

**SUBMISSION TO PRODUCTIVITY COMMISSION INQUIRY INTO THE PROGRESS TOWARDS
ACHIEVING THE OBJECTIVES AND OUTCOMES OF THE NATIONAL WATER INITIATIVE**

From- Mrs Jan Beer

The National Water Initiative has been particularly successful in implementing an open water market policy and removing barriers to water trading thus enabling water to be traded to its highest value use.

In doing so, it has overseen the environmental degradation of our 3 major river systems, created irreparable economic and social harm to family farms and regional communities. It has clearly shown that its objective of an open water market is not compatible with community well-being or equitable access to water by all industry user groups.

The NWI objective of achieving an open water market is not compatible with optimising economic, social and environmental outcomes

We have seen the largest wealth transfer in the agricultural sector in our nation's history, with the implementation of an open water market policy, facilitating the transfer of water from family farms which are the backbone of Australian agriculture, to the corporate sector.

With regard to **Clause 23 vi) clarity around the assignment of risk arising from future changes in the availability of water for the *consumptive pool***;

There is compelling evidence that the objectives of the NWI are clearly not being met as there has been a complete failure to this point by all jurisdictions to clarify the bushfire impacts on reduced water availability for the consumptive pool, despite long-term evidence of this for the duration at least of the existence of the NWI. And more importantly there has been a complete lack of any action to take on board the reduced availability of inflows due to bushfires.

Since 1997 we have seen serious long term droughts in the MDB as well as major bushfires, the 2003 fires, 2006-2007 High Country fires, the Black Saturday 2009 bushfire and the recent 2019-2020 bushfire, yet we have state and Federal Govts that are incapable of adapting water resource management with flexibility and speed that is required in the reality of present day climate change.

Bushfires area burnt:

2003- 1,923,592 ha in VIC, NSW ACT

2006-2007- 1,048,238ha The Great Divide/High Country fires

2009 - 450,000ha Black Saturday fires

2019-2020 - 18.6 million ha Black Summer bushfires

It is a known scientific fact, that immediately after bushfires there is increased rainfall run-off for a short period, which then changes to greatly reduced run-off for the next 100 years

as the new trees and vegetation continue to suck up ground moisture. A great percentage of the total bushfire area burnt is in the Murray Darling Basin catchment.

It appears that jurisdictions indeed do have a 'set and forget' mentality that leaves farmers and regional communities vulnerable and struggling to adapt with reduced water availability.

With regard to Clause 23 ix) addressing future adjustment issues that may impact on water users and communities”

It has also long been known that there has been a decided step change in climate, yet there has been a failure by all jurisdictions of any ongoing adaptation in water planning and management so that Australia can continue to make the best use of its limited water resources in light of population growth, and a changing climate scenario.

Panellists from DELWP, BoM, Monash and Melbourne Universities on the 2020 Water Security series run by University of Melbourne declared: “Victoria’s rainfall has changed over the past 35 years. Low pressure systems bring less winter rain while thunderstorms likely bring heavier summer downfalls. The Millennium Drought from 1997–2009 meant lower runoff across the state. And even though the drought ended in 2010, many catchments have not returned to pre-drought levels of runoff” and scientific thought is that they are unlikely to do so anytime in the near future.

The CFA Southern Australia Seasonal Bushfire Outlook 2017 states:

Victoria has experienced below average cool season rainfall in 17 of the past 20 seasons. Very long-term deficiencies like these are not matched in the historical record. Climate Change now means that Australian temperatures are usually above average.

The CSIRO was commissioned by the MDBA to undertake the science review of estimation of Environmental Sustainable Level of Take for the MDBA 2011 and found:

- a) **MDBA has determined SDLs using the historical climate and inflow sequences and has not modelled the consequences of future climate on the ability to meet the hydrologic targets under the proposed SDLs.**
- b) **It is not clear why an investigation of the risk climate change poses to the environmental objectives of the Basin Plan has not been undertaken.**

The MDBA Operating Report 2017-2018 states P.4

“The climate is changing and the River Murray system has experienced record breaking droughts, summer floods, and extreme temperatures in the last decade. The Bureau of Meteorology reports that southeast Australia has experienced a decline in late autumn and early winter rainfall since the mid 1990s.

The traditional river system planning methods (adopted in this document) use observed historical inflow and demand patterns as a foundation. Such observations may no longer represent the variability of future seasons.....”

A UNIVERSITY OF NSW HYDROLOGY report has found that the amount of rainfall converted into streamflow is falling, evaporation losses are rising and soils are drier. The study found a clear pattern that reduced streamflows despite increased rainfall intensity was due to the soil-drying effect of increased temperatures. Using observed flow and rainfall data from across the world and NOT uncertain model simulations has shown a real-world effect that on average river flows are reducing.(Stock and Land 24th August 2017)

The Victorian Northern and Murray Water Resource Plan stated that stream inflows have reduced by 50% over the last 20 years.

Deliverability

The open water market does not take into account the reality of delivering water further and further downstream over vast distances from basin storages. The many restricted channel capacity or chokes on the Goulburn, Murray and Murrumbidgee limit the volume of water that can be delivered. Attempting to deliver ever increasing volumes downstream is creating bank erosion and causing greater future channel capacity reduction.

The Barmah Choke has reduced from 8500ML/d to 7000ML/d. (see MDBA Barmah Choke Fact Sheet <https://www.mdba.gov.au/sites/default/files/pubs/The-Barmah-Choke-fact-sheet-Aug-2019.pdf>). There are 3 main chokes on the Murray in the mid -section; Hume to Yarrawonga 25,000ML/day, Millewa or Tocumwal 9,200ML/day and the Barmah 7,000ML/day. Then you have the other main transportation stream by- pass, the Edward/Gulpa approx..2000ML/day. The Molesworth Choke (9,500ML/day) on the Upper Goulburn and the choke at Tumut on the Murrumbidgee(9,500ML/day) are other major restrictions to deliverability.

With regard to Clause 23 vii) water accounting which is able to meet the information needs of different water systems in respect to planning, monitoring, trading, environmental management and on-farm management and,

INFORMATION REQUEST 5 How could the NWI be amended to support best practice monitoring and compliance across jurisdictions?

Basin wide intensive catchment by catchment telemetry real-time gauging network must be installed. This should have been established as the building blocks of the NWI and Basin Plan, as only then, is it possible to accurately model and manage streamflows, storage releases, rainfall, run-off, environmental return flows. There has been a concentration on irrigation compliance and monitoring but merely guesstimate used in basin wide management of environmental flows.

In the Goulburn catchment, there is a paucity of real-time telemetry streamflow gauges, with 50% of the catchment ungauged. 45% of the Yea/Murrindindi catchment is not gauged; 57% of the Goulburn catchment from Eildon to Trawool is ungauged. To my knowledge

there has been no increase in the number of telemetry gauges in the Upper Goulburn Catchment in the last 30 years, yet this is a major tributary to the Murray .

“The availability of, and access to, up to date rainfall and river flow/level data is critical for flood forecasting in rapidly reacting river catchments. Without this data, the BoM is limited in its ability to fit and then utilise a rainfall runoff model for the catchment and limits its ability to provide timely and accurate flood predictions.” (The Comrie Report December 2011 Page 49)

The CARM (Computer Aided River Management) gauging system installed on the Murrumbidgee River involves improved monitoring and automation to give greater flexibility and control of flows and water delivery.

Responsible and capable management of the MDB with its climate extremes is virtually impossible until there is a similar comprehensive system of gauging throughout the entire basin.

NWI Clause 59 “ The States and Territories agree to have in place pathways by 2004, leading to full implementation by 2006, of compatible, publicly-accessible and reliable water registers of all water access entitlements and trades (both permanent and temporary) on a whole of basin or catchment basis, consistent with the principles in Schedule F. The Parties recognise that in some instances water service providers will be responsible for recording details of temporary trades.”

Fourteen years later and this has still not occurred.

Request 3 The Commission welcomes feedback on the matters that should be considered for inclusion in a renewed NWI

The balance between consumptive and environmental use MUST be re-calculated, as the environmental water requirement has been based on outdated historical climate data 1895 - 2009 and flood flows from 1960-2014 which no longer occur, due to a distinct step change in climate. The Sustainable Diversion Limit is not sustainable and there is no appetite between jurisdictions to co-operatively confront this reality.

All jurisdictions have been incapable of moving nimbly with flexible and adaptive management to take into account the present day reality of our changing climate which has seen a 50% reduction in MDB stream inflows.

There has been a blinkered dogmatic approach to fulfilling the acquisition of a set volume of environmental water at any cost. Not only can this water volume not be achieved, nor can it be delivered due to the restricted channel capacity of 9,500ML/day or less in the main three systems.

With regard to: **Clause 25 xi) protect the integrity of water access entitlements from unregulated growth in interception through land-use change.**

Through lack of a co-operative approach all state jurisdictions have completely failed to protect water access entitlements and therefore the objectives of the NWI.

- Due to the illegal and unregulated Floodplain Harvesting NSW and Victoria have had to supply 39% more water to SA that would normally have been supplied by the Darling. This has led to zero allocation in the NSW southern Murray low security entitlements.
- Large government funded dams for horticulture development on the Murrumbidgee have created a disconnect of 'Bidgee flows to the Murray.
- Horticultural plantation development further downstream on the Murray and increasingly distant from basin storages in semi-arid areas where conveyance losses are greater, have been ratified by state governments. Larger conveyance losses leaves less in the consumptive pool to be allocated to irrigators. This movement of large volumes of water entitlements downstream has also created deliverability problems and consequent environmental damage to the Murray, Edwards and Goulburn Rivers.
- The open water market policy encouraging water to be sold and traded to its highest value use has led to the near collapse of the largest irrigation district in Australia, the Goulburn Murray Irrigation District. With the consumptive irrigation pool falling from 1600GL/yr to 850GL/yr, and continuing to fall, as water is continually traded downstream to almond and olive production, the system in the near future is in danger of failing to be able to fulfil water access entitlements.
60% of Goulburn Murray Water customers have little or no water, but still paying fixed fees such as delivery shares.
44% of Loddon Valley meters and outlets did not turn or deliver any water and it is estimated another 10-15% would have used less than 10ML last season.
The Goulburn Murray Irrigation District, has seen an investment of in excess of \$2 Billion of taxpayer dollars through on-farm infrastructure, but in the very near future is in danger of having insufficient water in its consumptive pool to be viable.

The report *Future Scenarios for the Southern Murray-Darling Basin: Report to the Independent Assessment of Social and Economic Conditions in the Basin* (Gupta, Hughes, Whittle and Westwood) states one of their key findings was – “In the future market scenario prices are estimated to remain above \$200 per ML in 8 out of 10 years. While water prices in 2018–19 (around \$445 per ML) would be considered high relative to historically observed prices, the same price would be considered an average price in the future, occurring much more frequently.” This is particularly significant as the report stated Page 8 “A recent survey of dairy farmers in the Goulburn-Murray Irrigation district suggested most (56%) would not consider purchasing water at prices above \$200/ML (Dairy Australia 2017).”

INFORMATION REQUEST 6

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

Is the monitoring and assessment of environmental outcomes sufficient?

Environmental outcomes have never been specified clearly enough. Apart from authorities stating that a certain volume of water is required at certain sites, where does any document state specifically what ecological outcomes are being sought?

I have never seen any document that specifically states the environmental damage created by “just adding water”. No mention at all of bank slumping, the loss of mature red gum trees falling into rivers, loss of critical bank vegetation, proliferation of carp, increased hypoxic black water events, spread of invasive weeds such as lippia.

Complementary measures should have been used in conjunction with environmental flows from the very beginning. Instead we have seen authorities only starting to use these measures in response to criticism by communities.

Consequently, due to the objective of attempting to deliver ever increasing water volumes downstream for flows to SA and to fulfill allocations to horticulture developments, severe environmental damage is occurring in the Goulburn, Edwards and Murray Rivers, particularly at the iconic Barmah Choke which has a channel capacity of only 7,000ML/day (see Barmah Choke Fact Sheet).

The following must be immediately reviewed by Federal and State jurisdictions as they are not feasible or achievable:

1. 80,000ML/day delivered to the SA border for a period of 5 weeks 1-2 times every 10 years
2. Recovery of 450GL upwater. Both the Victorian and NSW Water Ministers have stated that no further water can be recovered from their states due to severe socio-economic impacts.
3. Maintain the Murray Mouth open for 95% of time without the need for dredging.
4. Constraints Strategies. Landowners refuse to allow their private property to be inundated by man-made floods.

There has been no review of the reality of proposed environmental outcomes despite the fact that jurisdictions know they cannot be achieved. With regard to this, there has been a complete lack of integrity, accountability and respect for basin communities.

END OF SUBMISSION