

Submission on Draft Macquarie-Castlereagh Regional Water Strategy

Regional Water Strategies

Department of Planning, Industry and Environment

regionalwater.strategies@dpie.nsw.gov.au

Thank you for the opportunity to provide stakeholder feedback on the draft Regional Water Strategies. I am a landowner of 44 years with frontage to a Macquarie Valley creek system with basic riparian rights to access water for stock and domestic purposes. My knowledge of this particular creek system however extends more than another decade prior to purchasing and residing on my property. I am also an appointed Crown Land Manager (more than 11 years) for a Crown Land Recreation Reserve which is traversed by the same creek system downstream of my property.

Clearly there is a need to rethink how water is used and managed in the Valley, particularly with regard to the quantity and quality of the available water resource and the severe degradation and ecological stress my creek system and many others in the Macquarie Valley are experiencing due to ever increasing demand.

The following submission feedback in the main relates to my local situation and experiences, however I would also like to provide some general comments on the draft strategy and its approach.

General Comments

From my reading of the draft water strategy, a forecasted increase in future water demand is expected to be faced with less water availability due to climate change. Together, these two scenarios present a high risk to water resources and security of supply for community use, but more so, poses a serious risk to the health of the Valley's water ways, their ecosystems, the supported environment and community wellbeing.

I commend the effort to rethink water management and recognition in the draft strategy documents of an anticipated future decrease in inflows to dams, increased potential for droughts, increasing challenges to managing flows through and to the end of systems and impact of greater system losses from increased evaporation. While there is mention of rethinking the types (or maybe appropriateness) of industries in the region to reduce water demand and use of available water more efficiently, the draft documents fail to address the critical question on the future sustainable level of water use necessary to achieve and protect environmental outcomes. Rather, the draft plan in the main, focuses on strategies to meet increasing/expanded future demand to enable economic growth and prosperity, i.e. "how much water the region will need to meet future demand".

The draft plan's title, "Regional Water Strategies", in essence may better be titled "a plan for more efficiently exploiting the State's declining surface and subsurface water resources", or "a strategy to protect the security of water resources for increased community use".

In relation to the public exhibition and feedback submission process, I believe the feedback being sought to a large degree is being framed by defined questions on the strategy approach and consideration of the list of draft options proposed.

I believe the climate analysis methodology used in assumptions, although an advance on using only historical records, is still flawed in its reliance and weighting of past climate information. Inclusion of past climate history in predictions of future climatic conditions suggests that past and future climate is cyclical and that there will always be a return to past climatic conditions. Latest accepted scientific evidence suggests that historical climate patterns will be changed, both in the near and longer term, and although variable, will overall see less rainfall, higher temperatures and increased evaporation losses. This is seen as more than simply a risk, but more likely a plausible probability with latest climate change evidence. The only credible use that past historical climate data provides is that future water availability will be less than what has been available in the past. This will undoubtedly be exacerbated by increased demand, leading to a less water secure future for both the environment and community.

My local context and experience.

I am a landowner of 44 years in the upper unregulated Macquarie River region. My property has a boundary to a creek system which flows to the unregulated Macquarie River.

The third order creek system bounding my property was classified by a former NSW water department as a perennial (permanent) stream. Downstream of my property this creek system bounds a State Conservation Area and a Nature Reserve, both managed by NSW National Parks. As well, the creek traversing the Crown Land Recreation Reserve I have responsibility for as an appointed Crown Land Manager, before eventually flowing to the unregulated Macquarie River.

The headwater catchment upstream of my property is fed by a network of first and second order feeder streams, all of which with the exception of one second order stream, are controlled by four urban water storage impoundments. Three of these upstream urban water storage impoundments are located in a sequence with the upper two reservoirs needing to fill and spill before surplus flows continue downstream to the third upstream impoundment. Only the lower or third impoundment in this sequence has a licensed environmental flow release requirement of 1 ML/day when inflows of at least 1 ML are occurring. The fourth impoundment is located on a minor first order tributary of the one remaining uncontrolled feeder stream.

Hydrological flow data for this last remaining uncontrolled upstream (second order) feeder stream shows that it now accounts for 99% of flows for the 80th percentile flow and 98% of flows for the 50th percentile flow, to some distance downstream beyond my property.

This last remaining feeder stream is also under increasing development for urban use with currently on average around 20% of flow volumes being extracted in the form of stormwater harvesting. Plans are also now under development to further considerably increase urban stormwater harvesting, which will have an additional severe impact on downstream flows past my property and beyond through the Crown Land Recreation Reserve, State Conservation Area and Nature Reserve.

Stormwater harvesting is touted as an option (Option 7) to improve urban water security and an opportunity to maximise the use of surface water for potable and non-potable urban use. Stormwater runoff in this last feeder creek is the last remaining uncontrolled water source for my creek. My riparian rights to access water for stock and domestic use is being severely eroded by the actions of Orange City Council upstream. Environmental studies have shown that my creek is under high environmental and hydrological stress and suffering severe degradation, yet there seems to be no regard by Orange City Council for downstream landowners or the downstream environment. There needs to be other alternatives for Orange City Council to secure its urban water supply other than to continue to bleed every last drop of water from Summer Hill Creek through increased stormwater harvesting from the only remaining source of water to my property and beyond to the Ophir Recreation Reserve.

Conclusion

I believe the fundamental flaw in this strategic plan and previous water reform plans is that the balance between sharing water with the natural environment and community use is not ethically apportioned. Rather, the Strategy's primary objective is to deliver more secure and increased water for communities for purported economic prosperity. The more water that can be exploited with more security will only serve to foster further growth in population and use, leading to unsustainable demand from a declining resource. There must be a greater focus on delivering more flows through the system which are being impeded by the numerous constructed barriers. It must be remembered that every current and new instream impoundment barrier creates greater evaporation losses and less total water in the system.

Denis Marsh



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 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

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)

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?

Please refer to attached detailed submission.

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?

Please refer to attached detailed submission.

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?

Please refer to attached detailed submission.

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:
- new climate data/modelling
- managing groundwater resources sustainably |
| 36. New drought operational rules (Macquarie River) | |
| 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?

Please refer to attached detailed submission.

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?

Please refer to attached detailed submission.

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?

Please refer to attached detailed submission.

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@dpi.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.