

Committee Secretary
Senate Standing Committees on Rural and Regional Affairs and Transport
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Dear Committee Secretary,

My name is Melissa Gray, I was raised on an irrigated vegetable farm on the Clarence River. I have lived in Kakadu NT and Griffith NSW building my bookkeeping practice. Professionally my ambitions are to help develop new and emerging accounting and economic frameworks like 'Natural Capital Accounting' and 'Buddhist Economics' that seek to allow nature its rightful (and significant) share of the national balance sheet.

Through my involvement in Dubbo Macquarie River Bushcare I am currently the Healthy Rivers Ambassador for the Macquarie and Castlereagh Rivers based in Dubbo NSW. The Healthy River Fellowship I am a part of is a project supported by the Lifeblood Alliance, made up of the groups; The Inland Rivers Network, Australian Conservation Foundation, BirdLife Australia and The Murray Lower Darling Indigenous Nations.

I am in the process of building a grassroots community network of people who support the restoration of our rivers to health. Since June 2017 in Dubbo we have organised:

- a full day workshop with 13 attendees on river health in the Macquarie Valley
- run a local petition supporting the Murray Darling Basin Plan in full 3,200 GL which has added 900 signatures to a basin wide petition of over 20,000 signatures
- held a very successful town hall meeting on river health and issues with over 100 attendees, some travelling 400km plus to attend.
- are now planning a bus trip to Canberra for a Water Week Summit for 3 days of learning and citizen advocacy, where we will be delivering our petitions to Malcom Turnbull.

While I humbly accept that I am by no means an expert on the complexities of the Basin Plan, I do feel a responsibility to speak up for our rivers in this crucial time of their survival, and am deeply committed to doing so.

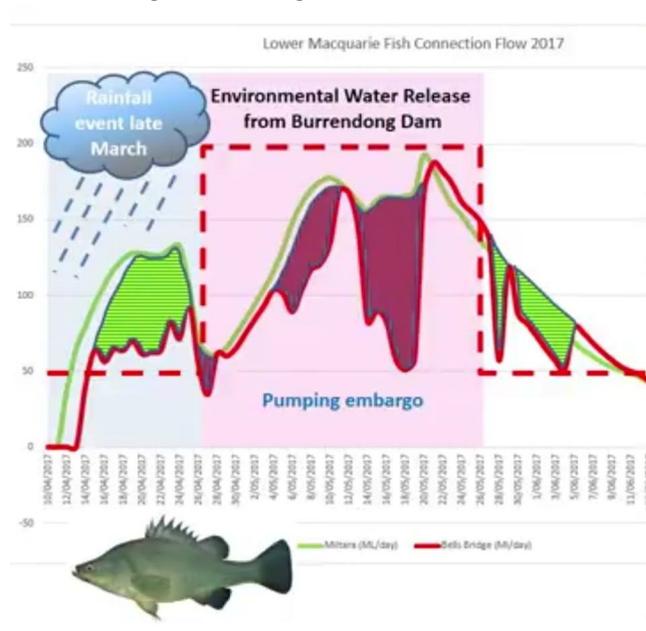
d. The use of Commonwealth-owned environmental water for irrigation purposes, and the impact on Basin communities and the environment

Environmental water has been paid for by the tax payer, its purpose is to support all life along the river system, creating a resilient river that can handle times of drought and bounce back as strong as ever.

Following a large rainfall event in the Macquarie Valley earlier this year an opportunity by water managers was identified to plan an environmental release, linking the Macquarie and Barwon Rivers for the purposes of attracting golden perch into the Macquarie Marshes for breeding. Some very serious negotiation skills were exercised by water managers, and a gentleman's agreement was formed where three lower Macquarie River irrigators agreed not to pump during the month long embargo. In good faith, two of the irrigators held to the agreement, however one irrigator pumped significant quantities of environmental water over three weeks during the embargo. If a genuine

miscommunication was the reason behind the breaking of the embargo, then the value of the water should be reimbursed to the Commonwealth Environmental Water Holder.

The hydrograph below represents the event; the elevation of the red dotted line represents the period of the embargo, the green line is the expected height measurements and the red line is the actual recorded heights. The red hatched area within the embargo period represents the water taken during the embargo, and is believed to be valued at over \$100,000.



Source: Murray Darling Basin Authority Native Fish Forum – August 2017.

On the Macquarie River, the Environmental Flows Reference Group does an exemplary job managing our rivers' water. As a group they are held up as an example of how mitigated rivers can be well managed. Their skills and time are very valuable, as is the financial value of the water they manage. The complex ecosystem and the life within the river that they are aiming to protect is priceless.

To quote from Ken Matthews interim report into NSW water management and compliance:
 "The Four Corners program also raised significant public concerns about the protection of water purchased by taxpayers for the environment. In the time available for this interim report it has not been possible to deal conclusively with this issue. However it is my strong view that action is vital and solutions need to be found as a matter of urgency. A threshold requirement is to deal with any illegal diversions from environmental entitlements. However, a lasting solution to the problem needs to also deal with water extractions that are within the present rules. The longer term solution needs to be transparent, simple, and understandable by an interested member of the public."

Environmental flows must be protected under law as a matter of urgency. The lack of protection for environmental flows under the current NSW laws is UNTENABLE.

f. Any other related matters – Protect and strengthen the Murray Darling Basin Plan.

The Murray Darling Basin Plan is a world first across borders plan, it was hard fought for and now we need to speak up for it.

Strong Independent Institutions

We need a strong independent institution overseeing the implementation of the Murray Darling Basin Plan (MDBP) to provide enough water in the rivers in good times so they are strong enough to bounce back after the next inevitable drought. It seems evident that the Murray Darling Basin Authority (MDBA) has gradually been stripped of its intended powers by vested interests and apparently corrupt public servants and a government that has both water and agriculture in the same portfolio. Reports in the media today 27/9/2017 by Michael Slezak for The Guardian allege the MDBA was aware of substantial water theft going on as early as July 2016 but took no serious action.

Separate the Water and Agriculture Portfolios by removing all natural resource portfolios off the National Party.

Drying Climate

The MDBP needs to account for a drying climate. Even the full 3,200GL per year flows the plan allows is not enough moving forward, with some ecologists unwilling to agree to a starting volume of less than 4,000GL per year. As water temperatures rise, so will algae blooms and water quality will suffer. Any suite of answers to issues raised by a drying climate includes first and foremost more water for the rivers.

Return Flows

The MDBP needs to consider the effect that increasing on and off farm water efficiencies have on return flows. Previously, a lot of extracted water would have seeped through the ground or used creeks and swamps to find its way back into the rivers before it was used on farm and thereafter have to be stored in tailings dams. Since efficiency measures like lining irrigation channels have been introduced and constructed with subsidies through the MDBP, significant volumes of water does not make its way back into the rivers.

Scientist Dr John Williams from the Wentworth Group of Concerned Scientists estimates that **300 billion litres** of river water is now not being returned to the rivers.

Internationally, major reports from the Food And Agriculture Organisation of the United Nations, the Journal of Hydrology and other hydrological literature from right around the world has been highlighting this issue; if you use water efficiently (which sounds attractive) without **significantly** reducing the take, you do not go forward. The current MDBP ignores this consideration. As Chair of the Water Forum of the Australian Academy of Technology and Engineering, Dr Williams made a submission to a government inquiry into water use efficiency. His concerns were pretty much dismissed by the MDBA, who said loses from works were only likely to impact rivers at the margins if at all.

This interview of Dr John Williams and Professor Quentin Grafton, River Economist with the Australian National University is my source:

http://mpeghmedia.abc.net.au/rn/podcast/2017/07/bst_20170727_0752.mp3

I join Dr John Williams and Professor Quentin Grafton in calling for a moratorium on subsidies for water use efficiencies by the MDBA and an audit of environmental water.

