

**Submission
No 91**

INQUIRY INTO ADEQUACY OF WATER STORAGES IN NSW

Organisation: Southern Riverina Irrigators

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Peak body for five landholder associations and 1600 irrigators in the Murray Valley

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PUBLIC SUBMISSION

**Standing Committee on State
Development**

Adequacy of Water Storages in NSW

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Inquiry Terms of Reference:

That the Standing Committee on State Development inquire into and report on the adequacy of water storages in NSW, and in particular:

- a) the capacity of existing water storages to meet agricultural, urban, industrial and environmental needs,
- b) models for determining water requirements for the agricultural, urban, industrial and environmental sectors,
- c) storage management practices to optimise water supply to the agricultural, urban, industrial and environmental sectors,
- d) proposals for the construction and/or augmentation of water storages in NSW with regard to storage efficiency, engineering feasibility, safety, community support and cost benefit,
- e) water storages and management practices in other Australian and international jurisdictions,
- f) any other matter relating to the adequacy of water storages in NSW.

Southern Riverina Irrigators (SRI) is a representative body of Five Landholder Associations located within the Murray Irrigation Region of Southern NSW. Representation covers an area of 748,000 ha and 2389 landholdings.

As a member of NSW Irrigators Council, this submission seeks to add regionally specific information to the NSW Irrigator's Council submission number 120831.

General comments:

Australia continues to receive the benefits of previous planning for secure water supplies in the Murray Darling Basin. As such generations today may not appreciate the background to the historical decisions that led to building of dams and water supply systems. In regards to the recent Millennium drought, early planning of Australia's water storages gave secure water supplies and in particular enabled the Murray River to flow, right through the most harshest years, of the drought.

It is remarkable that media and public discussions can describe today a full Murray River as unhealthy, as no reasonable comparison has been made with periods when there was no major storages and river regulation.

The term river regulation is viewed by some as a negative, in reality without river regulation, the Millennium drought would have seen the Murray River dry up below Albury, in the recent drought event.

There needs to be a fundamental review of modern policies that seek to reverse the benefits that early political planners provided when they built Australia's major water storages.

In addition to Australia's 'no dams' policies, the Murray Darling Basin Plan is aiming to remove from food production annually, the equivalent of one of Australia's major storage dams. By way of comparison, 2750 GL is approximately the general storage capacity of the Hume Dam (3038 GL is maximum capacity)

Undoubtedly river regulation and major dam storages have impacted on the environment. The presumption today is that the impacts are all negative. This assumption deserves closer scrutiny as the benefits of prior policy decisions and major Government investments can often be overlooked by modern generations, who are accustomed to having secure water supplies. Water storages and their associated benefits are taken for granted.

With predicted increases in Australia's population, the issue of water storages should consider not only current needs but recognize that where possible, securing future water supplies for a growing population is necessary.

(1) The capacity of existing water storages to meet agricultural, urban, industrial and environmental needs,

In determining the capacity of water storages to meet current needs, policy makers must consider the framework for how those needs should be met.

Australia is a land of extremes and river regulation and dam storages have enabled those extremes to *flattened*, thus providing more regular and secure supplies. However the current number and capacity of storage dams cannot under present conditions meet normal requirements, plus have enough storage capacity to meet a decade of extreme drought as recently experienced.

There must be acknowledgement, that for the most part, current river regulation and storages systems work reasonably well for most climatic periods.

In accepting that the system of management and storage works extremely well, the question should be, not that these storages or their management has failed, rather, for future demands, how can NSW waters supply systems be enhanced.

Policy makers must decide, apart from meeting critical human needs, how we maximize the benefits of our water storages and either accept that there may be an extreme drought period where all needs cannot be met, or look at building new major storages.

In terms of predicted population growth, there is a growing trend to expect future human water needs can be sourced from the same level of dam storages. This will undoubtedly place pressure on other water users. Added to population pressure, is the view that the environment requires a greater share. The competing interests for water, may require multiple and smarter solutions than just transferring water from one current use to another. There is a real risk that with population pressure, policy makers may not make

decisions that are in the best interests for Australia's long term population or food production needs.

The NSW Government should consider enhancement of current dam storages and also a review of existing Snowy Hydro storages. This may provide opportunities to maximize and increase water supplies without jeopardising existing uses.

In regard to additional storages, in the Southern basin, multiple benefits for NSW and Victoria could also occur with a potential storage in the Ovens catchment of Victoria.

While Ovens catchment flows currently are accounted for in water sharing rules for the Southern basin, some opportunities could occur in relation to capture of flood or high flow events that exceed current usage demands. While technically outside NSW jurisdiction, a storage in the Buffalo region may provide mutually beneficial arrangements while ensuring that no third party impacts arise from current water supply commitments.

The discussed Murray Gates storage in NSW does represent an opportunity for additional reserve capacity particularly for human supplies. The Murray Gates storage proposal should be considered on its merits in any review to increase NSW current storage capacities.

(2) Models for determining water requirements for the agricultural, urban, industrial and environmental sectors,

This submission refers to and supports the comments identified in the NSW Irrigator's Council submission for this particular question.

(3) Storage management practices to optimise water supply to the agricultural, urban, industrial and environmental sectors,

This submission encourages a review of current rules in regard to optimizing water supplies to agricultural, urban and industrial sectors.

In respect to the environment, importantly, accurate consideration of the environment's existing share should be undertaken. Public commentary may incorrectly suggest that the environment receives little share of Australia's water resources.

However in the Murray Darling Basin, even the Murray Darling Basin Authority acknowledges that the environment already has 58% share of the basin water resources.

In addition to the noted environment's share of basin waters, the environment receives further shares in a variety of ways. This submission raises three examples where rules fail to maximize water storage for agricultural, urban and industrial needs:

- High flow or flood flow events down the Murray River that are not assigned under current water sharing rules, flow down the system unimpeded but are NOT recorded as environmental flows.. Examples of this are noted in the high flow events of June

and July 2012, where flow volumes exceed the banks of the Murray, but this was not recorded or attributed as benefits to the environment. This is a regular scenario in high flow years.

- The environment also receives benefits from all water held in or delivered from Australia's major storage dams, in particular the major storages that service the needs of inland Australia. To quote:

The National Water Commission, in its Australian Environmental Water Management Report (2010) states:

*“Water can be used for multiple benefits temporally and spatially, and is normally ‘used’ more than once. Therefore, the complexity in defining and accounting for environmental water, is that **environmental, economic and social benefits are derived from the same volume of water.**”*

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*“Despite the concept of the ‘consumptive pool’ articulated in water plans, attempts to demarcate volumes into ‘consumptive’ or ‘environmental’ often fail because of this complexity. Therefore, the **multiple benefits of a single volume of water** create challenges for jurisdictions when they attempt to comply with the reporting requirements of the National Water Initiative”*

The report further notes:

*Environmental water commitment – “jurisdictions commonly make their **environmental water commitments through the establishment of annual allocation limits and access rules**, in both surface water and groundwater systems. **These are significant forms of environmental water commitment**, constraining the use of the resource, so as to ‘leave behind’ enough water to meet the environmental water objectives adopted in water plans.”*

“Aside from rule-based management, in some jurisdictions where a high level of competition for water exists within systems, entitlements have been purchased (or created through water savings) to be held and used for environmental purposes.”

- South Australia also receives additional dilution flows first agreed to under MDBC salinity management strategy. Following the 1987 MDBC Salinity and Drainage Strategy, in 1992 an amended agreement on the waters of the Murray Darling Basin, provided further flows to South Australia as additional dilution flows, to keep salinity levels below 800 EC. Modelled predictions for salinity (which later were regarded as incorrect) lead to this further rule based dilution flow as a further water flow contribution to South Australia.

The additional South Australian ‘dilution flow’ of 3000 ML/d, is an automatically triggered water release rule based on the storage volumes in the Menindee Lakes and the combined storage volumes of Hume and Dartmouth Reservoirs. When storages

exceed nominated trigger points, additional salinity dilution flows are automatically released to South Australia **regardless of actual salinity readings**.

The trigger volumes are determined when the Menindee Lakes has a volume of 1300 GL and the combined Hume and Dartmouth storage dams have reached a 1000 GL each. Once the 'dilution flow' is triggered, then flows will be released from Menindee and continue until the NSW reserve is reduced to 480 GL. It is difficult to determine, but there appears to be no mechanism in place to stop these additional salinity 'dilution' flows from commencing or ceasing until the NSW 480 GL is reached, even if salinity levels are not an issue. (*note: Menindee triggers increase in June/July/August*)

In the NSW Murray system, Snowy Hydro license conditions include minimum annual releases volumes. Despite excessively high flow event down the Murray system, required release rules meant that water was released and under current rules there was no ability to limit those releases. As a result substantial negative third party impacts occurred and in addition, valuable water supplies were sent down the river that could have been retained in storage to secure future water supplies. In making this comment, it should be noted that the Snowy Hydro minimum release rules do underpin irrigation supplies and therefore the rules for the most part are not an issue. However, some flexibility is required in years where such flows are not required in the system and it would be preferential to retain the water in higher storages.

To amend this rule in the Murray system, the intransigence of the South Australian Government may need review. In respect to South Australia, benefits may have improved if water was retained in the Snowy Hydro storages to maximize flows in low flow years. Instead water is released unnecessarily when no salinity dilution flow was required.

Proposals for the construction and/or augmentation of water storages in NSW with regard to storage efficiency, engineering feasibility, safety, community support and cost benefit,

To secure its future urban water needs, NSW must review its current approach to dams and water storage arrangements. Investigations and investments in augmenting current storages, adding interval storages and maximizing the use of its existing storages, can all deliver multiple benefits at realistic costs.

It is critical though, that short term political opportunities do not work against the long term interests of water supplies for the State.

For the southern part of the Murray Darling Basin, the shared Murray River resource, maximising the efficient use of NSW storages or shared storages, do require NSW to take a strong stand on ensuring maximum benefits can be achieved with existing storages. However this will require a review of the South Australian right of veto or objections, as this will continue to limit potential improvements to dam use and potential water storage maximization.

It is important to note though that any review taken must give adequate consideration of third party impacts to other water users and/or private property and that policy decisions, avoid any adverse impacts.

Considerations must avoid impacts on the reliability, yield, or allocation timing of other water users. In regard to third party impacts on private property, consideration must also be taken to avoid third party flood risks.

NSW can maximize water storages through the efficient use of water for the environment. For example, investments in infrastructure options to create efficiencies for environmental flows are a far more cost efficient and risk averse policy, than current trends to create over bank flows, particularly in the southern basin. Objectives to recreate over bank flows are an expensive and an inefficient option for delivering outcomes for the environment in the Southern basin.

Unlike the northern systems, the southern section of the Murray Darling Basin is highly populated with known system constraints. Recreating overbank flows should not be viewed in the same context as overbank flows in the northern sections of the basin. This comment is made noting that third party impacts could apply in all parts of the basin, but this submission notes that policies to recreate overbank flow in the South will require additional risk considerations and a full assessment of water wasted.

Community support for maximizing the efficient use of water extends to how our major storage and river systems are managed. Governments have placed efficiency policies for water use on consumptive users, however it is clear that many inefficiencies occur with some of the rules that apply at a Government level.

There is now a far greater expectation that efficiencies in Government should also apply to those applies through Government policy on the private sector.

Any other matter relating to the adequacy of water storages in NSW.

Australia currently has a policy of no new dams. NSW has had a similar policy. This is short sighted and forces the population both currently and in the future to rely on water storage investments made by previous generations.

Trends for environmental policies are seeking to dismantle much of the benefits that earlier Government investments achieved and this is unsustainable in the future.

The combined effect of no additional storages and the conversion of use from existing storages will have adverse impacts on the social and economic interests of NSW. It will also place unfair and inequitable burden on future generations and/or existing water users.

It is critical that this inquiry look at expanding its current water storages to meet NSW future needs. In addition there should be a complete review to maximise the efficient use of current storages.

Society will also demand that the managers of State and Federal Government environmental water portfolios are subject to the same level of efficiencies that are being placed on other water users. This will require a fundamental shift in attitude to ensure that a realistic cost benefit analysis is undertaken for water attributed to environmental use.