Draft Submission to the National Water Inquiry

By the One Basin CRC

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The Importance of Water Science and Knowledge to National Water Reform

The National Water Initiative treats science, knowledge and capacity as essential 'knowledge infrastructure' for delivering and sustaining water reform.

The National Water Initiative (NWI) is clear that water reform depends on strong science, data and knowledge systems. It requires that water planning and allocation decisions are based on the best available scientific knowledge, supported by socio-economic analysis and community input. This reflects the reality that decisions about water involve complex trade-offs, and that these can only be made credibly if they are grounded in robust evidence.

The NWI also embeds adaptive management as a core principle. Water plans must include monitoring, evaluation and regular public reporting, and must be updated as knowledge improves. It explicitly recognises that scientific understanding will change over time, and that this will affect decisions such as sustainable extraction limits. In doing so, the NWI links reform directly to ongoing research and learning, rather than treating policy as fixed.

Reliable information systems are another essential part of this framework. The NWI calls for water accounting systems that support planning, monitoring, trading and environmental management, as well as transparent data and reporting arrangements. These systems are critical to the operation of water markets, environmental water management and coordination across jurisdictions, all of which rely on consistent and trusted data.

Finally, the NWI identifies "Knowledge and Capacity Building" as a core element of reform. This recognises that effective water reform requires ongoing investment in research, skilled people and institutional capability.

Science and Knowledge are Important for Secure, Resilient and Sustainable Service.

Science, knowledge and research are especially important contributors to delivering secure, resilient and sustainable water services under Part B of the National Water Inquiry. Decisions about infrastructure investment, pricing, service standards and long-term system reliability depend on a clear understanding of water availability, demand, climate risks and system performance. This requires robust data, modelling and analysis to assess future supply–demand balances, identify risks such as drought, population growth or changing industry demand, and evaluate the costs and benefits of different investment and policy options. Without this evidence base, there is a high risk of inefficient investment, under-prepared systems and poor outcomes for customers.

Science and research are also critical to managing trade-offs between competing objectives, including affordability, financial sustainability and environmental outcomes. Pricing and regulatory decisions rely on evidence about asset condition, lifecycle costs, demand patterns and the impacts of different pricing structures on households and businesses. Research helps quantify these trade-offs, assess distributional impacts and support transparent decision-making. It also enables regulators and governments to test assumptions, improve forecasting and ensure that decisions are based on credible and up-to-date information rather than short-term pressures or incomplete data.

Effective governance and coordination across water services systems also depend on strong knowledge systems. Integrating water supply, wastewater, stormwater and land-use planning requires shared data, consistent analytical frameworks and a common evidence base across agencies and jurisdictions. Science and research support this integration by providing system-wide analysis, improving understanding of interdependencies and enabling more coordinated and efficient decision-making. This is particularly important as systems become more complex under climate change and increasing demand pressures.

Finally, science and research underpin equitable and sustainable service delivery, particularly in regional and remote communities. Understanding the drivers of higher costs, service gaps and system risks in these areas requires targeted data, place-based research and ongoing monitoring. This evidence is necessary to design funding models, service delivery approaches and policy interventions that improve equity without undermining financial sustainability. In this context, investment in research capability, data systems and skilled workforce is not optional—it is a core requirement for maintaining safe, reliable and affordable water services over the long term.

The Case for Increased National Consistency and Intergovernmental Coordination of Water Research and Knowledge

The recent Independent Review of Water Science and Research by Mary O'Kane[1], revealed serious concern that the "funding, cooperation and capacity for high-quality water research and its effective use in decision making has declined over the last decade or so".

The review observed that, *"Funding levels for water research have fluctuated significantly over the last 30 years and are presently at recent historic lows. Funding levels for water research have been very low compared to aligned sectors such as agriculture and are well below levels recommended by the water industry"*

The review also reported a concern about the lack of strategic and collaborative water research priorities and fragmented investment by agencies in statutory needs with a short-term focus.

On the basis of these observations, the O'Kane review recommends that there is likely to be significant value in establishing structures that will enable the national leveraging of scientific expertise and consistent approaches to commissioning research.

Relevance to the Productivity Commission Inquiry into National Water Reform

We recommend that the National Water Inquiry consider the opportunity to improve national consistency and inter-government coordination of water research to underpin high quality water services across Australia including in rural and remote areas (Theme 3 and 4 of Part B of the Inquiry).

The O'Kane (2025) review made several important recommendations for an effective water science and research framework. We support these and encourage the Productivity Commission to consider these in their inquiry.

In addition, we recommend three further priorities for consideration by the Productivity Commission that address issues that have long-hampered effective national coordination of water research:

[1] O'Kane (2025) Water science and research review: Final Report. https://www.dcceew.gov.au/sites/default/files/documents/water-science-research-review-march-2025.pdf

1. National coordination and investment in water research to support a research and innovation ecosystem that engages both researchers and water service providers.
2. Sustainable enduring funding of national research priorities, including for water service providers, drawing on models such as those used for the Rural RDC's.
3. A regular (e.g. four-yearly) national review of water research and knowledge including: an inventory of water research over the period; an evaluation of the costs and benefits of water research; and the identification and updating of research priorities.