

# Submission Questionnaire

Draft Macquarie-Castlereagh Regional Water Strategy - Submission Form



## Regional Water Strategies Public Exhibition Submission Questionnaire

*The NSW Government is taking action to improve the security, reliability, quality and resilience of the state's water resources. The Macquarie-Castlereagh Regional Water Strategy will deliver healthy and resilient water resources for a liveable and prosperous regional NSW.*

This draft strategy is being developed by the Department of Planning, Industry and Environment and provides an opportunity to re-shape what we are doing in regional water management and chart a path forward.

We have been working with local water utilities, councils, communities, Aboriginal people and other stakeholders to ensure local and traditional knowledge informs the draft Macquarie-Castlereagh Regional Water Strategy and that it serves the regional community, including First Nations, the environment and industry.

### Your Voice is important

We have prepared this draft strategy to continue our discussions with you. We would like to hear your views on the draft strategy as a whole including the process we used to develop the strategy and the evidence that supports it. We are also seeking your feedback on the options presented in the draft strategy and whether you have any further information that could help us to assess the benefits and disadvantages of any of the options.

Please provide your feedback in the submission form below and email your completed submission to [regionalwater.strategies@dpie.nsw.gov.au](mailto:regionalwater.strategies@dpie.nsw.gov.au) or post to Regional Water Strategies, Department of Planning, Industry and Environment, Locked Bag 5022, Parramatta NSW 2124 by **13 November, 2020**.

The questionnaire includes general questions about the regional water strategy including objectives, vision, modelling, opportunities and challenges. It also includes questions regarding the draft options along with personal information questions.

The questionnaire will take approximately 15 minutes to complete and your response can remain anonymous if you wish (see question 3).

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

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

## Making your submission public

We collect information about you, which may include personal information, to assess submissions in response to the department's dealings and activities, and perform other functions required to complete the project. This information must be supplied. If you choose not to provide the requested information we may not be able to assess your submission.

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.** You will be asked for your confidentiality preference at question 1.

If you request your submission 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.  
<https://www.industry.nsw.gov.au/privacy>

*Information from this form is collected for the purpose of receiving your feedback on the draft regional water strategy. The supply of this information is voluntary. Your details will be stored in NSW Department of Planning, Industry and Environment records. Information will be stored and managed in accordance with provisions under the Privacy and Personal Information Protection Act 1998. It will not be used for any other purpose and will not be given to any other third party except where required by law. To access or correct your personal information, contact us using the information at [dpie.nsw.gov.au/contact](https://www.dpie.nsw.gov.au/contact)*

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### 1. Information on confidentiality and privacy \*

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

Yes                  No

I would like my personal details to be kept confidential.

Yes                  No

## 2. Your details

Email address \*

Name \*

Address \*

Contact phone number \*

Do you identify as an Aboriginal person?

Yes

No

Are you an individual or representing an organisation?

Individual

Organisation

## 3. Organisation or business details

Who do you represent?

**Government:**

Commonwealth

New South Wales

State other

Local

**Local Water Utility**

**Peak representative organisation:**

Environment

Industry

Business group or business chamber

Community organisation

**Other**

## 4. Draft regional water strategy objectives and vision

The draft Macquarie-Castlereagh Regional Water Strategy is one of 13 strategies (12 regional water strategies and a Greater Sydney Water Strategy) being developed by the department. All regional water strategies are being developed in line with the following objectives.

- **Deliver and manage water for local communities**
  - Improve water security, water quality and flood management for regional towns and communities.
- **Enable economic prosperity**
  - Improve water access reliability for regional industries.
- **Recognise and protect Aboriginal water rights, interests and access to water**
  - Including Aboriginal heritage assets.
- **Protect and enhance the environment**
  - Improve the health and integrity of environmental systems and assets, including by improving water quality.
- **Affordability**
  - Identify least cost policy and infrastructure options.

All draft regional water strategy options need to address at least one of the above objectives. Our vision for this strategy is to have healthy and resilient water resources (that withstand extreme events and adapt to these changes) for a liveable and prosperous Macquarie-Castlereagh region.

To achieve this, we need to position the region so there is the right amount of water of the right quality, delivered in the right way to meet the future needs of Aboriginal people, towns, communities, industries and the environment.

**Do you support this vision for the Macquarie-Castlereagh Regional Water Strategy?**

Yes

No

**If no, please outline your vision for the long term management of water resources in this region?**

## **5. Information and modelling used to develop the Macquarie-Castlereagh Regional Water Strategy**

The draft Macquarie-Castlereagh Regional Water Strategy packages the most up to date information and evidence with all the tools we have – policy, planning, behavioural, regulatory, technology and infrastructure solutions.

We have used the following information to develop the draft Macquarie-Castlereagh Regional Water Strategy.

- **New climate data:**
  - Observed historical climate data - recorded rainfall, temperature and evaporation data.
  - Paleoclimate data - scientific reconstructed data using sources such as tree rings.
  - Climate drivers – key drivers of wet and dry periods.
- **Review of existing studies**
  - to identify drivers and risks for water resource management.
- **Community engagement:**
  - Local councils and joint council organisations.
  - Aboriginal peak bodies and Aboriginal community groups.
  - Review of previous water management consultations.

**A) Do you have any comments about the information used to develop this strategy?**

**B) Please provide details if there is additional information you think we should consider?**

## 6. Stochastic modelling method

We used a stochastic modelling method (based on the statistical characteristics of the new climate data) in order to get a dataset covering up to 10,000 years. This enables us to quantify the natural variability and extremes in the region with greater certainty.

**A) Do you have any comments about the modelling method used to develop this strategy?**

**B) Is there any additional information that you believe could help us assess the benefits and disadvantages of draft options?**

## 7. Opportunities and challenges for water management in the Macquarie-Castlereagh region

During the Macquarie-Castlereagh Regional Water Strategy drafting stage, the following opportunities, risks and challenges were identified.

- **Climate conditions combined with current operation assumptions are placing the region's water resources under stress**
  - Region has a naturally variable climate that needs to be planned for.
  - Decreased inflows to dams in the region.
  - Increased potential for droughts.
  - Challenges in delivering water to the end of the system.
- **Need to rethink how we manage water in the region**
  - Improved understanding of extreme events needs to be included in water allocations.
  - Greater transparency about water security risks.
  - New water infrastructure needs to support population growth centres.
  - New measures to reduce demand and improve water efficiency is needed.
  - Rethink the types of industries in the region to reduce water demand and use water more efficiently.
- **Water is essential for Aboriginal people's health, wellbeing and connection to Country:**
  - The health of the waterways impacts wellbeing.
  - Current cultural water entitlements do not meet the needs of Aboriginal people.
  - Opportunities to include Aboriginal people's involvement in water management.

- **Critical environmental assets need to be protected**
  - Healthy water sources support the region’s environment.
  - River ecosystems are under stress.
  - Future actions should support environmental outcomes across the whole system including the Macquarie Marshes.
- **Better management of groundwater**
  - Groundwater sources are critical and need to be used more efficiently.
  - More knowledge is needed about groundwater recharge rates.

**A) Do you have any comments on the opportunities, risks and challenges identified?**

**B) Are there any additional opportunities, risks and challenges that we should consider and what options could address these?**

## **8. Draft Macquarie-Castlereagh Regional Water Strategy options**

We have developed a long list of options that could be included in the final Macquarie-Castlereagh Regional Water Strategy. The options consider the opportunities and challenges facing the region and meet at least one regional water strategy objective.

The 49 options are grouped in different categories, being:

- maintaining and diversifying water supplies.
- protecting and enhancing natural ecosystems.
- Supporting water use efficiency and conservation.
- strengthening community preparedness for climate extremes.
- improving recognition of Aboriginal people’s water rights, interests and access to water.

Only feasible options will be progressed to the final strategy stage – following a rigorous assessment process. We are seeking your feedback to inform the options assessment process.

Draft options for the Macquarie-Castlereagh Regional Water Strategy are outlined below.

### **Maintaining and diversifying water supplies**

- |  |  |
|--|--|
| 1. A new mid system re-regulating weir on the Macquarie River                    | 7. Reuse, recycling and stormwater projects                              |
| 2. Access water from Burrendong Dam's deep storage                               | 8. Burrendong Dam to Nyngan pipeline                                     |
| 3. Managed aquifer recharge investigations and policy                            | 9. Pipeline from the proposed new mid-system weir near Gin Gin to Nyngan |
| 4. Improving town water security in the upper Macquarie unregulated river system | 10. Gunningbar Creek pipeline  |
| 5. Drought protocols for Bathurst and Oberon town water supply                   | 11. Increase Burrendong Dam's Full Supply Level                          |
| 6. Inter-regional connections project investigation                              | 12. Increase outlet valve capacity at Burrendong Dam                     |
|  | 13. Reliable access to groundwater by towns                              |

### **Protecting and enhancing natural ecosystems**

- |   |  |
|---|--|
| 14. Address channel constraints to delivering environmental flows to the Macquarie Marshes                              | 23. Modification and/or removal of existing floodwork structures causing adverse impacts |
| 15. NSW Fish Passage Strategy   | 24. Relieve flow constraints on the Cudgegong River at Rocky Waterhole Bridge            |
| 16. Introduce flow variability in the distributary (effluent) creeks  | 25. Improved understanding of groundwater processes                                      |
| 17. Determine the feasibility of delivering water to the Talga Wetland/ Overflow of the lower Crooked Creek             | 26. Sustainable access to groundwater  |
| 18. Undertake channel works to reinstate natural channel profiles in selected streams in the southern Macquarie Marshes | 27. Improved clarity in managing groundwater resources sustainably                       |
| 19. Formalise channel sharing arrangements  | 28. Investigation of water quality mitigation measures                                   |
| 20. Implement a native fish restoration project   | 29. River Ranger program   |
| 21. Diversion screens to prevent fish extraction at pump offtakes   | 30. Secure flows for Beemunnel Aboriginal Place  |
| 22. Cold water pollution mitigation measures  | 31. Connectivity with downstream systems   |

### **Supporting water use and delivery efficiency**

- |   |  |
|---|--|
| 32. End of system efficient stock and domestic water delivery options | 34. Market measures to support Dubbo's town water supply |
| 33. Enterprise water use efficiency programs                          |  |

## Strengthening community preparedness for climate extremes

- |   |   |
|---|---|
| 35. Investigation of licence conversions                              | 39. Capacity building program:<br>- new climate data/modelling          |
| 36. New drought operational rules (Macquarie River)                   | - managing groundwater resources sustainably                            |
| 37. Review of regulated river water accounting and allocation process | 40. Investigation to maintain amenity for regional towns during drought |
| 38. Improved data collection and information sharing                  | 41. Land use change impact on water resources                           |

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

- |  |  |
|--|--|
| 42. Culturally appropriate water knowledge program             | 46. Water portfolio project for Aboriginal communities       |
| 43. Water-dependent cultural practices and site identification | 47. Aboriginal cultural water access licences review         |
| 44. Shared benefit project (environment and cultural outcomes) | 48. Co-management investigation of Travelling Stock Reserves |
| 45. Regional Aboriginal Water Advisory Committee               | 49. Regional Cultural Water Officer employment program       |

### A) Which five (5) options do you think are ***most*** important?

Please list the option numbers in order of importance with the first option being most important

Option Number  
Option Number  
Option Number  
Option Number  
Option Number

### B) Please comment on why you think these options are most important?

### C) Which five (5) options do you think are ***least*** important (if any)?

Please list the option numbers in order of least importance with the first option being least important

Option Number  
Option Number  
Option Number  
Option Number  
Option Number

**D) Please comment on why you think these options are least important?**

**E) Do you have any comments on the draft options?**

## **9. Option combinations**

The option list provided in the draft strategy also identifies potential combinations of options. These combinations recognise that most options require associated works, further assessments and/or legislative, policy and planning changes to ensure they address the risks and challenges identified in the Macquarie-Castlereagh region and do not have unintended impacts.

**A) Do you have any thoughts on how the options could be combined with other options?**

**B) Are there additional options that we should consider?**

## **10. Other comments**

**Do you have any other comments about the Macquarie-Castlereagh Regional Water Strategy?**

## **11. 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, Industry and Environment website

Direct email

Social media

Have your say NSW Government website

Communication from peak body

Other

## **12. Additional Information and submission process**

If you would like to provide any supporting documents to help us understand your view, please either, 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. Further targeted engagement will be undertaken along with the final phase of stakeholder engagement later in the year to review the final documents.



**Please email your completed submission and supporting documents to [regionalwater.strategies@dpie.nsw.gov.au](mailto:regionalwater.strategies@dpie.nsw.gov.au)**



**or post to Regional Water Strategies, Department of Planning, Industry and Environment, Locked Bag 5022, Parramatta NSW 2124 by 13 November, 2020.**



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

**Thank you for your submission.**

## Extracted answers from fillable form above:

### Question 5A.

I have great concerns in the climate modelling projected data. Water Strategies need to use existing data going back to 1890 and then update the data as it occurs like the recent record drought.

I have my doubts about accuracy of a 10,000 year model in how to calibrate this with confidence. A 100 year model makes more sense and plans can change down the track as more information is recorded.

### Question 7A.

In my specialty groundwater I can give specific advice with my experience. In short you need to improve the groundwater monitoring network particularly in the Upper Macquarie alluvials and the major towns Dubbo, Narromine and Wellington. You need a better system to maintain the network. We need to map the aquifers better through the use of more investigation drilling, geophysics. AEM, EM and Passive seismic, resistivity and seismic. We need to take this to another level similar to what the mines department do looking for minerals.

We need to better investigate the recharge areas of the GAB and the GAB in Casterleagh Macquarie as there is a sea of water which could be used possibly more economical and less environmentally damaging then building dams etc

Once above is done then Managed Aquifer recharge could be more carefully considered.

### Question 7B.

A lot is said about MAR but one of the main problems in the Macquarie Valley when that water is available it will be loaded with sediment in flood times. Strategies for treating this water to make it less turbid is required before it could be injected into bores, or off river basins need to be found that are practical.

I see many problems but can be engineered and resolved if there is a will.

Examples of MAR projects that could be considered.

Bathurst where council already has a disused 400 metre water supply tunnel under the Macquarie River which is effectively recharging the shallow alluvial aquifer at present as it is upstream of the Bathurst weir.

At Geurie where the watertable has dropped by 10 metres or so in last five to ten years. Council has two bores we recently drilled it is unlikely to use except in drought. Could be used as a trial water injection if a way can be found to treat the water during drought.

Upstream of Dubbo once one of the two Basalt quarry pits are exhausted in future near the bottom of Eulomogo Creek in the future could be used to store flood water from Eulomogo Creek and once silt dropped out inject in bores to the nearby South West Dubbo Borefield.

I have plenty of expertise in MAR ASR bores and injection bores can assist in developing these projects with my local knoweldge.

There could be options in the Lower Macquarie and working with Narromine Irrigation using their channels to bring water to injection bores or even irrigators storages and then pump into injection bore.

Question 8B.

Before Looking at reusing toilet water, raising dam walls and alike we should look closely at groundwater being manged better and more understood as it will in most cases solve all our problems at least cost.

Dubbo Regional Council needs to purchase groundwater to secure its water particulalry near Dubbo where it could expand its borefield also at Geurie and Wellington,

Question 9B.

Department needs to have a clear policy for basic landholder rights bores and the replacement of them for the whole Macquarie Casterleagh Valley.

It has no transparent policy for bores near septic tanks and treatment systems sometimes it is 250 metres sometimes 100 metres and sometimes 50 metres. Fair enough if this is due to site conditions but why is DPIE not being transparent as to what the rules are. Why has DPIE not provided any evidence that groundwater is contaminated up to 250 metres from a septic tank. This policy needs to be part of a strategy for all water users in the Macquarie Casterleagh Valley let alone across the State.

In contrast the government has given at least 6 million dollars of 28 million allocated to groundwater investigations for Dubbo which will allow council to firstly used treated effluent water on sporting fields many of which recharge the aquifer Dubbo council uses for its drinking supplies. The same pipeline has been built to Dubbo John Gilbert water treatment plant. Allowing council in future to easily push for treated effluent to be used in Dubbo Drinking water supplies. When there is no need for this with better river water management and groundwater management.

Question 10.

Overall good initiative. But DPIE and councils seem to lack the expertise in being able to pull this together on an implementation scale. Many key water staff were moved on with constant restructuring DPIE is now basically a policy/ Regulation data collection agency with no Robust leadership in making things happen or having shovel ready projects. So I suggest a solution in next paragraph.

To bring together expertise a Valley Technical Committee should be formed (not politicians or lobbyists) but technical people with proven track record including River operators ( Water NSW engineers), Experts in Water Treatment, Groundwater Professionals, Water Drilling companies, Aquatic ecologists practical ones not ones with political agenda Water Brokers or legal water policy and Economist. It would be a combination of Government people and professionals working in the water industry with forwarding looking views that do not have political agendas.

Training of council engineer water staff in groundwater and water cycle ,is needed as most are focused on river water and water quality treatment. I say this with 35 years experience in finding groundwater across NSW for most towns and cities across NSW.

Lastly do not forget the rest of the Catchment that rely on basic landholder rights from stream, Dams rainwater and predominately Stock and Domestic bores and let have transparency about why some bores can be 50 metres from a septic tanks and some have to be more then 250 metres.