

## NSW Draft Groundwater Strategy

Comments by [REDACTED]

### General Comments

### Specific Comments

P29 subtitle: NSW has a robust, world-leading approach to groundwater management

Suggest change to : NSW aims to have a robust, world-leading approach to groundwater management

P42 *A more robust, planned and integrated approach to groundwater and surface water supply is urgently needed.* I agree completely. This means conjunctive management so if extra groundwater is sought to replace surface water in dry years then there needs to be recharge enhancement in wet years. There is no mention that NSW is the only state without operational Managed Aquifer Recharge in Australia, or that MAR in Australia has reached 8% of national groundwater extraction (by 2015) (Dillon et al 2019). Other states have developed research and investigations expertise to operate MAR systems, yet there are no pilots in NSW to enable the gaining of experience in the practice and regulation of MAR. Hence I strongly support your inclusion of Action 3.3 Improve our understanding of groundwater resources, and its expansion to address MAR. According to the recent UN World Water Development Report (2022) the annual volume of MAR is expected to increase over current levels by an order of magnitude to on average around 10% of global groundwater use.

P49 *Action 1.1. Refresh and expand our approach to sustainable groundwater management* : sounds like an opportunity for MAR to be incorporated but the text does not mention using approaches that are currently missing in NSW, such as MAR.

P50 *Action 1.2. Better integrate groundwater management with other land and water management processes* – same comment on p42. There will also need to be changes to ways that **surface water** is managed to enable this to occur. For example, the current MDB Plan is based on mean annual flows and does not consistently address reliability of supply, before even accounting for climate change. Furthermore, the terminology for levels of reliability of supplies are currently inconsistent between regions within states (including NSW) and between states. Carry over provisions for surface water also vary between regions and states, and there is no clear basin-wide rationale for that, for example accounting for existing surface water dams that would be called upon to provide that carry-over. Subsurface storage of surface water in wet years would be a demonstration of the value-adding to water security through the use of aquifers where water entitlements are less than rigorously set extraction limits, and/or where appropriate, augmented by MAR. There would of course need to be processes to grant credits to enable recovery of some proportion of stored waters, that gives scope for flexibility and confidence in groundwater management. This is discussed extensively in Section 2 *Considerations for Water Resources Planning and Management* of an international overview of governance of MAR systems in a Special Publication by IAH in July 2022 (Dillon et al 2022).

P50 Action 1.2 last dot point: *\* polluting via drawing or pushing poor quality groundwater into aquifer layers with higher quality groundwater.* – for MAR this is already addressed by the Australian MAR Guidelines that were agreed to through COAG (NRMMC, EPHC and NHMRC, 2009).

However NSW would simply need to reference adherence to these as being deemed to comply with NSW water quality protection requirements for MAR. The Australian Guidelines have been compared internationally and are regarded as the gold standard, as shown in Section 3 *Considerations for Water Quality Management* of Dillon et al (2022).

I would be happy to expand on these points if needed, and would be happy to assist your staff in as your strategy develops and actions are finalised and implemented.

### References

1. Dillon, P., Alley, W., Zheng, Y. and Vanderzalm, J. (eds) (2022). Managed Aquifer Recharge: Overview and Governance. IAH Special Publication. <https://bit.ly/3H1bSkx>
2. NRMCC, EPHC, NHMRC (2009). Australian Guidelines for Water Recycling, Managing Health and Environmental Risks, Volume 2C - Managed Aquifer Recharge. Natural Resource Management Ministerial Council, Environment Protection and Heritage Council National Health and Medical Research Council, Jul 2009, 237p. <https://recharge.iah.org/files/2016/11/Australian-MAR-Guidelines-2009.pdf>
3. UN World Water Development Report (2022). Groundwater-Making the invisible visible. [UN World Water Development Report 2022 | UN-Water \(unwater.org\)](https://www.unwater.org/publications/world-water-development-report-2022)

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