AUSTRALIAN FLOODPLAIN ASSOCIATION

Healthy Rivers - Healthy Communities

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Australian Floodplain Association submission to the Productivity Commission Inquiry into progress with the reform of Australia's water resources sector.

The Australian Floodplain Association (AFA) is a non-government organisation, established in 2006. It represents floodplain and wetland landowners and their communities who depend on healthy rivers, floodplains and wetlands. Its membership resides predominantly within the Northern Murray-Darling Basin and includes floodplain graziers, irrigators, community groups and shire councils.

The AFA is recognised as a peak body in the Murray Darling Basin (MDB) and we represent an alternative and broader, community view to that of the irrigation sector.

We welcome the opportunity to participate in this Productivity Commission Inquiry. Our submission is focused on the MDB and the implementation of the Basin Plan in NSW. We provide comment on the Commission's ToR and NWI objectives and address information requests 1, 2, 3, 4, 6, 7, 10 & 12.

Regarding the extent to which the NWI reforms are adequate to support government responses to emerging or changing water management challenges such as climate change, the AFA's view is that there is a lack of political will to face the facts of climate change, particularly in NSW. The rainfall and streamflow records underpinning several draft NSW surface water plans have been cherry-picked and ignore the past 20 years of record low inflows. There could be disastrous consequences from excluding the recent climate record.

Information request #1

The AFA has long lamented the demise of the National Water Commission and viewed the 2014 abolition of the Standing Committee on Environment and Water that reported the COAG with some alarm. Water does not recognise nor respect state borders. A national approach with national oversight is required to ensure consistency (of outcomes) and coordination of the management of water sources that transcend state borders.

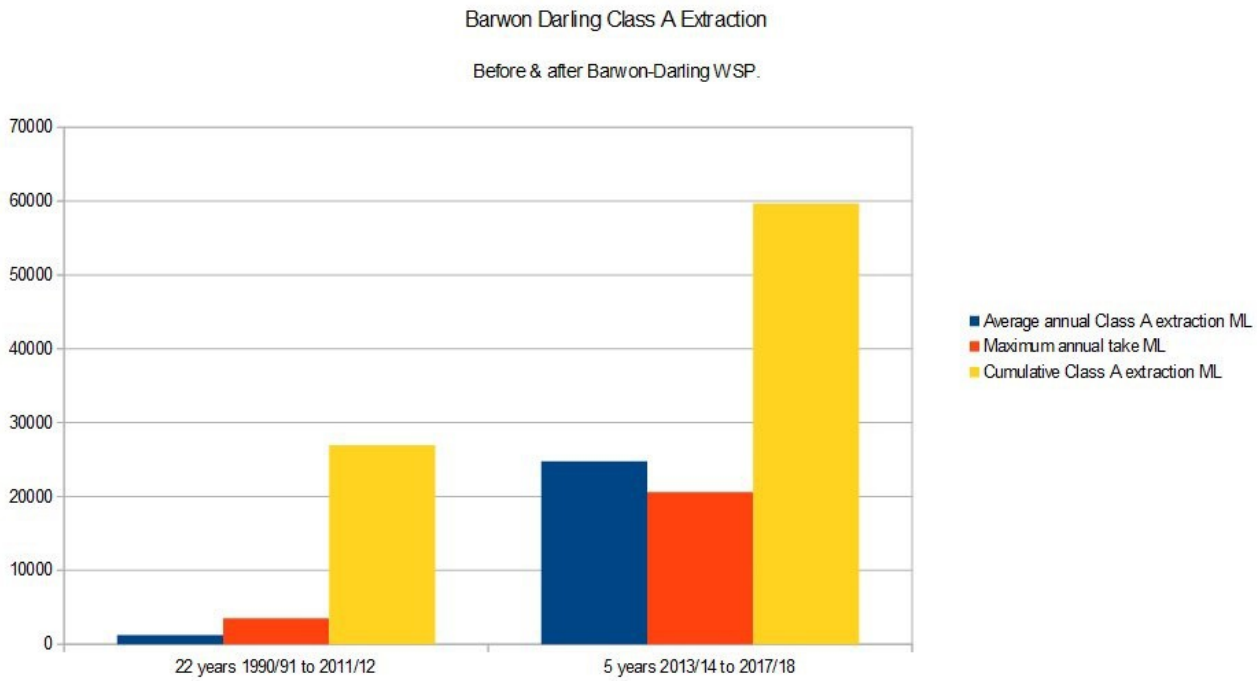
Contrary to the Abbott government's assertion at that time that "*there is no longer adequate justification for a stand-alone agency to monitor Australia's progress on water reform"* it is our view that the need for such an agency has never been greater. Water theft, lack of political will to enforce compliance, and more recently the environmental and social impacts of an immature and largely unfettered water market causing negative social and economic impacts all provide evidence of this need. Ideally, an independent federal EPA and Federal ICAC should be in place in addition to an NWC-like body to ensure wrong-doers are held to account.

NWI Objective (iv) Over allocation.

The long-standing issue of over-allocation has not been adequately addressed. The revised (ie post Northern Basin Review) sustainable diversion limits (SDLs) in the MBD Plan came into legal effect on 1st

July 2019 when all SDL targets were required to have been met. More than a year later, 47.5GL remains to be recovered for the environment. Most of this is in the northern MDB where floodplain harvesting (FPH) in the major tributaries was shown to have dramatically reduced inflows to the Barwon Darling system as early as 2007[1]. In fact, experts (Cullen et al) began warning of ecological stresses to come in the northern basin in 2003. Since then, the capacity to harvest more water has increased in most northern tributaries and cumulative FHP development has dramatically reduced inflows into the Barwon-Darling system. The NSW FPH infrastructure built both prior to and post 2008 has not been licenced nor assessed. It should not be approved as it would legalise at least another 800GL of take in the Gwydir and NSW Border Rivers catchments alone.

The AFA understands that 3 rules in the new Draft Barwon-Darling WSP have been turned on while the new draft plan is in the accreditation process. These rules are Individual Daily Extraction Limits, the protection of first flush flows and the protection of environmental water. It is imperative that these rules remain in force.



(Figure based on information from http://realtimedata.water.nsw.gov.au/water.stm accessed 31 October 2018)

The figure above highlights and compares extraction for the 22 water years from 1990-91 to 2011-12 with the 5 years following the introduction of the 2012 WSP. The Implementation of the 2012 Plan rules for A Class licences in the Barwon-Darling WSP coupled with record low inflows contributed to more than 1,000km of the river being reduced to a few isolated pools. Town water supplies failed and long sections of the river were dry for months. The plan failed at the time it was most needed - a time of drought.

Wilcannia bears the cumulative impact of all take upstream. Since 2012, average annual extraction of “A” Class water on the Barwon Darling has increased by 974% and the maximum annual extraction has increased by 583%.

The increased extraction of the critical low flows are a direct result of the following changes made to the 2012 Barwon Darling WRP

1. Taking A class water with B class pumps
2. Concessional conversions (a increase in a class entitlement)
3. Introduction of unlimited carryover and '3 times' rules

1 Webb McKeown & Associates - State of the Darling Interim Hydrology Report 2007 (MDBC)

We have also witnessed millions of dead fish at Menindee, multiple river communities running out of town water and the collapse of even high security irrigation on the Lower Darling. All of this is clear evidence that over-allocation has not been addressed and that unsustainable licensed extraction levels still exist.

The AFA recommends that all northern tributary WSPs have Plan Limits inclusive of FPH entitlement in that valley.

We also recommend End Of System (EOS) flows be set in all tributary Water Sharing Plans (WSP). These should be evidence-based and maintain the Water Sharing Principles, priority of use rules and the watering needs of Priority Environmental Assets and Priority Ecosystem Functions in the tributaries, to address the needs of the Barwon-Darling River, Menindee Lakes and Lower Darling River. These targets should be assessed regularly and linked to enforceable rules which prevent upstream extraction occurring until they are met.

We further recommend a mandatory first flush rule after a prolonged period of no flows in all upstream tributary water sharing plans in order to ensure flows to Menindee and then to Wentworth - the Darling's confluence with the Murray. The Menindee Lakes System must reach 400GL to ensure sufficient water is in reserve in the Lakes to meet basic landholder rights on the Lower Darling for the next 18 months, maintain water quality, reduce the risk of fish kills, provide habitat for listed species and provide for cultural flows. EOS flow targets for upstream tributaries must be aligned with this goal.

We recommend all trade and account management rules for each of the northern tributary WSPs must be reviewed to assess whether rules meet the Water Sharing Principles, priority of use provisions, and the watering needs of Priority Environmental Assets and Priority Ecosystem Functions s in the tributaries and Barwon Darling. Where necessary, the rules should be amended to meet the legal requirements of the MDB Plan

The AFA's legal advice is that there is no impediment to WSP rules designed to protect flows in downstream catchments. In the view of the Australian Academy of Science in its 2018-19 fish kill report, the new MDB Plan-approved WSPs *"should address the panel's key findings on the fish kill and algal blooms in the Darling River.* ***Pertinently, there is a need to ensure stronger integration between upstream and downstream water resource plans in the Northern Basin to meet the holistic and interconnected objectives of 'good' water, connectivity, and inclusion of Indigenous values.***(Our emphasis.) Sadly, the political appetite to do this does not currently exist.

AFA is also concerned that the states continue to place political point-scoring and donors' interests ahead of the national one. **We recommend the re-establishment of an agency akin to the NWC.**

NWI objective (vii) Water accounting.
AFA understands that there are more than 150 types of water entitlements across the MDB. In addition to having their own legislation, regulation and policy frameworks, each jurisdiction has its own licensing and accounting systems. The result is a fragmented and inconsistent dataset that, according to Inspector General Mick Keelty makes it extremely difficult "*to reconcile how much water there is, who's entitled to take it and what they've taken.*'[2]

In our view, FPH is the elephant in the room. The total volume taken is not known and estimates are thought to be conservative. This is a concern as models are only as good as their inputs and the assumptions applied to those inputs. In our view, the lack of a consistent MDB-wide accounting framework and accurate metering of all forms of take, especially FPH, provide further evidence that basin states are failing to meet NWI objectives and outcomes.

Accounting and water planning (objective ii) are both hindered by the complexity of the entitlement framework. This is interfering with implementation of the Basin Plan because the diversity of licences is an inter-jurisdictional matter requiring co-operation which has been lacking due to political infighting and interference. It is also a state-specific issue. AFA understands that NSW has numerous infrastructure

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

projects that purportedly would deliver multiple environmental, economic, and social benefits but the diversity of licences in these areas seriously complicate efforts to implement these projects.

AFA members on the Lower Darling are acutely aware that Victoria and South Australia have much more conservative water management and allocation policies than NSW. NSW is less inclined to conserve water captured during wet years for use in drier periods. We note that NSW general security licence holders have endured 3 consecutive years of zero allocation while users in the other southern states have had some access as evidence of the impact of this policy difference..

Recognition of connection between surface water and ground water (objective x).
We have found it difficult to asses progress on this particular issue. According to the MDBA, there are a total of 33 WRP areas (19 surface water plans, 19 groundwater plans and 5 combining both – a total of 43.) We note that Basin states have submitted 11 surface water plans, 12 groundwater plans and 9 that cover both – a total of 32. We do not understand this discrepancy, nor why some are treated separately and others are combined. Rules for surface water and ground water extraction may have been included in the same WRP but that does not necessarily mean that any degree of interconnection has been established nor that this connectivity is being appropriately managed. In our view, this fails to meet community expectations regarding transparent water planning processes and constitutes another step away from NWI principles and objectives.

It is clear that allocating and sharing water to balance economic, social and environmental outcomes is a challenging process. The social and economic impact has been ignored outside of the upstream valleys. In 2017 the 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 are being achieved.

Information request #2
The Issues paper states *"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"*

and

"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."

While we argue that the horror bushfire season on 2019-20 had indeed been anticipated by climate and emergency services experts, there is no doubt that the extreme conditions placed significant pressure on a number of plant and animal populations and ecosystems. In the Macquarie valley there were catastrophic losses of the iconic golden perch[3] and the condition of the Ramsar listed Macquarie Marshes deteriorated further from its already degraded state.[4] This is further evidence that the NWI and water reform 'products' such as water sharing plans are insufficient to manage important public assets and to meet the international obligations at the heart of the Commonwealth Water Act and MDB Plan.

AFA is concerned by the NSW Government's proposed dam building spree that will capture some 770GL in new or enlarged storages. To put this in perspective, this is roughly one third of the water to be recovered to improve community and river health. We find NSW assertions that EPBC Act considerations do not apply to the proposed Gin Gin regulator in the Macquarie (as the impacts will only occur during construction and upstream of the dam wall) as unfounded. It is well established that cumulative impacts are very real and have been repeatedly ignored in the water planning process.

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

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

If the Mole River and Dungowan dams are built and Wyangala dam enlarged, they will cause significant adverse environmental impacts (inundating critically important riparian ecosystems, altering flow regimes that support downstream wetlands and disrupting the migration of fish and other aquatic species) as well as unacceptable damage to very important cultural sites of great importance to indigenous people. None of these impacts can be mitigated. The projects are all ecologically unsustainable. In our view they are also economically unviable as the price of proposed water gains will be so high as to fail even the lower bound cost recovery figure. If built both the Commonwealth and NSW governments will breach their obligations under clause 66(v) and clause 69 of the NWI.

Information request #3
It is considered essential for water planners to provide certainty to licence holders yet they are operating in a real world environment where water users are going to need to adjust and adapt to a drier future.

There is no doubt that the climate is changing – there was a 'step change' in rainfall and runoff in south-west WA in the mid-1970s and the city of Perth has experienced a 66% decrease in run-off into its Stirling Ranges water storages. Similar trends are now evident in much of the MDB.

The AFA has repeatedly worked to ensure policy and decision-makers understand the contribution of the non-irrigation sector make to the economies of regional communities; and that the wider community values many attributes of their riverine areas, not just the economic one. The following statement from the "One Mob"[5] article by Terry Korn and Uncle Badger Bates explain what a healthy river means:

> *"It plays an important social, cultural and economic role for all people and communities who live along the river or use it in any number of ways. So "environmental water" is really "community water" because the community has bought it via taxes and the community benefits from its presence through improved well-being.*
>
> *"Water in the river lifts the spirits. It attracts tourism, recreational fishers, photographers', bird watchers and adventure seekers. It supports organic grazing and cropping industries. It emboldens Aboriginal culture, provides food, recreation and education of the young by Elders.*
>
> *"Current and proposed policy has favoured one sector of the broader community above all others – the irrigation industry. But communities will only survive if they are resilient and resilience is dependent upon two things -industry diversity and a healthy natural environment".*

We are concerned that the economic value of intrinsic ones are not given the weight or consideration they deserve and that estimates of such values are rarely based on the best available science.

We note that 3rd party impacts affecting irrigators seem to be taken very seriously by decision-makers while those affecting other stakeholders are not. In our view, the third party impacts on the river communities of the Barwon Darling and the Lower Darling continue to be ignored.

In the AFA's view, there needs to be more emphasis in water plans on meeting public benefit outcomes that underpin healthy rivers, healthy communities and resilient industries.

Information request #4

Extreme events.
The AFA has long been concerned by the reliance on averages in water planning. An "average" year is a very rare thing with a few large flood events raising the mean figure. We suggest that the median value is a more accurate one but acknowledge that in the future our water management frameworks must place more emphasis on managing extremes in ways that are fair and equitable to all users.

As previously noted, climate change has not been adequately embedded in most water plans and unless this changes we fear there will be disastrous consequences. **We strongly recommend that the recent climate record of low rainfall and low inflows be included in the data that underpins modelling and**

5 One Mob – Terry Korn and Uncle Badger Bates 15 October 2017

planning processes.

The Menindee fish kill was an example of a core habitat area under stress being impacted by an extreme weather event – a cold snap. The extinction of Macquarie Perch in NSW is another example where a crucial habitat area was impacted by another extreme, climate-fuelled environmental event, in this case catastrophic bushfires.

The AFA's view is that it is critically important that the NWI makes it a priority for all water plans to maintain connectivity within and between water sources to ensure basic ecosystem functions can continue. The importance of connectivity has been identified in various recent reviews including by the Natural Resources Commission (NRC).

AFA has long been concerned that the 'priority of use' requirements set out in the *NSW Water Management Act 2000* are not being delivered. It must be a water planning priority to ensure water sources and their dependent ecosystems are protected, and that river communities and basic landholder rights are met **before** irrigation access is permitted.

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 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 2000* as a tool to manage water in an extreme event.

The reality is that restrictions can and have been lifted at a Minister's discretion. In spite of the clear need for a first flush to run right through the system and connect the Darling with the Murray at Wentworth restrictions were lifted in some northern tributaries. Not only do WRP/WSPs need connectivity targets, they also need volumetric and/or flow targets to ensure reliable town water supplies (TWS) and water quality that is fit for purpose for all users as well as longer connectivity periods. This will be particularly important given the predictions that drought conditions are likely to become more regular occurrences as the climate crisis deepens. A 1 degree C rise in average temperature could mean a reduction in run-off of 22% which would obviously lead to significant water shortages.

The burden of risk from climate change is currently borne by the environment. In our view, it is morally reprehensible to put irrigation use ahead of environmental needs when our rivers, wetlands and floodplains face an existential threat. **We strongly recommend that the risks and burden of a drier water future be shared between extractive users and the environment.**

We repeat our concern regarding the failure of planners and policy makers to ensure current climate data underpins water plans and hydrological models. The current, adjusted SDLs are not sustainable and should be revised using the recent climate record. If they are not we will likely see a repeat (or worse) of the severe water restrictions of 1997-2000. Failing to plan – using best available science - is planning to fail.

The National Water Initiative needs to be set in the wider context of sustainable management of our soils, water and vegetation. Many AFA members share an interest in the work of the Soils for Life project of which Sir Michael Jeffery is the patron; and in regenerative agriculture. We support efforts to re-hydrate our landscapes and sequester carbon, both of which will benefit biodiversity and mitigate the impacts of climate change. In our view, both carrots and sticks are required to ensure effective and timely implementation of key policies and programs.

Australians need to accept that we have limited and unreliable water resources and must allocate water conservatively and within those limits. This means setting realistic limits on water diversions, taking into account the predicted effect of climate change. We understand the predicted impacts of climate change mean a 30-50% reduction in water availability which in turn means irrigators will have to both significantly reduce their water demands and increase their water use efficiency via new techniques or less thirsty crops. In this context, the recovery of over-allocated water should be an urgent priority related to revising SDLs.

It goes without saying that the AFA does not support the retrospective licensing of NSW FPH infrastructure built since 2008.Nor will we condone the diversion of first flush flows at least until connectivity through the system has been achieved and all critical human and environmental needs have been met.

Information request #6

Using the water market to recover water.
The NWI states that the measures adopted to recover water for the environment should be 'primarily on the basis of cost-effectiveness, and with a view to managing socio-economic impacts'. In 2017, the Productivity Commission found that water recovery approaches had not been undertaken primarily on the basis of cost-effectiveness. The so-called Strategic Water Purchases made a mockery of this and are a case in point.

The AFA's view is that buying back water through voluntary open tender processes is the cheapest, most efficient and most transparent way to recover water for the environment under the Basin Plan – one third of the cost of the now-favoured infrastructure efficiencies approach. The public money saved using direct purchases from willing sellers could be invested in the communities where water access has been reduced to assist with their transition to a drier future. The rejection of the open tender process denies water access licence holders the right to realign their businesses should they wish to do so. No such restriction applies to the sale of land.

The socio-economic impacts of water recovery have been reviewed several times. One of these, the Wittwer report, found that while buybacks may reduce farm output b a few percent, they would result in economic stimulus and benefit regional areas.[6] Professor Sarah Wheeler's work provides another example: she found acquiring water via the market 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".[7]

Communication.
There is a dearth of good news stories about the implementation of the MDB Plan. Taxpayers have an interest in and indeed a right to understand what is being achieved from the use of the water their funds have purchased and which belongs to them. The use of environmental water or community water is a complex process and we have much to learn. This includes managing water extraction during critically low flows, protecting first flush flows and managing connectivity across the landscape. In our view, an audit of all water in the Basin would enable more efficient use of environmental or community water.

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. The AFA is aware of instances where Environmental Flow Reference Groups (EWAGs) and Water NSW cooperate by 'piggybacking' e-water onto irrigation orders to minimise transmission losses. We are also aware of more negative situations where the optimal time for environmental benefits being achieved at important wetland sites have to be foregone in order to avoid untimely watering of crops or interfering with harvest activities. The sooner such channel capacity and other physical constraints to the delivery of e-water are resolved (through purchasing easements, for example) the better for MDB Plan outcomes.

The Murray Wetlands Working Group have used innovative approaches such as using temporary trades

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

7 https://www.sciencedirect.com/science/article/abs/pii/S0264837712000658.

of water to help fund complementary waterway/wetland management activities and works and measures to enable the supply of environmental water. While these are certainly beneficial, there is no accepted environmental equivalence between complementary ('toolkit') measures and real water. Indeed, there is absolutely no substitute for the life-giving benefits of water in our rivers!

On this issue we wish to make the point that the Toolkit Measures developed during the Northern Basin Review resulted in a 70GL reduction in the northern basin recovery target. The science projects undertaken during the NBR were supposed to fill known information gaps. In our view, no dots can be connected between the results of that research and the 70GL reduction. The decision was a political one, not one even remotely grounded in science. This is another issue that contravenes the NWI.

The AFA is concerned by the delayed consultation processes between the NSW and Victorian governments and local communities located near identified constraints. While there are few constraints in the northern basin, constraints management should be regarded as part of a broader suite of complementary natural resource management measures, including riparian zone restoration, invasive species control on land and in the water, habitat creation and so on. Although not a substitute for environmental water recovery, addressing constraints will provide flood mitigation, floodplain fertility, and water quality benefits all of which are in the interests of all Australians.

Protection of Planned Environmental Water.
Here we highlight the new concept of “Active Environmental Water” (AEW), its conflation with HEW and PEW and the lack of a consistent definition of PEW in NSW draft WRPs/WSPs. This is of critical importance as the MDB Plan requires no net reduction in PEW in all water plans. Members of the AFA Executive have scrutinised the draft plans NSW recently submitted for MDBA accreditation. Some plans make no mention of PEW in either the Dictionary or Schedule, some refer to the definition in the *NSW Water Management Act 2000* some include a definition only within the meaning of AEW. None of this makes the water plans coherent and consistent with Long Term Environmental Watering Plans. Nor does it resolve the critical issue of special and favoured treatment highlighted in the 4 Corners program “Pumped”. The matter must be resolved equitably and fairly to all water users – including the environment and downstream communities reliant upon a healthy river.

The AFA strongly recommends that the definition of PEW across jurisdictions be reviewed to ensure consistency and to meet NWI requirements.

As previously mentioned, members of the AFA executive conducted an analysis on the draft water plans submitted to the MDBA for accreditation under the Basin Plan. We noted that NSW now has an Active Management Policy that purports to protect environmental or community water in the unregulated Gwydir, Barwon-Darling and Macquarie and regulated Peel water plan areas.

We are deeply concerned that the new policy fails to meet the requirements of both the Commonwealth Water Act 2007 and the MDB Compliance Compact. The MDBCC requires water management rules and compliance policies to protect both HEW and PEW while s6 of the Water Act 2007 makes it clear that PEW cannot be taken for any other purpose

In the Plans we assessed, the Active Management Policy introduced the concept of Active Environmental Water (AEW). The draft plans for the unregulated Macquarie and Gwydir rivers and regulated Peel river allow PEW to be extracted. The proposed rules in the draft Gwydir unregulated plan also allow HEW to be extracted in the unregulated Lower Gwydir zone. This is untenable but not unexpected given NSW's overall recalcitrance regarding MDB Plan implementation. The AFA trusts that the MDBA accreditation process will reject these plans and demand their amendment to meet MDBA, Water Act and NWI requirements.

Monitoring and assessment of environmental outcomes.
The AFA was impressed with the monitoring and reporting to the community throughout the 2019 Northern Fish Flow event. We commend the Commonwealth Environmental Water Holder for ensuring timely and transparent reporting to interested stakeholders and communities. **The AFA recommends that this 'high-bar' set a standard for future reporting.**

Information request #7
It is our understanding that this work of embedding cultural values and outcomes in water plans is underway but has been delayed due to pandemic restrictions.

We note indigenous peoples' advocacy for water justice. Aboriginal water entitlements in the New South Wales portion of the MDB account for 0.2% of all available surface water while Aboriginal people comprise about 10% of the regional population. Aboriginal organisations own less than 1% of water rights in the Murray-Darling Basin. Aboriginal ownership of water has declined by 17% over the past decade[8]

We also note that although the Barkandji people won their Native Title claim, there is no water attached to their lands nor available to them. This would seem to make any aspirations they have for community and business development irrelevant.

In AFA's view, indigenous people should be in control of all cultural water so that its use is directed at indigenous goals and determined by indigenous decision-making processes. There is much to be learned and nothing to lose except a paternalistic attitude.

Information request #10
During 2019, 90 NSW towns ran right out of water, as did Stanthorpe in Queensland. The media was littered with stories of bottled water (much of it donated) being trucked in to parched communities and plans for pipelines and other engineering alternatives were widely discussed.

In some communities, particularly on the Lower Darling, surface water existed but was of such poor quality that it was unusable – even for non-potable uses. There were concerns about a cluster of motor-neurone disease diagnoses potentially being linked to water contaminated with blue green algae toxins. All of this is a damming indictment of policies that have significantly over-allocated water to irrigation and (in the latter example) of mismanagement of a major storage – the Mendinee Lakes System. Healthy rivers, riparian zones, floodplains, wetlands and aquifers provide clean, filtered, reliable water supplies. The costs of treating water to TWS standard are a useful surrogate for the value of a healthy riverine ecosystem.

The risk to town water security in the Basin is the largest threat facing its communities. Relative to irrigation, towns use a tiny percentage of water released from major storages. For example, in the two years to June 2019, the Dubbo Regional Council used less than 16 GL from Burrendong dam and environmental water managers ordered 261 GL. During the same period, irrigation orders totalled 450 GL.

We cannot 'supply' our way out of our water reliability problems simply by building more dams as NSW intends to do. Evidence around the world points to dams making water shortages more, not less acute. There is also evidence that new or augmented dams, sometimes promoted on the basis of more secure TWS inevitably do nothing to shore up urban supplies but instead benefit irrigation interests. Chaffey Dam near Tamworth, NSW provides an instructive example. It was partly justified to “drought-proof” Tamworth. However, the WSP rules were not changed after the dam was augmented and the extra water was allocated to irrigation. There was no improvement in the security of Tamworth's TWS.

If communities are to not just survive but thrive in our drier future, considerable work remains to be done addressing over-allocation and ensuring plans are in place to manage extreme events.

The AFA recommends that the NSW hierarchy of water use set out in the *NSW Water Management Act 2000* be rigorously applied.

Information request #12
The AFA believes that the proposed new weirs discussed above, plus the proposed Emu Swamp Dam near Stanthorpe, Qld fail to meet the full-cost recovery principle agreed to when the NWI was signed. The Emu Swamp Dam has been the subject of several studies which found the project to be economically unviable. Nevertheless, powerful and vested interests have secured funds for further studies, apparently

8 Hartwig et al 2020

on the basis that if enough money continues to be be thrown at it, the desired outcome (construction approval) will be achieved.

In our view it is unacceptable for dams built for political purposes to be subsidised by taxpayers. The suite of proposed NSW dam building projects demonstrates the failure of transparency around proper business cases. No work on such projects should be commenced prior to disclosure and public scrutiny of business cases.

We have concerns about the cost of water recovered through efficiency infrastructure works and suggest that the money saved by a direct buyback approach would allow the funds saved to be invested in structural adjustment.

Information request #13
The AFA suggests that consideration be given to re-introducing the Sustainable Rivers Audit process.

We appreciate the opportunity to make this submission to an important Inquiry. There is nothing confidential herein and we consent to any part of it being made public.

Yours sincerely,

Sarah Moles
Secretary.