Department of Planning, Industry and Environment

Lachlan - Draft Regional Water Strategy

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Submission - Individual

Firstly, if we are to secure water into the future, it is imperative that the environmental needs are satisfied, this should ensure that human needs could be guaranteed. I would be inclined to list the objective: "Protect and enhance the environment" above the other listed objectives.

It is extremely important that the "critical environmental assets need to be protected" along the "length" of the Lachlan River (Draft pp 36 -37). The option of maintaining a very minimum water supply to the end of the system should seriously be investigated.

It is noted that human consumption accounts for a very small proportion of the available water. The Lachlan Draft states human consumption as 2%, which would relate to the extraction level without any allowance for water returning back to the catchment - via water authorities sewer treatment plants.

The main theme of the Draft Lachlan Water Strategy is "how to adapt to less available water in the future". It is expected that a lot of enterprises will find it difficult to adjust to the expected future hotter and drier conditions. Just like dealing with COVID – 19, a way forward must be developed and accepted.

Any way forward must reference the means to rehydrate the environment.

For townships and the built environment; Water Sensitive Cities **(WSC)** would be a good guide. I do note that NSW Department of Premier and Cabinet, DPIE and Dept of Transport NSW are associated (in partnership?) with the Cooperative Research Centre for Water Sensitive Cities **(CRCWSC).** Recent NSW State documents – Urban Design for Regional NSW and Greener Places – reflect this desire to enhance the environment.

For the non-urban areas: organisations like Local Land Services **(LLS)** and Landcare, along with the NSW Dept of Primary Industries and Environment **(DPIE)** give guidance to implementing the rehydration principles of the environment. This is supported by many other individuals and associations like: Farmers for Climate Change, the Wentworth Group of Scientists, Peter Andrews (Back from the Brink) and Charles Massey (The Reed Warbler), the Muldoon Institute.

Any NSW Regional Water Strategy must succeed in rehydrating the environment and not use water to the maximum as many of the options suggest.

I thank you for the opportunity to comment on the Options.

Maintaining and diversifying water supplies

1. ***Water transfer pipeline between Lake Rowlands and Carcoar Dam***

There would be a reasonable case to support increasing the capacity of Lake Rowlands from its current capacity of 4.5 GL to the original intended 9 GL size. This would be a 100% increase in storage – a volume that should be sufficient for Central Tablelands Water during the time of the period (20 -40 years) of the Lachlan Water Strategy. (Refer to Option 3 below)

It must be noted, the additional pipeline security for potable water with Orange and Cowra.

The still to be released Review of Environmental Factors **(REF)** for a pipeline between Lake Rowlands and Carcoar Dam should indicate an unacceptable level of adverse impact on the ecosystem of Coombing Creek and the Belubula River. It is unfortunate, WaterNSW is reluctant to publicly display the REF.

The movement of unregulated water from Coombing Creek to a regulated water source, Carcoar Dam, should not be supported as it will increase the use of water diverted from the environment. The additional evaporation from the dam would result in less available water for use whether it is for the environment, townships – stock -domestic, agriculture or mining.

2. ***Wyangala Dam raising wall project***

There should be some reservations as to whether the Preliminary Business Case supported the project. The irrigators had some reluctance to willingly financially support the project and its ongoing costs. State and Federal government funding may possibly develop a better Final Business Case for construction, but not the on-going costs.

With ever increasing expected construction costs- $1.5 billion at the NSW Dams Inquiry – the project has the possibility of becoming unviable. For such a small gain of average water availability – 21 GL /year – it appears to be financially unfeasible.

The commitment that there will be no increase in entitlements along with the expected lower inflows - due to changing climate conditions - doesn't support an economic case for the project, as Wyangala may not fill as often (Draft p 47). If the wall is increased, the lower frequency of filling would lower the need for drastic flood mitigation measures.

The impending Environmental Impact Statement **(EIS)** should indicate an unacceptable adverse impact on the environment, which would curtail the construction of a new wall, as NSW Planning would aim for a "neutral or beneficial impact" for the project. It is doubtful that any further adverse environmental impact from this project could be successfully mitigated.

Bathurst Regional Council has for years promoted the reclamation of the floodplain. Programs to adapt to the Lachlan floods would be prudent. The upgrade of the Newell Highway is an example, construction of levee banks at Eugowra another. It was pointed out in the Draft that floods serve many useful purposes (floodplain grazing and cropping, bird breeding, maintaining wetlands…) that work more with the natural environment rather than against it.

In the early stages of the Centroc Water Study – 2009, there was a proposal for a pipeline coming from Wyangala Dam to support the water needs of the Central West. This should be re-visited as a means for an emergency raw water supply for the Central Tablelands Water, Orange and Cabonne area. Further, there was a proposal to connect Wyangala and Burrendong Dams by a pipeline.

The cold-water pollution and fish passage should be addressed with some haste. The solution to the cold-water pollution may influence the need to adjust the outlet valve.

The emergency potable pipeline connection between Cowra, Central Tableland Water **(CTW)** (the CTW network did include a connection with Parkes area), Orange and Cabonne would not need to explore a means to use the deep storage water from Wyangala.

The impact of raising the wall would have to be considered in a revised: Water Sharing Plan and Water Resource Plan meeting agreement with the Murray – Darling Basin Authority **(MDBA).**

3. Lake Rowland's augmentation

Refer to the response for Option 1
There would be a reasonable case for increasing the capacity of the existing dam to 9 GL but not for either 21 GL or 25 GL downstream because of the adverse environmental impact of diverting more water away from Coombing Creek and most of the Belubula River.

4. ***Expansion to the piped town water supply system***

   Apart from a possible emergency potable water connection between Parkes and Forbes, the Draft doesn't imply there is a need for these pipelines.

5. ***Replacement and upgrade of existing pipelines***

   Options A & B could be worthy of consideration.

6. ***Inter-regional connections project investigation***

   As stated, it is always advisable to treat any proposed inter-regional connections with some degree of caution.

7. ***Water quality treatment works***

   With a 9 GL storage, and the capacity of the Carcoar Water Treatment Plant, this may not be required.

8. ***Managed aquifer recharge investigation and policy***

   Perth is a good example of managed aquifer recharge **(MAR)** whereby desal water is pumped into the aquifer(s).

   A better strategy would be to allow more of the low to medium flood events to naturally recharge the aquifers (alluvium) or retain the natural infiltration of the aquifers (fractured rock – limestone, basalt and Lachlan Fold) in suitable areas like Spring Hill (Orange) and Canowindra.

9. ***Reuse, recycle and stormwater projects***

   The opportunity to "maximise the use of surface water and groundwater" is of concern and should be clearly defined and explained.

   Any reuse or recycling of water should not result (generally) in greater consumption. Each project would require critical assessment to ensure its benefit to the environment and community. Any water reuse should achieve an equivalent amount of water retained in the river or stream.

   Blayney, in reusing treated effluent for irrigating green spaces like King George Oval, appears to be a good reuse as it should save an equivalent quantity of potable water.

However, it could result in a slightly higher consumption of water because it would eliminate the restricted need of using potable water for irrigation in drier periods. The community would accept this because of the intangible value of enjoying the use of the oval and other green spaces.

On the other hand, the transfer of treated effluent between catchments, from Orange (Macquarie Catchment) to Cadia Valley Operations (Lachlan Catchment), resulted in adverse environmental conditions for Summer Hill Creek. This prevents any other reuse of the effluent and leads to less energy efficient homes being constructed in the dual water area of Orange. Many residents, as indicated at Council's Water Forums (Nov 2019), are questioning the social licence of Cadia Valley Operations.

The reuse of water should be more "circular" in approach. For many years, the discharge from NSW inland water authorities STPs were returned to the catchment, for streams and communities downstream to use. The current approach for reuse, in some cases like Cadia Valley Operations, results in a termination of water use.

The most obvious recycle water option is the mandatory installation of suitably sized watertanks on new constructions. The communities in this region should readily accept this measure, but implementation relies on Councils taking the necessary steps to regulate these requirements. Rainwater tanks should also be encouraged on existing buildings.

The possible impact of downstream users must be taken into consideration and the Regional Water Strategy gives the opportunity to do this.

Orange, with its "Stormwater to Potable," and the green spaces irrigation project at Parkes would indicate the State's acceptance of water use from alternate water sources.

10. Reliable access to groundwater by towns

Sustainable access to groundwater would depend on taking water that can be recharged in a short period, say 2-3 years. A sustainable groundwater source would then be a reliable source.

DNA testing of any extraction should be required, as any 10, 000year old water may take 10, 000 years to recharge.

The extended time floods of 2016 apparently didn't recharge the bores around the Forbes area, as evident by Forbes and Parkes undertaking to extend their bore field and depth of bores.

Using bore water to supplement town or individual water needs should be efficient because of the low take required, but to use water for other pursuits may not be. The use of groundwater to grow irrigated lucerne for export, which amounts to exporting water, would not be efficient. Mining operations take a large quantity of water for use in their activities, which does impact on the local area. Cadia Valley Operations impacts on the neighbouring bores and Endeavour (Lake Cowal) drawing down to alarming levels. The allowable limits of extracting groundwater will require adjusting for the sustainable use in the next 20 – 40 years.
Consideration should be given to reserving 5 – 7 years water in Wyangala for townships/stock and domestic use, as is the case with Windamere Dam (Mudgee).

Protecting and enhancing natural systems

11. Cold water pollution mitigation measures

This problem needs a solution. I remember the problem, from when I lived in Cowra, from my canoe trips and swimming at Farleigh Beach (downstream of Cowra) during summer in really cold water. Unlike fish permanently struggling to live in the Lachlan, I survived the temporary unpleasant experiences.

Restoring near natural seasonal water temperatures should be achievable and not reliant on the business case for the raising of the Wyangala Dam wall.

12. Environmental restoration works

The water needs for the end of the Lachlan River system, high value environmental sites, should receive adequate water supply to support them. Implementing a first flush rule would assist.

The draft has many good briefing points.

13. Improved management of wetlands on private land

Every assistance - financial and management – should be given to property owners with notable wetlands on their property, in order to protect and enhance the local habitat.

Cooperative and partnership agreements should be implemented.

14. NSW Fish Passage Strategy

A very important strategy to be implemented with some haste.

15. Active management of flows

The unregulated streams, up until now, have not received the recognition and surveillance required to maintain a healthy environmental condition - so any option to enhance the streams would be welcomed.

16. Water quality restoration works

Keep working on the solution(s).

17. Floodplain management works

The Lachlan Regional Water Strategy should be guided by a natural based floodplain policy whereby no introduced artificial floodplain harvesting is practised.

Support should be given to the removal of structures that don't support this outcome.

There would be no merit in introducing a floodplain harvesting regime, similar to that for the Northern Basin.

18. Diversion screens to prevent fish extraction at pump offtakes

The implementation of protective screens shouldn't depend on a narrow cost-benefit analysis. The enhancement of fish survival and the wider river ecosystem must take precedence for their intangible values.

Financial assistance, pro-rata cost of water or subsidised installation could be investigated.

19. River Ranger Program

Good to have Aboriginal involvement but need not be exclusive. A level of aboriginal involvement could be achieved by the Indigenous Landuse Agreement.
Support should be given to more Aboriginal involvement (refer to later options).

20. Secure flows for water-dependent cultural sites

There should be a very close correlation between Aboriginal cultural sites and important environmental sites ,and so should be enthusiastically supported.

21. Improved understanding of groundwater processes

With less surface water available in the future, the belief that groundwater will solve most (if not all) the prevailing desire to use water, it is imperative that detailed scientific data is gathered to justify its increased use.

The use of ground water for permanent plantings and mining operations must be questioned.

22. Sustainable access to groundwater

The future would probably see the need for a reduction in extraction with the highest priority given to supporting the natural ecosystems.

23. Increased clarity in managing groundwater resources sustainably

A clear pathway is a desirable outcome but should be continually under review for a time.

Supporting water use efficiency and conservation

24. Water efficiency projects (towns and industries)

Always good to be “water wise”.
Conducting water audits looking for conserving and reducing water use.
Reluctent to support increasing reliance on groundwater.
Water Sensitive Cities, Urban Design for Regional NSW, Greener Places are good guidelines.
A greater use of rainwater tanks would help.
Refer to previous comments; Option 9, Orange’s Stormwater Harvesting

25. Lower Lachlan efficiency measures

A challenging situation, always difficult when a piped system destroys the flow in a stream.

Any means to work towards a more natural flow regime.

26. Mid-Lachlan efficiency measures

Need to know more about WaterNSW's option and the environmental impact.

27. Improvements to the storage effectiveness of Lake Cargelligo

Hopefully more water can be saved for the environment.

28. Review of water trade in the Lachlan region

Waiting to see the outcome of the ACCC Inquiry.

29. Water pricing pilot study

The future may see an increase in the price of water which may lead to some rationalisation of the activities that use water. This will be difficult as customers are accustomed to cheap water.

30. Urban water restriction policy

Before the NSW Critical Water Needs situation last year, the NSW Water Minister indicated that a review of statewide water restrictions would be undertaken. This should receive wide support. Orange City Council have recently introduced a Victorian type system whereby level 1 & 2 water restrictions were combined and are now listed as "Permanent Water Saving Standards".

31. The "Sheet of Water" storage

An effort should be made to conserve a natural lake over constructed lakes.

Strengthening community preparedness for climate extremes

32. Efficiency for drought security program

A difficult task to convince communities to use less water, particularly by the larger users: agriculture and mining industries.

With the Basin Plan requiring about 7 200 GL to achieve some meaningful enhancement of the environment and about 2 100 GL returned through previous Efficiency Programs, any further efficiency measures should see more water returned to the environment.

The environment could be a beneficiary of any gained efficiency.

Could relate to other options: 10,12,13,17,20,21,22,23,24,25,26,29,31

* There should be efficiency options, compared to Option2 (Wyangala), that -if implemented- an equivalent (or greater) quantity of water (21 GL) would be achieved.

** Orange Council conducted a stop leakage program which saved a substantial amount of water (about 500 ML/yr)when the yearly extraction was about 4 300 ML and the actual consumption was about 1000 ML (extraction minus possible return to the catchment via STP).

*** Implement a leakage review of the Lachlan Irrigation Systems which may see a greater than 21GL water saving.

**** The use of pipelines rather than open canals, could be a means of saving water.

33. Drought operation rules

Maintaining the health of the end of the system should be a priority.
Other combined efficiency means, along with the possibility of reserving water in Wyangala, could assist in extreme events.

The entitlements of water licences should be reviewed, because during the period of this Regional Water Strategy, they represent an unachievable quantity. It would follow that the operational rules will require revision.

The Water Sharing and Water Resource Plans will need to be adjusted.
Environmental Water should be classified as high security.

34. Review of water accounting and allocation processes

Allocations will be adjusted depending on the outcome of other options.
Water for the environment should possibly sit outside the normal WaterNSW customer base.

Support should be given to holding more water, at the lower capacity level, for higher priority water users which should include environmental and cultural purposes (Option 35).

35. Investigation of licence conversions

Transferring the Environmental Water – General Security Water – to the high security category should be considered.

There should be no social license to transfer general security irrigation licences to high security licences.

Non-essential water users - like mining operations – should only hold general security licences.

The whole water trading market is a real concern. The expected ACCC report may give some guidance for the trading market.

This Strategy presents an opportunity to review the quantity of water entitlements distributed between the water users. The trend to divert water to the higher valued pursuits (eg to mining) and higher water operations within agriculture (eg dairy to nuts) will be an ongoing problem.

36. Improved data collection and storage

Always good to have the latest information available when making decisions.

37. Training and information sharing programs

- ***New climate data/modelling***
- ***Managing groundwater resources sustainably***

Points worthy of consideration.

It is imperative that the major influencers accept the indicative facts and promote/guide future changes in the management of water resources.

38. Investigation to maintain amenity for regional towns during drought

All towns and inland cities should be Water Sensitive Cities.
www.watersensitivecities.org.au

39. In-stream storage for the Lower Lachlan

Any further restriction of river flows can't be justified because of associated impacts on the environment and further loss of water due to evaporation.

40. Land use change impact on water resources

Changing land use and water trading can have noticeable impacts on the consumption of water as it may lead to the maximum use of any allocation.

Changing from a seasonal cropping to permanent plantings can drastically alter water consumption. Further, trading water not required for agricultural purpose to a mining operation could increase water consumption whilst not affecting the licence entitlement.

Improving the recognition of Aboriginal people's water rights, interests and access to water

Totally support

The new Lachlan Regional Water Strategy should reflect an appropriate realistic water balance for the next 20 -40 years.

Yours sincerely

[redacted]

Orange

[redacted]