

Lifblood Alliance submission to Productivity Commission Inquiry into progress with the reform of Australia's water resources sector.

Lifblood Alliance (LBA) consists of environmental, First Nation and community groups committed to keeping the rivers, wetlands and aquifers of the Murray-Darling Basin healthy for the benefit of current and future generations.

Member groups and associated individuals of the Lifblood Alliance span the breadth of the Basin and beyond and include landowners, farmers, irrigators, commercial and recreational fishers, nature tourists, Local Government representatives, Traditional Owners, ecologists, townspeople and conservationists. This submission has been assembled with input from many of these groups and represents the views of a broad cross-section of society. As our interest is in the environmental health of rivers, wetlands and aquifers, we focus on the environmental aspects of the NWI.

Background

There are a number of ways the NWI suggest environmental concerns need to be considered including:

1. The NWI identifies water planning as a key mechanism to help Governments and communities make water management and allocation decisions to *balance productive, environmental and social objectives*.
2. The NWI commits States and Territories to water planning that provides a degree of certainty for all water users by providing both:
 - a. *secure ecological outcomes* — through describing environmental and other public benefit outcomes for water systems, and by defining appropriate water management arrangements to achieve those outcomes
 - b. *resource security outcomes* — through determining the consumptive pool and the rules for allocating that water between productive uses *and other purposes*.
3. In terms of securing ecological outcomes, out of the eleven items stated in paragraph 25 of the NWI, there are a five that are particularly relevant, including that the NWI:
 - a. provide *a statutory basis for environmental and other public benefit outcomes* in surface and groundwater systems to protect water sources and their dependent ecosystems;
 - b. be characterised by planning processes in which there is *adequate opportunity for productive, environmental and other public benefit considerations* to be identified and considered in an open and transparent way;
 - c. provide for adaptive management of surface and groundwater systems *in order to meet productive, environmental and other public benefit outcomes*;
 - d. reflect *regional differences in the variability of water supply* and the state of knowledge underpinning regional allocation decisions;

- e. identify and acknowledge *surface and groundwater systems of high conservation value, and manage these systems to protect and enhance those values;*

Since the NWI was agreed to, water planning arrangements have been established for the majority of areas of intensive water use across Australia. Many water resource plans are now being accredited by the MDBA- reflecting that there will be greater co-operation between states within one of the most important basins in Australia. This makes the Productivity Commission's inquiry into progress with the reform of Australia's water resources sector both welcome and timely.

Information request 1.

The Commission welcomes feedback on:

whether the signatories to the NWI are achieving the agreed objectives and outcomes of the agreement

which elements of the NWI have seen slow progress

whether there are cases where jurisdictions have moved away from the actions, outcomes and objectives of the NWI

any other data and information sources that might be useful for assessing progress

The NWI was a ground-breaking and visionary agreement, and laid the framework for significant water reform, particularly the provision of secure entitlements and the development of the water market. However other elements of the initiative have not been as successful and every single assessment by the National Water Commission and the Productivity Commission has raised significant concerns.

The reason given by the Abbot government for the abolition of the National Water Commission in 2014:

'given the substantial progress already made in water reform and the current fiscal environment, there is no longer adequate justification for a stand-alone agency to monitor Australia's progress on water reform.'

has not stood the test of time. There is a major need for an independent body to oversee progress on water reform, compliance with agreed plans and the development of policy to address new challenges. We would like to see the National Water Commission reinstated and strengthened.

Areas of the NWI where the Lifeblood Alliance considers progress to have been slow include Objectives (iii), (iv),(vii), (ix) and (x).

Statutory provision for environmental outcomes (objective iii)

Despite years of effort by governments, communities and individuals, the environmental condition of our rivers, wetlands, floodplains and estuaries continues to decline. The core issue is connectivity, both longitudinal and latitudinal – to maintain their ecological functioning, rivers need to be connected from source to sea and to their floodplains, which are the larders of the system. The tendency to envisage rivers as a series of individual sites rather than as a connected whole, as envisaged by First Nations, is at the heart of many of the issues raised in this submission.

Professor Richard Kingsford describes the predicament as it applies to our internationally significant Ramsar sites:

*'This comes to really the core of the issue for these Ramsar sites: we tend to think in terms of national parks around terrestrial vegetation, and yet the key currency, which is water, is not necessarily protected. That originates often outside the boundaries of that Ramsar site. So it is: how do you equate protection at a catchment scale for a Ramsar site as opposed to a patch on the landscape that you draw a fence around or a boundary around and say, 'That's a Ramsar site'? That takes you down the path of the many and complex issues in terms of: how big is this issue in terms of scale up into the catchment, out to sea, and what are the things that are occurring on this site that are impacting on that site? Freshwater systems are generally poorly protected compared to terrestrial systems for that reason.'*¹

The Lifeblood Alliance seeks statutory provision for connectivity in our river systems. This means protection of first flushes, shepherding of planned and held environmental water to protect is from re-extraction, removal of constraints to the delivery of water to floodplains and a change of mindset away from icon sites to whole of river management. These issues are explored further in subsequent sections of this submission.

Over allocation (objective iv)

Over-allocation has not been fully addressed in any jurisdiction, including in the Murray-Darling Basin where statutory water recovery targets set through the Basin Plan have not been met by the due date of 30 June 2019. Some Basin states, particularly NSW and Victoria, are opposed to any further water recovery in their jurisdictions.² They have made the recovery of the additional 450 GL funded through the WESA account almost impossible by setting unachievable social and economic conditions on water recovery projects³. They are also driving the existing water recovery target down by implementing 'supply' projects that do not meet the criteria set out in the Water Act 2007 and the Basin Plan.⁴ These actions signify a move away from the objectives and outcomes of the NWI.

Floodplain harvesting in Queensland and northern NSW compounds the issue of over-allocation. In the past the water intercepted has not been measured and the take has not been licensed. The accurate measurement of overland flow water take in Queensland is underway and this will allow for improved monitoring and compliance standards.

NSW are currently implementing a floodplain harvesting licencing policy without first assessing the cumulative impact the practice has had on downstream environments and communities over the last several decades. This assessment is a key requirement before any licencing regime is contemplated. The assumption that floodplain harvesting can simply be transferred from the category of 'losses' to 'licences' is fatally flawed.

During floods in February 2020 it is estimated that 40% of Darling flows were intercepted by floodplain harvesting after the NSW government lifted an embargo on pumping from the first flush⁵.

¹ https://www.parliament.vic.gov.au/images/stories/committees/paec/Inquiry_into_Auditor-Generals_report_No._202_Meeting_Obligations_to_Protect_Ramsar_Wetlands_2016/Transcripts/2_Dec_-_Richard_Kingsford_Verified_Transcript.pdf

² <https://www.nsw.gov.au/media-releases/nsw-sets-out-demands-for-murray-darling-basin-plans>

³ <https://www.bendigoadvertiser.com.au/story/6799777/minco-win-and-defeat-for-vics/>

⁴ Wentworth Group of Concerned Scientists (2018) *Murray-Darling Basin Plan: Requirements for SDL adjustment projects*

⁵ Barrier Daily Truth 12/8/20 *Report reveals northern impact by Craig Brealey*

Over the past 20 years, annual average flows at Wilcannia have declined by 62%, from 6500 GL to 2500 GL.⁶

Water accounting (objective vii)

Water accounting is another vexed issue. The Interim Inspector General recently said that with respect to the Murray-Darling:

*'We don't know the total availability of water and we don't know the total availability of allocation in entitlements, so it's very difficult to reconcile how much water there is, who's entitled to take it and what they've taken.'*⁷

Accounting is fragmented, inconsistent and lacks independent review. The Lifeblood Alliance is so concerned that we have submitted a proposal to the Commonwealth government for an independent, basin-wide audit of diversions (attached). By failing to provide an agreed accounting framework that includes all forms of take (including interception activities and floodplain harvesting) and is consistent across jurisdictions, basin states have again moved away from NWI objectives and outcomes.

Accounting and water planning (objective ii) are both hindered by the complexity of the entitlement framework. There are many different types of water entitlements (more than 150 classes of water entitlement across the Basin) and this is interfering with both the development and implementation of the Basin Plan (i.e. the diversity of licences is an interjurisdictional matter requiring co-operation), and with significant water infrastructure works in states such as NSW (i.e. the diversity of licences is also impeding progress within a jurisdiction). NSW has numerous infrastructure projects where multiple environmental, economic, and social benefits that could be realised- but the diversity of licence holders remains an impediment.

Historically, the NSW government offered water licences to encourage regional development in the MDB. As there was not enough water to supply all of these licences at the same time, the majority (1600 GL) were issued as 'general security', with full annual allocations only possible in wetter than average years. Only 12.5% of licences are high security (200 GL) and guaranteed full allocation except under the most extreme circumstances.

The result of this policy has been that holders of general security licences have had zero allocations in the last three water years due to drought conditions, while water flows past their pumps to holders of higher security licences both in NSW and downstream.

⁶ Slattery, M, Johnson, B & Campbell, R. (2019). 'Owing down the river: Mortgaging the future flows of the Barwon-Darling/Barka River.' Export Control Amendment (Banning Cotton Exports to Ensure Water Security) Bill 2019. Submission 107 – Attachment 1. The Australia Institute: Canberra. <https://www.aph.gov.au/DocumentStore.ashx?id=de5957c8-26ea-4c16-8c9d-7b9425bd9f0f&subId=667890>

⁷ Public hearing, 12/5/20, Senate Select Committee on the multi-jurisdictional management and execution of the Murray-Darling Basin Plan

The recommendation in the Inspector-General's report⁸ to increase 'water literacy' acknowledges the confusion around how water is shared, particularly the unjustified expectations of holders of general security licences on how frequently they will have access to full allocations. The report notes that Victoria and South Australia manage their water resources much more conservatively than NSW, releasing less water in wet times in order to conserve more water for dry times. This difference in policy exacerbates the perceived disadvantage to general security licence holders, with water available to higher security licence holders when they have none.

Future adjustment issues (objective ix)

The socio-economic issues associated with water recovery have been independently reviewed through a large number of studies and reports, most recently by the Independent Socio-economic Assessment Panel.⁹

Lifblood Alliance strongly recommends that regional communities are supported through funding assistance to diversify economic opportunities and improve services. A targeted approach is needed to assist those communities most impacted by the recovery of water to revive our rivers.

Buying back water through a voluntary open tender process is the cheapest, most efficient and most transparent way to recover water for the environment under the Basin Plan. The public money saved by using this approach can then be invested in the communities where water access has been reduced.

A report commissioned by the Independent Socio-Economic Assessment Panel shows that buybacks result in economic stimulus. Buybacks may reduce farm output in the Basin by a small percentage, but the proceeds are beneficial to Basin regions.

'Buybacks remain the most efficient way of procuring water for the environment, yet have been blamed by many for damaging local economies. This is despite the willingness of farmers to participate in the buyback program and sell water to the Government'.

'It would appear that buybacks have fallen out of favour due to a misdiagnosis of the causes of adversity in the Basin'.¹⁰

The Independent Panel found that 'Each dollar spent on health, education and community care services creates four times as many jobs within the Basin as infrastructure upgrades spending' and that previous taxpayer funding of \$100 million has been poorly targeted and ineffective in supporting regional communities.¹¹ Investment priority should be given to irrigation communities that have had more water recovered through open tender buybacks to assist in their adjustment.

⁸ Interim Inspector General of the Murray Darling Basin Water Resources (2020) *Impact of lower flows on state shares under the Murray-Darling Basin Agreement*

⁹ Independent Panel report (April 2020): *Independent assessment of social and economic conditions in the Basin | A draft report*

¹⁰ Wittwer, G. March 2020. *Modelling variants of the Murray-Darling Basin Plan in the context of adverse conditions in the Basin*

¹¹ Independent Panel draft report op cit

Recognition of connection between surface water and ground water (objective x)

It is very difficult to assess how much progress has been made in this area. For example, rules for surface water and ground water extraction may have been included in the same water resource plan but that does not mean that their degree of interconnection has been recognised or managed.

According to the MDBA 'There are 33 WRP areas in total, 19 for surface water, 19 for groundwater and five that cover both'.¹² There is no explanation in the Basin Plan as to why groundwater and surface water are treated separately in some areas and together in others and the states have added to the confusion by submitting 11 surface water WRPs, 12 groundwater plans and 9 that cover both.

Further, the MDBA has been very concerned about some of the WRPs even when recommending them to the Water Minister for accreditation. For example the Chief Executive had this to say about the Northern Victoria WRP, which covers both ground and surface water:

'...we have been disappointed with the process and approach that the Victorian Government has taken to produce this plan.

*'The documents presented to you for accreditation are more cumbersome than they need to be and Victoria's determination to rely heavily on references to its own water management framework and documents rather than expressing commitments in the language of the Basin Plan have resulted in WRP text that is minimalist in its expression of commitments. The Authority's concerns about this have been raised on numerous occasions with Victorian officials, including at the most senior levels, but this has not resulted in significant improvements to the form in which Victoria's proposed WRP is expressed. While we judge that this latest amended version of the proposed WRP meets the minimum legal standard required, its format makes it difficult for readers to gain a clear sense of what has been committed.'*¹³

And further

'The Authority is concerned that Victoria has not identified any Priority Environmental Assets in the unregulated systems, or that may be entirely groundwater dependent, as Victoria has determined that there is no environmental water in these areas and expects to see this considered through the review of Victoria's Long-Term Watering Plans'.¹⁴

These points illustrate both the opacity of water planning in general and the lack of clarity about how the resource is being managed. This is against NWI principles of transparent planning and demonstrates again how states are moving away from the agreed Initiative.

Other examples of how jurisdictions are not complying with NWI principles and objectives are given throughout this submission, particularly with respect to climate change and construction of new infrastructure.

Comment on community partnerships, and adjustment, and knowledge and capacity building

As the Issues paper states: allocating and sharing water to balance economic, social and environmental outcomes — now and into the future — is a highly contestable process. In 2017 the

¹² MDBA (June 2020) *Water Resource Plans- June 2020 Quarterly Report*

¹³ MDBA's letter to the Minister for Resources, Water and Northern Australia

<https://www.mdba.gov.au/publications/mdba-reports/northern-victoria-water-resource-plan>

¹⁴ *ibid*

Commission found that jurisdictions had delivered improved decision-making through open and timely consultation with stakeholders on water planning, and had taken steps to document water plan outcomes, including whether plan objectives have been achieved. However this does not seem to be the current situation with the recent submission of NSW water resource plans to the MDBA.

Specifically, twenty water resource plans have been developed in NSW following two years of public consultation and discussion with stakeholder advisory panels. However before submission to the MDBA some were withheld by the Minister to provide for selective stakeholder consultation.¹⁵ This has allowed the definition of PEW (Planned environmental water) in several of the plans to be narrowed and become inconsistent with NSW's long term environmental water plans.

This means that while processes of community consultation are embedded in water management, additional political pressure has allowed some stakeholder groups to have additional windows of opportunity that were not available to all. It seems that the issues of special access raised in the Four Corners documentary 'Pumped'¹⁶ in 2017 have not yet been fully resolved.

Comment on water trading

Studies suggest water trading has led to increased agricultural productivity. However the current ACCC review is now showing that there is a lack of transparency and full market information in the trading of water, despite it being a basic economic requirement for an effective market to operate.

What is required and is achievable is better communication through improved transparency and explanation of the water market. It is becoming clear that trading is having a number of social and environmental impacts. That is, while a trade might be 'right' in dollar terms, is it the right thing to do? Trade between the Goulburn and Murrumbidgee is an example where trade is entrenching water allocations to long term intensive agricultural enterprise at the expense of rural communities in regional Victoria and NSW. Moreover, doubts have been raised about the ability to meet these water commitments in the longer term and the damage inflicted on rivers by them.

Information request 2

Is the NWI adequate to help Governments address the identified challenges?

Are there any other current or emerging water management challenges where the NWI could be strengthened?

The Issues paper states that

- "the impacts of widespread drought have highlighted challenges in the areas of: water resource scarcity and security, environmental water management, Indigenous water use, and the quality and affordability of urban water services"
- "Extreme unanticipated bushfires in late 2019 and early 2020, as well as the ongoing COVID-19 pandemic, have placed additional pressures on communities and Governments, potentially providing insights into further areas of vulnerability in Australia's water sector"

Unfortunately events such as protracted drought, flooding and bushfire are no longer unanticipated. Climate change scientists have long warned of likelihood of increase in such events with disruption

¹⁵ <https://www.smh.com.au/environment/sustainability/irrigators-pushed-for-nsw-primacy-over-basin-plan-more-water-access-20200802-p55hqe.html>

¹⁶ <https://www.abc.net.au/4corners/pumped/8727826>

of weather patterns as global warming increases. They have to be incorporated into planning scenarios and areas of vulnerability acknowledged and mitigated.

These types of weather events are increasing pressure on a range of wildlife populations and ecosystems, particularly in the Murray-Darling Basin. Specific recent examples include:

- The Menindee fish kills¹⁷ observed decline in migratory bird species.¹⁸
- Macquarie perch populations in NSW.¹⁹
- platypus populations more generally.²⁰
- Deteriorating condition of internationally recognised wetlands, for example the Macquarie Marshes.²¹

The Macquarie Marshes example shows that the NWI and its various outputs (e.g. water sharing plans) are not capable of adequately considering how to manage important public assets (and in this case important international obligations) when faced with a drier and more variable climate.

Through the approval process for the proposed Macquarie River re-regulating structure, the NSW Government now has the challenge of showing how their legal obligation to protect the Ramsar listed wetlands can be met while withholding an additional annual average of 26,300 Megalitres, or 6% of flows from the Macquarie Marshes.

¹⁷ <https://www.abc.net.au/news/science/2019-01-16/what-caused-menindee-fish-kill-drought-water-mismanagement/10716080>; Independent Panel report <https://www.mdba.gov.au/publications/mdba-reports/response-fish-deaths-lower-darling>

¹⁸ <https://www.smh.com.au/environment/conservation/water-bird-numbers-reveal-long-term-decline-of-menindee-lakes-health-20190121-p50snu.html>

¹⁹ <https://www.theguardian.com/environment/2020/feb/15/last-population-macquarie-perch-nsw-river-carnage-bushfire-ash-fish-species>

²⁰ <https://www.sbs.com.au/news/extreme-drought-pushing-platypus-population-to-brink-of-extinction>

²¹ <https://www.abc.net.au/news/2019-10-28/macquarie-marshes-on-fire-90pc-reed-bed-razed/11645914>

Information request 3

The Commission welcomes feedback on the matters that should be considered for inclusion in a renewed NWI.

The implementation of the NWI should be characterised by planning processes in which productive, environmental and other public benefit considerations can be identified and considered in an open and transparent way. There are two key aspects that require further work:

Agility and adaptivity: It is clear that the climate is changing. As a result Australia faces significant environmental and economic impacts from climate change across a number of sectors. There has been significant drying across southern Australia, especially across the cool April-October growing season. The recent decrease in rainfall across southern Australia, at an agriculturally and hydrologically important time of the year, is associated with a trend towards high atmospheric pressure (high mean sea level pressure) in the region.

While the NWI module on climate change advocates using a risk management approach as a useful framework for climate change decision making, agility is hampered by water planning's need to give 'certainty' to entitlement over the plan's implementation period. Adaptivity is hampered by failing to spell out as part of the planning process the conditions that may lead to temporary intervention in the operation of a water sharing plan (e.g. protecting first flushes).

Non-consumptive water use: Much of the socio-economic analysis that occurs is largely about consumptive use rather than non-consumptive use of water- the inclusion of considerations for both types of use should be specified. We value water for a range of opportunities beyond that of simply farming versus environment. In particular, considerations of the values of passive recreation opportunities ranging from fishing, boating, tourism and scenic amenity in the Southern Basin remain poor.

Estimates on these valuable uses are often not based on the best available science, or any recent socio-economic analysis. The kind of analysis carried out by Deloitte Access Economics, which estimated recreational fishing in the MDB as generating \$914 million in expenditure and commercial fishing at \$8.1 million in revenue,²² is a rarity and demonstrates the many areas of uncertainty in making these kinds of estimates.

Information request 4

How effective are water plans at managing extreme events such as severe drought?

Are NWI principles being applied at these times?

What steps have been undertaken — or should be undertaken — to plan for long term changes in climate?

²² Deloitte Access Economics / MDBA report *Benefits of the Basin Plan for the fishing industries in the Murray-Darling Basin*. 9 July 2012

What lessons have recent extreme events (bushfires and COVID-19) provided for planning?

1. Managing extreme events – ecological impacts

The Commission states in its issues paper that water planning and management frameworks should be designed to be flexible enough to incorporate rules for extreme events. Suspending water plans is only appropriate in the most extreme circumstances because it creates large disruptions and uncertainty for water users and generally impacts significantly on the environment.

However it is critically important that the NWI makes it clear that maintaining connectivity within and between water sources must be a priority in planning to ensure water sources and their dependent ecosystems are protected. The importance of such connectivity has been identified in various reviews including by the Natural Resources Commission (NRC)²³ that identified weaknesses in WSP priorities to protect water sources and dependent ecosystems and by emerging science. For example the recent Living Planet index on migratory freshwater fish²⁴ highlights the importance of managing rivers to maintain the health of:

- (i) core areas that naturally provide locations where vulnerable freshwater fishes populations can hunker down when times are tough; and
- ii) swimways that need to be managed over the fish population entire migration range- so these populations can disperse and respond when environmental conditions come back to 'normal'.

The Menindee fish kill was an example where a core area in a time of stress was impacted by an extreme weather event (cold snap). The extinction of Macquarie Perch in NSW is another example where a core area was impacted by an extreme environmental event (bushfires).

The NSW Government Extreme Events Policy is limited to broad principles for managing water during a water shortage, extreme drought or water quality event and applies a series of stages for applying increasing restrictions during water shortages. The Policy allows the Minister or delegate to make temporary water restriction orders under section 324 of the Water Management Act as a tool to manage water in an extreme event. However it is important for water planning to become more agile, for example, allowing for temporary water restrictions to manage first flush events on a proactive basis (that is, prior to specific forecasts of rain). This is particularly important given drought conditions are predicted to be more regular occurrences as the impacts of a changing climate continue. There is a need to support 'break out events' for nature like first flushes events into the regulatory and policy framework as part of the ongoing management of drought.

Decision rules and trigger points should be designed to ensure that, in times of extreme water scarcity, critical human and environmental needs are met and the basic requirements of other economic, social, and environmental uses are considered. There needs to be some specification into the conditions that would lead up to such triggers occurring so that vulnerable biological communities can disperse and re-populate areas following the extreme event.

Noting the above the Issues paper also mentions that: "At times, there are also opportunities for environmental water holders - whilst achieving their environmental objectives - to also deliver

²³ <https://apo.org.au/organisation/131841>

²⁴ https://worldfishmigrationfoundation.com/wp-content/uploads/2020/07/LPI_report_2020.pdf

...shared benefits". The encouragement of recreational fishing during times when fish populations are vulnerable would be of concern.

2. Managing extreme events – impacts of drought on town water supply

The rivers of the Murray Darling Basin have been supporting life for the oldest living cultures on the planet for tens of thousands of years. However in recent years, voices of First Nations communities have been overlooked when decisions about water are being made. During the recent drought in NSW, communities like Walgett and Wilcannia were the first to feel serious shortages of water, having to rely on bottled water, reverse osmosis, trucked in water supplies and salty bore water.

In December 2019 the NSW Government was mobilising a 'war effort' for 90 drought stricken towns in NSW. Although the NSW Government had some sort of a plan for every community, evacuations were on the table as a worst case scenario option.

Towns like Dubbo, Orange, Bathurst, Armidale and Tamworth are too big to have water trucked in. For example, Tamworth would require a B-double load of water unloading every six minutes, twenty four hours a day, seven days a week. This undertaking would not be possible, nor would the water have been available to truck in.

The scale of work undertaken to ensure the majority of citizens remained in place was immense. Infrastructure was built in many places, including bores, pipelines, reverse osmosis and augmentations of existing network. Small centres were reusing existing effluent at unprecedented levels. Some were carting in water.

The Macquarie River stopped at Warren, as did Gunningbar Creek, leaving critical environment needs, critical human needs and stock and domestic needs unable to be met by the river. Plans to pump the 'dead water storage' area of Burrendong dam were well advanced, with pumps purchased and ready to be installed. Unanswered questions about the possibility of contaminants in the water from historic gold mining in the catchment had the community concerned.

The Peel River stopped at Dungowan with a weir constructed so water could be captured and piped to Tamworth, at a cost of around \$38 million. Authorities were working with Tamworth Council to put in water treatment for effluent to supply stock and high security users such as poultry operations.

The complex task of keeping towns and communities in NSW with water came at a very high cost, reportedly over \$200 million.²⁵ That figure does not include \$500 million understood to have been invested in piping water to Broken Hill in a project completed just two weeks before the town's water would disappear completely.

ECONOMICS

The risk to town water security in the Basin is the largest threat facing communities.

In major regional centres in NSW, secondary and tertiary industries are the most significant economic drivers.

²⁵ <https://www.thefifthstate.com.au/articles/mobilising-the-water-effort-for-90-drought-stricken-towns/>

The annual economic activity of the Dubbo local government area in NSW is over \$7 billion.²⁶ Of the 23,000 jobs in the LGA, most are in Health Care and Social Assistance, followed by Retail Trade then Education and Training. The top three employing industries in Tamworth in 2017 were Retail Trade, Health Care, followed by Manufacturing.²⁷

Relative to irrigation, towns use a very small percentage of water released from major storages. For example, in the two years to June 2019, Dubbo region used less than 16 Gigalitres (GL – one billion litres) from Burrendong dam releases, environmental water managers ordered 261 GL, while irrigation orders were 450 GL for the same period.

Healthy rivers, riparian zones, floodplains, wetlands and aquifers provide clean, filtered, reliable water supplies. The costs to local governments of filtering and treating town water supplies that are heavy with sediment, algae - or worse, contaminants – can be extremely high.

GROUNDWATER

Increasing dependence on groundwater during drought is not a long-term sustainable solution for critical human needs and town water supply.

When towns develop over groundwater recharge areas, the risks of contamination of groundwater with various poisons and chemical run off is quite high.

During the height of the water crisis in 2019, Dubbo Regional Council recorded levels of perfluoroalkyl and polyfluoroalkyl substances (PFAS) in all operational bores in Dubbo. In six of the bores, the levels were above the Australian standards for drinking water and recreational water guidelines.

While the contamination with PFAS was thought to have happened about 50 years ago, the threat of further contamination is still significant. In April 2020 a developer who built a suburb on the top of a major groundwater recharge zone in Dubbo was issued a clean-up notice by the NSW Environmental Protection Agency after allegedly dumping a truck load of asbestos waste from a Sydney building site in the suburb on the groundwater recharge area.

While Dubbo's water remains safe to drink, the long term safety of the water source has been (and continues to be) threatened by sources of dangerous contamination.

DAMS NOT THE ANSWER

One response to the crippling drought in NSW has been a rush to approve new dam projects rather than to address water management rules.

NSW have announced \$245m will be spent on business cases for three dam projects:

- raising Wyangala Dam on the Lachlan River
- building the Dungowan Dam on the Peel River
- building a dam on the Mole River near Tenterfield.

²⁶ <https://www.dubbo.nsw.gov.au/ArticleDocuments/373/2019%20Dubbo%20Region%20Economic%20Profile.pdf.aspx?Embed=Y> page 15

²⁷ <http://www.destinationtamworth.com.au/Business/economic-development>

However evidence around the world continues to point to dams making water shortages more acute, not less.

There is also the issue of finding the water to put into these dams from the water market. During questioning in Senate Estimates, Phillip Glyde (Chief Executive of the Murray Darling Basin Authority) answered a question about how the diversion limits of the Basin Plan impact on the new dam projects *“The proponent of the dam that you're talking about would be the entity that would have to acquire that water from within the market. Where that would come from, given water trade and things like that, is almost impossible to tell.”*²⁸

In 2016 works to augment Chaffey Dam were completed, increasing the storage's capacity from 62,000ML to 100,000ML to help secure the water supply for the city of Tamworth and Peel Valley water users. Then NSW Minister for Natural Resources Lands and Water Kevin Humphries said the Chaffey project would increase the supply of reliable and affordable water to the region and help drought-proof the city into the future. However, Chaffey Dam reduced from full capacity in mid-2016 to 16 per cent following two years without rain, leaving Tamworth with no greater water security than before the augmentation.

The reason for this is because the rules in the Water Sharing Plan didn't change, and the extra stored water was allocated and used by general security customers.

RULES

Town water supply and critical human needs is the highest priority of both the Basin Plan and water sharing plans at the state level, and yet in reality we continue to see, especially in NSW, the application rules so that they favour extraction of water for industry.

In March 2019, The Australia Institute released figures that showed around 2,000 GL of water were used for cotton crops in the northern Murray Darling Basin in the previous year, while less than 11 GL made it downstream to Wilcannia where residents had no drinking water.²⁹

a) Floodplain harvesting

The diversion of huge volumes of water from the floodplains, called 'floodplain harvesting' has played a significant part in the drying out of communities along the Darling River over the last several decades.

The NSW Government is currently in the process of implementing policies and licencing for this form of take. However before the issue of tradable, compensable property rights in the form of new floodplain harvesting licences happens, the cumulative impact that decades of free, unmeasured take has had on antecedent conditions and water security for communities along the Bakaa/Darling must be assessed.

b) “Credit” rivers

The rules that manage water in each valley in the Northern Basin differ. The Macquarie Valley is treated as a "credit" river, with allocations based on historic records of rainfall and run-off into

²⁸ https://www.aph.gov.au/Parliamentary_Business/Hansard/Hansard_Display?bid=committees/estimate/6ec597c8-3fd7-443b-a0e3-1ba2db1bea1a/&sid=0000

²⁹ <https://www.tai.org.au/content/owing-down-river-0>

Burrendong dam. By contrast, the Gwydir is managed much more conservatively. Managers wait until flows had reached Copeton dam before allocating water to customers.

A paper published in the Journal of Hydrology³⁰ explains that human made water management decisions influenced regulated water allocations (explaining 23% to 52% of the variance) considerably more than unregulated water allocations (explaining 2%).

“More systematic approaches to justify water management rules and greater transparency in their influence on water allocations are critical for maximizing the benefits to water users and river health, and for managing risks to water supply in a variable and changing climate.”³¹

c) Drought of Record

While dams that supply some of the state's biggest towns were still hovering below 20 per cent capacity in June 2020, the NSW government was poised to sign off on a water allocation system that backdates the "drought of record" gauge used as far back as 2004.

Drought of record data is only based on data that was held by the water department in July 2004 in the case of the Murray and Lower Darling, Murrumbidgee, Gwydir, Lachlan, Macquarie and Cudgong and Upper and Lower Namoi regulated river systems. For the Border Rivers, the data is up to July 2009, for the Peel up to July 2010 and the Belubula up to 2012.

Recent NSW Water Ministers have staunchly supported the capping of drought of record figures to be used in allocation determinations, with current Minister Melinda Pavey stating in Parliament in November 2019:

“To include a rule that automatically requires the water supply system to adjust to new record drought would potentially result in significant quantities of water being locked away from productive use.”³²

Dubbo mayor Ben Shields has claimed the irrigation lobby unduly influenced water policy and that town supply was becoming a concern for the first time. Burrendong Dam dropped to 2 per cent capacity before recent rains pushed the level to 21 per cent. "These sort of droughts are only going to get worse and the lack of water is only going to get worse," Mr Shields said.³³

Annual water determinations, especially in NSW, need to be better managed so that storages hold sufficient water to provide for the most recent drought of record.

CONCLUSION

In 2016, all NSW dams were full. By the end of 2018 they were empty because all the water had been handed out to general security water customers, not stored for drought protection. The impacts on towns, downstream users and the environment have been severe.

³⁰ Celine M. M. Steinfeld, Ashish Sharma, Raj Mehrotra, Richard T. Kingsford (2020) *The human dimension of water availability: Influence of management rules on water supply for irrigated agriculture and the environment* <https://www.sciencedirect.com/science/article/abs/pii/S0022169420304698>

³¹ *Ibid* see preceding footnote

³² <https://www.parliament.nsw.gov.au/Hansard/Pages/HansardFull.aspx#/DateDisplay/HANSARD-1820781676-80754/HANSARD-1820781676-80801>

³³ <https://www.smh.com.au/national/nsw/latest-drought-data-not-used-in-new-water-plans-20200518-p54ty9.html>

The Lifeblood Alliance believes this will happen again with the proposed new dam projects if we don't change the Water Sharing Plans to reflect the scarcity of water in our drying climate. We don't need more, bigger dams. We need water sharing rules that provide water security for all during severe drought conditions.

3. Planning for climate change

Business-as-usual activities without effective interventions will result in a temperature rise of +3.2°C by 2050.³⁴ Current predictions are for a 30-50% reduction in run-off in the Murray-Darling Basin by 2050. Just a 1°C increase in temperature could mean up to 22% less run-off.³⁵ A 2°C rise could mean double that.

Step-change reductions in run-off have been experienced already in the catchments for water supply dams in Perth, Adelaide, Melbourne and Sydney. Perth has experienced a 66% decrease in run-off into dams in the Stirling Ranges since the mid-1970s.

For every 1% decrease in rainfall, there is a 3% decrease in run-off, so the Murray-Darling Basin and all of southern Australia will face very serious water shortages. Under current water sharing arrangements, the environment carries the major risk of the shortfall, not diverters.

It is critical that the water-sharing volumes be re-evaluated and the burden of reduced water availability be shared equally between diverters and the environment, according to NWI principles.

During the Millennium Drought, Australia experienced an unprecedented large cool season rainfall deficit.³⁶ Rainfall totals for the Murray-Darling Basin for 1997-2009 were the lowest on record. Run-off declined by up to 50% compared with the long term average and there was a greater than expected decline in stream flow, which has continued even after the official end of the drought. River Murray inflows to Hume Dam have reduced by 33% over the past 20 years and inflows from NSW tributaries had reduced by 66% over the same period. Median inflows to the Menindee Lakes have reduced by 80% over the last 20 years, with 8 of the driest 13 years in that period producing zero or close-to-zero flows.³⁷ This indicates severe future restrictions for Basin water availability which are not currently included in allocated volumes, nor were they modelled in development of the Basin Plan.

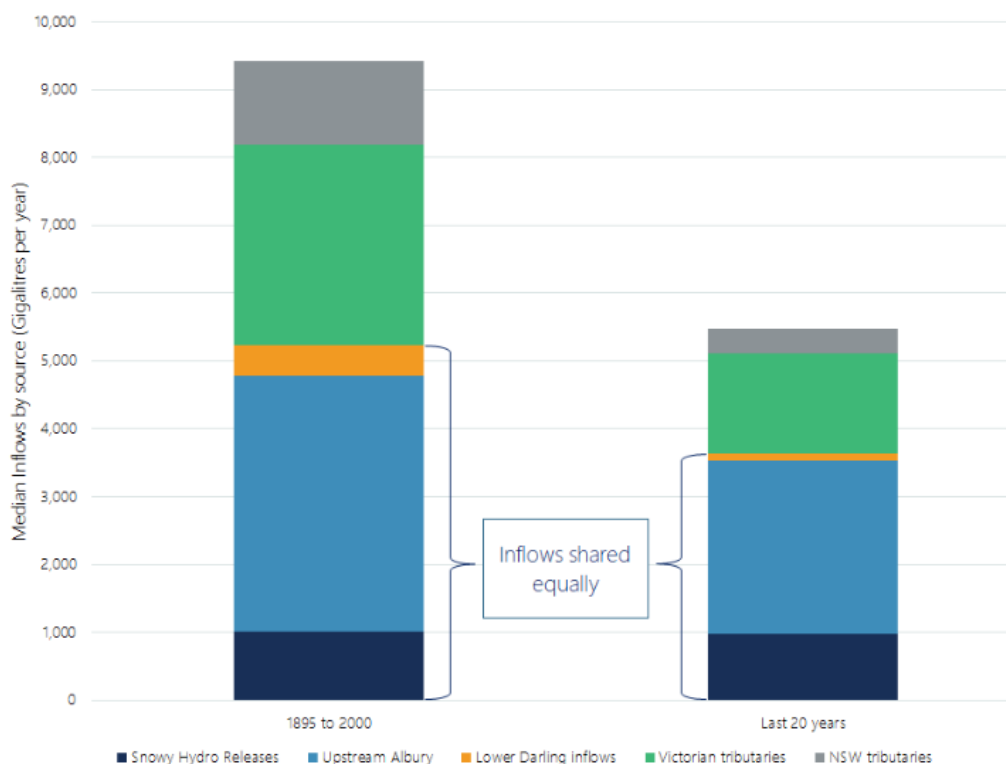
³⁴ Possingham, H (2019). *Innovative Conservation Science & Economics at The Nature Conservancy*. Prof Hugh Possingham, Chief Scientist, The Nature Conservancy. Seminar on 1 May 2019 hosted by the Environment Institute, University of Adelaide: Adelaide.

³⁵ CSIRO (2011). South Eastern Australian Climate Initiative (SEACI). Water for a Healthy Country Flagship. CSIRO Canberra

³⁶ Ibid

³⁷ Interim Inspector General of the Murray Darling Basin Water Resources (2020) *Impact of lower flows on state shares under the Murray-Darling Basin Agreement*

Figure 5 Change in River Murray system inflows relative to pre 2000



Source: Interim Inspector-General of Murray–Darling Basin Water Resources, based on data provided by the MDBA.

Tropical weather systems are expanding and pushing storm tracks further south, leading to reduced cool season rain across southern Australia, in the ‘filling’ season for Murray–Darling Basin dams.

Rapid and effective action on water recovery in over-allocated systems will be required to protect the health of rivers and floodplains and maintain ecological processes and the provision of ecosystem services. However much wider action is required to establish sustainable water management in a drier future, as outlined below.

Potential Solutions

The National Water Initiative needs to be set in the wider context of sustainable management of land, water and vegetation. The following inter-connected actions could support more effective management of water resources. More effective incentives and penalties are required to ensure effective and timely implementation of key policies.

Policy Changes

- Institute limits on water trading between valleys, require similar flow certainty and assess transmission losses and deliverability at destination site
- Support new national water research & policy centre³⁸
- Include minimum end-of-system flow requirements

³⁸ . http://myerfoundation.org.au/wp-content/uploads/2019/12/IPF-TMF-A-new-national-independent-water-and-catchment-centre-20191009_proposal.pdf

- Reinstate linked tranche payments as incentive to meeting deadlines for delivery under Basin Plan

Sustainable Natural Resource Management

- Adopt the Jeffery report recommendations³⁹ to re-hydrate Australia, store carbon and moisture in soils and support rainfall cycles
 - Increase soil moisture and restore declining rainfall
 - Reduce extreme dryness of soils and plants
 - Increase water entering soils and aquifers
 - Reduce carbon already in the atmosphere
- Undertake mass revegetation with native species – Australia is one of six hotspots worldwide which could help to remove 25% of the carbon already in the atmosphere⁴⁰
- Halt mass vegetation clearance in NSW and Queensland
- Start mass revegetation programs across marginal lands in all states and pay farmers for carbon credits
- Incorporate First Nation land management practices into NRM planning and establish collaborative management processes

Sustainable Allocation of Water Resources

- Accept that Australia has limited and unreliable water resources and allocate within those limitations
- Set realistic limits on water diversions, taking into account the predicted effect of climate change will reduce water availability by 30-50%
- Undertake urgent recovery of historic over-allocation of water entitlements and re-set diversion limits at much lower levels
- Stop floodplain harvesting
- Stop diversion of first flows and make longitudinal connectivity a statutory priority
- Reduce water demand to fit water availability and use water more efficiently
- Adapt crop choices to suit water availability
- Accept limitations in the capacity of river systems to deliver water when required by crops and set limits on water transfers accordingly
- Ensure that delivery capacity in river systems is reserved for essential environmental needs and critical human needs and is not compromised by agricultural water demand

Promote Sustainable Farming

- Promote regenerative farming to retain moisture in soils and water in creeks, with surface cover to reduce evaporation and prevent dust storms
- Create demonstration projects in every state⁴¹
- Change to crops and farming methods requiring less water
- Promote use of native plants for stock fodder, eg saltbush for sheep

³⁹ Jeffery, M (2017). *Restore the Soil: Prosper the Nation*. Report to the Prime Minister from the National Soil Advocate. http://www.soilsforlife.org.au/about/Policy_Paper_Soils_for_life_December_2017.pdf

⁴⁰ Bastin, JF, Finegold, Y, Garcia, C, Mollicone, D, Rezende, M, Routh, D, Zohner, CM & Crowther, TW (2019). 'The global tree restoration potential.' *Science* Vol 365, Issue 6448, pp 76-79.

⁴¹ For example [The Mulloon Institute for environment, farming and society](https://themullooninstitute.org/). <https://themullooninstitute.org/>

Information request 5

How could the NWI be amended to support best practice monitoring and compliance across jurisdictions?

Reinstating the National Water Commission would support best practice monitoring and compliance. Another option would be to act on previous PC recommendations to separate the river operation, Basin Plan implementation and compliance functions of the MDBA.⁴² The current situation where MDBA is responsible for both Plan implementation and compliance, in effect marking its own homework, is completely unsatisfactory. The creation of the Inspector-General position is a step in the right direction, but even this has not yet been ratified by the states nor Terms of Reference established. Jurisdictions must be subject to independent compliance assessment.

Information request 6

Are environmental outcomes specified clearly enough in water plans to guide management actions, monitoring and accountability?

Are institutional and administrative settings effective in supporting these outcomes?

Do environmental water managers have the necessary authority, resources and tools to achieve agreed outcomes?

Is environmental water management (including planning for use of held water, delivery of held water, use of markets and compliance with planned environmental water) sufficiently integrated with complementary natural resource planning and management frameworks?

Can environmental outcomes be more cost-effectively achieved with greater and more innovative use of water markets and market-like mechanisms?

Is the monitoring and assessment of environmental outcomes sufficient?

How effective has adaptive management and planning decision-making been during the recent drought?

Do environmental water managers maximise opportunities to achieve social or cultural outcomes alongside environmental watering? How could this be improved?

1. Water recovery efforts – using the water market

In terms of recovering water for environmental outcomes the NWI states that the measures adopted should be ‘primarily on the basis of cost-effectiveness, and with a view to managing socio-economic impacts’. In 2017, the Commission found water recovery approaches had not been undertaken primarily on the basis of cost-effectiveness.

⁴² Productivity Commission (2010) *Five year assessment of the Murray-Darling Basin Plan*

Buying back water through a voluntary open tender process is the cheapest, most efficient and most transparent way to recover water for the environment under the Basin Plan. The public money saved by using this approach can then be invested in the communities where water access has been reduced. The socio-economic issues associated with water recovery have been independently reviewed through a large number of studies and reports. For example, a report modelling variants of the Murray-Darling Basin Plan in the context of adverse conditions in the Basin found that buybacks would result in economic stimulus⁴³ Buybacks may reduce farm output in the Basin by a small percentage, but the proceeds are potentially beneficial to Basin regions.

Similarly Professor Sarah Wheeler's work on using water markets to acquire environmental water found "this approach distributes the costs of transition over a longer period and has the potential to generate several benefits, namely: incremental structural adjustment; increased flexibility; enhanced environmental flows; increased irrigator willingness to participate; and, in some circumstances, increased cost-efficiency".⁴⁴

2. Communicating the benefits

The ultimate objective of environmental water management is the health of environmental systems. In comparison to farming where water is used to produce a single type of agricultural commodity, water for environmental outcomes is much more complex. Given the total value of water involved, and the potential effects on the environment, the use of held environmental water is of interest to the community. It would seem communication between the environmental water holder, the 'umpire' (MDBA), and scientists involved in MER⁴⁵ about progress and outcomes is good, but the message is not necessarily getting through to the broader community. Communities are often interested in and appreciative of the outcomes of environmental watering in their local area but much less concerned about the river as a whole and the need to maintain connectivity to support the long term health of their local wetland. As noted by the Inspector General, water literacy is lacking in terms of environmental outcomes as well as allocation policy.

3. Maximising the benefits of environmental water

As stated above the use of environmental water is a complex and at times experimental process. A problem that exists across the Basin, particularly in the northern basin, is unmeasured take. It is acknowledged by the Independent Assurance Committee for Basin Plan compliance as a key risk to decision making. Flow targets to protect critical ecosystems and river health need to be managed, not just for the long-term averages, but for the extremes. This includes managing water extraction during critically low flows, protecting the resumption of flows and managing connectivity across the landscape. There are a couple of issues associated with unmeasured take which affects our ability to realise the benefits of applying environmental water. Specifically:

- Effective metering and measurement of water take is a prerequisite to ensuring compliance with entitlements and protections of rights to water.
- Until recently, floodplain harvesting (a form of unmeasured take) had been permitted to occur without the States approval. It is acknowledged, NSW and Queensland have been developing improved floodplain harvesting measurement. However consistent methods should be applied across the shared rivers of the northern Basin and states should be encouraged to achieve better alignment.

⁴³ Wittwer, G. March 2020. *Modelling variants of the Murray-Darling Basin Plan in the context of adverse conditions in the Basin*

⁴⁴ <https://www.sciencedirect.com/science/article/abs/pii/S0264837712000658>.

⁴⁵ <https://www.csu.edu.au/research/ilws/research/environmental-water/murrumbidgee-mer>

- In the Basin sustainable diversion limit (SDL) accounting and the SDL Adjustment Mechanism remain an issue. The suite of 36 planned supply measures require a rigorous reconciliation methodology.

The ability to fully audit all water in the Basin would enable more efficient use of environmental water. Efficient and effective management of water held for the environment is needed to realise optimal environmental outcomes.

4. Impediments to success

The NWI requires environmental water managers to have the necessary authority and resources to: i) provide water at the right times and places; and ii) be equipped to maximise environmental outcomes with the water available. In order to do this, environmental managers often need to negotiate with private land owners and water entitlement holders.

There are a few impediments, such as how states balance the need to supply water for different users when the entitlement holders are competing for use. For example when water for the environment is needed to be delivered at the same time as private landholders need water supplied. It may simply exceed channel capacity to deliver water to all needs. In other situations it may be desirable for the environmental water holder to 'piggyback' on the delivery of other water

There remains an opportunity to be innovative by using alternative approaches to managing water for the environment, such as greater and more innovative use of temporary water markets and market-like mechanisms. For example, the Murray-Darling Wetlands Working Group were able to use temporary trade of water to help fund complementary waterway/wetland management activities, and works and measures to enable the supply of environmental water.

5. Complementary actions – managing constraints

A major impediment to successful environmental watering is the presence of delivery constraints. Early modelling by the MDBA showed that both adequate water recovery (3200GL) and constraints relaxation are required to achieve the flow indicators and outcomes of the Basin Plan.⁴⁶

To date progress on constraints relaxation has been slow compared to just about every other aspect of Basin Plan implementation. The Victorian and NSW governments in particular have been dragging their feet and delaying consultation with communities on how implementation could proceed. They have also been ignoring the many benefits constraints management brings for flood mitigation, floodplain fertility, water quality and blackwater event minimisation.

Constraints management can be seen as part of a broader suite of complementary natural resource management, including riparian restoration, invasive species control on land and in the water, habitat creation etc. All these actions are an invaluable complement to environmental watering, but are not a substitute for environmental water recovery.

To maximise the benefits of their investment in environmental water recovery and meet NWI requirements, jurisdictions must also manage constraints and invest in complementary works.

⁴⁶ MDBA (2012) *Hydrologic modelling of the relaxation of operational constraints in the southern connected system* <https://www.mdba.gov.au/sites/default/files/pubs/Hydrologic-modelling-relaxed-constraints-October-2012.pdf>

Deals such as the so-called 'toolkit' of complementary measures for the northern basin⁴⁷ which enabled a reduction in the water recovery target are contrary to the NWI.

6. Definition, management and protection of 'planned environmental water'

The purpose of the NWI water reform agenda was to return water to over allocated water sources. This occurred through planning processes to allocate water specifically for provision of environmental flows. This water is identified as planned environmental water (PEW).

Definition of PEW

Jurisdictions in the Murray-Darling Basin undertook this requirement through state legislative processes, thus generating a variety of definitions and applications of PEW across the Basin. The lack of consistency in defining PEW has not been resolved through the Water Act 2007 and the Murray-Darling Basin Plan.

Water Resources Plans (WRPs) accredited by the MDBA have maintained the various definitions and applications of PEW associated with the current jurisdictional water planning legislation.

The Basin Plan requires no net reduction of PEW in WRPs.

This requirement has highlighted the importance of the definition of PEW.

NSW has removed part of the definition of PEW made in the Water Management Act 2000 from some surface water WRPs currently with the MDBA for accreditation.

Victoria has identified minimal amounts of PEW in its WRPs, claiming instead that 'above cap' water is not purely for environmental purposes. This is despite the fact that above cap water is the major component of the environmental water reserve as defined by the Victorian Water Act (1989).

The status and level of protection of PEW in Queensland is unclear to us, in yet another demonstration of the complexity and obscurity of WRPs. The MDBA had this to say in their assessment of the Border Rivers- Moonie WRP:

'The Vertessy and Australian Academy of Science reports into fish deaths in the lower Darling included recommendations relevant to Queensland's WRPs. These include Queensland (and NSW) committing to protecting low flows in drier conditions and setting an aggressive timeline for the delivery of toolkit measures. Further improvements in low flow protection will require on-going action into the future beyond accreditation of the proposed WRP. This could be progressed by Queensland and NSW jointly developing arrangements to address downstream exceptional circumstances, as agreed in the NSW Qld IGA'.⁴⁸

The definition and application of PEW across jurisdictions must be reviewed and refined for improved consistency to meet NWI requirements.

Protection of PEW

The Water Act 2007 requires that PEW cannot be taken for any other purpose.⁴⁹

⁴⁷ <https://www.mdba.gov.au/basin-plan-roll-out/northern-basin-projects>

⁴⁸ https://www.mdba.gov.au/sites/default/files/pubs/attachment-c-border-rivers-moonie-wrp-assessment-report_0.pdf

⁴⁹ Water Act (2007) s6

In December 2018 Basin jurisdictions signed the Murray-Darling Basin Compliance Compact requiring that water management rules and compliance will protect both held environmental water and PEW.

NSW has developed an Active Management Policy to protect environmental water in unregulated water sources of the Macquarie and Gwydir Rivers and the Barwon-Darling.

However, the NSW Active Management Policy fails to meet the requirements of both the Water Act 2007 and the Murray-Darling Basin Compliance Compact in that it allows PEW to be extracted in both the Macquarie and Gwydir unregulated water sources. It allows held environmental water to be extracted in the Lower Gwydir unregulated water source.

The water sharing plan developed for the Peel Regulated River water source also allows for PEW to be extracted.

These WRPs are currently with the MDBA for accreditation.

To meet NWI requirements, the assessment process used by the MDBA for the accreditation of WRPs should be independently reviewed to ensure that all forms of environmental water, including PEW, is adequately protected.

Information request 7

What progress are States and Territories making on including Indigenous cultural values in water plans, and how are they reporting progress?

How could a refreshed NWI help Indigenous Australians realise their aspirations for access to water, including cultural and economic uses?

The Murray Lower Darling Rivers Indigenous Nations (MLDRIN) and Northern Basin Aboriginal Nations (NBAN) are members of the Lifeblood Alliance. These two peak organisations collectively provide a consolidated voice for over 40 Nation groups across the Murray Darling Basin. LBA recognises that MLDRIN and NBAN have provided input to the inquiry through briefings with Commissioners, submissions and an Indigenous Water Access Roundtable. LBA endorses MLDRIN and NBAN's detailed contributions to the Inquiry and wishes to submit the following general points in response to the Issues Paper (information request 7)

First Nations values and objectives in water planning

The NWI (section 52) requires all Australian Jurisdictions to provide for 'indigenous access to water resources' through planning processes that ensure: i) inclusion of indigenous representation in water planning wherever possible; and ii) water plans will incorporate indigenous social, spiritual and customary objectives and strategies for achieving these objectives wherever they can be developed. A module jointly developed by the Australian and state and territory governments in 2017 also provides further detailed guidance on how to implement these requirements.

Environmental water planning

There is growing recognition, across the Basin, of the principle that environmental water planning must include First Nations people and account for First Nations' values, objectives and priorities. Activation and implementation of this principle, however, varies significantly between jurisdictions. For example, in Victoria an Aboriginal Commissioner has been appointed to the Victorian Environmental Water Holder and a network of State-funded Aboriginal Water Officers support First Nations input into environmental water management plans (EWMPs) and seasonal watering proposals. Progress towards greater self-determination is reflected in the aspiration put forward by some Nations, to independently produce Seasonal Watering Proposals and fulfil functions previously vested in CMAs⁵⁰. Inclusion of First Nations is mandated in policy⁵¹, legislation⁵² and formal guidelines⁵³ for water management agencies. In New South Wales however, there is no formal strategy or mechanism for incorporating First Nations views into the environmental water planning framework. Where input has been sought (for example at Gayani Nimmie Caira with the Nari Nari Nation, and at Booberoi Creek with the Ngiyampaa Nation), this is largely driven by strong local partnerships and Traditional Owner initiative. While some efforts have been made to incorporate First Nations objectives into NSW's Long-Term Watering Plans, this has been sporadic and unsystematic. Environmental Watering Advisory Groups (EWAGs) have not provided an effective mechanism for First Nations input into water planning in most cases. The opportunities and recognition afforded to First Nations in environmental water planning vary significantly depending upon which jurisdiction their traditional Country falls within. The disparate implementation of requirements to incorporate First Nations' objectives and to have regard to First Nations' values and uses is producing inequitable outcomes.

At the Commonwealth level, 2019-20 saw the first coordinated effort at research and engagement to collate detailed input of First Nations' priorities to the Basin Annual Environmental Watering priorities. The First Nations Environmental Water Guidance (FNEWG) project was delivered by MLDRIN and NBAN, engaging with 32 Nations across the Basin. Despite this positive milestone, it is still unclear in many cases how First Nations inputs are factored into complex decision-making and trade-offs regarding environmental water use. We note that the MDBA did not implement a clear recommendation from the Productivity Commission⁵⁴ to include a specific secondary objective in the revised 2019 Basin-wide Environmental Watering Strategy that 'environmental watering should seek to achieve social or cultural outcomes, to the extent that environmental outcomes are not compromised'. While the MDBA committed to exploring the inclusion of the objective in the 2022 review of the Strategy, its omission means that the importance of First Nations outcomes in Basin environmental water planning remains unclear.

MLDRIN and NBAN's submission to the recent Senate Select Committee on the Multi-Jurisdictional Management and Execution of the Murray-Darling Basin Plan⁵⁵ provides additional detail on challenges and shortcomings in environmental water planning, as well as a set of recommendations for improving inclusion of First Nations values and objectives. A key recommendation made to the committee was that 'All Basin jurisdictions must establish adequately resourced, formal mechanisms to support First Nations' input into environmental water planning, as required under the NWI. These mechanisms should include support for research, cultural assessments and input

to watering plans at a local scale, backed by formal obligations on agencies responsible for annual and long-term planning’.

Water Sharing and Water Allocation Plans

Plans that set out water allocation, security and sharing arrangements for Basin water resources are critical instruments that should give effect to the NWI requirements and secure water rights for First Nations. Water Sharing Plans (WSPs) in NSW, Water Allocation Plans (WAPs) in South Australia and Sustainable Water Strategies (SWSs) in Victoria are some key statutory plans. In some cases there has been active engagement of First Nations in the review and development of these plans⁵⁶. Some plans also include principles, objectives and strategies to recognise and protect First Nations water-dependent values and outcomes.⁵⁷ However, no statutory allocation or water sharing plans in the Basin provide clear, secure or meaningful volumetric allocations of water for cultural purposes or even for the purposes of exercising limited Native Title rights to water⁵⁸. In NSW the absence of volumetric allocations to satisfy Native title rights in WSPs remains despite a strong recommendation from the Natural Resources Commission in a 2019 review of the Barwon-Darling plan that the NSW Government should ‘identify Aboriginal water-related values, objectives and outcomes, and develop final agreed flow allocations in consultation with all relevant Aboriginal organizations, including traditional owners and Aboriginal Land Councils.’⁵⁹ Similarly, in Victoria there are no flow allocations for the exercise of Native Title rights

⁵⁰ ‘Taungurung Land and Waters Council Aboriginal Corporation, Objectives and Outcome’. State of Victoria, *Victoria’s North and Murray Water Resource Plan, Comprehensive Report*. P. 264-280.
https://www.mdba.gov.au/sites/default/files/pubs/vic-north-and-murray-water-resource-plan-index-table-and-comprehensive-report-26-November-2019_0.PDF

⁵¹ State of Victoria (2016). *Water for Victoria*, water plan. See chapter 6

⁵² State of Victoria, Water and Catchment Legislation Amendment Act 2019
(https://content.legislation.vic.gov.au/sites/default/files/2dd0230e-7f04-3924-bd01-cf1f23f67bf8_19-023aa%20authorised.pdf)

⁵³ State of Victoria, *Aboriginal Participation Guidelines for Catchment Management Authorities*
https://www.water.vic.gov.au/_data/assets/pdf_file/0027/119808/aboriginal-participation-guideline-vic-cma.pdf

⁵⁴ Productivity Commission 2018, *Murray-Darling Basin Plan: Five-year assessment*, Final Report no. 90, Canberra. Recommendation 11.1, p.50

⁵⁵ MLDRIN and NBAN’s joint submission can be viewed through the Committee’s website:
https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Management_and_Execution_of_the_Murray_Darling_Basin_Plan/MurrayDarlingBasinPlan/Submissions

⁵⁶ For example The South Australian Government engaged with Traditional Owners through a recent review of WAPs (as part of the WRP preparation process) and the Victorian Government is committed to engage with Traditional Owner in review of SWSs.

⁵⁷ For example, amended SWSs in NSW include Objectives, Strategies and Performance Indicators relating to First Nations water interests. The practical value of these provisions is unclear. WAPs in SA also include extensive description and recognition of First Nations water interests.

⁵⁸ WSPs in NSW provide a vague and circular definition, identifying water volumes required to satisfy Native Title rights only as ‘the water that may be taken in the exercise of native title rights’. WAPs in SA have lumped water available for native title purposes, along with stock and domestic rights under a ‘general purposes’ consumptive category.

⁵⁹ NSW Natural Resources Commission (2019) *Final report: Review of the Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources 2012*. P. 12.

or Traditional Owner rights recognised in Section 8A of the Water Act 1989. Basin governments' failure to include defined allocations for cultural purposes and for the exercise of rights defines under the Native Title Act in these plans highlights a key deficiency in the NWI requirements.

Water Resource Plans

Water Resource Plans are a key component of the Basin Plan, which require States to identify First Nations' objectives and outcomes relating to water resources, and have regard to a range of other matters. WRPs for Victoria, Queensland, South Australia and the ACT have been accredited by the Commonwealth Water Minister following assessment by MLDRIN and NBAN against the Basin Plan Chapter 10 Part 14 requirements. All plans identify objectives and outcomes for the management of water resources in the WRP area informed by consultation with First Nations. The detail of objectives and outcomes included in WRPs varies between jurisdictions. In some cases, a number of iterations and additional consultation activities were required before States could demonstrate compliance with the Chapter 10, Part 14 requirements. NSW has submitted all groundwater and surface water WRPs to the MDBA for assessment, up to a year past the original statutory deadline of June 30 2019.

Strategies included in the WRPs to address First Nations' objectives and outcomes range from broad principles of engagement to a re-commitment to existing policies and programs. WRPs have not instituted any substantive change to the management or allocation of water in the respective regions of the Basin. In many cases, there does not appear to be clear strategies for implementation of the objectives and outcomes identified by First Nations. This reflects the very weak procedural requirements in the Basin Plan.

LBA notes that a critical deficiency in the NWI agreement and its implementation to date is that *water planning* processes and First Nations inclusion in those processes have not led to improved *water access*, as the as NWI section 52 intimates. Despite broad improvements in inclusion in water planning, substantive access to water resources has not improved. In fact recent research led by Griffith University indicates that, in some parts of the Basin, First Nations water ownership has actually declined over the last ten years.⁶⁰

This is clear evidence of the need for reform of the NWI requirements to address the economic and political barriers to water accesses, as well as just procedural requirements for inclusion and recognition.

⁶⁰ Lana Hartwig, Sue Jackson, Natalie Osborne (2020), 'Trends in Aboriginal water ownership in New South Wales, Australia: The continuities between colonial and neoliberal forms of dispossession,' *Land Use Policy, Volume 99*, December 2020

Refreshing the NWI

The LBA supports MLDRIN and NBAN's position that further amendments to the NWI are necessary to mandate more meaningful progress in water access and to ensure that the flagship national water policy is setting ambitious benchmarks for jurisdictional performance. A 'refresh' of the NWI Indigenous water requirements must be informed by the findings of the landmark National Cultural Flows Research Project (NCFRP) water law and policy review. The NCFRP law and policy reform model identifies three fields of inter-dependent reform and progress: water rights, influence in water landscapes and transforming foundations.

First Nations access to water resources must be advanced through measures that support acquisition of water rights (entitlements, licences and other water 'products') in fully allocated systems, as well as provision for reservation or transfer of identified volumes in systems with unallocated water resources. The NWI should require all jurisdictions to develop mechanisms to re-activate First Nations water rights within the context of 'water justice' or restoring inherent rights that have been undermined through colonisation and displacement of First Nations people. Secure allocations for the purpose of Native Title rights and other recognised Traditional Owner rights must also be identified in all water plans.

The NWI must also strengthen requirements for partnership and power sharing arrangements to support First Nations influence in water landscapes. This could include a requirement for legislative recognition of First Nations' procedural rights in the management of environmental water, and commitment to advance co-management or power sharing arrangements. Strengthening First Nations influence in water landscapes also includes providing secure and adequate resourcing for Traditional Owner led waterway assessments, objective setting and water planning.

Finally, the NWI should provide an enabling framework for the establishment of First Nations-led water governance models that are informed by Indigenous water principles and knowledge and embed language and cultural obligations. Transforming the foundations of water management must be progressed by a recognition that current frameworks for allocation are the product of a colonial system and are premised on the abrogation of First Nations inherent rights relating to water and river Country.

Information request 8

No comment

Information request 9

No comment

Information request 10

No comment

Information request 11

No comment

Information request 12

Are there examples of projects that have not met the NWI criteria for new water infrastructure investment?

What principles should inform government funding or financing of new water infrastructure?

Under the NWI, the Australian, state and territory governments have committed to achieve lower bound pricing for all rural water supply systems (paragraph 66) and to ensure that proposals for investment in new or refurbished water infrastructure are economically viable and ecologically sustainable prior to the investment occurring (paragraph 69).

Despite this obligation, the current Australian Government and several state governments are investing a substantial amount of public funds in new water infrastructure that is both economically unviable and ecologically unsustainable. Key examples include:

Lower Fitzroy River Infrastructure Project (Rookwood Weir) in Queensland

Using a base demand scenario of 30,000 ML of high priority water for industrial purposes, 4,000 ML of high priority water for urban purposes and 42,000 ML of high priority water (converted to 23,200 ML of medium priority water) to support new agricultural development, Building Queensland (BQ) in the Detailed Business Case (DBC)⁶¹ it prepared determined that even with a 'best estimate' of 1.5% annual growth rate, Rookwood Weir has a negative net present value and a benefit cost ratio (BCR) of 0.6 at a real discount rate of 7%. To ensure they are economically viable, new water infrastructure must have a BCR of at least 1.0.

The key economic benefit potentially derived from Rookwood Weir is the increased value of agricultural production, which BQ estimates to be almost 50% of the quantified benefits of the project. However due to fluctuating global commodity prices, likely increased farm operating costs and a range of other contributing factors, BQ states in the DBC there is a high degree of uncertainty regarding the actual economic benefit derived from the agricultural development facilitated by the construction of Rookwood Weir. As it's estimated to provide almost 50% of the quantified benefits of the project, there is a considerable risk that Rookwood Weir will be economically unviable if the predicted agricultural development does not materialize or demand for water from the weir for agriculture reduces at any point in the future. Despite the high degree of uncertainty regarding its economic viability, both the Australian and Queensland Governments have committed to provide an equal share of the estimated \$352 million cost to construct the weir.

In April 2020, the Queensland Government released a Statement of Proposals⁶² (SoP) to amend the allocations for Rookwood Weir held under the Fitzroy Basin Water Plan. Proposed changes to the existing allocations for Rookwood Weir includes reducing the volume of high priority water for industrial purposes from 30,000 ML to 16,500 ML, increasing the volume of high priority water for urban development from 4,000 ML to 4,500 ML and increasing the volume of medium priority water for agriculture from 23,200 ML to either 43,000 ML, 44,000 ML or 52,000 ML depending on which option is selected.

Given the high degree of uncertainty about whether using 23,200 ML of medium priority water from the weir for agriculture will actually deliver economic benefits, substantially increasing the volume of medium priority water for agriculture as proposed in the SoP will significantly increase the uncertainty about whether new agriculture development facilitated by Rookwood Weir will deliver any actual economic benefits.

As Rookwood Weir is unlikely to be economically viable under either the existing or proposed amended allocations, it strongly appears that both the Australia and Queensland Governments have ignored their obligations under paragraph 69 of the NWI to ensure that new water infrastructure is economically viable before committing public funds to build Rookwood Weir.

National Water Infrastructure Development Fund (NWIDF)

Under its eligibility criteria, at least 50% of water provided by new dams that receive funding from the capital component of the NWIDF must be allocated to agriculture.

Due to most agricultural water users either being unable or unwilling to pay the price for water required to recover lower bound costs, there is a significant risk that new water infrastructure which is built primarily for agricultural purposes will not be economically viable.

As the primary purpose of the 24 water infrastructure projects across the country that have been funded under the capital component of the NWIDF⁶³ is to support agricultural development, the Australian Government which has provided the funds and State Governments that have received funds to build new water infrastructure have failed to comply with their obligations under paragraph 66 (v) and 69 of the NWI.

Wyangala and Dungowan Dams in New South Wales

If built, these dams will cause significant adverse environmental impacts, which includes inundating critically important riparian ecosystems, altering flow regimes that support downstream wetlands and disrupting the migration of fish and other aquatic species. As these and other adverse environmental impacts that will occur cannot be mitigated, constructing the Wyangala and Dungowan Dams is clearly ecologically unsustainable.

Although the dams are being fast-tracked by the NSW government as necessary to supply critical human needs, it appears their primary purpose is to support agricultural development. There is a significant risk that both dams will not be economically viable due to agricultural water users' inability and/or unwillingness to pay the price for water needed to achieve lower bound cost recovery, let alone upper bound cost recovery.

Given they will be ecologically unsustainable and are likely to be economically unviable, both the Australian Government who have provided funds from the capital component of the NWIDF and the NSW Government who have received the funds for these projects have failed to comply with their obligations under paragraph 66 (v) and 69 of the NWI.

⁶¹ <https://buildingqueensland.qld.gov.au/wp-content/uploads/2018/01/LFRIP-detailed-business-case.pdf>

⁶² https://www.dnrme.qld.gov.au/_data/assets/pdf_file/0003/1480152/fitzroy-basin-rookwood-statement-proposals.pdf

⁶³ <https://www.nationalwatergrid.gov.au/nwi-development-fund/water-infrastructure-projects>

Information request 13

Are there any areas for future reform of the NWI that have not been raised in this issues paper that should be investigated for inclusion?

Applying the NWI to the resource sector

Clause 34 of the NWI has still not been fully implemented and the "special circumstances" of the resources sector - gas production and dewatering of mine sites - still trump those of all other groundwater users (farmers, local governments and manufacturers). In Queensland, gas companies have access to unlimited groundwater in spite of significant 3rd party impacts. NSW regulates more strongly in declared catchments only.⁶⁴ NSW exempts mining interception from cease-to-pump rules in groundwater sharing plans that protect environmental water.

LBA recommends that national water resource planning frameworks be amended to ensure the NWI is applied equally to all sectors and water users.

Land Use Planning

Local land use planning laws reflect regional differences for a thirst for 'development'. The result being that some intensive agriculture enterprises are now located, or encouraged to locate, in areas where the delivery of water has significant conveyance losses. There is a need for greater multi-jurisdictional consistency to ensure inefficiency in water delivery are not embedded into the system in the longer term.

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⁶⁴ https://www.waternsw.com.au/_data/assets/pdf_file/0010/119890/Mining-principles.pdf

