

# The future of water reform in Australia — starting a conversation

*Emma Carmody* EDO NSW, *Barbara Cosens* UNIVERSITY OF IDAHO, *Alex Gardner* UNIVERSITY OF WESTERN AUSTRALIA, *Lee Godden* UNIVERSITY OF MELBOURNE, *Janice Gray* and *Cameron Holley* UNSW AUSTRALIA, *Louise Lee* CORRS CHAMBERS WESTGARTH, *Bruce Lindsay* ENVIRONMENTAL JUSTICE AUSTRALIA, *Liz Macpherson* UNIVERSITY OF MELBOURNE, *Rebecca Nelson* UNIVERSITY OF MELBOURNE AND STANFORD UNIVERSITY, *Erin O'Donnell* UNIVERSITY OF MELBOURNE, *Lily O'Neill* UNIVERSITY OF MELBOURNE, *Kate Owens* UNIVERSITY OF SYDNEY and *Darren Sinclair*\* AUSTRALIAN NATIONAL UNIVERSITY

## Introduction

After 2 decades of cooperative governmental reforms on water, Australia established a world-leading hybrid governance system involving top-down regulation, water markets and water planning with stakeholder cooperation. Yet, with the abolition of the National Water Commission (NWC) in 2015,<sup>1</sup> there is a growing belief that Australia may have “dropped the ball on water”.<sup>2</sup> As the Wentworth Group of Concerned Scientists affirmed in 2014, “it appears that our Australian governments are walking away from strategic water reform at the very time when we should be preparing for the next inevitable drought”.<sup>3</sup>

Unfortunately, there are few signs that this situation is improving. Since the passing of the Basin Plan 2012 (Cth) and the breaking of the millennium drought, there has been little detailed intergovernmental direction about the next steps in Australia's water law and governance journey.<sup>4</sup> It is increasingly unclear how resilient Australia's water reform blueprint (the National Water Initiative) will be in the face of shifting political agendas, growing complexity, reform fatigue, shrinking public resources at state levels and the absence of an independent oversight body like the NWC.

It is paramount that Australia maintains “good” water law and governance given that the next few decades will see major increases in Australia's population and food production (both dependent on water), as well as likely water scarcity due to droughts and climate change.<sup>5</sup> Further, even if support for the National Water Initiative (NWI) were to continue, it is likely that major law and policy reforms will still be needed if the Coalition government's 2015 White Paper vision of developing northern Australia's water resources is to be fully realised.<sup>6</sup>

At this critical juncture, it is both significant and timely to examine the challenges and future direction of Australia's water reforms. In light of these concerns, in December 2015, the Faculty of Law and the Connected Waters Initiative Research Centre at UNSW Australia hosted a group of water law specialists to consider the key successes and limits of Australia's hybrid water governance system, as well as to explore how best to steer water governance towards a more sustainable future path.

At the conclusion of the workshop, it was apparent that although Australia has come a long way in water management under the NWI, the design and implementation of this national reform does not appear sufficient to meet future water challenges. Further reforms and changes will be required and we believe the following 10 priorities should be considered and addressed by governments, civil society and industries if we are to achieve a sustainable water future for Australia.

## 1. Regulate the market to ensure equity, enhance efficiency and protect the environment

To date, most attention and resources have been focussed on water policy reforms at the national and state levels, in particular the establishment of cap and trade market systems based on sustainable yields. There has been insufficient attention and resources directed towards the implementation of this “top down” policy approach on the ground. Educating water users so that they understand the importance of complying with extraction limits and enforcing laws where breaches occur will help to provide a level playing field, to build confidence in market systems and improve outcomes for the community and the environment alike.<sup>7</sup> Licence transfers should be more closely regulated with a view to mitigating secondary impacts on other water users

and on ecosystems, and so that increases in the consumptive portion of the former and new use are avoided.<sup>8</sup> This will in turn increase trust among users and help avoid unintended consequences. While national compliance frameworks have led to improved action,<sup>9</sup> the federal funding for these reforms is coming to an end and the gains will be squandered if further action is not taken.

## 2. Extend metering, monitoring and accounting

There is substantial technology to improve telemetered metering, monitoring and data collection across multiple scales. While the Bureau of Meteorology and recent national and state metering policies have made significant strides,<sup>10</sup> a renewed and extended policy and implementation effort in this area would improve on-farm water management, facilitate assessment of equivalence between prior and new uses in transfers (above), enhance compliance and enforcement while reducing market transaction costs, and provide much more robust and reliable information to assist with better strategic decision making, water efficiency infrastructure reforms<sup>11</sup> and water planning (see below).<sup>12</sup>

## 3. Going beyond the limits of the market, especially for managing groundwater

While the use of a cap and trade market approach is a major achievement in the management of water in Australia, it is not without its challenges. These include limited trading in areas outside the Murray Darling Basin, minimal trading in groundwater, and unintended external impacts on social and environmental conditions.<sup>13</sup>

While continuing reforms to reduce transaction costs and unbundle land and water rights may be able to address some of these limits, it is timely to consider complementary policy and/or governance approaches and how these can be accommodated within a “cap and trade” system to produce good water outcomes.<sup>14</sup> For instance, given the uncertainties associated with groundwater trading (eg, impacts on quality, levels and groundwater dependant ecosystems),<sup>15</sup> a national conversation will be needed to consider the feasibility of new proposals and to identify international innovations such as Audited Self-Management.<sup>16</sup>

## 4. Water buy backs

Local concerns and political interference in the process of setting and implementing sustainable diversion limits under the Basin Plan have created a range of uncertainties, including the imposition of legislative caps on water buybacks. This necessitates a reimagining of environmental water transactions within the Murray

Darling Basin, which may include reconsidering the cap on buybacks, strengthening rules around environmental flows to ensure water for the environment (see below) and opening up collaboration between government and non-governmental actors in water transactions (eg, water trusts and non-profit investment in environmental water transactions). It will be critically important to design regulatory environments that allow for both collaboration between government and non-governmental actors, in order to bolster water recovery efforts, as well as institutional checks and balances to ensure sustainable water management.<sup>17</sup>

## 5. New systems for dealing with cumulative impacts

Future reform of the NWI needs to deal adequately with the cumulative impacts of water extraction on groundwater and groundwater-dependent ecosystems, particularly from mining including of unconventional gas (such as coal seam gas (CSG) and shale gas). To date, state and national efforts have been evolving and are subject to ongoing reviews (see eg, “water trigger”<sup>18</sup> and state attempts to integrate CSG and mining activities into water accounting and planning frameworks). However, laws and policies in most jurisdictions do not adequately address this issue.<sup>19</sup>

Bioregional assessment is being undertaken across a number of areas with a view to better understanding how the cumulative impacts associated with CSG and coal mining can be properly managed. However, it is crucial that the knowledge acquired through this process translates into innovative and rigorous laws and policies (which incorporate strategic planning, see below). This should include an obligation to prohibit development where there is a risk of irreversible damage to water resources. It is also crucial that this sort of assessment be undertaken in other mining-intensive areas, such as in parts of WA and SA.

## 6. Protect environmental water

Law and policy should be amended to ensure environmental water is protected as it moves through the system, ensuring naturally occurring flows, or water released from a dam for the purposes of achieving specific environmental outcomes, can reach the desired destination (such as a wetland or floodplain). Rules protecting environmental water for groundwater-dependent ecosystems need further development and increased focus on implementation, taking advantage of significant scientific advances in this area.

## 7. Implement strategic planning

While significant progress has been made across Australia in water planning, the evolution has been slow and complicated, in part because the uncertainties we confront are high and the water management challenges complex.<sup>20</sup> Acknowledging and addressing these challenges demands significantly improved strategic planning in future water reforms. Key issues will include:

- greater comprehension of surface/ground water connectivity;
- building in capacity for adaptive management at the outset;<sup>21</sup>
- accommodating the impact of climate change as a driver of future policy reform and water infrastructure development. For example, the limits on water consumption set out in the Basin Plan do not take into account likely future climate scenarios.<sup>22</sup> This is a risky policy decision and one which could have disastrous consequences for farmers and the environment alike as rainfall becomes scarcer across parts of the Basin over the next few decades;<sup>23</sup> and
- developing the definition of property rights in relation to water entitlements, in particular, whether there should be greater consistency across state/territory legislation.

## 8. Improve models and tools for participation in water governance

National water reforms have emphasised a “top down” policy approach. The focus of public participation in water governance has been either via water markets or through non-binding techniques of consultation undertaken by decision-makers. The extent of influence and genuine engagement by the broad range of interests and stakeholders in the governance of water resources has been at best uneven. Community, farming, environmental and Indigenous actors can and do remain disenfranchised in decision-making, in particular if they have limited resources, organisation or legal rights. Yet, engagement and effective participation is central to justice in democratic societies. It is critical to the inclusion of local and traditional knowledge that provide the locus for context specific solutions. It is also central to cooperative problem solving and innovation in water management, and to building trust and satisfaction with laws and plans.<sup>24</sup> The latter is particularly important to guard against further unwinding of water policy goals, ensure more successful implementation and enhance the legitimacy of the triple bottom line in water.<sup>25</sup>

The needs of public participation in decision-making and governance will vary depending on the nature or difficulty of the issue, its scale, its impacts and its

consequences. But the suite of participatory models and tools will need to further mature and evolve, beyond mere opportunities to be “consulted”, including reform of third party rights to participate in or challenge decisions on public interest grounds (such as environmental sustainability or Aboriginal heritage protection),<sup>26</sup> the development of “deliberative” democratic procedures<sup>27</sup> in appropriate circumstances, expanded use of public inquiries and hearings, establishment of “co-management” arrangements in others,<sup>28</sup> and continued evolution of “water trusts”.<sup>29</sup> These various models and tools need to be backed up by both policy support and legal mechanisms. Improving access to water data (including information about water trades and compliance with extraction limits) is also vital for building community confidence in the system. Increased focus on participatory and democratic approaches to water management provides substantial opportunities to improve accountability, efficiency and justice.<sup>30</sup>

## 9. Ensure full recognition of Indigenous interests

Despite progress in NSW and the Murray Darling Basin, engagement with Indigenous communities, and the integration of their needs and concerns, including the issue of native title water rights, has not been a priority of existing national water reforms.<sup>31</sup> This must improve. In particular, it must come to the fore in relation to the development of northern Australia where Indigenous land tenure (land rights or native title) is highly significant.<sup>32</sup>

## 10. Capitalise on successes and avoid past mistakes if northern development is pursued

The challenge of developing northern Australia’s water resources is to build on the strengths of water reforms in the Murray Darling Basin, while minimising the weaknesses. In addition, however, there are unique issues such as Indigenous interests, sensitive ecological resources such as free flowing rivers and vastly different tropical weather systems. Northern development will require all of the above priorities to be addressed in order to avoid repeating past mistakes. As the former commission chair of the NWC has stated:

We can avoid costly mistakes in the future by learning the lessons of the past. Future generations should never have to endure the social, economic and environmental costs of another Murray-Darling Basin.<sup>33</sup>

We believe these 10 priorities are central to improving Australia’s approach to managing water. We offer them with the aim of starting a much-needed conversation on the future of water governance in Australia.

**Emma Carmody**  
EDO NSW

**Barbara Cosens**  
University of Idaho

**Alex Gardner**  
University of Western Australia

**Lee Godden**  
University of Melbourne

**Janice Gray**  
UNSW Australia

**Cameron Holley**  
UNSW Australia

**Louise Lee**  
Corrs Chambers Westgarth

**Bruce Lindsay**  
Environmental Justice Australia

**Liz Macpherson**  
University of Melbourne

**Rebecca Nelson,**  
University of Melbourne and Stanford University

**Erin O'Donnell**  
University of Melbourne

**Lily O'Neil,**  
University of Melbourne

**Kate Owens**  
University of Sydney

**Darren Sinclair**  
Australian National University

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## Footnotes

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- National Water Commission (Abolition) Act 2015 (Cth). See also Khan S “Axing water overseer could leave regional Australia high and dry” *The Conversation* 21 October 2014 available at <https://theconversation.com/au>.
  - Australian Government, National Water Commission (NWC), *Australia's Water Blueprint: national reform assessment* (2014) 3–4; NWC “Don't drop the ball on water' urges National Water Commission”, media release (20 October 2014) (*NWC media release*) available at [www.nwc.gov.au/media-centre/media/](http://www.nwc.gov.au/media-centre/media/).
  - Wentworth Group of Concerned Scientists, B Tucker, *Statement on the future of Australia's water reform* (2014) 0.
  - See for example, Standing Council on Environment and Water, *Next Steps in National Water Reform: Preparation for the Future* (2013) available at [www.nwc.gov.au/\\_\\_data/assets/pdf\\_file/0006/37671/Appendix-E-accessible-PDF-for-web-NWC-Australias-water-blueprint\\_national-reform-assessment-2014.pdf](http://www.nwc.gov.au/__data/assets/pdf_file/0006/37671/Appendix-E-accessible-PDF-for-web-NWC-Australias-water-blueprint_national-reform-assessment-2014.pdf).
  - Climate Council of Australia, W Steffan, *Thirsty Country: climate change and drought in Australia* (2015) [www.climatecouncil.org.au/droughtreport2015](http://www.climatecouncil.org.au/droughtreport2015).
  - Australian Government, *Our North, Our Future: White Paper on Developing Northern Australia* (2015) <http://industry.gov.au/ONA/whitePaper/Paper/index.html>.
  - C Holley and D Sinclair, “Compliance and Enforcement of Water Licences in NSW: Limitations in Law, Policy and Institutions” (2012) 15(2) *Australasian Journal of Natural Resources Law and Policy* 149–189; C Holley and D Sinclair “Water extraction in NSW: Stakeholder views and experience of compliance and enforcement, a report of a survey of water users” (2015) *National Centre for Groundwater Research and Training and Connected Waters Initiative Research Centre UNSW Australia*, available at [www.connectedwaters.unsw.edu.au/sites/all/files/Water-extraction-in-NSW-stakeholder-views-of-compliance-and-enforcement-survey-report.pdf](http://www.connectedwaters.unsw.edu.au/sites/all/files/Water-extraction-in-NSW-stakeholder-views-of-compliance-and-enforcement-survey-report.pdf).
  - For example, the consideration of more detailed and rigorous environmental and public interest standards (eg, ecosystem integrity) when assessing a licence transfer (see, eg, R Nelson, “Groundwater, rivers and ecosystems: comparative insights into law and policy for making the links” (2013) 28(4) *AE* 559–560); the limitation of a transfer to the estimated amount of the water right actually consumed to avoid increased stream flow depletion; and a review of potential impacts on other water users and identification of mitigation measures — for example, to assure continued water delivery on shared infrastructure.
  - Australian Government Department of Sustainability, Environment, Water, Population and Communities, *National Framework for Compliance and Enforcement Systems for Water Resource Management* (March 2012).
  - See generally C Holley and D Sinclair, “Non-Urban Water Metering Policy: Water Users' Views On Metering And Metering Upgrades In NSW” (2013) 16(2) *Australasian Journal of Natural Resources Law and Policy* 101–131.
  - See for example the Department of the Environment *Commonwealth On-Farm Further Irrigation Efficiency program and Sustainable Rural Water Use and Infrastructure*, [www.environment.gov.au/water/rural-water](http://www.environment.gov.au/water/rural-water); See also Department of Agriculture and

- Water Resources *National Water Infrastructure Development Fund*, [www.agriculture.gov.au/ag-farm-food/natural-resources/national-water-infrastructure-development-fund](http://www.agriculture.gov.au/ag-farm-food/natural-resources/national-water-infrastructure-development-fund).
12. See generally, C McKay and A Gardner “Water accounting information and confidentiality in Australia” (2013) 41 *Federal Law Review* 127–162.
  13. National Water Commission, *Australian water markets: trends and drivers 2007–08 to 2012–13*, Canberra; J Gray, “Dollars and Dreams: Legal Aspirations and Report Cards in the Murray-Darling Basin of Australia” in Westra L, Taylor P and Michelot A, (eds), *Confronting Ecological and Economic Collapse: Ecological Integrity for Law, Policy and Human Rights*, Routledge Earthscan, Abingdon, Oxon, UK, 2013.
  14. P Martin and N Gunningham “Improving governance arrangements for sustainable agriculture: groundwater as an illustration” (2014) 1(1) *Australian Journal of Environmental Law* 5–23, 18; B Karkkainen “New governance in legal thought and in the world: some splitting as antidote to overzealous lumping” (2004) 89 *Minnesota Law Review* 471.
  15. See, eg, R Nelson, *Groundwater: Hidden promise, hidden perils*, Australian Water Project, Committee for Economic Development of Australia (2012) available at [www.ceda.com.au/research-and-policy/research/2012/10/watervol1\\_additional](http://www.ceda.com.au/research-and-policy/research/2012/10/watervol1_additional).
  16. C Holley and D Sinclair “A new water policy option for Australia? Collaborative water governance, compliance and enforcement and audited self- management” (2014) 17(2) *Australasian Journal of Natural Resources Law and Policy* 189–216.
  17. See K Owens “Irrigation organisations and environmental water transactions: A comparative analysis of impediments and opportunities in relation to environmental water recovery” (2015) 18(1) *Australasian Journal of Natural Resources Law and Policy* 49–76; K Owens (2016), *Environmental Water Markets and Regulation: A Comparative Legal Approach* (Forthcoming). United Kingdom: Routledge/Earthscan.
  18. Environment Protection and Biodiversity Conservation Amendment Act 2013 (Cth), s 24E. See also Australian Government, Department of the Environment, *Independent Review of the 2013 EPBC Act amendment — Water trigger* (2015), available at [www.environment.gov.au/epbc/what-is-protected/water-resources/review](http://www.environment.gov.au/epbc/what-is-protected/water-resources/review); E Carmody and K Ruddock “Coal seam gas and water resources: a case for Commonwealth oversight?” (2013) 28(3) *AE* 501–504.
  19. National Water Commission 2014, *Water for mining and unconventional gas under the National Water Initiative*, NWC, Canberra.
  20. PL Tan, KH Bowmer & C Baldwin “Continued challenges in the policy and legal framework for collaborative water planning” (2012) 474(12) *Journal of Hydrology* 84–91; P Martin and N Gunningham, above n 14, 8–10.
  21. See, eg, B Cosens “Application of the Adaptive Water Governance Project to Management of the Lake Eyre Basin and its connections to the Great Artesian Basin” (2015) 30(6–7) *AE* 146–152.
  22. Note however that the Basin Plan pursues an adaptive approach and provides “a buffer” for ecological resilience and recovery — see [www.mdba.gov.au/basin-plan-roll-out/climate-change](http://www.mdba.gov.au/basin-plan-roll-out/climate-change); I Neave, A McLeod, G Raisin, J Swirepik, “Managing water in the Murray-Darling Basin under a variable and changing climate” 2015 42(2) *AWA Water Journal* 102–107.
  23. Climate Council of Australia, above n 4; L Godden, R Ison and P J Wallis “Water governance in a climate change world: Appraising systemic and adaptive effectiveness” (2011) 25 *Water Resources Management* 3971–3976, 3973.
  24. See, eg, Environmental Justice Australia, *Water citizenship: Advancing community involvement in water governance in Victoria* (2015) available at <https://envirojustice.org.au/major-reports/water-citizenship-advancing-community-involvement-in-water-governance-in-victoria>; B Mitchell *Evolving Regional, Integrated and Engagement Approaches for Natural Resources Management in South Australia*, Report to the Goyder Institute and Flinders University (2014) available at [www.goyderinstitute.org/uploads/documents/publications/2014/Bruce%20Mitchell-WEB.pdf](http://www.goyderinstitute.org/uploads/documents/publications/2014/Bruce%20Mitchell-WEB.pdf).
  25. B Cosens *Application of the Adaptive Water Governance Project to the management of the Lake Eyre Basin and its connections to the Great Artesian Basin* ANZOG-Goyder Institute Visiting Professor Report (2015) available at [www.goyderinstitute.org/uploads/FU%20LEB%20GAP%20Report-WEB.pdf](http://www.goyderinstitute.org/uploads/FU%20LEB%20GAP%20Report-WEB.pdf).
  26. A Kallies and L Godden “What price democracy? Blue Wedges and the hurdles to public interest environmental litigation” (2008) 33(4) *Alternative Law Journal* 194–199.
  27. J Dryzek and S Niemeyer “What is deliberative democracy?” on Australian National University, *Centre for Deliberative Democracy & Global Governance* (15 February 2012); Tan et al, above n 20; C Holley and D Sinclair “Deliberative Participation, Environmental Law and Collaborative Governance: insights from Surface and Groundwater Studies” (2013) 30(1) *Environmental and Planning Law Journal* 32–55.
  28. C Son “Water reform and the right for Indigenous Australians to be engaged” (2012) *Journal of Indigenous Policy* 3–26.
  29. M A Siebentritt (ed) *Water trusts: What role can they play in the future of environmental water management in Australia?* Proceedings of a workshop, The Water Trust Alliance and the Australian River Restoration Centre (2012) [www.murraydarlingwetlands.com.au/our-partners/images/The\\_role\\_of\\_water\\_trusts\\_in\\_the\\_future\\_of\\_environmental\\_water\\_management\\_in\\_Australia.pdf](http://www.murraydarlingwetlands.com.au/our-partners/images/The_role_of_water_trusts_in_the_future_of_environmental_water_management_in_Australia.pdf).
  30. B Karkkainen “Collaborative ecosystem governance: scale, complexity and dynamism” (2002) 21(2) *Virginia Environmental Law Journal*, 189–243; C Holley, N Gunningham and C Shearing *The New Environmental Governance* (Earthscan, 2012); Cosens, above n 25.
  31. Macpherson L “The limitations of Indigenous water rights in the proposed Murray Darling Basin Plan” *Right Now*, 8 September 2012, <http://rightnow.org.au/topics/indigenous-people/>; V Marshall, “The progress of Aboriginal water rights & interests in the Murray Darling Basin in NSW: An essential element of culture” (2015) 30(6–7) *AE* 158–163.

32. L O'Neill "The role of state governments in native title negotiations: A tale of two agreements" (2014) 18(2) *Australian Indigenous Law Review*, 29–42, 39.
33. NWC media release, above n 2.