

Submission**GW057**

Recorded Date	14/08/2022 18:54
Response ID	R_20Or8c5OfqX1L2I
Confidentiality instruction - publishing submission externally	I give permission for the department to publish my name with my submission on the department's website.
Confidentiality instruction - sharing submission internally within department	I give permission for my name and email to be shared within the department.
Submission choice - file upload or complete survey	I wish to upload a file containing my submission rather than complete this survey
File upload - instead of completing survey - ID	F_yEFzdBhkN3dJaRX
File upload - instead of completing survey - Name	LVW submission NSW Groundwater Strategy .pdf
File upload - instead of completing survey - Size	157501
File upload - instead of completing survey - Type	application/pdf
Thinking about your relationship to groundwater, which of the following user groups or parts of the - Selected Choice	Agriculture
Thinking about your relationship to groundwater, which of the following user groups or parts of the - Other (please specify) - Text	
In which region are you located	Lachlan
* How important is it for you to access groundwater as a resource	Very important
* To what extent do you agree with the following statements - Groundwater is important for basic human needs (drinking, cooking)	Strongly agree
* To what extent do you agree with the following statements - Groundwater is important for stock watering	Strongly agree
* To what extent do you agree with the following statements - Groundwater is important for Aboriginal communities and Country	Agree
* To what extent do you agree with the following statements - Groundwater is important for agriculture	Strongly agree
* To what extent do you agree with the following statements - Groundwater is important for the environment	Neutral
* To what extent do you agree with the following statements - Groundwater is important for industrial businesses (including mining)	Strongly agree
* To what extent do you agree with the following statements - Groundwater is important for manufacturing (water bottling, food processing and others)	Agree
* Please indicate what you think NSW's groundwater needs will look like over the next 20-40 years.	More than current needs
* Which part/s of the community do you think will have the greatest change in their groundwater need	Agriculture,Industry,Towns and cities

* Do you think you should change the way you will use groundwater in the future	Yes, I've started doing research and am in the process of making changes
* How well do you know the NSW groundwater management framework, rules and legislation	Very well
* Please rank the 4 key issues affecting groundwater management in NSW from most important to least - Our climate is changing, and groundwater recharge and demands will be affected	2
* Please rank the 4 key issues affecting groundwater management in NSW from most important to least - The risks to groundwater from development and land use change are increasing	3
* Please rank the 4 key issues affecting groundwater management in NSW from most important to least - Community notions of sustainability and fair access to groundwater have evolved	4
* Please rank the 4 key issues affecting groundwater management in NSW from most important to least - Our understanding of groundwater, its behaviour and use is improving	1
Please tell us of any other challenges that are affecting groundwater management in NSW	Refer attached submission
* Please rank these challenges in order of importance, where 1 = Most important and 4 = Least import - Our policy framework for sustainable groundwater management needs to be updated to be more responsive to emerging challenges such as climate change	1
* Please rank these challenges in order of importance, where 1 = Most important and 4 = Least import - Ecosystems that depend on groundwater face increased threats such as intensive groundwater extraction and pollution	4
* Please rank these challenges in order of importance, where 1 = Most important and 4 = Least import - There is a lack of strategic integration between management of groundwater, surface water and land	2
* Please rank these challenges in order of importance, where 1 = Most important and 4 = Least import - Threats to the quality of groundwater resources are increasing over time and these need to be addressed	3
Please tell us any other challenges you think will affect the protection of groundwater resources an	
* How important for you is the protection of groundwater resources and the ecosystems that depend on	Important

* To what extent do you agree with draft action 1.1?	Neutral
* To what extent do you agree with draft action 1.2?	Agree
* How important to you are each of the following sub-actions required under Action 1.2? - Refresh and expand our approach to sustainable groundwater management	Important
* How important to you are each of the following sub-actions required under Action 1.2? - Manage groundwater and surface water together	Important
* How important to you are each of the following sub-actions required under Action 1.2? - Integrate groundwater considerations into land use planning decisions	Important
* How important to you are each of the following sub-actions required under Action 1.2? - Improve management of large developments impacting groundwater	Important
* How important to you are each of the following sub-actions required under Action 1.2? - Strengthen cross-border groundwater management	Of minor importance
* To what extent do you agree with draft action 1.3?	Agree
* How important to you are each of the following sub-actions required under Action 1.3? - Review and update our approach to protecting groundwater dependent ecosystems	Important
* How important to you are each of the following sub-actions required under Action 1.3? - Deliver a program to improve our understanding of groundwater dependent ecosystems	Very important
* To what extent do you agree with draft action 1.4?	Agree
* How important to you are each of the following sub-actions required under Action 1.4? - Review groundwater source extraction limits using new knowledge	Important
* How important to you are each of the following sub-actions required under Action 1.4? - Better manage impacts of extraction at a local level	Important
* How important to you are each of the following sub-actions required under Action 1.4? - Improve clarity around management of groundwater sources with a low long-term entitlement share value	Neutral
* To what extent do you agree with draft action 1.5?	Agree

* How important to you are each of the following sub-actions required under Action 1.5? - Review and update our approach to managing groundwater quality	Neutral
* How important to you are each of the following sub-actions required under Action 1.5? - Deliver a program to better understand groundwater quality and risks	Important
Please tell us any other suggested actions you think we should consider in Strategic Priority 1	
* Please rank these challenges in order of importance, where 1 = Most important and 3 = Least import - Increasing demand for groundwater for other uses can undermine its use for town water supply	2
* Please rank these challenges in order of importance, where 1 = Most important and 3 = Least import - New and expanding industries need to consider groundwater opportunities and constraints	1
* Please rank these challenges in order of importance, where 1 = Most important and 3 = Least import - Aboriginal rights to groundwater and Aboriginal uses of groundwater are not adequately recognised	3
Please tell us any other challenge you think will affect community and industry resilience in using	
* How important is it for you that communities and industries using groundwater resources have a rel	Important
* To what extent do you agree with draft action 2.1?	Agree
* To what extent do you agree with draft action 2.2?	Neutral
* How important to you are each of the following sub-actions required under Action 2.2 - Provide better information on groundwater opportunities and constraints to communities and industries	Important
* How important to you are each of the following sub-actions required under Action 2.2 - Enable the increase of sustainable groundwater use in targeted areas	Neutral
* How important to you are each of the following sub-actions required under Action 2.2 - Foster innovative groundwater solutions, including Managed Aquifer Recharge (also called 'water banking', to support communities and industries)	Neutral
* To what extent do you agree with draft action 2.3?	Neutral

* How important to you are each of the following sub-actions required under Action 2.3 - Increase access to groundwater for Aboriginal people	Neutral
* How important to you are each of the following sub-actions required under Action 2.3 - Protect groundwater-dependent places of significance to Aboriginal communities	Important
* How important to you are each of the following sub-actions required under Action 2.3 - Better integrate Aboriginal knowledge into groundwater management	Neutral
* Do you identify as Aboriginal and/or Torres Strait Islander	Neither
Please tell us what groundwater health and secure groundwater supply means for you, your family, you	
Please tell us about the changes you have seen in groundwater management in your cultural landscape	
Please indicate which of these cultural opportunities you have seen in action in the way groundwater - Selected Choice	
Please indicate which of these cultural opportunities you have seen in action in the way groundwater - Other (please specify) - Text	
Please provide any other comments about cultural opportunities or challenges in groundwater manageme	
What are the most important benefits of cultural and economic opportunities in the water industry - Selected Choice	
What are the most important benefits of cultural and economic opportunities in the water industry - Other (please specify) - Text	
Please provide any other comments about benefits of cultural and economic opportunities and how we r	
Cultural heritage file upload - ID	
Cultural heritage file upload - Name	
Cultural heritage file upload - Size	
Cultural heritage file upload - Type	
Please tell us any other suggested actions you think we should consider in Strategic Priority 2	
* Please rank these challenges in order of importance, where 1 = Most important and 3 = Least import - Being underground and difficult to investigate, information about groundwater is lacking	3

* Please rank these challenges in order of importance, where 1 = Most important and 3 = Least import - There are gaps in our scientific knowledge and research capabilities	1
* Please rank these challenges in order of importance, where 1 = Most important and 3 = Least import - Our groundwater monitoring network is ageing and has limited coverage	2
Please tell us any other challenge you think is affecting the use of information and data to m	
* How important is it for you to have access to more information and data about groundwater manageme	Important
* How interested are you in finding out more about how groundwater is managed and used	Interested
What ways could the department use to communicate with you and others in your community about ground	
Please tell us what type of information and data about groundwater resources you would like availabl	
* To what extent do you agree with draft action 3.1?	Agree
* To what extent do you agree with draft action 3.2?	Agree
* How important to you are each of the following sub-actions required under Action 3.2 - Expand the range of knowledge and insights products including information systems, platforms and interfaces for storing, managing, accessing and interrogating groundwater data	Important
* How important to you are each of the following sub-actions required under Action 3.2 - Improve and diversify how we communicate information on groundwater resources and their management	Important
* How important to you are each of the following sub-actions required under Action 3.2 - Support strategic planning and decision-making by councils and groundwater users with improved access to information on groundwater and its management	Important
* How important to you are each of the following sub-actions required under Action 3.2 - Develop a unified framework to consolidate and analyse all groundwater data across all relevant agencies and groundwater users and impacting activities	Important
* How important to you are each of the following sub-actions required under Action 3.2 - Support data and database integration across agencies to address data gaps and improve customer service delivery	Neutral

* To what extent do you agree with draft action 3.3?	Agree
* How important to you are each of the following sub-actions required under Action 3.3 - Expand our multi-disciplinary understanding of groundwater	Important
* How important to you are each of the following sub-actions required under Action 3.3 - Improve our groundwater models where required	Important
* How important to you are each of the following sub-actions required under Action 3.3 - Increase our capacity and capability to apply leading groundwater science	Neutral
* To what extent do you agree with draft action 3.4?	Agree
* How important to you are each of the following sub-actions required under Action 3.4 - Improve our groundwater monitoring infrastructure	Important
* How important to you are each of the following sub-actions required under Action 3.4 - Improve our groundwater monitoring programs	Neutral
Please tell us any other suggested actions you think we should consider in Strategic Priority 3	
Please provide any final comments	
Any additional material - file upload - ID	F_3L6HDkq7pwEfaYm
Any additional material - file upload - Name	LVW submission NSW Groundwater Strategy .pdf
Any additional material - file upload - Size	157501
Any additional material - file upload - Type	application/pdf
Personal information: name, email - Name	[REDACTED]
Personal information: name, email - Email	[REDACTED]
Business name, if responding on behalf of a business - Your business name (if you are responding on behalf of an organisation)	Lachlan Valley Water
* How did you hear about this survey? Select all that apply. - Selected Choice	Department's website
* How did you hear about this survey? Select all that apply. - Other (please specify) - Text	
* What age bracket do you fit into?	[REDACTED]
* How do you describe your gender	[REDACTED]
* Speak language other than English at home? - Selected Choice	[REDACTED]
* Speak language other than English at home? - Yes (please specify) - Text	[REDACTED]
* Identify as person with disability?	[REDACTED]
Text	[REDACTED]



Lachlan Valley Water Inc
Sustainable, productive and efficient water use in the Lachlan Valley

**Submission to
Department of Planning and Environment
Draft NSW Groundwater Strategy**

August 2022



SUBMISSION ON THE DRAFT NSW GROUNDWATER STRATEGY

Executive Summary

The draft Strategy is a very high-level document. LVW recommends there should be regional plans below it which incorporate the comprehensive groundwater management that is already in place across the groundwater regions. We also submit that the Strategy would be more informative if it included up-to-date groundwater usage data, including the 2021/22 figures, to provide a more accurate representation of how groundwater usage changes depending on climate conditions and surface water availability.

In relation to the protection of groundwater dependent ecosystems (GDE) it is essential to accurately verify the level of reliance of these ecosystems on groundwater, particularly in relation to deeper aquifers, and to identify whether groundwater extraction poses any risk to GDEs which is not already being managed by the existing WSP rules. Additionally, the Strategy should recognise that while the climate risk is based on a very dry future climate scenario, this may not materialise, and that the management strategy should be guided by actual climate data.

Groundwater management processes to handle compliance with long-term average annual extraction limits have already been implemented through Water Sharing Plans, and there has been good engagement between the Department and licence holders in developing these processes. In addition, we note that while some groundwater sources are 'over-allocated', the actual yearly use can vary significantly, the average annual use in most of these sources remains below the extraction limit, and there are rules already in place in the WSPs to manage compliance with extraction limits.

The draft Strategy also notes that demand for groundwater by towns is forecast to increase by close to 300% over the next 20 years. The Strategy should be more explicit about regionally where this town water supply demand increase will occur, and to what extent, and express it as a proportion of the total groundwater availability in that source.

The draft Strategy recommends investigating the feasibility of managed aquifer recharge as a strategy, and that the technical, economic and environmental limitations must be considered. Managed aquifer recharge is an expensive process so LVW concurs this investigation needs to fully understand the aquifer system, and also factor in the demand for water and the ability of licence holders to pay for it.

1. Introduction

Lachlan Valley Water (LVW) welcomes the opportunity to make a submission on the draft NSW Groundwater Strategy. Lachlan Valley Water is an industry organisation representing surface water and groundwater licence holders in the Lachlan and Belubula valleys. Membership of LVW is voluntary and our members represent all categories of licences except for those held by environmental water managers. While this submission is made on behalf of our members, individual members may also make their own submissions.

2. Overview

As this is a very high-level strategy, LVW recommends there should be regional plans below it which incorporate the comprehensive groundwater management that is already in place, particularly in groundwater zones where there has been a high level of usage. The regional plans need to recognise that the water level management process must have flexibility appropriate to the different regions, in terms of the type of groundwater system, the actual usage and forecast increase in usage.

We recommend that greater face-to-face engagement with the community, and particularly with regional communities, would assist with input on this draft Strategy.

Additionally, given that the draft Strategy was only published in July 2022, we question why the usage data included in the report only goes up to 2019/20? We believe an essential component of the Strategy is to provide the most current information on usage, which is readily available from the Department's website¹, and which shows usage declining in 2020/21 and 2021/22, as conditions became wetter and surface water availability increased.

3. Strategic Priorities

Priority 1 – Protect groundwater resources and the ecosystems that depend on them

The overall approach with Regional Water Strategies has been to use one of the driest future climate scenarios for assessing climate risk. However, it should also be recognised that this worst possible scenario may not occur, and therefore the management strategy should acknowledge this and should also be guided by actual climate data as it occurs rather than worst possible forecast data. In relation to Figure 9 and the possible change in future average annual recharge, LVW considers it is essential that further review of the preliminary modelled results is required to more accurately understand the likely change in recharge.

Action 1.3 Improve management and protection of groundwater dependent ecosystems

A critical factor to Action 1.3 is that the Department should undertake a verification process to understand the actual level of dependence of these ecosystems on groundwater. In Figure 12, many of the areas where there is "high probability to find high priority groundwater dependent ecosystems" are along existing rivers and creeks, especially in the southern half of NSW, so it is anticipated these ecosystems will also have significant dependence on surface water. Consequently the extent of dependence of ecosystems on groundwater and the depth of the aquifer formations are important factors in assessing the potential impacts of groundwater usage on ecosystems, particularly in regard to deeper aquifers.

¹ <https://www.industry.nsw.gov.au/water/allocations-availability/tracking-groundwater>

In relation to Action 1.3.1, the methodology to identify GDE's should explain how the level of dependence on groundwater and the aquifer formations on which the GDEs may be dependent will be identified. LVW is concerned that this is a significant knowledge gap, and agrees that Action 1.3.2 is essential to determine the degree of reliance of ecosystems on groundwater and to identify whether groundwater extraction poses any risk to a GDE which is not managed by the existing WSP rules.

Additionally, it should be recognised that existing Water Sharing Plans already contain rules requiring that a specified distance is maintained between water supply works and groundwater dependent ecosystems, groundwater dependent culturally significant areas and contamination sources.

Action 1.4 Review and update approaches to sustainable groundwater extraction

The Strategy should acknowledge that groundwater management processes to handle compliance with long-term average annual extraction limits have already been implemented through Water Sharing Plans, and that this management has been undertaken by the Department through engagement with licence holders and is generally well accepted. These management processes require flexibility appropriate to the different regions in terms of the type of groundwater system and the actual and forecast usage.

In relation to Action 1.4.2 regarding managing impacts of extraction at a local level, we note that the assessment of applications for new bores is also more detailed and rigorous now than it was prior to the development of Water Sharing Plans, and the conditions applied on new bores are more stringent in relation to the bores being drilled consistent with bore quality standards, and that there are requirements for grout seals etc.

The draft Strategy states that there are 24 groundwater sources where the number of shares for issued licences is significantly higher than the groundwater extraction limit. This is a result of previous policy implementation. We also note that average annual use in most of these sources remains below the extraction limit. For example, in the Upper Lachlan and Orange Basalt the actual extraction has not reached the compliance trigger, even during the severe drought conditions in 2018/19 and 2019/20. In the Upper Lachlan the average usage since the WSP commenced in 2012/13 has been 61% of the extraction limit. There are already rules in place to manage compliance with the extraction limits and these have been well communicated to licence holders.

In addition, the Department has already undertaken consultation with licence holders in localities where drawdown in some monitoring bores exceeds 30% of total available drawdown, in order to flag the future risk and potential restrictions on access if drawdown continues to increase. Therefore, in relation to Action 1.4.3, the Strategy should not simply assume that groundwater usage in sources where the issued shares exceed the extraction limit will continue to increase, and LVW recommends that there must be a better understanding of what degree of risk there is that extraction will actually exceed the extraction limit.

The Strategy should also recognise that groundwater usage in the different regions can vary significantly from year to year depending on surface water availability, because in some regions a proportion of licence holders will hold both groundwater and surface water licences, so there will effectively be conjunctive usage. The management strategies should be designed to accommodate this.

Action 1.5 Protect groundwater quality within natural limits.

LVW supports this requirement. We note that there are already requirements in WSPs to prevent water supply works approvals being granted if the work is close to contamination sources.

Priority 2 – Build community and industry resilience through sustainable groundwater use

Action 2.1 Support towns and cities using groundwater to improve urban water planning

LVW supports this requirement. While exploring innovative licensing options for groundwater-based drought resilience, these processes must also recognise the existing long-term average annual extraction limits and avoid breaching them.

The draft Strategy also notes on p 38 that general demand for groundwater by towns is forecast to increase by close to 300% over the next 20 years. It is vital that towns have secure water supply, but the Strategy should be more explicit about the locations where this town water supply demand increase will occur, and to what extent. It should also identify the volume that this forecast increase represents in each groundwater source and express it as a proportion of the total groundwater availability in that source.

Action 2.2 Support economic growth using groundwater

The draft Strategy recommends investigating the feasibility of managed aquifer recharge as a strategy. LVW agrees that the issues raised in Box 8 regarding the technical, economic and environmental limitations must be considered. Managed aquifer recharge is an expensive process so the investigation will need to understand the aquifer system very well, and also factor in the demand for water and the ability of licence holders to pay for it before going down this track. It will be necessary to fully investigate the aquifer and identify the quality of the water injected, and to be able to ensure that if groundwater is injected into the aquifer it can be pumped out.

Priority 3 – Improve groundwater management decisions with better information

LVW supports actions to better share and integrate groundwater information, although we also note that there have been improvements in this over the last 2 years with tools like the *Tracking groundwater extraction against groundwater limits* on the Department's website. LVW also supports Action 3.3 to improve the understanding of groundwater resources, and upgrading models as required. We consider these actions will have community-wide benefit for towns, licence holders, Aboriginal communities, environment and industry.

Please feel free to contact me for further information on any of the issues in this submission.

Yours faithfully

[Redacted signature]

[Redacted contact information]