

Regional Water Strategy

Western – Attachment 1: Summary of the options assessment

December 2022



Published by NSW Department of Planning and Environment
dpie.nsw.gov.au

Title Regional Water Strategy

Sub-title Western – Attachment 1: Summary of the options assessment

First Published December 2022

Department reference number PUB22/1309

Cover image Image courtesy of Destination NSW. Menindee Lakes, Menindee.

More information water.dpie.nsw.gov.au/plans-and-programs/regional-water-strategies

Copyright and disclaimer

© State of New South Wales through Department of Planning and Environment 2022. Information contained in this publication is based on knowledge and understanding at the time of writing, December 2022, and is subject to change. For more information, please visit www.dpie.nsw.gov.au/copyright.

The information contained in this publication is based on knowledge and understanding at the time of writing (December 2022) and may not be accurate, current or complete. The State of New South Wales (including the NSW Department of Planning and Environment), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties). Readers should make their own inquiries and rely on their own advice when making decisions related to material contained in this publication.

The Draft Western Regional Water Strategy identified 52 draft options and 6 existing government commitments. An additional 5 options were identified during the public consultation process.

During community consultation on this draft longlist, we received feedback from a broad range of stakeholder groups including councils, agriculture and industry groups, local communities, conservation groups and Aboriginal stakeholders. Based on this feedback, as well as further analysis of the longlist of options, we have amended a number of options and developed new options to form the shortlist.

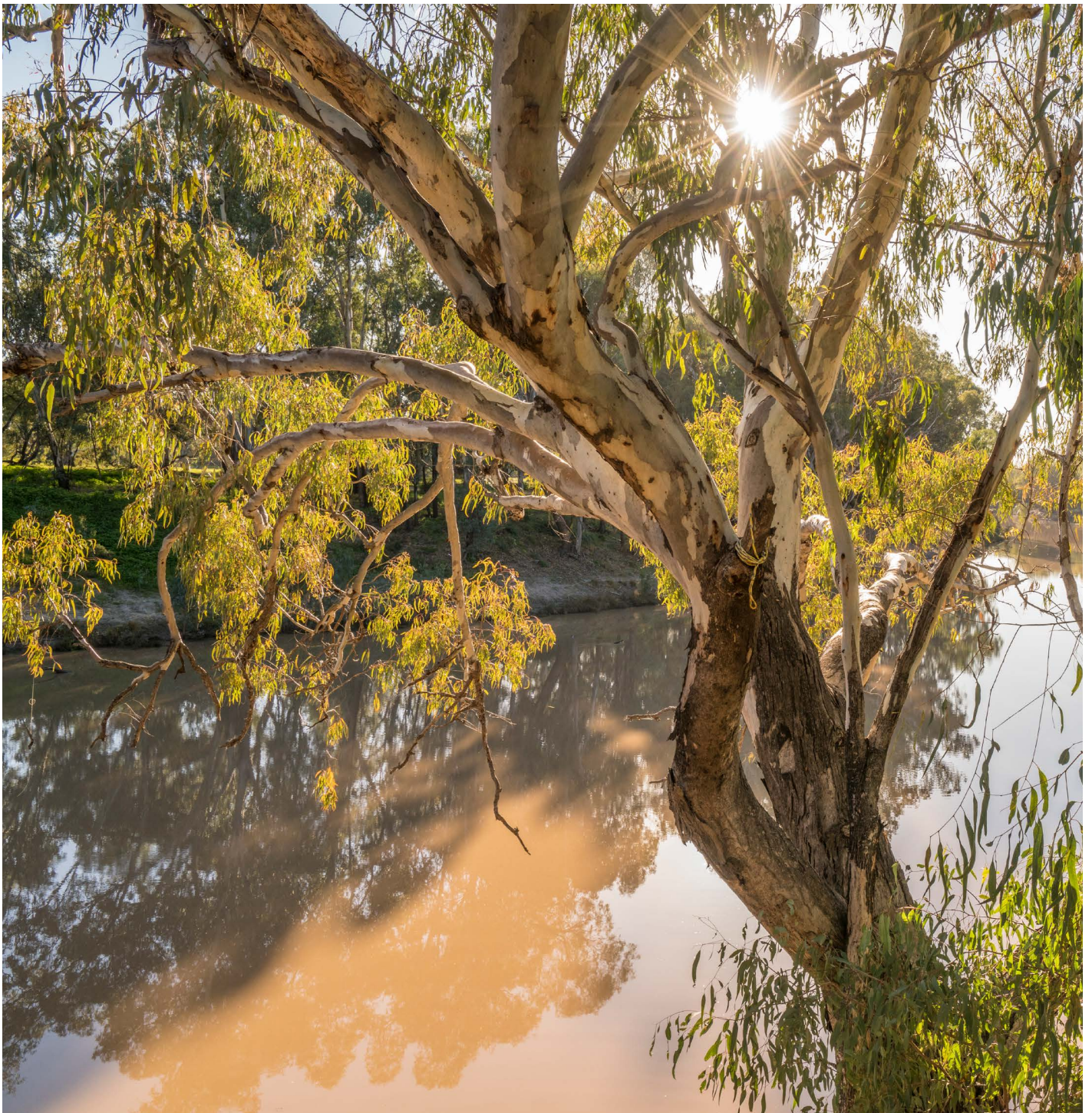


Image courtesy of Destination NSW. Darling River, Bourke.

Overview

The process we followed to move from the longlist to the shortlist involved:

- **Stage 1: Filtering:** Options were initially filtered based on the extent to which they addressed the key regional challenges.
- **Stage 2: Rapid assessments:** Options that passed through Stage 1 underwent a rapid assessment based on the objectives they were aiming to achieve. This included a rapid cost-benefit analysis and rapid assessment of environmental impacts.

The rapid environmental assessment was based on agency subject-matter expert assessment of benefit or impact, using the categories: major/extreme impact, minor/moderate impact, no/little change, minor/moderate improvement, or major/extreme improvement. If there was insufficient information to make an estimate of impact, then this was scored as 'not assessed'.

We also assessed whether Aboriginal communities had positive views on options that were aimed at improving Aboriginal water rights and access. Some options were shortlisted based on previous analyses undertaken through strategic business case processes.

- **Stage 3: Detailed assessments:** Options that have been shortlisted and will impact on the supply, demand or allocation of water will go through more detailed hydrological, economic and environmental watering requirement assessments. These assessments will determine how the options perform under different climate scenarios and will be completed as the first stage of implementation of the strategy.¹

At each step of the assessment, we narrowed down and filtered out the longlist of options from the Draft Western Regional Water Strategy, based on the evidence we gathered and the analysis undertaken. Based on our analyses, several options were consolidated, refined, not progressed or converted into actions; some options are also being progressed through state-wide programs.

This attachment summarises the outcomes of our options assessment. Results from the cost-benefit and environmental watering requirement analyses are presented in Attachments 2-5.

The analysis undertaken is a high-level assessment process, appropriate for a strategic document, and is not designed to consider all possible impacts on the environment, water users or Aboriginal people. However, it does provide enough detail to understand if an option is likely to make a net positive contribution to the regional water strategy's objectives. More detailed environmental, economic and cultural assessments are required and will be undertaken in any subsequent business case development or planning processes for actions that proceed to the implementation stage.

The recommended actions for the regional water strategy will be sequenced, meaning, they will not all be progressed or implemented at the same time.

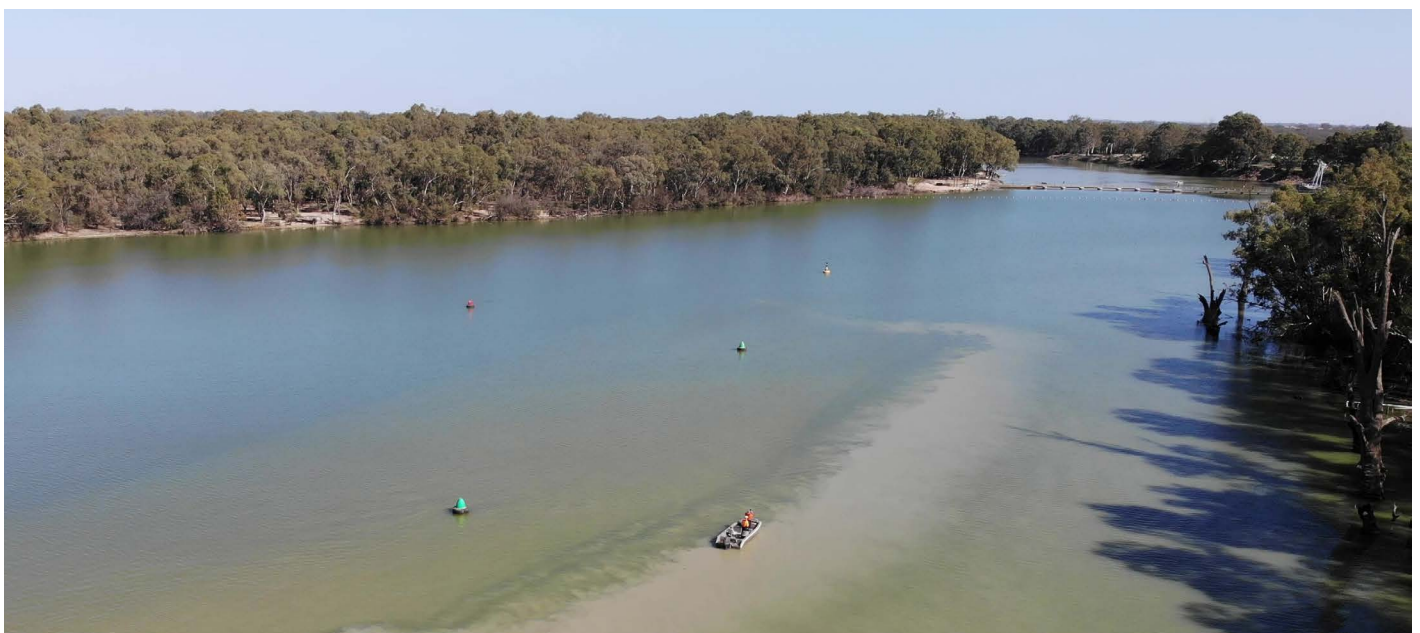















Image courtesy of Wentworth Shire Council. Lower Darling River at Wentworth, NSW.

1. Department of Planning and Environment – Water, *Identifying and assessing strategy options*. Available at: water.dpie.nsw.gov.au/plans-and-programs/regional-water-strategies/identifying-and-assessing

Assessment results – longlist of options to proposed shortlist of options

This attachment summarises how each of the options in the Draft Western Regional Water Strategy were shortlisted or filtered out at different assessment stages.

-  Options progressed to next step
-  To be considered in other NSW processes
-  Option not progressed

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
1. Promote groundwater desalination for industry and towns			No/little change		Incorporated into Action 1.4: Use groundwater more efficiently, innovatively and sustainably. This option was analysed through the Western Weirs Strategic Business Case.
2. Seek to increase secure and reliable access to groundwater for towns		Analysed through the Western Weirs Strategic Business Case			Incorporated into Action 1.1: Augment water supply systems for towns and small communities.
3. Investigate managed aquifer recharge feasibility and policy			Not assessed		This action is being addressed in the NSW Groundwater Strategy by Action 2.3.3: Foster innovative groundwater solutions, including managed aquifer recharge, to support communities and industries.
4. Review groundwater extraction limits			Not assessed		This action is being addressed at a state level in the NSW Groundwater Strategy and Action 1.4: Use groundwater more efficiently, innovatively, and sustainably.

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
5. Better manage the Great Artesian Basin	✓	✗	Not assessed	➤	<p>This requires a multiregional approach. NSW Groundwater Strategy will explore this option and may recommend actions that will require implementation in the Western region.</p> <p>Critical aspects of the Great Artesian Basin Strategic Management Plan will be implemented by the NSW Groundwater Strategy.</p>
6. Assess the possibility of water recycling projects	✓	Analysed through the Western Weirs Strategic Business Case			Incorporated into Action 1.1: Augment water supply systems for towns and small communities.
7. Investigate residential and non-residential water use efficiency in towns	✓	✗	Minor/moderate improvement	✓	Incorporated into Action 1.2: Adopt a stronger focus on water efficiency and demand management for towns.
8. Maintain water-related amenities during droughts	✓	✗	Minor/moderate impact	➤	This option would be investigated as part of local water strategic plans through the Safe and Secure Water Program.
9. Repurposing Umberumberka Reservoir for recreation	✗	✗	Minor/moderate impact	✗	This option did not meet a key regional challenge, and had no stakeholder comment.
10. Investigate potential pipelines for surface water and groundwater sources	✓	✗	Analysed through the Western Weirs Strategic Business Case	✗	Economic analysis through previous studies including the Western Weirs Strategic Business Case identified alternative options to address town water security challenges.

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
11. Modify or renew town weirs	✓	Analysed through the Western Weirs Strategic Business Case			This option was analysed through the Western Weirs Strategic Business Case and recommendations have been incorporated into Action 1.1: Augment water supply systems for towns and small communities.
12. Determine potential for covered off-stream storage	✓	Analysed through the Western Weirs Strategic Business Case			This was analysed through the Western Weirs Strategic Business Case and recommendations have been incorporated into Action 1.1: Augment water supply systems for towns and small communities.
13. Investigate options to secure water for small communities	✓	Analysed through the Western Weirs Strategic Business Case			Incorporated into Action 1.1: Augment water supply systems for towns and small communities.
14. Study the resilience of water-dependent industries	✓	✗	No/little change	✓	Incorporated into Action 1.11: Support adoption of farm climate adaptation and water efficiency measures.
Government commitment 1: River Ranger Program	✓	✗	Minor/moderate improvement	✓	Incorporated into Action 1.8: Support place-based initiatives to deliver cultural outcomes for Aboriginal people.
15. Cawndilla Creek Watering	✓	✗	Not assessed	✗	Additional stakeholder engagement is required to determine an agreed proposal for this initiative.
16. Support long-term participation of local Aboriginal people in water-related matters	✓	✗	Minor/moderate improvement	✓	Incorporated into Action 1.7: Develop ongoing arrangements for participation of local Aboriginal people in water management.
17. Review Aboriginal cultural water access licences	✓	✗	Not assessed	➤	This option will be considered as part of the NSW Aboriginal Water Strategy.
18. Fund water entitlements for Aboriginal communities	✓	✗	Not assessed	➤	This option will be considered as part of the NSW Aboriginal Water Strategy.

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
19. Secure flows for water-dependent cultural sites	✓	✗	Not assessed	✓	Incorporated into Action 1.8: Support place-based initiatives to deliver cultural outcomes for Aboriginal people.
20. Shared benefit project (environment and cultural outcomes)	✓	✗	Not assessed	>	This option will be considered as part of the NSW Aboriginal Water Strategy.
21. Integrate Aboriginal knowledge into groundwater decision making	✓	✗	Not assessed	✓	Incorporated into Action 1.7: Develop ongoing arrangements for participation of local Aboriginal people in water management.
22. Incorporate Aboriginal history of water and culture in the Northern Basin into water data	✓	✗	Minor/moderate improvement	✓	Incorporated into Action 1.7: Develop ongoing arrangements for participation of local Aboriginal people in water management.
Government commitment 2: Fully implement the NSW Floodplain Harvesting Reforms in the Barwon-Darling Valley	✓	✗	Major/extreme improvement	✓	Incorporated into Action 2.1: Fully implement the NSW Floodplain Harvesting Policy.
Government commitment 3: Implement fish-friendly water extraction	✓	✗	Major/extreme improvement	✓	Incorporated into Action 2.5: Mitigate the impact of water infrastructure on native fish.
Government commitment 4: Improving floodplain connections: modifying or removing floodwork structures causing adverse impacts	✓	✗	Major/extreme improvement	✓	Incorporated into Action 2.2: Remediate unapproved floodwork structures or constraints.
23. Remediate fish passage	✓	✗	Major/extreme improvement	✓	Incorporated into Action 2.5: Mitigate the impact of water infrastructure on native fish.

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
24. Restore riparian habitat and re-establish threatened fish species	✓	✗	Major/ extreme improvement	✓	Incorporated into Action 2.4: Undertaking broadscale, long-term catchment management and better integrating land use and water management.
25. Remove constraints to enable flows to reach important ecological sites	✓	✗	Minor/ moderate improvement	✓	Incorporated into Action 2.2: Remediate unapproved floodwork structures or constraints.
26. Improve protection of groundwater dependent ecosystems	✓	✗	Minor/ moderate improvement	✓	Incorporated into Action 2.3: Protect priority aquatic and groundwater dependent ecosystems.
27. Consider listing the Menindee Lakes under the Ramsar Convention on Wetlands of International Importance	✓	✗	Minor/ moderate improvement	✗	<p>Ramsar nomination involves commitment to maintain the ecological character of the site (at the time of listing) in perpetuity. The water regime and management of Menindee Lakes is managed jointly by the NSW Government and the Australian Government through the Murray-Darling Basin Authority. This is not something that NSW can progress alone and will require agreement from all basin states and possible changes to interjurisdictional agreements. Any changes to the lakes management could affect a Ramsar nomination.</p> <p>The NSW Government is not in a position to commit to a Ramsar nomination for the Menindee Lakes at this time.</p>
28. Develop and implement technology to create fish refuges	✓	✗	Minor/ moderate improvement	✓	Incorporated into Action 2.5: Mitigate the impact of water infrastructure on native fish.

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
29. Recognition of Queensland gifted water	⊗	⊗	Minor/moderate improvement	⊗	Suitable gauging or infrastructure does not exist in the Intersecting Streams to be able to actively manage this water.
30. Review the environmental water allowance rule for the Lower Darling Water Source	⊙	⊗	Major/extreme improvement	⊗	This option was not progressed as the analysis in Attachment 2 indicated that the active storage volumes in the lakes would not be able to support the proposed environmental water allowance for the duration that the lakes are under NSW control.
31. Investigate the costs and benefits of a river and catchment recovery program	⊙	⊗	Minor/moderate improvement	⊙	Incorporated into Action 2.4: Undertaking broadscale, long-term catchment management and better integrating land use and water management.
32. Better integrate strategic planning for land use and water management	⊙	⊗	Minor/moderate improvement	⊙	Incorporated into Action 2.4: Undertaking broadscale, long-term catchment management and better integrating land use and water management.
33. Analyse gaps in water quality research and modelling	⊙	⊗	Minor/moderate improvement	⊙	Incorporated into Action 1.5: Improve the collection, analysis and public access to data and to Action 1.6: Collect water quality data in the Lower Darling River.
34. Collect water quality data in the Lower Darling	⊙	⊗	Major/extreme improvement	⊙	Incorporated into Action 1.6: Collect water quality data in the Lower Darling River.
35. Manage groundwater salinity	⊙	⊗	Minor/moderate improvement	⊙	Incorporated into Action 1.4: Use groundwater more efficiently, innovatively and sustainably.

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
36. Better understand water use through data collection and analytics	✓	✗	Minor/moderate improvement	✓	Incorporated into Action 1.5: Improve the collection, analysis and public access to data.
37. Develop water education and capacity building programs	✓	✗	Minor/moderate improvement	>	This will be addressed by the NSW Water Strategy Priority 1: Build community confidence and capacity through engagement, transparency and accountability.
38. Develop a culturally appropriate water knowledge program	✓	✗	Not assessed	✓	Incorporated into Action 1.7: Develop ongoing arrangements for participation of local Aboriginal people in water management.
39. Improve understanding of groundwater sources	✓	✗	Minor/moderate improvement	✓	Incorporated into Action 1.4: Use groundwater more efficiently, innovatively and sustainably.
40. Improve information about the impacts of state significant developments and state significant infrastructure on water	✓	✗	No/little change	>	The action is being addressed at a state level in the NSW Groundwater Strategy by Action 1.5: Better integrate groundwater management with other land and water management processes and Action 4.4: of the NSW Water Strategy: Better integrate land use planning and water management.
41. Review the allocation and accounting framework for surface water	✓	✗	Not assessed	>	This option will be progressed through the NSW Water Strategy Action 4.2: Review water allocation and water sharing information in response to new climate information.

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
42. Review water markets and trade	✓	✗	Not assessed	➤	The Australian Government appointed an independent principal adviser to develop the Water Market Reform Roadmap. The roadmap is a phased, practical, and cost-effective plan for water market reform having regard to the Australian Competition and Consumer Commission recommendations on Water Markets in The Murray–Darling Basin. ² The report was released on 11 October 2022.
43. Improve cross-border management of flows	✓	✗	Minor/moderate improvement	✓	Incorporated into Action 1.9: Improve cross-border collaboration and information sharing.
Government commitment 5: Review the North-West Unregulated Flow Plan rules	✓	✓ Further details in Attachment 4	Major/extreme improvement	✓	Incorporated into Action 3.2: Finalise the review of the North-West Flow Plan to identify the best way to support algal suppression and fish migration.
Government commitment 6: Develop critical dry targets for the Barwon–Darling River	✓	✓ Further details in Attachment 3	Major/extreme improvement	✓	Incorporated into Action 3.1: Publish critical dry condition triggers and seek to implement them in water sharing plans.
44. Modify and remove non-town weirs	✓	Analysed through the Western Weirs Strategic Business Case			Incorporated into Action 2.5: Mitigate the impact of water infrastructure on native fish.
45. Making 6 of the 7 Intersecting Streams free-flowing	✓	This was assessed through a strategic business case		✗	This option has already been assessed through a business case as part of the Better Baaka Program and found not to be economically viable.

2. For further information see: www.accc.gov.au/focus-areas/inquiries-finalised/murray-darling-basin-water-markets-inquiry-0

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
46. Deliver replenishment flows from the Border Rivers, Gwydir, Namoi and Macquarie valleys	✓	✓ Further details in Attachment 5	Major/ extreme improvement	✓	Incorporated into Action 3.3: Further investigate ways to provide replenishment flows from the northern tributaries during dry periods.
47. Review cease-to-pump flow-class thresholds	✗	✓ Further details in Attachment 2	Major/ extreme improvement	✗	Analysis demonstrates this option does not provide significant benefits that adequately address the key challenges. The option has not been shortlisted but could be considered in combination with some of the shortlisted actions. See Attachment 2 for further details.
48. Regulate the Barwon–Darling River	N/A	✓ Further details in Attachment 2	Major/ extreme impact	✗	There was no feasible location identified to include a headwater storage for the Barwon–Darling. Instead, this option analysed whether an inland diversion scheme could provide similar benefits. The option was not economically viable. See Attachment 2 for further details.
49. Better protect a range of flows under a changing climate	✓	✗	Major/ extreme improvement	✓	Incorporated into Action 2.3: Protect priority aquatic and groundwater dependent ecosystems.
50. Deliver water down the Great Darling Anabranch	✓	N/A	Minor/ moderate improvement	✓	Incorporated into Action 3.4: Progress investigations into changing the management of Menindee Lakes.

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
51. Develop sustainable total daily extraction limits for the Barwon–Darling Water Sharing Plan	⊗	⊗	Major/ extreme improvement	⊗	The Murray–Darling Basin Plan sets sustainable diversion limits. Beyond the requirements in the Murray–Darling Basin Plan there are no practical ways of defining sustainable total daily extraction limits. Individual Daily Extraction Components have been implemented and provide effective protections. This action did not meet a key regional challenge.
52. Review how the Menindee Lakes are operated	✔	⊗	No/little change	✔	Incorporated into Action 3.4: Progress investigations into changing the management of Menindee Lakes.
New option 1: Minimum flow of 500 ML/day in the Barwon–Darling	⊗	⊗	Minor/ moderate improvement	⊗	This option did not meet a key regional challenge. See Attachment 2 for details of hydrological analysis.
New option 2: Provide additional water treatment technical and training assistance to local water utilities	✔	⊗	No/little change	✔	Incorporated into Action 1.3: Addressing water related skills shortages and funding challenges in small councils.
New option 3: Increasing held environmental water amounts	⊗	⊗	Minor/ moderate improvement	⊗	Increasing held environmental water portfolio and water recovery targets are the responsibility of the Australian Government.

Draft strategy option	Filtering	Rapid assessments		Shortlisted	Comment
	Meets key regional challenge	Rapid economic analysis completed	Rapid environment assessment		
New option 4: Connecting water back to land, with no water trading to large, foreign owned companies and develop a public register of all water traders	⊗	⊗	Not assessed	⊗	<p>Trading data is available on the Trade dashboard available at: water.dpie.nsw.gov.au/licensing-and-trade/trade/trade-dashboard</p> <p>The Australian Government appointed an independent principal adviser to develop the Water Market Reform Roadmap. The roadmap is a phased, practical, and cost-effective plan for water market reform having regard to the Australian Competition and Consumer Commission recommendations on Water Markets in the Murray–Darling Basin. The report was released on 11 October 2022.</p>
New option 5: Assist water users to reach their sustainable diversion limits	⊗	⊗	Minor/moderate impact	⊗	<p>The Department of Planning and Environment – Water is currently undertaking a project to investigate the calibration of water meters along the Barwon–Darling.</p>



Image courtesy of Sally Anderson-Day. Barwon River, Brewarrina.

