

## Water Research Australia submission to 2026 Basin Plan Review

### Summary - key points to note:

- Science and the knowledge generated by research is key to an informed, prepared, secure, resilient, and sustainable water services industry.
- The Basin Plan has made a significant contribution to water research and science-based decision-making in its relevant jurisdiction. A future Basin Plan must see that it enables a national contribution also, and it is supporting a secure, equitable and recurring research and science funding base and knowledge transfer pathways.
- A targeted Gap Analysis across 22 key legislative, regulatory and policy instruments in the Australian water landscape, including the Basin Plan, was undertaken in preparation for the input into various review processes in 2026.
- Overall, the analysis found a systemic absence of clear durable arrangements that support stewarding the national water science base, that secure research and funding to support the science for decision making, and that enable translation of research and innovation into consistent policy, planning and regulatory practice.
- Science and research pathways and capability must be explicitly incorporated into a future Basin Plan and other relevant statutory instruments that are concerned with decision-making frameworks, planning instruments and long-term system outcomes that depend directly on the availability, quality and use of scientific evidence.
- The Basin must be a significant leader in a coherent national approach to the stewardship of water science and research, that is inclusive of all water-related sectors, interests and scientific needs and endeavours
- The Basin Plan must work with economic regulators to assess and value long-term productivity, resilience and risk-reduction benefits of research and innovation, rather than treating such expenditure as discretionary or ancillary to core service delivery.
- A future Basin Plan can make a significant contribution to a predictable funding base that would reduce regulatory and investment risk, support sector-wide productivity improvements, and ensure that research and innovation contributes to improved affordability, resilience and service outcomes over the medium to long term.
- The Basin can take a leadership role nationally to ensure consistency, increase transparency and trust, and reduce duplication in water-related research and science.
- Water Research Australia propose that future Basin priorities give priority to providing clear and sustainable arrangements regarding its role in:
  - supporting coordinated stewardship of the national water science base,
  - securing research pathways, processes, and funding to support the creation of the science, reducing duplication and supporting the desired science based decision-making, and
  - translating research and innovation into consistent policy, planning and regulatory practice both in the Basin and beyond.

## INTRODUCTION

Under section 50 of the Water Act 2007 (Cth), the Authority must review the Basin Plan in 2026 and every 10 years thereafter. The review is guided by the provisions of the Water Act. It will examine the effectiveness of the Basin Plan in meeting its purpose to provide for the integrated management of the Basin's water resources.

The 2026 Murray-Darling Basin Plan Review Discussion Paper (<https://www.mdba.gov.au/bpr-discussion-paper>) sets out the issues to be explored through the 2026 Basin Plan Review. Its purpose is to inform stakeholders and Basin communities, invite feedback and shape the development of recommendations. It provides a foundation for dialogue, to enable the Authority to hear diverse perspectives early in the review process. This feedback will assist the Authority in making recommendations on how the Basin Plan and Basin water management can be improved.

Several reviews are underway in Australia at various stages of consultation and delivery with relevance to the water and research landscapes:

- The Productivity Commission's National Water Reform
- DCCEEW's Water Act Review
- Strategic Examination of R&D

*Water Research Australia wishes to engage in the 2026 Basin Plan Review and other review process to ensure that the enabling supporting environment of policy and legislation support good science-based decision-making, is inclusive and collaborative at a national scale, and the secures the role of research to provide knowledge for a secure, resilient and sustainable water services industry.*

*Water Research Australia* is at the forefront of addressing water challenges through collaborative research to support a more sustainable water services industry. Originating as the Cooperative Research Centre for Water Quality and Treatment in 1995, it has evolved into Water Research Australia, a member-based not-for project organisation that is backed by water utilities, regulators, government agencies, universities, and other water related organisations and service providers. With over 70 members, *Water Research Australia* typically manages a portfolio of >100 water research projects and also participates in grant funded projects and research hubs. Their portfolio of research covers a broad range of relevant areas relevant to their members such water quality, catchments, climate, wastewater treatment, research recovery, contaminants, emissions etc. We are recognised globally for our work and collaborate through international networks of research agencies with similar purposes.

Australia's water sector is entering a new phase of reform shaped by climate variability, ageing infrastructure with growth and renewal pressures, digitalisation, affordability concerns, and rising expectations for transparency and meaningful engagement (including First Nations interests). In this context science, research and innovation are not optional or ancillary inputs - they are foundational to good strategy and planning, credible policy design, adaptive management, and durable regulatory decision making.

Science and research must be recognised as essential infrastructure for reform, enabling adaptive management in the face of uncertainty, reducing policy and investment risk, informing difficult trade-offs, and sustaining public trust in decision-making. Without deliberate and coordinated

investment in research and scientific capability, and the creation of knowledge and its translation into policy and practice, the ambitions of national water reform will be difficult to realise.

### Relevant inputs and reviews

Professor Mary O’Kane AC was commissioned by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) to conduct an independent review of water science and research to provide advice that 1) enables the Commonwealth and potentially others to ensure water science and research investments are strategically aligned, and appropriate to provide expert underpinning to water policy and planning into the future, particularly considering climate impacts on water, and 2) positions Australia as an international leader in water science and research, including national leadership and coordination. The report is intended to contribute advice on water science and research in Commonwealth and intergovernmental forums, as well as implementation of the National Water Agreement and other water initiatives.

**The Water Science and Research review** (O’Kane 2025, <https://www.dcceew.gov.au/water/policy/publications/water-science-research-review>) identified the characteristics of an effective water science and research system:

- There is an articulated collective vision, updated regularly, for necessary water and related research, based on a clear process for determining what the right questions are and which of these can be answered by science and research and to what degree of (un)certainty.
- Investments are, as much as possible, strategic, innovative, looking out across horizons, and aligned to collectively agreed policy and program needs (where ‘collectively’ means across Commonwealth agencies, and with states and territories on issues where national or interjurisdictional consistency is important)
- The science and evidence base is available as much as possible before the policy decisions need to be made. In other words, policy needs are anticipated through ‘right question’ generation processes
- There is a sense of collective ownership among jurisdictions of the problems and the science and research solutions
- The best available expertise and high integrity research is easy to find and commission
- Climate change and climate extremes are included in all water modelling and planning
- First Nations peoples’ water values, interests, knowledge and sciences are elevated in Australian water planning and management and First Nations researchers and academics are recognised
- The output of research studies is of good quality (top international scientific journal quality) and trusted by all stakeholders
- Data is managed and curated well and openly available in line with open government principles, and the contributions of First Nations peoples and their Indigenous Cultural and Intellectual Property are curated and protected appropriately
- There are mechanisms and safe spaces for open data and model sharing between jurisdictions and with users and stakeholders
- Scientific infrastructure (including models) for water science is up to date and available

- Available water science and general research funding is effectively leveraged and utilised fairly to support diverse projects
- There is an organised system for monitoring change in freshwater ecosystems over decades and evaluating the effectiveness of interventions
- Training in water and related science at postgraduate, doctoral and postdoctoral levels is fostered to ensure the future health of the water science workforce
- Australian water science has a high international profile and recognised leadership role
- Communication of water science and modelling in public forums is highly effective
- The water policy and research communities hold frequent workshops. They are well-networked across Australia and with water research communities around the world.

The UK's 2025 **Independent Water Commission Final Report** "The 2025 Cunliffe Review" (<https://www.gov.uk/government/publications/independent-water-commission-review-of-the-water-sector>) highlights that where regulatory frameworks prioritise cost certainty and short-term efficiency, innovation and science become systematically disadvantaged. The Review finds that inadequate incentives for research and development limit the sector's ability to respond to climate change, increase long-term system costs, undermine affordability, and erode industry capability. Together, these impacts reinforce a cycle of conservatism that constrains the effective application of research and scientific advancement across the water sector.

The Independent Water Commission's final conclusions and recommendations were organised around seven themes, articulating that ambitious change was needed to drive a fundamental 'reset' of the water sector. The Commission recommended that **new national strategies** should be brought forward to **provide a better long-term vision that drives delivery, articulates priorities and trade-offs, and has a cross-sectoral focus**. The Commission also recommended more effectively integrated planning across the whole water system was needed – where **planning approaches are significantly streamlined, additional flexibility is built into the 5-year Price Review cycle, and a common and robust approach to economic appraisal** is implemented. The Commission also recommended changes to **legislative frameworks to drive solutions**, that the regulator should be better resourced to improve monitoring, and that the regulator should have more 'constrained discretion' to achieve better outcomes. The Commission was clear on the need for a much stronger and **integrated regulatory framework** – one that can respond to challenges, regulate the water sector as a whole and command public confidence. As part of a fundamental reset in the way the regulator engages with companies, the Commission recommended the adoption of a '**supervisory approach**', and actions by regulators and government to reduce risks to investing in the water industry and thereby attract long-term investors. To improve resilience, the Commission recommended that statutory resilience standards be adopted, **and strengthened arrangements in four areas: planning, planning processes, regulatory coordination, and standardised practices**. And to support innovation, it recommended that regulatory sandboxes are introduced and that the **efficacy of innovative funding mechanisms** were reviewed.

## DISCUSSION

In April 2026, *Water Research Australia* engaged GHD to undertake a targeted Gap Analysis across 22 key legislative, regulatory and policy instruments in the Australian water landscape including the Basin Plan. The analysis found three integrated and inter-related themes that demonstrate a systemic absence of clear, durable arrangements that:

- allocate responsibility for coordinating and stewarding the national water research and science base,
- secure research pathways, processes, and funding to support the creation of the science to support the science-based long-term decision-making, and
- translate research and innovation into consistent policy, planning and regulatory practice.

*Overall, the Gap Analysis found that water research and science are systemically under-valued, with many instruments treating them as implicit or optional to core functions rather than key enablers of effective water system management.*

*This has significant implications for the achievement of NWI, Basin Plan, and other policy objectives and the effectiveness and durability of water resource management reform.*

The Gap Analysis of 22 key legislative, regulatory and policy instruments outside of those relating specifically to water resource management, and those specific to geographies such as the Murray–Darling Basin, there is no integrated or explicit reference to science, research or innovation in key legislative and policy instruments.

***“Australia’s core legislative and policy instruments do not explicitly integrate science, research and innovation in the water sector”***

The water sector’s needs are national, and the science is broader including topics such as climate, wastewater treatment, research recovery, contaminants, digital transformations, emissions, behaviour change.

Except for the Basin Plan, the Gap Analysis found that Australia’s core water legislation and policy frameworks do not explicitly articulate the role of science, research and innovation in supporting effective whole-of-system water management. Where these concepts are referenced, they are typically framed at a high level and lack clarity or specificity.

For example, sections 21(4)(b) and 22(3)(k) of the Water Act 2007 (Cth) require Basin planning to be informed by the best available scientific knowledge and supported by specified scientific information and models. While the Water Act 2007 (Cth) embeds requirements for the use of best available information in Basin-scale planning and establishes national water data functions, there is no comparable system-wide framework that defines how scientific capability, research investment or innovation should systematically inform broader water policy, planning and regulation at the national level, or requires jurisdictions such as the Murray Darling Basin to collaborate, leverage, or share more broadly. Consequently, the role of science and research is fragment, can be left to be ancillary, or discretionary, rather than embedded as a core element of water governance nationwide.

For example, the Water Act 1989 (Vic) similarly recognises research as a “function” of water corporations under section 91(2)(a). Beyond this limited statement, there is no guidance or requirement of how the research should be undertaken, supported or translated. There are no clear

references to quality, standards, or interactions with other jurisdictions, legislation or policy instruments. Even within the Basin Plan there could be further clarity regarding how the research needs to be done, and how it is to be secured in the long term, and not time or topic bound.

This absence represents a material gap in Australia's water policy architecture and highlights the need for legislative and planning frameworks such as the Basin Plan to more clearly and consistently embed science and research as foundational enablers of resilient and adaptive water management.

**“There is no clear legislative allocation of responsibility for coordinating or directing Australia's science and research”**

*BOM and CSIRO are established as statutory functions for science and research, but water sector direction and engagement, and responsibility for research capability are unclear.*

Australia has strong scientific institutions that contribute to water knowledge, most notably the Bureau of Meteorology (BoM) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The BoM has clear statutory functions under the Water Act 2007 to collect, standardise and publish national water data and accounts, while CSIRO is directed to undertake water-related research to inform planning, modelling and management decisions under the Science and Industry Research Act 1949. However, despite these well-defined organisations, there is no overarching legislative or policy framework that allocates responsibility for engaging, coordinating, prioritising or directing Australia's water research capability across jurisdictions and sectors. As a result, responsibility for research is fragmented across agencies, programs and funding cycles, with no single authority to ensure that research efforts are not duplicated, and aligns with national water reform priorities or emerging system risks.

In the absence of stewardship of the agenda, research coordination relies heavily on member-based organisation such as *Water Research Australia*, informal arrangements, time-limited initiatives such as CRC's or Basin Plans, and institutional goodwill rather than durable governance settings. This lack of legislative clarity weakens Australia's ability to strategically develop and deploy its water research capability and limits the effectiveness of science as a system-wide enabler of water reform.

### **The Risks of not appropriately focussing on science**

The Gap Analysis identified a set of inter-related risks that arise where science, research and innovation are not clearly governed or systematically embedded within Australia's water framework. These are noted directly below and expanded later in the submission.

1. Lack of clarity of ownership and stewardship of the water science base creates national inefficiencies and potential gaps and duplications
2. Poor national responsiveness to climate adaptability and system learning due to lack of adaptive and long term research and science
3. Jurisdictional inconsistency and impeded reform velocity due to lack of integrated science and research
4. Reduced regulatory and investment confidence
5. Market inefficiency and long run costs

6. Eroded trust and public confidence through lack of stewardship and transparency of good research and science
7. Failure to deliver innovation and productivity gains
8. Uncertain research funding continuity and priority limits sustained development of scientific knowledge for decision-making and planning
9. Misaligned or absent incentives for utilities to support research leads to gaps in knowledge and broader system and public good benefits

## BASIN PLAN SUBMISSION INPUTS

Water Research Australia wishes to engage in the 2026 Basin Plan Review to ensure that the enabling supporting environment of policy and legislation support good science-based decision-making, is inclusive and collaborative at a national scale, and secures the role of research to provide that knowledge for a secure, resilient and sustainable water services industry. The next phase and priorities of the Basin Plan much ensure a focus on its relationship to national water priorities, reducing duplication at a national level, and supporting securing reliable, equitable, and recurring funding streams that don't just support the Basin but contribute to this security nationally.

***“Over the past decade, Basin governments, Basin communities, industry and researchers have significantly increased investment in science and information. These important investments have often been timebound, targeting specific issues or events, supplementing what has been a long-term trend decline in capability across the water research sector”*** Section 11.1 The 2026 Murray-Darling Basin Plan Review Discussion Paper (<https://www.mdba.gov.au/bpr-discussion-paper>).

Funding mechanisms should move beyond short-term, competitive and ad-hoc arrangements to provide stable support for both the development and implementation of innovation, enabling longer-term capability-building, knowledge sharing and system transformation. A predictable funding base would reduce regulatory and investment risk, support sector-wide productivity improvements, and ensure that innovation contributes to improved affordability, resilience and service outcomes over the medium to long term. Consideration should also be given to aligning Commonwealth and state R&D funding with regulatory and pricing frameworks to ensure publicly funded research can be translated into regulated operations and investment decisions.

***“Sustained investment to maintain capability: in a water scarce environment like the Murray–Darling Basin, sustained investment in science and knowledge is critical for building long-term capability and providing solutions to climate change and other water management challenges unique to the Basin.”***

**“Science foundations and pathways: continued improvement and synthesis of science and knowledge is needed to better understand how environmental, economic, social and Cultural outcomes interact across the Basin. This includes delivering long-term research, involving Basin communities in science, and improving how evidence is combined and shared to support decisions.”** Section 11.1 The 2026 Murray-Darling Basin Plan Review Discussion Paper (<https://www.mdba.gov.au/bpr-discussion-paper>).

It must be bigger than the Basin. A coherent national approach to the stewardship of water science and research should be explored, that is inclusive of all water-related sectors, interests and scientific needs and endeavours. This should be inclusive of community and environmental stakeholders, and the integration of indigenous knowledge and decision-making. The future Basin Plan priorities should expect a wider collaboration function and participation in the wider stewardship of water science and research.

This stewardship function should consider research and science standards, capability building, removing of siloed science and the avoidance of duplication. It should focus on creating the enabling supporting environment for good science-based decision-making, and the secures the role of research to provide that knowledge for a secure, resilient and sustainable water services industry

Industry member based associations like Water Research Australia, the Water Services Association of Australia, the Australian Water Association, VicWater's Intelligent Water Networks, the Queensland Water Directorate, the NSW Water Directorate, and large commonwealth funded centres like the OneBasinCRC already play significant roles in water stewardship across the nation, and is largely based on the goodwill and generosity of its members, and needs to be secured for the longer term with increased transparency and collaboration for more effective and efficient outcomes.

The future Basin Plan priorities must also consider supporting wider water sector issues such as climate change, emissions, circular economy, affordability, equity, digitalisation etc – beyond environmental flow management at the Basin scale.

**“First Nations science and knowledges: partnerships with First Nations peoples to ethically include their science and knowledges to gain richer insights on challenges such as climate, fish health, water quality and environmental outcomes are needed.”**

The Water Science and Research Review

(<https://www.dcceew.gov.au/water/policy/publications/water-science-research-review>) identified characteristics of an effective water science systems must include:

- First Nations peoples' water values, interests, knowledge and sciences are elevated in Australian water planning and management and First Nations researchers and academics are recognised
- Data is managed and curated well and openly available in line with open government principles, and the contributions of First Nations peoples and their Indigenous Cultural and Intellectual Property are curated and protected appropriately

Limited progress has been made in this space, and it is imperative that this is undertaken in a national and collaborative way, not just as a jurisdictional or Basin level. The integration of First Nations knowledge and decision-making into water research and science has the potential to transform and secure water system management.

### ***Basin Plan Priorities***

Water Research Australia acknowledge and support the options and opportunities outlined in 11.2 and 11.3 of the 2026 Murray-Darling Basin Plan Review Discussion Paper, and support the imperative

that “*there is a robust information base for future decision-making in Basin water management*” (p.83)

In addition to this, Water Research Australia proposes that further consideration is given to future Basin priorities with respect to its contribution to the stewardship of the national water science and research knowledge base, and how it can enable secure funding and translation pathways for long term impact and benefits.

*Water Research Australia* propose that future Basin priorities give priority to providing clear and sustainable arrangements regarding its role in:

- supporting coordinated stewardship of the national water science base,
- securing research pathways, processes, and funding to support the creation of the science, reducing duplication and supporting the desired science based decision-making, and
- translating research and innovation into consistent policy, planning and regulatory practice both in the Basin and beyond.

Focus on these priorities will support all of Australia’s water sector as it enters a new phase of reform in the context of significant change and uncertainty shaped by climate variability, population growth and urbanisation, ageing infrastructure, rapid digitalisation, affordability concerns, and rising expectations for transparency and meaningful engagement.

Focus on these priorities will support national science, research and innovation to be foundational to good strategy and planning, credible policy design, adaptive management, and durable regulatory decision making.

Focus on these priorities will recognise research and science as essential infrastructure across the country for reform, enabling adaptive management in the face of uncertainty, reducing policy and investment risk, informing difficult trade-offs, and sustaining public trust in decision-making.

Focus on these reform priorities will coordinate effective investment in research and scientific capability, and the creation of knowledge and its translation into into policy and practice, enabling the ambitions of national water reform.

### ***Recommendations for future Basin Priorities***

#### ***Recommendation 1: Treat research and science as essential infrastructure***

Science and research pathways and capability must be explicitly incorporated into the Basin Plan and other relevant statutory instruments that are explicitly concerned with decision-making frameworks, planning instruments and long-term system outcomes that depend directly on the availability, quality and use of scientific evidence.

Research and science cannot be treated as optional or ancillary inputs to the water sector, but are essential infrastructure for:

- Driving change and reform
- Enabling adaptive management in the face of uncertainty

- Reducing policy and investment risk
- Informing difficult trade-offs
- Sustaining public trust in decision-making

Without this essential infrastructure supporting deliberate and coordinated investment in scientific capability, data systems and the translation of research into policy and practice, the ambitions of national water transformation will be difficult to realise.

This essential research infrastructure must be inclusive of:

- Research that is high quality and enables sector decision-making and innovation
- Pathways to impact mechanisms and options for translating great research, science and knowledge into outcomes in practice and policy
- Sustainable research funding that provides ongoing certainty and stewardship of the science and knowledge

*Recommendation 2: Strengthen water science and research stewardship, transparency, and coordination*

The Basin must be a significant leader in a coherent national approach to the stewardship of water science and research should be explored, that is inclusive of all water-related sectors, interests and scientific needs and endeavours. This should be inclusive of community and environmental stakeholders, and the integration of indigenous knowledge and decision-making.

This stewardship function should consider research and science standards, capability building, removing of siloed science and the avoidance of duplication. It should focus on creating the enabling supporting environment for good science-based decision-making, and the secures the role of research to provide that knowledge for a secure, resilient and sustainable water services industry

Industry member based associations like Water Research Australia, the Water Services Association of Australia, the Australian Water Association, VicWater's Intelligent Water Networks, the Queensland Water Directorate, the NSW Water Directorate, and large commonwealth funded centres like the OneBasinCRC already play significant roles in water stewardship across the nation, and is largely based on the goodwill and generosity of its members, and needs to be secured for the longer term with increased transparency and collaboration for more effective and efficient outcomes.

*Recommendation 3: Economic regulation for water that enables and incentivises research and innovation*

The Basin Plan must work with economic regulators to assess and value long-term productivity, resilience and risk-reduction benefits of research and innovation, rather than treating such expenditure as discretionary or ancillary to core service delivery. To support this, mechanisms to recognise benefits that accrue beyond a single regulatory period, including through longer planning horizons, benefit carry-over provisions, or explicit innovation outcome incentives should be strengthened to help provide greater clarity on how these benefits can be assessed by economic regulators.

Long-term system resilience is neither strongly supported nor consistently rewarded through existing regulatory mechanisms. A step change in regulatory thinking is required to address the infrastructure renewal challenge, while simultaneously balancing service reliability, affordability and financial sustainability. Without stronger incentives, the regulatory framework continues to favour conservative, asset-led solutions, constraining the sector's ability to pursue innovative, adaptive responses to long-term uncertainty.

Strengthening the role of science and research within regulatory decision-making therefore requires a shift from viewing uncertainty as a justification for delay, to recognising it as a rationale for action. This includes greater acceptance of scenario-based evidence, probabilistic risk analysis and adaptive pathways planning within prudency frameworks. It also requires clearer regulatory signals that well-founded research and long-term risk mitigation constitute prudent behaviour, even where benefits extend beyond a single regulatory period.

Ultimately, embedding science more deeply into prudency and efficiency assessments would support more resilient, efficient and equitable outcomes for customers. By enabling regulators to better account for long-term system risks, high-consequence events and the value of foresight, regulatory frameworks can more effectively balance service reliability, affordability and financial sustainability under conditions of increasing uncertainty.

*Recommendation 4: Establish a reliable, equitable, and recurring funding base for water science, research and innovation.*

Funding mechanisms in the Basin and beyond should move beyond short-term, competitive and ad-hoc arrangements to provide stable support for both the development and implementation of innovation, enabling longer-term capability-building, knowledge sharing and system transformation. A future Basin Plan can make a significant contribution to a predictable funding base that would reduce regulatory and investment risk, support sector-wide productivity improvements, and ensure that innovation contributes to improved affordability, resilience and service outcomes over the medium to long term. Consideration should also be given to the Basins role in aligning Commonwealth and state R&D funding with regulatory and pricing frameworks to ensure publicly funded research can be translated into regulated operations and investment decisions.

*Recommendation 5: Assurance expectations supporting research and evidentiary requirements*

Exploration of assurance frameworks for research, science and evidentiary standards should be considered and explored. The Basin can take a leadership role, but must also work nationally to ensure consistency, increase transparency and trust, and reduce duplication.

Effective water science should be rigorous and focused on delivering the best available and reliable knowledge, while recognising that research is inherently uncertain, evolving and unlikely to produce single definitive answers, particularly in complex and highly variable systems. The Basin can take a leadership role in the exploration of assurance frameworks for research, science and evidentiary standards should be considered and explored.

As highlighted by O’Kane (2025), the role of science and research is to inform policy in an open and transparent manner, but not to predetermine outcomes. One example would be to consider requirements for standardised “Evidence Statements” to accompany key water decisions, including system planning, regulatory approvals and major infrastructure investments. Evidence Statements would set out the scientific evidence and research relied upon, describe key uncertainties and limitations, and explain how evidence has informed decision-making. This would strengthen transparency, improve decision assurance, and ensure that evolving scientific knowledge is consistently and explicitly considered alongside policy and value-based judgements.

## CONCLUSION

Australia’s water sector is entering a new phase of reform in the context of significant change and uncertainty shaped by factors such as climate variability, population growth and urbanisation, ageing infrastructure, rapid digitalisation, affordability concerns, and rising expectations for transparency and meaningful engagement.

The Basin Plan has made a significant contribution to water research and science-based decision making in its relevant jurisdiction. A future Basin Plan must see that it enables a national contribution also, and is supporting of secure, equitable and recurring research and science funding and knowledge transfer pathways.

It must support a national, science, research and innovation agenda that is not optional or ancillary - but foundational to good strategy and planning, credible policy design, adaptive management, and durable regulatory decision making.

Science and research must be recognised as essential infrastructure for reform, enabling adaptive management in the face of uncertainty, reducing policy and investment risk, informing difficult trade-offs, and sustaining public trust in decision-making.

Without deliberate and coordinated investment in research and scientific capability, and the creation of knowledge and its translation into policy and practice, the ambitions of national water reform will be difficult to realise. The integration of the Basin into a coordinated stewarded national research and science agenda is essential

## Acknowledgements & additional considerations

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