

Summary of key issues

Water is an essential resource that is vital to the lives and livelihood of our citizens. This report focuses on a range of issues regarding the augmentation of water supply for rural and regional New South Wales. Primarily the report seeks to ensure that appropriate long-term strategic planning with a 50 plus year outlook, and requisite infrastructure is in place to guarantee that there is an adequate supply of water for current and future generations. The report analyses the Murray-Darling Basin Plan and notes the negative views of stakeholders about the plan. A number of other issues are also addressed including water allocations to irrigators, the water market, New South Wales dams and flood mitigation.

This has been a long-running inquiry. Therefore, a number of recent developments have impacted on the currency of the evidence received. As a consequence the committee's consideration of some of the issues before this inquiry has changed.

Of particular note is the announcement on 15 February 2018 by the Hon Niall Blair MLC, Minister for Regional Water, that he had begun the process to withdraw New South Wales from the Murray-Darling Basin Plan.⁶

In addition, the Independent Commission Against Corruption (ICAC) has commenced an inquiry into allegations regarding non-compliance with New South Wales water laws. These allegations were broadcast on 24 July 2017 in the ABC *Four Corners* program 'Pumped: Who's benefitting from the billions spent on the Murray-Darling?'. The story raised 'serious allegations about the way the [Murray-Darling Basin] plan is working, including accusations of illegal water use, pumping water from fragile rivers and tampering with metres'.⁷

On 19 September 2017, the committee considered whether it should expand its terms of reference to consider these non-compliance allegations. Notwithstanding the power of Legislative Council committees to inquire into matters that are the subject of an ongoing investigation by the ICAC, the committee resolved to write to the ICAC to see if there would be any implications for its investigation if the committee extended its terms of reference.

The Hon Peter Hall QC, Chief Commissioner of the ICAC responded on 3 October 2017. The Commissioner indicated that there may be a potential prejudicial overlap if the committee expanded its terms of reference to consider alleged non-compliance. Following receipt of this correspondence, no amendments to the terms of reference were made.

As this is a large report focusing on many different issues, the key recommendations for the inquiry have been included in this summary section. The evidence supporting these recommendations is detailed in the respective chapters stated under the relevant heading.

⁶ *Hansard*, NSW Legislative Council, 15 February 2018, p 32 (Niall Blair).

⁷ *Four Corners*, ABC, 'Pumped: Who's benefitting from the billions spent on the Murray-Darling?', Linton Besser, 24 July 2017.

Broken Hill pipeline (Chapter 7)

The NSW Government announced in June 2016 the construction of a 270 km pipeline, to form part of a \$500 million investment intended to secure water supply for Broken Hill.⁸ Following the completion of the new pipeline, Broken Hill will no longer need to rely on the Menindee Lakes for its water supply of approximately 10 GL of water per year.⁹

In October 2017, WaterNSW announced it had appointed a consortium of John Holland, MPC Group and TRILITY to design, construct, operate and maintain the pipeline. Construction started in January 2018 and the pipeline is scheduled to be completed and ready for water by December 2018.¹⁰

The committee notes that a sustainable long-term solution to water management issues is required for Broken Hill. Although there is some opposition to the proposed pipeline from the Murray to Broken Hill, we note that a number of stakeholders, including the peak industry body, the NSW Irrigators Council, support the measure.

However the committee remains concerned that the Broken Hill community may be shouldered with burden of covering the costs for the pipeline, as well as paying for its ongoing maintenance. We note that water bills are already high for local residents, many of whom are pensioners, and will not be able to afford a large increase in costs. We therefore recommend that the NSW Government immediately make a commitment to not increase the water bills for residents of the Broken Hill area in order to pay for the construction and ongoing maintenance of the Broken Hill pipeline. The community needs urgent assurance on this matter.

In addition, we recommend that the Independent Pricing and Regulatory Tribunal take into account its 2017 pricing determination for Peel Valley water users when determining water pricing for Broken Hill residents following the construction of the Broken Hill pipeline. See chapter 4 for a discussion of Independent Pricing and Regulatory Tribunal's decision following giving evidence.

We also understand that the NSW Government does not intend to decommission the Menindee Lakes following the completion of the pipeline as it is an instrumental part of the Murray-Darling Basin water supply system. However, given the concerns in the community, the committee recommends that the NSW Government commit to maintaining the Menindee Lakes following the construction of the Broken Hill pipeline. We therefore recommend that the NSW Government make a commitment to maintaining and improving the operation of the Menindee Lakes following the construction of the Broken Hill pipeline.

⁸ ABC News, *Broken Hill water crisis: NSW to build Murray River pipeline under \$500m supply plan*, 16 June 2016.

⁹ ABC News, *Broken Hill water crisis: NSW to build Murray River pipeline under \$500m supply plan*, 16 June 2016.

¹⁰ WaterNSW, *River Murray to Broken Hill Pipeline*, <http://www.waternsw.com.au/projects/murray-to-broken-hill-pipeline>.

Recommendation 1

That the NSW Government immediately make a commitment to not increase the water bills for residents of the Broken Hill area in order to pay for the construction and ongoing maintenance of the Broken Hill pipeline.

Recommendation 2

That the Independent Pricing and Regulatory Tribunal take into account its 2017 pricing determination for Peel Valley water users when determining water pricing for residents of the Broken Hill area following the construction of the Broken Hill pipeline.

Recommendation 3

That the NSW Government make a commitment to maintaining and improving the operation of the Menindee Lakes following the construction of the Broken Hill pipeline.

A water equation and long-term strategic planning (Chapter 3)

Evidence received during the inquiry focused on the need for greater long-term strategic water planning in New South Wales. This included the urgent need to develop a water equation. The committee also received evidence indicating that there is poor long-term strategic planning regarding the management and supply of water. Much of this evidence contended that there is a will at a local and regional level to invest in planning, but this drive has not been adequately supported by the NSW Government.

The committee also asked a number of irrigators and regional bodies what their production would be if the supply of water was not a concern. Figures provided to the committee indicated that with greater access to water, the potential output of New South Wales irrigators would be much higher than current production levels.

It is critical that a long-term water equation for supply and demand is developed to assist New South Wales in strategically planning for the future. The population of New South Wales and the global population will continue to grow. Consequently, this state must be in a position of certainty in planning for our future water needs. Water is required not just for drinking purposes, but also to ensure that agricultural production is sustainable. Agricultural production feeds our people. It also provides an economic backbone for our rural and regional communities and New South Wales as a whole. Therefore the committee recommends that, as a matter of urgency and in consultation with regional communities, the NSW Government develops a comprehensive water equation for supply and demand in New South Wales by March 2020, for the next 50 years.

While some strategic planning for water is being undertaken by the NSW Government, there is a lack of long-term strategic planning. The committee commends local councils for undertaking some of this work. However, the NSW Government should be leading the way so that a more cohesive strategy is developed for the state. As part of this process it is crucial that state government agencies widely engage with local communities in order to incorporate local insights and expertise. For these reasons we recommend that, following the development of a water equation, the NSW Government uses this calculation to work with regional communities to fund and conduct long-term strategic planning for the security of water in regional areas.

Further, if irrigators were not hamstrung by a range of water plans, far greater agricultural production levels could be achieved. This would increase the economic prosperity of the regions and the state. The committee heard evidence that currently there is an imbalance between economic and environmental outcomes, with irrigators of the view that environmental outcomes have received preferential treatment by government.

There are a range of recommendations throughout this report that seek to address the lack of balance between economic and environmental considerations in the management and supply of water. The implementation of these recommendations will go some way to achieving a better balance. However, to highlight the importance of this matter we recommend specifically that the NSW Government work with regional communities and the federal government to unlock the full production potential of regional New South Wales.

Recommendation 4

That the NSW Government work with regional communities and the federal government to unlock the full agricultural production potential of regional New South Wales.

Recommendation 5

That the NSW Government, as a matter of urgency and in consultation with regional communities, develop a comprehensive water equation for supply and demand in New South Wales by March 2020, for the next 50 years.

Recommendation 6

That the NSW Government work with regional communities to fund and conduct long-term strategic planning for the security of water in rural and regional areas.

Murray-Darling Basin Plan (Chapter 3)

The Murray-Darling Basin Plan was developed as a requirement of the *Water Act 2007* (Cth) and is administered federally by the Murray-Darling Basin Authority. The purpose of the plan is to provide a coordinated approach to water management across the Murray-Darling systems in South Australia, Victoria, New South Wales, Queensland and the Australian Capital Territory.

It is clear that there is anger in New South Wales rural and regional communities regarding the operation of the Murray-Darling Basin Plan. Inquiry participants expressed strong views that the basin plan is a political tool masquerading as an environmental plan that is denying New South Wales an adequate water supply to the benefit of South Australia. The basin plan is having a highly detrimental impact on agricultural production in New South Wales and the socio-economic development of our regional communities.

As noted above, the Minister for Regional Water has indicated that he has begun the process to withdraw New South Wales from the plan.

However, if New South Wales does not withdraw from the Murray-Darling Basin Plan, we recommend that the NSW Government renegotiate the basin plan with the federal Government and other basin

state governments to develop a more equitable agreement for New South Wales that better balances economic, social and environmental outcomes. In addition, we recommend that the NSW Government support a federal Royal Commission into the administration of the Murray-Darling Basin.

The committee is concerned that reports suggest the Murray-Darling Basin Authority will not be conducting a review of the southern basin until 2026. This lengthy delay is unacceptable. The communities of the southern basin require a review similar to the Northern Basin Review which was published in November 2016 by the Murray-Darling Basin Authority. For this reason, the committee recommends that, as a matter of urgency and irrespective of whether New South Wales withdraws from the Murray-Darling Basin Plan, the NSW Government call on the Murray-Darling Basin Authority to conduct a review of the southern basin and publicly release its findings.

Recommendation 7

That, if New South Wales does not withdraw from the Murray-Darling Basin Plan, the NSW Government renegotiate the basin plan with the federal government and other basin state governments to develop a more equitable agreement for New South Wales that better balances economic, social and environmental outcomes.

Recommendation 8

That the NSW Government support a federal Royal Commission into the administration of the Murray-Darling Basin.

Recommendation 9

That, as a matter of urgency and irrespective of whether New South Wales withdraws from the Murray-Darling Basin Plan, the NSW Government call on the Murray-Darling Basin Authority to conduct a socio-economic review of the southern basin and publicly release its findings.

Managed aquifer recharge (Chapter 5)

Managed aquifer recharge is a potential scheme for the augmentation of water. It is the ‘intentional recharge of an aquifer under controlled conditions, either by injection or infiltration, in order to store a water source for later abstraction and use (indirect reuse) or for environmental benefit’.¹¹

Managed aquifer recharge systems provide storage and treatment for natural water sources including surface water and groundwater; recycled water such as urban stormwater, industrial or urban wastewater; and desalinated seawater.¹²

Evidence to the committee indicates that the current level of knowledge and understanding about aquifer locations and sizes across the state is lacking. This presents a major challenge to those communities who wish to investigate the potential of aquifers for water storages. Therefore the

¹¹ Tabled document, Golder Associates, *Managed Aquifer Recharge: Understanding a sustainable, practical approach to Integrated Water Management*, 22 February 2017, p 2.

¹² CSIRO, Managed Aquifer Recharge, <https://research.csiro.au/mar/>

committee recommends that the NSW Government invest in aquifer mapping across the state to locate potential new water storages.

The committee acknowledges the concerns of stakeholders regarding the NSW Government's consideration of aquifer re-injection by the coal seam gas sector and the possible consequences this poses to water quality. The committee notes that community confidence in the use of aquifers could be increased by upscaling desktop studies of managed aquifer recharge to small pilot studies to test the outcomes of viability. The committee sees great potential in the use of managed aquifer recharge in the future to secure water supply for rural and regional New South Wales. Therefore the committee also recommends that the NSW Government invest in pilot programs to demonstrate the upscale capabilities of projects and new technology such as managed aquifer recharge schemes.

Recommendation 10

That the NSW Government invest in aquifer mapping across the state to locate potential new water storages.

Recommendation 11

That the NSW Government invest in pilot programs to demonstrate the upscale capabilities of projects and new technology such as managed aquifer recharge schemes.

Recommendations

Recommendation 1

xv

That the NSW Government immediately make a commitment to not increase the water bills for residents of the Broken Hill area in order to pay for the construction and ongoing maintenance of the Broken Hill pipeline.

Recommendation 2

xv

That the Independent Pricing and Regulatory Tribunal take into account its 2017 pricing determination for Peel Valley water users when determining water pricing for residents of the Broken Hill area following the construction of the Broken Hill pipeline.

Recommendation 3

xv

That the NSW Government make a commitment to maintaining and improving the operation of the Menindee Lakes following the construction of the Broken Hill pipeline.

Recommendation 4

xvi

That the NSW Government work with regional communities and the federal government to unlock the full agricultural production potential of regional New South Wales.

Recommendation 5

xvi

That the NSW Government, as a matter of urgency and in consultation with regional communities, develop a comprehensive water equation for supply and demand in New South Wales by March 2020, for the next 50 years.

Recommendation 6

xvi

That the NSW Government work with regional communities to fund and conduct long-term strategic planning for the security of water in rural and regional areas.

Recommendation 7

xvii

That, if New South Wales does not withdraw from the Murray-Darling Basin Plan, the NSW Government renegotiate the basin plan with the federal government and other basin state governments to develop a more equitable agreement for New South Wales that better balances economic, social and environmental outcomes.

Recommendation 8

xvii

That the NSW Government support a federal Royal Commission into the administration of the Murray-Darling Basin.

Recommendation 9

xvii

That, as a matter of urgency and irrespective of whether New South Wales withdraws from the Murray-Darling Basin Plan, the NSW Government call on the Murray-Darling Basin Authority to conduct a socio-economic review of the southern basin and publicly release its findings.

Recommendation 10

xviii

That the NSW Government invest in aquifer mapping across the state to locate potential new water storages.

- Recommendation 11** **xviii**
That the NSW Government invest in pilot programs to demonstrate the upscale capabilities of projects and new technology such as managed aquifer recharge schemes.
- Recommendation 12** **19**
That the NSW Government urgently implement the full Water Management Compliance Improvement Package outlined in Mr Ken Matthews' interim report entitled *Independent investigation into NSW water management and compliance*, dated 8 September 2017.
- Recommendation 13** **20**
Notwithstanding the above recommendation, that the NSW Government urgently prioritise the introduction of universal monitoring and metering arrangements for water extractions in the Northern Basin.
- Recommendation 14** **49**
That the NSW Government conduct Indigenous consultation as an integral part of all strategic planning for the management of water in rural and regional New South Wales, including the examination of cultural flows.
- Recommendation 15** **70**
That, if New South Wales does not withdraw from the Murray-Darling Basin Plan, the NSW Government continue to make representations to the federal and South Australian governments to initiate a comprehensive review of the current management of the lower lakes of the Murray-Darling basin in South Australia.
- Recommendation 16** **70**
That, if New South Wales does not withdraw from the Murray-Darling Basin Plan, the NSW Government renegotiate the management of water in the Menindee Lakes with the federal government so that the trigger point for the Murray-Darling Basin Authority to control water is increased from 640 GL to 800 GL.
- Recommendation 17** **70**
That, if New South Wales does not withdraw from the Murray-Darling Basin Plan, the NSW Government liaise with the Commonwealth Environmental Water Holder and the Murray-Darling Basin Authority to consider developing a formal mechanism to exclude licence holders from pumping water for irrigation purposes for the duration of a planned environmental flow event.
- Recommendation 18** **79**
That the NSW Government urgently undertake a review of all water sharing plans in New South Wales, that are yet to be reviewed, before their provisions are incorporated into water resource plans; and that these reviews include thorough public consultation.
- Recommendation 19** **80**
That the NSW Government develop and implement public reporting mechanisms on the use of voluntary contributions, known as rules based environmental water, and that access licenses and fixed charges should reflect this permanent reduction in entitlements.

- Recommendation 20** **80**
That the NSW Government conduct a review of transparent flows and translucent flows in New South Wales water sharing plans before the provisions are incorporated into water resource plans.
- Recommendation 21** **85**
That the NSW Government clearly and publicly exhibit the precise roles of each of its water agencies to enhance public knowledge.
- Recommendation 22** **85**
That the NSW Government boost funding and staff numbers for compliance and enforcement.
- Recommendation 23** **85**
That the NSW Government ensure that the Department of Industry – Water, WaterNSW and the Office of Environment and Heritage work closely together to deliver a unified and collaborative approach to water management for the benefit of New South Wales, including the delivery of environmental water.
- Recommendation 24** **85**
That New South Wales water agencies and departments conduct effective consultation on the development and review of all water plans and strategies, by drawing on the expertise of regional communities.
- Recommendation 25** **85**
That WaterNSW commission the production of a mobile application for government water notifications, for example notifying predicted outflow levels.
- Recommendation 26** **102**
That the NSW Government reconsider its management of water allocations so that general security irrigators receive a higher allocation at the start of a water year and that allocations should instead be based on a water equation for supply and demand in New South Wales, as recommended at Recommendation 5.
- Recommendation 27** **102**
That the NSW Government ensure that carryover is an insurance mechanism for irrigators and other users, rather than as a replacement for higher allocations at the start of a water year.
- Recommendation 28** **102**
That the NSW Government consider designating conveyance as an environmental flow.
- Recommendation 29** **102**
That the NSW Government review the amount of water that environmental water holders can carryover in New South Wales dams.
- Recommendation 30** **113**
That the NSW Government request the Independent Pricing and Regulatory Tribunal to conduct a review of the water market including considering whether it is operating transparently, efficiently, and fairly so as to eliminate market manipulation.

- Recommendation 31** **113**
That the NSW Government adopt an automated process for allocation trade approvals, similar to the Victorian Water Register.
- Recommendation 32** **113**
That the NSW Government review the 100 GL inter-valley transfer account balance limit in the Murray, with a view to increasing the limit, as it is a factor in the pricing differential between the Murray and Murrumbidgee valleys.
- Recommendation 33** **113**
That the NSW Government encourage the Commonwealth Environmental Water Holder, through the Council of Australian Governments, to publicly release up-to-date information about the amounts of water held in its accounts and to generally improve its public reporting.
- Recommendation 34** **122**
That the NSW Government work with stakeholders to analyse the electricity cost challenges for irrigators.
- Recommendation 35** **139**
That the NSW Government:
(a) conduct a feasibility study into the augmentation of Burrinjuck Dam, and
(b) subject to the findings of the feasibility study, construct a new dam wall or extend the existing dam wall for Burrinjuck Dam.
- Recommendation 36** **139**
That the NSW Government, subject to the findings of the WaterNSW feasibility study, construct a dam at Cranky Rock, or other suitable location within the Lachlan River Valley, including the augmentation of existing water storages.
- Recommendation 37** **139**
That the NSW Government support the continuation of the Irrigation Farm Modernisation Project and other programs and incentives offered in collaboration with the federal government to increase water efficiency in the agricultural sector.
- Recommendation 38** **140**
That the NSW Government conduct a study into the benefits of on-farm water storages and develop best practice guidelines for irrigators, and ensure this advice is in alignment with the Murray-Darling Basin Plan.
- Recommendation 39** **168**
That the NSW Government collaborate with local governments in flood prone communities to create and implement education campaigns about floods and ways to mitigate flood damage.
- Recommendation 40** **168**
That the NSW Government consider establishing a stormwater and/or flood harvesting pilot program for flood mitigation in the Northern Rivers.
- Recommendation 41** **168**
That the NSW Government pursue a review of the National Disaster Relief and Recovery Arrangements through the Council of Australian Governments.

- Recommendation 42** **169**
That the NSW Government through the Office of Environment and Heritage increase funding allocations to local government for flood mitigation works and floodplain risk management plans.
- Recommendation 43** **172**
That the NSW Government publicly recognise the flooding risks posed by environmental flow targets in the Murray River.
- Recommendation 44** **172**
That, if New South Wales does not withdraw from the Murray-Darling Basin Plan, the NSW Government urge the Murray-Darling Basin Authority to factor in the flooding risk caused by the Barmah Choke when setting environmental flow targets.
- Recommendation 45** **172**
That the NSW Government re-establish the Yarrawonga to Wakool Junction Constraints Advisory Group to advise and consult on the impacts of high flow targets and strategies to reduce flooding risks.
- Recommendation 46** **191**
That the NSW Government finalise its Urban Stormwater Harvesting Policy by 31 December 2018.
- Recommendation 47** **207**
That the NSW Government immediately commence a dialogue with Israel to study its innovative water management practices with a view to making recommendations to the Council of Australian Governments regarding the adoption of such practices in New South Wales and Australia.
- Recommendation 48** **216**
That the NSW Government:
- as a matter of priority, expedite the repair of the Burrendong Dam temperature control curtain
 - then report on the suitability of the Burrendong Dam temperature control curtain in remediating cold water pollution with a view to installing effective solutions to cold water pollution in other severely affected New South Wales dams.
- Recommendation 49** **216**
That the NSW Government:
- request funding from the federal government to remediate cold water pollution in New South Wales dams
 - work with the Commonwealth Environmental Water Holder to limit the effects of cold water pollution during environmental flows.
- Recommendation 50** **219**
That the NSW Government review the impact of ground debris in national parks and state forests on blackwater events that cause fish kills.

Recommendation 51

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That the NSW Government review the effects of regulated flows on riverbank slumping.