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Jane Doolan

Commissioner National Water Reform

Productivity Commission National Water Reform submission

Dear Commissioner Doolan,

I thank the Productivity Commission for the opportunity to present a submission to the Inquiry into National Water Reform.

This submission focuses on the provision of non-potable water by private domestic groundwater bores owned by householders in the Perth area in Western Australia, and offers a number of suggestions for consideration by the Commission.

Introduction

Most Perth householders are fortunate to have ready access to a large superficial aquifer which has cheaply and sustainably provided abundant low salinity water for garden irrigation.

Groundwater has always played a major role in supplying Perth. In 1981, it was estimated that over 55 000 residents had invested some $110 million in their gardens by installing bores. (Morgan, 2010).

The last 40 years have seen significant increases in numbers and water produced. Today, there are around 190 000 private domestic bores in the Perth region delivering approx. 82 GL per year from shallow groundwater. (https://www.water.wa.gov.au/urban-water/bores, 2020). This compares to the total water use in the Perth Region (groundwater, surface and desalination) in 2019 of 799 GL (Bureau of Meteorology, 2019).

These privately funded bore assets, valued at approx. $1 billion, represent the greatest density of private water bores in any city in Australia, and possibly the world.

About 25% of Perth households (about 190 000 out of 800 000) have taken advantage of this valuable source of water. The recent Waterwise Perth Two Year Action Plan (Department of Water and Environmental Regulation, 2019) shows that levels in the superficial aquifer (the source for domestic bores) are recovering after many years of decline. The cost of a private bore relative to scheme water is also declining.

The sustainability and cumulative effects of these bores are complex issues that are difficult to predict or quantify. The uniqueness, scale, significance and cumulative impact of domestic bores will present increasing policy and management challenges under conditions of climate change.

Information gap, policy, regulation and standards

Western Australia is one of the few States to not require domestic bores in the superficial aquifer to be licensed or registered, or drilled by a licensed driller. (Department of the Environment, 2014). In WA, the Be Groundwater Wise website says it is only ***recommended*** that garden bores are constructed by an experienced and accredited driller who is licensed by the Australian Drilling Industry Association.

In WA, domestic bores are generally not metered, licensed or monitored. Consequently, consumption data to manage and plan for the cumulative effects is estimated by occasional surveys.

WA Government agencies have complex and overlapping roles regarding the guidance and regulation of domestic private bores, and regulation is generally light handed. The Department of Water and Environmental Regulation (DWER) has the key role of managing and regulating the state's environment and water resources. Department of Health, in its "Healthy WA" web site, provides guidance on using bore water safely. Water Corporation collects data on household water use, including bore use, to identify the most effective opportunities to manage household demand.

There is a paucity of data on compliance with standards (Department of the Environment, 2014) and the performance, sustainability and effectiveness of bores in the suburbs of Perth. The detailed Perth Groundwater Map (Department of Water and Environmental Regulation, 2020) shows location specific data on bore suitability, however data on water quality provided by domestic bores, and in particular changes in source water salinity over time, is rare.

Communication with this amorphous sector is difficult. None of the water sector representative groups (including the International Association of Hydrogeologists, Australian Water Association, Nursery & Garden Industry Western Australia, and the Australian Drilling Industry Association) claim to represent private bore owners, or reflect private domestic bore owners in their governance.

In WA, the domestic private bore sector is poorly researched and represented. This information gap does not provide a solid base on which to develop plans or policies.

Support and guidance for householders

Domestic private bores have been a major success in delivering suitable garden irrigation water, and generally performed reliably for many years. They have relied on the government sector or skilled contractors for advice and support.

Included in this is WA Government-produced guidance for domestic private bore owners in 2011 (Government of Western Australia Department of Water, 2011), and the DWER website contains some useful information (https://www.water.wa.gov.au/urban-water/bores, 2020). Recently the Perth Groundwater Map provides a very valuable tool for householders and contractors. (Department of Water and Environmental Regulation). And the recent Be Groundwater Wise website builds on earlier advice (Department of Water and Environmental Regulation, 2020).

Notwithstanding this, most householders who own bores are poorly informed about bore construction, maintenance, sustainability, yield, operation, water quality etc.

In addition, householders do not have access to a standardised set of specifications or contract documents which clarifies risks between the owner and the drilling or irrigation contractor. The recently updated comprehensive ADIA Minimum Construction Requirements (National Uniform Drillers Licensing Committee, 2020), is aimed at large contracts between a Company and a Licensed Driller.

With improved guidance and support, the sustainability, number and effectiveness of private domestic bores could increase. This could also take some pressure off the high quality and expensive scheme water system supplies, of which a large proportion (approx. 40%) is used by householders for garden irrigation.

Suggestions for consideration

The following should be considered:

- There is a need for a body or organisation to act as a focal point and centre of expertise, and protect, promote and support privately owned domestic bore water systems in Western Australia, and possibly Australia as a whole. Consideration should be given to an increased role for not for profit organisations to represent the interests of disparate, fragmented but cumulatively important independent private bore water suppliers. A good example in the USA is the independent non-profit Water Systems Council (https://www.watersystemscouncil.org). This new body could become an important means of communicating and coordinating between private bore owners and regulators, utilities, and catchment groups.
- There is a need for improved identification, monitoring and reporting on the performance of private water bores. This may require a standardised definition across Australia of what constitutes a “private bore”, and incentivised registration and selective metering and monitoring of unregistered bores, to deliver improved data for better management.
- Develop improved guidance material on installing a domestic private bore for households which includes details on risks, standards, costs, system planning and design, contracts, operation and maintenance. This could include a template for householders for a standard specification and contract document for private and shared bores which equitably allocates risk between bore contractors and bore owner.

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