

The National Water Initiative and Climate Change in South West Western Australia: Implications for Water Law Reform

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Introduction

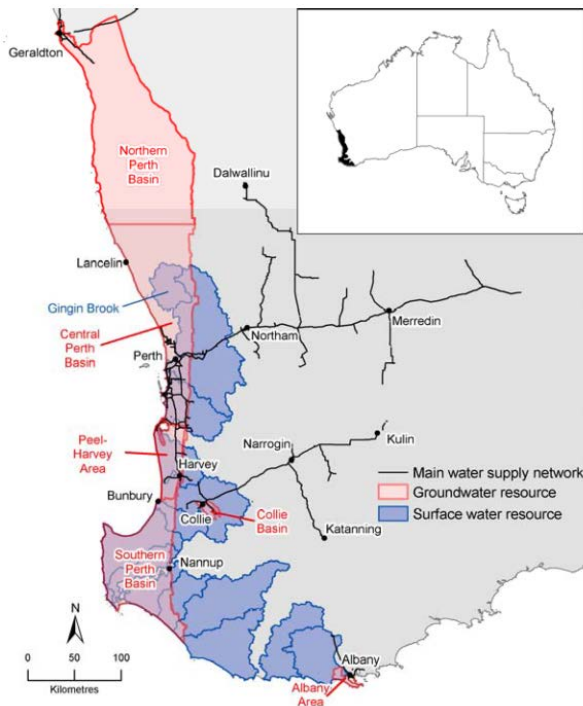
In this presentation we will explore the intersection between three things, which on the face of it may not appear to have much in common: the Intergovernmental Agreement on a National Water Initiative (“NWI”); climate change in the south west of Western Australia; and the program of water resource law reform proposed by the Western Australian Government.

Our presentation will be structured in the following way. We will first identify the water resources of the south west, the impacts of climate change and some of the water resource management challenges that presents. We will then consider three areas of reform, common to both the NWI and the State Government reform proposals, that are relevant to meeting those challenges. These areas of reform are improved water planning, a new water entitlements regime and water markets.

Water Resources and Climate Change in the South West

For the purposes of this presentation the water resources of the south-west are those shown below.

Figure 1: Water Resources of South West Western Australia²



¹ The research for this paper is supported by Commonwealth research funding provided through the National Centre for Groundwater Research and Training: <http://www.groundwater.com.au/>.

² This image is used courtesy of the CSIRO. It has been taken from CSIRO, 'Water yields and demands in south-west Western Australia: A report to the Australian Government from the CSIRO South-West Western Australia Sustainable Yields Project.' (CSIRO, 2009).

As the CSIRO identified in its 2009 report on water yields and demands in the south west, groundwater and surface water resources provide important economic and social benefits through a variety of consumptive uses. Urban uses, including public water supply, power generation, domestic bores and parks and recreation are largest user of this water, making up 45 per cent of total use. Irrigated agriculture is an important user at 38 per cent, and mining and industry use 7 and 5 per cent respectively.³ Alongside these consumptive uses, water also sustains natural values in the south west, including four Ramsar wetlands⁴ and water-dependent threatened species and ecological communities.⁵

In recent decades, reduced rainfall has had a substantial impact on south west water resources. Average rainfall has reduced by 16 per cent since the mid-1970s.⁶ This has had a very substantial effect on surface water flows: since the mid-1970s streamflow into the major water supply reservoirs in the south-west have declined by more than 50 per cent.⁷ There have also been significant impacts on groundwater, both directly through reduced recharge to aquifers,⁸ and indirectly through increased demand for groundwater to substitute for surface water use.⁹

Peer-reviewed scientific papers have proposed a number of possible contributions to the reduced rainfall in south west, including land-cover change¹⁰, multi-decadal variations¹¹ and

³ Ibid, 129-130.

⁴ These wetlands are the Forrestdale and Thomsons Lakes; the Peel-Yalgorup System; the Becher Point Wetlands; and the Vasse-Wonnerup System. See Australian Government, *Australia's Ramsar Sites* <<http://www.environment.gov.au/water/publications/environmental/wetlands/pubs/ramsar.pdf>>.

⁵ P Horwitz et al, 'Hydrological change escalates risk of ecosystem stress in Australia's threatened biodiversity hotspot' (2008) 91 *Journal of the Royal Society of Western Australia* 7.

⁶ Indian Ocean Climate Initiative, 'Indian Ocean Climate Initiative Stage 3: Summary for Policymakers' (CSIRO and BoM, 2012); CSIRO, above n 2; R P Silberstein et al, 'Climate change and runoff in south-western Australia' (2012) 475 *Journal of Hydrology* 441.

⁷ R P Silberstein et al, above n6. A disproportionately greater reduction in streamflow is to be expected, given that streamflow only occurs once a soil saturation threshold is reached: see Gaia Nugent, Jane Chambers and Peter Speldewinde, *Adapting to climate change: a risk assessment and decision making framework for managing groundwater dependent ecosystems with declining water levels. Supporting document 1: Literature review* (National Climate Change Adaptation Research Facility, 2013) 10. It also important to appreciate that because catchments have dried so much since the 1970s, the amount of run-off that is generated from a given amount of rainfall has also declined: Don Macfarlane, 'In south-western Australia, water shortages will worsen' *The Conversation*, 20 February 2013 <<http://theconversation.com/in-south-western-australia-water-shortages-will-worsen-11947>>; Kevin C. Petrone et al, 'Streamflow decline in southwestern Australia, 1950-2008' (2010) 37(11) *Geophysical Research Letters* 1, p3.

⁸ For example, it has been estimated that reduced rainfall between 1979 and 2005 was responsible for falls of up to 4 metres in the Gngangara superficial aquifer: Cahit Yesertner, 'Assessment of the declining groundwater levels in the Gngangara Groundwater Mound' (Department of Water, 2008), p v. See also Riasat Ali et al, 'Potential climate change impacts on groundwater resources of south-western Australia' (2012) 475 *Journal of Hydrology* 456, p459 (Fig 3).

⁹ Extraction for public water supply from the Gngangara groundwater system expanded substantially to approximately 142GL in 2008, in part due to reduced availability of surface water: E J Roberts James H Skurray, David J Pannell, 'Hydrological challenges to groundwater trading: Lessons from south-west Western Australia' (2012) 412-413 *Journal of Hydrology* 256, 258. The south west also saw a rapid increase in the number of private bores in response to water use restrictions imposed in the late 1970s: Water and Rivers Commission, *Water Facts 12* (August 1998), Department of Water <<http://www.water.wa.gov.au/PublicationStore/first/10256.pdf>>.

¹⁰ A J Pitman et al, 'The impact of land cover change on the climate of south west Western Australia' (2004) 109 D18 *Journal of Geophysical Research* 109.

¹¹ W J Cai, G Shi and Y Li, 'Multidecadal fluctuations of winter rainfall over southwest Western Australia simulated in the CSIRO Mark 3 coupled model', (2005) 32(12) *Geophysical Research Letters* L12701.

human-induced climate change.¹² It appears that human-induced climate change is a substantial cause of the reduced rainfall, with one estimate putting its contribution at 50%.¹³ The most recent report by the Indian Ocean Climate Initiative, a joint initiative of the CSIRO, Bureau of Meteorology and the WA Government, has confirmed that “the observed patterns of large-scale atmospheric change associated with SWWA rainfall reductions are consistent with what would be expected in an atmosphere influenced by increasing greenhouse gas concentrations”.¹⁴

The cause of reduced rainfall is of course important, because it gives clues as to what the future holds. Work by the CSIRO, using models of climate, catchments and recharge,¹⁵ indicates that human-induced climate change is likely to lead to significant future reductions in south west surface water flows.¹⁶ Average surface water yields in the south west could be 24 per cent lower by 2030.¹⁷ Average groundwater yields are expected to reduce by a more modest 2 to 7 per cent overall, but up to one third in some areas such as Gngangara, Blackwood and Albany.¹⁸ At the same time as water yields reduce, water demands are expected to increase - by about 35 per cent to 2030.¹⁹

Can our water laws cope with the challenges posed by these reduced water yields, as consumptive demands increase? We will argue that there is at least scope for improvement in the way our water laws address three important challenges:

- balancing the competing demands of the natural environment and consumptive use;
- dealing with existing over-allocation caused by reduced water yields, and avoiding future over-allocation; and
- promoting the productive and efficient use of scarce water resources.

Some of the water reforms in the NWI may help meet these challenges. Clearly the NWI had its origins in the challenges of the Murray-Darling Basin rather than those of the south-west of Western Australia. Nevertheless, reforms in the NWI – particularly those concerning water planning, water entitlements and water markets – are very relevant to the south-west.

Water planning in a drying climate

Water planning is the means by which difficult choices can be made, in a drying climate, about how to share water resources between the environment and consumptive use.

¹² W J Cai and T Cowan 2006. ‘The SAM and regional rainfall in IPCC AR4 models: can anthropogenic forcing account for southwest Western Australian rainfall reduction’, (2006) 33 *Geophysical Research Letters* L24708.

¹³ Ibid. See also Indian Ocean Climate Initiative, ‘Indian Ocean Climate Initiative Stage 3: Summary for Policymakers’ (CSIRO and BoM, 2012)

¹⁴ Indian Ocean Climate Initiative, above n6.

¹⁵ CSIRO, ‘Description of project methods: A report to the Australian Government from the CSIRO South-West Western Australia Sustainable Yields Project’ (CSIRO, 2010).

¹⁶ CSIRO, ‘Water yields and demands in south-west Western Australia: A report to the Australian Government from the CSIRO South-West Western Australia Sustainable Yields Project.’ (CSIRO, 2009), iv.

¹⁷ Ibid.

¹⁸ Ibid. One reason for the greater reductions in groundwater recharge anticipated in these areas are the presence of native vegetation or plantations in these areas, which would use an increasing proportion of rainfall as rainfall declines: MacFarlane above n7.

¹⁹ Ibid.

As the National Water Commission said in a report on climate change and water management, “Future adaptation responses may involve making difficult ‘triage’ decisions in managing water-dependent ecosystems. They may include decisions about whether to continue to water already degraded sites that are unlikely to survive due to climate change.”²⁰

We would add that the reverse proposition is also true: there may be difficult triage decisions that go the other way, protecting important water-dependent ecosystems at the expense of consumptive uses of water. In either case, hard choices need to be made – and this best done through a considered, consultative water planning process.

The NWI has quite a bit to say about water planning, but we will concentrate here on two aspects that are particularly important for the south-west. The first is the commitment that water plans will provide for “secure ecological outcomes by identifying the environmental and other public outcomes proposed during the life of the plan, and the water management arrangements required to meet those outcomes”²¹; and the second is the commitment that water plans should identify risks that could affect the size of the water resource available for consumptive use, including climatic risks.²²

How does this compare to current water resource management planning? The *Rights in Water and Irrigation Act 1914* (WA) does provide for the making of water resource management plans. However these provisions are untested: they came into effect in 2001,²³ but have never been used. Successive governments have instead preferred to make plans outside these provisions, or to manage without a plan. One reason may be the requirement in the Act that the Minister must seek advice from the Water Resources Council on a proposed statutory plan.²⁴ Despite the mandatory language of the *Water (Agencies) Powers Act 1984*,²⁵ this body has never been established.

Putting that issue to one side, would the current provisions, if they were used, ensure that Western Australia’s NWI commitments are met? In our view it they would not. They only provide general guidance on the content of a plan;²⁶ they don’t require any assessment of water resource risks such as climate change; and in any case plans are merely a relevant consideration in licensing decisions.²⁷

The State Government has acknowledged shortcomings with the current planning provisions, and that they should be aligned with NWI commitments. Consistent with the NWI, the Position Paper states that the reforms will provide “transparency and security for environmental water”.²⁸

²⁰ National Water Commission, National Water Commission, 'Water Policy and Climate Change in Australia' (National Water Commission, 2012), xiv.

²¹ Council of Australian Governments, 'Intergovernmental Agreement on a National Water Initiative' (2004) (henceforth 'NWI'), para 37(i).

²² NWI, Schedule E.

²³ *Rights in Water and Irrigation Amendment Act 2000* (commenced 10 Jan 2001: see s2 and Government Gazette 10 Jan 2001 p. 163).

²⁴ *Rights in Water and Irrigation Act 1914* (WA), s 26GZE.

²⁵ *Water (Agencies) Powers Act 1984* (WA), s 16.

²⁶ See *Rights in Water and Irrigation Act 1914* (WA), ss 26GW, 26GX, 26GY.

²⁷ *Rights in Water and Irrigation Act 1914* (WA), sch 1, cl 7(2)(g)(iii).

²⁸ Department of Water, 'Securing Western Australia’s Water Future: Position Paper – Reforming Water Resource Management' (September 2013), p25.

The paper also indicates that plans will describe the effects or potential effects of climate variability or change, and how they will be managed.²⁹

How could these broad reform directions – in particular the commitment to “transparency and security for environmental water” be translated into specific legislative language? There are of course many different options; we will focus here on four approaches drawn from legislation in other Australian jurisdictions.

One option, adopted in the *Natural Resource Management Act 2004* (SA), is to require plans to identify environmental outcomes and the water management regimes needed to meet those outcomes.³⁰ The value of this sort of requirement, which requires “environmental water” to be identified separately from water available for consumptive use, is that it helps to ensure that the difficult “triage” decisions discussed above are made through the planning process in a transparent way.

A second approach, adopted in the *Water Management Act 2000* (NSW), is to provide priority to environmental water over some consumptive uses. The New South Wales Act sets out “water management principles” that must be applied in water plans, including the following principles applying to water sharing:

- (a) sharing of water from a water source must protect the water source and its dependent ecosystems, and
- (b) sharing of water from a water source must protect basic landholder rights, and
- (c) sharing or extraction of water under any other right must not prejudice the principles set out in paragraphs (a) and (b).³¹

A third approach, adopted in the *Water Act 2007* (Cth), is to provide that allocation limits must be environmentally sustainable. The Commonwealth Act provides that “a long-term average sustainable diversion limit” in the Murray-Darling Basin Plan “must reflect an environmentally sustainable level of take”. The term “environmentally sustainable level of take” is defined in the Act.³² In a recent article in the *Australasian Journal of Natural Resources Law and Policy*, Anita Foerster examined the influence of the “environmentally sustainable level of take” requirement on the development of the Basin Plan. Her conclusion was that while the final diversion limits involved a trade-off between different policy objectives and between the interests of Basin states, they represent a more environmentally sustainable level of trade-off that would have been likely under legislation with weaker environmental parameters.³³ The experience of the Murray-Darling

²⁹ Ibid, p19.

³⁰ *Natural Resource Management Act 2004* (SA) s76(4).

³¹ *Water Management Act 2000* (NSW) s5(3) (water management principles), 9 (Act to be administered in accordance with water management principles), 20(2)(f) (water access regime in a management plan must be consistent with water management principles).

³² *Water Act 2007* (Cth), s4 defines “environmentally sustainable level of take” as ...the level at which water can be taken from that water resource which, if exceeded, would compromise:(a) key environmental assets of the water resource; or (b) key ecosystem functions of the water resource; or (c) the productive base of the water resource; or (d) key environmental outcomes for the water resource.”

³³ Foerster, Anita ‘The Murray-Darling Basin Plan 2012: An environmentally sustainable level of trade-off?’ (2013) 16 *Australasian Journal of Natural Resources Law and Policy* 1, 41.

Basin Plan suggests that if a government considers the sustainability of abstraction to be important overarching principle, then it should be included as a requirement for water plans.

Finally, there is the issue of the legal effect that should be given to water plans. The approach that gives the most security is to provide that all licensing decisions must be consistent with the plan. This is the approach adopted, for example, in the *Water Act 1989* (Vic).³⁴

Before leaving water planning, we will comment briefly on the role of water plans in recovering over-allocated systems. The Position Paper indicates that plans may include the “specific methodology for recovering over-allocated systems”.³⁵ This raises two important questions.

One question is whether existing over-allocation, such as over-allocation on the Gngangara Mound, should be dealt with under the current Act or whether it should wait for the new Act and associated statutory water plans. The Minister may already, without any requirement to pay compensation, amend a license to reduce a volumetric entitlement as long as that reduction is “fair and reasonable having regard to the exercise of the power in respect of other licence holders in the surrounding area”³⁶. In 2009 a consultant commissioned by the Department of Water to review the management of over-allocated groundwater resources on the Gngangara Mound identified the use of existing powers to reduce water entitlements as the preferred approach.³⁷ Given that such reductions have not taken place, it can perhaps be inferred that that the State Government will wait for the new Act and associated water plans rather than using existing powers.

A second question is whether, if over-allocation is addressed under the new statutory plans, and existing licence holders get a reduced water entitlement as a result, they should be compensated. What should the new Act, or the new statutory water plans, say about this issue? The NWI suggests that adjustment assistance may be one option for addressing significant reductions in entitlements, but it does not oblige signatories to pay compensation, particularly where reductions are made through initial statutory water plans that address known over-allocation.³⁸ This is consistent with the approach taken in New South Wales, where significant reductions in water entitlements accompanied the conversion of bore licences to NWI-consistent aquifer licences. Some adjustment assistance was provided, but this fell well short of full compensation. This was a motivating factor behind subsequent, unsuccessful litigation seeking to obtain “just terms” compensation.³⁹

³⁴ s3.

³⁵ Department of Water, above n29, 23.

³⁶ Ibid sch 1, cl 39(5)(b). The Minister may also issue a direction restricting the amount of water that a person can take from a water resource. Such directions, which override water licenses, may be given where the Minister has determined that the quantity of water in that water resource is likely to be insufficient to meet demand (including any demand made by the needs of the environment), or where the Minister has published an order declaring a water shortage: *Rights in Water and Irrigation Act 1914* (WA) ss 26GC, 26GD, 22GF(1)(c).

³⁷ Sinclair Knight Mertz, ‘Review into the management of overallocated water resources in the Gngangara groundwater management area: Case studies and options’ (2009) <<http://www.water.wa.gov.au/PublicationStore/first/96779.pdf>>, p6.

³⁸ NWI, paras 45, 97, 46.

³⁹ *ICM Agriculture Pty Ltd v The Commonwealth* (2009) 240 CLR 140.

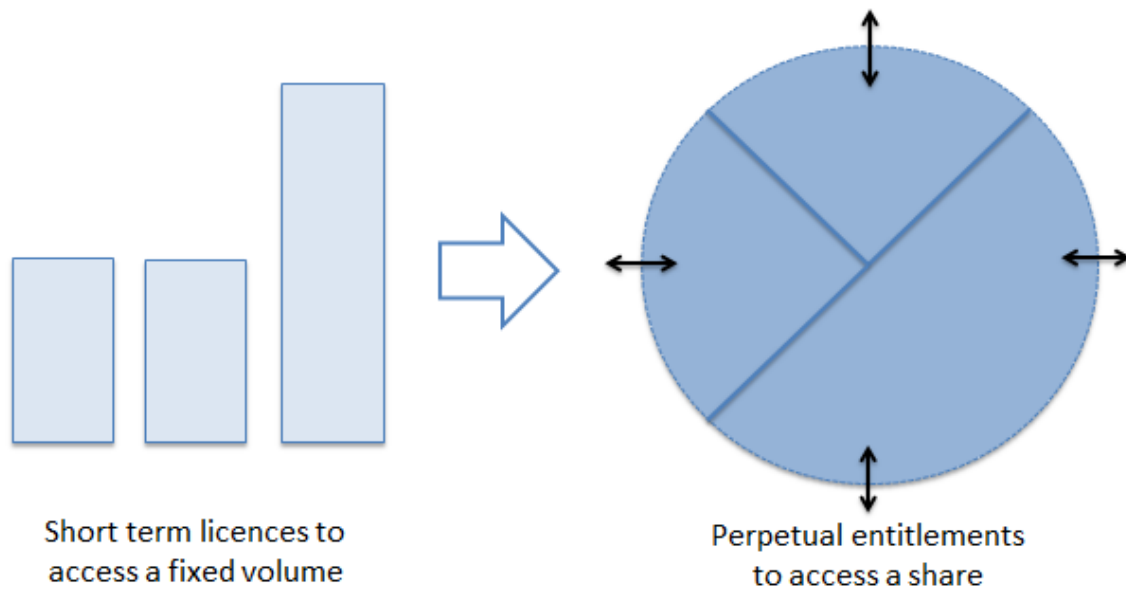
A new water entitlements regime

We now turn to consider one of the fundamental reforms in the NWI: the creation of a new water entitlements regime. In place of the traditional model of fixed term licences to access a specified volume of water each year, the NWI commits to the creation of entitlements to a “perpetual or open-ended share of the consumptive pool of a specified resource, as determined by the relevant water plan”.⁴⁰ The NWI provides that these rights will, among other things, be exclusive, tradeable, enforceable and recorded in publicly-accessible water registers.⁴¹ Penny Carruthers and Sharon Mascher have described the NWI provisions as follows:

Taken together, these requirements ... focus on providing the holder of access entitlements with clearly defined rights that possess the traditional characteristics of a property right: exclusivity, alienability, and enforceability. However, by describing access entitlements as a “perpetual or open-ended share of the consumptive pool of a specified water resource, as determined by the relevant water plan”, the NWI strives to deliver security and certainty while at the same time avoiding the problems associated with over-allocation.⁴²

The value of the NWI entitlement regime in a drying climate is obvious. It has the potential to avoid the risk of over-allocation that is associated with granting fixed entitlements to a variable, and probably declining, resource.⁴³

Figure 2: NWI Entitlements Reforms



⁴⁰ NWI, para 28.

⁴¹ NWI, para 31.

⁴² Penny Carruthers and Sharon Mascher, 'The story of water management in Australia: Balancing public and private property rights to achieve a sustainable future' (2011) 1 *Property Law Review* 97.

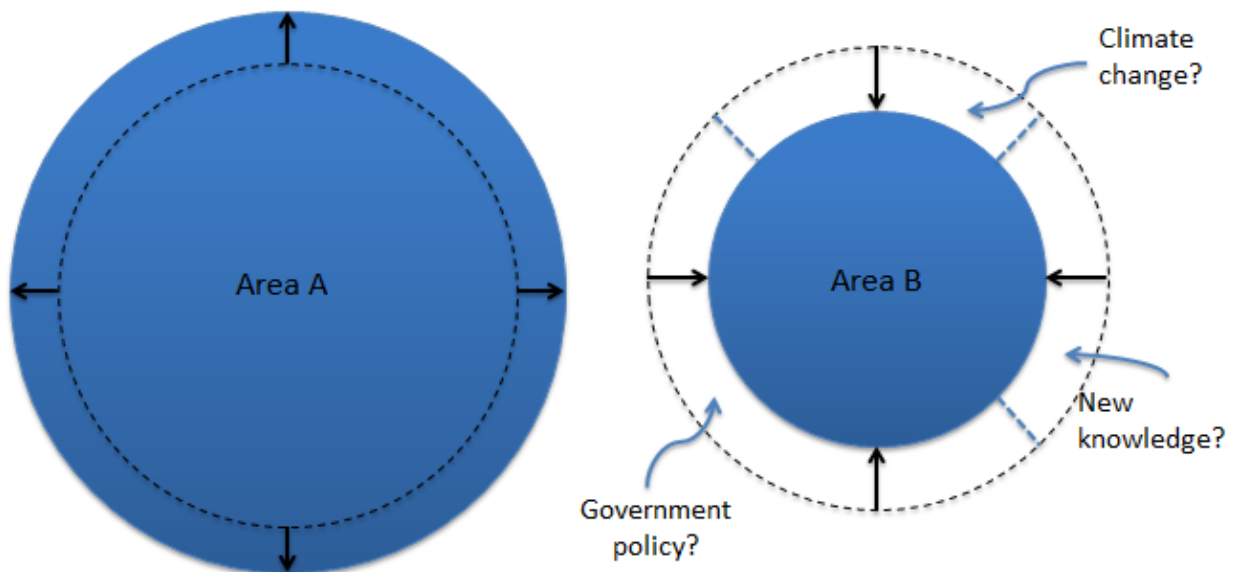
⁴³ It also avoids the need to issue multiple directions or vary multiple licences to reduce water entitlements, with associated rights of appeal. RIW Act s26GG (licence holder may appeal to SAT where aggrieved by a licence amendment); s26GH (person given a direction may apply to the SAT for a review of the decision to give that direction)

However, the NWI concept of “share” entitlements needs to be considered alongside the risk assignment rules it proposes for changes in the consumptive pool. The NWI provides that, unless an alternative risk assignment approach is agreed with stakeholders, risks of such changes should be dealt with in the following way:

- risks associated with climatic and natural events are borne by entitlement-holders;
- risks associated with changes in government policy, such as new environmental objectives, are to be borne by government;
- risks associated with improvements in the knowledge of water systems’ capacity to sustain particular extraction levels are to be shared by water users and governments in accordance with a formula specified in the NWI.⁴⁴

How would these risk assignment rules work in practice? Consider two groundwater management sub-areas, Areas A and B. To keep it simple, let’s assume that the Water Corporation is the sole entitlement holder, entitled to a 100 per cent share of the consumptive pool in both areas. Let us assume that under the first statutory water plan each area has a consumptive pool of 100 ML per annum. Ten years later, the second plan increases the consumptive pool in area A by 10 per cent and reduces it in area B by the same amount.

Figure 3: Risk Assignment for Changes in Consumptive Pool



One immediate question is whether the Water Corporation gets the benefit of the increased consumptive pool in Area A. The NWI doesn’t say anything about increases in consumptive

⁴⁴ NWI paras 48-50. Under paragraph 49 of the NWI, the formula for risks associated with new knowledge is as follows: i) water access entitlement holders to bear the first 3% reduction in water allocation under a water access entitlement; ii) State/Territory governments and the Commonwealth Government to share one-third and two-thirds respectively reductions in water allocation under water access entitlements of between 3% and 6%; and iii) State/Territory and Commonwealth governments to equally share reductions in water allocation under water access entitlements greater than 6%.

pools, but the definition of “water access entitlement” as a share of a consumptive pool does suggest that the volume of water an entitlement holder can take may go up as well as down.

What about Area B, where there has been a reduction in the consumptive pool. Would the Water Corporation be entitled to compensation for this reduction? Under the NWI risk assignment rules this depends on the reason for the reduction in the consumptive pool. As we have seen, if climate change is responsible there is no compensation; but if government policy or improved knowledge of the water system is responsible then compensation would be payable.

Clearly there is scope for disputes over when compensation should be payable under these rules. One legislative technique to reduce the potential for disputes is to make compensation conditional on a declaration by the Minister, when approving a plan or plan amendment, that the consumptive pool has been reduced for a particular reason, or to apportion the reduction among multiple reasons. This is the approach that has been adopted by Queensland, New South Wales and the Commonwealth, the three jurisdictions that have translated the NWI rules into their water management legislation.⁴⁵

We are only aware of one case in which the risk assignment provisions have been applied – by the Murray-Darling Basin Authority in its *Guide to the Proposed Basin Plan*, and subsequently by the Commonwealth Environment Minister acting on the Authority’s advice.⁴⁶ The difficulty the Authority experienced in applying the risk assignment rules is instructive. For example, when faced with quantifying reductions due to new knowledge it said:

In order to quantify the effect of a change in knowledge about the environmentally sustainable level of take for a particular water resource...and hence calculate the improvements in knowledge component, it is necessary to identify the baseline knowledge upon which the Basin state water resource plans were prepared and to compare this with the information used for preparing the Basin Plan. The Authority has examined the information on current Basin state plans that is available to it, and found it is not possible to make a valid comparison.⁴⁷

The practical difficulties with the risk assignment rules have been noted by academic commentators,⁴⁸ the Productivity Commission⁴⁹ and the National Water Commission.⁵⁰ Indeed,

⁴⁵ *Water Management Act 2000* (NSW) ss 46, 87AA; *Water Act 2000* (Qld) Part 3; *Water Act 2007* (Cth) s75.

⁴⁶ Murray Darling Basin Authority, 'Guide to the Proposed Basin Plan: Overview' (Murray-Darling Basin Authority, 2010); *Basin Plan 2012* (Cth) cl 6.13.

⁴⁷ Murray Darling Basin Authority, n46, p156. The Authority ended up recommending that 100% of the reduction in diversion limits be attributed to a change in Australian Government Policy, which was reflected in the final Basin Plan: see p155 and *Basin Plan 2012* (Cth) cl 6.13

⁴⁸ John Quiggin, 'Uncertainty, Risk and Water Management in Australia' in Lin Crase (ed), *Water Policy in Australia: The Impact of Change and Uncertainty* (Resources for the Future, 2008) pp 70-71; Phil Pagan, 'Adaptive Management' in Lin Crase (ed), *Water Policy in Australia: The Impact of Change and Uncertainty* (Resources for the Future, 2008) pp 224-225; John Bevacqua, 'Uncertainties in the Australian Water Availability Risk Assignment Framework: Implications for Environmental Water Reserve Managers' (2011) 30(2) *Economic Papers: A journal of applied economics and policy* 185.

⁴⁹ Productivity Commission, 'Market Mechanisms for Recovering Water in the Murray-Darling Basin: Final Report' (2010) p119.

the National Water Commission has gone so far so to suggest, in a paper published last year, that parties to the NWI should review the risk assignment provisions.⁵¹

With this background to the NWI entitlement regime, we now turn to consider the State Government's reform proposals. These proposals include retaining water licences but modifying current practice to grant those licences for up to 40 years;⁵² introducing NWI-style "share" entitlements in some areas through statutory water allocation plans;⁵³ and including the NWI risk assignment rules in the new Act, along with elements of the existing compensation rules.⁵⁴

On the face of it, 40 year licences risk over-allocation in a drying climate unless very conservative allocation limits are set. Whether this turns out to be the case may depend upon the rules that govern variations of licence volumes. It is important to note, in this respect, that the State Government has proposed a "new provision in the legislation to increase or decrease water entitlements, with clear transparent rules, in order to match water use with water availability."⁵⁵

As noted above, NWI-style "share" entitlements are on the face of it well suited to avoiding over-allocation in a drying climate. However, the implications of implementing the NWI risk assignment rules need careful consideration. As we have seen, there are practical implementation problems with the risk assignment rules. An alternative would be to follow other jurisdictions, including South Australia, in not providing compensation for changes to consumptive pools. Under this approach water entitlement holders still have more secure rights than under current arrangements, because their access rights would be perpetual entitlements rather than fixed term licences, and environmental objectives could only be varied by amendments to statutory water plans rather than by changes to government policy. If affected parties, including water licence holders and environmental stakeholders, were to agree to this approach then it would be consistent with the NWI.⁵⁶

Water markets and climate change adaptation

The National Water Commission has stressed the importance of water markets as an adaptation mechanism for climate variability and climate change. It has argued that "water markets have

⁵⁰ National Water Commission, 'Australian Water Reform 2009: Second Biennial Assessment of Progress in Implementation of the National Water Initiative' (2009), p188; National Water Commission, National Water Commission, 'Water Policy and Climate Change in Australia' (National Water Commission, 2012) p61.

⁵¹ National Water Commission, National Water Commission, 'Water Policy and Climate Change in Australia' (National Water Commission, 2012).

⁵² Department of Water, above n28, p12.

⁵³ Ibid, p15.

⁵⁴ Ibid, pp24-25.

⁵⁵ Ibid, p13.

⁵⁶ Para 51 of the NWI provides that 'where affected parties, including water access entitlement holders, environmental stakeholders and the relevant government agree, on a voluntary basis, to a different risk sharing formula to that proposed in paragraphs 48 - 50 above, that this will be an acceptable approach.' The NWC appears to have accepted that the South Australian legislation, under which the Minister may vary the consumptive pool without any obligation to pay compensation, is an alternative risk assignment approach under paragraph 51 of the NWI: see National Water Commission, 'The National Water Initiative: Securing Australia's Water Future' (2011), p47; *Natural Resource Management Act 2004* (SA) s146; South Australian Department of Water, 'Water Licensing: Risk Assignment Policy', www.waterconnect.sa.gov.au.

proven to be effective in reallocating water to its highest valued uses, particularly during severe droughts.”⁵⁷

There are two ways in which the NWI seeks develops water markets: by promoting market-based mechanisms for the release by states and territory governments of unallocated water,⁵⁸ and by promoting trade of water between holders of water entitlements once it has been allocated.⁵⁹

The practice in Western Australia has been to grant licences for free on a “first in-first served” basis rather than releasing water through market-based mechanisms. There is a provision in the current Act that could, with supporting regulations, provide the basis for the sale of licences.⁶⁰ However, unlike some legislation in other jurisdictions, the Act does not currently allow the Minister to declare that the right to apply for a licence in a specified area is to be acquired by an auction, tender or other means.⁶¹ A provision of this kind is needed for the new Act to effectively provide for the release of water through market-based mechanisms. The Position Paper proposes a flexible approach, under which a new Act would allow for unallocated water to be released through a range of mechanisms. This seems a sensible approach, as market-based mechanisms may not be appropriate in all cases.

The *Rights in Water and Irrigation Act 1914* (WA) already provides for trading in water. However, amendments to the Act could be considered to remove or modify current significant barriers to trade. One barrier is the requirement that a water entitlement may only be transferred to a person who holds, or is eligible to hold, a licence.⁶² This will ordinarily mean that the person who wants to purchase the water entitlement must own or occupy land from which the water will be taken.⁶³ This restriction was included to avoid speculative acquisition of water entitlements,⁶⁴ but has the collateral effect of excluding other prospective water purchasers, such as businesses that wish to acquire a water entitlement before acquiring land title⁶⁵ or non-government ‘water trusts’ that wish to purchase water to maintain environmental values.⁶⁶ It isn’t clear from the Position Paper whether the landholder eligibility requirement will be removed.

⁵⁷ Ibid, p64.

⁵⁸ NWI, para 72.

⁵⁹ NWI para 58(i).

⁶⁰ Sch 1 cl 40; see also *Rights in Water and Irrigation Act 1914 Clause Notes*, p106.

⁶¹ *Water Management Act 2000* (NSW), s 65(1); for an example of a Ministerial Order see Government Gazette (NSW), 31 May 2013, *Controlled Allocation Order (Various Groundwater Sources) (No 1) 2013*. See also *Water Act 2000* (Qld) ss 46(2)(g), 98(2)(g) and *Water Regulation 2002* Div 2; *Natural Resource Management Act 2004* (SA) s147.

⁶² *Rights in Water and Irrigation Act 1914* cl 29(1).

⁶³ Ibid sch 1 cl 3. There are some other relevant grounds on which a person may be eligible, such as where the person is a public utility with powers under a written law in relation to water on or under any land, but these will not be available to most prospective purchasers.

⁶⁴ *Clause Notes to the Rights in Water and Irrigation Act 1914* (WA), p79 (‘The list of people eligible to hold licenses has been carefully drafted to avoid speculation in licences once trading has been introduced’).

⁶⁵ James H. Skurray, Ram Pandit and David J. Pannell, ‘Institutional impediments to groundwater trading: the case of the Gngara groundwater system of Western Australia’ (2013) 56(7) *Journal of Environmental Planning and Management* 1, p13.

⁶⁶ Water trusts have a long history in the Western United States: Mary Ann King, ‘Getting Our Feet Wet: An Introduction to Water Trusts’ (2004) 28 *Harvard Environmental Law Journal*. In Australia, the Environmental Water Trust has been established ‘as a national independent non-government charitable organisation to facilitate

Conclusion

In conclusion, we emphasise the value of an improved framework for water planning, water entitlements and water markets to meet the challenges of a drying climate. Water planning can provide security for environmental and other public benefit outcomes in a drying climate, and the best means by which to make difficult decisions to modify environmental objectives or consumptive use. A reformed water entitlements regime, built around the idea of shares in a variable consumptive pool, can avoid the risk of over-allocation in a drying climate. Water markets can promote the productive and efficient use of water by giving water an economic value, and allowing those who value water the most to purchase it.

While we have reservations about the risk assignment proposals, and there are questions about these reforms that can only be answered with the release of an exposure draft bill, the current reform proposals seem to be heading in the right direction in these three areas. The proposals are generally consistent with both Western Australia's commitments under the NWI and the water management challenges of a drying south west.

There is, however, one thing missing, particularly in the discussion of water planning. While it is important, as the Position Paper says, to have “‘more tools in the toolbox’ to enable better water management for the 21st century”,⁶⁷ this may not be enough. The science suggests that a drying south west has suffered from the effects of human-induced climate change over the last three decades, and will experience further reductions in rainfall, streamflow and groundwater recharge in decades to come. Will this problem, caused by unsustainable use of fossil fuels, lead us to use our water resources unsustainably? The answer to this question will depend not only on having the right tools for water management, but in how we use them. A government and parliament that wants to ensure that our water resources are used sustainably needs to give serious consideration to how this principle can be embedded in the proposed water legislation.

investment in the long term environmental health of Australia's rivers and wetlands':
<<http://environmentalwatertrust.org.au>>.

⁶⁷ Department of Water, above n28, p1.