Department of Planning and Environment

Regional Water Strategies
Public Exhibition 2

Submission Questionnaire

Macquarie-Castlereagh Regional Water Strategy
Challenges and shortlisted actions

The NSW Government is taking action to improve long-term water security for Macquarie-Castlereagh. The Macquarie-Castlereagh Regional Water Strategy sets out a shortlist of proposed actions to help deliver healthy and resilient water resources for a liveable and prosperous region.

Your voice is important

This is your opportunity to let us know which actions you support and think should be implemented to help set the region up for the future.

This questionnaire will take approximately 15 minutes to complete, and your response can remain anonymous if you wish (see question 7).

Questions marked with an asterisk (*) require an answer.

If you have any questions about the questionnaire, please email: regionalwater.strategies@dpie.nsw.gov.au

You can also provide feedback via our submission platform.

1. Your details

[redacted]

*** Do you identify as an Aboriginal person?** (select one)

Yes ○ No ○ Choose not to answer

*** Are you making this submission as an individual or as a representative of an organisation?** (select one)

Individual ○ Organisation

2. Organisation or business details

If making this submission as a representative of an organisation, who do you represent? (select one)

Government (select one)

☐ Commonwealth ☐ New South Wales ☐ State other ☐ Local

☐ Local Water Utility

Peak representative organisation (select one)

☐ Environment ☐ Industry ☐ Business group or business chamber ☐ Community

Aboriginal organisation (select one)

☐ Yes ☐ No

☐ **Other** (select and provide details) _____

☐ **N/A**

3. Regional water challenges

We have identified **five water challenges** that are most important to address in the Macquarie-Castlereagh region. More detail about each regional challenge is available in the Consultation Paper.

1 Reducing water supply risks for regional cities, towns and villages

Bathurst, Orange and Dubbo are large and growing regional cities in the Macquarie valley. These cities are expected to grow by 20–30% over the next 20 years. The water supplies for these cities also underpin the water security of surrounding smaller towns and communities during times of drought.

Even with recent investments in water security measures, Bathurst and Orange require further immediate investment over the next few years to ensure the security of their water supplies is maintained.

Groundwater is an important water source for towns in the region, being the primary source of supply for many towns and an important backup source for others. There is uncertainty about water security in severe drought for towns that use groundwater, especially from the alluvial groundwater systems.

2 Supplying water to high priority needs in the lower river system and connected valleys

The Macquarie River system is over 960km long and there are a range of high priority needs towards the end of the system, including:

- the towns of Warren, Nyngan and Cobar
- internationally significant Macquarie Marshes
- critical mineral mines
- landholders on rivers and creeks with stock and domestic water needs
- flows into the Barwon-Darling River that support communities, industries and the environment downstream

The long river system presents challenges for delivering water to the end of the system, particularly during dry periods, as a large portion of the water released from Burrendong Dam seeps into the dry riverbed and evaporates along the way.

A more variable and potentially drier climate will make it even more difficult to meet high priority needs towards the end of the river system, especially during dry periods.

3 Supporting a growing regional economy in a future of potentially reduced water availability

Agriculture and mining are major water-reliant industries in the Macquarie-Castlereagh region. The tourist economy is also important in the region's east and includes well-known food and wine destinations. Climate change could reduce water availability for these existing industries, leading to adverse economic and social impacts. While there is also significant potential for future development in high value industries, a shortage of reliable water supplies may hinder this growth.

4 Addressing barriers to Aboriginal water rights

The lands and waters of the Macquarie-Castlereagh region have been occupied by the Wiradjuri, Gomeroi, Ngemba, Wailwan and Ngiyamapaa Nations for over 60,000 years. They have always been closely linked to rivers, groundwater, billabongs and wetlands, and this relationship is essential to culture, community and connection to Country.

Water management arrangements, limited water ownership, and poor access to waterways and culturally important sites impact Aboriginal people's ability to care for Country. We need to support access to water improve our engagement with Aboriginal people, and secure flows for water dependent cultural sites—so we can all benefit from traditional knowledge in managing our water resources.

5 Maintaining and improving the health and resilience of the region's aquatic and floodplains ecosystems

Water infrastructure, water extraction, land management practices, and pest species have impacted water-dependent ecosystems and native species in the Macquarie-Castlereagh region. This includes the internationally Ramsar-listed Macquarie Marshes, which is ecologically, culturally, socially and economically important.

While water reforms have partially improved the condition and resilience of these environmental assets, there are parts of the catchment that are still in poor condition.

To maintain and improve the region's ecological assets into the future, we need to ensure that the right mix of flows are available at the times that they need them. This will become increasingly difficult under a drier future climate, where the potential for extended dry periods could increase the risk for many critical environmental assets.

Do you agree that these are the priority water challenges for the Macquarie-Castlereagh region that we need to focus on? (select one)

☐ Yes ● No

If no, please outline what you see as the priority water challenges in this region over the next 20 – 40 years?

I agree with them in general but you have missed a few other areas.
The plan is basically a regulated Macqauarie river Strategy and forgets to mention the Talbragar River and Alluvial aquifers which are critical to Dunedoo. The associated Coolaburgandry River and alluvial aquifer associated with the township of Coolah. The Casterleagh River which is associated with the towns of Coonabarabran, Binnaway, Mendooran, Gilgandra, Gulargambone and Coonamble and the associated alluvial aquifers and Great Artesian Basin.
I acknowledge the rivers unregulated but the groundwater aquifers are regulated by government and if you are going to call this a Macquarie Casterleagh Plan you need to consider managment in the Casterleagh part of the Catchment and Talbragar River and is a priority for those people who live in these towns.
The plan does not also consider the many thousand of properties outside the large towns and away from river who have a basic landholder rights on either the creeks or their own bores.

4. Addressing the challenges

We have developed three regional priorities with actions under each. We want to know which of the actions you support.

The regional priorities are:

1 Secure water supplies for growing regional cities and towns
2 Reduce water security risks in the region's west
3 Supporting industry and community climate adaptation
4 Best use of existing water for the environment

Priority 1: Secure water supplies for growing regional cities and towns

The actions shortlisted under this priority aim to:

- make better use of the available resources
- respond to the needs of a growing population
- respond to the risks associated with climate variability and change.

Proposed action		Do you support this action?
1.1	Confirm the level of water security needed to support regional cities	☐ Yes ☐ No
1.2	Establish a governance framework to coordinate actions under Priority 1	☐ Yes ☐ No
1.3	Develop guidelines for managing extreme events in the upper Macquarie	☐ Yes ☐ No
1.4	Adopt a stronger focus on urban water conservation and efficiency	☐ Yes ☐ No
1.5	Invest in innovative water supply options	☐ Yes ☐ No
1.6	Plan for the best long-term augmentation solution for the upper Macquarie	☐ Yes ☐ No
1.7	Reduce uncertainty in groundwater security for the region's towns	☐ Yes ☐ No
1.8	Support management of Oberon's town water quality issues	☐ Yes ☐ No

A) Do you have any comments on the proposed actions identified?

The plan needs to provide more detail what do you mean by points 1.1 to 1.8 to be able to comment on them.

Priority 2: Reduce water security risks for the Lower Macquarie

The actions shortlisted under this priority aim to:

- deliver water more efficiently to high priority needs and reduce town water security risks in the lower Macquarie region
- improve the drought resilience of industry in the lower Macquarie region.

Proposed action		Do you support this action?
2.1	Investigate an additional off-river storage at Nyngan	☐ Yes ☐ No
2.2	Create water savings through changed operation of regulated effluent creeks	☐ Yes ☐ No
2.3	Continue to investigate regional water security solutions for the lower Macquarie	☐ Yes ☐ No
2.4	Investigate ways to improve connectivity with the Barwon-Darling on a multi-valley scale	☐ Yes ☐ No

A) Do you have any comments on the proposed actions identified?

Why are you proposing to pipe from Dubbo to Nyngan and put the water in a storage that is likely to leak and will definetly evaporate. More info required on why you need another storage first and benefits compared to deliver from Burrendong dam?
The Department needs to review the piping projects it has undertaken in other parts of the state like the Gwydir, Barwon Darling, Lachlan and Murrimbidgee and see how much water they have saved and review are the creeks still in good ecological condition. In dry times these effluent creek landholders should be supplied with piped water from bores or the Macquaire River and the savings can be used to keep water in the dam for town security. In normal years then the normal effluent flow should be supplied. It is our observation once these landholders have piped water they will not want to go back to effluent river water due to increased reliability and better quality water..
The Macquarie River only supplied the Barwon Darling in floods times pre dam. Why are we trying to bypass the Marshes and provide regulated water the the Barwon. There is not enough water for

Priority 3: Support industry climate adaptation

The actions shortlisted under this priority aim to:

- strengthen the resilience of the regional economy, including existing businesses, industries and communities, and their adaptation to a drier, more severe future climate.

Proposed action		Do you support this action?
3.1	Invest in continuous improvement to surface and groundwater modelling	☐ Yes ☐ No
3.2	Improve public access to climate information and water availability forecasts	☐ Yes ☐ No
3.3	Support adoption of on-farm climate adaptation and water efficiency measures	☐ Yes ☐ No
3.4	Undertake research to inform reviews of groundwater extraction and condition limits	☐ Yes ☐ No
3.5	Develop ongoing arrangements for participation of local Aboriginal people in water management	☐ Yes ☐ No
3.6	Support place-based initiatives to deliver cultural outcomes for Aboriginal people	☐ Yes ☐ No
3.7	Support the development of new water related Aboriginal business opportunities in the Macquarie-Castlereagh region	☐ Yes ☐ No
3.8	Modernise the water management framework so it can continue to support sustainable economic diversification	☐ Yes ☐ No
3.9	Improve public access to the Macquarie Marshes	☐ Yes ☐ No

A) Do you have any comments on the proposed actions identified?

3.1 the Priority is to improve the groundwater monitoring and Department having hydrogeologists with experience to interpret the data. The Groundwater modelling may be of use down the track but not with out more and better data.

3.5 to 3.8 need more detail what you are proposing and what impact it has on other water users and how will it impact us in drought times.

Priority 4: Best use of existing water for the environment

The actions shortlisted under this priority aim to:

- limit or remove pressures and impacts related to water infrastructure
- enable water for the environment to be delivered to its best effect during wet and dry periods
- build knowledge of the region's water dependent ecosystems and assets, and the impacts of climate change on their health and resilience
- improve water resource health through better land management.

Proposed action		Do you support this action?
4.1	Modify or remove barriers to delivering water for the environment	☐ Yes ☐ No
4.2	Reinstate natural channel profiles in selected streams in the southern Macquarie Marshes	☐ Yes ☐ No
4.3	Mitigate impacts to fish communities	☐ Yes ☐ No
4.4	Remediate unapproved floodplain structures	☐ Yes ☐ No
4.5	Provide clarity and certainty for environmental needs during drought operations	☐ Yes ☐ No
4.6	Assess gaps in the flow regime and identify cooperative actions to improve ecological outcomes	☐ Yes ☐ No
4.7	Fully implement the NSW Floodplain Harvesting Program	☐ Yes ☐ No
4.8	Identify regionally significant riparian, wetland and floodplain areas to protect or rehabilitate	☐ Yes ☐ No

A) Do you have any comments on the proposed actions identified?

4.1 Need more information to support this and the impacts on other users on such a measure.
4.2 Yes I did research and we did some trail works in the southern Marshes in the 1990's. The lessons from this need to be revisited and it needs to be well funded and done properly to work.
4.8 I believe this work has been done and not sure why need to do this again.

5. Other comments

A) Should any proposed actions in this Consultation Paper not be shortlisted and why?

I would say quiet a few. We need to see a more detailed plan and impacts on the high priority plans proposed before we can say with confidence what should not be shortlisted.

With the one exception the Macquarie System shouild not be managed to try and pass water to the Barwon Darling River System

B) Should any other options in Attachment 1 of the Consultation Paper be shortlisted and why?

6. Implementation of the Macquarie-Castlereagh Regional Water Strategy

An Implementation Plan will be included in the final Macquarie-Castlereagh Regional Water Strategy.

A) Which actions should be implemented first and why?

We need to see a plan with business cases for each of the main actions before I or anyone can comment with any confidence.

Making your submission public

To promote transparency and open government, we intend to make all submissions publicly available on our website, or in reports. Your name or your organisation's name may appear in these reports with your feedback attributed.

If you would like your submission and/or feedback to be kept confidential, please let us know when making your submission.

If you request that your submission is to be kept confidential, it will not be published on our website or included in any relevant reports; however, it will still be subject to the *Government Information Public Access Act 2009*.

Your submission will be stored securely, consistent with the department's Records Management Policy and you have the right to request access to, and correction of, your personal information held by the department.

Further details can be found in our privacy statement available on our website.
www.industry.nsw.gov.au/privacy

7. Information on confidentiality and privacy *

I give permission for my submission to be publicly available on the NSW Department of Planning and Environment website.

☐ Yes ☐ No

I would like my personal details to be kept confidential.

☐ Yes ☐ No

8. Would you like to be kept updated on progress on the development and implementation of the Macquarie-Castlereagh Regional Water Strategy?

☐ Yes ☐ No

If yes, please provide your details below.

[redacted]

9. How did you hear about the Public Exhibition of this strategy?

We are interested to know how you heard about the opportunity to make a submission. Please indicate the communication methods below:

- ☐ Newspaper
- ☐ Radio
- ☐ Department of Planning and Environment website
- ☐ Direct email
- ☐ Social media
- ☐ Have your say NSW Government website
- ☐ Communication from peak body
- ☐ Word of mouth
- ☐ Other (select and provide details) _____

10. Additional Information

If you would like to provide any supporting documents to help us understand your feedback, please email these from the same email you provided in this form or attach supporting documents to this form if you are returning your submission by mail.

All submissions on the draft Macquarie-Castlereagh Regional Water Strategy will be reviewed following the public exhibition period.

Please email your completed submission and any supporting documents to:

regionalwater.strategies@dpie.nsw.gov.au

CLICK HERE TO EMAIL SUBMISSION

Or post to:

Regional Water Strategies
Department of Planning and Environment
Locked Bag 5022
Parramatta NSW 2124

Submissions close Friday 18 November 2022, 11.59pm

Further details on all regional water strategies can be found on our website
www.dpie.nsw.gov.au/regional-water-strategies

Thank you for your submission.

NSW GOVERNMENT

Additional Comments to Macquarie Casterleagh Regional Water Strategy

Groundwater Management Issues

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The issues I raise here apply across the majority of the state groundwater aquifers and inland towns as well as the Macquarie Casterleagh Water Strategy.

I have been involved across New South Wales in finding groundwater and drilling town water bores for the majority of towns and cities for over 25 years. In the last three years we have either found new water or found extension to existing aquifer for eight location mainly for Local Councils or Water Supply Authorities across NSW including the Macquarie Casterleagh River Catchment.

It is becoming more difficult to access this water partly due to DPIE Water becoming very conservative and its aquifer interference policies provided state wide. In some areas the rules are appropriate but many areas they are not and very restrictive.

In particular local councils should not have to compete with Irrigators, Mines, Commercial operations. Government needs to set aside certain areas where they have priority. To mitigate the impacts towns may have radical solutions like MAR substitution of poorer quality water to irrigators near town to be considered.r

One key restriction is the Department aquifer interference policy rules of only allowing 40% of pre development drawdown (70% for Lower Murrumbidgee) in semi confined and confined aquifers and only 10% for unconfined aquifers.

There are many instances where these broad rules are way too conservative.

- The 40% predevelopment drawdown rule ignores that most monitoring bores the Department uses were first monitored in the early 1970’s a very wet period and aquifers water levels were much higher then normal. This in some cases makes the 40% drawdown rule more like 20% or 30% drawdown if a more appropriate base time was selected.
- Some of the monitoring bores the Department uses are near high yield irrigation or town bores and often not representative of the aquifer as a whole and can and does skew the analysis it uses with its hydrogeological models like Algo Water that it uses.
- The one or two metre drawdown rule of other works needs to also consider the depth of aquifer, bore screen and pump level to be more realistic. Why have a 2 metre drawdown impact on a bore that is 200 metres deep with a high watertable the same as a shallow bore 20 metres deep with a deep watertable.
- More professional judgement is required by the Department hydrogeologists then having set state-wide rules.

For town water the aquifer interference policy rule needs to be relaxed to allow town water bores only to have more impact on irrigation bores. Many other land use rules near towns impact on landholders so why not groundwater rules.

One example I can give is where Moree Plains Shire Council have because of the aquifer interference rule DPIE have denied Council to install a bore for Ashley north west of Moree.

Where now from the same more stressed aquifer Council has to spend up towards 10 million dollars to pipe water from Moree to Ashley. If the above issues were taken in account there would be no need for this pipeline. The Aquifer is more stressed at the Moree end and so they have to pipe from that area to a less stressed groundwater area of the aquifer. Not a decision that would pass the “pub test” for common sense.

‘I can see exactly the same issues occurring in the Macquarie River Strategy where if more access to groundwater interference was allowed in certain key areas many of these proposed strategies would not be required or could be delayed for many years.

Other Groundwater/Water Issues

The recent three wet years demonstrates that groundwater shallow aquifers and the deeper paleochannels in the Upper Macquarie River are being fully or nearly recharged and the volumes pumped are sustainable. More reason for DPIE Groundwater people to review the very conservative approach they take to water management in recent years after the recent drought.

In Bathurst which up until the 1950’s was supplemented by groundwater through a tunnel under the Macquarie River and at the old Railway works should revisit groundwater. The recent brief study targeted the hard rock granite and missed the main shallow alluvial aquifer and weathered granite. Groundwater will not solve Bathurst problems but is part of the mix required. We have successfully found groundwater at Bathurst and there is potential for more groundwater to supplement Bathurst supply in dry periods.

I have serious doubts that Bathurst will benefit much from a stormwater scheme in an El Nino period when such a scheme would be utilised. In La Nina years like the stormwater scheme may provide beneficial supplies but Chaffey Dam has been 100% for last 12 months and the scheme is not needed in these wet years. It is not clear if the proposed dams for this scheme will be lined to minimise high level of leakage that would occur on the alluvial floodplain.

In Wellington there is potential to find additional high yield groundwater to the North of Wellington existing bore field enough to supply Wellington fully from groundwater and only use river water as a backup which would keep more water in Burrendong Dam.

In Dubbo there is potential to look at a deeper sandstone aquifer in the Gunnedah Basin under Dubbo and to the North and East of Dubbo. The yields maybe moderate and the water is brackish but it maybe an opportunity to utilise Aquifer storage and Recovery of either wastewater or storm water and then treat it as a long-term option in dry times. This would be more economic than some of the pipeline issues proposed. There is a need to explore this option with some deeper bores to prove the conceptual idea.

MAR seems to be topical area but NSW has few schemes to provie it. Town like Dubbo are unlikely to benefit MAR for the alluvial aquifer as it is highly connected to the River system. Investigating aquifers that are not as linked to the river has more chance of being successful.

The Macquarie Casterleagh Plan fails to mention the largest water source in the whole catchment the Great Artesian Basin. It would be controversial but in the long term piping water from the GAB in extreme droughts could be more economic then some of the schemes currently proposed which are based on rainfall and runoff to the major Dams in the catchment. Some parts of the GAB are closer to Nyngan then the current proposal to pipe from Dubbo to Nyngan.

I hope the above solutions from someone who has practical experience in delivering water supply projects over many years and comments assists DPIE in its long-term water strategy plans.

[redacted]