

**Submission
No 83**

**INQUIRY INTO RATIONALE FOR, AND IMPACTS OF,
NEW DAMS AND OTHER WATER INFRASTRUCTURE IN
NSW**

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Submission to inquiry into the rational for ,and the impacts of,new dams and other water infrastructure in NSW.

I live and work with my family in the Macquarie Marshes in central west NSW. My family have had continuous ownership of our land for 86 years and I'm the 4th generation family member to relay on this land for our living.

Sustainable land management has underpinned our business for the last 30 years and part of our land is listed under **the Ramsar convention (U block)** that we graze beef cattle on under the wise use principal (wise and sustainable use of the wetland for the benefit of humanity in a way that is compatible with maintenance of the natural properties of the eco system). As a private Ramsar manager I have a Ramsar management plan for the site and I take extremely seriously the responsibilities around responsible land management.

I also have an interest in the way environmental water is managed and have held the position of our community representative on our local Environmental Water Advisory Group for 12 years. I am also the president of our local landholder conservation group, The Macquarie Marshes Environmental Landholders association (MMELA), as well as having sat for many years on the Stakeholder Advisory Panel (SAP,) firstly undertaking a remake of the 2004 water sharing plan that become the Water Resource Plan.

RE REGULATING WEIR

The proposed re regulation weir at Gin Gin will have a devastating impact on U BLOCK (private Ramsar site) and the wider Macquarie Marshes Ramsar site. The Ramsar site has had a major change in ecological character since the listing of the site. The Macquarie marshes underwent a notification as to the change in ecological character (Article 3.2). Measures to restore the Ramsar site to health have been delayed as a result of both the 2002/2010 (millennium drought) and the even worse 2017/2020 drought that saw the river stop at Warren, the first time since the completion of Burrendong Dam 53 years ago. Both the NSW government and more recently the Commonwealth government attempted to play a part in returning the Ramsar listing to its original ecological character description by purchasing water. While in theory this was a positive move, unfortunately the water purchases occurred in a similar timeframe as water trade became available in the Macquarie. The result of water trade has seen a massive decline in the reliability of general security entitlements (for many reasons but mainly the ability to move large volumes of entitlements that previously sat in the Dam). So while the volume of water holding by governments (HEW) has greatly increased on paper the water actually available to start the restoration of the Ramsar sites to health has actually been reduced.

Water NSW are the river operators and publicly state that their aim is to reduce both surplus flows and reduce losses. For water NSW to have claimed they have assessed the impact on the Macquarie Marshes and the impact will be minimal is incorrect. Water NSW referenced the Secretary's environmental assessment requirements (SEARS) and they interpreted that they would undergo an environmental **assessment to** the Macquarie Marshes. When we brought this to their attention they decided that this was an oversight and now they have agreed to include the impact including the Macquarie Marshes. This indicates to me that Water NSW cannot be trusted at all and they must be made to carry out a full assessment to the Macquarie Marshes as well as the flows that enter the Barwon/Darling.

Reduction of flows to Marshes

Water NSW presented the following to our community in April 2020. The change in the low flows and freshes (less than 1000ML/day) is completely unacceptable and is going to have impacts on the Ramsar sites within the Marshes as well as the connectivity to the Barwon River.

Change in long term environmental water plan metrics

- **U/S Marebone Weir:** –Flows > 2,500 ML/d no change (Large freshes-Overbank)

–Low Flows and Freshes—generally **reduced 3.4%** (range 2.5% to 6.2%)

- **Oxley:** –Flows > 1,000 ML/d no change (Large freshes-Overbank)

–Low Flows and Freshes—generally **reduced 4.3%** (range 3.9% to 5.3%)

In January 2019 there was a massive fish kill in the Darling at Menindee and as a result of many enquiries by both state and federal governments it's clear that the over allocation of the tributaries of the Barwon /Darling combined with severe drought has led to this massive fish kill. The Macquarie is an important tributary to the Barwon providing critical stream flows during the spring /early summer when many other tributary flows traditionally occur in the mid-summer as a result of the NORTHERN MONSOONAL influence on the Northern Basin. Water NSW have failed to provide any assessment to the proposal on critical stream flows to the Barwon/Darling. Any reduction of base flows at both Marebone and Oxley **will** have impacts to the stream flows coming out of the Marshes and entering the Barwon River.

Having lived in the Macquarie Marshes for over 50 years and watching the continued deterioration of the wetland I have observed the reduction of both **the Australasian Bittern and the Australian Painted snipe** as well as Latham's Snipe (migratory species), international migratory species like the shorebirds – Marsh Sandpipers, Greenshanks and Sharp-tailed Sandpipers and the proposed re regulating structure will have significant impacts on these birds as well as many others. For Water NSW to claim the impact of the proposal will have minimal impact is wrong and they fail to show any evidence of this statement. Any reduction or alteration of flows will have a negative impact on the vegetation community's that these species both shelter and feed in the wetland.

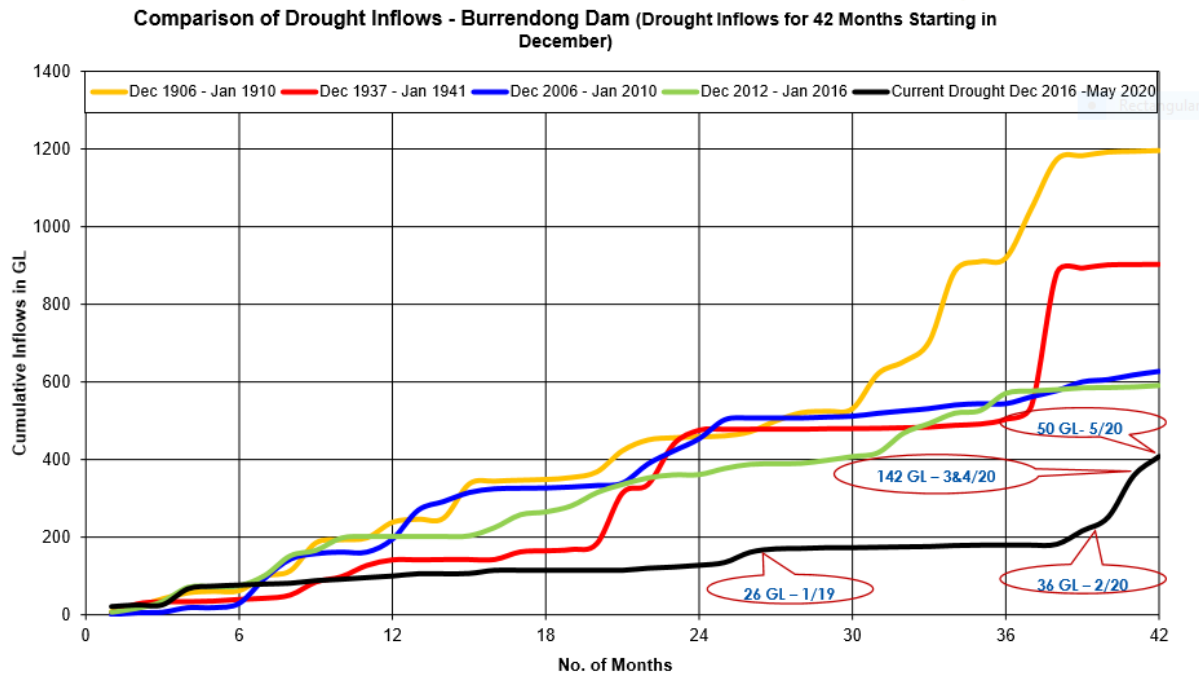
In the Ramsar management plan for U block, I have included management strategies that both restore and promote the recovery of both common reed and water couch that are the dominate plant species in the wetland. This management system has also led to the recovery of a large area of Marsh club rush (*Bolboschoenus fluviatilis*) that is listed as an endangered ecological plant community (**Marsh club-rush sedge land in the Darling Riverine Plains Bioregion EEC**). The proposed reregulating structure will compromise this recovery.

Tributary flows

I have asked Water NSW to provide the historical usage of tributary flows to fill water orders, this has become standard operating practise as an attempt to prevent the continued drop in general security reliability by the river operator. The fact that after I have demanded that water NSW be transparent and provide the operational data and they have failed to do so has led me to the conclusion that the proposed weir will actually be used to capture more tributary flows than is current practise. Without these figures there is no benchmark and it is expected that more tributary flows will be captured and re allocated to water orders, resulting in even less water arriving in the Marshes. The potential capture of tributary flows will have catastrophic impacts to the Ramsar sites in the Marshes. The only way that anything like a natural event can be achieved is by protecting these tributary events. The claim made by Water NSW that the environment will see increases in the environmental entitlements, while on paper is partly correct, it's actually removing natural flows and storing water in dams to allocate when the environmental water managers chose to do so. The water from tributary flows is often sediment rich and provides much nutrient replacement to the wetland that cannot be achieved by the managed environmental water.

Water security

Water NSW claims that the proposed re regulating storage is about improving water security. If water NSW was at all interested in improving water security then they should set the available water determinations (resource assessments) on the worst drought of record (also called the lowest accumulated inflow data) instead of this approach water NSW allocate water on the 1937 inflow figure (shown below in red) As an attempt to allocate as much water as possible to a system that is greatly over allocated. The policy settings fail to plan for the worst case and as a result the river runs dry as it did in 2019 for many months. The only way to improve water security is to use the most recent drought inflow figures (shown in black) still today after 42 months the inflows are 400gl below the inflow figures used to set allocations.



Climate risk

The proposal also fails to include the risk of climate change and while in the Macquarie its predicted that the variability of stream flows will increase, meaning that the wet times will likely be wetter and the dry times be drier. The proposal will not provide any benefit to the health of the wetland should climate change predictions eventuate but will actually hasten the ecological decline as much of the water dependent ecosystem becomes more like a floodplain.

Wetland/floodplain

The Macquarie Marshes are characterised by the intermittent and seasonal (i.e. inter-annual) transition between wet and terrestrial plant communities in response to variable flooding regimes. These plant communities exist as a complex mosaic in the landscape providing important refuge and breeding habitat for many different waterbirds, fish and frogs at any one time. We know that if the flooding regime is disturbed the change from wet to terrestrial plant communities becomes more permanent. Studies have found that plants that typically characterise wetlands on floodplains (e.g. perennial grasses and sedges) are vulnerable to dry periods because they lose resilience (i.e. the

seedbank is depleted and/or vegetative propagules become inviable). With re-wetting these plant communities are therefore more likely to be replaced by terrestrial opportunistic annual species rather than wetland plant species (rolly polly and Bathurst burr). We know that droughts (multi-year dry periods) will become more common and protracted therefore increasing the time between floods and reducing flood frequency. We also know that river regulation has exacerbated the cumulative impacts of droughts. These facts will inevitably change the character of floodplain wetlands.

It must be noted that both the unregulated irrigation entitlements in the Lower Macquarie will be reduced as a result of the proposed weir as well as the grazing systems that play an important part of the wider community occurring on the floodplain. Claims that the proposal will improve water reliability (water NSW) will only be a benefit to some and will have a negative impact to many others.

In summary, as a long term resident of the Macquarie Marshes my community has been told that the impact of many and varied projects both in stream and in the upper catchment are likely to have minimal impact to the Macquarie Marshes and the connectivity to the Barwon river, but as all these little impacts combine together become a huge impact. That's where we are now and allowing water NSW (the river operator who are tasked with servicing their customers) to build the re regulating weir is going to speed the eco system collapse. It will be the straw that breaks the camel's back.

The proposal has failed to include the negative impacts of the project. The grazing industry and the unregulated irrigation industry has not been assessed as to the likely impact of the proposed works so any claims of water security and or improved efficiencies will come directly from downstream communities.

Holding water up in new storages does not create more water, it does however allocate water from one existing use and create opportunities for other users to benefit.

This was clear when the Murry Darling Basin CEO Philip Glyde was questioned in senate estimates hearing when asked if they will stay within the CAP, his answer was **the proponent of the dam would be the entity that would have to acquire that water from within the market**. This shows that the MDBA is expecting the NSW government to acquire the water that is captured in the proposed dam, this is not the case and NSW have no intention of buying water.

Please don't hesitate to call if any further information is required.

The Macquarie Marshes ecological community.

Supports one of three extensive river red gum woodlands (6000ha) in the Murray Darling basin.

Supports the Largest common reed beds in the Northern basin.

Is one of only two locations with extensive water couch marsh (6000ha) in the Murray darling basin?

Provides habitat for numerous threatened species listed at a state and national level.

Is recognised as one of the most important wetlands in Australia for waterbirds and provides habitat for some 72 species of waterbirds including 43 species which breed in the Marshes.

Is the most important colonial nesting waterbird breeding site in Australia for both species diversity and density.

Supports one of the largest breeding colonies of intermediate egrets in southern Australia.

Provides an important habitat for 17 species of migratory bird species covered under international agreements for the protection of migratory birds and there habitat