

# Submission on Water Resource Management Reform Position Paper

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## Introduction

1. This submission draws from research I have undertaken, together with Associate Professor Alex Gardner, for the project 'A Regulatory Framework for Groundwater Management in a Drying South-West Climate'.<sup>2</sup>
2. As the Position Paper notes, rainfall in the south-west has reduced by around 15 per cent since the mid-1970s. This reduction in rainfall has had a dramatic impact on the south-west's surface water resources, with streamflow to the major water supply reservoirs in the south-west declining by more than 50 per cent.<sup>3</sup> Rainfall reductions have also had significant impacts on groundwater, both directly through reduced recharge<sup>4</sup> and indirectly through increased demand for groundwater.<sup>5</sup> Further reductions in rainfall are expected in the future due to anthropogenic climate change.<sup>6</sup> This will, in combination with increasing population and water demand, place increasing pressure on the south-west's water resources.<sup>7</sup>
3. Our work to date supports the view that the drying south-west climate has important policy implications for water resource management – including for groundwater management, which is the focus of our research. The challenges posed by a drying climate include:

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<sup>2</sup> Information on the project is available at <http://www.law.uwa.edu.au/research/water-resources-reform/regulatory-framework-for-management-of-groundwater>.

<sup>3</sup> Since the mid-1970s streamflow into the major water supply reservoirs in the south-west have declined by more than 50 per cent: R P Silberstein et al, 'Climate change and runoff in south-western Australia' (2012) 475 *Journal of Hydrology* 441.

<sup>4</sup> For example, it has been estimated that reduced rainfall between 1979 and 2005 was responsible for falls of up to 4 metres in the Gnamptara superficial aquifer: Cahit Yesertner, 'Assessment of the declining groundwater levels in the Gnamptara 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).

<sup>5</sup> For example, Extraction for public water supply from the Gnamptara 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.

<sup>6</sup> Indian Ocean Climate Initiative, 'Indian Ocean Climate Initiative Stage 3: Summary for Policymakers' (CSIRO and BoM, 2012), 26.

<sup>7</sup> See generally 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).

- ensuring that future climate scenarios are addressed in water resource planning;
  - dealing with existing over-allocation caused by reduced water yields;
  - avoiding future over-allocation that may come with further rainfall reductions;
  - promoting the productive and efficient use of scarce water resources; and
  - promoting and managing the augmentation of water resources (e.g. through injection of treated wastewater into aquifers).
4. This submission is built around these five challenges. It considers how well the existing regulatory framework meets these challenges and whether the proposals in the Position Paper would help it do so more effectively. In some cases we recommend alternative approaches. While the submission doesn't follow the structure of the Position Paper, page references identify the sections that we are referring to.

### **Climate change and water resource planning**

5. We support the proposal (**pp18-19**) that statutory water allocation plans “describe the effects or potential effects of climate variability or change on the water resources and identify the policy programmes that are included in the plan for managing these effects.”
6. The *Water Act 2007* (Cth) has a requirement of this kind, which may provide a good model. It states that the Basin Plan must include “an identification of the risks to the condition, or continued availability, of the Basin water resources”<sup>8</sup> and that:

The risks dealt with must include the risks to the availability of Basin water resources that arise from the following:

- (a) the taking and use of water (including through interception activities);
- (b) the effects of climate change;**
- (c) changes to land use;
- (d) the limitations on the state of knowledge on the basis of which estimates about matters relating to Basin water resources are made.<sup>9</sup>

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<sup>8</sup> *Water Act 2007* (Cth) s22, item 3.

<sup>9</sup> *Ibid* (emphasis added). Note also that ‘water resource’ is defined broadly to include “all aspects of the water resource (including water, organisms and other components and ecosystems that contribute to the physical state and environmental value of the water resource)”: *Water Act 2007* (Cth) s 4.

## Dealing with existing over-allocation

### *Capacity of statutory plans to address over-allocation*

7. A resource is over-allocated when the total volume of water able to be extracted by entitlement holders at a given time exceeds the environmentally sustainable level of extraction for that system.<sup>10</sup> As the Position Paper notes, reduced rainfall in a drying climate can lead to a resource becoming over-allocated (**p23**). We understand that some management sub-areas covered by the 2009 *Gnangara Groundwater Areas Allocation Plan* were classified as over-allocated when that plan reduced allocation limits to reflect reductions in average groundwater recharge.<sup>11</sup>
8. The Position Paper states that “a process for returning over-allocated systems to the allocation limit needs to be included in the legislation” (**p24**). It indicates that “the specific methodology” to do this would be developed “through a consultative process in the development of statutory water allocation plans and statutory allocation limits for each resource” (**p24**). We support this set of proposals, which is consistent with Western Australia’s commitment under the National Water Initiative to address over-allocation issues, in consultation with stakeholders, through the water planning process.<sup>12</sup>
9. In drafting the new Act, care will need to be taken to ensure that statutory plans can address over-allocation in an administratively efficient way. At present the Minister (or departmental delegate) must individually consult license holders on proposed amendments to their licences and invite submissions.<sup>13</sup> Licence holders also have a right to appeal to the State Administrative Appeals Tribunal from amendments to their licence.<sup>14</sup> These rights of submission and appeal on individual licence amendments should not be able to be used to revisit issues that have already been settled, following public consultation, in a statutory water plan.

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<sup>10</sup> Council of Australian Governments, 'Intergovernmental Agreement on a National Water Initiative' (2004) (“NWI”) Sch B(i).

<sup>11</sup> In 2005 allocation limits across the Gnangara system, as recorded in the Department of Water’s Water Resource Licensing Database, added up to 337 GL. In 2009 allocation limits were revised in order to better reflect recharge from rainfall. Total allocation limits were reduced to 304GL and 21 management sub-areas were classified as over-allocated. In 2013 allocation limits were reduced further, but no additional sub-areas were classified as over-allocated as a result: pers comm Department of Water, 14 August 2013; *Gnangara Groundwater Management Plan* (2009), 37.

<sup>12</sup> NWI para 43.

<sup>13</sup> *Rights in Water and Irrigation Act 1914* (WA) sch 1, cl 26

<sup>14</sup> *Ibid* s 26GG(e)

10. Statutory water plans, together where necessary with other provisions in the new Act, should be able to take a range of approaches to addressing over-allocation. Techniques used in other Australian jurisdictions have included:

- conversion from fixed-term licences to permanent shares of the sustainable yield of a water resource;<sup>15</sup>
- the use of supplementary water licences, which are phased out over the life of a plan, to ease the transition to a lower allocation limit;<sup>16</sup>
- formulae in water plans for phased reductions in entitlements, which may include pro rata reductions or more complex approaches that take into account history of water use;<sup>17</sup>
- recouping a percentage of each water trade.<sup>18</sup>

#### *Compensation for reductions in water entitlements*

11. The return of an over-allocated system to an allocation limit may involve reductions in entitlements under water licences. If this is the case, should compensation be payable? This is a significant and difficult question that we consider in some detail below. We approach this question by considering the current compensation provisions in the *Rights in Water and Irrigation Act 1914* (WA) (“RIWI Act”), relevant provisions of the *Intergovernmental Agreement on a National Water Initiative* (“NWI”) and the most recent proposals in the Position Paper. We then put forward an alternative proposal for consideration.

#### Current provisions in the RIWI Act

12. Under the RIWI Act a licence may be granted to authorise the taking of water, subject to the terms and conditions on that licence.<sup>19</sup> In practice, a licence identifies an “annual water entitlement” and contains a condition that the licensee must not take more than that amount each year.

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<sup>15</sup> Sinclair Knight Mertz, 'Review into the Management of Over-allocated Water Resources in the Gnamangara Groundwater Management Area: Case Studies and Options' (2009), 24; *Water Act 2000* (NSW) sch 10, item 3.

<sup>16</sup> *Ibid*, 19; *Water Act 2000* (NSW) s 70.

<sup>17</sup> Alex Gardner, Richard Bartlett and Janice Gray, *Water Resources Law* (Lexis Nexis Butterworths, 2009), 391.

<sup>18</sup> Sinclair Knight Mertz, above n 15, 36 (“In the North Adelaide Plains plan there is a rule that when trade occurs, the State will recoup 20% of the traded volume. This has partly worked, insofar that water has been returned to the State. However, the rate of return is so slow that this mechanism could never be seriously considered as the main plank in an entitlement reduction program”). See also para 42 below.

<sup>19</sup> *Rights in Water and Irrigation Act 1914* (WA) s 5C, sch 1, cl 2.

13. There are a number of ways in which a licence-holder may be prevented from taking the full amount of the annual water entitlement originally specified in a licence:

- a. Conditions on a licence, or conditions imposed under other laws, may restrict the taking of water. For example, a condition on a licence may provide that no water may be taken from a well where salinity exceeds a specified concentration, or conditions imposed under the *Environmental Protection Act 1986 (WA)* may require pumping to be modified if water levels in a wetland fall below a specified level.<sup>20</sup>
- b. The Minister (or departmental delegate)<sup>21</sup> may, by notice in writing, give a direction to a person restricting the amount of water the person may take from a water resource. Such a direction may be issued where the Minister has determined that the quantity of water in a water resource is, or is likely to be, insufficient to meet demand, including any demand made by the needs of the environment; or the Minister has made, and published in the *Gazette*, an order declaring that a water shortage exists in the area in which the water resource is situated.
- c. The licence may be amended to reduce the annual water entitlement. Under the RIWI Act the Minister (or departmental delegate) may vary any term, condition or restriction in a licence on a broad range of grounds, including to protect the water resource or the associated environment from unacceptable damage, or to prevent a serious inconsistency arising with a water plan approved under the Act.<sup>22</sup>

14. It is only under the last of these three scenarios that compensation may be payable.

Under amendments inserted in the RIWI Act in 2001, a person may have a right to compensation where they suffer damage as a result of a licence amendment, suspension or cancellation (but not as a result of a refusal to renew a licence). Before looking at how these provisions work, it is worth briefly considering how they came about.

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<sup>20</sup> For an example of the latter, see the conditions that originally applied to the Water Authority on its proposal to abstract water from the Jandakot Mound: Minister for the Environment, *Statement that a Proposal May be Implemented (Pursuant to the Provisions of the Environmental Protection Act 1986)* (Ministerial Statement 253, 29 April 1992), Condition 1 and Summary of Environmental Management Commitments.

<sup>21</sup> *Rights in Water and Irrigation Act 1914 (WA)* s 26GD.

<sup>22</sup> *Ibid* sch 1, cl 34. In practice this power has not been exercised on these broad grounds; its use has been confined to cases in which licence holders have consistently failed to use their full water entitlement.

15. Prior to 2001 there were no provisions in the RIWI Act for compensation for licence amendments, suspensions or cancellations. Amendments to introduce such provisions were introduced by the Rights in Water and Irrigation Act Amendment Bill 1999. As originally proposed under that Bill, compensation would only be payable where a licence was amended, suspended or cancelled in the public interest and the water use that was lost as a result was consistent with objects of the Act (including objects of sustainable use and protection of water-dependent ecosystems).<sup>23</sup> This compensation provision was intended to apply in a narrow range of circumstances, such as where water was resumed for a town water supply.<sup>24</sup> It was not intended to apply to “changes that are necessary to reduce excessive use to sustainable levels”.<sup>25</sup>

16. The Rights in Water and Irrigation Act Amendment Bill 1999 was referred to the Legislative Council’s Standing Committee on Legislation in March 2000. The Committee received a number of submissions on the compensation question, which it summarised in its final report as follows:

The West Australian Water Users Coalition and Pastoralists and Graziers Association suggest that, whenever a water licence is removed or reduced, including for environmental purposes, compensation should be paid. The West Australian Water Users Coalition specifies that compensation should be provided whenever the Commission amends or cancels a licence. Both, however, state compensation is not necessary where there is a ‘pro-rata’ reduction to all users for environmental purposes.<sup>26</sup>

17. A majority of the Standing Committee recommended that:

[T]he payment of compensation be mandatory wherever a legitimate existing use, whether licensed or unlicensed, is reduced or removed, the scope of exemptions from such compensation to be decided by Parliament.<sup>27</sup>

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<sup>23</sup> Rights in Water and Irrigation Act Amendment Bill 1999, 85 (proposed sch 1 cl 39).

<sup>24</sup> Western Australia, *Parliamentary Debates*, Legislative Assembly, 1 July 1999, 9338 (Dr Kim Hames, Minister for Water Resources).

<sup>25</sup> *Ibid.*

<sup>26</sup> Standing Committee on Legislation, Western Australia, *Report of the Standing Committee on Legislation in Relation to the Rights in Water and Irrigation Amendment Bill 1999* (2000), 41.

<sup>27</sup> *Ibid.* 43. The Hon Giz Watson MLC dissented from this recommendation, favouring the approach in the Bill: Standing Committee on Legislation, Western Australia, *Minority Report of the Hon Giz Watson* (2000), 1-2.

18. Consistent with this recommendation, the Bill was amended to extend the compensation provisions.<sup>28</sup> Also consistent with this recommendation, a number of exemptions were also included.<sup>29</sup> The result was the current, complex compensation provisions in Schedule 1, clause 29 of the RIWI Act.

19. It is clear that under these provisions compensation is not available where a licence is amended to recoup unused water entitlements<sup>30</sup> and that compensation may be available in most other cases, such as where a water entitlement is reduced to protect the water resource or the associated environment, or for consistency with an approved water resource management plan.<sup>31</sup> However, the right to compensation is so heavily qualified as to have very little operation. There are two important exemptions:

- a. In all cases, compensation is only available if the licence holder's use of water is consistent with the objects of the Act. This arguably means that no compensation is payable where entitlements are reduced to return water use to sustainable levels, given that one of the objects of the Act is sustainable water use.<sup>32</sup> This would be consistent with the statement in the Second Reading speech for the Amendment Bill, highlighted above, that no compensation is payable for "changes that are necessary to reduce excessive use to sustainable levels."<sup>33</sup>
- b. In most cases compensation will not be available unless "the Minister is of the opinion that the effect of the exercise of the power on the person is not fair and reasonable having regard to the exercise of the power in respect of other licence holders in the surrounding area".<sup>34</sup> This appears to pick up on the suggestion by West Australian Water Users Coalition and Pastoralists and Graziers Association, as noted by the Standing Committee on Legislation, that "compensation is not necessary where there is a 'pro-rata' reduction to all users for environmental purposes".<sup>35</sup>

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<sup>28</sup> Western Australia, *Parliamentary Debates*, Legislative Assembly, 19 October 2000, 11-14.

<sup>29</sup> *Ibid.*

<sup>30</sup> *Rights in Water and Irrigation Act 1914 (WA)* cl 39(1) does not refer to cl 24(2)(d), which empowers the Minister (or delegate) to amend a licence where the quantity of water that may be taken under the licence has consistently not been taken.

<sup>31</sup> *Ibid* cl 39(1), 24(2), 25(2).

<sup>32</sup> *Ibid* s 4.

<sup>33</sup> See para 16 above.

<sup>34</sup> *Ibid* sch 1, cl 39(5)(b).

<sup>35</sup> See para 15 above.

20. A licence holder may request compensation under the provisions outlined above, and may appeal to the State Administrative Appeals Tribunal from the refusal of such a request.<sup>36</sup>

21. As the Position Paper notes (**p24**), the compensation provisions are untested.

Successive governments have been reluctant to address over-allocation by reducing entitlements. The complexity of the compensation provisions, and spectre of multiple appeals from compensation decisions, may have contributed to that reluctance.

#### Risk assignment under the NWI

22. The NWI contains risk assignment rules that are relevant to whether compensation should be paid for reductions in water entitlements (see extract at **Attachment A**).<sup>37</sup>

Essentially the rules turn on the reason for the reduction: entitlement holders bear the risk of reductions from climate-related and natural causes; government is responsible for reductions associated with changes in government policy; and changes due to improvements in knowledge of water systems are shared between entitlement-holders and governments.

23. The Commonwealth, New South Wales and Queensland Parliaments have incorporated the NWI risk assignment rules into their water resource management legislation (albeit with some variations).<sup>38</sup> To the best of our knowledge the provisions have only been applied on one occasion: by the Murray-Darling Basin Authority in its Guide to the Proposed Basin Plan, and subsequently by the Commonwealth Environment Minister in making the final plan.<sup>39</sup> The difficulty the Authority experienced is instructive. 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

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<sup>36</sup> Ibid sch 1 cl 39, s26GH.

<sup>37</sup> The framework is primarily intended to apply to future reductions in the availability of water for consumptive use that are additional to those identified for the purpose of addressing known over-allocation issues. However, the NWI provides that they may also be considered as one factor in determining whether adjustment assistance should be provided to entitlement holders affected by measures to address known over-allocation: see NWI para 46, 97(1)(d).

<sup>38</sup> *Water Management Act 2000* (NSW) ss 46, 87AA; *Water Act 2000* (Qld) Part 3; *Water Act 2007* (Cth) s75.

<sup>39</sup> Murray Darling Basin Authority, 'Guide to the Proposed Basin Plan: Overview' (Murray-Darling Basin Authority, 2010); *Basin Plan 2012* (Cth) cl 6.13.



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.<sup>40</sup>

24. The practical difficulties with the risk assignment rules have been recognised by academic commentators<sup>41</sup>, the Productivity Commission<sup>42</sup> and the National Water Commission.<sup>43</sup> Indeed, the National Water Commission – the statutory body responsible for overseeing the implementation of the NWI – has suggested that parties to the NWI should review the risk assignment rules.<sup>44</sup>
25. Given that most jurisdictions have not implemented the risk assignment rules,<sup>45</sup> and that extensive doubts have been expressed about their practicality, there is considerable uncertainty about the future place of these rules in the NWI.

#### Position Paper proposals on compensation

26. The Position Paper proposes a set of rules that mix the risk assignment rules from the NWI with the existing compensation provisions of the RIWI Act. The Position Paper states **(pp24-25)** that:

New risk assignment provisions will be included in the legislation specifying that the risk of permanent cuts to the entitlement is borne by the water user rather than the government if the cut is due to climate or natural events alone. If the cuts are not due to climate or natural events alone, the risks could be shared between the government and the water users.

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<sup>40</sup> Murray Darling Basin Authority, above n39, 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 of the Guide to the Proposed Basin Plan and *Basin Plan 2012* (Cth) cl 6.13

<sup>41</sup> 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.

<sup>42</sup> Productivity Commission, 'Market Mechanisms for Recovering Water in the Murray-Darling Basin: Final Report' (2010), 119.

<sup>43</sup> 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), 61.

<sup>44</sup> National Water Commission, National Water Commission, 'Water Policy and Climate Change in Australia' (National Water Commission, 2012).

<sup>45</sup> The NWI rules have not been adopted in South Australia, Victoria, Tasmania, the Northern Territory or the Australian Capital Territory. It is important to appreciate that the NWI itself provides flexibility to depart from the rules: see NWI para 51.

Where the government bears the risk, for example, through a change in government policy, compensation is payable unless cuts to water entitlements are fair and reasonable. This means that cuts have to be equitable, but not necessarily equal.

Compensation is not payable for the recouping of unused entitlements, or for temporary allocation announcements.

27. There are some advantages in the proposed approach. For example, clarification that “the risk of permanent cuts to the entitlement is borne by the water user rather than the government if the cut is due to climate or natural events alone” would presumably make it easier for the department to align groundwater abstraction with reductions in average recharge in over-allocated areas of the Gngangara Mound. However, we are concerned that the proposed compensation provisions would be very complex and may import some of the practical problems with the NWI risk assignment provisions noted above.

#### An alternative approach to compensation

28. The issue of compensation is part of the larger question of how best to balance the security of water entitlements with the need to adaptively manage water resources. At one extreme is a system in which water users have perpetual rights that cannot be reduced, or can only be reduced with full compensation. This maximises security of water entitlements, but makes adaptive management of the water resource very difficult. At the other extreme is a system in which the water manager can adjust licence volumes at the stroke of a pen, with no obligation to pay compensation. This gives a great deal of flexibility to the water manager, but undermines the security that entitlement holders need to make investment decisions.

29. As these examples illustrate, compensation is not the whole story: consideration needs to be given to the circumstances in which water entitlements can be varied as well as the circumstances in which compensation must be paid. In the table below we summarise the current legal position on these issues, and put forward an alternative proposal.

<b>Issue</b>	<b>Current system</b>	<b>Our proposal</b>
Circumstances in which water entitlement may be reduced	The Minister (or departmental delegate) may, by amending a licence, reduce an annual water entitlement at any time.	Once a statutory water plan is in place, the Minister may only reduce an entitlement where authorised to do so by that plan.

Rules for determining whether compensation is payable	No compensation is payable if the water use is inconsistent with the objects of the Act, or the Minister is of the opinion that the reduction is fair and reasonable having regard to reductions to other licences in the surrounding area.	Once a statutory water plan is in place, compensation is only payable in the circumstances identified in the plan.
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30. There are two parts to our proposal. The first is that a statutory water plan must provide for reductions in licensed entitlements before this can take place. This would ensure that affected water users have been consulted, and avoid the risk of ad hoc approaches. This reform would increase security for water entitlement holders.
31. The second part of the proposal is that any compensation rules should be set out in the plan. This would ensure that these rules are specific and tailored to local issues. The history of the RIW Act, the unsatisfactory nature of the NWI provisions and the variety of approaches adopted throughout Australia<sup>46</sup> demonstrate the difficulty of coming up with practical, universally-applicable compensation rules. A local approach that considers the proposed reductions and their likely impacts, developed with the benefit of public consultation, is likely to be more successful.
32. To the extent that state-wide (or national) policy guidance on compensation is developed, it could be applied through statutory water plans. There may also be some capacity to insert guiding principles in the Act – e.g. the principle that reductions due to climatic changes are not compensable is well accepted and does not have the practical problems associated with the “new knowledge” risk assignment rule.
33. The value of a plan-specific approach is clear when one considers the range of possible approaches to addressing over-allocation, and the difficulty of setting general rules that could cater for all those situations. We provide a few hypothetical examples and possible approaches below.

<b>Example of entitlement reduction</b>	<b>Possible response in statutory plan</b>
Modest, staged reductions in entitlements under water licences to realign allocations with average groundwater recharge.	No compensation.
Reductions in entitlements to a level that is equivalent to each entitlement-holder’s historical use.	No compensation.

<sup>46</sup> Gardner et al, *Water Resources Law* (LexisNexis Butterworths, 2009), 384-398.

A more substantial reduction in water entitlements, achieved by converting existing, temporary licences to perpetual water access entitlements.	No compensation if the value to water users of having a permanent entitlement outweighs the cost of the reduction in water access. <sup>47</sup>
Reductions in entitlements to reserve more water for public water supply.	Compensation provisions in the plan and/or buy-back of entitlements.

### Avoiding future over-allocation

34. The Department currently grants licences for periods of up to 10 years. The Position Paper notes that this practice

has been adopted to accommodate uncertainties about the water resource, thus allowing the department to have sufficient flexibility to adapt to changing circumstances, such as a drying climate and increased resource information.<sup>48</sup>

35. The Position Paper proposes that in the future licences will (as a matter of practice) be granted for up to 40 years.<sup>49</sup> Perpetual water access entitlements will also be introduced in some areas. These reforms are intended to provide greater security to water users.

36. On the face of it, these changes are a risk in a drying climate: longer-term rights can reduce flexibility to adaptively manage water resources and may lead to over-allocation in a drying south-west. However, there are two important related reforms. The first is the introduction of a new provision that would make it easier to vary existing licence entitlements “in order to match water use with water availability” (p13) and the second is the specification of water access entitlements as a share in a variable consumptive pool (pp14-16).

37. Do the reforms outlined in the preceding two paragraphs, taken together, strike the right balance between security for water users and maintaining flexibility for sustainable management of water resources? This will depend in large part on how the Act and

<sup>47</sup> Sinclair Knight Mertz, above n 15, 20 (In NSW “[b]ecause the replacement licences have a greater security than the old licences, and in addition are tradeable whereas the old licences were not, it transpired in many cases that the asset value of the new licences could equal or exceed that of the old licences”). No other State or Territory’s water management legislation provides for compensation for reductions in water volumes associated with the conversion of licences to water access entitlements: Gardner et al, *Water Resources Law* (LexisNexis Butterworths, 2009) 398. Adjustment assistance was provided in New South Wales where the conversion involved large cuts to entitlements.

<sup>48</sup> Position Paper, 12.

<sup>49</sup> As a matter of law, the licence may be for any specified fixed period or for an indefinite duration: *Rights in Water and Irrigation Act 1914* (WA), sch 1, cl 12.

related instruments define (a) the circumstances in which licence entitlements or the consumptive pool may be varied, and (b) any compensation requirements that apply to these variations. If these issues are substantially governed by statutory water plans, developed with the benefit of sound research and full consultation, this will maximise the opportunity to get the balance right.

### **Promoting the productive and efficient use of water resources**

38. There is evidence that water markets can promote efficient and productive water use.<sup>50</sup> Signatories to the NWI have agreed to facilitate water trading and the release of unallocated water through market-based mechanisms.<sup>51</sup>

#### *Release of unallocated water*

39. The Position Paper proposes that the new legislation allow for unallocated water to be released under a range of mechanisms, including “first-in first-served”, competitive submission according to specified criteria, market mechanisms or other means **(p22)**. We support this proposal, as we recognise different approaches may be appropriate in different circumstances.<sup>52</sup>
40. There is already a provision in the RIWI Act that could, with supporting regulations, provide the basis for the sale of licences,<sup>53</sup> but a more comprehensive provision will be needed to implement the proposal in the Position Paper. One approach that has been used in other jurisdictions is to empower 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.<sup>54</sup>

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<sup>50</sup> James H. Skurray, Ram Pandit and David J. Pannell, 'Institutional impediments to groundwater trading: the case of the Gngarara groundwater system of Western Australia' (2013) 56(7) *Journal of Environmental Planning and Management* 1-2; National Water Commission, 'Impacts of water trading in the southern Murray–Darling Basin between 2006–07 and 2010–11' (2012); National Water Commission, 'Water Policy and Climate Change in Australia' (National Water Commission, 2012) 46; National Water Commission, 'The National Water Initiative: Securing Australia's Water Future' (2011) 67-71.

<sup>51</sup> NWI paras 58, 72.

<sup>52</sup> See generally Marsden Jacobs Associated, 'Evaluation of mechanisms for releasing unallocated water in Western Australia - Part A: Selection of market instruments' (2010) 12.

<sup>53</sup> Sch 1 cl 40; see also *Rights in Water and Irrigation Act 1914 Clause Notes*, p106.

<sup>54</sup> *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.

## Water trading

41. The RIW Act already provides for trading in water. However, the Position Paper proposes to remove or modify current barriers to trade.
42. We support in principle the proposals **(p12)** to:
- simplify the assessment process for trades and transfers (as long as this is not at the expense of adequately addressing environmental impacts<sup>55</sup>);
  - include generic, state-wide trading rules in the new legislation and capacity for more specific rules in statutory water plans; and
  - make traded volumes and prices publicly available.<sup>56</sup>
43. The new Act should create a broad power to establish trading rules in statutory water plans. The Position Paper gives the example of conditions on trades that are close to endangered wetlands or existing locations of abstraction **(p12)**. Other rules could include, for example, “exchange rates” for trades in over-allocated areas as a method of reducing over-allocation (e.g. the purchaser gets 90% of the water and the balance is used to reduce the level of over-allocation).<sup>57</sup>
44. We submit that consideration should also be given to removing what could be called the “landholder eligibility requirement”. At present a water entitlement may only be transferred to a person who holds, or is eligible to hold, a licence.<sup>58</sup> 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 (there is an exception for public utilities such as the Water Corporation).<sup>59</sup> This restriction was included to avoid speculative acquisition of water entitlements,<sup>60</sup> but has the collateral effect of excluding other prospective water purchasers, such as businesses that wish to

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<sup>55</sup> See Lindsay and Riebl, “Risk-based Regulation in Environmental Governance” (2013) 30 *Environmental and Planning Law Journal* 452.

<sup>56</sup> See Skurray, Pandit and Pannell, above n 50.

<sup>57</sup> Department of Water, 'Operational Policy 5.13 - Water Entitlement Transactions for Western Australia' (2010), 9; James H Skurray, above n 5, 266-7.

<sup>58</sup> *Rights in Water and Irrigation Act 1914* cl 29(1).

<sup>59</sup> *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.

<sup>60</sup> *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').

acquire a water entitlement before acquiring land title<sup>61</sup> or non-government “water trusts” that wish to purchase water to maintain environmental values.<sup>62</sup>

### *Unlicensed interceptions*

45. It is not clear from the Position Paper whether the Act will provide the power to regulate significant interceptions, including interceptions of water by plantations (**p29**). We submit that it should do so. Regulation of significant interceptions would be consistent with commitments Western Australia has given under the NWI.<sup>63</sup> It would also help promote productive and efficient water use. There is a risk in a drying climate that unregulated water use, such as significant interceptions from plantations, will make up an increasing proportion of water use, crowding out more productive water uses.<sup>64</sup> By regulating interceptions and including them within sustainable allocation limits this risk can be minimised.

46. We make the following suggestions concerning the framing of provisions on water interceptions:

- a. The provisions should be capable of applying to all significant water interceptions, not just plantations.<sup>65</sup>
- b. At a minimum, the provisions should provide the basis to:
  - i. define the regulated water interception;<sup>66</sup>
  - ii. oblige the manager of the regulated water interception to obtain (by release of unallocated water or private trade) a licence or water access entitlement;<sup>67</sup> and

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<sup>61</sup> 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.

<sup>62</sup> 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* 495. In Australia, the Environmental Water Trust has been established 'as a national independent non-government charitable organisation to facilitate investment in the long term environmental health of Australia's rivers and wetlands': <<http://environmentalwatertrust.org.au>>.

<sup>63</sup> NWI para 55.

<sup>64</sup> See generally National Water Commission, 'Water Policy and Climate Change in Australia' (National Water Commission, 2012) p62.

<sup>65</sup> NWI para 55.

<sup>66</sup> e.g. in South Australia “commercial forest” in a “declared forestry areas” is regulated, unless excluded by a water allocation plan: *Natural Resource Management Act 2004* (SA) s 169B. See also Exposure Draft of the Water Bill 2004 (Vic) (available at <<http://www.depi.vic.gov.au/water/governing-water-resources/water-law-review>>) cl 61

- iii. identify the quantity of water that must be obtained under that water licence or entitlement.<sup>68</sup>

### Promoting and managing the augmentation of water resources

47. The Position Paper suggests that the new Act may provide the basis to more effectively regulate “injection of water or fluids into or through aquifers/underground water resources” (p28).

48. The kind of activities that may be regulated under these provisions could include managed aquifer recharge projects such as:

- injection of treated wastewater to supplement public drinking water supplies, prevent saline intrusion or maintain wetlands and caves;
- injection of winter surface water flows for use in summer irrigation;
- storage of water from desalination plants (which are most efficient when operated at a steady rate) for use in periods of peak demand.<sup>69</sup>

49. As the Environmental Protection Authority has recognised, managed aquifer recharge has the potential to play an important role in the sustainable management of Western Australia’s water resources, particularly given the decline in rainfall experienced in recent decades and the large reliance on groundwater resources.<sup>70</sup> At the same time, there are environmental and public health issues that may need to be addressed for some aquifer recharge proposals.<sup>71</sup> The challenge, therefore, is put in place a regulatory system that promotes managed aquifer recharge (e.g. by providing secure rights to access injected water) while ensuring that environmental and health issues are properly addressed.

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<sup>67</sup> e.g. in South Australia, the “forest manager”, defined as the person with effective control over the forest vegetation, must ensure that the forest is the subject of a forest water licence: *ibid* ss 169B(3), 169A, 169L. The draft Water Bill 2014 (Vic) takes a similar approach: see cl 61.

<sup>68</sup> e.g. in South Australia the water allocation must provide for a quantity of water that is at least equal to the water required to fully offset the impact of the forest on the relevant water resource: s169D. This quantity is calculated by reference to the hydrological values in the relevant water allocation plan: *ibid* and South East Natural Resources Management Board, *Water Allocation Plan For The Lower Limestone Coast Prescribed Wells Area* (November 2013) p111 (method for calculating the amount of recharge interception and direct draw of commercial forests based on location, depth to water table and forest type).

<sup>69</sup> SKM and CSIRO, *Progress in Managed Aquifer Recharge in Australia* (Waterlines Report Series No 73, March 2012), 20; Environmental Protection Authority, *Strategic Advice on Managed Aquifer Recharge using Treated Wastewater on the Swan Coastal Plain* (Bulletin 1199), October 2005, I; Department of Water, 'Operational Policy 1.01: Managed aquifer recharge in Western Australia' (2011) 31.

<sup>70</sup> Environmental Protection Authority, *Strategic Advice on Managed Aquifer Recharge using Treated Wastewater on the Swan Coastal Plain* (Bulletin 1199), October 2005, i.

<sup>71</sup> *Ibid*.



50. The Water Corporation's 3-year groundwater replenishment trial at Beenyup provides a useful case study of how the current regulatory framework can be used to regulate managed aquifer recharge. The trial, which ended in December 2012, involved the injection of recycled wastewater, treated to drinking water standards, into the Leederville and Yarragadee aquifers.<sup>72</sup> When fully operational, the Department of Water will authorise the abstraction of an amount of water equivalent to the amount of water injected into the aquifer.

51. The current regulatory framework for the approval and ongoing regulation of the Water Corporation's groundwater replenishment scheme, and how it was applied to the groundwater replenishment trial, is summarised in the table below.<sup>73</sup>

Activity	Approval	Description
Injection	Works approval under <i>Environmental Protection Act 1986</i> (WA)	<ul style="list-style-type: none"> <li>Works approvals regulate commencement of activities that represent a pollution risk.</li> <li>Required for "prescribed premises" listed in the <i>Environmental Protection Regulations 1987</i>.<sup>74</sup></li> <li>Works approval required for the trial on the basis that the water recycling plant and injection bore fall within the prescribed premises category of "sewage facilities".<sup>75</sup></li> </ul>
	Licence under <i>Environmental Protection Act 1986</i> (WA)	<ul style="list-style-type: none"> <li>Licenses regulate ongoing operation of activities that represent a pollution risk.</li> <li>Required for "emissions" (defined to include "discharge of waste") from prescribed premises.<sup>76</sup></li> <li>Licence granted for the trial, notwithstanding DEC view that injection of drinking water quality water is not a "waste" or "emission" for the purposes of the <i>Environmental Protection Act 1986</i> (WA).<sup>77</sup></li> </ul>
	Bore construction licence under RIWI Act	<ul style="list-style-type: none"> <li>Regulates construction or alteration of artesian wells and non-artesian wells in proclaimed areas.<sup>78</sup></li> </ul>
	Approval under the <i>Health Act 1911</i> (WA)	<ul style="list-style-type: none"> <li>Regulates construction or installation of "apparatus for the treatment of sewage."<sup>79</sup></li> </ul>

<sup>72</sup> Water Corporation, 'Groundwater Replenishment Trial: Final Report' (2013) 1.

<sup>73</sup> Information in the table has been drawn from relevant legislation and Groundwater Replenishment Trial Interagency Working Group, 'Groundwater Replenishment Regulatory Framework' (2012). See also Water Corporation, above n 67.

<sup>74</sup> *Environmental Protection Act 1986* (WA) s 52.

<sup>75</sup> *Environmental Protection Regulations 1987* (WA), sch 1, item 54.

<sup>76</sup> *Environmental Protection Act 1986* (WA) ss 56, 3.

<sup>77</sup> Groundwater Replenishment Trial Interagency Working Group, above n 60, 5; Department of Environment and Regulation, Groundwater Replenishment Plan Licence (L8379/2009/3), 30 October 2013.

<sup>78</sup> *Rights in Water and Irrigation Act 1914* (WA), ss 26A, 26B. See also s26D.

		<ul style="list-style-type: none"> <li>The Department of Health considered the water recycling plant to be an “apparatus for the treatment of sewage.”<sup>80</sup></li> </ul>
Extraction	Licence to take water under RIWI Act	<ul style="list-style-type: none"> <li>Regulates the taking of artesian groundwater and non-artesian groundwater in proclaimed areas.<sup>81</sup></li> <li>Intended that the Department of Water will issue new licences to authorise abstraction of a volume of groundwater equivalent to the amount of recharged groundwater</li> </ul>

52. This combination of regulatory mechanisms, supplemented by the memorandum of understanding entered into between the Water Corporation and relevant departments, is likely to be sufficient to govern the Beenyup groundwater replenishment scheme. However, these arrangements would not be adequate as a general regulatory scheme to regulate all managed aquifer recharge operations.

53. The Position Paper states (p29) that “At this point, there is nothing preventing someone from injecting (non-contaminated) water into the ground, even if this affects the quantity or quality of the water resource, other water users or the environment.” While it might be more legally accurate to say that there is nothing preventing someone from injecting non-contaminated water from premises other than the classes of prescribed premises described in Schedule 1 of the *Environmental Protection Regulations 1987 (WA)*<sup>82</sup>, the central point made by the Position Paper is sound: there is a regulatory gap concerning groundwater recharge that needs to be filled.

54. The question then becomes how to best regulate the kinds of activities referred to in paragraph 47 above. One option would be the minimalist approach of simply establishing a new “recharge licence” requirement.<sup>83</sup> This would have the advantage of filling the regulatory gap concerning recharge while not disrupting existing regulatory arrangements.

55. Another option would be to have one comprehensive licence that would involve an assessment of all impacts and would authorise all aspects of managed aquifer recharge

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<sup>79</sup> *Health Act 1911 (WA)* s 107; *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*.

<sup>80</sup> Groundwater Replenishment Trial Interagency Working Group, above n 60, 12-13.

<sup>81</sup> *Rights in Water and Irrigation Act 1914 (WA)*, s5C.

<sup>82</sup> We think the better view is that a discharge of water from prescribed premises does need to be licenced, even if that water is of drinking water quality: see *Environmental Protection Act 1986 (WA)*, s 56, s 3 (definition of “waste” includes “matter...whether liquid, solid, gaseous or radioactive and whether useful or useless, which is discharged into the environment”); compare Groundwater Replenishment Trial Interagency Working Group, above n 72.

<sup>83</sup> See *Water Act 2007 (ACT)* ss47-51 for example of recharge licence provisions.

schemes, including well construction, injection and withdrawal of groundwater. If this approach were taken the Act should provide that a licence could only be granted with the concurrence of the Ministers responsible for the administration of the *Environmental Protection Act 1986 (WA)* and *Health Act 1911 (WA)* (or authorised delegates of the Ministers). This would ensure that health and environmental issues are fully addressed in the licence assessment and condition-setting process.<sup>84</sup>

56. Under either approach, it may be prudent to amend the definition of “groundwater” in the RIWI Act to ensure that it is possible to regulate the extraction of water from managed aquifer recharge schemes. It is arguable that water that has been injected for later recovery is not presently covered by the RIWI Act.<sup>85</sup> It is interesting to note in this regard that three Australian jurisdictions have taken the precaution of expressly defining groundwater to include water that has been pumped or diverted into a well for storage purposes.<sup>86</sup> At present the RIWI Act does not do this.

57. Finally, we flag two issues that we have not yet had an opportunity to consider in any detail, but which we suggest the Department should consider in the development of the Act:

- a. How should how recharge operations that benefit groundwater users (e.g. by preventing saline intrusion) be paid for? In southern California, levies on groundwater use have been imposed to pay for managed aquifer recharge operations that protected a coastal basin suffering from saline intrusion.<sup>87</sup> Should powers to impose similar levies, where they are supported by affected water users, be available in Western Australia?
- b. Should the Act have the capacity to allocate rights to take stormwater, and perhaps even wastewater? This issue was raised in 1996 by a COAG taskforce considering wastewater and stormwater management, which recommended that “*comprehensive systems of water allocations and entitlements, developed and implemented by jurisdictions under COAG water reform framework, address the*

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<sup>84</sup> Oregon introduced comprehensive aquifer storage and recovery laws in order to streamline its permit process: see Or Rev Stat § 537.531-534 <<http://www.oregonlaws.org/ors/537.534>>; Peter G Scott, 'Aquifer Storage and Recovery in the Columbia Basin: The Need for Legislative Action' (2000) 21 *Public Land and Resources Law Review* 35, 41.

<sup>85</sup> Katie Pope and Alex Gardner, 'Managed aquifer recharge using alternative water sources in Western Australia: a property rights approach' (draft), 21-22.

<sup>86</sup> *Water Act 2007* (Cth) s 4; *Natural Resource Management Act 2004* (SA) s 3; *Water Management Act 1999* (Tas) s 3.

<sup>87</sup> Dillon et al, *Managed aquifer recharge: An Introduction* (Waterlines Report Series No. 13, February 2009), 46.

*allocation of and entitlements to urban stormwater and the wastewater stream, particularly the impact of their use on the rights of others, including the environment.*<sup>88</sup> We note that recently-released exposure draft of the Water Bill 2014 (Vic) provides for the vesting of stormwater in local governments and the Victorian Water Corporation, and the licensing of stormwater use in targeted areas.<sup>89</sup>

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<sup>88</sup> Taskforce on COAG Water Reform, *A National Framework for Improved Wastewater Reuse and Stormwater Management in Australia* (1996), 13 (recommendation 3).

<sup>89</sup> Exposure Draft of the Water Bill 2014 (Vic) cl 33, 35, 41 (available at <<http://www.depi.vic.gov.au/water/governing-water-resources/water-law-review>>).

## Risk Assignment Provisions of the NWI

### Assigning Risks for Changes in Allocation

46. The following risk assignment framework is intended to apply to any future reductions in the availability of water for consumptive use, that are additional to those identified for the purpose of addressing known overallocation and/or overuse in accordance with pathways agreed under the provisions in paragraphs 41 to 45 above.

47. The Parties agree that an effective risk assignment framework occurs in the context that: the new share-based water access entitlements framework has been established; water plans have been transparently developed to determine water allocation for the entitlements; regular reporting of progress with implementing plans is occurring; and a pathway for dealing with known overallocation and/or overuse has been agreed.

48. Water access entitlement holders are to bear the risks of any reduction or less reliable water allocation, under their water access entitlements, arising from reductions to the consumptive pool as a result of:

- (i) seasonal or long-term changes in climate; and
- (ii) periodic natural events such as bushfires and drought.

49. The risks of any reduction or less reliable water allocation under a water access entitlement, arising as a result of bona fide improvements in the knowledge of water systems' capacity to sustain particular extraction levels are to be borne by users up to 2014. Risks arising under comprehensive water plans commencing or renewed after 2014 are to be shared over each ten year period in the following way:

- 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%.

50. Governments are to bear the risks of any reduction or less reliable water allocation that is not previously provided for, arising from changes in government policy (for example,

new environmental objectives). In such cases, governments may recover this water in accordance with the principles for assessing the most efficient and cost effective measures for water recovery (paragraph 79 (ii) (a) refers).

51. Alternatively, the Parties agree 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.