

---

# Introduction to this Special Issue

Cameron Holley and Darren Sinclair\*

---

## RETHINKING AUSTRALIAN WATER LAW AND GOVERNANCE: SUCCESSES, CHALLENGES AND FUTURE DIRECTIONS

*Australia has been a world leader in water law and governance reform. However, after 20 years of progress, water is quickly slipping from the national agenda. Despite many remaining implementation challenges and drought risks, there has been little detailed intergovernmental direction about the “next steps” in Australia’s water strategy. At this critical juncture, this Special Issue brings together leading water law and governance scholars and practitioners to contribute new lines of vision to Australian water governance as we move forward into the 21st century. This introductory article sets the scene for the Special Issue by outlining the key building blocks of Australia’s water governance system, before laying out the key questions explored in the subsequent eight articles, namely: How far has Australia come with the National Water Initiative? Is the current governance system a sufficient model capable of broader application to meet future water challenges and a sustainable future? And what fundamental reforms and changes might be required and what other credible water governance and policy alternatives might be available? The article concludes by summarising and synthesising the issues around four key policy parameters, namely: markets; participation; groundwater and policy mixes; and developing northern Australia.*

### INTRODUCTION

The 2015 United Nations’ *Sustainable Development Goals* acknowledge the critical importance of water and its sustainable management for humanity and the planet’s biosphere.<sup>1</sup> In 2016, the World Economic Forum also listed water crises as the third most impactful risk globally, noting “the imperative of improved water governance”.<sup>2</sup> With an ever-increasing global population, decreasing availability of freshwater supplies, and a changing climate, it is clear that new and more effective law and governance approaches are needed to ensure the adequacy, accessibility and quality of this essential resource. However, designing and implementing successful water law and governance is not easy.

Traditionally, Australia governed agriculture’s water use under a common law system of rights. However, beginning in the late 1800s, Australian States progressively centralised governance arrangements, vesting control over water in the Crown and abolishing or displacing common law rights with a legislative system of water licensing.<sup>3</sup> This was consistent with Australia’s federalist history, where the States played a key role in governing natural resources.

---

\* Cameron Holley is Associate Professor, Faculty of Law, member of Connected Waters Initiative Research Centre (UNSW Australia), the National Centre for Groundwater Research and Training, and the Global Risk Governance Programme (University of Cape Town). Darren Sinclair is Research Fellow at the Fenner School of Environment and Society, the Australian National University, Visiting Fellow at Connected Waters Initiative Research Centre (UNSW Australia) and member of the National Centre for Groundwater Research and Training. This Special Issue draws on work presented at a UNSW Faculty of Law workshop, which was funded by an Australian Research Council Discovery Early Career Researcher Award (DE140101216).

<sup>1</sup> United Nations, *Sustainable Development Goals*, Goal 6 <<http://www.un.org/sustainabledevelopment/water-and-sanitation>>.

<sup>2</sup> World Economic Forum, *Global Risks Report 2016* (WEF, 2016).

<sup>3</sup> Alex Gardner, Richard Bartlett and Janice Gray, *Water Resources Law* (LexisNexis Butterworths, 2009); Jennifer McKay, “Australian Water Law History: The Move from Introspective State Sovereignty to a National Interest Approach and the Influence of International Law”, in Terje Tvedt, Owen McIntyre, Tadesse K Woldesadik (eds), *A History of Water – Sovereignty and International Water Law* (Tauris Publishers, 2015).



As with most top-down approaches to law and policy, the States' legislative regimes relied on government knowledge and capacity to assess water conditions (namely availability, less so sustainability) and administer water licences to farmers (and other users). Perhaps predictably, these governance demands placed a heavy burden on State governments. The many uncertainties associated with changing hydrological and hydrogeological systems, the unique local characteristics of surface and groundwater catchments, the competing demands of production and the environment, and the diversity in rural water users and uses all challenged the capacities and knowledge of the State government centred model. As a result, State agencies allocated many more water access rights to water users than were environmentally sustainable.<sup>4</sup>

By the end of the 1980s, it was clear that a radically different governance approach was needed. A nationally agreed water framework was accordingly developed through the Council of Australian Governments (COAG).<sup>5</sup> Spurred by a growing recognition of the concept of "sustainability",<sup>6</sup> this framework coincided with the rise of market-based instruments as an environmental policy tool,<sup>7</sup> and the view that combining Commonwealth and State government programs would be the most efficient and effective way to govern Australia's environment.<sup>8</sup>

Commencing in 1994, the COAG water reforms have evolved into a hybrid governance system known as the National Water Initiative (NWI). The NWI involves three key pillars: top-down regulation (hierarchy); catchment water planning with stakeholder consultation (place-based collaboration); and water trading (the separation of land and water rights and establishing a cap and trade scheme for delivering public outcomes).<sup>9</sup> This approach is considered to be world leading,<sup>10</sup> and has been the subject of comprehensive research, eg under the headings of multilevel governance,<sup>11</sup> federalism,<sup>12</sup> adaptive management,<sup>13</sup> water management<sup>14</sup> and economics.<sup>15</sup>

Yet despite over two decades of reforms and academic research, sustainable water management remains an elusive goal.<sup>16</sup> Although Australia has designed cutting-edge governance approaches, implementation has been slow and these reforms are only now beginning to mature. There is accordingly a need to both test and build on identified insights, while also examining the many

---

<sup>4</sup> National Water Commission (NWC), *Sustainable Levels of Extraction: National Water Commission Position* (NWC, 2010).

<sup>5</sup> Council of Australian Governments (COAG), *Communiqué, Attachment A, Water Reform* (Australian Government, 1994), <<https://www.environment.gov.au/system/files/resources/6caa5879-8ebc-46ab-8f97-4219b8ffdd98/files/policyframework.pdf>>; *Intergovernmental Agreement on a National Water Initiative* (COAG, 2004) (NWI) <[http://www.nwc.gov.au/\\_data/assets/pdf\\_file/0008/24749/Intergovernmental-Agreement-on-a-national-water-initiative.pdf](http://www.nwc.gov.au/_data/assets/pdf_file/0008/24749/Intergovernmental-Agreement-on-a-national-water-initiative.pdf)>.

<sup>6</sup> World Commission on Environment and Development, *Our Common Future* (Oxford University Press, 1987); *National Strategy for Ecologically Sustainable Development 1992* (Australian Government, 1992).

<sup>7</sup> Friedrich Hayek, "The Use of Knowledge in Society" (1945) 35(4) *Am. Econ. Rev.* 519; World Meteorological Organization, *International Conference on Water and the Environment: Development Issues for the 21st Century, Dublin, 26–31 January 1992: Dublin Statement and Report of the Conference* (World Meteorological Organization, 1992).

<sup>8</sup> *Intergovernmental Agreement on the Environment* (Australian Government, 1992); Janice Gray, "The Legal Framework for Water Trading in the Murray-Darling Basin: An Overwhelming Success?" (2012) 29 *EPLJ* 328.

<sup>9</sup> Karen Hussey and Stephen Dovers (eds), *Managing Water for Australia* (CSIRO, 2007).

<sup>10</sup> Lee Godden and Anita Foerster, "Introduction: Institutional Transitions and Water Law Governance" (2011) 22(2/3) *The Journal of Water Law* 53.

<sup>11</sup> M Evans and L Dare, "Multi-level Governance and Institutional Layering: The Case of National Water Governance" (Paper presented at the International Conference on Public Policy, Grenoble, France, 28 June 2013).

<sup>12</sup> Paul Kildea and George Williams, "The Water Act and the Murray-Darling Basin Plan" (2011) 22 *PLR* 9.

<sup>13</sup> Jessica Lee, "Theory to Practice: Adaptive Management of the Groundwater Impacts of Australian Mining Projects" (2014) 31 *EPLJ* 251.

<sup>14</sup> Hussey and Dovers, n 9.

<sup>15</sup> R Quentin Grafton, James Horne and Sarah Ann Wheeler, "On the Marketization of Water: Theory and Evidence from the Murray-Darling Basin, Australia" (2016) 30(3) *Water Resource Management* 913.

<sup>16</sup> Joyeeta Gupta and Claudia Pahl-Wostl, "Editorial on Global Water Governance" (2013) 18(4) *Ecology and Society* 54. National Water Commission (NWC), *Australia's Water Blueprint: National Reform Assessment 2014* (NWC 2014); Wentworth Group of Concerned Scientists, *Statement on the Future of Australia's Water Reform* (Wentworth Group, 2014).

understudied legal and governance challenges and innovations that have arisen in recent years. These include: implementing the *Basin Plan 2012* (Cth), managing environmental water and water holders; clarifying, regulating and enforcing water rights and trade; re-engaging communities and stakeholders, including Indigenous interests, who have often been marginalised by the pace and impact of the reforms; managing the water related impacts of mining and coal seam gas extraction; and delivering social, ecological and environmental objectives while curbing water overuse and over-allocation. Each of these issues has prompted recent innovations in law and governance, and there are many lessons to learn from what works, what does not, and why.

For the Australian water law community, it is also increasingly unclear how resilient the NWI will be in the face of shifting political agendas, growing complexity, reform fatigue, shrinking public resources at State levels, and the recent abolition of the independent oversight body known as the National Water Commission.<sup>17</sup> And yet it is paramount that Australia maintain “good” water law and governance given the next few decades will see major increases in Australia’s population, food and mining/gas production (all dependent on water), as well as likely water scarcity due to droughts and climate change.<sup>18</sup> Further, even if support for the NWI were to continue, it is likely that major law and policy reforms will still be needed if the Commonwealth’s White Paper vision of developing northern Australia’s water resources is to be fully realised.<sup>19</sup>

At this critical juncture, it is both significant and timely to examine the achievements, challenges and future direction of Australia’s water reforms. This Special Issue of the *Environmental and Planning Law Journal* brings together leading water law and governance scholars and practitioners to contribute new lines of vision to the analysis of water law and governance as we move forward into the 21st century. The key themes of this special issue circulate around a series of questions, namely:

1. How far has Australia come with the National Water Initiative? What has it achieved and what barriers did it face?
2. Is the current governance system a sufficient model capable of broader application to meet future water challenges and a sustainable future?
3. What fundamental reforms and changes might be required and what other credible water governance and policy alternatives might be available?

The above questions/issues are addressed in the following eight articles. In a single issue of this size, we clearly cannot cover every aspect of Australia’s 20-plus years of water reform (eg urban issues are not discussed in detail).<sup>20</sup> However, collectively, the articles provide a basis for analysing many of Australia’s key water governance successes and challenges, and, in so doing, articulate a view of future water reforms that can be applied to both theory and practice. This introduction to the Special Issue provides a brief overview of each article, after briefly setting the scene by outlining the background and key building blocks of Australia’s water governance system.

## **WATER GOVERNANCE: BACKGROUND AND OVERVIEW**

Under the 1994 COAG reforms, intergovernmental action was taken to arrest widespread water resource degradation.<sup>21</sup> Supported by the National Competition Policy and Related Reforms, they set out aspirations for significant market-based approaches, and new institutional and administrative arrangements and decision-making processes. This included State and Territory governments implementing nationally agreed goals regarding cap and trade water markets (eg “systems of water allocations or entitlements”, “separation of water property rights from land title”, and “the allocation

<sup>17</sup> NWC, n 16, 3.

<sup>18</sup> Will Steffen, “Thirsty Country: Climate Change and Drought in Australia” (Climate Council of Australia, 2015); Wentworth Group of Concerned Scientists, *Blueprint for a Healthy Environment and a Productive Economy* (Wentworth Group, 2014).

<sup>19</sup> Australian Government, *Our North Our Future: White Paper on Developing Northern Australia* (2015) <<http://industry.gov.au/ONA/whitePaper/Paper/index.html>>; NWC, n 16, 3.

<sup>20</sup> This is in no small part because agriculture consumes the large majority (approximately 60%) of Australia’s water. Australian Bureau of Statistics (ABS), *Water Account Australia 2012-13* (ABS, 2014); Wentworth Group, n 16.

<sup>21</sup> COAG, n 5, [1].

of water to the environment”),<sup>22</sup> place-based water management (eg “an integrated catchment management approach”)<sup>23</sup> and collaboration (eg “consult with the representatives of local government and the wider community in individual catchments”).<sup>24</sup> The reforms also encouraged periodic monitoring and peer review of State and Territory governments, with ministerial councils reporting annually to COAG on “progress in implementing the various initiatives and reforms”.<sup>25</sup>

The COAG water reforms had the potential to be undermined by constitutional conflicts and State governments being unwilling to support the national reforms.<sup>26</sup> As such, the Commonwealth used the National Competition Policy and Related Reforms to impose accountability on the States – this included using financial incentives to the States for successfully meeting implementation goals.<sup>27</sup> The accountability mechanisms were overseen by an independent advisory body, the National Competition Council.<sup>28</sup>

While there was progress implementing these reforms (in particular, separating land and water rights), overall it was slower than expected. Indeed, by the time the competition payments had ended, there was significant remaining work to be done.<sup>29</sup> There are several possible reasons for this, including its national scale, the complexity of the reforms (eg identifying place based catchment boundaries, setting numerous catchment based caps), and the agricultural sector’s intense political pressure against water allocation reductions at a time when rainfall was limited by the Millennium Drought.

Confronting extreme drought conditions, a subsequent 2004 National Water Initiative Intergovernmental Agreement between the States, Territories and Commonwealth was developed. The NWI consolidated the 1994 reforms and extended their aspirations for cap and trade market-based systems, regulation, place-based approaches, collaboration, and continuous monitoring and improvement. Crucially, it aimed to embed a nationally-compatible water market, progressively removing barriers to water trading, facilitating efficient water use and addressing structural adjustment issues.<sup>30</sup> The NWI reforms also aimed to recognise the connectivity between surface and groundwater resources, return over-allocated or overused systems to environmentally sustainable levels of extraction through encouraging the development and finalisation of place-based statutory water allocation plans, and making statutory provision for environmental and other public benefit outcomes.<sup>31</sup>

Under the NWI, State and Territory governments maintained significant discretion in pursuing goals. For example, with respect to place-based water planning, States were to “determine whether a plan is prepared, what area it should cover, the level of detail required, its duration or frequency of review, and the amount of resources devoted to its preparation based on an assessment of the level of development of water systems, projected future consumptive demand and the risks of not having a detailed plan”.<sup>32</sup>

---

<sup>22</sup> COAG, n 5, 2, [4]-[5].

<sup>23</sup> COAG, n 5, [6].

<sup>24</sup> COAG, n 5, [7]. Cameron Holley, “National Water Reforms and Pragmatism” (Paper delivered at Learning from Discretion, The Relevance of Professor Charles Sabel’s Experimental Approach to Australian Public Administration, Canberra, 18-19 February 2016).

<sup>25</sup> COAG, n 5, [11].

<sup>26</sup> Adrian Kay, “Multi-level Governance in Australian Federalism: The Open Method of Coordination in Open Economy Policy-making” (Paper presented at the International Conference on Public Policy, Grenoble, 26-28 June 2013).

<sup>27</sup> *Agreement to Implement the National Competition Policy and Related Reforms* (COAG, 1995)

<sup>28</sup> National Competition Council (NCC), *About the National Competition Policy* (2015) <<http://ncc.ncc.gov.au/pages/about>>.

<sup>29</sup> NCC, *Assessment of Governments’ Progress in Implementing the National Competition Policy and Related Reforms* (2005) xvi.

<sup>30</sup> NWI, n 5, [23], [58].

<sup>31</sup> NWI, n 5, [23].

<sup>32</sup> NWI, n 5, [38].

Collaboration and stakeholder participation was an explicit goal of the NWI, with “community partnerships” and “engaging water users and other stakeholders in achieving [NWI] objectives” identified as key reform outcomes.<sup>33</sup> This was to be achieved through transparency and open and timely consultation with all stakeholders throughout plan development and review.<sup>34</sup> These approaches sought to encourage trust and buy-in by facilitating public participation in developing local governance responses.<sup>35</sup> One core aim was to identify appropriate responses to address the impacts of water cutbacks.<sup>36</sup> However, while “governments and the community” were to determine water management and allocation decisions,<sup>37</sup> the NWI goals of stakeholder participation initially fell well short.<sup>38</sup> Rather, the government remained the final arbiter and was to “consult” and make “judgements informed by best available science, socio-economic analysis and community input”.<sup>39</sup>

Another key feature of the NWI was to embed monitoring and continuous improvement. This involved a range of reforms (eg benchmarking pricing and service quality of water delivery agencies).<sup>40</sup> In particular, there were three key developments. First, there was a commitment to “water resource accounting” and to ensuring “adequate measurement, monitoring and reporting systems are in place in all jurisdictions”.<sup>41</sup> Second, at the local level, plans and water access entitlements were to implement continuous monitoring and improvement systems in the form of “adaptive management”<sup>42</sup> (eg regular public reports to help water users and governments to manage risk, and to provide early indications of possible changes to water management decisions).<sup>43</sup>

Third, and perhaps most innovatively, the NWI agreed to establish a National Water Commission (NWC). The NWC was an independent body whose commissioners were nominated by the States, Territories and Commonwealth government to provide a skills-based national perspective that assisted with the effective implementation of the NWI.<sup>44</sup> In the absence of the national competition payments and National Competition Council, which ended their roles in water in 2005, the NWC was given responsibility for key monitoring, improvement and innovation roles, including: undertaking a baseline assessment of the water resource and governance arrangements; accrediting and assessing State implementation plans; developing and revising performance indicators for the NWI; and conducting publicly available assessments on progress with the NWI Agreement.<sup>45</sup> Taken together, these NWC roles approximate what some experimentalists have called a “new central body” that reduced the costs of information flows, fostered opportunities for benchmarking and accountability processes and facilitated horizontal diffusion of best practice and continual improvements.<sup>46</sup>

<sup>33</sup> NWI, n 5, [93].

<sup>34</sup> NWI, n 5, [95]-[97], Schedule E; National Water Commission, *The NWI – Securing Australia’s Water Future: 2011 Assessment* (NWC 2011).

<sup>35</sup> Tom Tyler, *Readings in Procedural Justice* (Ashgate, 2005).

<sup>36</sup> Poh-Ling Tan, Kathleen Bowmer and John Mackenzie, “Deliberative Tools for Meeting the Challenges of Water Planning in Australia” (2012) 474 J Hydrol 2; NWI, n 5, [97].

<sup>37</sup> NWI, n 5, [36].

<sup>38</sup> Cameron Holley and Darren Sinclair, “Deliberative Participation, Environmental Law and Collaborative Governance: Insights from Surface and Groundwater Studies” (2013) 30(1) EPLJ 32; National Water Commission, *The NWI – Securing Australia’s Water Future: 2011 Assessment* (NWC 2011).

<sup>39</sup> NWI, n 5, [36].

<sup>40</sup> NWI, n 5, [75], Schedule D.

<sup>41</sup> NWI, n 5, [80].

<sup>42</sup> Although the term “adaptive management” is not defined in the agreement. NWI, n 5, [25].

<sup>43</sup> NWI, n 5, [40].

<sup>44</sup> NWI, n 5, [10]; NWC, n 16.

<sup>45</sup> NWI, n 5, [10]-[12], [19], [104]-[108].

<sup>46</sup> For example, NWC, *The National Water Planning Report Card 2013* (2013); Bradley C Karkkainen, Archon Fung, Charles Sabel, “After Backyard Environmentalism” (2000) 44(4) Am Behav Sci 690, 691.



## THE FUTURE OF WATER REFORM

With this comprehensive policy and institutional architecture in place, Australia spent the last 12 years implementing the NWI. While there were subsequent policy adjustments and interventions (eg National Plan for Water Security, the *Water Act 2007* (Cth), the *Basin Plan 2012* (Cth), the “water trigger” under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) and the abolition of the NWC), the key policy components, namely cap and trade schemes, collaboration and place-based planning, monitoring and accounting and regulation, have remained essentially intact. Although there has been substantial progress in delivering its goals, the extent of success over time may be limited by failures in both design and implementation. Indeed, there is scant evidence that governments and policymakers are seeking to advance the water reform agenda. Since the passing of the *Basin Plan* and the breaking of the Millennium Drought, there has been little detailed intergovernmental policy development for future reforms of Australia’s water law and governance (other than infrastructure investment/loans and proposals to develop northern Australia).<sup>47</sup> The risk is that Australia may have “dropped the ball on water” reform just as we confront the challenges of a changing climate.<sup>48</sup> As the Wentworth Group of Concerned Scientists stated in 2014, “it appears Australian governments are walking away from strategic water reform at the very time when we should be preparing for the next inevitable drought”.<sup>49</sup>

In response to this policy inertia, the Faculty of Law and the Connected Waters Initiative Research Centre at UNSW Australia hosted a group of water law specialists in December 2015. The purpose was to consider key successes and limits of Australia’s hybrid water governance system, and, crucially, to explore how best to steer water governance towards a more sustainable future path. At the conclusion of the workshop, a broad consensus emerged 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.

This Special Issue brings together selected articles that critically evaluate and identify law and governance reforms across key policy parameters, including: markets (eg property and regulating cap and trade instruments); participation (eg new litigation pathways and collaborative environmental water transactions); groundwater and policy mixes (eg enhancing adaptive capacity and managing cumulative impacts); and developing northern Australia (eg infrastructure, strategic planning and engagement of Indigenous peoples).

The first two articles address the defining feature of Australia’s water reforms, the market. Under COAG and the NWI, the existence of property rights in water was a necessary precondition to Australia’s market trading.<sup>50</sup> In Gray and Lee’s article “National Water Initiative Styled Water Entitlements as Property: Legal and Practical Perspectives”, the authors explore whether this proprietary paradigm is an appropriate and effective tool of modern water governance.<sup>51</sup> Whether NWI styled water entitlements are “property” is arguably an overlooked issue. However, as Gray and Lee point out, this has major consequences for future policy, valuation, tax, investment, trusts and constitutional claims under s 51(xxxi) of the *Australian Constitution*. Such concerns, it is argued, will be pertinent if market-based entitlements and trading is ever dismantled (as has occurred in a number

---

<sup>47</sup> See also Standing Council on Environment and Water, *Next Steps in National Water Reform: Preparation for the Future* (Australian Government, 2013) <[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](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)>.

<sup>48</sup> Australian Government, 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, <<http://www.nwc.gov.au/media-centre/media/>>.

<sup>49</sup> Wentworth Group of Concerned Scientists, n 16.

<sup>50</sup> Michael Mckenzie, “Water Rights in NSW: Properly Property?” (2009) 31 *Sydney Law Review* 443.

<sup>51</sup> Janice Gray and Louise Lee, “National Water Initiative Styled Water Entitlements as Property: Legal and Practical Perspectives” (2016) 33 *EPLJ* 284.

of foreign examples they explore). Their contribution, then, is to sound a warning bell for policy makers, and to call for greater clarification of the status of water entitlements as *de facto* property rights.

The next article shifts our attention from the foundations of Australia's market system to its implementation and governance. Holley and Sinclair's "Governing Water Markets: Achievements, Limitations and the Need for Regulatory Reform" empirically evaluates Australia's cap and trade water market scheme, focusing on areas that have received little critical attention to date, including compliance and enforcement, water monitoring, and the effectiveness of trading.<sup>52</sup> Their findings point to key achievements of the trading system (eg flexible responses to droughts), but also identify several fundamental flaws. While they recommend market governance reforms to address these flaws, they also argue that a number of policy weaknesses (eg in areas of groundwater) will require policymakers to look beyond markets to embrace complementary regulatory tools to ensure Australia's future water security and sustainability.

Alongside the development of the water markets, another key (but arguably more vexing) feature of Australia's water governance framework is community and stakeholder participation. Participatory goals have been central to integrated water management and water planning processes for many decades. Yet, these mechanisms have often fallen short of their participatory aspirations.<sup>53</sup> The next two articles, accordingly, take a "wide angled" view of participation to identify promising points of public input into water law and governance.<sup>54</sup>

In "Public Participation, Litigation and Adjudicative Procedure in Water Resources Management", Lindsay argues that the NWI embraces (albeit unevenly) a trichotomy of participation: economic actors in the market; consultation via planning; and indigenous engagement (through co-management, planning and accommodation of native title).<sup>55</sup> However, for Lindsay, Australia's water reforms are missing a fourth participatory option, namely litigation and adjudicative processes, which enable communities to exercise power in decisions, policy-making and norm-setting. While Lindsay acknowledges that litigious tools will require substantial legal reforms, the article identifies a number of promising future reform directions, including issues of standing, information, inquiries and hearings and substantive law and drafting.

Participation via the market is a subject taken up by Owens in her paper "Reimagining Water Buybacks in Australia: Non-governmental Organisations, Complementary Initiatives and Private Capital".<sup>56</sup> According to Owens, water buybacks have traditionally been the domain of State and federal government purchases to facilitate environmental water recovery under the 2004 National Water Initiative and *Water Act 2007* (Cth). As Owens points out, the novelty of this mechanism has been met with an equal measure of resistance, particularly from irrigation communities, resulting in policy shifts toward infrastructure upgrades and capping buybacks. Solving this conundrum, Owens argues, will require realigning our environmental water policy settings from a largely government-led process to one that involves a more flexible mix of competition and collaboration between government and non-governmental actors. Far from some idealised aspiration, Owens catches glimpses of participatory market transactions in the activities of water trusts and the Murray-Darling Basin Balanced Water Fund. These are experiences, she argues, which suggest a pathway to "environmental entrepreneurship" and the development of new and more innovative approaches to restoring environmental flows.

---

<sup>52</sup> Cameron Holley and Darren Sinclair, "Governing Water Markets: Achievements, Limitations and the Need for Regulatory Reform" (2016) 33 EPLJ 301.

<sup>53</sup> Tan, Bowmer and Mackenzie, above n 36; Claudia Baldwin and Mark Hamstead, *Integrated Water Resource Planning* (Earthscan, 2015).

<sup>54</sup> Cameron Holley, "Public Participation, Environmental law, and New Governance: Lessons from Empirical Research for Designing Effective Participation Processes" (2010) 27 EPLJ 360.

<sup>55</sup> Bruce Lindsay "Public Participation, Litigation and Adjudicative Procedure in Water Resources Management" (2016) 33 EPLJ 325.

<sup>56</sup> Katherine Owens, "Reimagining Water Buybacks in Australia: Non-governmental Organisations, Complementary Initiatives and Private Capital" (2016) 33 EPLJ 342.

Related to the issues of participation and markets (and their interaction) is the concept of regulatory pluralism (or Smart Regulation).<sup>57</sup> Smart Regulation is increasingly resonating with water governance practitioners and scholars.<sup>58</sup> Its central normative argument is that, in the majority of circumstances, the use of multiple (and complementary) rather than single policy instruments, and a broader range of regulatory actors, can and should be used to produce better regulation outcomes.<sup>59</sup> The influence of this concept is evident in the next two articles which analyse Australia's mix of approaches to water governance, with a particular focus on the often overlooked issue of groundwater.

Nelson's paper, "Broadening Regulatory Concepts and Responses to Cumulative Impacts: Considering The Trajectory and Future Of Groundwater Law And Policy", examines cumulative impacts on groundwater sources.<sup>60</sup> With the rising expansion of mining, gas and agriculture, such cumulative impacts are a growing concern.<sup>61</sup> Nelson maps the trajectory of groundwater law and policy in Australia regarding cumulative impacts, and ties her analysis to broader concepts from the environmental assessment literature. While statutory water plans are often considered the primary means of addressing cumulative impacts, Nelson's review of national, State and interstate water law and policy identifies a broader policy mix of instruments for dealing with them, including: incentive-based infrastructure measures; State-based rules for licensing individual groundwater extractions; and project-level environmental approvals and associated plans, such as the "water trigger". Reflecting on each mechanism, Nelson identifies key remaining challenges, and sets out an important research and reform agenda for managing cumulative impacts on groundwater.

Groundwater is also singled out for special attention by Cosens in her article "Water Law Reform in the Face of Climate Change: Learning from Drought in Australia and the Western United States".<sup>62</sup> This article offers a unique comparison of Australia and the western United States to consider comparative lessons on how best to combine governance approaches to flexibly respond to long-term climate change. Cosens identifies a toolbox of three water governance approaches (marketable private property, government regulation, and local self-organization), and explores the different combination of approaches chosen by Australia and the western United States for water law reform. The subsequent analysis and recommendations point to pathways for both Australia and the United States to combine and move between these three approaches so as to maximise adaptive capacity in the face of droughts, floods and climate change.

The final two articles conclude this Special Issue by turning our gaze to the horizon of Australia's water reforms, in particular, the (re)emerging interest in infrastructure investment and development of northern Australia's water resources. The dominance of southern Australia, and particularly the Murray-Darling Basin, in driving water reform and the academic literature makes the consideration of policy developments in northern Australia a much-needed contribution to Australia's future water law and governance debate.

Martin's "Creating the Next Generation of Water Governance" evaluates Australia's history of policy cycles and sifts through what should be kept and what discarded for the next generation of effective, efficient and fair system of water governance.<sup>63</sup> As such, he focuses on a governance regime

---

<sup>57</sup> Neil Gunningham, Peter Grabosky and Darren Sinclair, *Smart Regulation* (Oxford University Press, 1998)

<sup>58</sup> NWC, n 16, 119, 120; Cameron Holley, "Linking Law and New Governance: Examining Gaps, Hybrids and Integration In Water Policy" (2016) 38(1) *Law & Policy* 24.

<sup>59</sup> NWC, n 16, 119, 120; Neil Gunningham and Cameron Holley, "Next-Generation Environmental Regulation: Law, Regulation, and Governance" (2016) 12 *Annual Review of Law and Social Science* (forthcoming, 3 November 2016).

<sup>60</sup> Rebecca Nelson, "Broadening Regulatory Concepts and Responses to Cumulative Impacts: Considering The Trajectory and Future Of Groundwater Law And Policy" (2016) 33 *EPLJ* 356.

<sup>61</sup> Wendy Timms and Cameron Holley "Mine Site Water Reporting Practices, Groundwater Take and Governance Frameworks in the Hunter Valley Coalfield, Australia" (2016) 41(3) *Water International (Out of Mines, Out of Site: The Water Legacies of Conventional Mining)* 351.

<sup>62</sup> Barbara Cosens, "Water Law Reform in the Face of Climate Change: Learning from Drought in Australia and the Western United States" (2016) 33 *EPLJ* 372.

<sup>63</sup> Paul Martin, "Creating the Next Generation of Water Governance" (2016) 33 *EPLJ* 388.



to accommodate renewed interest in infrastructure development and proposals for substantial investment in the north. Martin contends that legislation for the north will need to address large and complex challenges, including: balancing requirements of national policies, State and federal objectives and strategies, and international commitments; clearly specifying social objectives, and the mechanisms to achieve them; ensuring Aboriginal people share decision-making authority about the process and its objectives; and establishing processes for identifying community non-economic values and deciding how they will be given effect.

Complementing Martin's paper, O'Neill, Godden, Macpherson and O'Donnell also examine northern Australia in "Australia, Wet or Dry, North or South: Addressing Environmental Impacts and the Exclusion of Aboriginal Peoples in Northern Water Development".<sup>64</sup> Their examination of the history of Australian water resource management identifies engineering and technical "solutions" as dominating Australia's policy imagination, often to the detriment and exclusion of other policy considerations. As such, they argue for a greater recognition of alternative ideas and approaches, namely redressing the historical and current exclusion of Indigenous water rights, and embedding environmental values in strategic water planning.

In summary, this Special Issue looks into the past of Australia's water reforms and projects forward to reimagine and re-engage with Australia's water governance future. Each article highlights significant achievements and opportunities under the NWI, but all conclude that we need to build on existing successes by enacting new reforms to steer Australia's water toward a sustainable future. Key reforms and issues for policy attention include: embedding a better regulatory underpinning for the water market; extending monitoring and water accounting; using alternatives to the market, especially for managing groundwater; enhancing water recovery efforts by opening up collaboration between government and non-governmental actors; resolving whether water entitlements are, in fact, property; developing new systems and tools for dealing with cumulative impacts; improving models of litigation and adjudication to extend participation in water governance; ensuring full recognition of Indigenous interests; clearly specifying social objectives, and the mechanisms to achieve them; and implementing strategic planning with environmental values. These areas will be central to improving Australia's approach to managing water and we hope this Special Issue has helped to encourage new energy and greater attention to the vital "next steps" in Australia's water reform journey.<sup>65</sup>

---

<sup>64</sup> Lily O'Neill, Lee Godden, Elizabeth Macpherson and Erin O'Donnell, "Australia, Wet or Dry, North or South: Addressing Environmental Impacts and the Exclusion of Aboriginal Peoples in Northern Water Development" (2016) 33 EPLJ 402.

<sup>65</sup> Emma Carmody et al, "The Future of Water Reform in Australia – Starting a Conversation" (2016) 31(4) *Australian Environment Review* 132.