Australian Government

MURRAY–DARLING BASIN AUTHORITY

Office of the Chief Executive

TRIM Ref:

Ms Nina Davidson
Head of Office
Productivity Commission
GPO Box 1428
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Dear Ms Davison

I am writing in relation to the Productivity Commission's Inquiry into the National Water Initiative (NWI).

The *Water Act 2007,* including the establishment of the Murray-Darling Basin Authority (MDBA) and giving it the task of developing a whole of Basin water management plan, were largely intended to assist with implementation of the NWI within the Basin.

The MDBA also performs joint management functions for the River Murray System on behalf of Basin States, which were administered by the former Murray-Darling Basin Commission.

In addition to setting sustainable diversion limits (SDLs) for surface and groundwater resources across the Basin, the Basin Plan details specific responsibilities for the MDBA in setting basin-wide environmental watering priorities, regulating Basin Plan trading rules and assessing water resource plans (WRPs) for Commonwealth accreditation.

The MDBA is currently undertaking an evaluation of Basin Plan implementation. This will be completed in early 2018.

The attached information provides comments on a number of items raised in the PC's issues paper and comments to some additional questions raised by the Inquiry's secretariat. I would be happy for the information to be published on the Inquiry's website.

Please contact our Chief Economist , Mr Colin Mues, if you require any further information.

Yours sincerely

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18 July 2017

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Water resource management – water planning

The Basin Plan requires states to develop 'fit for purpose' water resource plans to manage the risks to water resources in a particular area of the Basin. WRPs also provide transparency in describing water access rights water holders, water quality management, environmental watering arrangements and ensure the values and uses identified by Aboriginal nations are recognised in the plan.

Questions from issues paper (page 16)

> *Is there scope to improve how water plans deal with long-term shifts in climate affecting resource availability?*
>
> *Are there recent examples of leading practices?*

The risks to water management from climate variability and change are very real and so it is essential water plans have strategies in place to manage these risks. In developing the Basin Plan, the approach of the MDBA was to incorporate and refine relevant existing arrangements, provide a significant buffer through a 20% reduction in consumptive take, and complement these with a range of new arrangements that can be implemented within an adaptive management framework. This approach aligns with the Productivity Commission 2012 report on barriers to effective climate change adaptation, which concluded that governments can address barriers and support the adaptive capacity of environments and communities by using flexible policy frameworks, such as adaptive management and market-based approaches, to respond to changing circumstances. This approach also deals with the issues associated with climate variability.

Under the *Basin Plan*, States must consider the risks to the availability of water from the effects of climate variability and change and, where the risk is assessed as being significant, to describe strategies in a water resource plan to address the risk. In addition, water resource plans are required to set out how water will be managed under an extreme dry period (e.g. a drought outside the experience contained in the 114-year historical climate sequence), and in doing so must consider if water resources should be managed differently if new science at the time suggests that extreme events will become more likely.

While the arrangements described above provide a solid foundation to manage the risks of climate variability and change, a question that is likely to arise is what further actions should be taken to share the effect of climate change on water availability between consumptive use and the riverine environment. At the time the current Basin Plan was finalised, it was not clear exactly how climate change would affect future water availability. Should the understanding of future climate change impacts improve, then there will be opportunities to take this new information into account in future reviews of the Basin Plan.

> *What are the key areas of water planning where further progress is required to achieve the objectives and outcomes of the NWI?*

Improvement could be made in the following areas:

- Water planning legislation is in many states not well integrated with mining legislation. With increasing examples of conflicting or competing uses between

mining, agriculture and other activities, it is important that all significant water using activities are regulated within a single framework.

- MDBA is not aware of the extent to which explicit science-based 'triple bottom line' approaches to setting limits on resource use are in effect outside of the Basin. It would be useful to assess the extent to which the risk of overuse is being managed by current arrangements around Australia.
- Government water charges within the Basin are not set in a fully consistent or transparent manner, possibly leading to distortions in the market. For the joint venture arrangements under the River Murray System, while there are regular reviews as to cost efficiency of the operations, the contributions by each party government reflect quite different cost recovery policies and lack transparency.
- Conjunctive management of surface and groundwater resources – eg. there may be opportunities in Northern Australia to start water planning processes with planned conjunctive management as an underlying principle and outcome.

Additional questions – environmental watering

What do you see as the key barriers to environmental watering (and how well the Basin Plan processes are likely to address these in the MDB)?

Environmental watering is an emerging practice in the overall context of Basin water management. There are several barriers that are being addressed through Basin Plan processes:

- Basin states have proposed constraint relaxation projects to increase the regulated limits to which managed flows can be delivered to waterholes outside of main river channels
- Basin states have committed to introducing policies to address constraints to the delivery of environmental water
- Enhanced environmental water delivery by more closely linking environmental water management with river operations that deliver water for consumptive water users

The constraints relaxation and enhanced environmental water delivery proposals are part of the Sustainable Diversion Limit (SDL) adjustment mechanism.

One barrier that is not well addressed by Basin Plan processes is the need to build a stronger social licence for the use of environmental water. Effective community engagement processes at local and regional scales are required to build understanding, recognition and support for environmental watering. The establishment of local engagement officers by the Commonwealth Environmental Water Office and moves towards a stronger regional presence and outreach activities by MDBA may soon help this.

Whether the institutional arrangements for environmental water policy / management at the Commonwealth level are appropriate

It is relatively early days in the application and implementation of the institutional arrangements of environmental water policy and management within the Commonwealth.

In addition to the formal/legislated reviews of the settings of the *Basin Plan* (e.g. review of Chapter 8 in 2020, Evaluation of the Basin Plan etc.) opportunities to improve these arrangements are being actively pursued as part of a continual improvement philosophy. Examples include:

- changes to the *Water Act* to improve the Commonwealth Environmental Water Holder's (CEWH's) trading arrangements
- Work currently underway to map the environmental water management framework, via a series of network diagrams. It is expected that documenting the current environmental management framework will highlight where issues or opportunities might lie as well as providing leverage for improvement.
- Enhanced environmental water delivery proposal proposed as part of the SDL adjustment mechanism will provide a significant opportunity to review institutional arrangements for environmental water delivery and make sure they are appropriate and effective.
- In 2015 the Southern Connected Basin Environmental Watering Committee (SCBEWC) was established to enable better coordination between environmental water holders in the southern connected basin and river operators –Membership comprises river Operators and holders/managers of environmental water from the Governments of Victoria, New South Wales, South Australia and the Commonwealth. It is relatively early days for this coordinating committee, but it is proving to be an effective forum for coordinating the planning and delivery of large volumes of water across multiple water holders, river operators and state boundaries.

In future it is likely that further improvements to streamline governance arrangements and manage the southern connected basin as a single system will be possible. Similarly, there are early discussions in train to look at the options for coordinating flows from different valleys in the northern basin (noting that opportunities are more limited in these more unregulated valleys).

Additional questions – social, cultural and indigenous outcomes

Opportunities to use environmental water for other public benefit outcomes (particularly recreational-type uses and Indigenous uses)

As set out in the Basin Plan, environmental watering will be undertaken primarily to achieve environmental outcomes. At the same time, environmental watering can contribute to some outcomes sought by the broader community including recreational uses and Indigenous uses. However, recreational needs and Aboriginal peoples' concept of cultural water or cultural flows is broader than can be accommodated through environmental watering alone.

There are several examples of water managers across the Basin working with Aboriginal stakeholders to deliver "public benefit outcomes" for Aboriginal people, however this is usually done on a site by site basis or through formal agreements with specific Nations. For example the CEWH has a Partnership Agreement with the Ngarrindjeri Regional Authority for the use of environmental water in the Coorong and Lower Lakes in South Australia. The MDBA is working the Murray Lower Darling Indigenous Nations (MLDRIN) and Northern Basin Aboriginal Nations (NBAN) on ways to integrate Aboriginal people's

perspectives on environmental outcomes into long-term watering planning at the Basin scale.

Additionally, opportunities to use environmental water for other public benefit outcomes are largely not by design. Environmental water use is primarily planned for achieving environmental outcomes. Other public benefits are supported (water quality, tourism, recreational fishing, etc.), but are typically secondary to environmental considerations.

However, there is some early evidence of planning and water use that is more cognisant of supporting other public benefit outcomes. For example, each year Victoria's North Central Catchment Management Authority hold a planning day at Gunbower forest with Yorta Yorta and Barapa Barapa traditional owners. Traditional owners and icon site managers go out onto country, share results and discuss ideas for new projects which directly feed into watering and monitoring proposals for the next year at the Gunbower icon site.

Are there examples of where water is provided to achieve cultural outcomes even though there is no material environmental benefit?

MLDRIN and NBAN have published their own definition of Aboriginal environmental outcomes to demonstrate the difference between outcomes from cultural flows and environmental flows. The definition includes examples of flows that provide cultural outcomes and that have no environmental benefit. However, at present there are no examples of where the delivery of such flows has occurred as Aboriginal Nations do not yet own cultural water entitlements. Researchers, MLDRIN and NBAN are currently finalising research into cultural flows through the National Cultural Flows Research Project.

Additional questions – lessons learned

What have you learnt that may be relevant to water resources outside the Basin. For example, in relation to:

a. *using scientific knowledge and socio-economic assessment to inform the setting of the balance between consumptive use and the environment*
b. *setting environmental watering priorities taking into account local and broader perspectives*
c. *factoring in all forms of take (e.g. how important is it to manage interception?).*

Knowledge

As indicated above, the MDBA is not aware of areas outside the Basin using explicit science-based 'triple bottom line' approaches to setting limits on resource use. It would be useful to assess the extent to which the risk of overuse is being managed by current arrangements around Australia. The NWC developed some early metrics / report cards to

try and enable a fair comparison about the status of water use in different parts of the country relative to the nature of the resources and the demands placed on them. This work could be usefully updated or built on.

The Basin Plan is designed to change in response to new information, such as that gathered through the Northern Basin Review which informed a proposal to change the northern Basin water recovery target. Through the review, new information has improved our understanding of water-dependent ecosystems, and how water recovery has affected communities, floodplain graziers and Aboriginal people. The Authority drew on this new information, along with findings from community consultation, and used their judgement to consider and weigh up a large amount of complex information. Reducing the recovery target from 390 GL to 320 GL offers better social and economic outcomes for some irrigation communities compared with the current *Basin Plan*. Along with complementary 'toolkit' measures to further enhance the benefits from water recovery, the proposal delivers almost equivalent environmental outcomes by taking a more targeted approach to water recovery.

Environmental watering priorities

Setting environmental watering priorities for the Basin happens at the Basin scale, regional or catchment scale and site scale. As a fundamental principle the best environmental watering occurs within an overarching adaptive management framework with clear long term outcomes and informed by local and regional knowledge. The challenges in the Basin that could be relevant to other water resources in other catchments, include:

- coordinating and streamlining community engagement to inform all of the different scales of planning to avoid duplicative or confusing processes and engagement fatigue in the community
- building capacity within local communities to understand River Operations and environmental watering activities in order to constructively participate in the setting of priorities
- managing the time lags (including environmental response lags) in obtaining monitoring data from environmental watering events that's able to inform the following seasons planning

Interception

The Basin Plan requires WRPs to manage risks in growth of new forms of interceptions. MDBA notes that the estimates of interception it used to develop the Basin Plan have not generally been improved by states. We consider it important for such improvements to occur on a risk basis, and believe that the application of new technology such as the remote sensing 'datacube' managed by Geoscience Australia could have useful application.

Opportunities/challenges for better integration of water use and other NRM activities:

The basin states were very clear when the Water Act was negotiated that MDBA's remit was not to extend into wider NRM activities, presumably because they wanted to retain control over these issues.

It is generally recognised that achieving full benefits of the Basin Plan will depend to some extent on complementary NRM activities such as riparian zone management, control of feral species, pesticides and soil conservation.

MDBA has commissioned CSIRO to lead, in collaboration with jurisdictions, the development of a method to assess the relative environmental benefits of non-flow related NRM activities in supporting the achievement of the Basin Plan's environmental outcomes.

MDBA considers there is a need to manage risks to water reform objectives more holistically taking account of flow-related and non-flow related risks. We believe there may be merit in a review of NRM activities broadly, to help target government investments and intervention decisions to ensure best overall benefits.

What steps have been taken – or should be taken – to integrate water quality objectives into water planning arrangements?

Water Quality Management Plans are a requirement for Basin states to prepare as part of water resource plans, noting that the plans must identify causes of water quality degradation and measures to achieve water quality objectives.

Water resource management - property rights:

The *Basin Plan* specifies that water resource plans outline water access rights of water holders under each states water management law.

Questions from issues paper (page 13)

What steps have been taken – or should be taken – to:

- *Unbundle entitlements in unregulated surface water and groundwater systems?*
- *Incorporate all water uses (for example, the mining industry) within one planning framework?*

Other than NSW, unregulated and groundwater rights in the Basin are still partially bundled with land. There is a question whether the administrative burden and cost associated with full unbundling is warranted in the majority of these areas. The majority of these systems are either small in area with a very limited number of users or large in area with limited numbers of users and unassigned water. This means any trade benefits associated with unbundling would be limited. In particular in those areas where a state has the ability to release more entitlement with the management limit.

MDBA accepts that unbundling should not be pursued without reference to the transaction costs. Guidance or case studies to help state governments with these decisions may be useful.

What new water sources should be brought into a water entitlement process and why?

There may be benefits in simplifying the entitlement processes around managed aquifers.

Water resource management – trade

The *Murray Darling Basin Agreement* provides for interstate water sharing arrangements across the Southern Basin.

The *New South Wales - Queensland Border Rivers Agreement*, and *South Australia Victoria Groundwater Borders agreement* also provide for interstate water trade in other areas of the Basin.

The MDBA and Australian Competition and Consumer Commission regulate the Basin Plan Trading rules, through powers under the *Water Act 2007*.

Questions from Issues Paper (page 18)

To what extent has the NWI goal of open water trading markets been achieved?

States removed a number of significant administrative barriers to entitlement trade prior to the commencement of the Basin Plan. However, there are still some unnecessary impediments to trade, especially in relation to allocation trade.

Although the Basin is considered one of the more mature water markets in the world, compared to other type of markets (i.e. commodity or share markets) it is quite immature. The 'openness' of water trade is going to correlate with the degree of maturity in the market and the nature of the resource and its use. For example, water is less fungible in the northern basin where licences are often associated with significant private investments in off-stream infrastructure (or ring tanks). That said, MDBA considers there are opportunities to further reduce barriers to allocation trade, to improve the availability of timely information, and to reduce the transaction costs associated with trade.

Are there worthwhile opportunities to expand trade to new regions and water resources?

Considering the current maturity of Basin markets, trade is available in most regions of the Basin where it is reasonable bearing on mind the size and depth of the market and the cost of establishing a market.

Are there restrictions on trading water that are unwarranted and should be removed or revised?

Some restrictions on water trade are necessary. Although the Basin Plan requires free trade in surface water systems, states can impose restrictions when necessary. These restrictions include the management of third party impacts, protection of the environment, or to address physical constraints/connectivity issues. The MDBA's current focus is determining if restrictions are necessary. We use a risk-based approach, with priority given to restrictions that would have the biggest impact on a well-functioning water market. Where we determine that a restriction is not necessary, we work with States and rights holders to identify a path to compliance.

Are there actions that governments should take to reduce costs and delays of trading water, including for inter-region and interstate trade?

The MDBA works with states to improve interstate trade processing in the southern connected basin, especially processing trades across the Barmah Choke. More frequent (i.e. hourly) exchange of information between state registers would reduce delays in interstate trade, especially for trades across the Barmah Choke, when a delay may result in a refusal. Further improvements to state registers would increase the speed of processing. Current systems are automated but rigid. Making these improvements to the speed of processing will need to be carefully planned to ensure they can handle changes to market rules when they are required.

How can water market information be made more timely, reliable and accessible in a cost-effective way?

Improved quality assurance by states and infrastructure operators could significantly improve the accuracy of price information. Greater clarity in relation to zero dollar trades will improve accuracy and reliability of price data. Similarly, consideration should be given to accommodating other off-market transfers, which are often between related entities, so that market participants can better gauge the depth of the allocation market. Instantaneous market information is unlikely to be cost effective. However, data to be useful for market participants should be publically available and accessible within 24 to 36 hours of a trade being finalised. Increased frequency of reporting to the BoM under the *Water Act* regulations, combined with the BoM's technical expertise may warrant further exploration.