

**Submission
No 71**

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

Organisation: Water for Rivers
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I am writing on behalf of the Water for Rivers Group. Water For Rivers is a campaign group in New South Wales which has 745 followers across the Murray Darling Basin. We are campaigning to stop the corporate pumps and revive the Murray Darling Basin.

We oppose building new dams and raising the walls of others as the answer to the state's water crisis based on evidence from water experts that these large infrastructure projects do not save water, but rather increase diversions of water for irrigation, killing rivers and leaving communities vulnerable to water insecurity. These dam building ventures are being rushed through without appropriate environmental or cost benefit analysis and will exacerbate the critical failures of water management and sharing in the Murray Darling Basin.

The World Commission on Dams (WCD) argues that "Dams fundamentally alter rivers and the use of a natural resource, frequently entailing a reallocation of benefits from local riparian users to new groups of beneficiaries at a regional or national level. (WCD's final report, Dams and Development: A Framework for Decision Making). "In too many cases an unacceptable and often unnecessary price has been paid... especially in social and environmental terms, by people displaced, by communities downstream, by taxpayers and by the natural environment," according to the WCD.

Last summer, as 90 New South Wales towns faced running out of water and farmers in the nation's food bowl (the Murray Darling Basin) faced ruin as water prices soared. The water market prioritises supply to those able to pay the highest price. The result can be seen in the Upper Darling River where nearly 80% in the northern catchment ended up in the hands of just two corporate irrigators. Meanwhile, the Baaka / Darling River ceased to flow, the Menindee Lakes became dustbowls and millions of fish rotted.

Such is the enormity of the inland water crisis, that communities have been left without safe drinking water. Conditions in some Aboriginal communities are so poor that life expectancy in Wilcannia is as low as 37 years for men and 42 for women at Wilcannia on the Darling River. (Findings by senior researchers at the Jumbunna Indigenous House of Learning, University of Technology Sydney, Ruth McCausland and Alison Vivian)

DAMS FACILITATE OVERALLOCATION FOR PROFIT AT EXPENSE OF PEOPLE AND ENVIRONMENT

The Federal and New South Wales government's response to allocate \$1 billion to build more dams and increase storage capacity at Wyangala Dam in central west NSW and Dungowan Dam near Tamworth will fail to drought-proof NSW. Continually throughout the recent drought crisis there was an excess of empty dam infrastructure across the state - building dams cannot make it rain. Building new dams does not address the impacts of drying and heating climate on inflows. Nor does more dam capture and storage address the disastrous overallocation of water. Rather dams can be shown to contribute to driving upward the price of water to benefit the few corporate irrigators and speculators at the cost of the many smaller farmers, residents and the environment.

Despite its massive capacity of 1,188 billion litres, Burrendong Dam, one of the biggest dams in NSW, empties at blistering speed, because the rules in the water sharing plan allow it to - encourage it to ". The Burrendong dam that supplies 70% of Dubbo's town water needs (8 billion litres a year) has nearly bottomed out three times. In the summer of 2019/20 plans were in place to suck the dead water from the very bottom of the dam. The river below Warren was allowed to dry up, followed by massive deaths of native fish, turtle, mussels, and other wildlife. People below Warren were left with no access to water from the river for their domestic and stock needs. Healthy Rivers Dubbo oppose plans for a new weir at Gin Gin on the Macquarie River saying it will result in a loss to the environment of about 25 billion litres a year.

It is evident from in NSW's 2014 State Infrastructure Strategy that the NSW Government knows the Macquarie River is over allocated. The irrigation industry has developed to a size where the natural capacity of the river has been exceeded. There is simply too much water being sucked out. The most effective, common sense way to address water security issues in the Macquarie Valley is to look at the glaring problems with the rules in the water sharing plan, not to pour many tens of millions of public dollars into a monstrous structure that will only benefit a privileged few.

The overallocation of water from rivers in NSW has been identified by scientists in a recent paper published in the Journal of Hydrology. Lead author, Celine Steinfeld, member of the Wentworth Group of Concerned Scientists says, "It was clear that water in the Macquarie had been overallocated." Much of the problem is created by a 'credit' rule which guarantees water allocations of projected inflows that are highly variable and declining rapidly. Steinfeld says 'the credit rule is essentially allocating clouds – water that hasn't even fallen in the catchment yet,' (SMH Clouds become water entitlements in ad hoc river plan, paper finds) These issues are repeated across the state.

International studies confirm that the supply-demand cycle where increasing water supply leads to higher water demand is a problem. "Over-reliance on reservoirs increases the potential damage caused by drought and water shortage," said Professor Giuliano Di Baldassarre of Uppsala University.

DAMS NOT ECONOMICALLY VIABLE AND AT GREAT SOCIAL AND ENVIRONMENTAL COST

Dams are also expensive. The upgrade of Dungowan Dam near Tamworth involves increasing the dam's capacity from six to 22 gigalitres. The additional 16 gigalitres is estimated to cost \$480 million, or \$30 million per gigalitre. To put that in perspective, the Department of Agriculture and Water Resources budgets \$3 million per gigalitre for its current water recovery, according to a cost analysis conducted by The Australia Institute.

More often than not, dams in regional Australia do not provide value for money. The only dams built in thirty years have been private dams financed by the Government's water efficiency grants schemes. There have been between 20 and 30 new private dams built, each several square kilometres in size. Politicians do not like to talk about these dams, as they do nothing for drought-stricken towns, struggling rivers and down-stream water users.

There are far higher requirements in terms of public consultation, environmental and economic assessment for any such state funded project. The National Water Initiative states that all water infrastructure proposals must "continue to be assessed as economically viable and ecologically sustainable prior to the investment occurring". But until this inquiry the NSW government has appeared determined to circumvent lengthy environmental approvals, land purchases and business cases to begin the construction of these new public dams by 2021.

The case for building new dams runs counter to the terms of the national water contract – the Murray Darling Basin Plan. If more water is diverted, for example via a new dam, then an equivalent amount of water needs to be taken out of operation somewhere else. If that does not happen, the government is reneging on the Basin Plan, opening itself to potential legal challenges by affected water users.

ENVIRONMENTAL OBJECTIONS

Among the environmental concerns associated with large water storage is the damage they incur to water quality both within the storage and downstream. These include raised salinity and deoxygenation which leads to toxic blue green algae blooms impacting on the human health, livestock and wildlife. Significant changes to floodplains and river flows have badly impacted aquatic life, habitat

and wetlands. Professor Richard Kingsford, director of the Centre for Ecosystem Science at the University of New South Wales, has raised alarm over the viability of the internationally significant Macquarie Marshes where 3000 hectares of reed beds burned in the 2019 bushfires. The loss and degradation have caused a significant drop in the population and extent of native water dependent species.

FAILURE TO ADDRESS CLIMATE CHANGE IMPACTS

A critical failure of the MDB Plan has been the lack of any scientific modelling for climate change impacts on inflows. When working out how much water to sell every year, the NSW Government does not take into account any rainfall and inflow data from before 2004. They choose to only look at last centuries rainfall patterns when it was a lot wetter. Climatologists at the Commonwealth Scientific and Industrial Research Organisation (CSIRO) have forecast steady rainfall declines across the southern part of Australia since the 1990s. The Northern Basin Commissioner Mick Keelty recently conducted a review of the whole MDBasin and attributed 50% dramatic reduction in inflows to climate impacts in the past 20 years. The ARC Centre of Excellence for Climate Extremes has also released a report in June confirming longer, more frequent and more intense droughts up to 2100.

(<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2020GL087820?af=R>)

Many in the Murray Darling Basin hold fears over their future with more frequent and extreme weather events.

Initially, warming was slower to develop in the Murray Darling Basin but in recent decades the Basin has suffered some of the most rapid warming in Australia. The original MDB Plan was developed on data collected on inflows over the preceding 60 years with average annual end of system flows estimated at 12,233 gegalitres. This reduced by 61 percent to 4733 GL/year on average as a result of water resource development, according to analysis by the Wentworth Group scientists in 2008.

Through the subsequent 10 years, averages were less than half that amount. Under water sharing plans, state government have issued tradeable water licences on water that exist only on paper. As inflows have fallen, demand has steadily increased and water is being priced out of the reach of small farmers and irrigators, town water supplies and even the rivers themselves.

The inconvenient truth is that this is no natural disaster, and there is no going back to 'normal' or pre-1950's weather conditions. The failure to stop corporate over-extraction of water from rivers or to enforce national water sharing rules, combined with the lack of climate policy, means that the water crisis will intensify. Building dams is 1950's thinking; more dams will only be digging us into a deeper hole.