



Submission by International Association of Hydrogeologists

To: Productivity Commission

On: National Water Reform, Draft Report, September 2017

By: 19 October 2017

The submitting organisation

The International Association of Hydrogeologists (IAH) is the international peak scientific professional organisation engaged in groundwater resources management. It has a global membership of more than 4000 hydrogeologists, groundwater scientists and engineers; the Australian Chapter is the largest national chapter, with more than 500 members. This submission has been assembled by the Australian Chapter of the IAH, with contributions from members across Australia. The signatory to this submission is Lange Jorstad, President of the Australian National Chapter.

Lange Jorstad

President, IAH Australian Chapter

Submission

1. Overview

The IAH commends the Productivity Commission for undertaking this review. The IAH supports some of the conclusions and recommendations of the Draft Report. We wish to emphasise that although many of the general comments in the draft report in theory apply to all water sources, in practice the report will be interpreted by many as applying to surface water in most cases and not to groundwater. We are aware of cases where senior politicians have stated that the National Water Initiative (NWI) does not apply to groundwater and hence many of the key reforms have not been applied. We recommend that the draft report should state up front that, unless qualified otherwise, the conclusion and recommendations apply to groundwater as well as surface water.

Our comments are primarily focussed where we disagree with the conclusions or where we believe that groundwater focussed issues have not been addressed in the draft report. This is not to place a general negative tone on the report, but rather to strengthen it from a groundwater point of view.

2. General

Groundwater provides more than 30% of Australia's total water consumption and generates national economic activity worth in excess of \$34 billion a year (Economic Value of Groundwater in Australia, Deloitte Access Economics Report, October 2013.) In Australia, there are a myriad of current, pressing issues in which groundwater is crucial. The impacts of unconventional gas and hydraulic fracturing on groundwater, the successful implementation of the Murray-Darling Basin Plan, mining project approvals, proposals for the future development of Northern Australia, the role of groundwater in water security and the impacts of climate change on groundwater are just a few of the hugely important contemporary issues that require rigorous groundwater science to be translated into management and policy. Additional management and policy issues include: groundwater governance and compliance; groundwater fees and charges; conjunctive use of groundwater and surface water; and the current state of Federal and State Government funding for groundwater related matters. These are discussed later.

3. Specific Matters

Surface water – groundwater interaction

The “physical connectivity between groundwater and surface water assessed and managed” is listed as “largely achieved”. Although some progress has been made, we believe that this matter has been largely ignored by some States, superficially addressed by others and there are still significant policy changes required at the National level. There is more work to be done to better quantify the interactions in a spatial and temporal way so it can be better accounted for. In some cases, the result has been to be conservative in the assessment due to a lack of knowledge and frameworks to realistically assess this. This issue is especially relevant to drought and climate change planning.

Groundwater Strategic Framework

There is mention of the “National Groundwater Strategic Framework (2016-2026)” that may imply that the groundwater related issues are covered off in that document rather than the Productivity Commission Report. We believe that this document (which was largely written by the States) is very

high level and not practically focussed. We think the issues should be highlighted in the Productivity Commission Report.

Water costs and payments

The Report states that 'There is inconsistent recovery of water planning and management costs from users across Australia'. The IAH supports this view. There is a critical lack of funds to support water allocation planning, including groundwater monitoring. This especially applies to observation bore maintenance. A costs-recovery mechanism is required to address this issue (including in the Great Artesian Basin).

The Report proposes mechanisms for improving the efficacy of buying water for the environment; however, it doesn't comment on whether this is appropriate. The IAH considers this to be a political fix and not an appropriate long-term management mechanism. Environmental provisions should be made as part of the allocation-setting process and should not require payment.

Water trading

We support the recommendations around investing in better knowledge to enable less restrictive (where appropriate) groundwater trade, as a means of removing a "trade barrier". We believe there is also opportunity to consider trade between groundwater and surface water where the science supports it.

The Report states that WA and NT do not have water trading schemes. However, WA has had a water trading scheme since about 2010 (DWER Operational policy 5.13). This water trading is not consistent with all the NWI principles but should be noted in the report.

The report states several times that groundwater trade is primarily in Queensland, South Australia and Southern Victoria. The Tables that show groundwater trade, however, also support the strong trade in groundwater in the Southern Murray Basin.

Capital spending

The report states that 'Past irrigation infrastructure projects have been justified by benefits that have overwhelmingly been captured by private irrigators, but with no thought given to the recovery of capital costs from them. As a result, an important check on the viability of those projects — irrigators' preparedness to pay — was missing'. The IAH supports this view, especially as almost all capital funding has gone to support surface water schemes (the so called "ribbon cutting projects"). Government infrastructure spending has tended to distort the market and has discouraged lower-cost and lower-impact strategies such as groundwater supply and managed aquifer recharge.

The location-dependent nature of groundwater licences

Groundwater-dominated water supply states (such as WA) have water licencing systems that are geared towards impact-specific licences. This framework is supported by some of the Reports statements (for example, 'The Commission considers that there is potential for greater community benefits by taking a more outcomes focused approach to environmental regulation'). However, the report should provide more context on the unique challenges and opportunities presented by groundwater supply sources (including proximity to groundwater-dependent ecosystem, saline ingress, etc.).

Stormwater, wastewater, and managed aquifer recharge

IAH welcomes the supportive stance of the Report towards stormwater, wastewater, and managed aquifer recharge (MAR) initiatives. The Report states that 'Water entitlement frameworks should enable inclusion of recycled water and stormwater ...'; however, it fails to include statements

recognising WA's adoption of a framework whereby MAR 'credits' are received, thus supporting this important water management tool.

Water Entitlement and Planning

With regard to MAR - much of the discussion and recommendations are about ensuring that those who inject water into an aquifer have a right to recover it. We agree that this needs clearer legislation across the nation, and consistent approaches to determine loss factors, particularly temporal extraction rights (e.g. storage periods and associated losses). The recommendations should be stronger on tackling the knowledge and policy gaps.

Climate change

Overall, we support the need to acknowledge climate change impacts, and continually consider them through regular reviews of plans. We agree with the recommendations about increasing our understanding of the influence of climate change on water resources. In addition to understanding how climate conditions will change, there is a specific need to understand how these changes apply to groundwater recharge rates so they can be better factored in to management planning. A key consideration for adaptive water resource management is a recognition that access to water will need to change over time in response to the effects of climate change. It will affect groundwater entitlement "security", and this should be part of the planning review process.

Extractive industries

We support the incorporation of extractive industry water take in the overall water entitlement framework. Ensuring all water is accounted for within the one framework is the best way to ensure equitable outcomes for all water users.

Conjunctive Water Management (CWM)

The report is largely silent on CWM of groundwater and surface water. This fundamentally important water management approach is being seriously applied in many countries. It is recognised that CWM is not included in the NWI, which is unfortunate. This is perhaps because it is not understood by many water managers. It would be desirable for the report to be supportive of CWM.

Water reform

Community / regional adjustment - This section focusses on structural adjustment for major water reform. This is critical. However, it can also apply to climate change, which is occurring over a longer period. This is also critical - creating the right mind-set through education and policy positions to adapt to changes in resource availability and use in response to climate change.

Over-allocated groundwater systems

There remains some Groundwater Management Units in Australia that are over-allocated and State governments are reluctant to reduce license entitlements. With climate change this will only become gradually worse. Clearer national policy on the method to reduce over allocated systems (e.g. history of use; across the board) would support States in these difficult and unpopular decisions. Methods to deal with unused and sleeper licences is a major issue that the report should recognise. Some States are beginning to apply a "use it or lose it" policy. This is such a fundamental policy shift that some national guidance on this issue would help.

Compliance and illegal use

Enforcing compliance with groundwater licence conditions (especially maximum extraction volume) continues to be a challenge for some States. While there are many contributing factors, the

inadequate penalties for licence breaches applied by the courts provide little incentive to comply. This also acts to discourage groundwater trading. A clearer National policy on compliance is needed.

Groundwater Dependent Ecosystems (GDEs)

GDEs are clearly recognised in all State legislation and water planning. However, finding the balance to acknowledge that many States do not have a “no impact policy”, which recognises that some GDEs will be affected or even killed is required.

REFORM RECOMMENDATIONS:

Overall the recommendations are supported. The comments above would strengthen the recommendations in some areas, particularly to clarify or strengthen the applicability to groundwater resources. The need for a renewed commitment is supported. However, to be effective, the renewed commitment should be supported by an agreed budget.

4. Closure

We appreciate the opportunity to provide this submission to the Productivity Commission, in the interest of strengthening the applicability of the draft report to groundwater resources. We would gladly elaborate on any of the points raised, upon request.

Lange Jorstad

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