this percentage varies from year to year and also varies substantially between the states.”</i></p> <p>Support the inclusion of the economic importance of irrigation farming. This should again be highlighted in the Economics paper which currently does not address this importance with sufficient weight.</p> <p><i>“Where it is used intensively, as in irrigated agriculture, water increases yields and the value of agricultural production. Between 1920 and 2000 the area of irrigated agricultural land in Australia increased 10-fold, with the majority of the growth occurring before 1990. Even with this growth, irrigated land represented less than 1% of Australia’s total agricultural land area in 2015-16, although it delivered more than a quarter of the gross value of total agricultural production. Around half of this value is generated in the Murray-Darling Basin”</i></p> <p>Support the inclusion of the importance of irrigation for using water in the most efficient and valuable way.</p> <p><i>“An equivalent amount of water is lost to evaporation from Australia’s dams as is withdrawn for use.”</i></p> <p>This is important to note. There is significant opportunity to improve efficiency losses.</p> <p><i>“Australia’s water allocation reforms respond to this unpredictability by providing water entitlement holders with a share of available water rather than a fixed volume each year. [37] During the Millennium drought there was so little available water that many irrigators were allocated little or no water.”</i></p> <p>This is important to note. The Economics paper would benefit from reiterating this explanation.</p> <p><i>“Figure 10: Proportion of annual flow extracted for use by level of flow in the Murray-Darling Basin (chart from CSIRO, see [4]) As Figure 10 shows, the environment tends to lose the competition for water in dry years in high-use catchments and it was the “big loser” during the Millennium drought in the Murray-Darling Basin.”</i></p> <p>NSWIC disputes that the environment was the “big loser” from the Millennium drought. Whilst there were undoubtedly severe negative ecological impacts, there were also severe negative impacts for farmers and rural communities. NSWIC does not see it necessary to determine who the “biggest loser” was, rather it is important to acknowledge the severe impacts of droughts for all.</p>



		<p><i>“The National Water Initiative and the Commonwealth Water Act 2007 delivered bold reforms of water management in Australia. However, under the stress of droughts, governments continue to bow to interest group pressure and have often prioritised infrastructure spending over resolving thorny issues.”</i></p> <p>NSWIC agrees that major water reform generally follows droughts, however, we dispute the contention that interest group pressure has prioritized infrastructure spend. Rather the propensity over the last 30 plus years has been to “recover” water with little review between initiatives to ensure effectiveness. For example:</p> <ul style="list-style-type: none"> • Drought – early 1980s led to the establishment of the Barmah-Millewa Allocation in the early 1990s which was the first environmental water allocation in Australia. • 1990s – establishment of the Murray-Darling Basin Cap on Extractions implementing a volumetric limit on the amount of water that could be extracted from the system. • Early 2000s – National Water Initiative outlined in the discussion papers. • 2004-2010 – The Living Murray Program combining both water recovery and environmental works and measures to improve ecological conditions at 11 key indicator sites. The Water for Rivers program to recovery water for the Snowy River and River Murray Increased Flows. • The Water Act 2007 establishing the Basin Plan and requiring further water to be “recovered” for the environment. <p>While there has been infrastructure spend through some of the above initiatives, the priority has been to remove water from productive use to divert to environmental management. NSWIC contends that there has not been sufficient investigation between water reform initiatives to evaluate the effectiveness of the “just add water” approach in the highly modified working river systems.</p>
<p>General Comments</p>		<p>The information covering the history of water management in Australia should remain apolitical, and without emotive opinion to remain factual.</p>
<p>GOVERNANCE</p>		
<p>1. Australia needs a strategic long-term sustainable national water management strategy that includes a clear articulation of environmental, social, cultural and economic costs, benefits and trade-offs. This strategy needs to be implemented across all jurisdictions.</p>	<p>Mid</p>	<p>NSWIC interprets that the intent of this section is to suggest more action on a national-level. The NSWIC recommends updating this to be specific that the issue is for a national plan for water security. We also question whether there is a role for philanthropic organisations in this sphere which is a role for Government in accordance with the constitution and the relevant State and Federal Acts.</p> <p><i>“The current lack of long-term planning combined with the lack of regular updating and revision of water strategy exposes Australia to many risks.”</i></p> <p>The above extract is not accurate. Currently, long-term plans do exist which are adaptive and frequently reviewed, but on a basin or valley scale. For example, in the Murray-Darling Basin (MDB), Water Resource Plans are 10 year plans and include a firm review process. NSW also has valley based Water Sharing Plans that</p>



		<p>are adaptive as well as inclusive of a legislated 10-year review process. The NSW Natural Resource Commission also conducts reviews of Water Sharing Plans. Adaptive management is also legislated as a core principle of the Basin Plan 2012. The MDB Plan itself has also been subject to over 30 reviews.</p> <p>This section should be specific about where the gap currently is, and what is needed to address it. Further this section must be explicit about what exact issues there are with the current blueprint (the National Water Initiative). These are alluded to but should be made more explicit.</p> <p>Whilst the NSWIC supports in-principle the idea of greater coordination for water security, this strategic planning should work with existing regulatory instruments and not override them. Farmers require certainty about water policy for business operations, and it is important that any further plans do not create instability for existing arrangements.</p> <p>The sector is experiencing reform and review fatigue, and any further reforms, reviews or strategies must clearly identify the objectives and purpose, and where the gap in knowledge is.</p>
<p>2. Water management strategies must be better linked to catchment and land management strategies.</p>		
<p>3. Australia needs an independent statutory authority to oversee the effective implementation of a long-term sustainable water (and linked catchment) management strategy.</p>		<p>NSWIC questions how this section is relevant to investigating how philanthropic investment might transform the management of Australia’s freshwater resources. While the intent of the section is sound, it is beyond the scope of any private investment opportunity.</p>
<p>4. Water policy and management agencies must go beyond particular interest groups and market values in their planning and management.</p>		<p>Complex Policy Issues <i>“Water resources policy and management is highly technical, specialised and complex.”</i> The NSWIC supports this statement.</p> <p><i>“There is still much to be done to provide programs that could build capacity and assist non-technical stakeholders to better understand the issues being discussed.”</i> NSWIC agrees with this statement. NSWIC strongly believes there needs to be public communications which help to inform the general public about water management in Australia. The public need to have trust and confidence in the system of water governance, and central to that, is the public being able to understand the complexities of the way water is managed. The risk of having the public not understand current water management is that misinformed public opinion can drive policy decisions, which may not be towards best-practice. The NSWIC would be willing to work with any organisation to develop such an information campaign.</p>



Irrigation Farmer Stakeholder Groups

“For example, irrigation industry stakeholders and their representative associations have sufficient funds and technical skills to be able to routinely process the complex technical information and to effectively lobby political decision-makers.”

The NSWIC believes this statement is an assumption and generalisation. It also ignores the fact that environmental interest groups such as the World Wildlife Fund and the Australian Conservation Fund have greater fundraising capacity and more human resources than any farm representative group. Further, while farm and irrigation representative groups have solid on-the-ground knowledge, their resources and capacity to promote publicity pale compared to groups such as the Wentworth Group of Concerned Scientists and university funded academics.

Compared to these groups, irrigation farmers have little funds which they are able to provide for political advocacy. For example, the NSWIC only employs 3 FTE staff members while National Irrigators’ Council employ only 1.5.

NSWIC also believes this section inaccurately assumes that agricultural organisations have more resources/capacity/funding/power than other stakeholder groups. This is clearly not accurate, as shown through the recent fish deaths in NSW where environmentally focused activism and conservation organisations have had a strong presence and influence.

NSWIC believes the focus of a philanthropic foundation for future opportunities should be about identifying partnerships across the spectrum of stakeholder groups and not creating an “us and them” divide.

First-Nations

NSWIC recognises the need for better collaboration with indigenous people to establish water management regimes that meet cultural needs. The NSWIC is currently pursuing positive collaborations with Indigenous representative organisations and is proud of the positive relationships and working arrangements we have with Indigenous representative organisations.

Consequently, the NSWIC fundamentally disagrees with the implied tension between farmers (or irrigation representative bodies) and Indigenous people and does not see this is appropriately or constructively captured in this section. The NSWIC also recommends that Native Title water rights, and cultural water licenses are included in this section to ensure it is comprehensive.



The NSWIC believes this section should acknowledge the positive work done by organisations such as NBAN and MLDRIN. The NSWIC works with NBAN and MLDRIN in the effective delivery of outcomes for productive, cultural and environmental water. The NSWIC fully supports the opportunities for Aboriginal people through the management and use of Cultural Water in NSW.

Representation in Stakeholder Groups

The NSWIC is aware that Critical Water Advisory Panels now only include government representatives. The NSWIC believes water users (agricultural, environmental, cultural, etc) should have opportunity to be included on this platform. There remains opportunity to further pursue this avenue.

What can be done

The NSWIC supports in-principle the recommendations that:

- *“Non-government and/or philanthropic organisations could play an important role in this issue by funding the establishment of specialist capability and knowledge to support marginalised interests to engage in water policy and management debates, and to participate in the water market”*

The NSWIC welcomes further discussions regarding this point. There are opportunities to align with current projects which are scoped (but not implemented) in NSW. For example, NSWIC would welcome efforts to support the recommendations by NSWIC for funding/policy support from government to form positive partnerships between current water users and Indigenous groups.

- *“They could also support research to develop techniques for more equitable evaluation of environmental, social and cultural costs and benefits, to be used in evaluations of the benefits and impacts (costs) of implementing water management strategies.”*

NSWIC is currently advocating that a Socio-Economic Impact Assessment be applied to all current and future water reforms similar to requirements for an Environmental Impact Statement. NSWIC is also advocating for a Rural Communities Impact Statement to be published prior to public consultation so rural communities can clearly understand the impacts that reforms may pose on communities. Funding to support research into the methodology for Socio-Economic Impact Assessment (with consultation from impacted water users) would be beneficial to ensure the assessments follow best-practice.



<p>5. First Peoples must be given greater involvement in water policy and management.</p>	<p>Mid</p>	<p><i>“Currently, First Peoples are largely without any water entitlements to be used for economic, environmental or cultural purposes.”</i> This is incorrect in the MDB. Please consider Native Title water access rights, and Cultural Water.</p> <p><i>“Very few First Peoples’ groups or organisations actually own water entitlements.”</i> There is scope in NSW under the Water Management Act for the issuing of Native Title water rights and Special Purpose (Aboriginal Cultural) access licences. Therefore there is scope in NSW for these groups and organisations to apply for access.</p> <p><i>“Philanthropic organisations could play a role here in providing funds to allow the purchase of water entitlements by particular First Peoples’ groups.”</i> NSWIC has no problem with indigenous groups or organisations purchasing water entitlements from the market like any other market participant and then using the water in whatever way they wish within water access rules.</p> <p>Please also see points raised under Issue 4 above, regarding First-Nations.</p>
<p>6. Urban water management agencies must place greater emphasis on developing adaptation strategies to address future population growth and climate change.</p>		
<p>7. Rural water management agencies must develop comprehensive adaptation strategies to address future climate change impacts on environmental assets and irrigated and dryland agriculture.</p>	<p>Mid</p>	<p>The NSWIC acknowledges the points raised about the impacts of climate change on agriculture. In particular, more frequent and more severe droughts will have significant impacts on water availability, and thus water allocations. We reiterate our opening statements regarding the suitability of the NSW water management regime for the highly variable Australian climate.</p> <p><i>“Additionally, farmer income and welfare, and the survival of many rural communities, could be adversely affected.”</i> The NSWIC supports the inclusion of this statement.</p> <p><i>“These will require the industry to make significant changes to current soil and agroecological management in one or both of two ways: changes to business practices particularly in moving to lower water use methods, and/or changes to the location of farming businesses.”</i> Water markets incentivise farmers to assess business models that make best use of both land and water. Farmers will assess which crop type is best suited to their soil types and water availability. They continually</p>



strive for efficiencies to maximise yield per ML. This section would benefit from describing the practices already adopted by industry towards water efficiency, in order to more comprehensively identify the next steps. For example, the Australian cotton industry has achieved a 40% increase in water productivity over the last decade (source: Australian Grown Cotton Sustainability Report 2014). Other practices already adopted by industry include the breeding of drought resistant varieties to minimize water requirements and maximize yields with low water.

[Recommendation] “good science as a basis for policy-making, including more investment in social science research”

This is a high priority for NSWIC. Whilst there has been significant research already undertaken, and this should be acknowledged, there remains numerous knowledge gaps which would improve policy. NSWIC particularly supports the need for increased social science. As mentioned, NSWIC is currently developing a framework with water users for Socio-Economic Impact Assessment to guide decision-making. Further research in this space would be beneficial. NSWIC would welcome the opportunity to take part in research of this kind with water users.

[Recommendation] “removal of subsidies for inputs (e.g. water irrigation infrastructure), development of policies for increased risk management and decision-making, and rewarding good land management (e.g. soil carbon markets) ...”

NSWIC does not agree that current programs for irrigation infrastructure are subsidies. These programs are water recovery programs. Therefore, the funding is provided for infrastructure in return for a volume of water. It is a business transaction, not a subsidy. When there is no further need for water recovery, there will be no further government spend on irrigation infrastructure under existing programs.

From a philanthropic perspective, there is opportunity to continually look for ways to improve industry and environmental water use efficiency, and ways to work with irrigation infrastructure to achieve the most efficient outcomes.

Regarding the development of policies for increased risk management, NSWIC refers the consultants to the Water Act 2007 (Schedule 3A – Risk Assignment Framework). Under this framework (clause 48 to 50 of the National Water Initiative), NSWIC notes that “water access entitlement holders are to bear the risks of any reduction or less reliable water allocation, under their water access entitlement, arising from reductions to the consumptive pool as a result of (i) seasonal or long-term changes in climate; and (2) periodic natural events such as bushfires and drought”. This leaves farmers very vulnerable to the risks of drought and water usage. The NSWIC encourages the consultants to refer directly to this framework and seek ways for this framework to be updated given new knowledge of the climate change on water availability.



		<p><i>[Recommendation] “policy certainty and adaptability, including monitoring and evaluation feedback loops to assess policy outcomes.”</i></p> <p>NSWIC is advocating to the NSW Government to commit to funding the monitoring and evaluation for the use and deployment of held and Planned Environmental Water (PEW) by establishing a clear process for review. Reviews are essential to ensure all water (agricultural, industrial, cultural and environmental) is used effectively. PEW rules were developed a considerable amount of time ago, yet monitoring and evaluation has not taken place, and PEW was not reviewed in Water Sharing Plans (WSPs).</p>
<p>8. Improved research, monitoring and assessment programs are essential to provide decision-makers with better information and help assess the effectiveness of water management at appropriate spatial and temporal scales.</p>	<p>Mid-high</p>	<p><i>“Additionally, community confidence in the effectiveness of the management of water resources requires that rigorous monitoring of the water allocations (both consumptive and environmental) made by the relevant agency is undertaken and the results validated and made publicly available.”</i></p> <p>NSWIC supports this point. Advanced technology would assist the community to have confidence in water management and remove the onus from water users. For example, NSWIC has identified that the use of satellite technology for monitoring water usage would assist in public confidence in water management. Further, technology would also save time for farmers, and could improve data availability. There is currently research underway into using technology to predict droughts and map the movement of water. For example: http://www.anu.edu.au/news/all-news/space-technology-predicts-droughts-several-months-in-advance Funding towards research into improved modelling of water resources would be beneficial.</p> <p>There are also telemetric metering options available for water users which would contribute to data availability, and transparency of reporting. However, technology of this kind is prohibitively expensive for many water users. Contributing towards the supply of greater technology to monitor water usage would benefit public confidence in the system.</p> <p>NSWIC supports the points about opportunities to improve the data provided by the Bureau of Meteorology.</p>
<p>9. The regulation, compliance and enforcement of existing water policy, regulations and laws must be improved.</p>	<p>Not supported</p>	<p>At the forefront, the NSWIC has zero tolerance for water theft. Any actions of water theft are matters for the courts and should be referred to the Natural Resources Access Regulator (NRAR).</p> <p>The NSWIC does not believe philanthropic organisations have a role in compliance activities, as this is a role for government.</p> <p>The NSWIC has serious issues with the presentation of information in this section, and requests the section is rewritten for the interest of all involved. Questioning the integrity of a regulatory system which has only very recently been restructured in NSW is risky and damaging and would have negative impacts for all involved in the water sector.</p>



NSWIC understands that the “recent revelations” (P14) being referred to are the matters raised during the 4 Corners program “Pumped” of which the allegations relate to activities which are now a number of years old and prior to the establishment of the Natural Resource Access Regulator (NRAR) and the new compliance regimes. Therefore, they are no longer relevant in the current regulatory regime. Furthermore, as these matters are before the courts of law, NSWIC submits that this section risks further jeopardising public trust in the system and government management of water resources which is not constructive (and given the recent reforms, not substantiated), and risks moving water reforms backwards.

There were numerous actions taken by Government as a result of these allegations, and these should be reflected in this section. The government department in NSW responsible for water governance has been restructured with considerable changes in staff. It is unfair and inaccurate to not identify this, as the current Government department responsible for water governance (to which this section of the paper refers) is not the same government department as when the alleged activities took place, nor when the revelations were made.

Furthermore, this section is incredibly unfair to the over 1,200 water users who were not the subject of the 4 Corners report and who do the right thing and comply with requirements.

Many irrigation farmers have also reported the impacts that accusations of the legality of their practices from the public and media have had on their welfare and mental health. For farmers who do the right thing and abide by the laws, it is very upsetting to face waves of misinformed accusations towards them, their families, livelihoods and businesses. Mental health and the wellbeing of farmers, who are already facing severe drought, must be a priority.

Industry continues to work hard to build a reputation of being sustainable, fair and efficient. The NSWIC welcomes the consultants, and media, to visit farms in NSW to see how metering operates. NSWIC also encourages the consultants to meet with NRAR to discuss their roles and responsibilities.

“Some irrigators appear to prioritise short-term profit at the expense of compliance with the law.”

This contention is biased and unfounded at best. As mentioned previously, there are over 1,200 water users in NSW and the rate of non-compliance is very low. Without the inclusion of context and actual facts, this statement is defamatory against an entire industry. NSWIC recommend deleting this section. All water users are required to comply with the law, and this is strictly monitored in NSW. The law is not optional, and certainly is not viewed this way by industry. Those who breach the law are dealt with very seriously and are viewed very critically by the sector.



		<p><i>“A predictable regulatory framework and secure property rights are generally seen as fundamental to a modern market economy. However, “regulatory capture” by the agricultural industry is arguably a risk to governance integrity in any industry or sector.”</i></p> <p>The NSWIC supports the importance of secure property rights as fundamental to a modern market economy. However, NSWIC strongly recommends deleting the statement about regulatory capture as this is not factually accurate or supported by evidence. All water licenses are treated equally, whether that be environmental or agricultural. Furthermore, claiming regulatory capture by the agricultural sector is not aligned with the way water allocations are determined in the MDB. Water in the MDB has a strict order of prioritisation so that the agricultural sector only get to access water once the needs of towns, stock and domestic use and the environment are met. The agricultural sector is last in line to receive water, and thus, farmers usually only receive a percentage of their licence (an allocation) if there is not enough water available in the system. Given the current management of water resources in the MDB has legal foundations in environmental mechanisms in order to gain federal jurisdiction from the Constitution and is premised on transferring water from agriculture to the environment, the claim of “regulatory capture” is not substantiated, nor understood by industry. NSWIC believes this statement is founded on assumptions of irrigation farmers, which are not informed.</p> <p><i>[Recommendation] “Ideally, a truly independent or nongovernment entity should be established to ensure compliance in water management is occurring throughout Australia”.</i></p> <p>NSWIC strongly disagree with this position, and believe compliance is a role for government. There is a role for independent audits but shifting all compliance work outside of government would show a lack of control and authority. The equivalent would be having nongovernment police officers enforcing speed limits or investigating assault or murder.</p> <p><i>[Recommendation]: “Philanthropic organisations could play an important role here in two ways. First, by facilitating a regular independent review of the effectiveness of the Murray-Darling compliance compact; and second, by facilitating a similar independent review of the effectiveness of the compliance and enforcement of water management in the other jurisdictions outside the Murray-Darling Basin.”</i></p> <p>There is already scope for reviews of the Murray-Darling Basin Plan. The Productivity Commission recently completed the first 5-year evaluation of the Plan. While NSWIC fully supports a review process that welcomes independent input, we do not believe it is appropriate for this section to be included as a role for philanthropic organisations.</p>
ECONOMICS		
Introduction		<i>“Some reforms have transferred substantial benefits to small subsectors of the community, for example the irrigation community.”</i>



	<p>The NSWIC does not see it as appropriate or accurate for the irrigation community to be singled-out as a beneficiary to unspecified reforms. In the interest of fact-based information, the NSWIC requests this reference is deleted. The Productivity Commission (2019) found that “The size and speed of water purchases has had negative socioeconomic impacts on some regional communities” (Finding 3.3). Further, as previously mentioned, most irrigation farmers feel reforms focused on recovering water from agriculture to the environment, have not been to the benefit of irrigation farmers. NSWIC does not believe, and rejects, that irrigation communities have received substantial benefits from reforms. NSWIC is willing to meet with the consultants to provide further information on this.</p> <p><i>“In addition, water trading likely ameliorated some of the worst impacts of the Millennium drought on both irrigators and the environment.”</i> This requires further explanation.</p> <p><i>“However, it is far from clear whether Australia’s water reforms, despite their global acclaim, have prepared the nation to cost-effectively and fairly manage the risks it faces from the next long drought, climate change and population growth.”</i> The purpose of many water reforms is not to drought-proof Australia. In fact, many would argue that this is not possible. It should be noted that under the Risk Assignment Framework (Schedule 3A of the Water Act 2007), water users carry the burden of risks associated with reduced availability of water. This positions water users (such as farmers) who are already at the frontline of climate change and thus most vulnerable to the impacts, to carry the risks.</p> <p><i>“...government responses to the conflicts over the reallocation of water to the environment in the Basin provide an excellent example of how not to make water policy.”</i> NSWIC advises that these papers are not made political. Claims of bad policy must be substantiated and detailed. As mentioned earlier in the paper, the policies for water management in Australia are highly regarded globally, as well as Australia’s expertise in water management. Water management will necessarily be complex, and an on-going process. NSWIC feels that further fueling public anger in current water policy is not constructive and may result in policy instability which is incredibly damaging for farmers and rural communities who require certainty. If there are particular issues with current policy, these should be specifically highlighted, rather than unsubstantiated claims. NSWIC agrees that there is certainly room for improvements in current policy, but broad claims are not the way to progress these issues.</p> <p><i>“Whether relating to decisions on infrastructure expenditure or market design, it appears that a</i></p>
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		<p><i>strong influence on decision-making in the Basin has been “political alliances and attitudes associated with the earlier dominance of irrigation in Australia” rather than the economic and environmental accountability promoted by the NWI.”</i></p> <p>As aforementioned, the strong influence of all interest groups should be acknowledged, and irrigation farming should not be singled out. The “earlier dominance of irrigation in Australia” has led to the growth of many communities which rely on water for their agricultural production, and thus livelihoods and income. The importance of water access to these communities is an important consideration in the triple-bottom-line objectives of water management, and thus should be considered this way, rather than the simplified claims of “interest groups”. Furthermore, the separation of land and water and the development of the water market was highly influenced by economists promoting market forces to direct water to “highest value use” regardless of location (distance from dams and higher conveyance losses) or crop type (higher value uses tend to be luxury rather than staple commodities).</p>
<p>1. Government funding of water infrastructure has usually not been justified on legitimate public good grounds, but instead driven by political expediency</p>		<p><i>“Some government investments in new and refurbished water infrastructure continue to benefit specific geographical and industry constituencies, while costs are socialised.”</i></p> <p>Clarity is required as to what infrastructure is being referred to. In NSW water users pay for the management and maintenance of public water infrastructure while on-farm infrastructure programs have been undertaken in exchange for a volume of water. NSWIC encourages the consultants to refer to the IPART cost shares for rural water for further information.</p>
<p>1.a. Governments preferred irrigation infrastructure subsidies to water entitlement purchases even though they were the more expensive option with less certainty they would deliver stated policy outcomes</p>		<p><i>“economists had already warned that subsidising irrigation infrastructure was unlikely to be a cost-effective mechanism for recovering water for the environment and was likely to generate more private than public benefits”.</i></p> <p>NSWIC disagree that water recovery has private benefits to irrigation farmers. This should be corrected. The reason why subsidising irrigation infrastructure was adopted was to minimize the impacts of water recovery on rural communities, by finding ways to use less water at the same time as maintaining production thereby protecting the flow-on jobs created by irrigated production. It is correct that this is a more costly option in the short-term, but the opportunity costs of the loss of production, jobs, and income for regional communities who face water buybacks must be considered in the cost-benefit analysis. Determining cost-effectiveness must look at various scales – the individual/farm level, regional level, industry scale, and macroeconomic.</p> <p><i>“Subsequent analysis confirmed earlier warnings and suggests that irrigation subsidies in the MDB have been at a minimum two-and-a-half times more expensive per megalitre, and in some cases more than six times more expensive, than water buybacks in obtaining water for the environment.”</i></p>



	<p>See above comment about the purpose of efficiency measures to be to reduce the impacts on rural communities, and thus the social cost/benefit must be considered alongside the economic cost/benefit. See: https://www.mdba.gov.au/basin-plan-roll-out/sustainable-diversion-limits/sdlam</p> <p><i>“Irrigation subsidies can also lead to “rebound effects” where improved irrigation efficiency increases long-term water requirements and dependency on water extractions and storage, changes cropping patterns (e.g. providing incentives to switch to perennial crops), and reduces environmental flows.”</i></p> <p>It is correct that improvements to water efficiency can change water use behaviors of users. This is dealt with by the market. It is incorrect, however, to then assume this reduces environmental flows. The entitlements recovered for the environment through these programs are then used to contribute to environmental flows over and above the rules-based environmental flows that are determined prior to the consumptive pool of water being determined. Water use behaviors within the consumptive pool of water do not impact the quantity of environmental flows.</p> <p>Regarding changing the cropping patterns – this may be true in some instances, however, the example of “providing incentives to switch to perennial crops” is misinformed. Farmers with perennial plants require secure access to water or they need to rely on the market. The creation of the market has met the expectations of ensuring water goes to “highest value” use dependent on water availability. Therefore, in times of scarce water supply, those with perennial plantings will pay more for the limited resource.</p>
<p>1.b. Irrigation upgrades and water entitlement buybacks had other, potentially conflicting, policy objectives, which were included without a strong evidence base</p>	<p><i>“there was no strong evidence base to show that reducing water available for irrigation and making more water available for the environment was a significant threat to the “long-term sustainable future” of irrigation communities... Economic modelling and applied research has repeatedly shown that reducing water available for irrigation has not to date had a strong negative impact on agricultural production and associated employment.”</i></p> <p>This is incorrect. There is a great deal of data and information available to show the severe impacts reduced water availability for irrigated agriculture has had on production and employment. The recent Productivity Commission evaluation of the Basin Plan found that there have been negative social and economic impacts in some communities as a result of the Basin Plan. The Murray Darling Basin Authority’s social and economic evaluation has found that the Basin Plan has had an impact on regional jobs since its implementation.</p> <p><i>“There is strong evidence that the creation of proprietary water entitlements within well-functioning water markets, in and of itself, provided substantial economic benefits to irrigators.”</i></p> <p>While NSWIC supports the fundamental property right that has been created, and the establishment of water markets, the fact remains that since its establishment, the continued transfer of water from that market to environmental accounts is having a negative impact on the market.</p>



<p>1.c. Commonwealth policy and expenditure did not acknowledge that the creation of secure, tradeable water access entitlements [49]—a precondition for an efficient water market in the MDB—already represented a significant wealth transfer to farmers irrespective of further infrastructure subsidies or buybacks.</p>	<p><i>“The creation of tradeable water entitlements as part of Australia’s water reform process has transferred considerable wealth from public to private hands.”</i></p> <p><i>NSWIC would submit that it has not transferred wealth from public to private hands. Rather it has established a fluidity to an already privately held product. Prior to the establishment of the water market, the entitlements were still privately held, they were just non-transferable (aside from sale of land). The separation of land and water then enabled the already private ownership to realise a value for the water product, however, it can be argued that there is an associated reduction in land value if the water is transferred and the landholding is then sold “dry”.</i></p> <p><i>“These benefits were “gifted” to farmers and irrigators in the MDB as part of the process of establishing effective water markets.”</i></p> <p><i>This is incorrect. This assumes entitlements were only established at the time of the establishment of the water market. This ignores the historic water access regime that pre-dates water markets by over a century in some cases.</i></p>
<p>1.d. Governments did not publicly consider the long-term implications of favouring irrigation infrastructure expenditure</p>	<p><i>“widely-held concerns that irrigation renewal would lock in agricultural practices and a geographic distribution of agricultural activity poorly suited to the Basin’s hydrological realities and maladapted to future climate changes.”</i></p> <p><i>“Instead of shifting agricultural practices in the Basin away from a brittle dependence on irrigation towards more resilient...”</i></p> <p>These broad statements are incorrect. The irrigation sector is continually developing and has made significant improvements in water use efficiency in recent decades. Allocations are made in response to the amount of water available in the system. In response, farmers choose what to produce (if anything) based on how much water they are allocated (based on how much is available). These generalized statements do not match the realities of farm operations and crop selection and do not improve the credibility of the documents.</p>
<p>1.e. Governments have not properly considered the costs of ongoing degradation of MDB river systems and the benefits of alternative expenditure on environmental restoration.</p>	<p><i>“Prioritisation of subsidies for irrigation renewal and a legislative cap on water buybacks has slowed the recovery of environmental water for the Basin.”</i></p> <p>Again, we argue that the infrastructure programs are not subsidies, they are water recovery programs. Further, none of the programs being implemented under the Basin Plan allow for “irrigation renewal”, rather they are for upgrades to existing irrigation businesses or areas to improve water use efficiency.</p>
<p>1.f. Governments have not prioritised simpler and cheaper improvements to water measurement and accounting systems to support proper water market functioning</p>	<p><i>“However, despite the expenditure of billions of dollars on irrigation infrastructure upgrades, this foundational requirement for efficient market functioning has not been fully implemented across the Basin. Notable accounts of water theft and governance failures were documented in NSW in an official inquiry after being brought to the nation’s attention by the media.”</i></p>



	<p>The mention of water theft and government failure here is not appropriate, given the significant action taken as a result of the rogue cases of water theft to address these issues. NSWIC agrees that further investment in technology to improve monitoring would be beneficial – but for the reasons of ensuring public confidence in the system, reducing the onus and time requirements from water users, and to collect data to inform best-practice management. This section must make clear that calls for improved technology to assist with monitoring are not because of incompetency, but for the aforementioned reasons.</p>
<p>Conclusion</p>	<p>“We do not know what the opportunity costs to Australians were “by way of other priority public expenditures that had to be foregone given governmental fiscal constraints” when such large public subsidies were provided to the irrigation sector in the MDB.”</p> <p>Public subsidies were not handed to the irrigation sector in the MDB as this paragraph says. The projects referred to, need to be presented within the broader policy objectives for the management of the Basin. The current presentation of information is misleading.</p> <p><i>“Whether much of the government investment in irrigation infrastructure in the MDB was compliant with the NWI is highly questionable. A major ongoing risk to the nation is the potential for the mistakes of politicised public investment for the benefit of a limited group at the expense of all Australians to be repeated if agricultural development of Northern Australia is pursued.”</i></p> <p>This requires context. NSWIC again disputes that claimed benefits of the (unspecified) public investment for an (unspecified) “limited group” we assume to be irrigation farmers. Within the context of the policy, these investments are to partially offset the damages to the industry and are certainly not a net benefit.</p>
<p>2. Government action is required to ensure water markets deliver the environmental outcomes required to protect and restore the freshwater ecosystems of the Murray-Darling Basin</p>	<p>This section should mention the uniqueness of water markets in Australia.</p> <p>There is a strong focus in this paper on developing irrigated agriculture in northern Australia. This should be fully explained, particularly given there is an implication of not supporting this development.</p> <p><i>“Successive Commonwealth and state governments have failed to ensure that the major design features of water markets operating in the Murray-Darling Basin will deliver on environmental objectives required by the Water Act 2007.”</i></p> <p>This requires further explanation and justification.</p>
<p>2.a. Markets work as they are designed and implemented. Poor government implementation of critical market features like the “cap” in “cap and trade” markets or monitoring and enforcement of market rules reduces markets’ ability to deliver desired outcomes.</p>	<p>“However, evidence suggests that water markets in the MDB have been subject to the influences described above” [which are for the market ‘losers’ to] “lobby governments to: (a) set the cap at a less stringent level; (b) provide industry subsidies; and/or (c) weaken market rules and monitoring and enforcement regimes. They can also attempt to capture market regulators and administrators.”</p> <p>Unless there are specific examples of market manipulations or weakening of rules, this comment risks undermining confidence in what is widely considered a world-leading market. NSWIC suggest the focus of</p>



		<p>the exercise should be on how the market can be used to benefit philanthropic participation to achieve ecological outcomes in concert with existing industries.</p> <p><i>“the Basin Plan appears to have set an ESLT and corresponding SDLs with the primary objective of keeping the perceived socioeconomic impacts of limiting water extractions for irrigation to a minimum.”</i> It is incorrect to say that this is the primary objective.</p> <p><i>“There is significant evidence that the MDB’s water markets will not assist in delivering the Water Act’s environmental objectives under their current settings, particularly in the context of climate change, because they do not yet limit extractions to an appropriate level.”</i> The market is not designed to limit extractions. The water allocation framework (in each State) will limit the extractions to the SDL. The market is then free to operate to allow water licence holders the freedom to purchase or sell the volume of water that is available under that ‘cap’.</p>
<p>2.b. Markets for ecosystem services can provide incentives to drive efficient achievement of other natural resource management outcomes essential for restoration and protection of Australia’s freshwater systems as well as linked marine and terrestrial ecosystems, but the quality of outcomes markets deliver depends on good design, management and enforcement</p>		
<p>2.c. Environmental NGOs play a vital role as trusted brokers and innovators within existing market structures. When they work within markets as water holders, their work is complementary and cannot replace the heavy-lifting required by governments</p>		
		<p><i>“Funding must be made available for independent, peer-reviewed environmental and socio-economic analyses. Socio-economic studies should not be used to compromise environmental outcomes—the proper role of such studies is to provide policy makers with an evidence base with which to design effective structural adjustment packages. The Murray–Darling Basin Ministerial Council’s December 2018 decision to apply socio-economic criteria to efficiency measures projects is likely to struggle to avoid this issue.”</i> NSWIC highlights that water reforms strive for triple-bottom-line objectives, and the focus on environmental objectives (whilst important) in this paper should not disregard the importance of social and economic objectives. That is not the policy intent. NSWIC disputes that the proper role for socio-economic</p>



		<p>studies is to provide policy makers with an evidence base with which to design effective <i>structural adjustment packages</i>. The role of socio-economic studies is to ensure that policies do not have detrimental socio-economic impacts, and to ensure policies are designed in a way that achieves objectives with minimal negative socio-economic impacts.</p>
<p>3. Regulatory, planning and investment frameworks for urban water constrain the full consideration of options, from stormwater reuse to scarcity pricing, necessary to provide our cities with a diversified and resilient portfolio of urban water services.</p>		



Conclusion

NSWIC welcomes the publication of this information. NSWIC requests that the assumptions within the papers, particularly the Economics paper, about irrigation farming are corrected to be fact-based, apolitical and avoid emotive language. NSWIC welcomes to meet with the consultants or philanthropic organisations to provide further information, or to assist in identifying opportunities where funding could benefit irrigation farmers and connected rural communities.

Kind regards,

NSW Irrigators' Council.