Inspector-General of Water Compliance

Northern Basin Toolkit Inquiry Report

Cataloguing data

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Inspector–General of Water Compliance

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Australian Government

Inspector-General of Water Compliance

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Foreword by the Inspector–General

In 2018, the Australian Government made a significant and contentious decision with respect to the implementation of the Basin Plan. Acting on a recommendation from the Murray–Darling Basin Authority, it reduced the northern Basin water recovery target, set 6 years earlier under the Basin Plan, by 70 gigalitres. While this recommendation was supported by arguments relating to Socio-economic impacts and community concerns, it remains a matter of ongoing debate.

For context, 70 gigalitres is approximately equivalent to the combined annual urban water use of Albury–Wodonga, Wagga Wagga, Mildura, and Echuca–Moama: a combined population of almost a quarter of a million people.

The recommendation emerged from an extensive four-year review of the northern Basin that considered the economic, social and environmental outcomes of reducing the water recovery target. Critically, the 70 gigalitre reduction was based on commitments by the Australian, New South Wales and Queensland governments to implement a program of 'complementary measures', collectively known as the Northern Basin Toolkit. This relationship between the water recovery reduction and the commitment to implement the Toolkit is reflected not only in ministerial statements and intergovernmental agreements, but also in the Basin Plan itself.

The implementation of the Northern Basin Toolkit thus came to represent one of the first critical tests of the commitment by governments to deliver on the environmental outcomes promised under the Murray–Darling Basin Plan.

In late 2024 when I initiated this inquiry, the first to be undertaken by the Inspector–General of Water Compliance, many of the problems with the delivery of this program were already suspected but not clearly articulated or documented. This inquiry examines whether governments have delivered on their Toolkit commitments and what lessons must be learned for future Basin programs. Despite success in delivering policy measures which have delivered some environmental outcomes, even ardent defenders of the implementation of this program would have conceded that delivery has been slow, fragmented, and in some cases lacking transparency.

However, as the inquiry progressed, the complete picture of what went wrong began to be revealed. As a result, the findings of this inquiry are stark. Major infrastructure projects did not deliver as intended which have reduced environmental outcomes. The examples are numerous – the NSW Reconnecting the Northern Basin project has so far delivered 3% of what was promised. The Gwydir Constraints project has secured none of the land access needed to deliver environmental flows. The refurbishment and upgrade to important bifurcation weirs in Queensland, a project with both strong ecological merit and broad stakeholder support, did not proceed to implementation.

The governance arrangements designed to oversee implementation are in my view, not fit for purpose, an all too familiar problem with governance across the Basin due to the breadth of stakeholders and unclear accountability and authority. If governments can quietly scale back delivery and therefore reduce the environmental outcomes promised, how can the community be confident that the Basin Plan will deliver the outcomes for which it was designed.

In collecting and analysing evidence and consulting stakeholders on the draft report, multiple agencies submitted that the Toolkit measures should be characterised as 'complementary' rather than 'conditional'. They argued in part that the reduction in water recovery did not form part of the implementation of Toolkit measures in Schedule 3 of the Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin. These agencies emphasised that the 320 gigalitre water recovery volume satisfies Water Act requirements for an Environmentally Sustainable Level of Take independent of Toolkit implementation, that the measures are not an offset or substitute for water recovery, and that there is no formal reconciliation process linking Toolkit delivery to water recovery adjustments.

The inquiry has carefully considered these submissions. In my view, this question goes directly to the accountability challenges for delivery of the Northern Basin Toolkit that I flagged earlier, and it warrants careful explanation. I agree that approval of the 70 gigalitre reduction was not contingent on complete delivery of the Toolkit's complementary measures. I also agree that the Toolkit measures were complementary to the reduction in the water recovery target. They were not meant to be a volumetric substitute or offset.

However, it is my view that the 70 gigalitre reduction in the water recovery target was approved based on commitments by the Australian, New South Wales and Queensland governments, and this view rests on the documentary record, including the language in a note to section 6.04(3) of the Basin Plan itself. The Basin Plan explains that the reduction to the water recovery target in the northern Basin SDL amendment 'was based on' both 'the economic, social and environmental outcomes of the Northern Basin Review' and 'commitments from the Commonwealth, QLD and NSW Governments to implement "toolkit" measures'. The Northern Basin Review itself used language such as 'provided there are commitments', 'on the basis that…governments agree' and 'on the basis that governments commit' when describing the relationship between the reduced water recovery target and the Toolkit.

The Basin Plan relies on social licence. In many parts of the Basin, that licence is already fragile. Important commitments should be carefully managed to preserve what remains. Implementing the Basin Plan is not merely managing a program or delivering projects, it is delivering one of the most complex, contested and important pieces of public policy this country has attempted. I acknowledge that isn't easy, but this inquiry has shown that more needs to be done across state and Australian governments to deliver success.

My mandate as Inspector–General is clear: water management in the Basin must be lawful, transparent and accountable. The substantial investment through the Toolkit would, if successful, contribute not only to the environmental health of the Basin but also to the long-term resilience of dependent communities and industries. In 2019, the Northern Basin Commissioner Mick Keelty AO emphasised that governments should prioritise delivery of the Toolkit measures. Seven years later, that delivery remains incomplete.

The use of complementary measures is currently an area of debate. I consider that complementary measures have a role to play in delivering positive environmental outcomes in the Murray–Darling Basin. However, they require excellence in design and implementation, which was too often missing in the Northern Basin Toolkit. This inquiry provides important lessons for future success.

I thank the members of the community and the organisations and government agencies who provided information for this inquiry. Despite the sometimes-disheartening findings, there are many individuals across the agencies involved in delivery who have, over a sustained period, demonstrated integrity, professionalism, courage and frank and fearless advice in the public interest. These committed individuals need to be supported with the right program design, governance, authorities and accountabilities to ensure their individual efforts can achieve system-wide outcomes.

I have observed, throughout the conduct of this inquiry, a marked shift in focus and activity from those agencies who bear responsibility for implementation of the Northern Basin Toolkit. My hope is that this increased ownership continues and delivers greater environmental outcomes from this program by the deadline at the end of 2026. I expect governments will take the findings and recommendations seriously. The Basin – and the communities and ecosystems that depend on it – deserve nothing less.

The Hon. Troy Grant
Inspector–General of Water Compliance
April 2026

Executive Summary

The Northern Basin Toolkit

The Northern Basin Toolkit (the Toolkit) represents a significant water management program in the Murray–Darling Basin (the Basin). In 2018, the *Basin Plan 2012* (Cth) (the Basin Plan) was amended to implement the recommendation from the Murray–Darling Basin Authority's (MDBA) *Northern Basin Review* that the water recovery target in the northern Basin be amended from 390 gigalitres (GL) to 320 GL per year. This allowed 70 GL originally planned to be recovered for the environment under the Basin Plan to remain available for consumptive use. This reduction was in part based on the Australian, New South Wales and Queensland governments committing to implementing the Toolkit – 6 measures complementary to water recovery, designed to improve environmental outcomes in the northern Basin through better water management, policy reform and infrastructure. The Toolkit comprises both policy reforms and infrastructure projects.

The policy reforms (Measures 1-4) are:

- targeted water recovery (Measure 1)
- protection of environmental flows (Measure 2)
- event-based water management mechanisms (Measure 3), and
- coordinated environmental water delivery (Measure 4).

The infrastructure projects involve removing physical barriers in the Gwydir catchment (Measure 5) and multiple initiatives under Measure 6:

- installing protective screens on irrigation pumps
- removing barriers to fish movement
- improving environmental water delivery to key wetlands, and
- improving fish habitats by mitigating cold water pollution.

The Australian Government committed $166.3 million to support delivery of the Toolkit measures. All measures were originally scheduled for completion by June 2024; a deadline subsequently extended in 2023 to December 2026. Further details on each measure are provided in Section 2.3, with financial commitments and expenditure discussed throughout Chapter 2 and in Appendix E.

The Inquiry

On 30 October 2024, the Inspector–General of Water Compliance initiated an inquiry under section 239AA of the *Water Act 2007* (Cth) (the Water Act). The inquiry was announced to be focused on the implementation of measures to maximise environmental outcomes in the northern Basin, known as the Toolkit, set out in Schedule 3 of the *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin* (IGA). The Toolkit Inquiry's Terms of Reference can be found in Section 1.2.

The Inspector–General received over 12,000 documents from government agencies and 16 submissions from government and non-government stakeholders. Field visits across the northern Basin to engage with local community members were also conducted, and senior representatives from five government agencies were interviewed. In accordance with the Terms of Reference, the Inspector–General examined implementation progress, governance arrangements, and financial expenditure against commitments set out in Schedule 3 of the IGA and identified reasons for delays.

Overview of Findings

The Inspector–General has made 14 findings, outlined in detail in the next chapter, and summarised below.

Policy measures have largely succeeded

Measures 1 to 4 are policy measures that demonstrate what complementary measures can achieve when building on existing institutional arrangements. Environmental water protections have been operating since December 2020, with more than 480 GL of held environmental water (HEW) recognised moving across the Queensland–New South Wales border as at February 2025. Event-based mechanisms have supported the most successful waterbird breeding at Narran Lakes in a decade, and the coordination of environmental flows has become standard practice. These achievements were delivered without dedicated Toolkit funding, through enhanced management practices and improved intergovernmental cooperation.

Infrastructure measures have under-delivered

Despite receiving all the dedicated funding for the Toolkit, infrastructure projects have been severely reduced in scope. The NSW Reconnecting the Northern Basin project has delivered only 64 km of the 2,135 km of reconnected waterways for fish movement originally planned, 3% of the original target.. This project was designed to address fish movement barriers identified as critical to ecosystem recovery following the 2018–19 Lower Darling fish deaths. The Gwydir Constraints project has not secured any land purchases or flow easements despite over $37 million in committed funding. The Macquarie Marshes Enhanced Watering project delivered infrastructure that differs materially from what was proposed and approved, and the high-merit Bifurcation Weirs project in Queensland was not approved for implementation despite ranking fifth amongst 27 proposals and having strong community support.

The 70 GL water recovery reduction was based on government commitments to implement Toolkit measures to achieve environmental outcomes. These environmental outcomes have been materially compromised

During the submissions, interviews and consultation on the draft report, multiple agencies submitted that the Toolkit measures should be characterised as ‘complementary’ rather than ‘conditional,’ emphasising that the 320 GL reduction is not tied to Toolkit implementation, that the northern Basin sustainable diversion limit (SDL) satisfies statutory requirements, and that there is no formal reconciliation process. The Inspector–General accepts these characterisations – the measures are complementary and not volumetrically equivalent or an offset to the 70 GL. However, a note to section 6.04(3) of the Basin Plan explains the northern Basin SDL ‘was based on’, in part, government commitments to implement toolkit measures, and the Northern Basin Review repeatedly used language such as ‘provided governments commit’. This inquiry assesses the implementation of Toolkit measures set out in Schedule 3 of the IGA and in doing so examines whether governments delivered on the commitments that formed the basis for the SDL adjustment.

While policy measures have largely been delivered, widespread scope reductions among infrastructure projects have materially compromised anticipated environmental benefits. Fish passage connectivity goals have been reduced from 2,135 km to 589 km; even against this reduced target, only 64 km has been completed. Complete constraints relaxation in the Gwydir has been deferred beyond the program timeline. These reductions directly undermine the environmental objectives that justified the decision to allow 70 GL to remain in consumptive use. With the December 2026 deadline approaching, substantial work remains including capital works for the Gwydir Constraints projects and fishway construction for the Reconnecting Northern Basin project.

Infrastructure project difficulties resulted from fundamental design and governance problems

The Australian Government selected too many projects given the funding available, based on inadequate feasibility cost estimates provided by New South Wales and Queensland. The program operated for nearly 3 years before detailed environmental outcome targets were developed in August 2022. Funding agreements were structured to pay the majority of funds at planning and reporting milestones before on-ground works commenced, weakening incentives for timely delivery. Where projects were not delivered to their initially agreed scope and timeframes, there were no meaningful consequences for New South Wales or Queensland as the 70 GL of water had already been returned to the consumptive pool before project delivery agreements were even finalised.

Governance structures identified problems early, with warnings emerging within the first year of the program, but those structures lacked the authority to resolve implementation challenges. Early administrative and parliamentary processes consumed significant time, with some funding agreements signed two years after project approvals, leaving inadequate timeframes for delivery.

Public transparency has been limited, reducing accountability

Public information was significantly less comprehensive than information provided to governance committees. During critical periods when major Toolkit infrastructure project adjustments were occurring – including scope reductions, timeline extensions, and project rejections – northern Basin communities and other stakeholders did not have access to timely, detailed information about these changes or the reasons for them. This has limited opportunities for external scrutiny and stakeholder input. Additionally, available Toolkit funding has been consistently overstated in public communications, with the program often referred to as $180 million when actual available funding was $166.3 million, contributing to public misunderstanding of program resources.

The Australian Government funds Basin programs but must rely on states to deliver them

This only works with aligned incentives and shared consequences. The Toolkit had neither. Unlike projects under the Basin Plan's Sustainable Diversion Limit Adjustment Mechanism (SDLAM), where non-delivery triggers water recovery obligations, the Toolkit has no such safeguard. Following the MDBA's recommendation, New South Wales and Queensland secured the 70 GL SDL adjustment by committing to implement Toolkit measures, not through proof of delivery. When those projects are not delivered as committed, the environment bears the cost.

Recommendations and Lessons for Future Programs

The Inspector–General has made 7 recommendations to improve Toolkit completion and accountability. These include appointing a Senior Responsible Officer (SRO) with clear delivery authority, publishing detailed delivery plans and progress reports to enhance transparency, protecting remaining project scope from further reductions, and formally integrating the Gwydir constraints work into the long-term Basin-wide constraints program, should constraints relaxation be pursued by governments beyond the current deadline of December 2026 (as recommended in the *MDBA Constraints Relaxation Implementation Roadmap*). These recommendations aim to maximise delivery of remaining Toolkit commitments while establishing clearer accountability for outcomes.

Beyond immediate Toolkit completion, the Inspector–General has identified 11 lessons for future multi-jurisdictional Basin programs. These lessons address fundamental design issues that undermined Toolkit delivery by:

- establishing accountability mechanisms that link funding to the delivery of outcomes, and where water recovery is involved, reconciling water recovery reductions with outcome delivery
- creating program-specific governance with appropriate technical expertise and decision-making authority
- strengthening business case standards before funding commitments
- designing milestone payments that incentivise delivery rather than planning, and
- exploring alternative delivery models beyond standard bilateral funding agreements.

The lessons also address co-funding arrangements that create shared stakes in outcomes, appropriate delegations for operational decisions, independent verification of infrastructure quality, and transparency that enables genuine public scrutiny.

These reforms are essential to ensure future Basin programs establish the foundations for effective delivery of complex, multi-jurisdictional environmental infrastructure programs.

Inquiry Reflections

The Toolkit demonstrates both the potential and the limitations of complementary measures in Basin Plan implementation. The policy successes show that complementary measures can deliver significant environmental benefits through improved management and coordination. However, the infrastructure failures demonstrate the consequences of programs designed with unrealistic expectations, inadequate funding, ineffective governance and no accountability for delivery.

Due to the finite availability of water in the northern Basin, complementary measures are becoming increasingly important for achieving Basin Plan environmental objectives. Most critically, programs need clawback mechanisms that adjust water recovery obligations if complementary measures are not delivered according to original commitments. Without such mechanisms, states can secure water benefits through commitment alone, with no consequences for not delivering projects to their initially agreed and funded scope and timeframes.

Not delivering Toolkit projects to their initially agreed and funded scope and timeframes has real environmental consequences. The 70 GL that remained in consumptive use was, in part, based on committing to implement a range of complementary measures to minimise environmental losses. Infrastructure projects under key Toolkit measures have been materially descoped, which over the life of the Toolkit, in my view, has reduced environmental outcomes that were anticipated through the delivery of the Toolkit measures.

In conducting this inquiry, I have undertaken a comprehensive examination of Toolkit implementation including the reasons for non-delivery, the effectiveness of governance and funding arrangements, and the outcomes achieved.

In my examination of these issues, themes have emerged that I believe have a broader application across the Basin.

I have several observations regarding these matters throughout the report that I believe will have a broad beneficial impact for water management across the Basin and will assist Basin governments to future proof the design of future multi-jurisdictional Basin programs.

While I acknowledge that my jurisdiction under the Water Act does not extend to the Basin Officials Committee (BOC) or the Murray–Darling Basin Ministerial Council (the Ministerial Council), and nor does it extend to the content of federal funding agreements, I have a number of general observations regarding these matters throughout the report that I believe will have a broad

beneficial impact for water management across the Basin and will assist the Australian and Basin governments to futureproof the design of future multi-jurisdictional Basin programs.

I acknowledge the complexity of my jurisdiction and the existing governance of the Basin given the shared responsibility of water management between Basin States and the Australian Government under an overarching and complicated Basin Plan. My objective in making these observations is not to be critical – but to make a meaningful and impactful contribution towards improving water management outcomes for all stakeholders across the Basin.

Findings

Policy context

> **Finding 1**: The reduced water recovery target in the northern Basin was based on a commitment by the Australian, New South Wales and Queensland governments to implement Toolkit measures

The Toolkit does not seek to provide environmental benefits equivalent to 70 GL of additional water recovery. However, the 70 GL remained in consumptive use, in part, on the basis that the Australian, New South Wales and Queensland governments committed to deliver the Toolkit.

During submissions, interviews and consultation on the draft report, multiple agencies submitted that the Toolkit measures should be characterised as 'complementary' rather than 'conditional', emphasising that the 320 GL satisfies Water Act requirements for an Environmentally Sustainable Level of Take independent of Toolkit implementation, that the measures are not volumetrically equivalent to 70 GL, and that there is no formal reconciliation process. The Inspector–General accepts these characterisations. The measures are complementary – they work alongside water recovery to improve environmental outcomes. However, a note to the Basin Plan (section 6.04(3)) explains that the SDL amendment 'was based on' both the Northern Basin Review outcomes and 'commitments from the Commonwealth, Queensland and New South Wales Governments to implement "toolkit" measures'.

See Sections 2.1 to 2.3

Policy measures

> **Finding 2**: Toolkit Measures 1, 2, 3 and 4 have delivered environmental outcomes

Measure 1 (strategic water purchasing) has contributed to revised water recovery volumes in the northern Basin. It remains unclear whether this targeted recovery approach has resulted in meaningfully different outcomes compared to conventional water recovery approaches used elsewhere in the Basin.

Measure 2 (environmental water protection arrangements) delivered environmental outcomes while operational. However, the expiry of the New South Wales Barwon–Darling Water Sharing Plan (WSP) on 30 June 2025 reduced active management arrangements and accounting mechanisms. From 7 September 2025 to 15 December 2025, the Commonwealth Environmental Water Holder (CEWH) estimated more than 40 GL of Commonwealth environmental water has remained unused in the Barwon–Darling system because these protections were inactive. The WSP expiry also impacted the Menindee Lakes connectivity trial. Completion of Measure 2 depends on the accreditation of remaining New South Wales water resource plans (WRP) and replacement of the expired Barwon–Darling WSP.

Measures 3 and 4 have been completed. Measure 3 (event-based management) enables flexible water management in response to natural flow events. Through Measure 4 (coordinated environmental water delivery) joint planning and delivery arrangements have been established, including First Nations participation. These coordination measures have delivered environmental outcomes, including successful waterbird breeding events at Narran Lakes and joint environmental water releases.

See Chapter 3

Infrastructure measures

Finding 3: The NSW Gwydir Constraints project was overly ambitious and will not achieve its core objectives by December 2026

The Gwydir catchment faces a complex combination of physical and social constraints preventing environmental water from reaching critical wetlands. Several expert assessments identified serious concerns about the Gwydir project's proposed timeline before implementation began, indicating early awareness that project objectives were unrealistic given the Toolkit's funding and timeframe.

Despite over $37 million in committed funding from the Australian Government and nearly 4 years since business case approval, the project has not secured any land purchases or flow easements. New South Wales acknowledged in May 2025 that full constraints relaxation in the Gwydir could not be delivered by 31 December 2026.

See Chapter 4

Finding 4: The NSW Reconnecting the Northern Basin project has been significantly reduced in scope and is unlikely to be completed by December 2026

The project's feasibility proposal covered 2,135 km of reconnected aquatic habitat across 22 priority sites, approved in February 2021. Early implementation works and Phase 1 funding will support delivery of approximately 589 km of reconnected fish passage (28% of the approved proposal) under an accelerated delivery approach that bypassed detailed business case development. To date, only 64 km has been completed (3% of the approved proposal). Works delivered and funded to date are distributed across multiple sites within the Barwon–Darling and Border Rivers systems, rather than forming continuous connected river reaches, which will limit the extent of ecological connectivity.

Implementation has been complicated by delayed community engagement and significant community opposition at key weir sites regarding water security concerns. New South Wales has strategically prioritised sites within the substantially reduced scope to deliver benefits for fish migration and lifecycle. However, given that only one site has been completed to date and ongoing community opposition, the Inspector–General considers December 2026 completion at risk.

See Section 5.1

Finding 5: The NSW Macquarie Marshes Enhanced Watering project did not deliver the adaptive flow control mechanism originally proposed

The feasibility proposal approved for Australian Government funding described a regulator with a tiltgate mechanism allowing adaptive flow restriction. By September 2022, the project scope had changed to a 1 to 3 metre fixed crest rock weir with no adaptive control. The delivered structure was a 0.3 metre bed control structure: a small, fixed structure that stabilises the riverbed but cannot control water flows. These changes eliminated the adaptive flow control functionality, central to achieving the original environmental objectives of the project.

See Section 5.2

Program design

Finding 6: The Toolkit lacks meaningful incentives and accountability mechanisms for New South Wales and Queensland delivery

The 70 GL reduction in the water recovery target was made under the Water Act and tabled in Parliament without accountability mechanisms linking it to actual Toolkit implementation.

The Toolkit lacks meaningful incentives or accountability mechanisms for delivery against the scope and timeframes proposed when projects were evaluated and selected. This was evident across several infrastructure projects that failed to progress as planned. When projects fail to advance from feasibility to implementation – whether due to cost escalation, inadequate scoping, new information, or business case rejection – there were no mechanisms that encouraged or required delivery of the environmental outcomes that formed the basis for project selection. The 70 GL of water had already been returned to the consumptive pool before project delivery agreements were finalised, and there were no financial penalties, water recovery target adjustments, or other consequences linked to delivery of Toolkit measures or outcomes.

See Section 7.1

Finding 7: The Australian Government selected an unrealistic number of projects for available funding

New South Wales and Queensland submitted 27 infrastructure proposals under Measure 6 without jointly prioritising the most critical environmental threats in the northern Basin. Despite advice from the Department of Agriculture, Water and the Environment (DAWE), the MDBA, and an independent expert ecological panel to select a smaller, deliverable portfolio, the Australian Government approved more projects than the $166.3 million in available funding could realistically support. This contributed to widespread scope reductions when implementation costs exceeded available funding.

See Sections 2.4, 2.5 and 7.2

Finding 8: Cost escalation between feasibility and business case stages was substantial, which impacted Government's ability to make informed project selection and funding decisions

Infrastructure projects experienced substantial cost escalation between feasibility proposals and business cases. Queensland's Bifurcation Weirs project escalated from $4 million to $39.5 million (an almost 10-fold increase), and Queensland's Reconnecting Catchments: Condamine–Balonne project from $15.5 million to $102.97 million (over 6.5 times). New South Wales's Reconnecting the Northern Basin project escalated from the feasibility estimate of $56.75 million to an assessed total requirement of approximately $232 million – more than 4 times the original estimate.

Cost escalation resulted from a combination of factors including initial cost underestimation, external economic conditions (inflation, construction costs, supply chain constraints), and in some cases, phased delivery approaches where full project costs were not initially scoped.

While it is normal for costs to increase between feasibility proposal and business case as projects are properly scoped, the scale of these escalations made initial project selection and funding decisions challenging. Feasibility cost estimates should have been based on sufficient technical analysis, regulatory pathway assessment, and stakeholder consultation to minimise differences between feasibility and business case stages. The significant differences compounded the funding shortfall outlined in Finding 7 and made widespread scope reductions inevitable.

See Section 7.2

Finding 9: Parliamentary and administrative processes consumed significant time before program implementation commenced, and early warnings about delivery risks were not adequately addressed

Before Toolkit implementation could commence, it took over 4 years to progress from the MDBA's initial proposal (November 2016) to final project approvals (February 2021). This period included formal Basin Plan amendments made by legislative instrument under the Water Act. Project funding agreements were not signed until March 2022, and December 2022 for the Gwydir Constraints project – leaving as little as 18 months for delivery against the June 2024 deadline.

From 2020 onwards, the MDBA and the Ministerial Council identified significant delivery risks with unrealistic timeframes. Despite these warnings, the deadline was not extended from June 2024 to December 2026 until August 2023 – after scope reductions of infrastructure projects under Measures 5 and 6 had already commenced.

See Sections 1.2 and 7.3

Finding 10: Flexible funding arrangements and front-loaded milestone payments reduced financial incentives for timely delivery

Project funding agreements included provisions allowing milestones to be amended 'at any time by agreement in writing', with no financial consequences when construction milestones were repeatedly extended. This flexibility, combined with milestone structures that released substantial funding for planning and preparatory activities before construction commenced, weakened financial incentives for timely delivery.

For example, the New South Wales Government received $2.38 million (88.5% of total Macquarie Marshes funding) for planning activities before construction began, leaving only 11.5% of funding

contingent on actual construction completion. When construction finally commenced over 3 years after funding approval, it was completed within a month – demonstrating that delivery capacity existed but financial incentives to commence construction were weak.

See Section 7.1

Finding 11: Detailed and specific environmental outcomes were not set at a program level until August 2022, nearly 3 years after the program commenced

The *Toolkit Program Logic*, which provides detailed and measurable environmental outcomes for each Toolkit measure, was not established until August 2022. This means the program operated for nearly 3 years without specific quantitative targets or measurable criteria against which Toolkit delivery could be assessed.

Governance

Finding 12: Toolkit governance arrangements monitor progress but lack authority to drive delivery

The Toolkit governance structure monitors project progress but does not assign clear accountability for overall program delivery or provide authority to resolve implementation challenges. Responsibility is spread across multiple bodies and implementing agencies, without a single entity with decision-making authority. This diffusion of accountability limits the ability of governance bodies to respond to emerging issues, contributing to delayed responses to cost escalation, inability to prevent project descoping, and reduced ecological outcomes.

See Chapter 8

Finding 13: Available Toolkit funding has been consistently misstated in public communications

Public communications often refer to the Toolkit as a $180 million program. However, the funding available for Toolkit measures – once other Northern Basin Review initiatives are accounted for – was $166.3 million. The $180 million figure overstates program resources and contributes to public misunderstanding of funding limitations.

See Section 2.4

Finding 14: Public transparency has not met commitments in Schedule 3 of the Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin

While internal reporting through the Northern Basin Project Committee (NBPC) and the BOC has been comprehensive, public communication about Toolkit implementation has been inadequate. Major project scope reductions were not adequately communicated to the public. In all but one case, information about scope reductions was included in the bilateral project funding agreement schedules; however, it is the Inspector–General's view that this was insufficient and did not meet the intent of the transparency commitment in clause 11(e) of IGA Schedule 3.

See Chapter 9

Recommendations

Recommendation 1: Publish a detailed delivery plan for remaining Toolkit projects

To the Australian, New South Wales and Queensland governments:

The Australian, New South Wales and Queensland governments, through the NBPC, should develop and publish a comprehensive plan for all remaining Toolkit projects by the end of May 2026, that includes:

- infrastructure outcomes intended by the projects
- individual timelines for each remaining project based on current project status
- detailed delivery risk assessment, including stakeholder risks, proposed mitigations, and assessment of what can be delivered by 31 December 2026, and
- alternative delivery approaches for projects that cannot be completed as originally scoped.

Recommendation 2: Enhance transparency arrangements

To the Australian, New South Wales and Queensland governments:

The Australian, New South Wales and Queensland governments, through the NBPC, should enhance transparency of Toolkit implementation by:

- publishing updates following each NBPC meeting
- providing information on project implementation status, including scope changes, timeline adjustments, and budget allocations, and
- publishing quarterly progress reports on key decisions, project changes and implementation challenges.

Recommendation 3: Appoint a Senior Responsible Officer

To the Australian Government Department of Climate Change, Energy, the Environment and Water:

The department should designate a Senior Executive Service Band 2 or higher officer as the Senior Responsible Officer (SRO) for the remaining Toolkit implementation period, with clear accountability for program delivery and authority to coordinate implementation across jurisdictions.

Recommendation 4: Gwydir Constraints project

To the Australian Government Department of Climate Change, Energy, the Environment and Water:

The department should:

1. publish New South Wales's progress reports for each milestone under the November 2025 project funding agreement, subject to appropriate redactions for commercial-in-confidence information
2. publicly clarify how full constraints relaxation in the Gwydir will be achieved, including when and how land purchases and flow easements will be secured, and how this work will be integrated into broader Basin Plan implementation
3. if constraints relaxation is pursued beyond the current deadline of December 2026 (as recommended in the *MDBA Constraints Relaxation Implementation Roadmap*), integrate Gwydir constraints work into that program with dedicated governance, funding and implementation timeframes, and
4. take urgent action to remediate the Gwydir raft, working with New South Wales to share costs (including through in-kind contributions). The raft blockage prevents sufficient environmental flows and must be addressed to enable project success.

Recommendation 5: Protect scope and ensure delivery of Reconnecting the Northern Basin project

To the Australian Government Department of Climate Change, Energy, the Environment and Water:

The department should not accept any further scope reductions to the NSW Reconnecting the Northern Basin project. The project has already been reduced from 2,135 km to 589 km of reconnected fish passage, with only 64 km completed.

The department should also assess whether extending the December 2026 deadline would enable New South Wales to deliver the current project scope without additional funding from the Australian Government. If additional time alone would improve delivery outcomes, an extension should be granted promptly in early 2026 to maximise delivery of the committed scope.

To the New South Wales Government:

To improve prospects for delivery by 31 December 2026, the New South Wales Government should:

- establish a clear decision-making authority and escalation pathways
- provide regular public progress updates on each remaining site, including specific challenges encountered, risks identified and actions being taken to address them, and
- maintain the current project scope and quality standards, with any proposed changes subject to independent review and public disclosure.

These measures are necessary given the project's critical importance to fish passage connectivity and ecosystem recovery following the 2018–19 Lower Darling fish deaths.

Recommendation 6: Monitor structural integrity of Macquarie Marshes infrastructure

To the New South Wales Government:

Given the Inspector–General's implementation concerns about the Macquarie Marshes Enhanced Watering project infrastructure, the NSW Government should, as the party responsible for ongoing monitoring and maintenance under Schedule 3 of the IGA and the bilateral funding agreement, develop and implement a monitoring plan for the outer bank of the Macquarie River at the Oxley Break 3 junction, that includes:

- inspections for erosion or structural degradation
- remedial works if erosion is detected, and
- public reporting of monitoring outcomes and any maintenance required.

To the Australian Government Department of Climate Change, Energy, the Environment and Water:

The department should establish monitoring requirements in future milestone assessments for this project to track on-ground implementation progress.

Recommendation 7: Establish ongoing funding for event-based mechanisms

To the Australian Government:

Following successful implementation of event-based mechanisms in the northern Basin, the Australian Government should establish dedicated, ongoing funding through the Environmental Water Holdings Special Account. This will enable the CEWH to transition from ad hoc grant processes to standing arrangements with water holders to improve responsiveness and efficiency.

Lessons for Future Basin Programs

The following lessons draw on the Inspector–General's comprehensive examination of Toolkit implementation, including the reasons for non-delivery, the effectiveness of governance and funding arrangements, and the outcomes achieved.

Although these lessons go beyond immediate Toolkit completion, the Inspector–General considers them essential for Basin governments when designing future multi-jurisdictional programs.

1. Establish accountability mechanisms for future complementary measures

For future Basin Plan programs where complementary measures substitute for water recovery, the Australian Government should establish accountability mechanisms that:

- specify measurable environmental outcomes that complementary measures must achieve, with clear baselines and success criteria
- require independent verification of outcome delivery within agreed timeframes, and
- provide for adjustment or corrective action if complementary measures fail to deliver specified outcomes or are not implemented as agreed.

2. Establish program-specific governance with appropriate capabilities and decision-making authority

Different Basin program types require different governance approaches. Infrastructure programs require engineering project management disciplines, constraints programs involve complex landholder negotiations and extended timeframes, and water recovery programs require market analysis and tender design expertise. Consolidating these under one governance structure creates accountability gaps and increases delivery risks.

For future multi-jurisdictional Basin infrastructure programs, the Australian Government should establish separate governance structures tailored to program complexity, ensuring:

- committee members possess relevant technical expertise for the program type
- responsibility, authority and consequence are aligned to enable accountability
- relevant decision-makers are specified for project scope changes
- delivery partners are excluded from standing committee membership to avoid conflicts of interest between delivery responsibility and oversight functions
- committees operate by majority (not consensus) or through clear decision-making protocols, with escalation and dispute resolution mechanisms specified in terms of reference, and
- clear and efficient escalation mechanisms exist for implementation issues and risks.

3. Shared benefits and co-funding improve delivery outcomes

Future Basin programs should prioritise projects where both the Australian and state governments gain direct benefits. The Toolkit demonstrates that when objectives and incentives are not aligned between governments, the result can be projects not delivered to their initially agreed and funded scope and timeframes.

Co-contribution funding models strengthen delivery by ensuring both parties have financial stakes in outcomes. Where Australian Government funding supports projects that also deliver state priorities, states should contribute through direct funding, in-kind support, or ongoing operations and maintenance. This creates mutual accountability.

4. Strengthen future bilateral project funding agreement design

The Australian Government should strengthen the design of future Basin water infrastructure bilateral project funding agreements. Future agreements should prioritise delivery outcomes over planning processes and establish clear program parameters from commencement, including:

- detailed program outcomes and success measures designed at program commencement to guide decision-making and implementation throughout the program lifecycle
- clearly defined, measurable milestones with objective success criteria and time-bound completion dates
- outcomes-based performance indicators that link payment to tangible delivery
- independent verification mechanisms for milestone achievement, and
- clear consequences for non-delivery or substantial variation from agreed outcomes.

Importantly, milestones and payment structures should be designed to incentivise delivery and share risks appropriately between the Australian and state governments. Financial incentives should be aligned with project completion rather than planning activities, ensuring both parties have stakes in successful outcomes.

This approach should be considered standard practice for all future Basin Plan implementation funding arrangements to ensure accountability, transparency, and effective use of Australian Government funds.

5. Improve planning and scoping for future Basin programs

Future Basin programs involving infrastructure delivery should incorporate:

- comprehensive feasibility assessments, including realistic cost estimates and implementation risk analysis, before committing funding for business case development and making project selection decisions based on those assessments
- project timelines based on detailed implementation plans with explicit timeframes, and
- contingency planning for predictable challenges with appropriate funding provisions.

6. Basin Officials Committee role unsuited to infrastructure program delivery oversight

The BOC is constituted under the *Murray–Darling Basin Agreement*, which is explicitly excluded from the Inspector–General's functions under section 215C(1) of the Water Act. This jurisdictional limitation prevents the Inspector–General from making formal findings or recommendations regarding the BOC's structure, composition, or functions.

Despite this limitation, the Inspector–General observes that the BOC played a central role in Toolkit governance yet lacked authority to address implementation problems as they emerged. The BOC's current structure and mandate appear better suited to policy coordination than infrastructure program delivery oversight. The Toolkit experience suggests that complex, multi-jurisdictional implementation programs require governance bodies with:

- clear authority to make binding decisions on implementation issues
- composition that includes (or is well informed by) technical expertise relevant to program type, and
- accountability mechanisms for delivery outcomes, not just process compliance.

A review of the Basin Plan is in progress, and a review of the Water Act is scheduled for 2027. These provide important opportunities to examine whether current governance arrangements remain appropriate for Basin Plan implementation programs.

The Inspector–General encourages the Australian Government to use these review processes to assess whether the BOC governance structures are fit-for-purpose for overseeing complex implementation programs or whether complimentary structures need to be established.

7. Explore alternative delivery models for infrastructure projects

Future Basin infrastructure programs should not automatically use bilateral funding agreements. The Australian Government Department of Climate Change, Energy, the Environment and Water should consider the full range of options, including working directly with infrastructure owners or using grant programs to non-government organisations.

Where states remain the best delivery partner, departmental advice should examine alternatives to standard bilateral agreements, including risk assessment, whether both parties have reasons to deliver, and how to ensure accountability.

The Toolkit shows that bilateral agreements face substantial delivery risks when states have no compelling reason to complete projects, or when Australian Government and state priorities don't align. Different delivery approaches may provide better results for some projects. Program design should choose delivery methods based on what works, not what's standard practice.

8. Establish appropriate delegations for operational program decisions

The Australian Government Department of Climate Change, Energy, the Environment and Water should establish appropriate delegations to enable senior executives to make operational program decisions without requiring ministerial approval for routine implementation issues. Large Basin Plan programs require responsive decision-making that ministerial approval processes can delay.

Senior executives need delegated authority to make timely decisions, intervene when problems emerge, and direct delivery partners. The Toolkit demonstrates the risks when programs lack responsive decision-making authority to address implementation challenges as they arise.

9. Independent verification of infrastructure before final payment

Before making final payments to delivery partners, the Australian Government Department of Climate Change, Energy, the Environment and Water should require independent engineering verification that constructed infrastructure meets approved design specifications. This verification should be conducted by qualified engineers independent of both the delivery partner and the construction contractor.

Verification costs should be built into project and program budgets from the outset. A small percentage of total program funding should be allocated specifically for independent quality assurance.

10. Establish business case standards and assessment thresholds for water infrastructure projects

The Australian Government Department of Climate Change, Energy, the Environment and Water should establish clear criteria for when water infrastructure projects require comprehensive business case assessment before implementation approval, considering project value, technical complexity, landholder engagement requirements, and delivery risk.

For projects meeting these thresholds, the department should develop and publish detailed guidance on business case requirements, including comprehensive cost estimation, risk assessment, technical feasibility analysis, stakeholder engagement plans, and implementation sequencing. Funding for business case development should be conditional on meeting these standards.

11. Move beyond compliance-based transparency

Future Basin programs would benefit from transparency processes prioritising accessibility and knowledge rather than strict compliance. This would include proactively publishing comprehensive program information in plain English, clear communication of any deviations in delivery commitments, and timely explanations of any project scope changes or impacts to intended environmental outcomes. Effective transparency requires more than published data, published information should enable meaningful public scrutiny of government performance and support informed community engagement.

1 About the Inquiry

1.1 Role of the Inspector–General

The Inspector–General of Water Compliance is an independent statutory position established under the Water Act to monitor, investigate and enforce compliance with the Water Act and the Basin Plan. The Inspector–General provides independent oversight of the performance of specified functions by the Australian Government and the performance of Basin States against certain obligations under the Water Act, the Basin Plan and specified intergovernmental agreements.

The Inspector–General is an Australian Government integrity agency, working within the government's framework to promote transparency and accountability. The Inspector–General role serves to protect public confidence in the Basin's water management by ensuring governments and agencies meet their obligations.[1]

The Inspector–General's strategic focus is on ensuring that:

- the law is followed
- decisions are transparent
- delivery is effective, and
- continuous improvement is pursued.[2]

A key function of the Inspector–General is oversight of the implementation of commitments in intergovernmental agreements that support the effective operation of the Water Act and delivery of the Basin Plan.[3] This oversight role recognises that intergovernmental agreements express the commitment of governments to work together on certain objectives and support a Basin-wide approach to water management.

Under Part 10AB of the Water Act, the Inspector–General may conduct an inquiry for the purpose of exercising the functions under section 215C(1)(a)-(c).[4] This includes:

- to monitor and provide independent oversight of the performance of functions and the exercise of agencies of the Commonwealth and Basin States including obligations under the Water Act, Basin Plan, and Water Resource Plans, and
- to monitor and provide independent oversight of the delivery of commitments made through specified intergovernmental agreements including the *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin* established in June 2013, which includes the Toolkit.

This inquiry was the first conducted by the Inspector–General and was initiated independently under section 239AA of the Water Act. It was conducted in support of the statutory functions set out in sections 215C(1)(c) of the Water Act.

1 Inspector–General of Water Compliance, *Regulatory Policy,* Australian Government, July 2024, p 1.
2 Inspector–General of Water Compliance, *Strategic plan 2023–26,* Australian Government, August 2023, pp 7–8.
3 *Water Act 2007* (Cth) s 215C(1)(c).
4 *Water Act 2007* (Cth) s 239AA.

1.2 Inquiry scope

The Toolkit is a significant intergovernmental program to implement policy reforms and infrastructure projects to minimise the reduction in environmental outcomes from the Australian Government policy decision to amend the Basin Plan to reduce the amount of water recovered for the environment in the northern Basin by 70 GL.[5]

The *Northern Basin Commissioner first year report 2019* stated that 'there are significant delays in project implementation in the northern Basin'.[6] In August 2023, the original deadline for Toolkit completion (30 June 2024) was formally extended by 2.5 years to 31 December 2026.[7]

The Toolkit has not previously been the subject of a dedicated public inquiry. However, it has been examined in reviews of Basin Plan implementation and the subject of other official commentary. Some of this previous commentary identified potential risks to delivery, and more recent observations, as shown in Figure 1-1, noted slow implementation progress.

5 MDBA, *The Northern Basin Review: Understanding the economic, social and environmental outcomes from water recovery in the northern basin,* Australian Government, November 2016, p 2.
6 Northern Basin Commissioner, *Northern Basin Commissioner first year report 2019*, Australian Government, December 2019, p 16.
7 MDBA, *Northern Basin Toolkit,* Australian Government, Updated: 10 December 2024, Accessed: August 2025.

Figure 1-1 Previous official commentary on the Toolkit[8]

2018 Productivity Commission Five-year assessment of the Basin Plan

A lack of firm deadlines and checks and balances for implementing the Northern Basin Toolkit means accountability for outcomes is limited … there is a risk that the timeframes for implementing the Toolkit will blow out, or that some may never be put in place to the degree originally intended, which may have consequences for achieving environmental outcomes.

2019 Independent Assessment of the 2018–19 fish deaths in the lower Darling

NSW, QLD and the MDBA should publish their joint plans for implementation of the northern Basin Toolkit Measures, and set an aggressive timeline for delivery. Immediate priority should be given to those measures that support native fish population recovery and connectivity.

2023 Productivity Commission Basin Plan Implementation Review

Delays implementing the northern Basin toolkit measures are a result of inadequate accountability for delivery, as well as a lack of oversight and review of the measures. Public information about project progress has been sparse, and there is no framework in place to monitor the environmental merits of these projects as they progress.

2023 MDBA Advice to the Minister on Basin Plan Implementation

Despite the significance of the toolkit, the Authority has observed that progress has been slow and, in some instances, intention to implement appears to have waned. The Authority's advice is that valuable elements of the agreed toolkit package will not be implemented by June 2024 … There should be continued focus on completion of these initiatives, recognising that they contribute to system resilience and ensure enhanced connectivity.

8 Productivity Commission, *Murray–Darling Basin Plan: Five-year assessment,* Inquiry Report No. 90, Australian Government, 19 December 2018, p 24 ; Independent Panel, *Independent assessment of the 2018–19 fish deaths in the lower Darling,* prepared for the Australian Government, 29 March 2019, p 76 ; Productivity Commission, *Murray–Darling Basin Plan: Implementation review 2023*, Inquiry Report no. 103, Australian Government, 19 December 2023, p 28 ; MDBA, *2023 Authority advice on Basin Plan implementation,* Australian Government, July 2023, p 7.

A lack of substantive progress on implementing the Toolkit, particularly with respect to important infrastructure projects, prompted the Inspector–General to initiate this inquiry.[9]

This inquiry was established on the Inspector–General's own initiative to assess the implementation of the Toolkit, focused on delivery against the commitments set out in Schedule 3 of the IGA.[10]

This inquiry examines the delivery of Toolkit measures and the effectiveness of governance arrangements for their implementation as set out in the IGA. Consistent with the Inspector–General's jurisdiction under section 215C(1)(c) of the Water Act, it does not examine the merits of the 2017 Basin Plan amendment that reduced the northern Basin water recovery target by 70 GL. While the inquiry examines how Federal Financial Agreements supported or constrained Toolkit delivery, it does not assess the appropriateness of funding mechanisms as a matter of Commonwealth financial administration.

Terms of Reference

The Terms of Reference for the Toolkit Inquiry are available on the Inspector–General of Water Compliance *website* and are extracted in full below.

- I, the Honourable Troy Grant, Inspector–General of Water Compliance have, on my own initiative, pursuant to section 239AA of the *Water Act 2007* (Cth) (the '**Water Act**') and for the purpose of performing the functions referred to in paragraphs 215C(1)(a) to (c) of the Water Act, decided to conduct an inquiry into the implementation of measures to improve environmental outcomes in the Northern Murray–Darling Basin set out in Schedule 3 of the Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin, June 2013 and most recently amended August 2019.

Background

- The Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin, June 2013 (including any amendments) (the '**Agreement**') is, for the purposes of paragraph 215C(1)(c) of the Water Act, an agreement referred to in subsection 215C(3) of the Water Act.
- In 2019, and following The Northern Basin Review November 2016, the Commonwealth, Queensland and New South Wales governments committed to implementing a series of environmental measures, collectively referred to as the Northern Basin Toolkit, to deliver improved environmental outcomes. These commitments were reduced to writing in the form of Schedule 3 of the Agreement.
- The Northern Basin Toolkit comprises six measures (the '**Measures**'), which are described in Appendix A of Schedule 3 of the Agreement, namely:
  (a) undertake targeted recovery of water ('**Measure 1**')
  (b) protection of environmental flows ('**Measure 2**')
  (c) develop a broad range of practical event-based mechanisms that can be used by environmental water holders to meet important flow targets, including temporary trade by event, options over pumping (contractual agreements) and store and release ('**Measure 3**')
  (d) promote the planning for, and delivery of, environmental water across northern Murray Basin ('**Measure 4**')

9 Inspector–General of Water Compliance, *Inquiry launched into $180 million program in the northern Basin* [Media Release] Australian Government, Published: 30 October 2024, Accessed: August 2025.

10 *Water Act 2007* (Cth) s 239AA ; Inspector–General of Water Compliance, *Attachment A: Terms of Reference*, Australian Government, 30 October 2024.; Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.

(e) removal of system constraints in the Gwydir catchment to improve flows reaching the Gwydir wetlands ('**Measure 5**')

(f) targeted environmental works and measures to promote fish movement and habitat in the northern Murray–Darling Basin (and '**Measure 6**').

- Clause 3 of Schedule 3 of the Agreement provides that all the measures comprising the Northern Basin Toolkit are to be implemented by 30 June 2024.
- At the time that the Agreement was amended to incorporate Schedule 3, the Commonwealth estimated that its total financial contribution to the Queensland and New South Wales governments to deliver the Northern Basin Toolkit would be $180 million (GST exclusive).
- Pursuant to subclause 11(d) of Schedule 3 of the Agreement, the Commonwealth, Queensland and New South Wales governments agreed to be jointly responsible for cooperating with the Inspector–General of Water Compliance.
- In the June 2023 Report Card published by the Murray–Darling Basin Authority (the '**MDBA**'), the MDBA reported that '*the full package*' of the Northern Basin Toolkit would '*not be delivered by the June 2024 agreed timeframe*'. The MDBA reported that only two measures were on track for delivery by June 2024. In relation to the remaining measures, the MDBA reported that:
  (a) Measures 1 and 2 were at risk of not being completed by June 2024
  (b) Measures 5 and 6 would not be complete by June 2024.
- In August 2023, the relevant Commonwealth, Queensland, and New South Wales government Ministers agreed to extend the deadline for the completion of the Northern Basin Toolkit until 31 December 2026.

Terms of Reference

- Pursuant to section 239AB of the Water Act, I determine that the terms of reference for this inquiry are to inquire into and to make findings and recommendations in relation to
  (a) the:
    i. extent to which the Northern Basin Toolkit has been implemented
    ii. progress that has been achieved in relation to the measures (including the work done by any corporation and/or other business pursuant to arrangements entered into for the purpose of implementing the Northern Basin Toolkit)
    iii. extent to which outcomes sought have been attained
    iv. work left to do to implement the Northern Basin Toolkit.
  (b) the extent to which the Commonwealth, New South Wales and Queensland governments have implemented their respective commitments in Schedule 3 of the Agreement
  (c) the extent to which the governance arrangements referred to in clauses 9 to 12 of Schedule 3 of the Agreement have been effective, both in relation to design and implementation of those governance arrangements
  (d) reasons for the non-delivery of all the Measures by June 2024 and the reasons for the request for an extension of time to deliver the Measures until 31 December 2026
  (e) the amount that has been spent respectively by the Commonwealth, Queensland and New South Wales governments in relation to implementation of the Northern Basin Toolkit and the particular items and associated deliverables on which that money has been spent
  (f) the effectiveness of the Agreement to deliver the Northern Basin Toolkit.

- In accordance with subsection 239AB(2) of the Water Act, the legislative powers of the Commonwealth that support the exercise by me of the powers in subsections 239AC(2) and 239AD(2) in relation to this inquiry are:
  (a) the power of the Parliament to make laws with respect to trade and commerce with other countries, and among the States (within the meaning of paragraph 51(i) of the Constitution)
  (b) the power of the Parliament to make laws with respect to foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth (within the meaning of paragraph 51(xx) of the Constitution)
  (c) the power of the Parliament to make laws with respect to external affairs (within the meaning of paragraph 51(xxix) of the Constitution), as it relates to giving effect to Australia's obligations under relevant international agreements (as defined in subsection 4(1) of the Water Act)
  (d) the executive power read together with the express incidental power (section 61 and paragraph 51(xxxix) of the Constitution, respectively)
- the power of the Parliament to make laws with respect to matters in respect of which the Constitution makes provision until the Parliament otherwise provides (within the meaning of paragraph 51(xxxvi) of the Constitution), together with section 96 of the Constitution (financial assistance to States).[11]

1.3 Methodology

To address the Terms of Reference, the Inspector–General examined:

- **Implementation assessment** – the extent to which each of the 6 Toolkit measures have been fully implemented
- **Environmental outcomes** – comparing the environmental outcomes originally envisaged with those now expected
- **Governance analysis** – decision-making processes, committee effectiveness, and coordination mechanisms between the Australian, New South Wales and Queensland governments
- **Financial analysis** – comparing original cost estimates with actual expenditure and cost overruns, and examining how this led to project descoping
- **Timeline analysis** – identifying why projects were delayed and what caused missed deadlines
- **Agreement assessment** – whether the IGA framework delivered intended outcomes and supported effective implementation.[12]

The Inspector–General's investigation and analysis involved reviewing over 12,000 documents received from government agencies, 16 public submissions, and examining other publicly available documents. Several field engagements were undertaken in relevant areas of the northern Basin, along with interviews with senior representatives of 5 government agencies.

The primary evidentiary period concluded on 1 January 2026. Project status information, financial data, and implementation milestones are current as at this date. Information subsequently received through the procedural fairness process under section 239AG of the Water Act has been incorporated into the report where relevant and appropriate to the inquiry's findings. Where conflicting information was received, the Inspector–General sought further information and clarification from relevant agencies, and in one instance commissioned an independent analysis (see Chapter 6).

11 Inspector–General of Water Compliance, *Attachment A: Terms of Reference*, Australian Government, 30 October 2024.
12 Inspector–General of Water Compliance, *Attachment A: Terms of Reference*, Australian Government, 30 October 2024.

Following completion of the draft report, the Inspector–General provided government agencies with an opportunity to comment on critical material in accordance with section 239AG of the Water Act. Agencies were given 4 weeks to provide feedback. The Inspector–General considered all feedback received and adjusted the report where appropriate, while also documenting different perspectives on key issues to ensure transparency.

The Inspector–General would like to thank the members of the community, the organisations and government agencies who provided information for this inquiry.

Inspector–General's Disclosure of interest

During the inquiry the Inspector–General interviewed the Deputy Director–General, Water Resource Management of the QLD Department of Local Government, Water and Volunteers. Previously, in mid 2024, the Inspector–General provided an oral reference in support of their application for that position.

On 11 July 2025, the Inspector–General reported this to the subjects of the inquiry: the Australian Government Department of Climate Change, Energy, the Environment and Water; Commonwealth Environmental Water Holder; Murray–Darling Basin Authority; NSW Department of Climate Change, Energy, the Environment and Water; and QLD Department of Local Government, Water and Volunteers.

The Inspector–General also reported this to the Minister for the Environment and Water on 11 July 2025. The Inspector–General received a response noting no further comment from the Murray–Darling Basin Authority on 11 July 2025 and received comments from the QLD Department of Local Government, Water and Volunteers on 29 July 2025. The Inspector–General received no other responses.

Figure 1-2 Murray–Darling Basin boundary map, including the boundaries of the northern and southern Basins

The northern Basin covers over 500,000km^2 across northern NSW and southern QLD. It includes 9 catchments: Barwon–Darling, Border Rivers, Condamine–Balonne, Gwydir, Macquarie–Castlereagh, Moonie, Namoi, Paroo and Warrego. While these catchments cover roughly 54% of the Basin, they only generate about 34% of its total flow.[13]

The northern Basin has distinct characteristics that differentiate it from the southern Basin. The northern Basin is less regulated with fewer dams and water control structures and has many ephemeral waterways that flow only temporarily after rainfall events.[14]

These characteristics create unique challenges for water management and environmental outcomes in the northern Basin.

13 MDBA, *Northern Basin catchments,* Australian Government, Updated: 16 February 2024, Accessed: September 2025 ; MDBA, *Northern Murray–Darling Basin,* Australian Government, Updated: 20 February 2024, Accessed: September 2025.

14 MDBA, *Early Insights Paper: Basin Plan Review,* Australian Government, June 2024, p 26 ; DCCEEW, *Northern Murray–Darling Basin*, Australian Government, Updated: 20 February 2024, Accessed: September 2025 ; NBAC, *Finding the balance: Final report of the Northern Basin Advisory Committee*, Australian Government, 9 October 2016, p 11.

2 Background and context

2.1 The Northern Basin Review

The Toolkit is an intergovernmental program designed to deliver environmental benefits in the northern Basin. It was developed following the Northern Basin Review, which examined the social, economic and environmental impacts of water recovery in the region.[15]

Background to the Northern Basin Review

When the Basin Plan was adopted in 2012, it required 390 GL of water to be recovered from the northern Basin to meet the SDL. The SDL sets the maximum amount of water that can be taken from the Basin's rivers and groundwater for consumptive use while leaving enough to sustain the environment.[16]

However, at that time there was broad recognition that the northern Basin was not as well understood as the southern Basin. Less was known about the social and economic conditions of northern Basin communities, or the volume of water taken and needed to restore the health of water-dependent ecosystems.

With support from Basin governments, the MDBA committed to reviewing the water recovery targets set for the northern Basin. This process became the *Northern Basin Review*, conducted from 2012 to 2016.

The review process

The *Northern Basin Review* included extensive community consultation and research. It assessed the economic, social and environmental impacts of different water recovery scenarios, examining how changes in water recovery volumes would affect both river health and regional communities.[17]

To support the review, the MDBA established the Northern Basin Advisory Committee (NBAC), comprising industry, community, First Nations, and environmental expert members from across the northern Basin. The NBAC was tasked with providing advice on how the Basin Plan could be effectively implemented in the region.

NBAC recommendations and the Toolkit concept

The NBAC developed the concept of a 'toolkit': a range of actions and initiatives that should accompany water recovery to maximise environmental benefits and minimise economic impacts on communities. These are known as 'complementary measures' as they are activities that work alongside water recovery to improve environmental outcomes through better water management, infrastructure improvements and policy changes.[18]

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15 NBAC, *Finding the balance: Final report of the Northern Basin Advisory Committee*, Australian Government, 9 October 2016, p 17.

16 *Basin Plan 2012* (Cth) s 5.05(1).

17 MDBA, *The Northern Basin Review: Understanding the economic, social and environmental outcomes from water recovery in the northern basin*, Australian Government, November 2016, p 1-2.

18 NBAC, *Finding the balance: Final report of the Northern Basin Advisory Committee*, Australian Government, 9 October 2016, p 5.

In October 2016, the NBAC delivered its final report to the MDBA, recommending the adoption of these complementary measures. While acknowledging the importance of water recovery, the NBAC strongly cautioned that simply recovering more water would come at a significant social and economic cost to northern Basin communities. It concluded:

> There is not enough water to meet the Northern Basin's environmental and cultural water needs without major adverse social and economic impacts on its people.[19]

MDBA's recommendation to reduce the water recovery target

Based on the *Northern Basin Review* findings and NBAC advice, the MDBA recommended that the water recovery target for the northern Basin be reduced from 390 GL to 320 GL per year. This recommendation was, in part, based on the Australian, New South Wales and Queensland governments committing to implement a suite of these complementary measures which became known as the Northern Basin Toolkit.[20]

The MDBA acknowledged the trade-off involved in this approach, stating:

> The Authority understands that by returning less water to the environment (as compared to the settings in the current Basin Plan), the ability to achieve the same environmental outcomes will be slightly reduced. However, the Authority is confident that through a combination of more targeted water recovery, and the adoption of the toolkit measures, any reduction in outcomes will be minimised.[21]

In November 2016, the then MDBA Chief Executive emphasised that there was a relationship between the proposed reduction in the water recovery target and the commitment to implement the Toolkit, stating:

> ...it is the Authority's view that the 390 GL amount is not the best balance between river users and the environment. So we're proposing an amendment to the Plan to reduce the water recovery target by 70 GL to 320 GL. Provided – and it's an important proviso – that relevant governments Commonwealth, NSW and QLD – are able to make a commitment to implement a range of complementary measures that will actually improve water management in the north.[22]

The MDBA Chief Executive also explained why complementary measures supplementing water recovery were essential:

> Water alone is not enough for a healthy working basin, particularly in the north...So we need basin governments to complement the work that we're doing by increasing the use of things that are in their control...Our Northern Basin Advisory Committee has called these complementary measures a 'toolkit', which makes sense.[23]

In submissions, interviews and the report consultation process for this inquiry, multiple agencies submitted that the Toolkit measures were to be considered as 'complementary' rather than 'conditional'. These agencies emphasised that the 320 GL water recovery volume satisfies Water Act requirements for an Environmentally Sustainable Level of Take independent of Toolkit implementation, that the measures are not an offset or substitute for water recovery, and that there is no formal reconciliation process that linked Toolkit delivery to water recovery adjustments.

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19 NBAC, *Finding the balance: Final report of the Northern Basin Advisory Committee*, Australian Government, 9 October 2016, p 12.

20 MDBA, *The Northern Basin Review: Understanding the economic, social and environmental outcomes from water recovery in the northern basin,* Australian Government, November 2016, pp 2 & 4.

21 MDBA, *The Northern Basin Review: Understanding the economic, social and environmental outcomes from water recovery in the northern basin,* Australian Government, November 2016, p 2.

22 MDBA, *Transcript: Basin Plan amendments – address at Parliament House – MDBA Chief Executive Phillip Glyde,* Australian Government, Published 22 November 2016.

23 MDBA, *Transcript: Basin Plan amendments – address at Parliament House – MDBA Chief Executive Phillip Glyde,* Australian Government, Published 22 November 2016.

The Inspector–General carefully considered these submissions and agrees that the approval of the 70 GL was not contingent on the complete delivery of the Toolkit's measures. The Inspector–General also agrees that the measures within the Toolkit were complementary to the reduction in the water recovery target, they were not meant to be a volumetric substitute or offset.

However, the Inspector–General's position that the 70 GL reduction was approved based on a commitment by the Australian, New South Wales and Queensland governments rests on the documentary record, including the language in a note to section 6.04(3) of the Basin Plan. The Basin Plan states the northern Basin SDL 'was based on' both the economic, social and environmental outcomes of the *Northern Basin Review* and 'commitments from the Commonwealth, QLD and NSW Governments to implement "toolkit" measures'. The Northern Basin Review stated that:

> The Authority proposes the water recovery target be reduced in the northern Basin from 390 GL to 320 GL provided there are commitments from the Australian, Queensland and New South Wales governments to implement a number of so-called 'toolkit measures'.[24]

This relationship is important as it imposes a level of accountability for delivery.

2.2 Ministerial agreement to proceed with the Toolkit

In-principle support and Basin Plan amendment

On 16 June 2017, the Ministerial Council provided inprinciple support for the implementation of the Toolkit measures, subject to the availability of Australian Government funding.[25]

However, the Toolkit could not proceed until the Basin Plan was formally amended to reduce the water recovery target. The MDBA wrote to the Assistant Minister for Agriculture and Water Resources on 9 November 2017, formally recommending that the water recovery target be reduced from 390 GL to 320 GL per year.[26]

The recommendation was accepted, with a Basin Plan amendment subsequently introduced into Parliament. The first attempt to amend the Basin Plan in early 2018 was unsuccessful,[27] but a revised amendment instrument was successfully introduced in July 2018 and came into effect shortly afterwards.[28] This formally reduced the water recovery target and enabled the Toolkit to proceed.

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24 MDBA, *The Northern Basin Review: Understanding the economic, social and environmental outcomes from water recovery in the northern basin,* Australian Government, November 2016, p 2.

25 MDBA, *Murray–Darling Basin Ministers agree next steps* [Communique] Murray–Darling Basin Ministerial Council, Published: 16 June 2017, Accessed: August 2025.

26 MDBA, *Basin Plan amendment recommended to Commonwealth Water Minister* [Media Release] Australian Government, Published: 10 November 2017, Accessed: September 2025.

27 The Conversation, *States' dummy-spit over the Murray–Darling Basin Plan clouds the real facts*, Published: 16 February 2018, Accessed: August 2025.

28 *Basin Plan Amendment Instrument (No. 1) 2018* (Cth).

Formalising the commitment

With the legislative framework in place, governments moved to formalise their commitment to the Toolkit. The Toolkit measures were added to the IGA, the primary agreement underpinning cooperative implementation of the Basin Plan.

The Toolkit was incorporated as a schedule (Schedule 3) to the IGA: *Implementation of Measures to Improve Environmental Outcomes in the Northern Murray–Darling Basin*. This amendment was endorsed by the Ministerial Council on 4 August 2019 and signed by Basin First Ministers at the Council of Australian Governments meeting in Cairns on 9 August 2019.[29]

Schedule 3 of the IGA does not classify the nature of the relationship between the 70 GL reduction to water recovery and the commitment by governments to the implementation of the Toolkit measures. It simply flags that both the 70 GL reduction and the commitment to implement Toolkit measures were part of the *Basin Plan Amendment Instrument (No. 1) 2018* and then articulates how the Australian, New South Wales and Queensland governments will implement the Toolkit measures. The nature of the policy relationship is established in the Basin Plan itself, while Schedule 3 of the IGA focuses on implementation arrangements for the Toolkit.

29 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin,* Published: 9 August 2019, Accessed: August 2025.

2.3 Toolkit purpose and measures

The MDBA made clear that successful implementation of the Toolkit would be critical to achieving intended outcomes, with the Chief Executive stating in 2016:

> If governments can get on board with these complementary measures our confidence in achieving the environmental, economic and social objectives of the Plan is greatly increased.[30]

The MDBA's recommendation was formally reflected in the Basin Plan itself, which states the northern Basin SDL was based on both 'the economic, social and environmental outcomes of the Northern Basin Review' and 'commitments from the Commonwealth, QLD and NSW Governments to implement "toolkit" measures that will deliver improved environmental outcomes in the northern Basin'.[31]

However, in its submission to this inquiry the MDBA stated the following:

> It is worth reiterating that the Authority's NBR decision in 2016 reflects that the 320 GL water recovery volume in the northern Basin satisfies the Water Act requirements of an Environmentally Sustainable Level of Take (ESLT) independent of Toolkit implementation. The Toolkit measures are not an offset or substitute for water recovery and do not seek to provide equivalent outcomes to the 70 gigalitres and there is no formal reconciliation process for the Toolkit.[32]

The Toolkit's purpose

The Toolkit's purpose is to minimise the environmental impact of recovering 70 GL less water than originally planned. It aims to achieve this through:

- **improved water management** – by ensuring environmental water reaches the right places at the right times and is protected from unauthorised extraction
- **removing physical barriers –** by eliminating infrastructure that blocks environmental water from reaching key wetlands and prevents fish from moving between habitats
- **targeted infrastructure construction –** such as fish passages, screens and other works that directly benefit native species and ecological health, and
- **coordinated water delivery** – by improving cooperation between Queensland and New South Wales, and timing environmental water releases with natural flow events.

The Toolkit does not seek to provide equivalent environmental benefits to the 70 GL of additional water recovery. Instead, it aims to deliver complementary environmental improvements that work alongside the reduced water recovery target to support the health of the northern Basin.

30 MDBA, *Transcript: Basin Plan amendments – address at Parliament House – MDBA Chief Executive Phillip Glyde,* Australian Government, Published 22 November 2016.

31 *Basin Plan 2012* (Cth) s 6.04.

32 MDBA, *MDBA Submission: Inspector–General of Water Compliance Inquiry into implementation of the Northern Basin Toolkit,* Australian Government, November 2024, pp 17-18.

The 6 Toolkit measures

The Toolkit measures, as contained in Schedule 3 of the IGA, are outlined below.[33]

Policy measures (1-4)

Measures 1 to 4 are policy-based initiatives that involve changes to rules, agreements and coordination arrangements. These measures focus on changes to operating rules and management practices to make the most of water already recovered by ensuring it reaches target sites, is used efficiently, and is coordinated with natural events to maximise ecological benefit.

1. **Targeted recovery of water** – To achieve water recovery in a way that improves environmental outcomes in the Narran Lakes, Lower Balonne and Culgoa floodplains and the Barwon–Darling River, while avoiding, minimising or mitigating adverse socio-economic impacts.
2. **Protection of environmental flows** – To allow HEW to remain in-stream to be used for environmental outcomes by enhancing low flows and fresh flows, particularly in the unregulated river systems of the Condamine–Balonne and Barwon–Darling.
3. **Development of event-based mechanisms** – To support the development of contractual and other mechanisms to complement the management of water for the environment, to benefit environmental outcomes in the northern Basin.
4. **Improved coordination of environmental flows** – To ensure the efficient and effective use of HEW across the New South Wales and Queensland border, and between northern tributaries and the Barwon – Darling.

Infrastructure measures (5-6)

The final 2 measures involve physical infrastructure projects and environmental works. 'Constraints' are barriers that prevent environmental water from reaching important wetlands. Constraints include bridges, roads, channel capacity limits, and private property that would be inundated by larger environmental flows. Removing these constraints allows more water to flow to key ecological sites during environmental watering events.

Environmental works include building fish ladders around weirs, so native fish can move freely between habitats, and installing screens on water pumps to prevent native fish from being sucked into irrigation infrastructure and killed.

5. **Removal of Constraints in the Gwydir Catchment –** To improve environmental outcomes in the Gwydir wetlands by increasing the flows that can be delivered to key sites.
6. **Environmental Works and Measures –** To improve fish movement and habitat in the northern Basin, providing increased opportunities for native fish movement through building fishways and other environmental works.

2.4 Project selection and funding

Following the Ministerial Council's endorsement of the Toolkit funding framework in December 2018 and subsequent formalisation of the Toolkit measures in Schedule 3 of the IGA in August 2019, New South Wales and Queensland were invited to submit project proposals for Australian Government funding.

33 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Appendix A, Published: 9 August 2019, Accessed: August 2025.

Funding framework

To support Toolkit delivery, the Australian Government allocated funding from the Sustainable Rural Water Use and Infrastructure Program.[34] While this is commonly referred to as a $180 million commitment, the funding structure was more complex.

From the outset several initiatives arising from the *Northern Basin Review* were quarantined from the Toolkit funding pool:

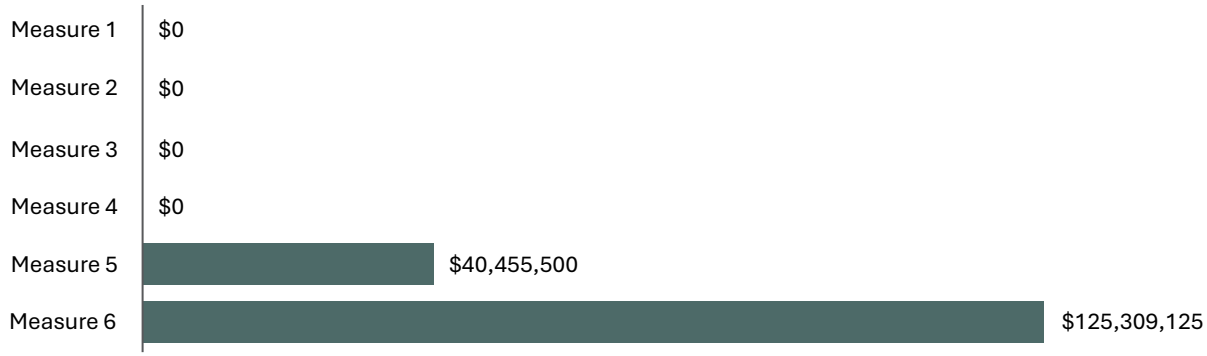
- $15 million for the NSW Wilcannia Weir project
- $1 million for the role of the Northern Basin Commissioner, and
- $0.5 million for local engagement facilitators in Collarenebri and Warren.[35]

Available funding was also supplemented by approximately $2.8 million reallocated from the NSW Fencing Northern Riverbanks Program.[36]

As such, $182.8 million was available for *Northern Basin Review* projects with up to $166.3 million out of that available for the Toolkit.

Toolkit funding was committed to projects through bilateral funding agreements. Only the 2 measures that involve infrastructure components (Measure 5 and 6) received direct Australian Government funding. The remaining 4 Toolkit measures did not receive dedicated funding from the Toolkit allocation as shown in Figure 2-1 below. Measure 1 (targeted water recovery) is funded through the Bridging the Gap water purchasing program. Measures 2, 3, and 4 are delivered through existing government institutional resources and programs.

Figure 2-1 Total Australian Government funding committed to the Toolkit per measure ($165,764,625 total)[37]



34 Federal Financial Relations, *Sustainable Rural Water Use and Infrastructure Program*, Updated: undated, Accessed: August 2025.

35 DCCEEW, *Submission to the inquiry of the Inspector–General of Water Compliance into the implementation of the Northern Basin Toolkit,* Australian Government, November 2025, p 6.

36 DCCEEW, *Submission to the inquiry of the Inspector–General of Water Compliance into the implementation of the Northern Basin Toolkit,* Australian Government, November 2025, p 6.

37 Federal Financial Relations, *Delivery of Environmental Measures in the Northern Basin*, 9 December 2019, Federal Financial Relations, *Toolkit – New South Wales – Reconnecting Watercourse Country Program*, 16 December 2022 ; Federal Financial Relations, *New South Wales Toolkit projects – streamlined*, 7 March 2022 ; Federal Financial Relations, *Toolkit – New South Wales – Pindari Dam Cold-Water Pollution and Fish-Friendly Water Extraction Projects*, 9 December 2024; Federal Financial Relations, *Queensland Fish-friendly Water Extraction Project: Condamine–Balonne and Border Rivers*, 22 December 2021.

Feasibility funding and proposal development

The Australian Government made up to $14.4 million available to support project feasibility work.[38] Queensland requested, and was provided, $451,250 to develop project feasibility proposals.[39] New South Wales was provided a total of $4,560,176 for project feasibility proposals (which included projects under the Gwydir Constraints Toolkit measure).[40]

New South Wales submitted 13 project proposals in July 2020, and Queensland submitted 14 in August 2020.[41] With total estimated implementation costs for all proposals exceeding $300 million, a prioritisation process was required.[42]

A comparison of feasibility, business case and implementation costs is detailed in Figure 2-2, with further details contained in Appendix E.

Figure 2-2 Total Australian Government funding committed for the Toolkit across feasibility, business case and implementation ($165,764,625)

Assessment framework and process

The MDBA developed an ecological prioritisation framework in 2018 on behalf of the Australian Government. This framework was developed in consultation with the Australian Government and Basin states through the Northern Basin Project Group (NBPG) (which is discussed in detail in Chapter 8).[43]

To support Toolkit project selection and delivery, the Australian Government established a phased program framework requiring projects to progress through feasibility proposals, independent prioritisation, business case development, and implementation stages. Program guidelines and business case guidelines were developed to support New South Wales and Queensland in proposal development.

38 Federal Financial Relations, *Project Agreement for Delivery of Environmental Measures in the Northern Murray–Darling Basin*, 9 December 2019, p 3.

39 Federal Financial Relations, *Delivery of Environmental Measures in the Northern Basin*, 'QLD Schedule A – Toolkit Measures Proposals – Feasibility Studies', 9 December 2019.

40 Federal Financial Relations, *Delivery of Environmental Measures in the Northern Basin*, NSW Schedule B – Project Scoping Initiative – Feasibility Activities, NSW Schedule E – Fish for the Future – Feasibility Activities, and NSW Schedule F – Gwydir Constraints Measure – Feasibility Activities, 9 December 2019.

41 Independent Expert Ecological Panel, *Northern Basin Toolkit Ecological Prioritisation of Proposed Project report*, prepared for the Australian Government, October 2020, p 7-8.

42 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

43 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Following ministerial direction to accelerate delivery, the Australian Government introduced 'Gateway Review' assessments at key decision points. These reviews evaluated project readiness, identified risks, and determined whether projects should proceed to implementation phases. Gateway decision points are referenced throughout this report in relation to project progression.

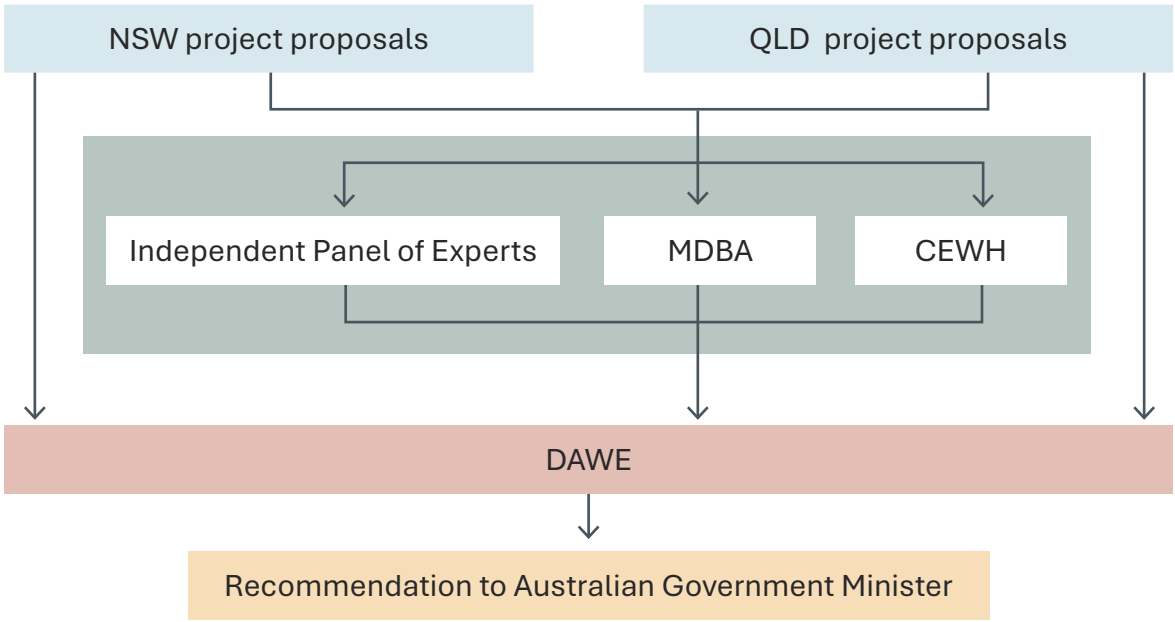
In mid-2020, an independent expert ecological panel was established to assess Toolkit project proposals by applying the MDBA's pre-existing framework. That panel assessed the ecological merit of all 27 proposals and developed rankings to guide which projects should progress to the next phase.

The independent expert ecological panel presented the final report to the Australian Government department with policy responsibility for water and the environment (and therefore coordinating the Toolkit program) at the time: DAWE. The October 2020 report described 2 options:

- fund the 7 highest-ranking projects (including 3 Gwydir Constraints projects, Reconnecting the Northern Basin, Bifurcation Weirs, Macquarie Marshes Enhanced Watering, and Border Rivers fish resilience), or
- develop an integrated package of cross-border projects to maximise ecological benefits through economies of scale.[44]

Additional advice from the MDBA and CEWH was sought to inform final project selection decisions.[45]

Figure 2-3 Toolkit project assessment process



44 Independent Expert Ecological Panel, *Northern Basin Toolkit Ecological Prioritisation of Proposed Project report*, prepared for the Australian Government, October 2020, p 3.

45 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Final project selection and approval

In December 2020, DAWE proposed 13 projects to proceed to detailed business case development:

- NSW Gwydir Constraints Measure Project: Gingham Watercourse project
- NSW Gwydir Constraints Measure Project: Lower Gwydir Watercourse project
- NSW Fish for the Future: Reconnecting the Northern Basin project
- NSW Gwydir Constraints Measure Project: Lower Mehi River project
- QLD Enhance the Flexibility and Capability for Distributing and Managing Low Flows Through the Lower Balonne River System Bifurcation Weirs project
- NSW Project Scoping Initiative: Macquarie Marshes Enhanced Watering project
- QLD Reconnecting Catchments: Condamine–Balonne project
- NSW Fish for the Future: Fish-Friendly Water Extraction project
- QLD Fish-Friendly Water Extraction: Condamine–Balonne and Border Rivers project
- NSW Fish for the Future: Addressing Cold Water Pollution (Pindari Dam) project
- NSW Gwydir Constraints Measure Project: Mallowa Watercourse project
- QLD Improving Within-Catchment Fish Resilience – Lower Balonne project
- NSW Gwydir Constraints Measure Project: Ballin Boora Creek project.

DAWE acknowledged that 'progressing all projects will exceed the available Commonwealth funding' and therefore prioritised the 6 highest-ranked projects for implementation. Projects from the remaining 7 were recommended for potential implementation if additional funding became available.[46]

Considerations for accelerated delivery

In response, the then Minister for Resources, Water and Northern Australia requested a revised approach that would fit within the funding envelope as well as identify projects suitable for accelerated delivery without detailed business case development.[47]

In February 2021, DAWE's revised recommendation identified 4 projects for accelerated delivery:

- NSW Reconnecting the Northern Basin
- NSW Macquarie Marshes Enhanced Watering
- NSW Fish-Friendly Water Extraction, and
- QLD Fish-Friendly Water Extraction.

The accelerated delivery approach was designed to balance early implementation with project complexity and delivery risks. DAWE's advice to the Minister identified that the 4 selected projects used 'proven or known technology', which supported faster implementation.[48] The approach was intended to enable early project design activities and allow more complex projects to proceed through traditional business case development.

The advice noted several considerations with this approach. It would provide 'more risk for the Commonwealth upfront' while enabling early on-ground outcomes, but the advice acknowledged that selecting individual projects rather than an integrated package 'may reduce the overall ecological benefits'. It also noted that cost estimates would likely increase from the feasibility stage, which could affect funding availability for all 10 approved projects. The department indicated it would monitor cost developments as more detailed information became available through business case development.[49]

46 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
47 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
48 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
49 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

This selection process resulted in some projects that were originally ranked lower on ecological merit being elevated to accelerated delivery. For example, the QLD and NSW Fish-Friendly Water Extraction projects were ranked eighth and ninth in ecological merit but were selected for accelerated delivery. Meanwhile, ecologically higher-ranked projects such as the 3 Gwydir constraints projects (ranked first, second and fourth) proceeded through the standard business case pathway.

2.5 Selected projects

The final selection resulted in 11 infrastructure projects receiving Australian Government funding approval. Of these, 8 projects were approved for implementation. The remaining 3 were approved for business case development but did not progress to implementation.[50] The division of business case and implementation costs for these project selections is demonstrated in Figure 2-4 below.

Projects selected for accelerated delivery:

- NSW Fish for the Future: Reconnecting the Northern Basin
- NSW Scoping Initiative: Macquarie Marshes enhanced watering
- NSW Fish for the Future: Fish-Friendly Water Extraction
- QLD Fish-Friendly Water Extraction: Condamine–Balonne and Border Rivers

Projects that progressed through standard business case development:

- NSW Gwydir – Gingham Watercourse
- NSW Gwydir – Lower Gwydir Watercourse
- NSW Gwydir – Lower Mehi River
- NSW Pindari Dam: Cold-Water Pollution (approved in December 2024 using unallocated Toolkit resources)

Projects that did not progress to implementation:

- QLD Enhance the Flexibility and Capability for Distributing and Managing Low Flows through the Lower Balonne River System Bifurcation Weirs
- QLD Reconnecting Catchments: Condamine–Balonne (Jack Taylor and Beardmore dams)
- QLD Improving Within-Catchment Fish Resilience – Lower Balonne (this project was descoped and combined with the Bifurcation Weirs project)

Project implementation structure

Measure 5: Gwydir Constraints focuses specifically on removing system constraints in 3 specific systems within the Gwydir catchment to improve water delivery to wetlands:

- Gingham Watercourse
- Lower Gwydir Watercourse
- Lower Mehi River

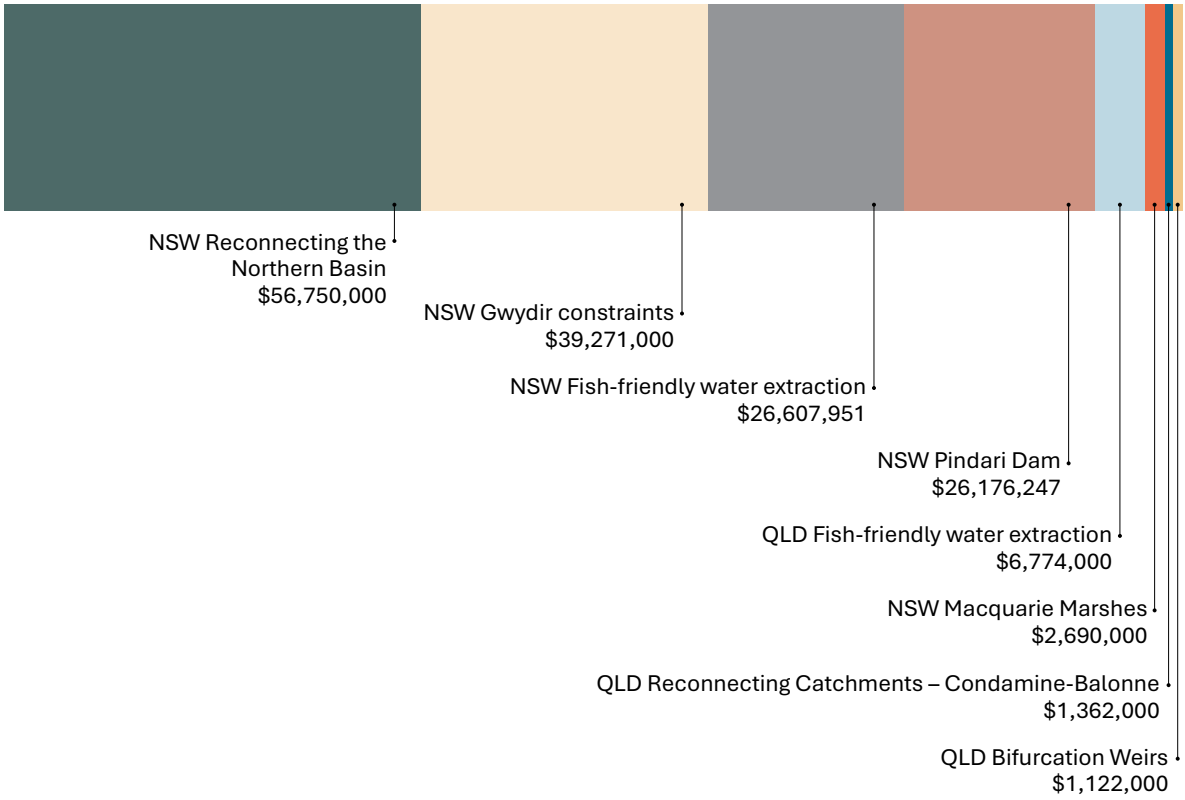
50 DCCEEW, *Northern Basin Toolkit,* Australian Government, Updated: 11 September 2025, Accessed: September 2025.

Measure 6: Environmental Works encompasses a broader suite of infrastructure works across multiple catchments to enhance fish passage, reduce threats to fish health, and improve environmental water delivery to key ecological assets. The projects that proceeded under this measure are:

- QLD Fish-Friendly Water Extraction
- NSW Fish for the Future: Fish-Friendly Water Extraction
- NSW Fish for the Future: Reconnecting the Northern Basin
- NSW Macquarie Marshes Enhanced Watering, and
- NSW Pindari Cold Water Pollution Mitigation.

Implementation progress under the infrastructure measures is more difficult to assess than the policy measures due to project scope modifications during the life of the Toolkit program. Chapters 5 and 6 explore the implementation progress under the infrastructure measures and provide details of what has been delivered and what work remains outstanding for each project. The circumstances and implications of project scope modifications across infrastructure measures are examined in Chapters 6 and 7.

Figure 2-4 Total Australian Government contribution to project business cases and implementation costs (excluding feasibility costs) – $160,753,198



Revised timeline for delivery

Schedule 3 of the IGA originally committed the Australian, New South Wales and Queensland governments to completing all Toolkit measures by 30 June 2024.[51] However, progress on key infrastructure projects under Measure 5 (Gwydir Constraints) and Measure 6 (Environmental Works and Measures) has been considerably slower than anticipated, as explored in Chapters 4 and 5. In recognition of this, in August 2023 Basin Ministers formally agreed to extend the delivery deadline for these measures to 31 December 2026.[52]

51 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.

52 Tanya Plibersek *Historic deal struck to guarantee a future for the Murray–Darling Basin* [Media release] Australian Government, Published: 22 August 2023, Accessed: August 2025.

Figure 2-5 Toolkit measures summarised from Schedule 3 of the IGA

Measure 1 Undertake targeted recovery of water

Achieve strategic water recovery that improves environmental outcomes while minimising socio-economic impacts.

Measure 2 Protection of Environmental Flows

Keep environmental water in-stream to boost flows, with NSW and QLD managing impacts and avoiding unintended gains.

Measure 3 Develop options to support event-based environmental water delivery

Support mechanisms to strengthen environmental water management to benefit environmental outcomes in the northern Murray-Darling Basin.

Measure 4 Coordination and management of Environmental Flows

Recognise and protect environmental water as it moves through the unregulated systems of the northern Basin through enduring management arrangements.

Measure 5 Removal of physical constraints in the Gwydir catchment

To improve the environmental outcomes in the Gwydir wetlands by increasing the flows that can be delivered to key sites.

Measure 6 Environmental works to enhance environmental outcomes

Improve fish movement and habitat through the removal of barriers (e.g. weirs) and other activities to enhance native fish outcomes and other ecological outcomes.

3 Policy measures

The first 4 Toolkit measures are policy measures that involve changes to rules, coordination, and management practices rather than physical construction projects. These measures aim to improve environmental outcomes by making better use of environmental water. As outlined in Figure 2-5 above and Section 2.3, the policy measures are:

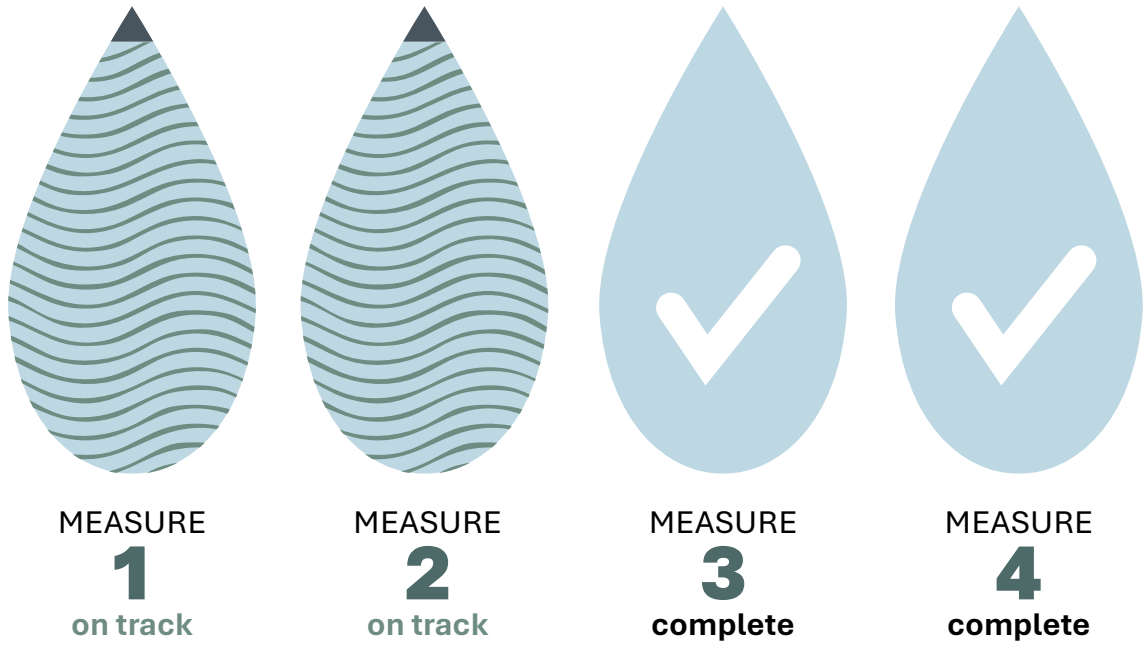
- targeted recovery of water
- protection of environmental flows
- development of event-based mechanisms, and
- improved coordination of environmental flows.[53]

The funding reality

Policy measures did not receive dedicated funding from the $166.3 million Toolkit allocation. Measure 1 is funded through the separate Bridging the Gap water purchasing program. Measures 2, 3, and 4 have been implemented using existing government institutional resources and operational programs.

As these measures are rule-based and rely on regulatory frameworks and intergovernmental coordination, they presented fewer implementation barriers than infrastructure works. However, commitment levels and progress have been uneven across jurisdictions. As known by the Inspector–General in January 2026, progress is indicated in Figure 3-1 below.

Figure 3-1 Policy measure progress markers



53 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.

3.1 Measure 1: targeted water recovery

Water recovery to bridge the gap between baseline diversion limits (BDLs) and SDLs is a statutory requirement under both the Water Act and the Basin Plan.[54] Measure 1 involves completing the remaining water recovery required in the northern Basin under the Basin Plan while 'targeting' purchases to maximise environmental benefits and minimise community impacts. This measure did not receive dedicated Toolkit funding and relies on existing government water purchasing programs.[55]

Purpose and objectives

Measure 1 aims to complete the water recovery needed to meet Basin Plan targets while focusing on specific geographic areas and types of water entitlements to improve environmental outcomes. Under the IGA, the measure seeks to:

> achieve water recovery in a way that improves environmental outcomes into Narran Lakes, Lower Balonne and Culgoa floodplains and the Barwon–Darling River but avoids, minimises or mitigates any adverse Socio-economic impacts of the recovery.[56]

The Basin Plan requires recovery in the northern Basin of:

- 320 GL of surface water entitlements, and
- 38.45 GL of groundwater entitlements.[57]

In essence, this measure involves applying 'targeting' principles to the broader requirement to bridge the gap to northern Basin surface water SDLs, prioritising water purchases that will deliver the greatest environmental benefit while minimising community impacts.

The evolution of 'targeted' water recovery

The NBAC viewed 'targeting' primarily through a Socio-economic lens, recommending that 'buyback in highly vulnerable communities should be minimised'.[58] However, the *Northern Basin Review* adopted a different interpretation, recommending 'targeted recovery of water, both in terms of geographic location and the class of entitlement', with the aim 'to improve environmental watering into Narran Lakes, Lower Balonne and Culgoa floodplains', but noting the 'potential to mitigate social and economic impacts in the Condamine–Balonne by recovering water upstream of the Beardmore Dam'.[59]

Schedule 3 of the IGA strikes somewhat of a middle ground in its intended outcome as extracted above.[60] The Australian Government Department of Climate Change, Energy, the Environment and

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54 *Basin Plan 2012* (Cth) s 5.05; *Water Act 2007* (Cth) s 28

55 DCCEEW, *Strategic water purchasing – Bridging the Gap,* Australian Government, Updated: 17 September 2025, Accessed: September 2025.

56 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013,* Appendix A, Published: 9 August 2019, Accessed: August 2025 ; NBAC, *Finding the balance: Final report of the Northern Basin Advisory Committee,* Australian Government, 9 October 2016, p 9 ; MDBA, *The Northern Basin Review: Understanding the economic, social and environmental outcomes from water recovery in the northern basin,* Australian Government, November 2016, p 7 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 48.

57 *Basin Plan 2012* (Cth) sch 2, sch 4 ; MDBA, *Progress on water recovery,* Australian Government, Updated: 17 September 2025, Accessed: September 2025.

58 NBAC, *Finding the balance: Final report of the Northern Basin Advisory Committee,* Australian Government, 9 October 2016, pp 8-9.

59 MDBA, *The Northern Basin Review: Understanding the economic, social and environmental outcomes from water recovery in the northern basin,* Australian Government, November 2016, p 7.

60 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013,* Sch 3, Published: 9 August 2019, Accessed: August 2025.

Water (DCCEEW) has stated that the 'targeted' nature of water recovery under the IGA 'considers both the geographic location and the class of entitlement to improve environmental benefits'.[61]

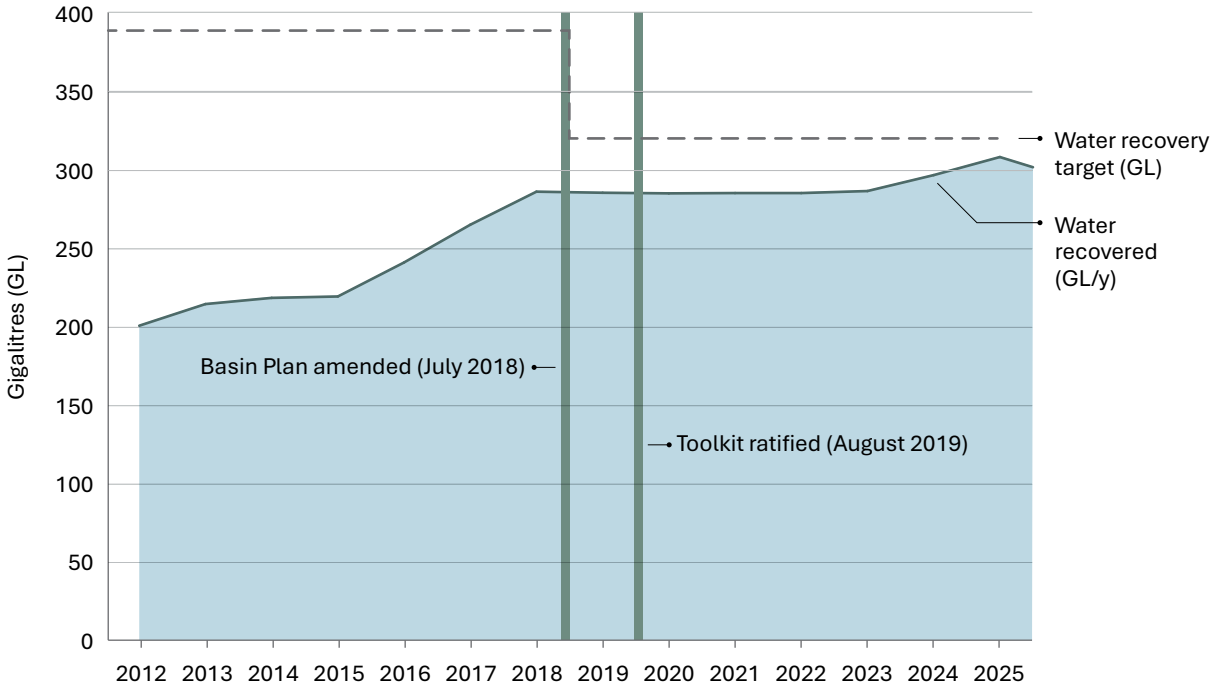
The Inspector–General notes that the concept of 'targeted' water recovery has evolved significantly, with different stakeholders interpreting the term differently as demonstrated by the varying definitions from NBAC, the *Northern Basin Review*, and the IGA. In practice, implementation has focused on completing the remaining water recovery required under the Basin Plan rather than specific targeting aspects originally envisioned.

Implementation progress

The measure is implemented through the Australian Government's existing Strategic Water Purchasing Framework, using funding from the Sustainable Rural Water Use and Infrastructure Program.[62]

When the Basin Plan was formally amended in July 2018 to reflect the reduced recovery target, 295 GL (92% of 320 GL) had already been recovered.[63] Water purchases did not occur under this measure from the Toolkit's commencement in 2019 until 2022.

Figure 3-2 Northern Basin surface water recovery target over time, to 31 December 2025[64]



61 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 9.

62 DCCEEW, *Water reform funding in the Murray–Darling Basin,* Australian Government, Updated: 23 September 2025, Accessed: September 2025.

63 DAWE, *Northern Basin Programs Taskforce report: Northern Basin Review,* Australian Government, November 2017, p 6.

64 DAWE, *Northern Basin Programs Taskforce report: Northern Basin Review,* Australian Government, November 2017, p 6 ; MDBA, *Progress on water recovery towards 'Bridging the Gap' to sustainable diversion limits (SDLs) as at 31 December 2025,* Australian Government, 25 February 2026, p 1.

Water recovery activities resumed in 2023 with the publication of the *Strategic Water Purchasing Framework*, and the *Trading Strategy Addendum* in 2024.[65] These documents set out how water recovery incorporates targeting principles through tender processes assessing environmental utility alongside cost and other factors. DCCEEW reports that the remaining recovery has proceeded through strategic tender processes in specific catchments.[66]

Current status

In a public presentation in August 2025, DCCEEW stated that approximately 98% of the revised surface water recovery target had been achieved.[67] As at 30 June 2025, the MDBA calculated that 6.9 GL remained to be recovered in the northern Basin,[68] but as at 30 September and 31 December 2025, 15.6 GL remained.[69] DCCEEW released its *2025–26 Strategic Water Purchasing Framework Addendum* in September 2025 which stated that a:

> series of staged water entitlement recovery initiatives is planned to the end of 2026 to recover water in the identified catchments to close the gap and achieve the SDL target.[70]

In a webinar on 9 December 2025, DCCEEW confirmed that all surface water recovery in Queensland catchments had been achieved, with remaining gaps in New South Wales catchments: the NSW Border Rivers, Namoi, Macquarie-Castlereagh and Barwon–Darling.[71]

The Inspector–General acknowledges that the IGA does not contain a specific water recovery target figure, and as such, it is open to interpret that this measure has already been completed. However, given the connection between the creation of the Toolkit and the reduction in the northern Basin surface water recovery target from 390 GL to 320 GL per year, the Inquiry has assessed implementation progress for this measure against the 320 GL surface water recovery target for the northern Basin now defined in the Basin Plan.[72]

Measure 1 can be considered largely successful in terms of water recovery volumes. Since the measure essentially implements mandatory Basin Plan water recovery requirements, it is difficult to attribute progress specifically to the Toolkit program, as the water recovery was already required under the Basin Plan. Therefore, this success reflects the broader success of Basin Plan water recovery rather than specific Toolkit obligations.

While tenders include environmental utility criteria, it remains unclear whether the 'targeting' aspects have resulted in meaningfully different outcomes compared to standard water purchasing approaches.

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65 DCCEEW, *Strategic Water Purchasing Framework*, Australian Government, 2023 ; DCCEEW, *Trading Strategy Addendum*, Australian Government, June 2024.

66 DCCEEW, *Strategic water purchasing – Bridging the Gap*, Australian Government, Updated: 17 September 2025, Accessed: September 2025.

67 DCCEEW, *Recording: Implementing the Murray–Darling Basin Plan: August 2025*, Australian Government, 18 August 2025.

68 MDBA, *Progress on water recovery summary towards 'Bridging the Gap' to sustainable diversion limits (SDLs) as at 30 June 2025*, Australian Government, 17 September 2025, p 1.

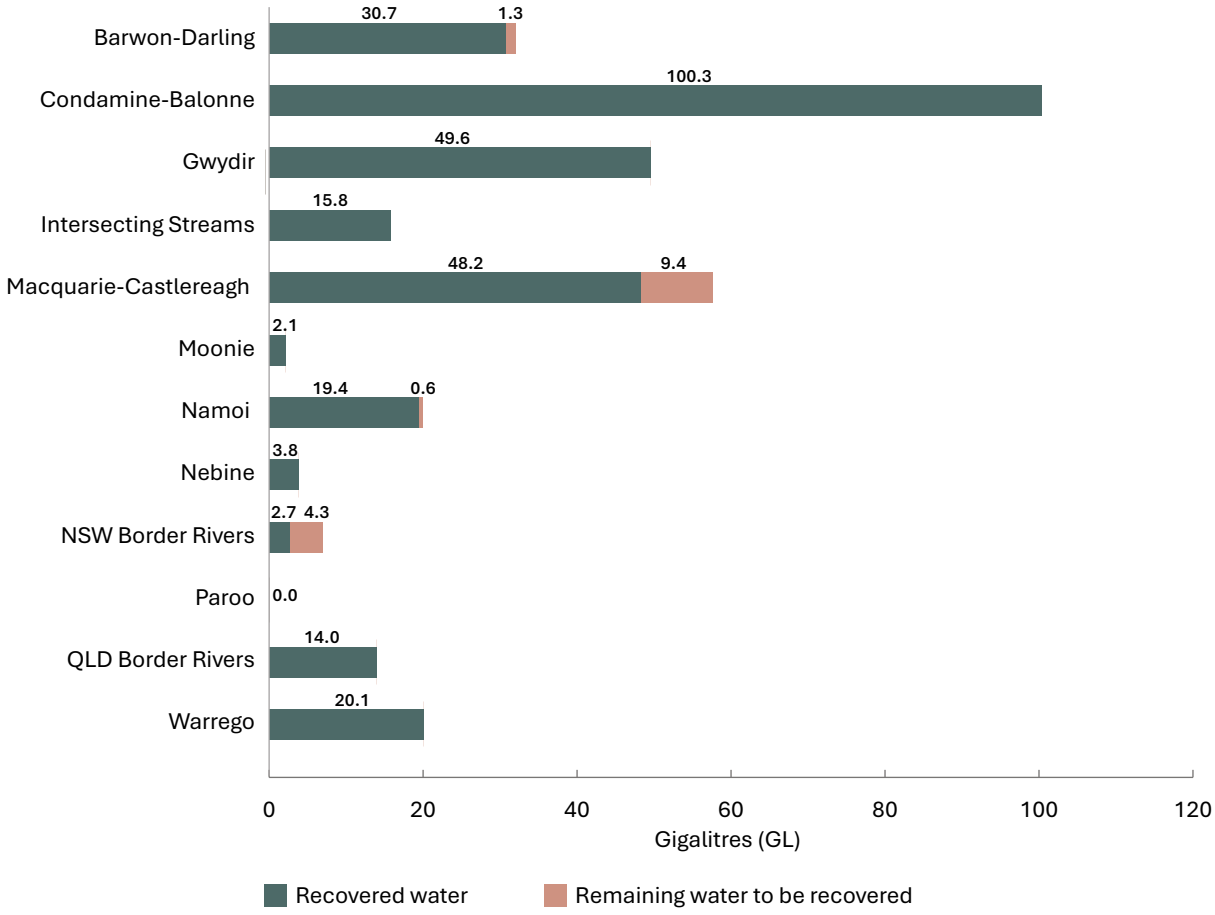
69 MDBA, *Progress on water recovery towards 'Bridging the Gap' to sustainable diversion limits (SDLs) as at 30 September 2025*, Australian Government, 19 November 2025, p 1 ; MDBA, *Progress on water recovery towards 'Bridging the Gap' to sustainable diversion limits (SDLs) as at 31 December 2025*, Australian Government, 25 February 2026, p 1.

70 DCCEEW, *Strategic Water Purchasing Framework (Bridging the Gap) – Trading Strategy Addendum 2025–26*, Australian Government, September 2025.

71 DCCEEW, *Implementing the Murray–Darling Basin Plan: December 2025 Update*, Australian Government, 11 December 2025.

72 *Basin Plan Amendment Instrument (No. 1) 2018* (Cth) ; *Basin Plan 2012* (Cth) sch 2 ; MDBA, *Progress on water recovery*, Australian Government, Updated: 17 September 2025, Accessed: September 2025.

Figure 3-3 Northern Basin water recovery progress towards the 320 GL surface water recovery target, by SDL resource unit area, with 15.6 GL outstanding as at 31 December 2025 (not including some over-recovery in the Condamine–Balonne and NSW Intersecting Streams catchments)[73]



3.2 Measure 2: protecting environmental flows

Measure 2 focuses on ensuring that HEW (water prevented from consumption to achieve environmental outcomes)[74] remains protected from unauthorised extraction as it flows through river systems and across the New South Wales–Queensland border.[75] Like other policy measures, it did not receive dedicated Toolkit funding and relies on existing regulatory frameworks and intergovernmental coordination.

73 MDBA, *Progress on water recovery towards 'Bridging the Gap' to sustainable diversion limits (SDLs) as at 31 December 2025*, Australian Government, 25 February 2026, p 1.

74 *Water Act 2007* (Cth) s 4.

75 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Appendix A, Published: 9 August 2019, Accessed: August 2025.

Purpose and objectives

This measure addresses an important challenge in unregulated river systems where flows are predominantly influenced by rainfall rather than dam releases. Without protection arrangements, environmental water can be extracted by downstream users before it reaches its intended environmental targets.

Under the IGA, this measure aims:

> to improve outcomes in the northern Murray–Darling Basin to allow HEW to remain in-stream to be used for environmental outcomes enhancing low flows and fresh flows, particularly in the unregulated systems, where adverse impacts on other entitlement holders are mitigated by states and unintended gains avoided.[76]

The IGA establishes specific commitments for Queensland and New South Wales under this measure:

- in the QLD Condamine–Balonne system, introducing management arrangements to protect additional flows through the Lower Balonne from upstream water recovery
- in New South Wales unregulated systems (Barwon–Darling, Macquarie–Bogan, and Gwydir), introducing arrangements to ensure HEW remains in-stream for environmental purposes, and
- establishing accounting systems to track held environmental water as it moves across the Queensland-New South Wales border.[77]

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76 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Appendix A, Published: 9 August 2019, Accessed: August 2025 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 49.

77 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Appendix A, Published: 9 August 2019, Accessed: August 2025 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 49.

Implementation progress

This measure involves multiple linked management arrangements to ensure environmental water remains protected as it moves across jurisdictions and through different river systems. Progress on the key components of the IGA, and the agreed project outcomes in the *Toolkit Program Logic Model* (a framework document published by DCCEEW in September 2025 to provide benchmarks for evaluating the Toolkit) are outlined below.[78]

Active management protections have been in place in the unregulated Barwon–Darling, Gwydir, and Macquarie–Bogan water sources since December 2020.[79] DCCEEW reported in its *Basin State Performance Assessment 2024–25* that since 2021, 481 GL of HEW has been recognised moving across the New South Wales–Queensland border to May 2025.[80]

Management arrangements to protect additional flows through the Lower Balonne from upstream water recovery– Complete

Queensland has implemented mechanisms in state water plans to protect HEW recovered upstream of Beardmore Dam through the Lower Balonne in the *Condamine and Balonne Water Management Protocol*.[81]

Management arrangements to measure and protect HEW embedded in accredited QLD and NSW WRPs – Partially complete

All QLD WRPs are accredited and include environmental water protection arrangements. However, 4 relevant New South Wales WRPs remain unaccredited: surface water plans for the Gwydir and Namoi, and groundwater plans for the Gwydir and Namoi Alluviums.[82]

The accreditation of these final WRPs does not have a set timeframe. While their accreditation would complete the administrative requirements of this component, the substantive environmental protection functions are already operational.[83]

Annual reporting on active management in 3 unregulated water sources (Gwydir, Macquarie & Barwon–Darling) – Complete

New South Wales publishes annual reviews tracking active management implementation in the 3 unregulated water sources, with reports available since 2020.[84] These reports indicate the active management rules have been largely effective at protecting active environmental water while identifying areas requiring further improvement to support effective active management.[85]

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78 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013,* Appendix A, Published: 9 August 2019, Accessed: August 2025 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 49.

79 Department of Planning and Environment, *2020–21 Active Management Annual Evaluation and Review–Full Report: Full report on active management in the unregulated water sources of the Barwon–Darling, Gwydir and Macquarie–Bogan,* NSW Government, October 2022, p 18.

80 DCCEEW, *Basin state performance assessment 2024–25: Implementing Water Reform in the Murray–Darling Basin,* Australian Government, February 2025, p 45.

81 Department of Natural Resources, Mines and Energy, *Condamine and Balonne: Water Management Protocol,* QLD Government, February 2019 (amended March 2019).

82 MDBA, *Basin Plan Report Cards,* Australian Government, Updated: 7 April 2025, Accessed: July 2025 ; MDBA, *Northern Basin Toolkit Measures – Workplan update,* Australian Government, 30 June 2025, p 1.

83 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 15 ; MDBA, *Northern Basin Toolkit Measures – Workplan update,* Australian Government, 30 June 2025, p 1.

84 NSW Water, *Active management,* NSW Government, [Undated], Accessed: August 2025.

85 Department of Planning and Environment, *2020–21 Active Management Annual Evaluation and Review – Full Report,* NSW Government, October 2022, pp 6-8 ; Department of Planning and Environment, *2021–22 Active Management Annual Evaluation and Review,* NSW Government, September 2023, pp 6-7 ; Department of Planning and Environment, *2022–23 Active Management Annual Evaluation and Review,* NSW Government, June 2024, pp 4-6 ; DPE, *2023–24 Active Management Annual Evaluation and Review,* NSW Government, June 2025, pp 6-7.

Accounting system to measure and protect HEW across the New South Wales–Queensland border

A loss accounting method for HEW across the state border was developed and approved in June 2025 for implementation alongside the Barwon–Darling Unregulated WSP.[86] However, that WSP expired on 30 June 2025, rendering these accounting arrangements inactive from 1 July until 24 December 2025, when New South Wales issued a Temporary Water Restriction Order reinstating protections.

Figure 3-4 Intersecting Streams water sources showing the previous gap in arrangements to manage HEW[87]

Current status

The IGA requirements for New South Wales and Queensland are that:

> In the Queensland Condamine–Balonne system, management arrangements that recognise and protect additional flows through the Lower Balonne resulting from water recovery upstream of Beardmore Dam were to be introduced.
>
> In the New South Wales Barwon–Darling and relevant water sources in the lower Macquarie–Bogan and lower Gwydir unregulated water sharing plan areas, management arrangements that allow HEW recovered for the environment to remain in-stream for the environment were to be introduced.[88]

86 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 15 ; MDBA, *Northern Basin Toolkit Measures – Workplan update,* Australian Government, 30 June 2025, p 1.

87 NSW DCCEEW, *Intersecting Streams held environmental water extraction risk assessment,* NSW Government, March 2025, p 8.

88 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Appendix A, Published: 9 August 2019, Accessed: August 2025.

Due to the broad terms of the IGA, Measure 2 can be considered operationally complete against the expectations of the IGA as environmental water protection mechanisms have been implemented across the northern Basin (as outlined above).

The *Toolkit Program Logic* agreed by the Australian Government and approved through the NBPC and the BOC to 'provide the benchmark for evaluation of the Toolkit' specifies that the outcomes expected at completion of the Toolkit include:

- an accounting system to measure and protect HEW across the New South Wales–Queensland border
- management arrangements to measure and protect HEW embedded in accredited New South Wales and Queensland WRPs and the relevant statutory water plans in each state
- annual reporting implementation of active management in 3 unregulated water sources (Gwydir, Macquarie & Barwon–Darling) specified in the active management procedures manuals, and
- mechanisms to protect environmental flows implemented through accredited WRPs.[89]

Environmental water protection arrangements are in place with active management procedures within New South Wales and Queensland statutory water plans. However, completion against the *Toolkit Program Logic* depends on the accreditation of the 4 relevant outstanding New South Wales WRPs, and this accreditation process does not have a set timeframe.[90]

Measure 2 demonstrates how policy approaches can work when they build on existing regulatory frameworks and intergovernmental cooperation. Unlike infrastructure measures requiring new construction, this measure achieved its environmental objectives by enhancing existing water management systems and improving coordination between New South Wales and Queensland.

Therefore, the Inspector–General considers this measure improved protections of HEW in the northern Basin while the arrangements were operational.

However, the expiry of the New South Wales Barwon–Darling WSP on 30 June 2025 created a critical vulnerability that exposed the fragility of these arrangements. From 1 July 2025 until 24 December 2025, active management arrangements and accounting mechanisms could not operate, leaving environmental water exposed to extraction. The CEWH advised that from 7 September to 15 December 2025, more than 40 GL of Commonwealth environmental water remained unused in the Barwon-Darling system because protections were inactive. This impacted the Menindee Lakes connectivity trial, which relies on HEW being recognised, protected and accounted as it flows down the Barwon-Darling.[91]

On 24 December 2025, New South Wales issued a Temporary Water Restriction Order under section 324 of the *Water Management Act 2000* (NSW) to reinstate active management protections until 30 June 2026 or until a new WSP commences.[92] This order protects active environmental water consistent with the previous WSP provisions, including protection of HEW arriving from upstream systems. While this order addressed the immediate protection gap until the WSP was remade in early 2026, the six-month period without protections demonstrates the vulnerability of policy measures that depend entirely on state water planning instruments.

89 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024, p 48.

90 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024, p 15.

91 Information provided by the CEWH to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

92 NSW Water, *Barwon–Darling Unregulated River Water Source*, NSW Government, Updated: 24 December 2025, Accessed: January 2026.

Northern to Southern Basin Environmental Flow Protection Trial

In May 2024, Basin jurisdictions trialled extending environmental water protection beyond the northern Basin for the first time. The trial built directly on the Measure 2 active management procedures to protect 41.8 GL of northern Basin environmental water as it flowed through Menindee Lakes and down the lower Darling River to the Murray Mouth.[93]

As explained in the September 2024 report on the trial, under normal arrangements, environmental water protected in the northern Basin is captured at Menindee Lakes and shared between New South Wales and Victoria for reallocation to water users. The trial allowed this protected environmental water to continue its journey to the southern Basin, with Victoria ceding its share to enable New South Wales to release the full volume for environmental purposes.[94]

Analysis showed that the trial delivered significant water quality benefits, successfully flushing persistent blue-green algae from the full length of the lower Darling River and improving connectivity between the northern and southern Basin systems.[95]

While this trial extends beyond the Toolkit scope, it demonstrates the practical value of the Measure 2 environmental flow protection framework and how it can be used to improve environmental water management across the entire Basin. However, the Barwon–Darling WSP expiry also impacts the connectivity trial, which relies on HEW being recognised, protected and accounted as it flows down the Barwon–Darling and into the Menindee Lakes. This key initiative to improve Lower Darling River health and prevent fish kills is currently compromised by the inactive protection arrangements.

3.3 Measure 3: event-based mechanisms

An event-based mechanism (EBM) is a flexible tool allowing environmental water holders to provide extra water to important environmental sites when required. EBMs are contractual arrangements allowing environmental water managers to respond quickly to natural flow events and critical ecological needs. These include temporarily purchasing water harvesting allocations, buying and releasing water from private storage facilities, 'no-pump' arrangements, or permanent 'at-call' agreements that can be activated when specific environmental flow conditions are met. This additional water works alongside permanent water holdings of the CEWH to achieve better environmental outcomes during specific flow events at important ecological sites, such as the internationally significant Narran Lakes.[96]

The measure aims to support the development of contractual and other mechanisms complementing environmental water management in the northern Basin.[97]

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93 NSW DCCEEW, *Northern–Southern Murray Darling Basin connectivity trial,* NSW Government, September 2024, p 4 ; MDBA, *Basin Officials Committee Communique – August 2025* [Communique], BOC, Published: 5 September 2025, Accessed: October 2025 ; CEWH, *Now is the time for an enduring solution to connect the northern and southern Basin* [Media Release], Australian Government, Published: 25 June 2024, Accessed: October 2025.

94 NSW DCCEEW, *Northern–Southern Murray Darling Basin connectivity trial,* NSW Government, September 2024, p 4.

95 NSW DCCEEW, *Northern–Southern Murray Darling Basin connectivity trial,* NSW Government, September 2024, p 19.

96 MDBA, *Northern Basin Toolkit Measures: August 2023 progress update from the Northern Basin Project Committee,* Australian Government, 10 August 2023, p 6 ; CEWH, *A comparative assessment of event-based mechanisms for providing water to the Narran Lakes,* Updated: 3 October 2021, Accessed: August 2025.

97 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013,* Appendix A, Published: 9 August 2019, Accessed: August 2025 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 49.

Implementation progress

The CEWH had been developing EBMs for several years prior to the Toolkit being formally agreed in 2019. A comparative assessment of EBMs by BDA Group and CSIRO was commissioned in 2017,[98] and an implementation plan for EBMs in the Lower Balonne by Marsden Jacob Associates was completed in 2019.[99]

Two EBMs have been successfully implemented to date, with 2 others commenced but ultimately not completed.

2020: 'No-pump' pilot project

A 'no pump' event involves paying water allocation holders that are legally entitled to pump water from rivers, to not pump their entitlements.[100]

This pilot event aimed to rebuild waterbird habitat at Narran Lakes following 7 years of drought. One water licence holder accepted, resulting in an additional 9.7 GL of water flowing to the Narran Lakes, which supported vegetation recovery and reconnected waterhole habitats.[101]

Several organisations and agencies collaborated to monitor this pilot EBM, including local First Nations representatives from the Narran Lakes Nature Reserve Joint Management Committee.[102]

2021: 'No-pump' event (not completed)

Another 'no pump' grant was established in 2021 when around 330 GL of flow passed the St George gauge in March–April. However, eligible entitlement holders chose not to participate.[103]

2022: 'Release from storage' event (not completed)

A 'release from storage' event involves a grant agreement where water licence holders are reimbursed for releasing water from private storage into river systems.[104]

In early 2022 a grant was established to enable access to water from private on-farm storages on the Narran River to maintain water levels in the Narran Lakes to support waterbird breeding. While there was a willing grant participant, rainfall and natural flows met environmental demands without requiring additional flows.[105]

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98 BDA Group and CSIRO, *A comparative assessment of event-based mechanisms for providing water to the Narran Lakes,* prepared for the CEWH, Australian Government, 16 October 2017.

99 Marsden Jacob Associates, *Event-based mechanisms in the Lower Balonne: Implementation Overview,* prepared for the CEHW, Australian Government, April 2020.

100 DAWE, *Narran Lakes Water Reimbursement Project: Grant Opportunity Guidelines,* Australian Government, 14 February 2020, p 3.

101 CEWH, *Pilot to rebuild waterbird habitat – Narran Lakes,* Australian Government, Updated: 3 October 2021, Accessed: August 2025 ; CEWH, *Submission to the Inspector–General of Water Compliance Northern Basin Toolkit Inquiry,* Australian Government, November 2024, p 7 ; DG Consulting, *Narran Lakes Event Based Mechanism Pilot Project Review,* prepared for the CEHW, Australian Government, 28 May 2020, p 4 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 25.

102 CEWH, *Working together for Dharriwaa,* Australian Government, Last Updated: 3 October 2021, Accessed: September 2025.

103 CEWH, *Continuing to rebuild waterbird habitat at Narran Lakes (Dharriwaa),* Australian Government, Updated: 14 January 2022, Accessed: August 2025 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 25.

104 DCCEEW, *Supporting waterbird breeding at Narran Lakes in 2023: Grant Opportunity Guidelines,* Australian Government, 1 February 2023, p 4.

105 CEWH, *Supporting waterbirds at Narran Lakes (Dharriwaa),* Australian Government, Updated: 7 March 2022, Accessed: August 2025 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 25.

2023: ‘Release from storage’ event

In 2023, a grant was established to support colonial waterbird breeding at Narran Lakes as dropping water levels increased the risk of unsuccessful breeding events. As a result, one water licence holder released approximately 6.5 GL of water from private storage into the Narran River.[106]

According to an independent assessment, the event refreshed flows in the Narran River, reconnected waterholes and improved habitat and food sources for fish and waterbirds. Approximately 2.4 GL reached Narran Lakes which assisted key wetland areas to remain wet during critical waterbird breeding time, supporting a successful waterbird breeding event, and extended critical water levels in Back Lake by approximately 26 days.[107]

The CEWH continues to work with New South Wales and Queensland governments, community and industry to implement EBM recommendations. The Inspector–General understands that the CEWH is working to move away from short-term, ad-hoc grant arrangements toward longer-term arrangements such as standing offers for future EBMs, to improve the efficiency and responsiveness of future events.[108]

A framework to streamline EBMs is also being developed to improve decisions around triggering, selecting and implementing EBMs.[109]

Current status

Under the IGA, Measure 3 was designed to support the development of contractual mechanisms that complement environmental water management to benefit the northern Basin. Specifically, Queensland and New South Wales committed to work with the CEWH to ‘develop a framework’ enabling the implementation of a broad range of EBMs.[110]

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106 Greg Claydon, *Independent Review of the Narran Lakes (Dharriwaa) Release from Private Storage Event Based Mechanism Grant 2023: Final Report to the Commonwealth Environmental Water Holder*, prepared for the CEWH, Australian Government, September 2023, pp 12 & 26.

107 Greg Claydon, *Independent Review of the Narran Lakes (Dharriwaa) Release from Private Storage Event Based Mechanism Grant 2023: Final Report to the Commonwealth Environmental Water Holder* prepared for the CEWH, Australian Government, September 2023, pp 26 & 32.

108 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024, p 27.

109 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

110 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Appendix A, Published: 9 August 2019, Accessed: August 2025.

The agreed *Toolkit Program Logic* key outcomes have all been achieved:

- **Management tools embedded** – EBMs are now available as a management tool for the CEWH in the Lower Balonne, though further work continues to develop procedures for a broader range of mechanisms.
- **Environmental outcomes delivered** – 2 successful EBMs in 2020 and 2023 rebuilt waterbird habitat at Narran Lakes, with the 2023 event supporting the most successful bird breeding at the site in a decade.
- **Social and economic impacts minimised** – EBMs provide a potential alternative to permanent water recovery, keeping water in productive use while achieving environmental outcomes.
- **Stakeholder engagement** – Communication and monitoring programs involve landholders, First Nations representatives and research institutions, although independent review identified opportunities to improve direct engagement with First Nations people.[111]

While work continues to refine policy frameworks around EBMs, the Inspector–General considers this measure complete against both the broad outcomes intended under the IGA and the specific outcomes identified in the agreed *Toolkit Program Logic*.

3.4 Measure 4: coordinating and delivering environmental water

Coordinating environmental water across jurisdictions and catchments is essential for maximising water recovery benefits in the northern Basin. When Basin States work together to plan and deliver environmental flows, they can achieve better connectivity, use water more efficiently, and deliver comprehensive environmental outcomes that extend beyond individual catchment boundaries.[112]

Purpose and objectives

Measure 4 aims to address the problem that formal arrangements were not previously in place to collaborate on joint environmental water planning and delivery across jurisdictions and catchments to achieve environmental outcomes across the whole northern Basin to maximise water recovery benefits.[113]

Under the IGA, the expected outcome is the 'efficient and effective use of HEW across the New South Wales–Queensland border, and between northern tributaries and the Barwon–Darling'. The Australian, New South Wales and Queensland governments committed to agree on a mechanism to coordinate planning and delivery of environmental water across the Basin.[114]

111 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024 p 48.
112 CEWH, *Submission to the Inspector–General of Water Compliance Northern Basin Toolkit Inquiry*, Australian Government, November 2024, p 9.
113 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024, p 51.
114 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Appendix A, Published: 9 August 2019, Accessed: August 2025.

Implementation progress

Measure 4 implementation focuses on establishing formal coordination mechanisms and proving their effectiveness through joint environmental releases. Measure 4 progress is supported by the HEW protections provided under Measure 2 to improve environmental watering activities.

The Northern Basin Environmental Watering Group (NBEWG) was established in 2019 to coordinate the planning and delivery of environmental water events in the northern Basin. The group includes representatives from the CEWH, DCCEEW, MDBA, New South Wales, Queensland, and First Nations representatives from the northern Basin.[115] In an interview with the Inspector–General, senior representatives from the Queensland Department of Local Government, Water and Volunteers (QLD DLGWV) stated that in terms of engagement with NBEWG, 'we work quite collaboratively'.[116]

Since 2018, the Australian, New South Wales and Queensland governments have successfully coordinated 4 major joint environmental releases:

- **2018 Northern Connectivity Event** – Released 23 GL of Australian and New South Wales Government environmental water from Glenlyon and Copeton dams to address extended drought conditions. The flows travelled over 2,000 km across 3 months to reach Menindee Lakes, connecting waterholes and benefiting the Gwydir, Mehi, Dumaresq, Macintyre and Barwon – Darling rivers.[117]
- **2019 Northern Fish Flow –** Used 36 GL of Australian and New South Wales Government environmental water when flow had ceased along much of the Barwon–Darling River, with dried waterholes and poor water quality threatening native fish survival. The release replenished weir pools and improved water quality across 1,500 km of river system, washing organic material downstream and improving oxygen levels in waterholes.[118]
- **2020–2021 Northern Waterhole Top-Up** – A combined 8 GL release by the Australian and New South Wales governments from Pindari and Copeton dams when the Barwon River had not flowed for over 60 days. The release connected over 1,380 km of river system, maintained oxygen levels to protect native fish and supported the broader river ecosystem.[119]
- **2022–2023 Northern Refresh** – Combined 25.7 GL from multiple sources including Gwydir, Namoi, Macquarie and Barwon–Darling environmental water to prevent rivers drying down too quickly before winter. This refreshed over 2,000 km of river habitat, improved water quality through better oxygen levels, and reduced algae to levels safe for recreational and stock use.[120]

115 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 20 ; CEWH, *Submission to the Inspector–General of Water Compliance Northern Basin Toolkit Inquiry,* Australian Government, November 2024, p 9.

116 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

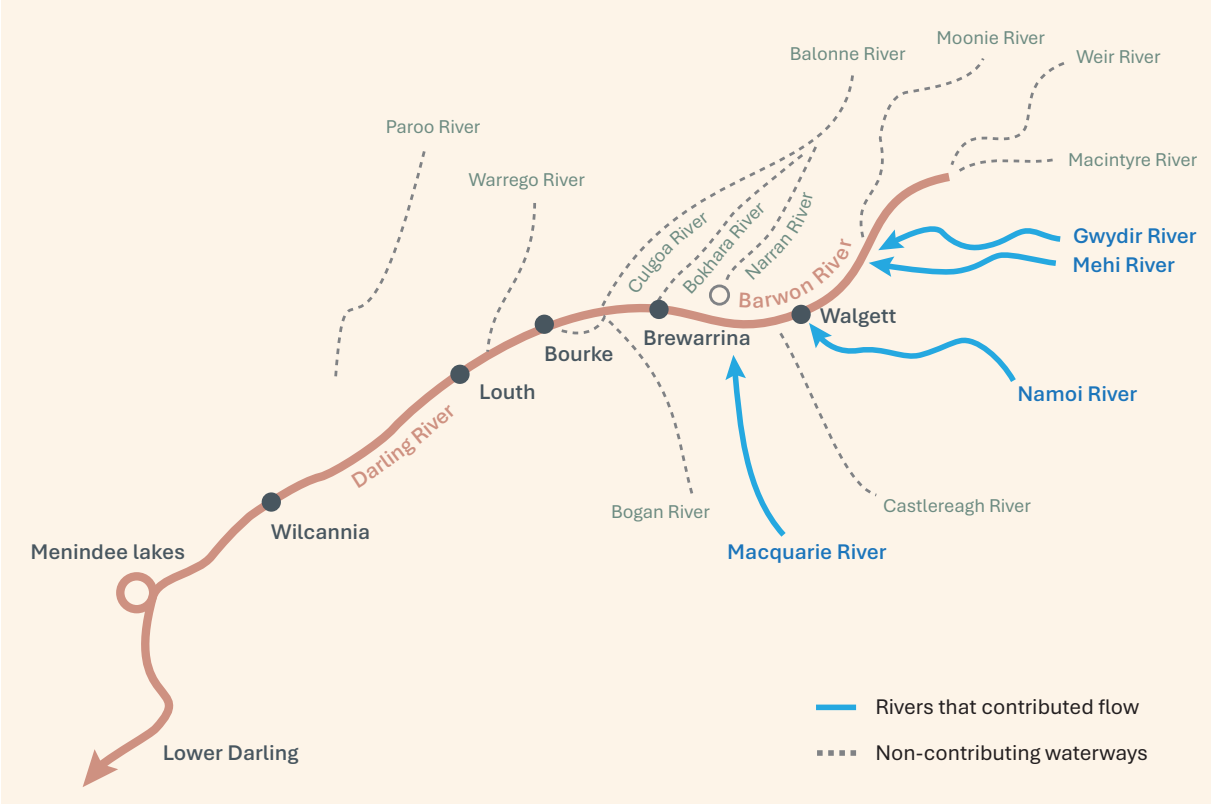
117 CEWH, *The Northern Rivers,* Australian Government, Updated: 3 October 2021, Accessed: August 2025.

118 Eco Logical Australia, *Barwon Darling Water Quality during the Northern Fish Flow March–August 2019,* prepared for the CEWH, Australian Government, 28 April 2020, pp 5 & 35 ; CEWH, *Northern Fish Flow wrap-up – 11 September 2019,* Australian Government, 3 October 2021, p 2.

119 CEWH, *Northern Waterhole Top-up – Flow Update 1,* Australian Government, 22 December 2020, p 1 ; CEWH, *Northern Waterhole Top-up – Flow Update 4,* Australian Government, 12 February 2021, p 1.

120 CEWH, *Northern Refresh Flow 2022–23 Update 1,* Australian Government, 1 May 2023 ; CEWH, *Northern Refresh Flow 2022–23 Update 2,* Australian Government, 10 August 2023.

Figure 3-5 Map outlining the main features of the 2022–2023 Refresh Flow[121]



Current status

Work under Measure 4 established the NBEWG as an ongoing coordination mechanism and demonstrated the environmental benefits able to be delivered through coordinated releases in the northern Basin.[122]

Key achievements include:

- **Working arrangements in place** – The NBEWG provides an established mechanism for coordinated planning and delivery of environmental water across the northern Basin.
- **Proven results –** 4 successful joint environmental releases have delivered improvements in water quality, river connectivity, and native fish habitat across thousands of kilometres of river systems.
- **First Nations involvement –** First Nations representatives participate in environmental water planning through formal NBEWG membership.
- **Supporting rules –** Changes to New South Wales WSPs and WRPs enable effective environmental water coordination.[123]

121 CEWH, *Northern Refresh Flow 2022–23 Update 1,* Australian Government, May 2023, p 3.
122 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 20.
123 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 21.

DCCEEW reports that coordinated joint environmental watering has become standard practice for managing environmental water and that the measure has created lasting arrangements that will continue to benefit northern Basin environmental water management long after the Toolkit is finished.[124]

The Inspector–General considers this Toolkit measure complete against the requirements set out in the IGA.

Figure 3-6 Darling River at Tilpa NSW, April 2018 (before the Northern Connectivity Event 2018) Reproduced by permission of the Australian Broadcasting Corporation – Library Sales Tm Lee © 2018 ABC)[125]

Figure 3-7 Darling River at Tilpa NSW, June 2018 (during the Northern Connectivity Event 2018)[126]

124 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, pp 21 & 51.

125 Lee, Tim, ABC News, *Murray–Darling Basin: Cricket match on nation's driest pitch highlights worsening drought,* Published: 14 April 2018.

126 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024, p 23.

Figure 3-8 Collarenebri Weir 21 May 2019 (before the Northern Fish Flow 2019)[127]

Figure 3-9 Collarenebri Weir 28 May 2019 (during the Northern Fish Flow 2019)[128]

127 CEWH, *Northern Fish Flow wrap-up – 11 September 2019*, Australian Government, 3 October 2021, p 2.
128 CEWH, *Northern Fish Flow wrap-up – 11 September 2019*, Australian Government, 3 October 2021, p 2.

4 Infrastructure measure 5: Gwydir constraints (Reconnecting Watercourse Country Program)

Measure 5 is significant within the Toolkit both in terms of funding and intended outcomes. Measure 5 received approximately $40.5 million (almost a quarter) from the overall $166.3 million Toolkit funding commitment and had an ambitious objective within the IGA to 'remove system constraints in the Gwydir catchment'.[129] As such, it was a particular focus for the Inspector–General. This chapter outlines the context of constraints, particularly within the Gwydir catchment, predating its inclusion in the Toolkit under the IGA.

4.1 Understanding the problem

The term 'constraints', in the context of the Basin refers to barriers that prevent environmental water from reaching its intended destination at the right time, and in the right volumes. These barriers have developed over decades as the Basin has been modified for agriculture, flood management and urban development.[130]

Constraints fall into several categories:

- **Physical constraints** such as raised banks, levees, roads, channel capacity, drains, weirs, and other infrastructure that block, limit or redirect water flows including by preventing lateral flow onto floodplains, reducing connectivity and encouraging deeper flows bypassing wetland areas.
- **Policy constraints** including legislation and water management rules that limit when, where, and how environmental water can be delivered.
- **Operational constraints** relating to the practical challenges of delivering water on the ground, including coordination between water managers and timing with natural events which compound physical constraints.
- **Social constraints** (third-party impacts) where delivering environmental water requires temporarily inundating private land, affecting farm operations, property access and landholder livelihoods. These constraints require negotiating solutions that balance environmental needs with legitimate concerns about impacts on productive enterprises.[131]

Relaxing constraints to enable higher flow rates in waterways is essential for realising the full environmental benefits of the billions of dollars invested in water recovery under the Basin Plan. Without addressing these barriers, recovered environmental water cannot reach many of the Basin's most important ecological assets, compromising environmental water recovery and delivery efforts.[132]

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129 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.

130 MDBA, *Gwydir region reach report,* Australian Government, June 2015, pp 4, 8 & 9.

131 MDBA, *Gwydir region reach report,* Australian Government, June 2015, p 4 ; MDBA, *Constraints Management Strategy 2013 to 2024,* Australian Government, November 2015, p v ; MDBA, *Further information on Constraints program and associated modelling,* Australian Government, September 2019, p 4 ; Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

132 MDBA, *Constraints Management Strategy 2013 to 2024,* Australian Government, November 2015, p 69.

4.2 The Gwydir challenge

The Gwydir catchment demonstrates how these constraints challenges play out in practice, as it faces a complex combination of physical (man-made and natural) and social constraints preventing environmental water from reaching critical wetlands. Water flowing down the Gingham Watercourse, Lower Gwydir Watercourse, and Lower Mehi River is impeded by decades of agricultural and flood management infrastructure installed primarily after the construction of Copeton Dam in 1976.[133]

Following the dam's completion, many landholders transitioned from grazing to large-scale broadacre cropping, establishing farming enterprises close to core wetlands and watercourses.[134] This proximity has significantly compounded operational and social constraints, further restricting environmental water delivery.

The cumulative impact of constraints in the Gwydir catchment has caused measurable ecological degradation. Environmental water deliveries of 30 to 40 GL along the Gingham Watercourse only meet environmental water requirements for reduced wetland areas in limited durations. More should be possible from an event of that volume. Consequently, outer and downstream wetlands, including the internationally significant Windella and Crinolyn Ramsar sites, are declining in condition, compromising connectivity between rivers and floodplains.[135]

The Gwydir raft

The Gwydir catchment also faces a significant natural obstruction: the Gwydir 'raft'. The raft is a 15 km blockage of logs, silt and debris obstructing the Gwydir Anabranch and a 1.5 km blockage obstructing the Gingham Watercourse. Located approximately 10 km north–west of Moree, this obstruction has existed since the 1870s but expanded dramatically following extensive catchment clearing in the early 1900s and continues to gradually shift upstream.[136]

Investigations in November 2022 identified that the raft on the Gingham Watercourse had grown 230 m upstream since 2017 due to the 2021 and 2022 floods. The flow impact was dramatic, previously approximately 400 megalitres (ML) per day could pass through the raft into the Gingham Channel but the November 2022 estimates showed less than 100 ML per day passing through. This flow reduction forces water northwest into alternative channels and floodplain paths, significantly reducing environmental water delivery efficiency to Ramsar-listed wetlands and other key ecological assets. The diversion also impacts road access and private properties.[137]

In an interview with the Inspector–General, senior representatives from the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) explained that changes to the raft occurred after the business case was approved and implementation funding for the 'Reconnecting Watercourse Country' program was secured, meaning the program did not have funding to address it.[138]

New South Wales has identified options for raft remediation requiring an additional $3 million in funding. Without remediation, there is a risk that target environmental water flow rates cannot be achieved. Milestone 7 of the project funding agreement signed on 4 November 2025 includes a project plan to address short-term raft mitigation on the Gingham Watercourse. This represents a positive step forward in managing this risk.

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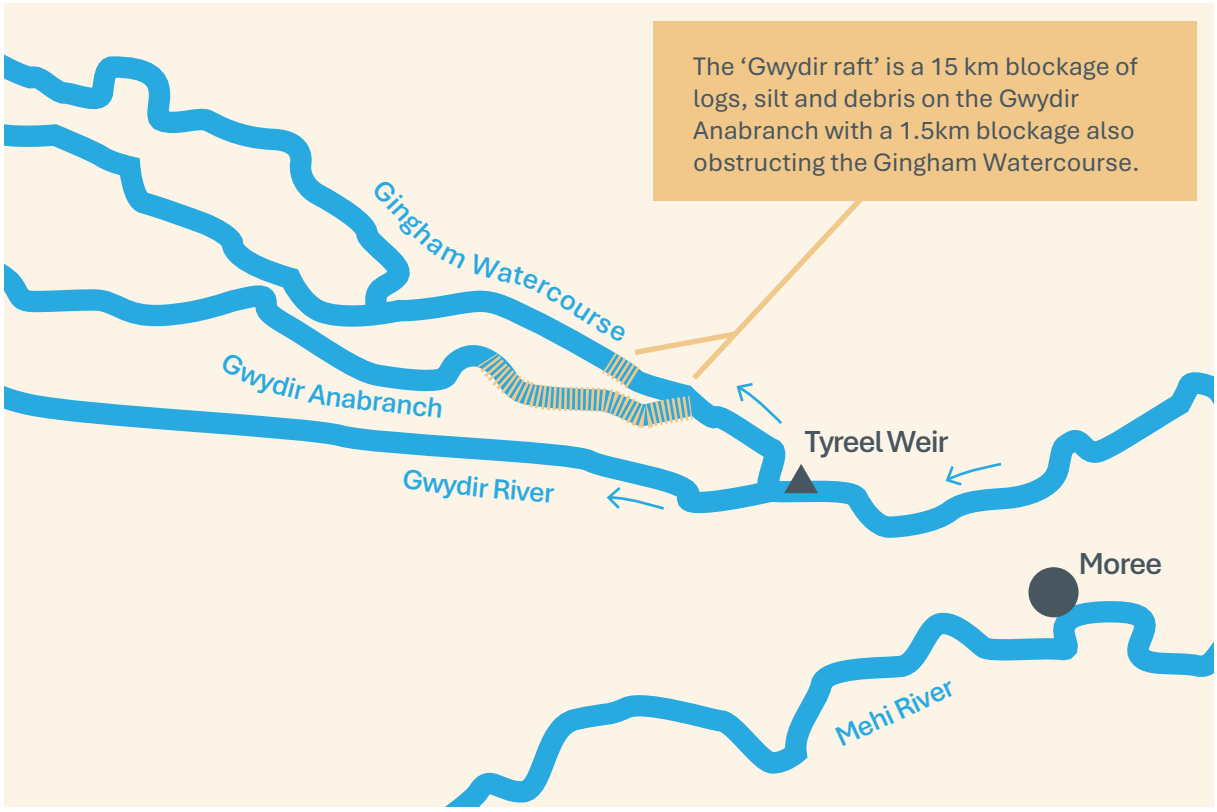
133 MDBA, *Gwydir region reach report,* Australian Government, June 2015, p 2.
134 MDBA, *Gwydir region reach report,* Australian Government, June 2015, p 15.
135 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
136 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
137 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
138 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Figure 4-1 Graphic representation of the Gwydir raft



Environmental significance

The Gwydir wetlands represent one of Australia's most significant inland wetland systems.[139] Four areas of these wetlands are recognised under the *Ramsar Convention on Wetlands of International Importance*. The Old Dromana site is the largest of the Ramsar subsites, at 600 hectares, and supports critically endangered vegetation communities such as the marsh club-rush sedgeland. The wetlands provide critical habitat for colonial waterbird breeding events and support threatened plant communities, making them a priority for environmental water delivery.[140]

The agricultural context

Previous assessment by New South Wales has shown that the Gwydir floodplain contains highly productive agricultural land, with expansive high-fertility clay soils supporting dryland and irrigated cropping from west of Moree to the Barwon River. Agriculture drives the regional economy, employing nearly 50% of all workers. Agriculture also accounts for approximately 80% of licensed water use, primarily for irrigated cotton in summer and cereals including wheat, barley and oats in winter.[141]

The core challenge identified by New South Wales in its business case, is that delivering environmental water at the volumes needed to reach the internationally significant wetlands (flows

139 MDBA, *Gwydir region reach report,* Australian Government, June 2015, p 2 ; MDBA, *Constraints Management Strategy 2013 to 2024,* Australian Government, November 2015, p 61 ; CEWH, *About the Gwydir River Valley,* Australian Government, Updated: 9 July 2024, Accessed: September 2025.

140 MDBA, *Assessment of environmental water requirements for the proposed Basin Plan: Gwydir Wetlands,* Australian Government, 2012, pp 3 & 6.

141 Department of Planning and Environment, *Regional Water Strategy: Gwydir,* NSW Government, November 2022, p 34.

of 450 ML per day for extended periods) requires temporarily inundating private agricultural land across 2 major watercourses (Gingham and Lower Gwydir). This situation is complicated by the proximity of cropping to the rivers and creeks. Environmental deliveries aim to mimic natural flow patterns that involve inundation during summer, often overlapping with crop harvest periods.[142]

In 2015, MDBA research found that inundation affects farm productivity, interrupts access routes, and can damage infrastructure like fences and crossings. Consulted landholders held concerns about reduced agricultural productivity, property access during flows, potential damage to crops and infrastructure and flood risks if environmental flows coincide with natural rainfall events. The MDBA noted that the timing of environmental water delivery requires careful coordination to maintain landholder property access and minimise losses during harvesting periods.[143]

The Inspector–General identified similar inundation concerns through community engagement in the Gwydir project areas in early 2025.[144] Concerns were raised about:

- additional flood events above expected flooding events caused by rainfall
- flooded roads causing social problems due to reduced access to schooling, medical support and general supplies
- flooded roads causing economic impacts by limiting the ability to transport and store crop for sale
- delays to crop planting while waiting for paddocks to be dry enough following an inundation, risking planting outside seasonal windows, impacting crop yield and profitability
- soil degradation causing economic loss through reduced crop yield, and
- flows being inadequately tracked, measured and notified.[145]

Community members did not deny the importance of water reaching the wetland areas, but some considered that the economic impact to farmers had not been adequately considered by the NSW Government, particularly in developing viable diversion options to keep inundations off crops as it flowed to the wetlands.[146]

Balancing these competing interests in delivering the Gwydir Constraints program demonstrates the core challenge of implementing the Basin Plan: providing environmental outcomes sometimes requires a negative economic and/or social impact. This is a difficult discussion and decision at the policy level, but an even more difficult negotiation in practical application.

142 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

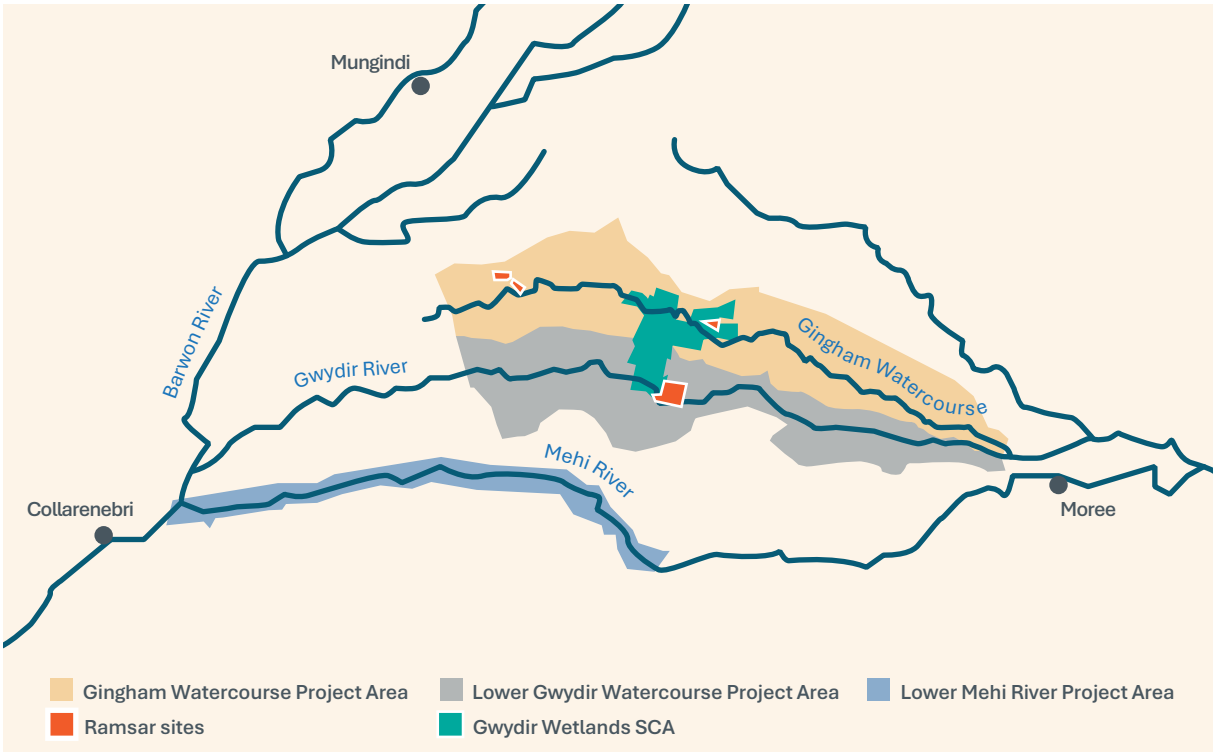
143 MDBA, *Constraints Management Strategy 2013 to 2024,* Australian Government, November 2015, pp 35, 37 & 61 ; MDBA, *Gwydir region reach report,* Australian Government, June 2015, pp 3, 18 & 19.

144 The Inspector-General notes that NSW DCCEEW has asserted, in information provided to the Inspector-General for the purposes of the Northern Basin Toolkit Inquiry, that the target flow rates for this project are 'below minor flood level' and that 'no public roads or infrastructure are affected at the targeted environmental flow rates'.

145 Information provided by the Gwydir community to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

146 Information provided by the Gwydir community to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Figure 4-2 Gwydir constraint project areas[147]



147 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry ; *NSW Environment and Heritage, Gwydir Reconnecting Watercourse Country Program,* NSW Government, Updated: 17 January 2024, Accessed: September 2025.

4.3 Project evolution

Original project design

The Gwydir Constraints project comprises 3 sub-projects across separate watercourses:

- Gingham Watercourse
- Lower Gwydir Watercourse, and
- the Lower Mehi River.

Under the IGA, the measure aims to 'improve environmental outcomes in the Gwydir wetlands by increasing the flows that can be delivered to key ecological assets'.[148]

The Gingham and Lower Gwydir projects both aimed to increase flow rates from 250 ML per day to 450 ML per day, measured at Tillaloo and Millewa gauges respectively. This would enable proactive environmental water delivery to critical wetlands during dry periods when natural river flows are insufficient, without pausing for summer harvesting. The Gingham Watercourse project specifically aimed to deliver 6 GL of water (reduced from an initial feasibility target of 10 GL) downstream of Gingham Bridge to support the Ramsar-listed Windella and Crinolyn wetlands. Both projects require complex negotiations with private landholders because environmental water would need to flow across private agricultural land. This requires purchasing easements (legal rights to use land for water delivery) and in some cases buying land outright where temporary flooding would severely impact farming operations.[149]

The Lower Mehi project is different as, instead of targeting specific flow increases, it combines modest physical works with 'knowledge-building activities'. The Lower Mehi project components are:

- **physical works** to install gates on irrigation offtake channels connected to the Mehi River to prevent environmental water from being diverted into irrigation systems, and
- **knowledge** to better understand environmental assets and water flows in the system.[150]

The Lower Mehi project did not require easements or land purchases because the highly incised nature of the Mehi River channel means environmental flows largely remain within the river channel, rather than spreading across private agricultural land. The gates were intended to target water losses from diversions rather than creating new flow pathways, making it less legally complex but addressing a different type of constraints problem.[151]

All 3 projects involve on-ground infrastructure works including farm crossings, channels, banks, pipes, and road modifications. The business case allocated $12.8 million across all projects for these physical works.[152] Further details about the financial commitments are provided below in Section 4.3.

148 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 29.
149 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
150 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
151 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
152 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Timeline concerns

Several expert assessments identified serious concerns about the Gwydir project's proposed timeline before implementation began.

In an assessment of the feasibility proposal for these projects in 2020, the MDBA specifically referenced the complexity of constraints projects like Gwydir, explaining that:

> previous experience with easing constraints along the River Murray in the Hume to Yarrawonga reach (a process that required eight years to negotiate easements) demonstrates that implementation timeframes for the Gwydir Constraints projects will be extremely challenging.[153]

When DAWE conducted its due diligence assessment of the 2021 business case, the concerns became more specific, that:

> the timeframes will be challenging to achieve given uncertainty of a small number of landholder agreement, possible setbacks in construction approvals, possible delays due to weather and flows, and delays in policy changes which could affect the delivery of the projects. NSW however have included…a risk register and mitigation strategies.[154]

DAWE concluded that 'the implementation of the projects by June 2024 is unlikely' and noted this concern:

> was previously raised in the report by the independent scientific expert panel and again in the advice from CEWO and MDBA. There will no doubt be unexpected delays as well as those identified and included in NSW risk assessment.[155]

The Commonwealth Environmental Water Office (CEWO) expressed concerns, saying that the timeframes were 'tight', 'especially if there is landholder opposition', and that 'the timeframes for implementation are very tight and optimistic'.[156]

The MDBA's assessment of the business case in December 2021 reinforced these timeline concerns, stating that:

> Stakeholder engagement undertaken to date encouragingly indicates broad support for the project although it remains unclear the extent to which landholder support extends to the specific proposed measures at an individual property level such as easements, banks, land purchase, access crossings etc.[157]

The MDBA advice to DCCEEW regarding the Gwydir constraints business case concluded that:

> the implementation schedule for such large, complex projects appears to be optimistic rather than conservative. Whilst significant progress is achievable by 2024 there remains a significant risk of delays, particularly given the level of engagement and negotiation required to secure landholder support for the proposed measures. The project implementation phase will need rigorous risk management, including implementation of mitigation strategies if the proposed implementation schedule is to be achieved.
>
> It is important to place these risks in context as the business case articulates the significant environmental risks of not proceeding with the project. Overall MDBA considers the project benefits outweigh the risks however for enduring environmental benefits to be realised the risks must be appropriately managed and mitigated during the implementation phase.[158]

153 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
154 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
155 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
156 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
157 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
158 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Despite these specific warnings about landholder negotiations, weather delays, construction approvals, and the optimistic timeline, the project proceeded with the original Toolkit deadline of June 2024. Crucially however, the initial bilateral project funding agreement was not signed until December 2022,[159] significantly limiting the time available for delivery and making completion by the deadline increasingly unrealistic.

Implementation challenges and scope changes

A comprehensive stocktake of all Toolkit projects in 2023 identified widespread cost underestimation across the program. During an interview with the Inspector–General, senior representatives from NSW DCCEEW stated that when Australian Government representatives sought further proposals from the NSW and QLD governments to allocate remaining funding, the Australian Government requested that the Gwydir Constraints Program be rescoped to focus on 'tangible' deliverable expectations by the end of 2026.[160]

In February 2024, New South Wales requested an additional $12.055 million to deliver the project as originally conceived. Following requests for further detail, in June 2024 DCCEEW recommended that the Minister approve additional funding 'on the condition that NSW rescope the program to limit activities to what can be delivered in full by December 2026 to ensure tangible and enduring outcomes are achieved'.[161]

This resulted in an amended bilateral project funding agreement executed in November 2024, providing an additional $5.455 million.[162] A further amended agreement was executed in November 2025 allocating the remaining committed funding of $21.679 million through milestones to 31 December 2026. [163] The project execution plan, submitted one month late in May 2025, admitted what others had warned about years earlier – that full constraints relaxation to enable the proposed environmental flows in the Gwydir 'will not be delivered by 31 December 2026'. Instead, the plan outlined several priority works to be completed within the Toolkit timeframe.[164]

4.4 Current implementation status and next steps

Despite over $37 million in committed funding, and nearly 4 years since the business case was approved for implementation in February 2021, the Gwydir Constraints project remains focused on enabling works.[165]

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159 Federal Financial Relations, *New South Wales Toolkit projects – Reconnecting Watercourse Country Program,* Toolkit – New South Wales – Reconnecting Watercourse Country Program Schedule, November 2025.

160 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

161 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

162 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry ; Federal Financial Relations, *New South Wales Toolkit projects – Reconnecting Watercourse Country Program,* Toolkit – New South Wales – Reconnecting Watercourse Country Program Schedule, November 2024, p 4.

163 Federal Financial Relations, *New South Wales Toolkit projects – Reconnecting Watercourse Country Program,* Toolkit – New South Wales – Reconnecting Watercourse Country Program Schedule, November 2025.

164 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, pp 29 & 34 ; Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

165 MDBA, *Northern Basin Toolkit Measures – Workplan update,* Australian Government, 30 June 2025, p 2 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 29.

Under the November 2025 bilateral project funding agreement variation executed on 4 November 2025, New South Wales committed to specific milestones allocating the remaining $21.679 million through to 31 December 2026.[166] These include:

- executing contracts with landholders for physical infrastructure works (40% of prioritised works by February 2026 increasing to 80% by August 2026)
- commencing procurement for pre-construction and construction activities
- having physical works underway at 60% of project sites by August 2026, and
- completing short-term Gwydir raft mitigation work.

However, the landholder contracts are for physical infrastructure such as upgraded watercourse crossings and monitoring installations. Not a single land purchase or flow easement has been completed. While no offers have been made to landholders for easement agreements, New South Wales made an offer to purchase ecologically and culturally significant land adjoining the Gwydir Wetlands State Conservation Area, which was not accepted.[167] The original business case identified $5 million for land purchases and $7.8 million for easements as essential components to establish environmental water corridors.[168] New South Wales has deferred all formal negotiations with landholders under the Landholder Negotiation Scheme until after December 2026. This means that the core mechanism for enabling environmental flows (securing legal rights to use private land for water delivery) will not be achieved during the life of the Toolkit program. The project execution plan formally acknowledges that:

> full constraints relaxation to enable the proposed new environmental flows in the Gwydir will not be delivered in full by 31 December 2026 under the Northern Basin Toolkit.[169]

Instead, the project has been restructured around priority works including upgrading watercourse crossings, installing monitoring devices, modifying works in the Gwydir Wetlands State Conservation Area, and developing solutions for reinstating flows at the Gwydir raft.[170] While these works will provide some environmental benefits, they fall well short of enabling 450 ML per day environmental flows through established environmental water corridors and do not address the fundamental constraint of securing legal access across private agricultural land.

The Gwydir raft remains a significant unfunded constraint that emerged after the original business case was approved. New South Wales has identified raft remediation options requiring an additional $3 million, but these works were considered outside the original project scope.[171] The November 2025 bilateral project funding agreement schedule includes completing short-term Gwydir raft mitigation work and establishing an authorising framework for long-term raft management.[172] Without addressing the raft, target environmental water delivery rates cannot be achieved, as current flows through the obstruction have reduced from approximately 400 ML per day to less than 100 ML per day.[173]

New South Wales has established the necessary legal framework through the *Landholder Negotiation Scheme*, which came into effect in August 2025 and provides a structured process for acquiring flow easements. Compulsory acquisition is available as a last resort if voluntary negotiations fail, subject

166 Federal Financial Relations, *New South Wales Toolkit projects – Reconnecting Watercourse Country Program*, Toolkit – New South Wales – Reconnecting Watercourse Country Program Schedule, November 2025.
167 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
168 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
169 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
170 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
171 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
172 Federal Financial Relations, *New South Wales Toolkit projects – Reconnecting Watercourse Country Program*, Toolkit – New South Wales – Reconnecting Watercourse Country Program Schedule, November 2025, p 4.
173 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

to Ministerial approval.[174] However, formal negotiations will commence only after December 2026, following the Minister's declaration of the new environmental flow arrangement.[175]

4.5 Inspector–General assessment

Under the IGA, the NSW Government, the MDBA and the CEWH committed to 'develop a business case to address constraints in the Gwydir system'.[176] While the business case was completed as required by the IGA, in determining whether the environmental objectives agreed under the IGA will be met, the Inspector–General notes the outcomes are drafted broadly enough that any improvement could be considered as 'completing' the measure. As such, the Inspector–General considers the intended project objectives agreed by New South Wales to enliven the IGA objectives in the *Toolkit Program Logic* are the more appropriate method through which to assess implementation progress. The *Toolkit Program Logic* expected outcomes include:

- improved flexibility to deliver environmental flows in the Gingham Watercourse and Lower Gwydir Watercourse, while effectively managing and mitigating third party impacts under a landholder agreement framework, and
- improved understanding of ecological assets through the data collection.[177]

In its December 2024 *Northern Basin Toolkit – Evaluation of environmental outcomes interim report* (Interim Evaluation Report), DCCEEW acknowledged that Gwydir Constraints project activities 'have been rescoped to fit within the budget and timeframe of the Toolkit' and therefore, 'the associated environmental outcomes predicted in feasibility proposals and business cases will naturally be reduced'.[178]

DCCEEW maintains, however, that project delivery is expected by December 2026 and:

> While the outcomes originally envisaged will not be attained, the rescoped projects will still significantly improve environmental outcomes across the northern Basin, as agreed in the IGA.[179]

The Inspector–General notes that while bilateral project funding agreement schedule variations incorporating scope changes were subject to Ministerial approval and Gateway Review processes existed, these processes did not effectively evaluate whether scope reductions should be accepted before they were implemented. Under the project funding agreement, New South Wales reports project updates to DCCEEW, and scope reductions have emerged through these progress reports. Rather than being treated as proposals requiring rigorous evaluation of alternatives or whether they should be accepted, scope changes were effectively accommodated once states determined them necessary. DCCEEW acknowledged the descoping, and bilateral project funding agreement variations were subsequently executed to adjust milestones accordingly, with Ministerial approval.

These scope reductions effectively modified the project agreed to by the Australian Government under the bilateral project funding agreement pursuant to the IGA's agreed outcomes and milestones. The IGA itself also does not establish clear processes for managing scope changes for

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174 *Water Management (General) Regulation 2025* under the *Water Management Act 2000* (NSW), Sch 9 ; NSW Water, *Landholder Negotiation Scheme,* NSW Government, Updated: June 2025, Accessed, September 2025.

175 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

176 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Appendix A, Published: 9 August 2019, Accessed: August 2025.

177 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 48.

178 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 29.

179 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 29.

projects under the infrastructure measures, despite such changes fundamentally altering project deliverables against the IGA's agreed outcomes.

Despite the recently signed bilateral project funding agreement amendment, there remains significant time pressure to complete construction within the remaining program period, requiring close monitoring and proactive management to ensure delivery.

New South Wales has committed to complete physical infrastructure works including upgraded watercourse crossings, monitoring installations, and short-term raft mitigation. The May 2025 Project Execution Plan identifies 3 phases to be delivered under the Toolkit by December 2026:

- ongoing activities (First Nations outcomes, ecological monitoring, and community engagement)
- enabling works (legislative amendments and preparations for formal easement negotiations under the Landholder Negotiation Scheme), and
- completion of priority works.

The priority works will relax constraints for current flow practices while also contributing to a broader constraints relaxation program that would continue beyond December 2026 if additional funding is provided.

The most critical component (land purchases and flow easements) have been deferred until 2027, after the Toolkit deadline. While enabling works will establish the legislative framework, the core mechanism for relaxing constraints (securing legal access across private land for environmental water delivery) will not be achieved during the Toolkit program.

The Inspector–General considers that the transition to a longer-term constraints relaxation program, while necessary to achieve the original environmental objectives, effectively represents an acknowledgment that the Toolkit was not the appropriate mechanism for delivering constraints relaxation in the Gwydir catchment within the timeframes and funding available.

4.6 Financial commitment and progress

The original project funding agreement committed $32.224 million to implementing the Gwydir Constraints (Reconnecting Watercourse Country) program.[180]

The 2024 amended project funding agreement for this project committed $37.679 million from the Australian Government. This was spread through an initial 6 milestones, with a 'hold-point review' after milestone 6 in April 2025 to determine further milestone development up to December 2026.[181]

On 4 November 2025, the Australian and NSW governments reached agreement on an implementation plan for the remaining project timeline to December 2026, with the remaining funding ($21.679 million) allocated into milestones within the amended project funding agreement.

Figure 4-2 below shows the funding spent. As at August 2025, $13 million had been paid to NSW for completing 4 administrative milestones documented through one annual workplan and 3 project status reports. The activities completed under these milestones included stakeholder engagement, establishment of First Nations program groups, and monitoring and evaluation work including ecological surveys and bathymetry capture.[182] While these activities represent necessary preparatory work, they are planning and enabling activities rather than physical infrastructure construction.

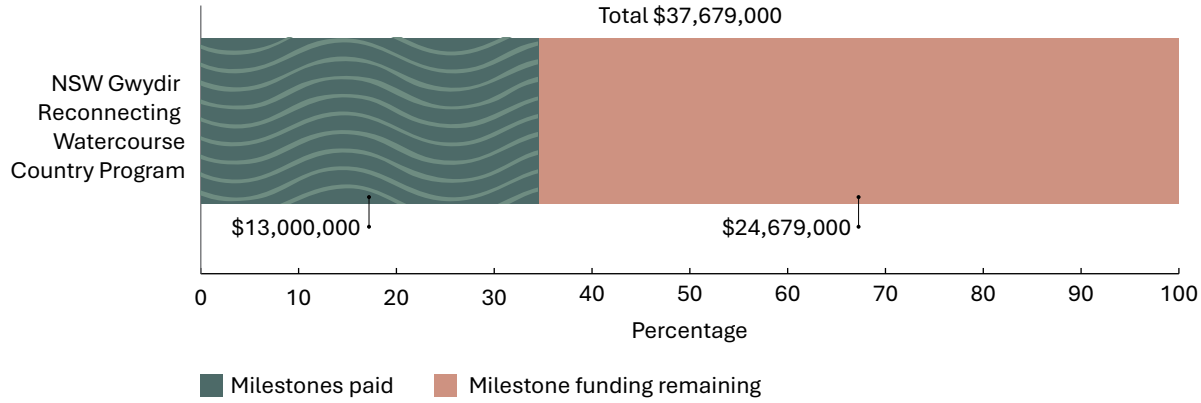
Further detail regarding the financial breakdowns for this project are contained in Appendix E.

180 Federal Financial Relations, *Toolkit – New South Wales – Reconnecting Watercourse Country Program*, December 2022, p 3.

181 Federal Financial Relations, *Toolkit – New South Wales – Reconnecting Watercourse Country Program*, November 2024, p 4.

182 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Figure 4-3 Proportion of implementation milestone funding paid out of overall Australian Government committed funding for the Gwydir Constraints Reconnecting Watercourse Country project as at August 2025



5 Infrastructure measure 6: environmental works

Measure 6 of the Toolkit comprises environmental infrastructure projects designed to enhance native fish populations and broader ecological outcomes across the northern Basin.[183] As discussed in Chapter 2, approximately 68.8% of all Toolkit funding was committed by the Australian Government to this measure, with projects delivered by the NSW and QLD governments.

This measure funds infrastructure projects that:

- support native fish movement through the construction of fishways and barrier removal
- protect fish from extraction through the installation of screens on pumps
- address cold-water pollution downstream of dams, and
- improve environmental water delivery to key wetland ecosystems.[184]

In February 2021 the Australian Government approved 4 projects for Measure 6 implementation:

- NSW Fish for the Future: Reconnecting the Northern Basin
- NSW Macquarie Marshes Enhanced Watering
- NSW Fish for the Future: Fish-Friendly Water Extraction, and
- QLD Fish-Friendly Water Extraction: Condamine–Balonne and Border Rivers.

At the same time, the Australian Government also approved 3 QLD projects for business case development under Measure 6, which ultimately did not progress to implementation:

- Lower Balonne River System Bifurcation Weirs project (discussed in Chapter 6)
- Reconnecting Catchments: Condamine–Balonne project (Jack Taylor and Beardmore dams), and
- Improving Within-Catchment Fish Resilience project (Culgoa), which was descoped and combined with the Lower Balonne River System Bifurcation Weirs project.

The NSW Pindari Dam Cold-Water Pollution project was subsequently approved in December 2024 using unallocated Toolkit resources.

In its December 2024 Interim Evaluation Report regarding Measure 6, DCCEEW acknowledged that:

> Implementation of this measure is underway, with the environmental works completed to date already contributing to improved river health across the northern Basin. However, as projects have been rescoped to fit within the budget and timeframe of the Toolkit, the associated environmental outcomes anticipated in feasibility proposals and business cases have consequently been reduced. While the outcomes originally envisaged will not be attained, the rescoped projects will still significantly improve environmental outcomes across the northern Basin, as agreed in the IGA.[185]

183 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Appendix A, Published: 9 August 2019, Accessed: August 2025.
184 MDBA, *Northern Basin Toolkit*, Australian Government, Updated: 10 December 2024, Accessed: August 2025.
185 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024, p 39.

DCCEEW further stated that:

> Adjustments to the scope of projects to fit Toolkit budgets and timeframes have not altered the overall expected outputs and outcomes described in the Program Logic.[186]

However, the Inspector–General's assessment, detailed in this chapter and Chapter 7, found the extent of descoping across Measure 6 projects means the anticipated ecological outcomes will not be achieved. While individual projects will deliver some environmental benefits, at this stage only one (the Pindari Dam project) will potentially deliver the outcomes at the scale that formed the basis of the Australian Government's prioritisation and funding approval decisions under the Toolkit.

Table 5-1 Summary of Measure 6 projects, financial commitment and progress status as at January 2026

Project Name	Australian Government funding contribution cap	Status
QLD Fish for the Future: Fish-Friendly Water Extraction	$6,774,000	Completed (12 screens installed)
NSW Fish for the Future: Fish-Friendly Water Extraction	$26,607,951	Screens installed: 19 Screens in progress: 4
NSW Fish for the Future: Reconnecting the Northern Basin	$56,750,000	Works completed: 1 of 8
NSW Macquarie Marshes Enhanced Watering	$2,690,000	Completed
NSW Pindari Cold Water Pollution Mitigation	$26,176,247	Planned completion by December 2026
Total	**$118,998,198**	

5.1 NSW Fish for the Future: Reconnecting the Northern Basin project

Project overview and descoping

The NSW Fish for the Future: Reconnecting the Northern Basin project aims to reconnect river systems across the northern Basin by removing barriers and constructing dedicated fish passages at weir structures.

The project has been substantially descoped from its original target of reconnecting 2,135 km of fish passage across 22 sites, to a target of 589 km across 9 sites. This is less than one quarter of the initial proposal. To date, the project has completed works reconnecting 64 km, representing 3% of the original target.

186 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 39.

Table 5-2 Comparison between original and revised project scope for the Reconnecting the Northern Basin project as at September 2025

Scope	Fish Passage (km)	% of initial proposal
Initial Proposal	2,135	100.00
Current Target	589	23.42
Progress to date	64	2.99

Murray–Darling Basin Plan Evaluation 2025

In its July 2025 Basin Plan Evaluation report, the MDBA noted the severe drought from 2018 to early 2020 in the Queensland Basin led to a dramatic loss of aquatic habitat, with 90% of the river network drying out. The drought caused a 90% decline in fish abundance.[187]

Importantly, fish studies conducted in 2020, 2021 and 2023 found that fish tended to remain within the same river segment throughout their lives, emphasising the critical role of local habitat availability and recruitment over long-distance movement for recovery. This underscores the need for connected and accessible refuge habitats during droughts.[188]

The MDBA reported that with climate change expected to increase drought frequency and severity, fish passage connectivity through barrier removal, fishway installations, and strategic flow management, is essential to bolster ecosystem resilience and support native fish populations.[189]

Context: Lower Darling fish deaths and the importance of system connectivity

System connectivity

In its July 2024 report, the NSW Government Connectivity Expert Panel stated that 'it is clear that infrastructure solutions must play a central role in restoring and maintaining ecological resilience in the Lower Darling–Baaka River system'. The necessity of investment in fish passage infrastructure, particularly through the Menindee Lakes, was stated as being necessary to enable fish movement between the northern and southern Basin when environmental cues prompt migration.[190]

To be effective, the NSW Government Connectivity Expert Panel found that new fishways must be designed to operate under a range of flow conditions, ensuring that water can consistently pass through them to support fish movement. The NSW Government Connectivity Expert Panel noted that without such connectivity, fish populations remain vulnerable to entrapment and ecological shocks, as witnessed during the 2018 – 2019 fish death events.[191]

187 MDBA, *2025 Basin Plan Evaluation*, Australian Government, July 2025, pp 48-49.
188 MDBA, *2025 Basin Plan Evaluation*, Australian Government, July 2025, pp 48-49.
189 MDBA, *2025 Basin Plan Evaluation*, Australian Government, July 2025, pp 48-49.
190 Connectivity Expert Panel, *Connectivity Expert Panel Final Report*, prepared for the NSW Government, July 2024, p 77.
191 Connectivity Expert Panel, *Connectivity Expert Panel Final Report*, prepared for the NSW Government, July 2024, p 77.

Lower Darling fish deaths

The Reconnecting the Northern Basin project's importance is underscored by the fish death events in the Darling River near Menindee between December 2018 and January 2019. An independent panel led by Professor Rob Vertessy reported in March 2019 that while physical environmental factors *caused* the fish deaths, the *magnitude* could be partially attributed to 'poor connectivity' arising from in-stream barriers which trapped large fish populations in weir pools.[192]

The independent panel identified a 'pressing need' to increase opportunities for fish movement and, emphasised the importance of the complementary measures identified in the Northern Basin Review. The final report recommended that New South Wales 'initiate a program to remove barriers to fish movement and enhance mobility through improved passage at existing weirs and regulators'.[193]

The independent panel specifically noted that:

> At present, the movement of fish within and between river systems north of Menindee Lakes, and through Menindee main weir, remains significantly restricted by dams and weirs without adequate fish passage. These barriers will significantly restrict the speed of recovery following the fish death events…Promoting and enhancing connectivity, through the construction of fishways and other such infrastructure will be key to accelerating recovery and building long term resilience of the riverine ecosystem.[194]

The 3 fish death events were significant ecological shocks and were expected to impact fish populations for many years. The independent panel asserted that river connectivity supporting fish movement is critical to preventing events of such magnitude in the future.[195]

The Reconnecting the Northern Basin project is focused on overcoming the impacts of weirs and other in-stream structures that restrict fish movement, limit breeding opportunities, and block access to critical habitats. By restoring connectivity, the program aimed to effectively build a continuous 'highway' for fish, enabling them to move freely throughout the river network. This supports healthier and more resilient aquatic ecosystems.[196]

According to the February 2022 Project Execution Plan, the project aims to enhance opportunities for native fish movement, reinstate fundamental ecosystem functions, improve the resilience of native fish populations to drought and climate change, increase native fish numbers in connected catchments, and maximise the effectiveness of environmental water delivery.[197]

This project aligns with the *New South Wales 2018 Fish Passage Strategy* and *2020 Strategic Fishway Implementation Program*, which identified priority sites for fish passage restoration.

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192 Independent Panel, *Independent assessment of the 2018–19 fish deaths in the lower Darling,* prepared for the Australian Government, 29 March 2019, pp 10, 12 & 65.

193 Independent Panel, *Independent assessment of the 2018–19 fish deaths in the lower Darling,* prepared for the Australian Government, prepared for the Australian Government, 29 March 2019, pp 9 & 75.

194 Independent Panel, *Independent assessment of the 2018–19 fish deaths in the lower Darling,* prepared for the Australian Government, prepared for the Australian Government, 29 March 2019, p 76.

195 Independent Panel, *Independent assessment of the 2018–19 fish deaths in the lower Darling,* prepared for the Australian Government, prepared for the Australian Government, 29 March 2019, p 8.

196 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 37 ; Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

197 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Project progress

Original project scope

In 2020, New South Wales submitted a feasibility proposal to reconnect 2,135 km of fish passage across 22 sites for an estimated $55–60 million of funding. The Australian Government's assessment documented that this proposal sought to install fishways to improve native fish access to 2,135 km of aquatic habitat. An independent expert ecological panel ranked all 27 Toolkit proposals based on their ecological merit, and the Reconnecting the Northern Basin project proposal ranked third.

In February 2021, the Australian Government committed to this project under a streamlined 'early works' model to accelerate delivery, which meant that it proceeded from a feasibility proposal immediately to implementation, without a detailed business case.[198] The February 2022 Project Execution Plan identified 22 priority weir and blockbank sites in the Barwon–Darling (12 sites) and Border Rivers (10 sites) (see Table 5-3 below).[199] Remediating these sites would reconnect 2,135 km of aquatic habitat, providing connection from Menindee into Queensland.[200]

In an interview with the Inspector–General, senior representatives from the NSW DCCEEW stated that in relation to the development of the February 2022 Project Execution Plan:

> The first step was really to submit how we were going to deliver the project to the Commonwealth. There wasn't a lot of ground truthing. There wasn't a lot of…quantitative analysis on extent of the works, how it was achievable, landholder engagement…what we would call, from an engineering background, first principles estimations on the scope and… cost of the project.[201]

Table 5-3 Proposed scope of works for the Reconnecting the Northern Basin project

River system	Weir Sites	Fish passage re-instated(km)
Barwon – Darling	Mt Murchison (Wilcannia unlicenced), Tilpa, Louth, Darling River (20A), Darling River (19A), Bourke, Calmundi, Collarenebri, Banarway, Presbury's, Camilaroy, Mungindi	1,444
Border Rivers	MacIntyre Blockbank 'A', MacIntyre Blockbank 'B', Boomi, Goondiwindi, Boggabilla, Toomelah, Glenarbon, Cunningham, Bonshaw, Holdfast Crossing	691
Total		**2,135**

198 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

199 A blockbank is a temporary weir usually constructed during dry periods to provide water security for stock and domestic supply (Independent Panel, *Independent assessment of the 2018-19 fish deaths in the lower Darling*, prepared for the Australian Government, 29 March 2019, p 69)

200 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

201 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

First rescope (September 2022)

By September 2022, the NSW Government advised DCCEEW that it could not deliver the February 2022 proposal as the original project scope did not account for disruptions caused by the global COVID-19 pandemic and extreme wet conditions. In October 2022, New South Wales wrote to DCCEEW outlining a reduced scope project that proposed to negotiate the removal of barriers to fish passage at up to 7 weir and blockbank sites, and to deliver a fully developed Project Execution Plan to construct fishways at 4 to 8 locations by 30 June 2024.[202]

To support development of the new proposal, DCCEEW offered to collaborate with New South Wales,[203] and the 2 parties held a workshop in November 2022.

Second rescope (August 2023)

Following continued feasibility challenges, New South Wales engaged a third-party contractor in March 2023 to refine its Project Execution Plan. The revised plan was submitted to DCCEEW in August 2023, nearly 12 months after New South Wales approached the Australian Government with its new proposal.[204]

The August 2023 plan outlined a detailed schedule for Early Works and Phase 1 sites to support an 'achievable' project completion by 30 June 2024 and reconnect 459 km of fish passage. The successful completion of Phase 2 and Phase 3 sites would reinstate a further 699 km of fish passage (see Table 5-4 below).[205]

Table 5-4 Second proposed rescope of works for the Reconnecting the Northern Basin project

Phase	Delivery date	Weir Sites	Fish passage reinstated (km)
Early Works	Before June 2024	MacIntyre Blockbank 'A', MacIntyre Blockbank 'B', Holdfast Crossing	89
Phase 1	30 June 2024	Banarway, Calmundi, Louth, Mt Murchison (Wilcannia unlicenced), Toomelah	370
Phase 2	30 December 2026	Camilaroy, Presburys, Tilpa, Darling 19A. Darling 20A, Mungindi, Bonshaw, Glenarbon, Cunningham, Goondiwindi	640
Phase 3	Not specified	Boomi, Boggabilla	59
Total			**1,158**

202 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
203 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
204 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
205 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Geographic fragmentation

As at September 2025, the Reconnecting the Northern Basin project plan is highly fragmented, with project work areas scattered across the Barwon–Darling system rather than forming continuous connected stretches of river. As shown in Table 5-4 above and Figure 5-1 below, while a total of 589 km of fish passage is planned or completed across various weir sites, these efforts are isolated, without consistently connecting a section of the river. For example, early implementation works at Holdfast Crossing and MacIntyre Blockbanks will reinstate 85 km, while Phase 1 and 2 sites like Banarway, Calmundi, Louth, Wilcannia and Tilpa are geographically separated, limiting connectivity benefits.

Of the revised sites New South Wales submitted as 'achievable' by the original Toolkit deadline of 30 June 2024, only Holdfast Crossing has been completed. As detailed in Table 5-1, the current project target as at September 2025 will connect less than a quarter of that originally intended, with completed work to date equating to approximately 3% of the original proposal to reconnect 2,135km of fish passage.

Delivery challenges

New South Wales attributed delays to COVID, floods including unforecasted weather events that caused extended road closures lasting weeks to months and directly impacted technical surveys and assessments, global supply chain disruptions, and a tight labour market. New South Wales acknowledged the project lacked scope flexibility to accommodate these challenges.[206] However, the Inspector–General notes that community resistance was also underestimated. Issues

206 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

identified from consultations undertaken in April and May 2023 were summarised in the August 2023 Project Execution Plan as:

- falling trust in government and the loss of goodwill
- concerns relating to weirs and other structures impacting fish passage
- insufficient consultation and including in decision making processes, and
- drought resilience and water security concerns for regional communities.[207]

Further community consultation activities were undertaken during July, August, October and November 2025 to refine the detailed design of fishways.[208] That consultation built on stakeholder feedback received in 2023, particularly regarding water security. The August 2025 revised designs proposed a substantially smaller reduction in weir height while investigating the feasibility of constructing additional off-river untreated water storages at Louth and Tilpa to offset potential impacts on the availability of non-potable water (untreated water unsuitable for drinking, used for irrigation, stock watering and firefighting).[209] However, the NSW Government subsequently publicly acknowledged that 'the communities of Louth, Tilpa, Collarenebri and Walgett do not want any reduction in local weir height' and new designs instead propose maintaining the height of the weirs and adding a small capping sill.[210]

New South Wales believes the new approach, which includes work to repair aging and leaking weirs, balances environmental priorities and community needs.[211] Environmental assessments, procurement planning, and licensing activities continue to progress with works to remove an 'unlicensed structure on the Darling–Baaka' expected to commence in early 2026.[212]

In discussions with NSW officials in May 2025, the Inspector–General was informed that an endangered freshwater snail species had been identified at the Louth and Tilpa project sites. As this species may be impacted by proposed works, the project must now also develop mitigation strategies to relocate the snails and remain compliant with environmental protection requirements.[213] Subsequently, in December 2025 the NSW Department of Primary Industries and Regional Development (NSW DPIRD) advised that mitigation measures have been agreed and are currently being implemented.

The Inspector–General acknowledges that while COVID was an unforeseen early challenge during Toolkit implementation, the impact of flooding could have been better managed, especially given it is not unique to the northern Basin. However, the Inspector–General considers the key issues hampering project delivery also includes underestimation of project costs,[214] inadequate breadth of early stakeholder consultation that failed to identify significant community concerns until 2023, and challenges encountered in balancing community concerns around water security with ecological outcomes.[215]

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207 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

208 NSW DCCEEW, *Fish Passage: Reconnecting the Northern Basin Project – What We Heard,* NSW Government, October 2025 ; NSW Water, *Fish passage: Reconnecting the Northern Basin project,* NSW Government, Updated: November 2025, Accessed: December 2025.

209 NSW Water, *Fish passage: Reconnecting the Northern Basin project*, NSW Government, Updated: June 2025, Accessed: September 2025 ; MDBA, *Northern Basin Toolkit progress,* Australian Government, June 2025, p 2.

210 NSW Water, *Fish passage: Reconnecting the Northern Basin project,* NSW Government, Updated: November 2025, Accessed: December 2025 ; NSW Minister for Water, *Revised fish passage design to safeguard local water supply,* [Ministerial media release] NSW Government, Published: 29 September 2025, Accessed: October 2025.

211 NSW Minister for Water, *Revised fish passage design to safeguard local water supply,* [Ministerial media release] NSW Government, Published: 29 September 2025, Accessed: October 2025.

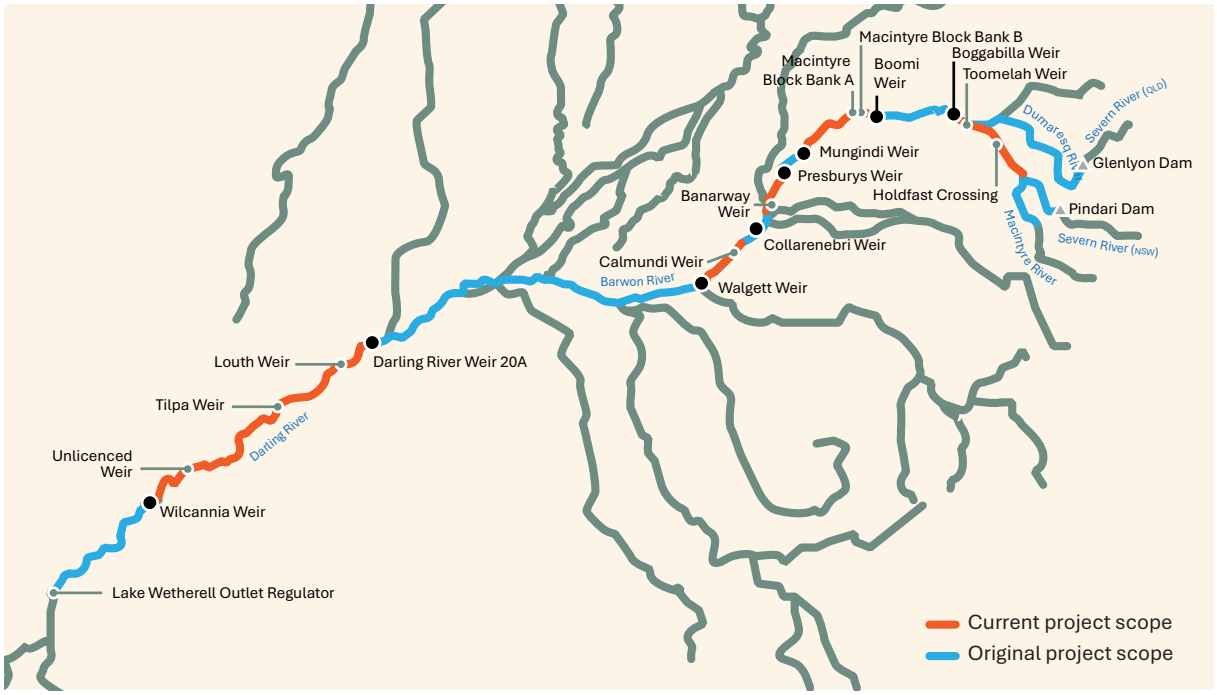
212 NSW Water, *Fish passage: Reconnecting the Northern Basin project*, NSW Government, Updated: November 2025, Accessed: January 2026.

213 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

214 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

215 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Figure 5-1 Reconnecting the Northern Basin scope differences[216]



Current status

As at September 2025, only the Holdfast Crossing structure has been removed, with New South Wales aiming to deliver a total of only 589 km of reconnected fish passage by 31 December 2026 (see Table 5-5 below).

The removal of the Holdfast Crossing structure reconnected 64 km of fish passage, and DCCEEW reported in its December 2024 Interim Evaluation Report, that it has provided an additional 142 days of fish passage each year.[217]

Table 5-5 Scope of works as at September 2025 for the Reconnecting the Northern Basin project

Project status	Weir Sites	Fish passage reinstated (km)
Early Implementation	Holdfast Crossing (completed)	64
	MacIntyre Block Bank A, MacIntyre Block Bank B	21
Phase 1 (by 31 December 2026)	Banarway Weir, Calmundi Weir, Louth Weir, Wilcannia (unlicensed) Weir	370
Phase 2 (by 31 December 2026)	Tilpa weir	134
Total		**589**

216 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

217 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024, p 39.

Successful delivery of the August 2023 amended fish passage target depends on the completion of all remaining projects by December 2026. The Inspector–General understands that 3 of the remaining works are to remove illegal structures. Two of these (MacIntyre Blockbank A and MacIntyre Blockbank B) may be constrained by compliance processes.[218]

In July, August and October 2025, New South Wales held community consultation sessions on revised fishway designs. The October 2025 *Fish Passage: Reconnecting the Northern Basin Project What We Heard* report by the NSW Government documented community responses as mixed, with strong opposition from several communities. Opposition was strongest in Louth and Tilpa, where original designs showed reductions in storage duration affecting town water supply.[219] On 29 September 2025, the NSW Government announced further revised fishway designs responding to these concerns.[220]

The new fishway design includes a small 'capping sill' across part of the weir crest. New South Wales envisages this will allow fishways to function effectively while maintaining the full supply level of the weirs. In addition to installing fishways, the project will repair leaks in the weirs to reduce water loss and further safeguard local water supply. The NSW Minister for Water stated this 'potential compromise' balances community needs with required fish passage. Technical investigations will be conducted to validate the revised design.[221]

Inspector–General assessment

In its submission to the Inquiry, NSW DCCEEW assessed the project as 'underway and on track for completion by December 2026'.[222] Given the pace of infrastructure completion to January 2026 and the complexity of the remaining works, particularly the construction of rock-ramp fishways,[223] the Inspector–General has reservations about the project being completed before 31 December 2026.

The Inspector–General is concerned that further descoping will occur to facilitate project 'completion' within the Toolkit timeframe which would further compromise ecological outcomes. Previous reductions have already diminished the project's environmental benefits, and this impact could be yet exacerbated. The cost of ecological compromise is clear; the independent assessment of the 2018–19 Lower Darling fish deaths identified that blockbank pools are high-risk locations for stratification and that until removed, blockbanks 'will significantly slow fish recovery efforts'. Dams and weirs without adequate fish passage significantly restrict fish death recovery and reduce long-term ecological resilience.[224]

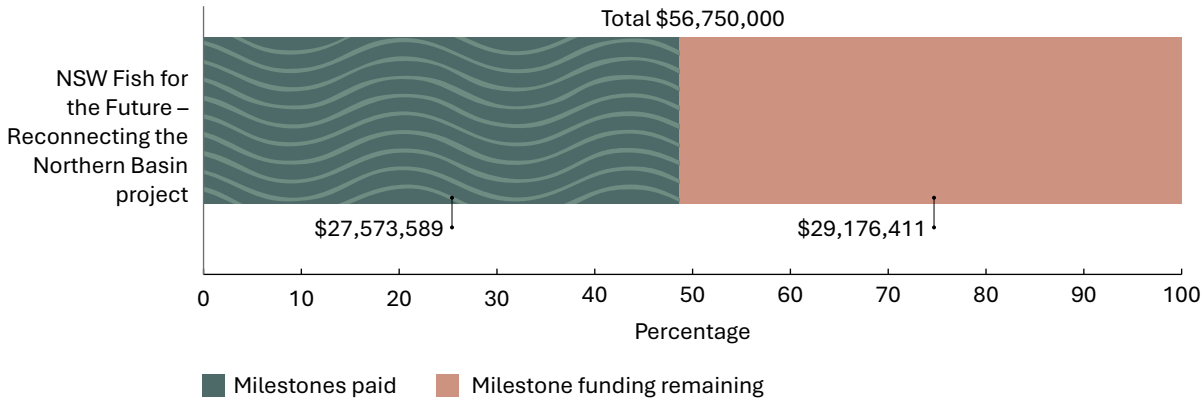
Financial commitment and progress

The bilateral project funding agreement for this project committed $56.75 million from the Commonwealth across 9 milestones.[225] This is 34% of total available toolkit funding. As at August 2025, 5 milestones had been met by NSW DCCEEW, resulting in approved payments from

218 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
219 NSW DCCEEW, *Fish Passage: Reconnecting the Northern Basin Project What We Heard,* NSW Government, October 2025, p 12.
220 NSW Government, *Revised fish passage design to safeguard local water supply,* NSW Government, Updated: 29 September 2025, Accessed: September 2025.
221 NSW Minister for Water, *Revised fish passage design to safeguard local water supply*, [Ministerial media release] NSW Government, Published: 29 September 2025, Accessed: October 2025.
222 NSW DCCEEW, *NSW submission to the Inspector–General's review of the Northern Basin Toolkit*, NSW Government, November 2024, p 5.
223 NSW Water, *Fish passage: Reconnecting the Northern Basin project*, NSW Government, Updated: unknown, Accessed: August 2025.
224 Independent Panel, *Independent assessment of the 2018-19 fish deaths in the lower Darling*, prepared for the Australian Government, 29 March 2019, pp 69& 76.
225 Federal Financial Relations, *New South Wales Toolkit projects – streamlined delivery*, New South Wales Toolkit projects – streamlined delivery schedule, 7 March 2022, p 7.

the Commonwealth totalling $27,573,589.[226] Further detail regarding the financial breakdowns for this project are contained in Appendix E.

Figure 5-2 Proportion of implementation milestone funding paid out of overall Australian Government committed funding for the NSW Fish for the Future: Reconnecting the Northern Basin project as at August 2025



5.2 NSW Macquarie Marshes Enhanced Watering project

The NSW Macquarie Marshes Enhanced Watering project aimed to improve the effectiveness of environmental water delivery to the Macquarie Marshes, including the Macquarie Marshes Ramsar site, by reducing the amount of water bypassing key assets.[227] The Macquarie Marshes are one of the largest remaining inland semi-permanent wetlands in south-eastern Australia.[228]

The Inspector–General found that the delivered infrastructure materially differs from what was proposed, approved and funded. The project delivered bed stabilisation works at Oxley Break instead of the flow control regulator described in the feasibility proposal which formed the basis for Australian Government funding approval.

The Oxley Break is an artificial stream channel located in the southern part of the Macquarie Marshes, approximately 80 km north of Warren in New South Wales. It was originally constructed to help divert water from the Macquarie River into the marshes, supporting the health of the Ramsar-listed wetland system. Over the past 20 years, the Oxley Break (particularly Oxley Break Number 3) has undergone significant erosion and deepening, especially during major flood events. This has caused it to capture more flow than intended, diverting water away from the Macquarie River and altering the natural hydrology of the marshes.[229]

226 Information provided by DCCEEW and NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

227 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 37.

228 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

229 NSW Water, *Macquarie Marshes Enhanced Watering Project,* NSW Government, Updated: undated, Accessed: September 2025.

Figure 5-3 Photo taken within the Macquarie Marshes

Project progress

Original project scope

New South Wales submitted the project feasibility proposal to DCCEEW in July 2020 which outlined 2 components:[230]

- **Component A - Oxley Regulator** – to construct a regulator at Oxley Break No. 3 to prevent water loss to Oxley Break and Bulgeraga Creek, with complementary stream stabilisation works to address erosion.
- **Component B - Mumblebone structures** – to install 2 weir structures at the Mumblebone breaks (located near Mumblebone, upstream of the southern Macquarie Marshes Nature Reserve) to retain and control water in the Macquarie River.

The components aimed to facilitate higher flow events in the Macquarie River allowing environmental water to flow deeper into the Macquarie Marshes. This was to help support river red gum communities, improve floodplain connectivity, enhance low-flow delivery to critical ecological zones, maintain habitat condition and support waterbird breeding and native fish populations. New South Wales considered the works critical for the efficient and effective delivery of environmental water to ecologically significant areas of the Macquarie Marshes, improving fish habitat conditions and supporting biodiversity.[231]

Revised project scope

First reduction: Mumblebone Breaks component removed (October 2020)

In October 2020, New South Wales amended its proposal, withdrawing the Mumblebone Breaks component. New South Wales advised the Australian Government that time and budget constraints made delivering both components by the June 2024 deadline unfeasible. The Mumblebone component required significant additional preliminary work that could not be completed within the Toolkit's timeframe.[232]

In December 2020, and as part of its assessment of NSW Government Toolkit feasibility proposals, DAWE sought advice from the independent expert ecological panel. The independent expert ecological panel advised that removing the Mumblebone component did not 'affect the positive ecological impact of the proposed project, nor would it alter its prioritisation ranking'.[233]

Second reduction: 'regulator' becomes 'fixed crest weir' (mid-2022)

The feasibility proposal described constructing a 'regulator at Oxley Break No. 3' to prevent flow loss and control water delivery to the Macquarie Marshes. New South Wales stated that the 'Oxley regulator' planned was a tilt-gate mechanism constructed on Oxley Break No. 3, allowing adaptive flow restriction.[234]

By mid-2022, New South Wales changed the project from a regulator to a static 'fixed crest rock weir'. The September 2022 Project Execution Plan stated that a 2013 scoping study undertaken 6 years before the Toolkit was formalised (in 2013) had identified there were 2 options to address bed erosion and improve ecological outcomes:

- installing a core-filled regulator (sluice gate) to block managed flows and maintain currents, or
- constructing bed-raising structures to reduce flow and erosion in Oxley Creek.[235]

230 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
231 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
232 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
233 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
234 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
235 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

The feasibility proposal noted that subject to funding approval, detailed business cases should be developed 'to include more detailed assessment of project benefits, project costs [and] project risks'. However, as with some other Toolkit projects, accelerated delivery meant planning and design occurred concurrently rather than sequentially through a detailed business case phase. New South Wales subsequently provided a detailed explanation of their decision-making process in response to interview questions on notice from the Inspector–General.

New South Wales acknowledged that a concept report finalised 3 years prior to the Toolkit being formalised (in 2016) found the bed-raising structures unsuitable due to reducing waterway capacity to the North Macquarie wetlands. As such, in mid-2022, New South Wales considered 2 options:

- a solar-operated vertical penstock gates regulator, or
- a fixed crest earth/rock weir.[236]

New South Wales stated that it decided to proceed with a fixed crest weir due to:

- lower maintenance requirements (noting that the Australian Government will not fund ongoing operations)
- a faster construction timeline, and
- landholder preference.[237]

The September 2022 Project Execution Plan stated the project would deliver a '1-3 m high fixed crest earth/rock weir' with rock blanketing for bank stabilisation.[238]

The change from an adaptive flow control structure to a static weir represented a material alteration to the project's functionality and environmental benefits. The Inspector–General did not identify any evidence that New South Wales formally sought Australian Government approval for this change in project scope.

Third reduction: 1 to 3 m weir becomes a 0.3 m bed control structure (2024)

New South Wales commissioned a third-party contractor to prepare a detailed design for works at Oxley Break No. 3. The February 2024 design report proposed a 0.3 m high bed control structure, which is significantly smaller than the 1 to 3 m fixed crest weir described in the September 2022 Project Execution Plan. The design report concluded this 0.3 m structure could stabilise the channel and reinstate historical flows, while maintaining landholder access and adhering to fish passage requirements.[239]

The design contractor recommended an 'impervious core' and 'cut off wall element' to prevent soil seepage. Water Infrastructure NSW rejected this recommendation, relying instead on a composite membrane. The contractor 'strongly recommended including an impervious core' based on seepage test results, but Water Infrastructure NSW maintained the membrane would adequately address seepage risks.[240]

The contractor warned that without the impervious core, the structure would likely exacerbate existing erosion and recommended 'monitoring the outer bank of the Macquarie River at the junction with Oxley Break for erosion'.[241]

236 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
237 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
238 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
239 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
240 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
241 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Current status

New South Wales completed construction at Oxley Break No.3 in July 2024 and reported that the 0.3 m high bed control structure reinstated the riverbed to its condition 10 to 15 years earlier and would prevent further erosion. New South Wales stated an additional 100 ML of water per day will remain in the Macquarie River and reach the southern Macquarie Marshes because of the structure.[242]

Following further questions from the Inspector–General, DCCEEW conducted a site visit in July 2025 and advised it could not confirm if the structure had a 'solid core' or met the definition of a 'regulator' without an independent engineering assessment, which DCCEEW deemed unnecessary. DCCEEW stated that it was satisfied 'the project had been delivered as agreed' based on reports from New South Wales, photographs and discussions in meetings.[243]

In Inquiry interviews, a senior DCCEEW representative initially stated New South Wales had 'assured me that the fixed crest weir has been built'. When shown photographs of the site showing the bed control structure, the senior DCCEEW representative responded: 'that'll be disappointing if it were true. But I can't confirm or deny'.[244] Senior NSW representatives, when initially asked in interviews whether a regulator had been constructed, could not confirm what had been delivered compared to what had been planned, and took this question on notice. New South Wales's subsequent written response to questions on notice outlined the chronology through which the project evolved from the proposed regulator described in the feasibility proposal to the delivered bed control structure, including the technical and operational considerations that informed these changes.[245]

DCCEEW's post-interview position

Following interviews with the Inspector–General in June 2025, on 17 July 2025 DCCEEW wrote to the Inspector–General defending its acceptance of the delivered works. Based on New South Wales milestone reporting and a July 2025 site visit, DCCEEW stated that 'the proposed works have been completed'.[246]

DCCEEW's assessment relied on photographic evidence which it stated demonstrated:

- the structure traverses the channel and holds back water
- the structure appears to be made of rockfill, and
- water being held back suggests the base or core is made of non-porous material.[247]

DCCEEW classified the structure as a 'fixed crest' because its elevation cannot change. However, DCCEEW acknowledged it could not verify what was built:

> The designs provided by NSW in the PEP (Appendix F) refer to a 'solid core flow regulator' with a compacted clay core. Department officers are not able to confirm whether the structure meets this description without an assessment by an independent qualified engineer. This was not a step the department took on the basis that it was not considered proportionate with the risk, noting the other evidence also supported delivery as agreed.[248]

DCCEEW classified the project as medium/low risk under the *Federation Funding Agreement Framework*. DCCEEW described that the *Federation Funding Agreement Framework* requires higher-risk projects receive 'more rigorous scrutiny, including the collection and analysis of

242 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 39.
243 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
244 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
245 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
246 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
247 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
248 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

comprehensive evidence (e.g. copies of reports and quantity surveyor assessments)' while medium and lower-risk projects receive oversight 'proportionate with the perceived level of risk'. DCCEEW determined an independent engineering assessment was not proportionate to the risk.[249]

Figure 5-4 Photo taken at Oxley Break no. 3 project site in August 2025

Inspector–General assessment

The delivered infrastructure materially differs from the feasibility proposal that formed the basis for Australian Government funding approval. The progression from 'regulator' (July 2020) to '1-3 m fixed crest weir' (September 2022) to '0.3 m bed control structure' (delivered July 2024) represents significant changes to project scope, functionality and environmental benefit.

The feasibility proposal described a regulator which would enable adaptive environmental flow management. The delivered structure provides static bed stabilisation without operational flexibility. While both approaches address erosion, they fundamentally differ in their capacity to support active water management. A regulator would allow water managers to adjust flow distribution between the Macquarie River and Oxley Break in response to changing conditions.[250] The delivered bed control structure prevents the channel from deepening further.[251]

The project closure report documented environmental benefits from the delivered structure, including an additional 100ML of water per day remaining in the Macquarie River and reaching the southern Macquarie Marshes, improved drought resilience, and restored critical habitat for native wildlife and vegetation. The Inspector–General acknowledges these tangible environmental

249 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
250 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
251 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

improvements. However, the distinction between the approved regulator and delivered bed control structure matters because adaptive flow management was the specific capability that justified Australian Government funding approval – it would have allowed environmental water managers to adjust water distribution based on real-time monitoring and ecological conditions, rather than providing only passive bed stabilisation.

DCCEEW accepted the works based on New South Wales reporting, photographs, and bilateral discussions. DCCEEW classified this as medium/low risk project and determined independent engineering verification was not proportionate to the risk.

The Inspector–General considers this risk assessment was inappropriate as:

- the project involved $2.69 million in Australian Government funding, with New South Wales spending only $650,000 on construction
- infrastructure specifications evolved substantially from feasibility through to delivery
- the design contractor recommended an impervious core for structural durability, and that advice was not followed, and
- material questions existed about whether delivered infrastructure matched approved specifications.

The absence of independent verification means DCCEEW has limited assurance about:

- whether the structure was built to Project Execution Plan specifications
- whether it will perform under high flow conditions, and
- whether it will deliver the environmental outcomes justifying the investment.

The design contractor recommended an impervious clay core for structural durability, but the delivered structure appears to rely on rock armouring without a confirmed impervious core.[252] This creates uncertainty about its long-term performance at a site with known erosion issues. Ongoing monitoring is required to assess structural integrity and whether the structure delivers intended environmental outcomes.

Financial commitment and progress

The project funding agreement for this project committed $2.69 million from the Australian Government across 4 milestones.[253] By 30 June 2025, all milestones had been met and payments made. However, project costs only reached $2,523,173, which was approximately $166,827 under budget.[254] Further detail regarding the financial breakdowns for this project are contained in Appendix E.

252 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
253 Federal Financial Relations, *New South Wales Toolkit projects – streamlined delivery*, New South Wales Toolkit projects – streamlined delivery schedule, 7 March 2022, p 8.
254 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Figure 5-5 Proportion of implementation milestone funding paid out of overall Australian Government committed funding for the Macquarie Marshes Enhanced Watering project as at 30 June 2025

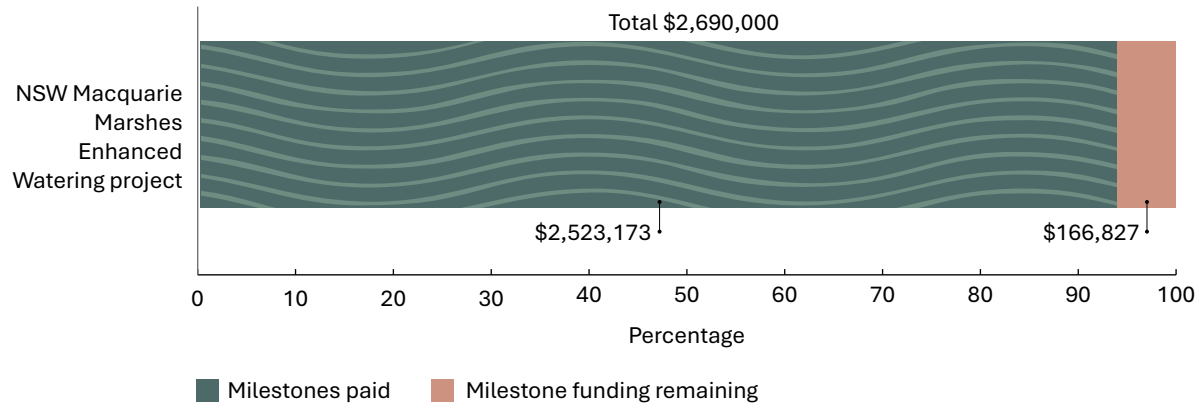


Figure 5-6 Photo taken of Oxley Break no. 3 project site in August 2025

5.3 NSW and QLD Fish-Friendly Water Extraction projects

The NSW Government feasibility proposal for its Fish-Friendly Water Extraction project stated that native fish losses through extraction threaten the ecological objectives of the Basin Plan but can be mitigated by using diversion screens that prevent fish and debris from entering pumps and channels, while still allowing irrigation to continue efficiently.[255] Research conducted in 2021 estimated that the loss of native fish in the NSW northern Basin through pump diversions 'could be between 2 and 510 million a year'.[256] In December 2025 NSW DPIRD stated that the 'figure of fish lost in NSW via water extraction annually is 97 million'.[257]

The independent panel who investigated the 2018–2019 Lower Darling fish deaths identified that one of the impacts on fish populations was that 'many fish are…diverted into water distribution canals, or pumped onto crops and die'. The Inspector–General considers that the recommended 'screening irrigation diversion systems to accelerate fish recovery and build long term resilience',[258] supports the intended outcomes of these projects under Measure 6 of the IGA.

The Fish-Friendly Water Extraction (FFWE) projects, delivered in both New South Wales and Queensland, aim to improve native fish survivorship and increase populations by installing 'Fish-Friendly' diversion screens at priority sites across the northern Basin. The screens serve as physical barriers that prevent fish and debris from being drawn into pumps or channels during water extraction.[259] The New South Wales project complements the NSW Fish for the Future: Reconnecting the Northern Basin project to facilitate better fish mobility in the Barwon–Darling.

The modern screens being used in these projects have finer mesh than traditional screens. This has been shown to reduce early life stage fish mortality by over 90%, offering substantial environmental, social, and economic benefits. The projects are designed to work closely with the irrigation sector, ensuring industry uptake and demonstrating the benefits of screening. In addition to protecting fish, the screens provide direct financial advantages to irrigators, such as reduced maintenance costs, improved irrigation flexibility and opportunities for regional industry development.[260]

The FFWE projects both have long-term goals to increase modern screen uptake beyond the Toolkit by demonstrating the environmental and economic benefits of the technology.[261]

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255 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

256 Boys, C.A., Rayner, T.S., Baumgartner, L.J. and Doyle, K.E., '*Native fish losses due to water extraction in Australian rivers: Evidence, impacts and a solution in modern fish- and farm-friendly screens*', *Ecological Management & Restoration*, May 2021, 22(2):138

257 Information provided by NSW DPIRD to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

258 Independent Panel, *Independent assessment of the 2018-19 fish deaths in the lower Darling*, prepared for the Australian Government, 29 March 2019, p 76.

259 Information provided by DCCEEW and QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

260 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

261 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024, p 37 ; Information provided by DCCEEW and QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

New South Wales and Queensland collaboration

New South Wales and Queensland have both been installing fish screens with similar technical challenges. While some collaboration occurred, including informal exchanges between teams; a Queensland field visit to New South Wales screened sites; and engagement through Lower Balonne Round Table meetings and NBPC presentations, structured coordination was limited.

Queensland joined the *Modern Fish Screening Interagency Working Group*, but the group was designed primarily for NSW agencies and focused on New South Wales-specific issues.[262]

New South Wales and Queensland rarely met. Queensland's 2022 project milestone report said they *would* meet every two weeks. By 2024, Queensland reported that they had only attended twice: once in September 2023 and once in March 2024.[263]

Both states faced similar challenges, but coordination was insufficient to maximise shared learning. Queensland acknowledged these 'common issues' and some sharing of communication materials,[264] yet the level of structured collaboration did not match the scale of shared technical challenges both states encountered.

DCCEEW observed that both New South Wales and Queensland missed an opportunity to take advantage of collaboration.[265] The Inspector–General concludes that a more structured approach to working together could have helped both jurisdictions benefit from each other's experiences.

Project progress: QLD Condamine–Balonne & Border Rivers

At inception, the QLD FFWE project was seen as an opportunity to demonstrate the use and benefits of fish screening infrastructure at up to 5 key irrigation sites in the Condamine–Balonne and Border Rivers catchments. A June 2020 report prepared for the QLD Government with investment package recommendations described the FFWE as a 'project with inexact location and extent information…proposed as a demonstration program only'.[266] In an interview with the Inspector–General, senior representatives from the QLD DLGWV stated that the FFWE 'was always a pilot'.[267] Despite this initial uncertainty, the project scope was subsequently defined, with screen installation now complete and Queensland continuing to finalise monitoring, evaluation and reporting requirements through to May 2026.

Project scope

By February 2024, 14 fish screen agreements had been executed with 12 landholders. This was later revised to 12 agreements with 10 landholders after 2 landholders withdrew.[268]

In an interview with the Inspector–General, senior representatives from the QLD DLGWV stated that in relation to the delivery of 12 screens installed across the Condamine, Lower Balonne and Border Rivers, the project is 'on track for completion by May 2026'.[269] This was reiterated publicly in the June 2025 Toolkit workplan update,[270] and in December 2025 the MDBA updated its website to report that all 12 screens had been installed.[271] The status of the QLD project, as at December 2025, is represented in Figure 5-7 below.

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262 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
263 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
264 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
265 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
266 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
267 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
268 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
269 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
270 MDBA, *Northern Basin Toolkit measures – June 2025 progress update,* Australian Government, 30 June 2025, p 2.
271 MDBA, *Projects in the Northern Basin Toolkit,* Australian Government, Updated: 17 December 2025, Accessed: January 2026.

Delivery challenges

Issues that have delayed project delivery include:

- limited contractor availability delaying both monitoring and installation activities
- significant rainfall impacting site access and scheduling
- reluctance from some irrigators to sign agreements transferring screen ownership, and
- weather conditions and contractor workloads extending installation timelines.[272]

In an interview with the Inspector–General, senior representatives from the QLD DLGWV stated that it has 'had challenges with design in manufacturing of the screens to be fit for purpose'.[273] This issue introduced added engineering demands, as screens needed to be tailored to suit specific pump configurations and site conditions. The lack of standardised sizing and limited local knowledge, as fish screen technology is still emerging in Australia, further strained manufacturing and installation capacity.[274]

Together, these challenges highlight the need for adaptive planning, stakeholder engagement and flexible delivery strategies to mitigate delays and maintain momentum across implementation efforts.

272 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
273 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
274 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Figure 5-7 Map of QLD FFWE works

Project progress: NSW Barwon–Darling & Mehi Rivers

Original project scope

The feasibility proposal identified screening at up to 136 priority sites based on an indicative desktop assessment of pump licence data supplied by NSW Office of Water.[275]

Revised project scope

Phase 1

By November 2022, New South Wales reduced the planned scope to 49 pumps due to funding limitations and updated data indicating there were less landowners in the project area than expected.[276]

275 Information provided by DCCEEW and QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

276 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Following project approval, NSW DPIRD Fisheries determined that many pumps identified in the desktop assessment were either small pumps with low extractive volumes (less than 10 ML/day) or inactive licences. New South Wales refocused the project on large-volume pumps to maximise ecological impact per dollar invested.

In its December 2024 submission to the Inquiry, NSW DCCEEW stated the project would deliver screens on 32 pumps at 10 sites.277 This number was then amended to 30 pumps at 10 sites when tenders and designs were finalised and pumps were selected for the Walma and Collarenebri sites.278

In December 2025, NSW DPIRD confirmed that at 5 project sites, multiple pumps are being integrated using shared 'manifolds', an approach that allows a single screen to facilitate water extraction across several pumps. This setup means that 23 screens will manage water extraction from 31 pumps at 11 sites, enhancing operational efficiency and resource utilisation. NSW DPIRD Fisheries submitted to the inquiry that these screens are expected to screen up to 3,078 ML of water extractions per day, saving an estimated 969,570 native fish per year.279 The status of the NSW project, as at December 2025, is represented in Figure 5-8 below.

Figure 5-8 New South Wales FFWE project scope and progress as at December 2025

Delivery challenges

When New South Wales submitted its Milestone 3 report to DCCEEW noting the reduction in project sites, DCCEEW identified key information gaps to explain this, particularly an absence of detailed modelling and cost-benefit analysis. New South Wales attributed these omissions to the removal of a fully funded business case phase, which had been expected to follow feasibility proposals and provide an opportunity for project refinement, particularly regarding cost estimates.[280]

277 NSW DCCEEW, *NSW submission to the Inspector–General's review of the Northern Basin Toolkit*, NSW Government, November 2025, p 7.
278 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
279 Information provided by DCCEEW and NSW DPIRD to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
280 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

The NSW FFWE project faced several implementation obstacles including:

- **High tender costs –** underestimation of installation complexity and cost between 25-300%
- **Site specific challenges –** river levels, flow conditions and other physical site characteristics affecting installation timing
- **Flooding –** impacting on-farm inspections and stakeholder engagement opportunities.[281]

Additionally, the NSW FFWE project has faced challenges arising from the wide variation in fish screen sizes required across its installation sites. These size differences have also impacted logistics, contractor coordination and on-site adaptability – compounding broader implementation pressures and contributing to increased costs and extended delivery timelines.[282]

Current status

The project funding agreement for the NSW FFWE project originally committed $20.48 million from the Australian Government for works in the Barwon–Darling and Gwydir River. In response to the 2023 stocktake exercise, New South Wales submitted a proposal to extend the project into further northern Basin catchments (Phase 2). This was accepted and added to the project funding agreement in December 2024, providing an additional $6,127,951 to support the project extension.[283]

Phase 2 is due for completion by December 2026 and will extend screening to a site on the Macquarie River.[284] From 23 expressions of interest, 7 highpriority sites were shortlisted, with final site selection to follow the tender process. Following an initial tender and negotiation, a supplier was contracted in mid-2025.[285]

In December 2025 the MDBA reported that:

- Queensland has installed all 12 screens with remaining monitoring, evaluation and reporting to be completed by May 2026
- New South Wales completed installations under Phase 1 in September 2025, with 34 fish screens across 10 sites, and
- New South Wales Phase 2 installation is scheduled to commence in June 2026, during the irrigation off-season.[286]

In March 2026 NSW DPIRD advised that the Phase 1 completion figures were actually 19 screens on 27 pumps at 10 sites, with completion expected to be 23 screens on 31 pumps and 11 sites.[287]

DCCEEW reported in its December 2024 Interim Evaluation Report that initial monitoring activities at a demonstration site in the Condamine River had found the 'screens were working effectively to prevent fish entering pumps'.[288]

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281 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
282 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
283 Federal Financial Relations, *Toolkit – New South Wales – Pindari Dam Cold-Water Pollution and Fish-Friendly Water Extraction Projects*, 9 December 2024 pp 7, 10.
284 MDBA, *Projects in the Northern Basin Toolkit,* Australian Government, Updated: 17 December 2025, Accessed: January 2026.
285 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
286 MDBA, *Projects in the Northern Basin Toolkit,* Australian Government, Updated: 17 December 2025, Accessed: January 2026.
287 Information provided by NSW DPIRD to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
288 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 42.

Inspector–General assessment

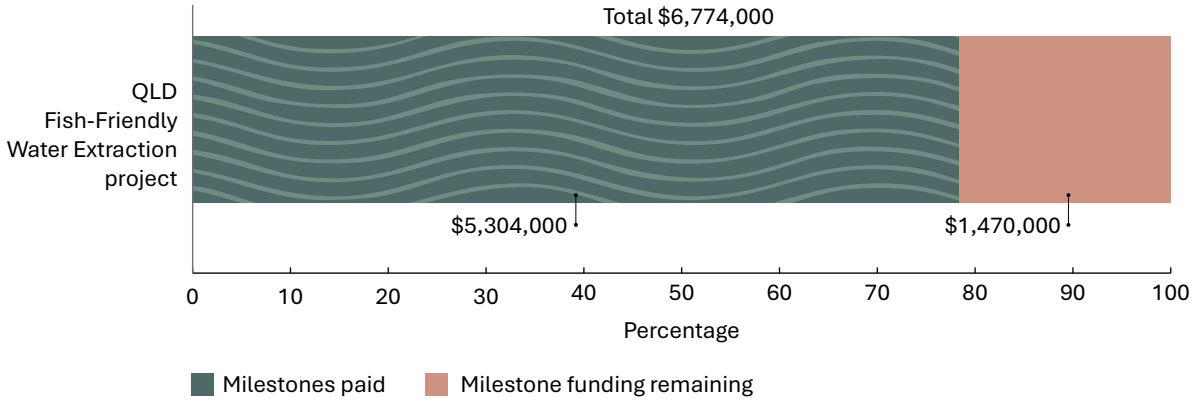
The FFWE projects demonstrate effective adaptive management within the Toolkit program. New South Wales's strategic refocus on high-volume pumps, following ground-truthing that revealed many desktop-identified pumps were small or inactive, resulted in screening 13.75% of total water extraction in the project area. This approach prioritised ecological outcomes over installation counts, addressing the independent fish death panel's finding that fish populations are impacted by being 'diverted into water distribution canals, or pumped onto crops'. Based on project progress to date, as at December 2025 the Inspector–General remains confident that both FFWE projects, in their revised scope, will be delivered and finalised by 31 December 2026.

Financial commitments and progress

QLD Condamine–Balonne & Border Rivers

The project funding agreement for this project committed $6.774 million from the Australian Government across 8 milestones.[289] As at August 2025, Queensland had met 5 milestones, resulting in Australian Government payments to Queensland totalling $5.304 million.[290] Further detail regarding the financial breakdowns for this project are contained in Appendix E.

Figure 5-9 Proportion of implementation milestone funding paid out of overall Australian Government committed funding for the QLD FFWE project as at August 2025



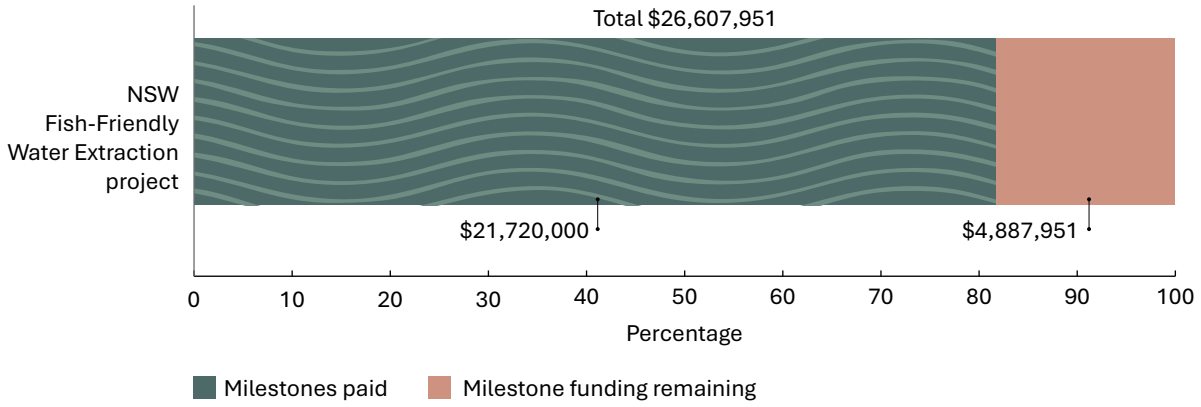
NSW Barwon–Darling & Mehi Rivers

The project funding agreement for this project committed $20.48 million from the Australian Government across 6 milestones for the *original* Barwon–Darling and Gwydir River works, and $6.13 million across 6 milestones for the works *extending* the project.[291] As at August 2025, all 5 milestones for the original works, and 3 milestones for the extended works, had been met.[292]

289 Federal Financial Relations, *Queensland Fish-friendly Water Extraction Project: Condamine–Balonne and Border Rivers*, 22 December 2021, p 7.
290 Information provided by DCCEEW and QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
291 Federal Financial Relations, *Toolkit – New South Wales – Pindari Dam Cold-Water Pollution and Fish-Friendly Water Extraction Projects*, 9 December 2024 pp 7, 10.
292 Information provided by DCCEEW and NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

These milestone completions have resulted in payments to New South Wales totalling $21.720 million. Further detail regarding the financial breakdowns for this project are contained in Appendix E.

Figure 5-10 Proportion of implementation milestone funding paid out of overall Australian Government committed funding for the NSW FFWE project as at August 2025



5.4 NSW Pindari Cold Water Pollution Mitigation project

Project overview

The Pindari Cold Water Pollution Mitigation project addresses issues with cold water releases from Pindari Dam into the Severn and Macintyre Rivers which affects over 200 km of river downstream.[293]

Cold water pollution occurs when water from the bottom layers of dams is released, where the released dam water is significantly colder than natural river temperatures. This disrupts aquatic ecosystems by altering fish reproductive cycles, growth rates, and spawning success. Many native fish species require specific temperature thresholds for spawning.[294] If these thresholds are not met, spawning may fail, leading to reduced populations over time.[295] Many dams in the Basin draw water from cooler bottom layers, especially during summer irrigation periods.

The project was added to the Toolkit in June 2024 following the 2023 stocktake, which reallocated the remaining $35 million available for Toolkit projects.[296] Australian Government funding of $26.1 million was approved for the project based on advice from DCCEEW (informed by advice from the MDBA and CEWH). The CEWO stated the project was 'feasible and a value-for-money project' that 'delivers ecological and environmental outcomes in the northern Basin'.[297] The MDBA noted 'there are no high residual risks to implementation of this project' and the funding proposal outlined 'a robust suite of risk mitigation strategies'.[298]

Figure 5-11 Photo taken at Pindari Dam in October 2025

293 MDBA, *Projects in the Northern Basin Toolkit*, Australian Government, Updated: 17 December 2024, Accessed: September 2025 ; Information provided by NSW DCCEEW and the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
294 Independent Panel, *Independent assessment of the 2018-19 fish deaths in the lower Darling*, prepared for the Australian Government, 29 March 2019, p 26.
295 MDBA, *Projects in the Northern Basin Toolkit*, Australian Government, Updated: 17 December 2024, Accessed: September 2025 ; Information provided by the MDBA and NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
296 *Water Amendment (Restoring Our Rivers) Act 2023* (Cth).
297 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
298 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

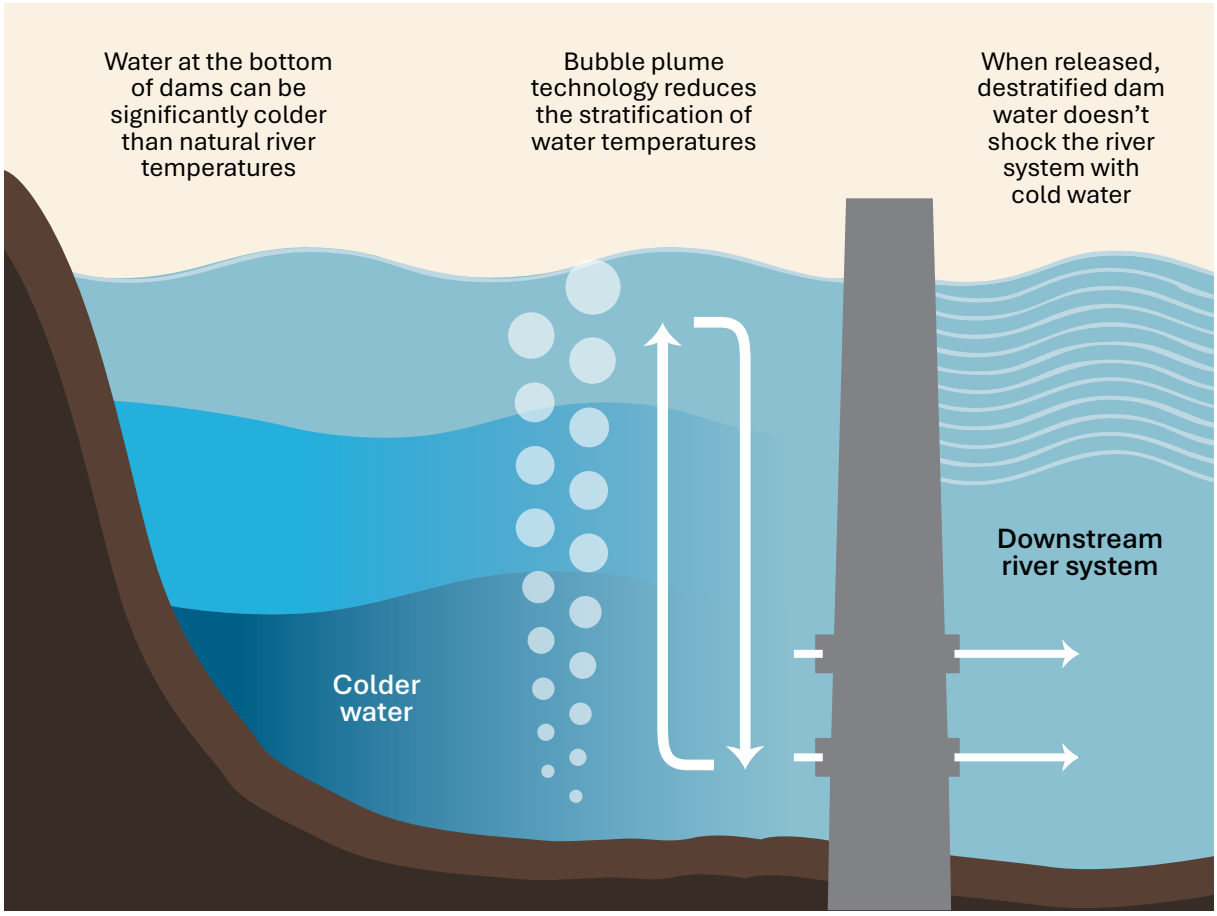
Project design and objectives

The project aims to install a bubble plume destratification system at Pindari Dam. The system will use compressed air to mix water layers in the dam, raising the temperature of released water to more natural levels. The project was designed in 2 stages:

- **Stage 1:** bubble plume installation and operation ($24.77 million)
- **Stage 2:** solar arrays and battery storage to offset energy demands and achieve net-zero carbon emissions ($6.93 million)[299]

Pindari Dam was selected as the project site due to its smaller capacity (reducing operating costs), existing multi-level offtake tower (providing operational flexibility) and higher stratification risks. The project is positioned as proof of concept for deploying bubble plume technology at other priority dams across the Basin.[300]

Figure 5-12 Bubble plume technology designed to disrupt thermal water stratification in the Pindari Dam



299 Information provided by DCCEEW and NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

300 MDBA, *Northern Basin Toolkit Measures – Workplan update,* Australian Government, 30 June 2025, p 2 ; MDBA, *Projects in the Northern Basin Toolkit,* Australian Government, Updated: 17 December 2024, Accessed: September 2025 ; Information provided by DCCEEW and NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Delivery progress and challenges

Construction commenced on 8 September 2025 after New South Wales finalised the bubble plume system contract. WaterNSW is overseeing the installation and operation of both the bubble plume and solar array systems. Field assessments for water quality and biological conditions have been completed for 2024–25, with monitoring infrastructure to be expanded in early 2026.[301]

Inspector–General assessment

The Pindari project differs significantly from other Toolkit projects examined in this chapter. Approved in 2024 (4 years after the original Toolkit projects were assessed by the independent expert ecological panel in 2020), it benefits from:

- clear technical specifications
- proven bubble plume technology, and
- an absence of complex landholder agreements or interjurisdictional issues.[302]

The project's addition to the Toolkit in December 2024 means delivery is compressed into a 24-month timeframe to meet the December 2026 deadline. Construction commenced in September 2025, and while delivery by December 2026 appears likely, the remaining timeframe provides limited buffers for technical or construction challenges.

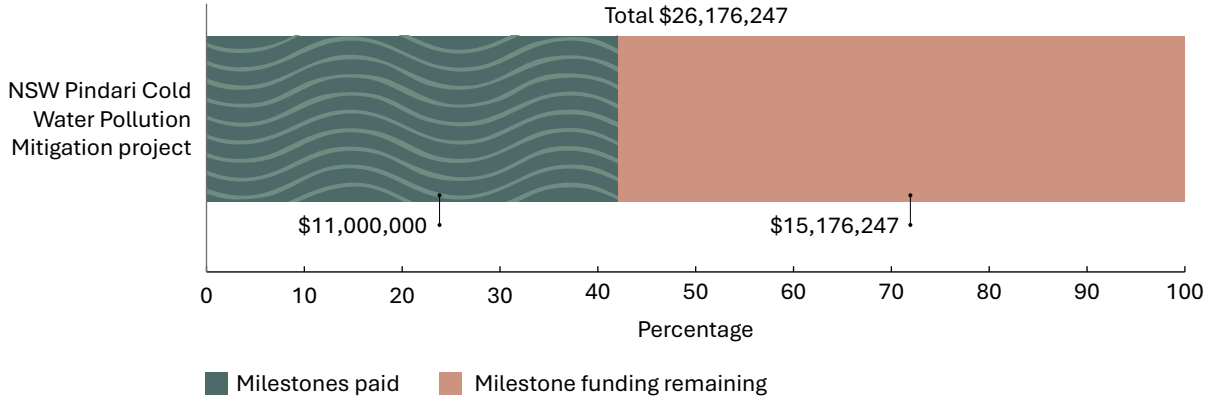
301 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
302 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Financial commitment and progress

The total project funding is $31.7 million, comprising $26.2 million from the project funding agreement and $5.52 million from the NSW Government. Stage 1 (bubble plume installation and operation) accounts for $24.77 million, while Stage 2 (green energy installation) is projected at $6.93 million.[303]

Significant expenditures include bubble plume design and installation ($15.7 million), monitoring and evaluation ($3.57 million), and green energy assessments and site preparations.[304] Further detail regarding the financial breakdowns for this project are contained in Appendix E.

Figure 5-13 Proportion of implementation milestone funding paid out of overall Australian Government committed funding for the Pindari Cold Water Pollution Mitigation project as at August 2025



5.5 Measure 6 Inspector–General assessment

Under the IGA, Measure 6 aims to 'improve fish movement and habitat through the removal of barriers (e.g. weirs) and other activities to enhance native fish outcomes and other ecological outcomes'.[305]

The *Toolkit Program Logic* approved through the NBPC and the BOC specifies expected outcomes including:

- installed fishways in the Barwon–Darling, and Border Rivers
- installed modern fish protection screens in parts of the Gwydir, Barwon–Darling, Condamine-Balonne and Border Rivers catchments
- infrastructure constructed or modified to enhance flows to the Macquarie Marshes
- mitigated cold water pollution at Pindari Dam through bubble plume destratification
- opportunities for local and Indigenous employment and businesses to implement environmental works, and
- project information being accessible to the community and other stakeholders.[306]

303 Federal Financial Relations, *Toolkit – New South Wales – Pindari Dam Cold-Water Pollution and Fish-Friendly Water Extraction Projects, 9 December 2024* p 11.
304 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
305 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Appendix A, Published: 9 August 2019, Accessed: August 2025.
306 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 40.

Descoping and reduced outcomes

In its December 2024 Interim Evaluation Report, DCCEEW acknowledged that 'several projects had been rescoped to fit within the budget and timeframe of the Toolkit' and 'the associated environmental outcomes anticipated in feasibility proposals and business cases have consequently been reduced'. DCCEEW maintained that

> while the outcomes originally envisaged will not be attained, the rescoped projects will still significantly improve environmental outcomes across the northern Basin, as agreed in the IGA.[307]

The Inspector–General notes that while bilateral project funding agreement schedule variations incorporating scope changes were subject to Ministerial approval, there was no structured process for evaluating scope reduction proposals before they were implemented. Under the bilateral project funding agreements, New South Wales and Queensland report project updates to DCCEEW, and scope reductions emerged through these progress reports. DCCEEW acknowledged the descoping, and where necessary, funding agreement variations were executed to adjust milestones accordingly, with Ministerial approval. However, scope changes were not explicitly evaluated and approved as proposals requiring consideration of whether they should be accepted – rather, they were accommodated after states had determined them necessary.

The scope reductions undertaken have effectively modified the projects agreed to by the Australian Government under initial bilateral project funding agreements pursuing the IGA's agreed outcomes and milestones. The IGA itself also does not establish clear processes for managing scope changes for projects under the infrastructure measures, despite such changes fundamentally altering project deliverables against the IGA's agreed outcomes.

The significant descoping across almost every Measure 6 project has compromised ecological outcomes. The Reconnecting the Northern Basin project has been reduced from 2,135 km to a 589 km target (with only 64 km completed to date) and faces significant risk of not completing even this reduced scope by December 2026. The Macquarie Marshes project delivered infrastructure materially different from what was proposed, approved and funded, with limited verification. None of the infrastructure projects (including Measure 5), with the potential exception of the Pindari Dam project, is delivering the outcomes for which Australian Government funding was originally approved.

Indigenous participation

In its December 2024 Interim Evaluation Report, DCCEEW highlighted the *Indigenous Participation Plan* developed for the Pindari project and broadly stated that other projects have also provided opportunities in accordance with the IGA commitments. DCCEEW stated that First Nations' businesses and individuals had been engaged in activities such as cultural assessments, site supervision, catering and trade apprentices. Engagement also occurred through the NBEWG, which includes First Nations representation.[308]

In its submission to this Inquiry, Queensland stated that its FFWE project had engaged with First Nations representatives and groups, and that it formed a representative advisory group and consulted the Yuwaalaraay/Euahlayi First Nations people on the Lower Balonne Bifurcation Weirs Project business case.[309] The Dharriwaa Elders Group in their submission to the Inquiry confirmed it had been consulted and gave positive feedback regarding the NSW Department of Primary

307 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 39.

308 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, pp 33 & 44.

309 QLD DLGWV, *Inquiry – Northern Basin Toolkit: Submission to the Inspector–General of Water Compliance,* QLD Government, 29 November 2024, pp 4-5.

Industries Fisheries but was disappointed with Australian Government and NSW water agency consultation, particularly regarding fishway alternatives.[310]

Implementation conclusion

The IGA does not contain specific quantitative targets against which project completion can be meaningfully assessed. The lack of specific targets enables descoped projects to be characterised as successful. The Inspector–General accepts it is likely that Measure 6 will be declared 'complete' by December 2026 against these broad targets. However, the Inspector–General concludes that the significant descoping evident through almost every project has compromised ecological outcomes (as acknowledged in the December 2024 Interim Evaluation Report),[311] and therefore, with the potential exception of the Pindari Dam project, none of the Measure 6 projects will deliver the ecological outcomes which formed the basis of the Australian Government's prioritisation and funding approval decisions under the Toolkit.

310 Dharriwaa Elders Group, *Inspector–General of Water Compliance Northern Basin Toolkit Inquiry: Submission by Dharriwaa Elders Group, Walgett, NSW,* 29 November 2025, pp 4-6.

311 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 39.

6 A missed environmental opportunity: the QLD Bifurcation Weirs project

The Lower Balonne River System Bifurcation Weirs project (the Bifurcation Weirs project) was a Queensland project which proceeded from feasibility proposal to business case but did not progress to implementation despite being assessed as high-merit and having community support. It was one of only two Toolkit projects to reach business case stage without progressing to implementation, and the only project where the Inspector-General identified, based on material provided to the inquiry, sufficient concerns about the project development process to warrant dedicated examination.

This chapter explores the detail of the project development process that saw estimated costs escalate from $4.5 million to $39.5 million,[312] reflecting both significant scope expansion - including the addition of fishways and telemetry infrastructure not contemplated in the original proposal - and cost escalation within the expanded scope. The process also involved significant delays, and ultimately a business case that failed to meet technical requirements. The key events are outlined in the chronology contained in Figure 6-1 below, with a more detailed chronology provided in Appendix D.

The Inspector–General identified material from DCCEEW, the MDBA and the CEWH which indicated consistent deficiencies in the business cases provided, the most crucial being the absence of hydrological modelling. Given the project's ecological ranking, strong community support, and the magnitude of Australian Government investment in business case development, the Inspector–General commissioned Marsden Jacob Associates in May 2025 to conduct an independent desktop-based peer review (the independent peer review) of the final business case.

The independent peer review found that the business case was not as robust as it could have been due to a combination of the following factors:

- a lack of clear project objectives
- a lack of ecological or hydrological modelling to support environmental benefits
- overly complex and costly designs
- inappropriate water prices used in cost-benefit analysis, and
- excluding additional environmental and social benefits, likely leading to underestimation of benefits.[313]

The independent peer review found there were 'opportunities to improve the analysis and drafting of the business case' which it considered might result in a different decision regarding implementation. Considering the approximately $35 million in funds available for reallocation in late 2023, and the independent peer review conclusions, the Inspector–General does not consider the project failure was inevitable.

The Inspector–General has carefully considered the business cases, advice from the MDBA, CEWH and DCCEEW, the independent peer review by Marsden Jacobs Associates and the responses to that review. As a result, the Inspector–General has determined that, with clearer

312 Sunwater, *Queensland – Lower Balonne River System Bifurcation Weirs Project: Detailed Business Case*, QLD Government, 29 March 2023, p 24.

313 Independent Peer Review by Marsden Jacobs Associates.

project governance, defined scope boundaries, and risk-sharing arrangements that acknowledged cost uncertainty, this high-merit project with strong community support could likely have been delivered within available funding and timeframes.

Figure 6-1 Chronology of events regarding the Bifurcation Weirs project

2020	**October**	The independent expert ecological panel releases its report ranking project proposals based on environmental merit. Bifurcation Weirs project ranked fifth out of 27.
2021	**February**	The Australian Government Minister approves the project for business case development.
	September	Project schedule for business case development signed, committing $662,000 in funding and requiring the final business case by June 2022.
	September	The QLD Minister writes to the Australian Government seeking more time and funding for the business case, with no formal response.
2022	**February**	Work on the business case ceases.
	March	The QLD Minister writes to the Australian Government a second time, again with no formal response.
	May	The federal election results in a change of government.
	July	The QLD Minister writes to the Australian Government seeking more time and funding.
	August	Funding variation approved by the Australian Government Minister. Delivery date for the final business case extended to February 2023 with an additional $460,000 committed.
	December	Draft business case submitted.
2023	**March**	The MDBA provides an assessment of the draft business case, identifying problems in relation to the unclear scope, and lack of ecological modelling and engagement with stakeholders.
	April	Final business case submitted.
	June	The MDBA assessment of the final business case concludes fundamental issues previously identified had not been corrected. Concerns highlighted in relation to budget, construction timeframe, engagement, and evidence base.
	October	The Australian Government rejects the business case.

6.1 A high-merit project with widespread support

The Bifurcation Weirs project represented one of the highest-ranked environmental projects assessed by the independent expert ecological panel for inclusion in the Toolkit (as outlined in Chapter 2). The independent expert ecological panel ranked the project fifth out of 27 proposals submitted by the NSW and QLD governments, and assessed it as the most detailed and considered of the projects proposed by Queensland.[314] Through engagement on the draft of this inquiry report Queensland noted that its own assessment did not consider the project 'high-merit' and instead had assessed it much lower against other projects it proposed. The Inspector–General acknowledges Queensland's right to undertake its own rankings with its own criteria, but uses the independent expert ecological panel's rankings for two reasons:

1. the independent expert ecological panel was the authoritative body responsible for ranking the projects proposed under the Toolkit, and
2. the independent expert ecological panel undertook a consistent ranking approach across all projects proposed under the Toolkit (including New South Wales and Queensland projects) which allows meaningful comparison.

The Australian Government's assessment of the project's feasibility proposal concluded that the project would support improved environmental outcomes in the northern Basin and have ongoing flow connectivity benefits in accordance with the IGA outcomes intended for Measure 6.[315]

Project description and benefits

A bifurcation weir is a structure built where a river naturally splits into 2 or more channels. It helps manage and stabilise how water is shared between downstream branches.

The project involved upgrading 2 existing bifurcation weirs in the Lower Balonne River system downstream from St George. The Balonne River flows from St George and splits into multiple channels, with Bifurcation Weir 1 directing water between the Culgoa River and Balonne Minor. Bifurcation Weir 2 is located just downstream of Dirranbandi controlling flows between the Balonne Minor and Narran River, which feeds the internationally significant Narran Lakes Ramsar wetland.[316]

In their current condition, the weirs provide limited flow control, resulting in significant delivery losses when trying to deliver environmental water to the Narran Lakes. The project proposed installing additional low-flow control gates at both weirs (up to 13 new gates total), along with remote operation capabilities, telemetry systems, and fishways to enable the delivery of water to where it was most needed.[317]

This enhanced control would have been particularly valuable for environmental water delivery, enabling the CEWH to use EBMs more effectively by directing water from private storage releases

314 Independent Expert Ecological Panel, *Northern Basin Toolkit Ecological Prioritisation of Proposed Project report*, prepared for the Australian Government, October 2020, p 87.

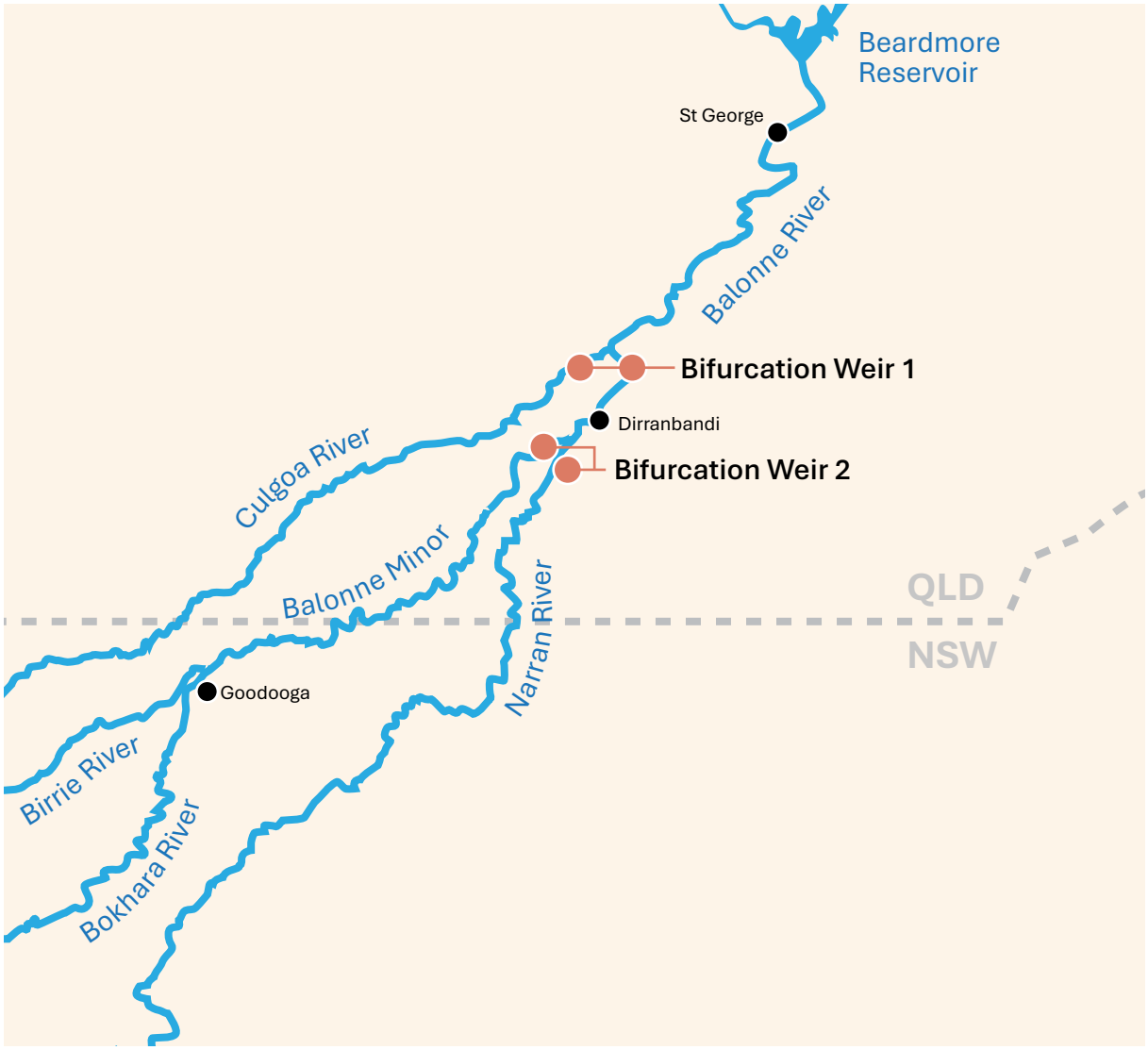
315 Independent Expert Ecological Panel, *Northern Basin Toolkit Ecological Prioritisation of Proposed Project report*, prepared for the Australian Government, October 2020, p 88 ; Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.

316 DCCEEW, *Narran Lake Nature Reserve – Australian Ramsar site no. 53*, Australian Government, Updated: 12 November 2019, Accessed: August 2025 ; Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

317 Sunwater, *Northern Basin Toolkit: Queensland – Lower Balonne River System Bifurcation Weirs Project Detailed Business Case*, QLD Government, 29 March 2023, pp 16-18 ; Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

or preventing extraction during critical flow events.[318] The upgraded weirs would have supported multiple environmental objectives, including waterbird breeding at Narran Lakes, vegetation health, fish connectivity, and 'drought refugia' (areas of higher habitat quality which support plants and animals during dry times).[319] The project would also have provided water security benefits for local landholders and stock watering.[320]

Figure 6-2 Bifurcation weirs location map



318 Information provided by DCCEEW and QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

319 CEWH, *Identifying and characterising refugia habitat for target organisms across the Murray–Darling Basin*, Australian Government, July 2023, p 1.

320 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

6.2 Business case development and project transformation

Initial cost estimates

At the feasibility stage, Queensland estimated the total Australian Government funding requirement for the project was $4.5 million, including $500,000 for business case development. The then Australian Government Minister for Resources, Water and Northern Australia approved the project for business case development in February 2021 based on the project's proposed ecological benefits and anticipated costs.[321]

Protracted funding issues

Following approval in February 2021, a bilateral project funding agreement was executed in September 2021 which provided $662,000 for business case development. However, within months Queensland identified this budget and the associated timeline as inadequate to complete the business case properly.[322]

The then QLD Minister for Water wrote to the Australian Government in September 2021, and again in March 2022, requesting additional funding and extended timeframes, but did not receive a formal response. Work on the business case ceased in February 2022 while awaiting approval of the funding variation.[323]

The federal election in May 2022 further delayed resolution. The QLD Minister for Water wrote a third time in July 2022.[324] The Australian Government approved the funding variation in August 2022.[325] Approximately 11 months was lost to funding uncertainty, including a 6month period where work stopped.

The August 2022 variation provided an additional $460,000 (bringing total business case funding to $1.122 million) and extended deadlines to December 2022 for the draft business case and February 2023 for the final business case. The scope of the project had then expanded significantly to include:

- fishway construction at 2 bifurcation weir sites, 'triggered' by Queensland legislative requirements, which had originally been part of a separate project proposal, and
- concrete refurbishment of existing weirs, remote operation systems, and telemetry infrastructure.[326]

Importantly, the March 2022 and July 2022 variation requests stated that additional funding would allow hydrological modelling to be undertaken for inclusion in the business case.[327]

321 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
322 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
323 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
324 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
325 Federal Financial Relations, *Delivery of Environmental Measures in the Northern Basin*, QLD Schedule H – Lower Balonne River System Bifurcation Weirs – Business Case, Australian Government, 19 August 2022, p 6.
326 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
327 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Draft business case

Queensland submitted the draft business case to DCCEEW in December 2022. It stated that hydrological modelling would be undertaken 'if the project proceeds to the next stage',[328] despite being explicitly funded and promised in ministerial correspondence requesting the additional funding.

The MDBA provided a 'gap analysis' to DCCEEW regarding the draft business case, emphasising that hydrological modelling was 'essential to quantifying the potential benefits and dis-benefits/ trade-offs of the project'. The MDBA gap analysis identified the following flaws:

- an absence of detailed ecological models to quantify potential benefits
- basic inconsistencies, including gate configurations in text not matching figures
- unclear scope
- contradictory statements, and
- an absence of engagement with potentially affected landowners.[329]

The MDBA found that while a cost-benefit analysis was presented, the methodology and assumptions were not robust as:

> the expected benefits of the project are not well described and quantified and I expect this has compromised the assessment of benefits and contributed to the negative outcome.[330]

Final business case

The final business case was submitted in April 2023, 2 months after the extended February 2023 deadline.[331] The hydrological modelling remained absent. Despite the additional time and resources provided, Queensland confirmed that hydrological and ecological modelling were 'out of scope' for the business case stage.[332] DCCEEW assessed that the cost-benefit methodology flaws had not been corrected, and the business case still lacked detailed ecological models and rigorous analysis needed to demonstrate the project would achieve its intended environmental outcomes.[333] In addition to this, the business case showed expected capital costs of $39.49 million, compared to the $4 million allocated. It also anticipated construction commencing in October 2023 to then be finalised in October 2027 (beyond both the deadline of June 2024 applicable at the time, and the extended deadline of December 2026 later granted).[334]

In an interview with the Inspector–General, senior representatives from the QLD DLGWV stated that, in relation to the change in capital costs, 'feasibility proposals that were put forward were based on available information, costing information adjusting quite simply for CPI', and 'in hindsight, the proposals put forward initially…they were underestimates, substantial underestimates'.[335]

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328 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
329 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
330 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
331 Sunwater, *Queensland – Lower Balonne River System Bifurcation Weirs Project Detailed Business Case*, QLD Government, 29 March 2023, p 96.
332 Sunwater, *Queensland – Lower Balonne River System Bifurcation Weirs Project: Detailed Business Case*, QLD Government, 29 March 2023, p 22.
333 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
334 Sunwater, *Queensland – Lower Balonne River System Bifurcation Weirs Project: Detailed Business Case*, QLD Government, 29 March 2023, p 24.
335 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

6.3 Assessment and rejection

MDBA assessment

Following a request for advice, the MDBA assessed the final business case in June 2023, identifying several fundamental concerns with budget, the construction timeframe, the evidence base and engagement:

> Underestimation of costs in the feasibility proposal has major ramifications for Commonwealth funding and the decision on whether to approve this project to proceed to implementation…there is a major risk that the actual implementation costs will be higher than those presented in the business case.
>
> The project schedule outlined in the business case anticipates construction will not be complete until the end of 2027. This is well beyond the June 2024 implementation timeframe for the northern Basin toolkit agreed by Basin Ministers…Furthermore, there is a considerable risk of delays beyond 2027 as there remains significant further work in the next phase. This includes undertaking detailed design of the proposed infrastructure, undertaking detailed hydrological modelling, seeking relevant approvals and consulting more widely and deeply including with directly affected landholders to seek support for the proposed measures.
>
> …the business case hasn't provided sufficient evidence of environmental benefits. In this context the outcomes of the cost:benefit analysis should be treated with caution. A more rigorous assessment of the benefits of the proposal is needed, including its potential to mitigate climate change impacts and provide other non-economic benefits…
>
> …there has been no engagement with landowners or potentially affected properties to date and this presents a risk to project implementation…further engagement with First Nations groups in the Lower Balonne is needed. The business case doesn't identify how Yuwaalaraay Euahlayi Aboriginal Corporation issues raised were addressed and it is unclear if/how this feedback was incorporated into the final business case.[336]

The MDBA also questioned whether weir refurbishment and fishway construction costs should be funded by the Australian Government through the Toolkit, noting these needs predated the Toolkit and that the Border Rivers Commission (the weir infrastructure owner) had been aware of refurbishment needs since 2016. The MDBA suggested the Border Rivers Commission could more appropriately fund the refurbishment, either in full or in part.[337]

Australian Government due diligence assessment

The business case and DCCEEW's due diligence assessment both noted a Benefit-Cost Ratio of 0.8 (meaning the costs exceeded the benefits – a ratio above 1.0 is required to demonstrate value for money) and Net Present Value of negative $4.7 million (indicating the project would result in a net loss to the community).[338]

The assessment found that while cost estimates were to Class 3 standard (an acceptable variance range), they were 'not highly accurate and are not highly appropriate in reflecting market realities'. DCCEEW estimated that actual implementation costs would be higher than presented in the

336 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
337 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
338 Sunwater, *Queensland – Lower Balonne River System Bifurcation Weirs Project: Detailed Business Case*, QLD Government, 29 March 2023, p 22 ; DCCEEW, *Due Diligence Assessment Summary: Queensland Lower Balonne River System Bifurcation Weirs Project*, Australian Government, September 2023 ; Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

business case, particularly given the project costs had 'considerable loading on uncertainty and high contingency' and did not include provisions for cost escalation, wet weather, or flooding impacts despite construction extending to 2027.[339]

The DCCEEW assessment noted the business case 'does not provide sufficient evidence that the project will achieve the proposed environmental outcomes' and that the project 'cannot be delivered within the Toolkit funding envelope or by the Toolkit project commitment timeframe'. The assessment also noted 'significant risks to project implementation that are likely to lead to cost escalation and longer-than-expected delivery timeframes'.[340]

Project rescope and the funding gap

The Australian Government announced the October 2023 business case rejection decision at the Lower Balonne Roundtable meeting on 15 November 2023. At that meeting, an action was recorded:

> DCCEEW, CEWH, MDBA and Qld to meet to further discuss options for development of a rescoped bifurcation weirs project, including community involvement.[341]

This demonstrated that all parties were committed to exploring alternatives despite the rejection.

The Australian Government then commissioned a stocktake to reallocate quarantined funding not aligned with a specific project for implementation and specifically invited Queensland to submit new proposals and revisit rejected projects, with extended deadlines to March 2024.[342]

The Australian Government had quarantined approximately $4 million for the Bifurcation Weirs project based on the feasibility proposal's estimate, and the final business case requested $39.5 million.[343] By October 2023 when the business case was rejected, approximately $35 million in unallocated Toolkit funds remained available. This meant the actual funding gap was approximately $4.5 million.

Queensland formed a working group involving local stakeholders and developed a rescoped proposal.[344] Hydrological modelling was undertaken, which indicated limited environmental benefits based on agreed scenarios. During an interview, QLD DLGWV senior representatives stated that a third-party review found the original business case costings were 'sound' and 'probably a little bit conservative'.[345]

Despite completing this additional work, the rescoped proposal did not address the fundamental constraints: costs and timeframes remained unchanged while the hydrological modelling had demonstrated limited environmental benefits. Queensland was unable to develop a fundable project proposal within available funding or timeframes.[346]

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339 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
340 DCCEEW, *Due Diligence Assessment Summary: Queensland Lower Balonne River System Bifurcation Weirs Project*, Australian Government, September 2023, p 3.
341 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
342 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
343 Sunwater, *Queensland – Lower Balonne River System Bifurcation Weirs Project Detailed Business Case*, QLD Government, 29 March 2023, p 96.
344 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
345 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
346 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Figure 6-3 Bifurcation weir at 'Whyenbah', on the Balonne River

6.4 Independent peer review

The Inspector–General found that DCCEEW, the MDBA and the CEWH all identified the same problems with the Bifurcation Weirs business case. As noted above, in response the Inspector – General commissioned Marsden Jacob Associates in May 2025 to conduct an independent peer review of the final business case.

Key findings

The key findings from the independent peer review of the final business case are extracted below:

> The business case lacks a clear and consistent articulation of project objectives. It is unclear whether the project primarily seeks to improve ecological outcomes, enhance water management practices, or increase operational control. A clearer statement of project intent is required to ensure the proposed infrastructure design is fit-for-purpose and proportionate to the problem or opportunity...
>
> The business case does not include ecological or hydrological modelling. Without these, it is not possible to demonstrate how the project will deliver measurable environmental benefits, nor how the system is expected to perform under base case, project case, and future climate change scenarios. This impacts confidence in the case for investment....
>
> The proposed infrastructure, including multiple gates and high specification fishways, appears more complex and costly than necessary to achieve intended outcomes....
>
> The financial analysis...does not reflect whole-of-system or third-party impacts, inconsistent with Queensland Business Case Development Framework (BCDF) requirements...

> The economic analysis lacks important transparency concerning the calculation of costs and benefits, and omits key benefit categories, including additional environmental and social values. The benefits included, primarily attributed to avoided water purchases, are based on southern Basin water prices, which are not representative of the project area.[347]

Overall, the findings appeared consistent with earlier project feedback from the MDBA and the CEWH as well as assessments by DCCEEW.

The Inspector–General provided a copy of the review to both DCCEEW and the QLD DLGWV.

Queensland Local Government, Water and Volunteers response

QLD DLGWV asserted that the business case met guidance provided by DCCEEW, and that DCCEEW had determined all business case milestones were complete in accordance with the bilateral project funding agreement, reiterating that it was an Australian Government decision not to progress to implementation.[348]

The Inspector–General notes that meeting administrative milestones for payments under a bilateral project funding agreement does not necessarily equate to substantive quality requirements for investment approval.

QLD DLGWV also referenced the original Toolkit timeframe of June 2024 and subsequent extension to December 2026, stating that:

> The business case reflects what could have been achieved within the mandatory timeframe. However, these changing timeframes constraints have not been given due consideration in the report.[349]

The Inspector–General notes the project was approved for business case development in February 2021, yet Queensland didn't submit its business case until April 2023 – over 2 years later and only 14 months before the original June 2024 completion deadline. Additionally, the Queensland business case scheduled construction to continue until October 2027 – beyond both the original program deadline of June 2024 applicable at the time, and the extended deadline of December 2026 later granted.[350]

QLD DLGWV disagreed that the project objectives and scope were unclear, stating they were 'in accordance with guidance material available'.[351] The Inspector–General notes that the MDBA gap analysis of the initial draft business case had also identified issues with an unclear scope.[352]

The QLD DLGWV response asserted that ecological and hydrological modelling could not be completed:

> The Commonwealth Environmental Water Holder (CEWH) only holds 45 megalitres (ML) in Beardmore Dam, which is too small a volume to alone achieve significant environmental benefits in this high-loss environment, and there were no event-based mechanisms developed by the CEWH for the Lower Balonne upstream of the weirs at Bifurcation 1 to inform modelling scenarios. Given these limitations, hydrologic and environmental modelling could have only identified options that were theoretical and not necessarily able to be practically delivered.

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347 Independent Peer Review by Marsden Jacobs Associates.
348 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
349 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
350 Sunwater, *Queensland – Lower Balonne River System Bifurcation Weirs Project: Detailed Business Case*, QLD Government, 29 March 2023, p 24.
351 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
352 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

> However…hydrologic modelling was undertaken in collaboration with an advisory group in early 2024. This was based on theoretical scenarios which also informed the update to the environmental benefits assessment…An ecological analysis of the key environmental values based on the outputs of the hydrological modelling did not result in the identification of any significant benefits for: waterhole persistence, longitudinal connectivity, fish movement, bird breeding, or lignum condition…This was evident without, and prior to, undertaking the modelling.[353]

The Inspector–General considers this response both contradicts correspondence from the then QLD Minister for Water and is inconsistent with repeated promises that hydrological modelling would be completed.

The Inspector–General notes that the business case did include hydraulic modelling to inform gate design and operational safety. The business case distinguished between hydraulic modelling (water flow mechanics for engineering design) and hydrological modelling (environmental water outcomes assessment under different operational scenarios). However, hydrological modelling to assess environmental benefits was not included in the business case despite being explicitly funded and promised in ministerial correspondence requesting additional funding.

The QLD DLGWV assertion that theoretical hydrologic modelling and ecological analysis undertaken in early 2024 'did not result in the identification of any significant benefits' and that 'this was evident without, and prior to, undertaking the modelling' also seems to directly contradict its business case. An environmental assessment supporting the business case claimed 'there is significant confidence that the ability to regulate low flows to the extent proposed can provide substantial ecological benefits',[354] and the final business case specifically claimed:

> The upgraded bifurcation weirs with gates can flexibly direct a small well-targeted flow to a key environmental asset. This has the potential to prevent local extinctions and breakdown of important ecosystems such as the Narran Lakes Ramsar site.[355]

The Inspector–General is concerned with this response as, if Queensland did not need to conduct modelling to understand that the project had limited ecological benefits as it now asserts, it is unclear why it claimed such ecological benefits in the feasibility proposal and business cases.

In response to Marsden Jacobs Associates' financial and economic analysis, QLD DLGWV stated that:

> constructing water infrastructure in remote locations with challenging access conditions, increases the level of risk and contingencies in costings and it is important not to underestimate cost escalation risks with projects of this nature. The ability to develop, submit and assess a detailed business case and, if successful, to design and construct the works within the set timeframes was inevitably going to be challenging and amplified the risk of project cost escalations.[356]

The Inspector–General considers that this response does not contradict the overarching finding from Marsden Jacobs Associates that the proposed infrastructure was more complex than required. In fact, it suggests agreement that a less complex proposal would have been more appropriate for the locations. The Inspector–General also notes that most infrastructure projects under the Toolkit are being delivered in similarly remote locations.

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353 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

354 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

355 Sunwater, *Queensland – Lower Balonne River System Bifurcation Weirs Project Detailed Business Case*, QLD Government, 29 March 2023, p 96.

356 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

The QLD DLGWV specified that it obtained 'a third-party independent review of capital estimates in the 2023 Detailed Business Case…in early 2024…[which] deemed the costing to be reasonable' and claimed the review by Marsden Jacobs Associates did not acknowledge Queensland's legislative requirements for in-stream water infrastructure.[357]

Regarding Queensland's legislative requirements, the Inspector–General considers these should have been factored into initial scoping rather than added through business case refinement. In addition, this response misconstrues the findings made by Marsden Jacobs Associates who did not state that costs were inflated but rather that:

- the scope was unnecessarily complex and costly for the environmental outcomes sought, and
- cost estimates were based on an unnecessarily high confidence level, resulting in excessive contingency provisions.

The Inspector–General considers the nearly ten-fold escalation from $4 million feasibility estimate to final costs of $39.5 million resulted from both severe underestimation during feasibility and significant scope expansion. Queensland's response did not address these substantive issues.

Australian Government Department of Climate Change, Energy, the Environment and Climate Change response

DCCEEW stated, in response to the Marsden Jacobs Associates review, that it:

> welcomes the review's findings supporting our Department's assessment of the business case. DCCEEW further notes the considerable revision work to the business case that the Peer Review recommends would be needed in the event that the business case is resubmitted.[358]

Considering all Toolkit funding has been allocated, DCCEEW noted any future funding of the project would be a decision for the Australian Government, and that it could not comment on future opportunities for business case resubmission.

357 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

358 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Figure 6-4 Bifurcation weir at 'Trafalgar', at the confluence of the Balonne, Narran and Bokhara River

6.5 An avoidable failure

The notable absence of modelling

The decision by Queensland to not include hydrological modelling in its final business case and declaring it 'out of scope' was unjustifiable for 3 key reasons:

- the ecological prioritisation assessment clearly stated that 'all project proposals need to be supported by improved hydrological modelling to inform design and operational considerations', and specifically stated that the Bifurcation Weirs project required 'more modelling…to ensure the proposed solutions will perform as expected'[359]
- the then QLD Minister for Water requested further time and funding from the Australian Government in March 2022 and again in July 2022 to 'undertake robust studies', which the minister specifically stated included 'hydrological modelling to assess impacts of modifying the Bifurcation weirs',[360] and
- assessments of the draft business case emphasised the importance of the missing hydrological modelling.[361]

Hydrological and ecological modelling was clearly expected from the outset of project planning. The Inspector–General also notes the contradictory nature of the QLD DLGWV response to the review by Marsden Jacobs Associates on the limits of available modelling.

359 Independent Expert Ecological Panel, *Northern Basin Toolkit Ecological Prioritisation of Proposed Project report*, prepared for the Australian Government, October 2020, pp 23 & 88.
360 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
361 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Shared responsibility for lack of progress

The Inspector–General considers that the project's inability to progress to implementation resulted from problems across both the Australian and QLD Government jurisdictions.

The Australian Government accommodated Queensland's requests for scope increases, additional funding, and extended timeframes but the Australian Government's Toolkit program design created structural constraints. Allocating project funding based on preliminary feasibility estimates without contingencies for inevitable cost increases during business case development meant that when detailed investigations revealed higher costs, the Toolkit did not have a mechanism to address cost increases.

Queensland faced legitimate design and construction challenges, but the independent peer review shows that these factors do not explain the magnitude of the cost escalation from feasibility to business case (nearly 10 times the original estimate) or the absence of fundamental technical analysis.

The environmental cost

The failure to deliver the Bifurcation Weirs project resulted in real environmental losses extending beyond the Toolkit. The project had ranked fifth among 27 proposals for ecological benefit and was the only Queensland project designed to deliver benefits across all environmental objectives regarding native fish, vegetation, waterbirds, and river connectivity.[362]

The project's non-delivery has ongoing implications for environmental water delivery efficiency. On average, only 3 to 5% of flows at St George reach the Narran Lakes under current weir operations.[363] The upgraded bifurcation weirs would have enabled improved flows to critical environmental assets, particularly during low-flow periods when precise water management is essential for ecosystem health.

The loss also affects the CEWH's capacity to use EBMs to coordinate and deliver environmental water, both of which are focuses for the Toolkit through Measure 3 and Measure 4. The enhanced flow control would have complemented the policy measures through expanding market participation opportunities and improving delivery efficiency for future environmental watering events. For example, it could have supported targeted watering at the Narran Lakes, building on the successful 2023 waterbird breeding event discussed in Section 3.3.

The environmental cost is compounded by the strong and sustained community support this project had. Local government, landholders and irrigators all supported the project, recognising it would deliver water security benefits alongside environmental outcomes. Even after the business case was rejected in November 2023, community members expressed that the Bifurcation Weirs project remained their highest priority for Toolkit implementation as it was 'critical to providing flexibility when managing low flows, particularly under a future drier climate'.[364] The failure to deliver a project with such comprehensively strong local backing, high ecological ranking, clear environmental benefits and professional endorsement from the CEWH's independent reviewer represents a significant missed opportunity for enhanced ecological outcomes in the northern Basin under the IGA.[365]

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362 Independent Expert Ecological Panel, *Northern Basin Toolkit Ecological Prioritisation of Proposed Project report,* prepared for the Australian Government, October 2020, p 87.

363 BDA Group, *A comparative assessment of event-based mechanisms for providing water to the Narran Lakes*, prepared for the CEWO, 16 October 2017, p 23.

364 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

365 DCCEEW, *Detailed Business Case: Queensland – Lower Balonne River System Bifurcation Weirs Project,* Australian Government, 29 March 2023, pp 79-81 ; Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.

Queensland has noted that it ranked this project lower internally (10th of 14 QLD projects) and flagged this in interview during the inquiry. The environmental cost assessment is based on the project as selected and approved: the independent expert panel specifically provided program-wide ecological assessment to inform selection decisions, and this project ranked fifth overall across both states. Whether Queensland's internal ranking differed from independent expert assessment, the failure to deliver a project that was selected and funded based on independent ecological evaluation represents environmental cost relative to program objectives.

7 Design and implementation flaws

The Toolkit's implementation challenges stem from fundamental design flaws in both how the Toolkit was established to implement Australian Government program outcomes and how it was delivered (through policy measure and infrastructure project implementation). These factors are interconnected and together created barriers to effective delivery.

The challenge of delivering the Toolkit reflects a broader issue with the Basin Plan: Australian Government water policy objectives are largely required to be delivered through state government implementation mechanisms. The Constitution does not grant the Commonwealth power over water.[366] While the Water Act was introduced to address national concerns, its implementation depends on cooperation by states either referring powers to the Commonwealth or by negotiating intergovernmental arrangements.[367] States not only hold constitutional authority over water resources but also possess the on-ground knowledge, technical expertise, and infrastructure delivery capacity that the Australian Government lacks.

These fundamental challenges are compounded by the Toolkit's funding structure. The Australian Government bears all financial risk for cost overruns and delays, while New South Wales and Queensland do not face financial or water recovery consequences for missed deadlines or budget blowouts. Additionally, the Toolkit funding structure has not allocated resources for Australian Government program management or independent assurance activities, limiting DCCEEW's capacity to actively monitor project delivery or obtain independent technical expertise. Together, these factors weaken accountability for efficient project delivery.

The structural problems outlined in this chapter have been further exacerbated by aspects of the IGA. Schedule 3 of the IGA sets out what the Australian, NSW and QLD governments agreed to implement, however the IGA does not include specific, measurable outcomes. For example, under Measure 6, the Australian, NSW and QLD governments agreed to

> environmental works and measures to promote fish movement and habitat in the northern Basin…to improve fish movement and habitat through the removal of barriers (e.g. weirs) and other activities to enhance native fish outcomes and other ecological outcomes.[368]

This describes what type of work should occur towards certain objectives, however neither Schedule 3 of the IGA nor its annexures include specific details regarding the type of works or locations.

In an interview with the Inspector–General, NSW DCCEEW senior representatives stated that 'the lack of clarity on outcomes has probably set the program back at least a couple of years, if not more'.[369]

366 *Commonwealth of Australia Constitution Act 1900* (Cth) s 100.
367 *Water Act 2007* (Cth) ss 9, 11, 35 and pt 11A.
368 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.
369 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Overall, this has created 2 problems:

- **Toolkit commitments are difficult to monitor for implementation transparency**. As projects were descoped, both Australian Government and NSW and QLD government agencies could maintain that reduced outcomes still satisfied IGA commitments because the IGA did not specify what constituted adequate delivery. The installation of even a single fish screen could technically satisfy the commitment to 'fish-friendly water extraction' under Measure 6, even if feasibility proposals had contemplated dozens of installations.
- **The Toolkit did not establish a clear threshold to trigger consequences for not delivering projects to their initially agreed and funded scope and timeframes**. The IGA created commitments that governments could claim to have met regardless of how much work towards the broad objective was completed.

7.1 No consequences for non-delivery

The 70 GL reduction in the northern Basin water recovery target was based on the Australian, NSW and QLD governments committing to complementary measures to minimise the reduction in environmental outcomes resulting from the reduced water recovery target. The reduction was legislated through the Australian Parliament without accountability mechanisms linking it to actual Toolkit implementation.[370]

This distinction is critical to understanding the Toolkit's accountability gap. In the southern Basin, the Sustainable Diversion Limit Adjustment Mechanism (SDLAM) projects directly substitute for water recovery. If projects do not deliver, water must be recovered instead.[371] The Toolkit operates differently as it does not seek to provide equivalent environmental benefits to the 70 GL of additional water recovery, but to complement water recovery by improving how water is managed and used. Because Toolkit measures do not substitute specific water volumes, there are no accountability mechanisms linking the water recovery reduction to actual Toolkit delivery. Without meaningful incentives and accountability mechanisms, the Toolkit lacks provisions to incentivise delivery or generate consequences for non-delivery. As such, New South Wales and Queensland do not experience financial, water recovery or other consequences for Toolkit project scope reduction.

Australian Government objectives, state delivery

Under the IGA the Australian Government funds the Toolkit,[372] but the bilateral project funding agreements that govern project implementation have created misaligned incentives as the Australian Government carries the financial risks for NSW and QLD government delivery responsibilities. This undermines the joint commitments made by the Australian, NSW and QLD governments under the IGA.

New South Wales and Queensland water agencies must balance Toolkit commitments against their core responsibilities such as urban water supply, drought planning, and flood management. The pattern of delays and reduced scope across multiple Toolkit infrastructure projects suggests that these competing priorities, combined with funding arrangements that do not create financial consequences for under delivery, have affected project implementation.

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370 *Basin Plan 2012* (Cth) s 6.04 ; MDBA, *Transcript: Basin Plan amendments – address at Parliament House – MDBA Chief Executive Phillip Glyde,* Australian Government, Published 22 November 2016.

371 *Basin Plan 2012* (Cth) Pt 2, Div 2 ; MDBA, *Sustainable diversion limit adjustment mechanism,* Australian Government, Updated: 16 June 2025, Accessed: October 2025.

372 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.

Flexible funding agreements insulate states from financial consequences

The misalignment between priorities has been compounded by funding arrangements that insulate New South Wales and Queensland from financial risk. While Australian Government funding was necessary to prompt participation, it has created a critical accountability gap. New South Wales and Queensland have been able to access funding throughout project development and implementation without bearing financial risk when costs increased, timelines slipped, or project scopes shrank. The MDBA identified this clearly in its submission to the Inquiry:

> the Commonwealth bears the risk of any cost-escalations and cost underestimates and delays as there is no legislative penalty or incentive for States to deliver projects on time and budget.[373]

In an interview with the Inspector–General, the MDBA further stated that the 'Northern Basin Toolkit relies primarily on goodwill' without consequences for not delivering projects to their initially agreed and funded scope and timeframes outside 'public shaming' which would undermine 'a collaborative atmosphere'.[374] As discussed above, this contrasts the formal accountability mechanisms for the southern Basin SDLAM, where a reconciliation process can trigger additional environmental water recovery if projects are not fully implemented.[375]

The Toolkit funding arrangements reduced New South Wales and Queensland financial incentives for efficient delivery. The NBPC's October 2022 risk assessment rated 'cost underestimation by states and cost escalations lead[ing] to insufficient Commonwealth funding [being] available to implement approved projects' as having an initial risk level of 'almost certain – major' with a residual risk rating after treatments of 'almost certain – moderate' and a status of 'unacceptable'. The MDBA's internal comments on the draft risk assessment noted that despite proposed fixes, the risk remained 'severe' because governments clearly had 'insufficient funding to implement approved projects consistent with the scope of the feasibility proposals'.[376]

Toolkit funding was allocated to delivery targets aligning with the IGA through project funding agreements. Bilateral project funding agreements should create accountability by linking payments to specific milestones and deadlines.[377] However, the Toolkit project funding agreements have prioritised flexibility over accountability. All agreements include provisions for timeline changes, specifying they 'may be amended at any time by agreement in writing'.[378] For example, 2 Queensland business case schedules contain the annotation 'Table 1 has been amended by exchange of Ministerial letters', reflecting a single ministerial exchange that amended both schedules.[379]

As a result, deadline dates for the delivery of project milestones appear to have been treated as guidance for negotiation, rather than firm commitments. For example, the New South Wales streamlined delivery project funding agreement underwent variations in December 2023 and November 2024, extending deadlines and changing scope while maintaining funding commitments.[380]

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373 MDBA, *MDBA Submission: Inspector–General of Water Compliance Inquiry into implementation of the Northern Basin Toolkit,* Australian Government, November 2024, p 16.

374 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

375 *Basin Plan 2012* (Cth) Pt 2, Div 2 ; MDBA, *Sustainable diversion limit adjustment mechanism,* Australian Government, Updated: 16 June 2025, Accessed: October 2025.

376 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

377 Federal Financial Relations, *Drafting Checklist,* Australian Government, p 1.

378 Federal Financial Relations, *Delivery of Environmental Measures in the Northern Basin,* Project Agreement for Delivery of Environmental Measures in Northern Murray–Darling Basin, 9 December 2019, cl 32.

379 Federal Financial Relations, *Delivery of Environmental Measures in the Northern Basin,* QLD Schedule H – Lower Balonne River System Bifurcation Weirs – Business Case, p 2 and QLD Schedule I – Reconnecting Catchments: Condamine–Balonne – Business Case Australian Government, 19 August 2022, p 2.

380 Federal Financial Relations, *New South Wales Toolkit projects – streamlined delivery,* 7 March 2022.

This combination of flexible milestone provisions alongside front-loaded funding has rewarded administrative processes over physical construction progress. While later milestones included construction completion measures, several project funding agreements released substantial funding (in some cases the majority) for administrative planning activities before on-ground works commenced, weakening financial incentives for construction progress (see also Section 4.6 regarding the Gwydir Constraints project milestone structure). The Macquarie Marshes Enhanced Watering Project provides the most striking example: New South Wales received $2.38 million (88.5% of the total $2.69 million funding) before construction commenced, as follows:

- $357,000 within 10 business days for establishing governance arrangements
- $357,000 for demonstrating 'progress as per the Project Execution Plan' without any actual construction, and
- $1.666 million (62% of total funding) for submitting execution plans and costings.[381]

When construction began in June 2024 (over 3 years after funding approval) it was completed within a month using only the remaining 11.5% of funds.[382]

This funding profile demonstrates how New South Wales and Queensland could secure most of a project's funding through planning activities alone, with minimal subsequent financial incentive to drive efficient construction delivery.

7.2 Too many projects, too little funding

Acknowledgment of the Toolkit's problems evolved over time. In December 2022, the BOC heard that rescoping 'is likely to reduce the expected environmental outcomes for individual projects' but that the projects would 'still significantly improve environmental outcomes across the northern Basin, as agreed in the IGA'.[383] In June 2023, the NBPC reported to the BOC that it was 'now also certain that the package of environmental works and measures projects cannot be delivered consistent with feasibility proposals with the available budget', but that the projects would 'still significantly improve environmental outcomes'.[384] In its Interim Evaluation Report from December 2024, DCCEEW acknowledged all projects under the Infrastructure Measures had been descoped to some degree to 'manage the underestimation of required budgets',[385] and stated that:

> As projects have been rescoped to fit within the budget and timeframe of the Toolkit, the associated environmental outcomes anticipated in feasibility proposals and business cases have consequently been reduced.[386]

However, DCCEEW maintained that:

> While the outcomes originally envisaged will not be attained, the rescoped projects will still significantly improve environmental outcomes across the northern Basin, as agreed in the IGA.[387]

381 Federal Financial Relations, *New South Wales Toolkit projects – streamlined delivery*, NSW Toolkit projects – Northern Basin Toolkit Streamlined Schedule, 15 November 2024, p 8.
382 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
383 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
384 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
385 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 41.
386 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 29.
387 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024, p 39.

The Inspector–General considers that Toolkit project scope reductions stemmed from 3 compounding design flaws:

- decision-makers selected more projects than they could realistically deliver within available funding
- the NSW and QLD governments submitted proposals with severely underestimated costs, and
- the streamlined delivery approach for 4 projects bypassed detailed business case development that may have identified cost problems earlier.

These problems created a funding shortfall that made widespread descoping inevitable.

Too many projects selected

The Toolkit's problems began with a 'bottom-up' approach to project selection. While the Australian, NSW and QLD governments worked collaboratively to develop assessment frameworks and criteria (including the *Ecological Prioritisation Framework* agreed by the NBPG in April 2019 and *Business Case Assessment Guidelines*) this framework-based approach differed from jointly identifying upfront the most critical environmental priorities and realistic implementation opportunities within the $166.3 million funding envelope. Instead, the NSW and QLD governments were invited to submit project proposals addressing the agreed criteria, with assessment and selection occurring after proposals were developed. The MDBA identified that this approach was 'dependent on Basin states bringing forward robust proposals for Commonwealth investment'. This approach lacked what the MDBA called a 'clear and transparent strategic overview' of 'key threats/ issues impacting on achievement of environmental outcomes in the northern Basin' to guide projects targeted at key issues.[388]

Ultimately this created a portfolio of projects which calculations in July 2020 showed had combined estimated costs exceeding $300 million,[389] requiring careful project selection from the Australian Government.

Both the independent expert ecological panel and DAWE recommended selecting a smaller set of projects that could realistically be delivered within the funding envelope as discussed previously in Chapter 2.[390]

The initial ministerial briefing from DAWE in December 2020 specifically stated that 'progressing all projects will exceed the available Commonwealth funding' to explain the advice to prioritise the 6 highest-ranked projects for implementation with the remaining 7 to be considered for potential implementation depending on funding availability. The funding limitation was specifically acknowledged in the written response from the Minister which stated:

> Timelines unacceptable
>
> 13 indicates insufficient funding to progress as recommended
>
> Priority order not accepted. Pls [sic] consult with MO, review & return.[391]

DAWE's ministerial brief in February 2021 contained revised recommendations and stated the department understood the minister had requested a package which did not exceed the funding envelope for Toolkit projects while expediting on-ground activities. In proposing the 4 accelerated

388 MDBA, *MDBA Submission: Inspector–General of Water Compliance Inquiry into implementation of the Northern Basin Toolkit,* Australian Government, November 2024, p 15.

389 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

390 Independent Expert Ecological Panel, *Northern Basin Toolkit Ecological Prioritisation of Proposed Project report,* prepared for the Australian Government, October 2020, p 21 ; Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

391 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

projects alongside 6 others for business cases (as discussed previously in Chapter 2), the departmental briefing detailed that:

> We consider that many of these risks [for the proposed accelerated approach] can be sufficiently managed under appropriate funding arrangements, including through careful milestone development and governance measures, to maintain Commonwealth oversight.
>
> A key risk is that costs for the accelerated projects may increase from estimates provided in feasibility proposals. This would impact funds available for the remaining projects, some of which are of the highest ecological merit, e.g. Gwydir Constraints Measures.
>
> The 4 accelerated projects are scalable, therefore setting a funding envelope in the agreement would be used to manage cost blowouts. Where the overall cost of an accelerated project is higher than anticipated, an individual project could be evaluated to scale down, provided appropriate environmental outcomes can be delivered.
>
> In addition, if costs detailed in business cases for the remaining 6 projects are beyond the available funding envelope, implementation of some projects may be reconsidered.[392]

In an interview with the Inspector–General, NSW DCCEEW stated, in relation to the concept of accelerating infrastructure project delivery in the water sector, that 'there is no way to accelerate the design, procurement, construction-elements of those projects'.[393]

It is clear the risks of insufficient funding and reduced project scopes and environmental outcomes were known at the outset of the Toolkit program, with Australian Government departmental assertions that these risks could be adequately managed perhaps underestimating the impacts and overestimating the actions available to the governance structures.

Consequences of inadequate proposal development

The selection process was compounded by consistent cost underestimation in New South Wales and Queensland proposals. The MDBA submitted that:

> implementation timeframes and costs presented in feasibility proposals were not realistic or feasible and hence in the Authority's view Toolkit investment decisions based on information presented in feasibility proposals were compromised.[394]

Queensland's own feasibility proposals explicitly acknowledged their cost estimates were 'provisional at best'.[395] When proper costing work was undertaken, estimates jumped dramatically:

- the Lower Balonne River System Bifurcation Weirs project from $4 million to $39.49 million (nearly 10 times higher), and
- the Reconnecting Catchments: Condamine–Balonne (Jack Taylor and Beardmore dams) project from $15.5 million to $102.97 million (over 6.5 times higher).[396]

Cost underestimation was widespread. A 2023 stocktake of all Toolkit projects initiated by the Australian Government, revealed the NSW Reconnecting the Northern Basin project, originally funded with $56.75 million, then required an additional $175 million to complete all phases.[397] This is over 4 times the original estimate.

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392 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
393 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
394 MDBA, *MDBA Submission: Inspector–General of Water Compliance Inquiry into implementation of the Northern Basin Toolkit,* Australian Government, November 2024, p 15.
395 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
396 DCCEEW, *Due Diligence Assessment Summary – Queensland Reconnecting Catchments: Condamine–Balonne Project*, Australian Government, September 2023, p 4.
397 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

This demonstrates an early realisation of the risks identified by DAWE in its December 2020 and February 2021 ministerial briefings.[398]

Managing cost overruns through scope and timeline adjustments

When projects based on feasibility proposals with significant financial and timeframe underestimations encountered implementation challenges, without an increase to the $166.3 million funding envelope, Basin ministers extended the implementation timeframe (from June 2024 to December 2026), and New South Wales and Queensland made project scope adjustments. Some projects were cancelled entirely when business cases demonstrated they could not be delivered within available funding and timeframes. For projects that proceeded, scopes were reduced to fit, as anticipated in earlier ministerial briefings:

- **NSW Reconnecting the Northern Basin project** – reduced from a planned 2,135 km to a revised target of 589 km (25% of original scope)[399]
- **NSW Macquarie Marshes Enhanced Watering project** – Mumblebone Breaks component withdrawn, with only the Oxley Break works completed,[400] and
- **NSW Gwydir Constraints project** – physical works and legislative framework will be completed, but landholder negotiations deferred beyond the Toolkit timeline.[401]

The Inspector–General's view is that this pattern of scope reductions across multiple projects demonstrates these are not isolated implementation difficulties but the result of poor program design.

Three design flaws combined to create the funding shortfall:

- the Australian Government selected more projects than expert advice recommended
- the NSW and QLD governments submitted feasibility proposals with substantially underestimated costs, and
- the streamlined delivery approach for 4 projects bypassed detailed business case development that may have identified cost problems earlier.

The MDBA noted that further independent scrutiny of proposals 'may have highlighted these issues much earlier and avoided the subsequent descoping of projects'.[402]

398 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
399 NSW DCCEEW, *NSW submission to the Inspector–General's review of the Northern Basin Toolkit,* NSW Government, November 2025, p 6 ; NSW Water, *Fish passage: Reconnecting the Northern Basin project*, NSW Government, Updated: undated, Accessed: September 2025 ; Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
400 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
401 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
402 MDBA, *MDBA Submission: Inspector–General of Water Compliance Inquiry into implementation of the Northern Basin Toolkit,* Australian Government, November 2024, p 15.

7.3 Reduced delivery time due to implementation delays

Initial delays compressed delivery windows

Administrative and process delays in the early stages of the Toolkit consumed implementation time, making project delivery by June 2024 extremely challenging. The cumulative impact of delays at each stage led to a compressed delivery schedule that forced scope reductions, reducing program benefits.

Moving from the MDBA's initial Toolkit proposal in November 2016 to final project approvals in February 2021 took over 4 years. This period included necessary policy development, Basin Plan amendments with mandatory consultation periods, legislative processes, the independent expert ecological panel review and agency consultation that informed project selection. While DCCEEW later characterised this as time invested in 'developing a robust, scientific process to assess State funding proposals to identify priority projects for investment', [403] it consumed time from an already compressed schedule, leaving less than 3.5 years to deliver complex infrastructure projects by the June 2024 deadline.

The July 2017 Four Corners 'Pumped' program also caused delays of several months, as the MDBA sought assurances from New South Wales to commit to Toolkit implementation, particularly regarding the protection of environmental flows.[404]

Bilateral project funding agreement execution was protracted. Despite the Australian Government approving accelerated projects in February 2021, most agreements were not executed until March 2022 – a year later.[405] The delay was even longer for the Gwydir constraints project agreement which was executed in December 2022,[406] leaving just 18 months for complex landholder negotiations and physical works by the June 2024 deadline. An extract of key events is outlined in Figure 7-1 below, with a more detailed chronology provided in Appendix D.

403 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report*, Australian Government, December 2024, p 37.

404 MDBA, *Out-of-session 37(2) meeting held 30 October 2017* [Communique], Australian Government, Published: 10 November 2017, Accessed: October 2025.

405 Federal Financial Relations, *New South Wales Toolkit projects – streamlined delivery*, New South Wales Toolkit projects – streamlined delivery schedule, 7 March 2022.

406 Federal Financial Relations, *New South Wales Toolkit projects – Reconnecting Watercourse Country Program*, Toolkit – New South Wales – Reconnecting Watercourse Country Program Schedule, 16 December 2022.

Figure 7-1 Chronology of events regarding Intergovernmental and bilateral project funding agreements

2016	24 November	The MBDA publishes the *Northern Basin Review*, recommending a 'Toolkit' of measures to be implemented by the Australian, NSW and QLD governments.
2018	2 to 3 July	*Basin Plan Amendment Instrument (No. 1) 2018* (Cth) to amend the Basin Plan to formalise the outcomes of the *Northern Basin Review* (reducing the water recovery target in the northern Basin from 390 GL to 320 GL) adopted by the Australian Government Minister for Agriculture and Water Resources, registered and commenced.
	13 August	*Basin Plan Amendment Instrument (No. 1) 2018* (Cth) tabled in both Houses of Parliament.
2019	9 August	Basin governments formalise the agreement to implement Toolkit measures by 30 June 2024 through a new Schedule 3 in the IGA.
	6 December	QLD feasibility activities funding agreement signed, providing $451,250 in funding.
2020	7 May	The Australian, NSW and QLD governments agree to the overarching funding agreement *for Delivery of Environmental Measures in the northern Murray – Darling Basin*.
	7 May	NSW feasibility activities funding agreement signed, providing $3,105,000 in funding.
	7 May	NSW Fish for the Future feasibility activities funding agreement signed, providing $270,676.78 in funding.
	7 May	NSW Gwydir Constraints feasibility activities funding agreement signed, providing $1,184,500 in funding.
	July	New South Wales submits feasibility proposals for 13 projects to DAWE for assessment.
	August	Queensland submits feasibility proposals for 14 projects to DAWE for assessment.
	October	The independent expert ecological panel finalises its report assessing 27 project proposals against ecological criteria, finding 7 particularly ecologically valuable.
	December	DAWE proposes 13 projects proceed to business case development.
2021	February	The Australian Government Minister approves 4 projects for accelerated delivery, with a further 6 projects approved to develop business cases.
	2 August	NSW Gwydir Constraints business cases funding agreement signed, providing $1,592,000 in funding.

continues

Figure 7-1 *continued*

2021	29 September	QLD Fish-Friendly Water Extraction business case funding agreement signed, providing $962,000 in funding.
	29 September	QLD Bifurcation Weirs business case funding agreement signed, providing $962,000 in funding.
	22 December	QLD Fish-Friendly Water Extraction funding agreement signed, providing up to $6,614,000 in funding.
2022	7 March	NSW streamlined delivery funding agreement signed, providing up to $79,920,000 in funding for the Reconnecting the Northern Basin, Macquarie Marshes Enhanced Watering, and Fish-Friendly Water Extraction projects.
	16 December	NSW Gwydir Constraints Funding Agreement signed, providing up to $32,224,000 in funding.

Missed early signals delayed timely extension

Timeline problems were identified early but not addressed. In October 2020, the MDBA advised DAWE that June 2024 implementation 'appears unrealistic' and in November 2020, a progress update to Ministerial Council noted a 'significant risk' that deadlines might not be met 'for some environmental works and measures projects'.[407]

In interviews with the Inspector–General, senior NSW DCCEEW representatives indicated that imposing 'unrealistically short timeframes often has the opposite effect',[408] instead meaning that New South Wales and Queensland had to repeatedly engage with the Australian Government to negotiate what was achievable within the proposed timelines.

The cumulative impact of early delays created significant timeline pressure. New South Wales submitted the Gwydir business cases in November 2021, 12 months after the original target deadline.[409] Queensland submitted the Lower Balonne River System Bifurcation Weirs project and Reconnecting Catchments: Condamine–Balonne (Jack Taylor and Beardmore dams) business cases in April 2023, approximately 30 months late.[410] These delays consumed time required for implementation, influencing subsequent program and project scope reductions.

The Toolkit implementation extension from June 2024 to December 2026 was formalised in August 2023. By this time, projects had already been descoped due to budget limitations. Cost increases reflected both inadequate feasibility estimates and post-COVID supply chain disruptions and inflation that contributed to substantial cost increases in construction materials during from

407 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
408 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
409 Information provided by DCCEEW and NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
410 Federal Financial Relations, Federal Financial Relations, *Delivery of Environmental Measures in the Northern Basin*, QLD Schedule H – Lower Balonne River System Bifurcation Weirs – Business Case, Australian Government, 19 August 2022 ; Information provided by DCCEEW and NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

2020 to 2022.[411]. The extension came too late to enable meaningful adaptation. For example, New South Wales had already reduced the Fish Passage: Reconnecting the Northern Basin project scope and removed components of the Macquarie Marshes Enhanced Watering project. Rather than enabling full Toolkit delivery, the extension accommodated reduced project ambitions that had already become inevitable by August 2023. Earlier recognition of the timing and budget challenges (particularly when cost escalations became apparent in 2021 and 2022) would have provided project teams with additional time to redesign projects, prioritise highest-value ecological outcomes, and implement staged delivery approaches. Instead, the delayed extension forced reactive descoping decisions under compressed timeframes. While the extension was necessary, it was granted too late to enable the adaptive management that could have better protected the Toolkit's environmental objectives.

411 Australian Bureau of Statistics, *Insights into Output of Building construction prices*, Australian Government, Published: 2 August 2024, Accessed October 2025.

8 Toolkit governance

The Toolkit is not being delivered as originally planned. Projects are running behind schedule, costs to implement project as originally planned significantly exceeded initial estimates, and the NSW and QLD governments have reduced project scopes to suit available funding and the remaining timeframe. Even though these risks were identified in early expert advice and ministerial briefings, and despite departmental assertions that the risks could be 'sufficiently managed under appropriate funding arrangements',[412] governance structure members do not have clear authority to address these problems as and when they emerged.

Multiple committees monitor progress and report risks. However, the governance structure does not permit any single official to reallocate funding, adjust project scope, or resolve delivery obstacles. The NBPC has consistently identified risks but lacks the authority to redirect funding, enforce deadlines, or compel action. The BOC receives reports but has a broad agenda of Basin issues and is not empowered to actively intervene in Toolkit delivery. These decisions require agreement between the Australian Government Minister and all other Basin state ministers through the intergovernmental framework. While ministers make the final decisions, they meet infrequently and deal with high-level policy rather than operational delivery details.

This governance structure means that while individuals and committees have identified problems and escalated concerns, resolving them requires coordination across multiple levels of government and often ministerial or intergovernmental agreement. This has made addressing implementation challenges slow and difficult. As such, early advice to the minister from DAWE as detailed in Chapter 7 above, seems to have misinterpreted the governance arrangements in place to manage implementation of the Toolkit.

This chapter examines how the governance structure diffuses accountability which limits the ability to respond to emerging issues, contributing to persistent cost underestimation, project descoping, and reduced ecological outcomes.

8.1 The governance framework

Two levels of government share responsibility for Toolkit implementation: the Australian Government and the NSW and QLD state governments. Within these 2 levels, multiple agencies play different roles.

At the Australian Government level, DCCEEW provides funding and sets program policies, frameworks and requirements. The CEWH and the MDBA are standing members of the NBPC and have also provided advice to DCCEEW (and its predecessor DAWE) on project selection for implementation. At the state level, NSW and QLD government agencies deliver infrastructure projects, while NSW and QLD environmental water managers coordinate environmental water delivery.

412 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Schedule 3 of the IGA sets out how the Australian, NSW and QLD governments and agencies work together for Toolkit implementation:[413]

- **Australian Government** provides all funding and makes final decisions on which infrastructure projects proceed. DCCEEW negotiates individual project funding agreements with New South Wales and Queensland for approved projects. The CEWH and MDBA advise whether projects will deliver environmental benefits. DCCEEW, the CEWH and the MDBA also collaborate to delivery policy measures such as targeted water recovery and event-based mechanisms.
- **NSW and QLD governments** deliver both infrastructure projects and policy measures. For infrastructure, they design and build projects, hire contractors, obtain relevant approvals, manage construction, and report progress to the Australian Government. For policy measures, they implement changes such as protecting environmental flows and coordinating environmental water delivery.

The NBPC, BOC and Ministerial Council oversee the Toolkit at different levels through monitoring and reporting, but do not manage delivery. Their responsibilities and powers are detailed individually below.

Northern Basin Project Committee

The NBPG was established in July 2017 to oversee Toolkit implementation, and in October 2021 it was renamed to the NBPC. A senior Commonwealth official chairs the committee and members include representatives from DCCEEW, CEWH, MDBA, New South Wales and Queensland. The committee meets regularly to:

- monitor project delivery
- identify implementation risks
- report progress to the BOC and Ministerial Council, and
- coordinate communications about the Toolkit.[414]

Between July 2017 and August 2025, the committee held 28 meetings.

The NBPC does not have the power to:

- approve projects for implementation
- allocate or reallocate funding between projects
- adjust project scope or timelines, or
- approve milestone payments.

These decisions require Australian Government ministerial approval. The NBPC identifies problems and recommends solutions to the BOC but cannot implement solutions without ministerial sign-off.

Role evolution

The NBPC Terms of Reference have changed 3 times: in April 2019, October 2021, and May 2024.[415] The Inspector–General notes these revisions removed action-oriented language and shifted the committee toward monitoring rather than driving delivery.

The original 2017 mandate positioned the NBPG to 'drive the delivery and rollout' of the Toolkit. By October 2021, the Terms of Reference stated the purpose of the NBPG was to 'provide support and advice' to the BOC.[416]

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413 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.
414 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
415 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
416 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

In May 2019, the Terms of Reference were strengthened significantly. The revised purpose had 'drive the delivery and rollout of the Northern Basin Toolkit' as the primary objective.[417] The Inspector – General considers this version positioned the NBPG as *actively* managing Toolkit implementation, not just monitoring it.

By October 2021, this action-oriented language was removed. The Terms of Reference reverted to describing the NBPCs role as being to 'provide support and advice' to the BOC.418 The language of driving delivery disappeared.

The Inspector–General believes the current Terms of Reference reflect the NBPCs limited authority in practice. Despite being called a 'project committee,' the NBPC functions as a reporting forum, not a delivery manager or traditional steering committee with decision making authority.

Basin Officials Committee

The BOC is established under the *Murray–Darling Basin Agreement*.[419] The BOC comprises 6 members: one senior departmental official from each Basin jurisdiction (the Commonwealth, New South Wales, Victoria, South Australia, Queensland and the Australian Capital Territory). The Australian Government representative is the Chair.[420]

The BOC is responsible for providing advice to the Ministerial Council on Basin Plan implementation and coordinating between jurisdictions on matters such as Basin State water shares and natural resource management programs. The BOC functions include advising the MDBA on preparing the Basin Plan and proposed amendments, advising the Ministerial Council on major policy issues regarding water and natural resource management, and exercising responsibility for high-level decision-making on river operations.[421]

The IGA requires the NBPC to report to the BOC twice yearly on Toolkit progress.[422] These reports are added to the BOC agenda alongside other Basin-wide responsibilities, and the IGA does not assign decision-making authority to the BOC regarding Toolkit implementation. The BOC's role is limited to receiving progress reports and updates on identified risks. The IGA vests operational responsibility in the Commonwealth for funding decisions and in New South Wales and Queensland for project delivery,[423] without them being accountable to the BOC for performance. This structural gap means the BOC can only 'note' reported problems rather than direct corrective action.

While the BOC can make some Basin Plan related decisions (such as notifying measures under the SDLAM),[424] it cannot make Toolkit implementation decisions such as project approvals, funding allocations, timeline adjustments or other decisions to resolve Toolkit delivery problems. The Toolkit represents one program among many Basin Plan commitments. The BOC has broad responsibilities including advising on Basin Plan amendments, river operations, and natural resource management across the entire Basin. This means Toolkit matters compete for agenda attention alongside numerous other issues.

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417 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
418 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
419 *Water Act 2007* (Cth) Sch 1.
420 *Water Act 2007* (Cth), Schedule 1, cl 26 ; MDBA, *Basin Officials Committee,* Australian Government, Updated: 27 November 2023, Accessed: August 2025 ; Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013,* cl 35, Published: 9 August 2019, Accessed: August 2025.
421 *Water Act 2007* (Cth), Schedule 1, cl 26 ; MDBA, *Basin Officials Committee,* Australian Government, Updated: 27 November 2023, Accessed: August 2025 ; Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013,* cl 35, Published: 9 August 2019, Accessed: August 2025.
422 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, cl 9(b), Published: 9 August 2019, Accessed: August 2025 ; Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
423 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, cl 9(c) & cl 10, Published: 9 August 2019, Accessed: August 2025.
424 *Basin Plan 2012* (Cth) Div. 3, s 7.12.

Its broad agenda means the BOC provides limited operational oversight of specific Toolkit projects. The committee reviews high-level progress reports but does not actively manage Toolkit delivery or intervene when projects encounter problems. Updates on Toolkit progress and risks provided to the BOC have typically been 'noted' without meaningful action, even when those updates highlighted serious delays and cost overruns.[425]

Murray–Darling Basin Ministerial Council

The Ministerial Council comprises the ministers responsible for water from the Australian Government and each of the 5 Basin jurisdictions: New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory. The Ministerial Council has high-level policy and decision-making responsibilities on matters such as state water shares, strategic direction for natural resource management programs, and issues relating to critical human needs.[426]

Ministers receive high-level briefings on Toolkit progress through papers from the BOC but do not manage project delivery details. Operational implementation decisions for the Toolkit are made by the Australian Government Minister for Water.

Between November 2020 and June 2024, the Ministerial Council met 3 times in formal session. This was an insufficient frequency to be adequately advised on practical implementation challenges, and resolution options, arising during that time.[427] This distance from implementation and infrequent meetings likely undermined effective oversight.

The August 2023 ministerial decision to extend the deadline from June 2024 to December 2026 illustrates this pattern, as discussed below.

8.2 Governance limitations

Monitoring without management authority

The NBPC has not actively managed Toolkit project delivery due to its limited remit. It has reviewed dashboards, identified risks, and reported upwards but did not have authority to:

- reduce the project portfolio when funding proved insufficient
- demand better cost estimates when initial estimates were inadequate
- adjust timelines when warnings emerged in 2020 and 2021, nor
- respond when the accelerated delivery approach created problems.

As such, the governance structure under the IGA enables oversight but does not enable operational decision-making.

In an interview with the Inspector–General, senior representatives from the QLD DLGWV stated that the NBPC is 'more of a forum for advice, and deciding on what advice should be escalated to the Basin Officials Committee and the Ministerial Council'. QLD DLGWV senior representatives further stated that 'there was no direction coming out of the NBPC to jurisdictions to take action, other than in relation to the functioning of that meeting itself'.[428]

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425 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

426 *Water Act 2007* (Cth) Sch 1, pt 3 ; MDBA, *Murray–Darling Basin Ministerial Council*, Australian Government, Updated: 25 June 2025, Accessed: August 2025; Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, cl 34, Published: 9 August 2019, Accessed: August 2025.

427 MDBA, *Murray–Darling Basin Ministerial Council*, Australian Government, Updated: June 2025, Accessed: September 2025.

428 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Risks identified but not resolved

The NBPC identified Toolkit implementation risks early and reported them regularly to the BOC. Risk registers tracked delivery concerns, the BOC received 2 risk reports every year and ministers received briefings on the program status through the Ministerial Council. However, identified risks have often not translated into timely mitigation because the governance structure lacks clear authority and processes to act on identified problems. For example:

- when projects exceeded initial cost estimates, the NBPC could not reallocate funding, and DCCEEW did not have delegated authority to approve variations without ministerial sign-off
- when technical problems emerged, neither the NBPC nor the BOC could approve scope adjustments, and such decisions were not escalated promptly for ministerial consideration, and
- when delivery timelines slipped, extensions required both ministerial approval and often intergovernmental agreement.

In an interview with the Inspector–General, senior representatives from the QLD DLGWV stated that 'having to go back to ministers and back to a Ministerial Council and then get Premier's sign off for these things really introduces unpredictable delays'.[429]

The combination of committees not being empowered with decision-making authority, departmental officials lacking delegations, and major decisions requiring ministerial or intergovernmental approval has caused delays between risk identification and risk mitigation.

Designed for coordination, not problem solving

The NBPC structure reflects its limited authority. Decisions require consensus except for Australian Government funding matters. When consensus cannot be reached, matters are referred to the BOC rather than resolved by the committee itself. The NBPC can establish working groups but does not have the power to redirect funding, enforce timelines, or reject inadequate proposals.[430]

In an interview with the Inspector–General, representatives from the QLD DLGWV described the NBPC as being:

> a good collaborative forum for working through some really complex, challenging issues to help make sure that the toolkit projects got off the ground, or that the agreements were progressed and then subsequent works were able to occur.[431]

However, in that same interview, QLD DLGWV representatives also acknowledged that is 'more of a forum for advice and deciding on what advice should be escalated to the Basin Officials Committee and the Ministerial Council' and when it came to any decision-making powers, the NBPC is unable 'to make absolute decisions that were binding on any other party'.[432]

In a separate interview with the Inspector–General, senior representatives from DCCEEW stated that the NBPC does not have powers, but does not need them as it is 'not a decision-making committee' but a forum that 'bring[s] expertise to the table' and 'enables all 5 parties to come together so that people do not miss out'. In that interview, DCCEEW representatives also stated that the NBPC 'is not responsible for the delivery of the projects. The individual parties who are signed up to that are responsible' and that 'decision-making is the responsibility of the relevant Ministers'.[433]

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429 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
430 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
431 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
432 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
433 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

At a meeting in May 2022, NBPC members agreed to hold a workshop to address fundamental questions: 'what is success' and 'how outcomes are to be measured'.[434] Defining clear, measurable success criteria should have been completed before projects commenced by DCCEEW as the department responsible for the Toolkit program, drawing on advice from the MDBA and the CEWH, rather than being considered 2 years into program implementation.

States monitoring their own performance

The NBPC has a fundamental structural problem: New South Wales and Queensland deliver the projects while monitoring their own performance. The Terms of Reference require that 'a progress report on the implementation of individual projects prepared by the relevant state' be considered at each meeting.[435] Combined with a decision-making model requiring consensus among all members, this creates a significant governance design flaw where NSW and QLD representatives are essentially marking their own homework, and are unlikely to be tough critics of their own agencies' performance.

This responsibility conflict has played out predictably. NSW and QLD representatives reported progress optimistically even as projects encountered serious problems. For example, New South Wales reported projects as 'on track' while the program-wide risk assessment in October 2022 rated cost underestimation and timeline risks as 'severe'. New South Wales subsequently explained that projects were reported as 'on track' because they were tracking to milestones agreed with the Australian Government, they were working to the budget provided by the Australian Government and from a cost perspective, New South Wales was undertaking works within the agreed budget envelope. The MDBA identified this at the time, noting that dashboard ratings were 'overly optimistic and do not align with the risk assessment'.[436]

Expert warnings without action

In October 2020, the MDBA advised the DAWE that

> a key issue that has become increasingly apparent is the major risk that the package of environmental works toolkit measures will not be fully implemented by the June 2024 timeframe.[437]

The MDBA further stated that full implementation of toolkit measures by June 2024 'appears unrealistic'.[438]

Following that, in November 2020, the Ministerial Council was presented with a progress update that noted:

> there is a significant risk that the timeframe for Toolkit measure implementation by June 2024, as previously agreed by Basin governments under the Intergovernmental Agreement on Implementing Water Reform in the Murray–Darling Basin, may not be met for some environmental works and measures projects.[439]

By November 2021, the BOC was advised that:

> there is still a significant risk that some of the proposed Toolkit measures may not be able to be delivered by the 30 June 2024 deadline agreed under the IGA.[440]

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434 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
435 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
436 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
437 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
438 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
439 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
440 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

From there the warnings continued:[441]

- **October 2022 –** The MDBA stated that cost underestimation risks remained 'severe' as 'clearly there is insufficient funding to implement approved projects consistent with the scope of the feasibility proposals'
- **October 2022 –** The NBPC prepared advice to the BOC stating that 'it is now certain that some Toolkit projects will not be delivered by the 30 June 2024 deadline agreed under the IGA'
- **December 2022 –** discussed below
- **May 2023 –** The NBPC noted that environmental works presented 'severe risk' with 'all projects in doubt and 4 projects will not be delivered by June 2024'. The NBPC agreed the BOC paper would 'highlight budget issues, specifically the inability to deliver projects consistent with their original scope with the available $180m Commonwealth toolkit funding'

Each warning was noted. None prompted action to adjust timelines, reduce the project portfolio, or secure additional funding when intervention could have been effective.

December 2022: a critical moment

In December 2022, a comprehensive assessment of program risks was presented to the BOC principals meeting. The paper stated explicitly that there 'remains a significant risk that some measures will not meet the June 2024 implementation timeframe' and identified:

> a major risk to project budgets with significant implications for the implementation of the approved environmental works projects within the available $180m Commonwealth Toolkit measure funding.[442]

The paper identified the causes: global cost escalations and 'cost under-estimations as projects were approved by the Commonwealth for funding based on estimated costs at feasibility stage'.[443] It stated the consequence: New South Wales and Queensland were providing options to reduce project scope, which were 'likely to reduce the expected environmental outcomes for individual projects compared with those envisaged in the feasibility proposals'.[444]

This represented a specific realisation of the risks identified in December 2020 and February 2021 ministerial briefings where DAWE asserted those same risks could be sufficiently managed through funding arrangements and governance measures.[445] It is clear therefore, that this departmental briefing to the minister was deficient.

This paper provided a complete assessment of the program crisis: projects would not meet the deadline, budgets were insufficient, and scope reductions would diminish environmental outcomes.

441 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
442 Information provided by DCCEEW and QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
443 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
444 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
445 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Absence of empowered program management

The governance structure lacks a program manager with delegated authority to resolve operational delivery challenges. While ministers retain decision-making power over major policy and funding matters, this relies on comprehensive briefings, and the governance structure does not empower any single official with the authority to address day-to-day Toolkit implementation problems without escalating to the ministerial level. This has created bottlenecks where:

- the NBPC monitors and reports but does not have authority to make program or project delivery decisions
- the BOC coordinates advice but is not empowered to manage program delivery
- ministers make high-level policy decisions but require intergovernmental agreement to make IGA amendments, and meet infrequently
- New South Wales and Queensland are delivering projects with operational autonomy but need Australian Government ministerial approval for major funding or scope variations, and
- Australian Government departmental officials lack delegated authority to resolve implementation issues without ministerial sign-off.

This structure means that operational problems that could have been resolved by an empowered program manager instead required slow escalation through multiple governance levels and often ministerial or intergovernmental approval.

Typically, large infrastructure programs appoint a senior responsible official (SRO) with:

- clear accountability for delivery
- delegated authority within defined parameters
- power to make operational decisions without ministerial involvement for routine matters
- direct access to ministers for strategic decisions, and
- support from a dedicated expert program management office.

The Toolkit does not have a single empowered decision-making entity. As such, responsibility is dispersed across multiple senior executives, committees, agencies, and levels of government without anyone holding both accountability and authority. This was not adequately detailed to the minister in early advice from DAWE which stated that risks in Toolkit implementation through the agreed approach could be 'sufficiently managed'.[446]

446 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

8.3 How governance prevented program correction

The limitations of the Toolkit governance structure has impacted the ability to respond to emerging issues at multiple critical junctures throughout the life of the Toolkit.

Project selection

In December 2020, DAWE recommended that 13 projects proceed to business case development, with a structured two-tier approach designed to manage funding constraints and project risk. The recommendation explicitly acknowledged that 'progressing all projects will exceed the available Commonwealth funding', and proposed that:

- the top 6 projects, ranked highest by the independent expert ecological panel, the MDBA, the CEWH, and the department, would be prioritised for implementation subject to business case assessment and ministerial approval, and
- the remaining 7 projects would undergo business case development but be 'subject to a second value for money assessment and prioritisation within the available funding envelope'.[447]

This proposed a pipeline approach in that, if any of the top 6 projects failed to proceed, or if implementation costs came in under budget, projects from the second tier could move forward to implementation. As discussed in Sections 2.4 and 7.2, the minister instead requested an amended proposal.

The accelerated delivery response

DAWE's revised brief proposed 10 projects (down from 13) with a different delivery model: 4 projects would proceed under accelerated delivery, and the remaining 6 projects would follow traditional business case development.[448] This new model had consequences:

- **Altered project prioritisation order**: This is particularly demonstrated by the 3 individual Gwydir Constraints projects (ranked first, second and fourth respectively for ecological value by the independent expert ecological panel) which went into the traditional business case stream while the Fish-Friendly Water Extraction projects in New South Wales and Queensland (ranked eighth and ninth respectively by the independent expert ecological panel) were approved for immediate implementation.
- **Reduced rigour for accelerated projects**: While gateway decision points were included, these occurred during implementation rather than before investment decisions. The Reconnecting the Northern Basin project in New South Wales illustrates this point. As explored in Section 5.1, the elements of this project that were anticipated as 'quick wins' have taken years to achieve and encountered significant community opposition. It is reasonable to expect that these issues could have been more fully explored, and perhaps mitigated, had this project not proceeded until a detailed assessment of its business case was conducted.

Australian Government department briefings did not adequately consider the risks of the accelerated delivery approach in the context of the funding and governance arrangements in place.

447 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
448 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Cost Overruns Without Portfolio Reduction

By October 2022 as discussed above, the NBPC had clear evidence, identified through a risk assessment process, that funding was insufficient to deliver all approved Toolkit infrastructure projects at their original scope. That risk assessment rated cost underestimation as 'severe' and identified that available funding could not deliver projects consistent with feasibility proposals.[449]

The NBPC reported this to the BOC. Despite early briefings to the Australian Government Minister that the funding and governance arrangements would be sufficient to manage risks and that projects could be evaluated to scale down in the event of 'cost blowouts',[450] NBPC and BOC members did not have the authority to reduce the project portfolio, reallocate funding between projects, or demand that New South Wales and Queensland revise the cost estimates. New South Wales and Queensland instead had to individually determine how to reduce scope to fit available funding and did so in isolation, without strategic ecological prioritisation or coordination from DCCEEW as the responsible Australian Government department. The governance structure prevented a program-wide portfolio review that could have prioritised the highest-value projects and cancelled or deferred lower-priority work.

By the time the December 2022 BOC meeting occurred, New South Wales and Queensland had already begun reducing project scopes.

Timeline Extension: Too Late to Prevent Scope Reductions

From November 2020 onward, the MDBA, the independent expert ecological panel, the NBPC, and the BOC all warned that the June 2024 deadline was unrealistic. However, extending the Toolkit deadline required unanimous agreement between all Basin ministers.[451]

At its February 2023 meeting, the Ministerial Council noted that New South Wales and Queensland sought 2 more years to deliver the Toolkit but did not provide an extension at that time, instead tasking officials to develop a package to deliver the Basin Plan in full and report to Ministers at the next meeting.[452] The timeline extension was then agreed by Ministers in August 2023 – less than one year before the original June 2024 deadline.[453] By that point, New South Wales and Queensland had already reduced project scopes based on the assumption that the June 2024 deadline remained fixed.

The extension of the Toolkit from June 2024 to December 2026 came too late to attempt to preserve original project ambitions. An earlier extension decision, made when the warnings first emerged in 2020 to 2021, might have given New South Wales and Queensland the time needed to more strategically utilise allocated funding and deliver projects at their original scope.

449 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
450 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
451 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, cl 12.3, Published: 9 August 2019, Accessed: August 2025.
452 MDBA, *Murray–Darling Ministerial Council Communique, 24 February 2023* [Communique] Murray–Darling Basin Ministerial Council, Published: 24 February 2023, Accessed: August 2025.
453 DCCEEW, *Agreement of Murray–Darling Basin Ministers to deliver the Basin-Plan in full,* Ministerial Council (excepting Victoria), 22 August 2023.

8.4 Conclusion

Although the Toolkit's governance structure monitors progress, it cannot not manage delivery. Multiple committees track implementation and report problems, but the structure does not empower any single official with the authority to fix those problems without ministerial approval. More fundamentally, neither DCCEEW nor New South Wales or Queensland have championed the program or taken accountability for its success.

By failing to take operational responsibility, Australian, NSW and QLD government agencies have effectively left Ministers to manage program-level risks that should have been able to be handled at the departmental level.

Committees involved with the Toolkit have consistently identified funding and timeline risks early but have not been able to act on them. Responsibility for the Toolkit is dispersed across multiple bodies, without a single entity empowered to adjust the program to respond to emerging issues.

The Inspector–General considers that future Basin programs require clearer accountability structures with both ministerial oversight and departmental operational authority. This means designating a lead jurisdiction, a single accountable agency, and a senior executive sponsor, while ensuring departments have delegated authority to make operational decisions. The Inspector–General also notes that attempting multiple complex water reforms simultaneously dilutes focus and allows programs to drift. Slowing the pace of reform may deliver better outcomes than pursuing numerous parallel initiatives.

9 Transparency and public accountability

Toolkit implementation highlights the importance of transparency in Basin program delivery to provide public accountability incentives for delivery. While comprehensive internal Toolkit progress reporting exists, public updates have been limited, reducing opportunities for external scrutiny that could help identify and resolve implementation challenges.

9.1 Transparency requirements and reporting framework

IGA transparency obligations

The requirements for Toolkit implementation reporting and transparency under Schedule 3 of the IGA are that:

> The Commonwealth, NSW and Queensland are responsible for developing a work program for the implementation of environmental measures in Appendix A to Schedule 3, to be progressed through the Northern Basin Project Group. The work program will be published on the MDBA's (or other suitable) website/s and updated periodically.[454]

The IGA also requires the Commonwealth, New South Wales and Queensland to be:

> transparent in undertaking the processes and decisions related to the implementation of the [Toolkit] measures and collaborating on public communication amongst themselves and with the [Murray–Darling Basin] Authority.[455]

The IGA specifies that the Commonwealth is responsible for:

> participating in the Northern Basin Project Group, including twice yearly reporting on progress to the Murray–Darling Basin Ministerial Council and the Basin Officials Committee (BOC) on the implementation and identified risks of relevant environmental measures...[456]

Internal reporting structure

The NBPC Terms of Reference, endorsed by the BOC in October 2021, state that the Committee will 'prepare a twice-yearly report for BOC on progress with the implementation of Northern Basin Toolkit measures' and 'prepare an annual report for the...Murray–Darling Basin Ministerial Council (Ministerial Council) on progress with the implementation of Northern Basin Toolkit Measures'.[457]

454 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, cl 11(c), Published: 9 August 2019, Accessed: August 2025.
455 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, cl 11(e), Published: 9 August 2019, Accessed: August 2025.
456 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, cl 9(b), Published: 9 August 2019, Accessed: August 2025.
457 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

The Commonwealth is responsible for twice yearly reporting under the IGA, which could be completed through the BOC or other reporting mechanisms.[458]

These reports are not publicly accessible.

Pattern of public reporting

Since the Toolkit commenced in 2019 until September 2025, only 2 comprehensive progress updates had been published: in August 2022 and August 2023.[459] In September 2025 DCCEEW published 3 Toolkit update documents; a 'status update' dated December 2024,[460] an Interim Evaluation Report dated December 2024,[461] and a 'status update' dated June 2025.[462]

This approximately annual public reporting contrasts with the reporting frequency to the BOC and Ministerial Council. The DCCEEW submission to this Inquiry noted that 'previous updates from the NBPG/NBPC were published in 2020 and 2021 but have been removed from the website'.[463] The MDBA subsequently advised that these materials were inadvertently removed during routine website maintenance and have been reinstated.[464] However, their unavailability during critical implementation periods reduced the transparency record available to stakeholders at the time.

In an interview with the Inspector–General, senior representatives from the NSW DCCEEW acknowledged that Toolkit transparency is 'fragmented and probably hard to find, and the machinery of government changes…don't make things easy…trying to find the right agency and the right website certainly makes things hard'.[465]

9.2 Divergence between internal and public communication

What internal committees knew versus what was publicly disclosed

The public updates issued in September 2022, and August 2023 provided high-level summaries of Toolkit progress but lacked the detail available to governance committees. Significant program developments, including substantial reductions in project scope, were not clearly communicated in these public updates.

In July 2022, internal governance committees were informed of significant risks to meeting the June 2024 deadline. The public update published 2 months later did not convey these concerns.

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458 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, cl 9(b), Published: 9 August 2019, Accessed: August 2025.

459 MDBA, *Northern Basin Toolkit Updated status of implementation*, Australian Government, August 2022 ; MDBA, *Northern Basin Toolkit Measures August 2023 progress update from the Northern Basin Project Committee*, Australian Government, August 2023 ; MDBA, *Basin Plan Report Card publications*, Australian Government, Updated: 20 August 2024, Accessed: September 2025.

460 DCCEEW, *Northern Basin Toolkit status update – December 2024,* Australian Government, December 2024.

461 DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024.

462 MDBA, *Northern Basin Toolkit Measures – Workplan updatehttps://www.mdba.gov.au/publications-and-data/publications/northern-basin-toolkit-progress*, Australian Government, September 2025.

463 DCCEEW, *Submission to the inquiry of the Inspector–General of Water Compliance into the implementation of the Northern Basin Toolkit,* Australian Government, November 2025, p 17.

464 Information provided by the MDBA to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

465 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

On 21 July 2022, the NBPC provided an update paper recommending that the BOC:

> note there remains a risk that some measures, notably environmental works and measures projects, may not meet the June 2024 implementation timeframe agreed under the Intergovernmental Agreement.[466]

This acknowledgment of delivery risks was documented in the committee papers,[467] and the July 2022 update paper noted that a summary would be published on the DCCEEW website 'as required under IGA schedule 3, cl.11c'.[468]

The 1 August 2022 public update document presented a progress-focused overview of the 6 Toolkit measures. It did not mention the delivery risks to the June 2024 deadline that had been explicitly flagged to the BOC 2 months earlier.[469]

The reporting gap: October 2022 to August 2023

Following the August 2022 public update, another public update was not issued until August 2023.[470] During this 12-month period, internal governance committees received regular updates about Toolkit implementation, including assessments in December 2022 and June 2023 that the full package of measures would not meet the June 2024 deadline.[471]

In December 2022, the BOC was informed that there was 'a significant risk that some measures will not meet the June 2024 implementation timeframe'.[472] In June 2023, BOC minutes noted the 'certainty that the full package of Toolkit measures will not meet the June 2024 implementation timeframe'.[473] These internal assessments identified specific delivery challenges, risk ratings, and affected projects. This information supported decisions about program continuation, timeline extensions, and scope adjustments but was not publicly available.

9.3 Implications for accountability

The pattern of public reporting throughout Toolkit implementation reveals several transparency gaps. The approximately annual public reporting does not reflect the transparency contemplated by the IGA's requirements to be 'transparent in undertaking the processes and decisions related to the implementation of the measures and collaborating on public communication' and to publish work programs that are 'updated periodically'.[474] Governance committees received comprehensive twice-yearly reports, but this was not extended to public stakeholders.

Limited detail and delayed disclosure of program changes

Public updates have focused on high-level progress summaries and provided limited explanations of major program changes. While revised bilateral project funding agreement schedules published on the Federal Financial Relations website reflect scope changes, they do not include explanations

466 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
467 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
468 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
469 MDBA, *Northern Basin Toolkit Update status of implementation*, Australian Government, August 2022.
470 MDBA, *Northern Basin Toolkit Measures August 2023 progress update from the Northern Basin Project Committee*, Australian Government, August 2023.
471 Information provided by NSW DCCEEW and QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
472 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
473 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
474 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.

of the reasons underpinning these changes. Scope reductions across most infrastructure projects, timeline extensions, and the reasons for these changes have not been clearly communicated.

The gap between when internal committees were informed of certain deadline failure (December 2022) and when this information became publicly available (August 2023) was approximately 9 months. The public update followed the ministerial decision to extend timelines rather than preceding it, which affected when stakeholders outside the governance structure became aware of delivery challenges.

Absence of a comprehensive collective workplan

The NBPC Terms of Reference require development and publication of a 'collective workplan' with timelines for implementing Toolkit measures.[475] While the Australian Government reports that annual work programs have been developed and published on the MDBA website,[476] the available public information focuses on individual project descriptions rather than a comprehensive collective workplan with integrated, specific delivery timelines across all Toolkit measures.

The information exists and could easily be shared publicly

The contrast between internal and public transparency is significant. Internal governance committees receive comprehensive reporting through detailed dashboards, risk assessments, and status updates tracking implementation challenges, scope reductions, and delivery concerns. This information exists and is routinely prepared for internal audiences.

Schedule 3 of the IGA requires the parties to be 'transparent in undertaking the processes and decisions related to the implementation of the measures'.[477] The evidence presented in this chapter demonstrates a significant divergence between the comprehensive information available to governance committees and the limited information provided through public channels.

During critical periods when major Toolkit infrastructure project adjustments were occurring (including scope reductions, timeline extensions, and project rejections) stakeholders outside the governance structure did not have access to timely, detailed information about these changes or the reasons for them. While this pattern likely reflects challenges in translating internal governance information into public communication rather than deliberate concealment, it has nevertheless limited opportunities for external scrutiny and stakeholder input during periods when such engagement could potentially have assisted program delivery. The comprehensive reporting provided internally demonstrates that similar transparency to the public is achievable.

475 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

476 MDBA, *Northern Basin Toolkit progress,* Australian Government, Published: 31 July 2022, Accessed: October 2025 ; DCCEEW, *Northern Basin Toolkit – Evaluation of environmental outcomes interim report,* Australian Government, December 2024.

477 Council of Australian Governments, *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin 2013*, Sch 3, Published: 9 August 2019, Accessed: August 2025.

10 Toolkit outcomes

Reducing the northern Basin water recovery target by 70 GL was based in part on the Australian, NSW and QLD governments committing to complementary measures to minimise the reduction in environmental outcomes resulting from the reduced water recovered for the environment through the Toolkit. As opportunities for further water recovery diminish, complementary measures will become increasingly important for achieving Basin Plan objectives. The Toolkit's experience over 5 years and $166.3 million provides important lessons for future programs.

What worked: policy measures delivered results

The policy measures have successfully demonstrated the value of complementary measures. Under Toolkit Measure 2, active management protections have been in place in the unregulated Gwydir, and Macquarie–Bogan water sources since December 2020. The May 2024 trial subsequently extended this framework beyond the northern Basin, protecting 41.8 GL flowing from Menindee Lakes to the Murray River Mouth.

Under Toolkit Measure 3, EBMs have delivered tangible outcomes. The 2021 'no pump pilot' and 2023 'release from storage' events supported waterbird habitat recovery at Narran Lakes, including the most successful bird breeding at the site in a decade. These mechanisms provide alternatives to permanent water recovery while achieving environmental outcomes.

Under Measure 4, coordinating and delivering environmental flows has become standard practice. Four major joint environmental releases since 2018 have delivered water quality improvements and river connectivity across thousands of kilometres of river systems, maintaining oxygen levels to protect native fish and improving water quality during critical dry periods.

These policy achievements were delivered without dedicated Toolkit funding, building on existing institutional arrangements and intergovernmental cooperation. This shows what is possible when complementary measures enhance established frameworks.

What did not work: infrastructure measures substantially under-delivered

The infrastructure measures received all $166.3 million in dedicated Toolkit funding but projects under those measures have been substantially reduced in scope. The NSW Reconnecting the Northern Basin project is particularly concerning. The independent panel who investigated the 2018–19 Lower Darling fish deaths identified the remediation of barriers to fish movement as critical to ecosystem recovery and long-term resilience.[478] The project was designed to reconnect 2,135 km of aquatic habitat but has so far only delivered 64 km – 3% of the original target.

The Gwydir Constraints project has not secured any land purchases or flow easements, which are the core mechanism for enabling environmental flows. The Bifurcation Weirs project did not proceed despite strong community support and high ecological merit.

478 Independent Panel, *Independent assessment of the 2018–19 fish deaths in the lower Darling*, prepared for the Australian Government, 29 March 2019, p 69.

With the extended deadline of December 2026 approaching, substantial work remains:

- the Gwydir Constraints project must complete landholder negotiations and physical works, though formal negotiations will not commence until after the Toolkit deadline
- the Reconnecting Northern Basin project must construct fishways at remaining sites while managing community concerns about water security and endangered species protections, and
- bubble plume infrastructure must be installed at Pindari Dam.

A lack of meaningful incentives and accountability mechanisms to drive Toolkit implementation, combined with an unrealistic number of projects selected for implementation means that the environmental outcomes anticipated when projects were approved will not be delivered.

Unrealistic project scoping and cost estimates

The NSW and QLD governments nominated 27 projects with combined initial estimated costs exceeding $300 million, for a $166.3 million funding envelope.[479] Independent expert advice recommended selecting a small but realistic set of projects for delivery. This advice was not followed.[480] New South Wales and Queensland submitted cost estimates that proved fundamentally inadequate. The NSW Reconnecting the Northern Basin project escalated from $56.75 million to a 2023 request for an additional $175 million. Queensland's Bifurcation Weirs project escalated from $4 million to $39.5 million,[481] and the Reconnecting Catchments: Condamine–Balonne (Jack Taylor and Beardmore dams) project from $15.5 million to $102.97 million.[482] Queensland acknowledged its estimates were 'provisional at best'.[483]The funding shortfall made widespread descoping inevitable. Accelerated delivery approaches that bypassed detailed business case development increased risks without delivering faster outcomes.

Governance structures need authority to address problems, not just identify them

The NBPC could identify risks and report them upward but could not redirect funding, enforce timelines or reject inadequate proposals. Expert warnings emerged in October 2020 (only a year after the program had formally commenced) that timeframes were unrealistic.[484] By December 2022, both the NBPC and BOC knew budgets were insufficient and that environmental outcomes would be diminished.[485] However, the governance structure did not have a mechanism to reduce the project portfolio, secure additional funding, or reassess deliverables when problems emerged. The governance structure prevented the timely course correction that complex programs require.

479 Information provided by NSW DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
480 Independent Expert Ecological Panel, *Northern Basin Toolkit Ecological Prioritisation of Proposed Project report*, prepared for the Australian Government, October 2020, p 3 ; Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
481 Sunwater, *Queensland – Lower Balonne River System Bifurcation Weirs Project: Detailed Business Case*, QLD Government, 29 March 2023, p 24.
482 DCCEEW, *Due Diligence Assessment Summary – Queensland Reconnecting Catchments: Condamine–Balonne Project*, Australian Government, September 2023, p 4.
483 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
484 Information provided by DCCEEW to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.
485 Information provided by QLD DLGWV to the Inspector–General for the purposes of the Northern Basin Toolkit Inquiry.

Commitment without consequences produces under-delivery

The Basin Plan was amended in 2018 based on the *commitment* to implement Toolkit measures rather than *delivery* of outcomes.[486] The Toolkit lacks provisions to incentivise delivery or generate consequences for non-delivery. Unlike the southern Basin's SDLAM, the Toolkit has no reconciliation process. There are no penalties for missed deadlines, reduced scope or failure to achieve environmental outcomes. Environmental outcomes bear the full consequence of not delivering Toolkit projects to their initially agreed and funded scope and timeframes while states secured Socio-economic benefits through commitment alone.

Complementary measures are essential but require robust program design

The policy measures demonstrate that complementary measures can deliver significant environmental benefits through improved water management, coordination and institutional arrangements. As opportunities for further water recovery from the consumptive pool become increasingly limited due to social, economic and political factors, complementary measures may be increasingly important for achieving Basin Plan environmental objectives. However, the Toolkit's infrastructure challenges demonstrate these measures require:

- realistic funding
- appropriate timeframes
- effective governance
- transparency, and
- meaningful accountability.

The policy measures succeeded because they built on existing frameworks with clear responsibilities. Infrastructure measures struggled because program design created unrealistic expectations without meaningful incentives and accountability mechanisms to drive delivery.

Conclusion

The Toolkit demonstrates both the potential and the limitations of complementary measures. The policy successes show what is achievable when programs enhance existing institutional arrangements through intergovernmental cooperation. The infrastructure under-delivery show what occurs when program design does not match ambition with adequate resources, realistic timeframes, effective governance or meaningful accountability.

As the focus shifts toward complementary measures to achieve environmental objectives in an increasingly constrained Basin, these lessons become critical. Future Basin Plan implementation should consider how to design and deliver complementary measures in ways that translate environmental commitments into environmental outcomes and ensure public investment delivers intended benefits.

486 *Basin Plan 2012* (Cth) s 6.04 ; MDBA, *Transcript: Basin Plan amendments – address at Parliament House – MDBA Chief Executive Phillip Glyde,* Australian Government, Published 22 November 2016.

Appendices

Appendix A: Acronyms

Acronym	Definition
BDL	baseline diversion limit
BOC	Basin Officials Committee
CEWH	Commonwealth Environmental Water Holder
CEWO	Commonwealth Environmental Water Office
DAWE	Department of Agriculture, Water and the Environment
DCCEEW	Department of Climate Change, Energy, the Environment and Water
EBM	event-based mechanism
FFWE	Fish-Friendly Water Extraction
GL	gigalitre
HEW	held environmental water
IGA	Intergovernmental Agreement
MBDA	Murray–Darling Basin Authority
ML	megalitre
NBAC	Northern Basin Advisory Committee
NBEWG	Northern Basin Environmental Watering Group
NBPC	Northern Basin Project Committee
NBPG	Northern Basin Project Group
NBR	Northern Basin Review
NSW	New South Wales
NSW DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
QLD	Queensland
QLD DLGWV	Queensland Department of Local Government, Water and Volunteers
SDL	sustainable diversion limit
SDLAM	Sustainable Diversion Limit Adjustment Mechanism
WRP	water resource plan
WSP	water sharing plan

Appendix B: Toolkit status as at December 2025

Measure	IGA Progress Status	Toolkit Program Logic and Feasibility Proposal Progress Status
Measure 1: Undertake targeted recovery of water	Complete	Appears on track
Measure 2: Protection of Environmental Flows	Complete	Unlikely to be completed
Measure 3: Develop options to support event-based environmental water delivery	Complete	Complete
Measure 4: Coordination and management of Environmental Flows	Complete	Complete
Measure 5: Removal of physical constraints in the Gwydir catchment	Appears on track	Will not be fully achieved
Measure 6: Environmental works to enhance environmental outcomes	Complete	See below
QLD FFWE	Complete	Appears on track
NSW FFWE	Complete	Appears on track for reduced delivery
NSW Reconnecting the Northern Basin	Complete	Unlikely to be completed
Macquarie Marshes Enhanced Watering	Complete	Delivered project materially differs from what was proposed, approved and funded
Pindari Cold Water Pollution Mitigation	Complete	Appears on track

Appendix C: List of submissions

The Call for Submissions for this Inquiry was made on 30 October 2024 and closed on 29 November 2024. Submissions received have been published on the Inspector–General of Water Compliance *website* and are listed below:

- Australian Government Department of Climate Change, Energy, the Environment and Water
- Commonwealth Environmental Water Holder
- Cotton Australia
- Dharriwaa Elders Group
- Dugald Bucknell
- Gwydir Valley Irrigators Association
- Lifeblood Alliance
- Mervyn Gordon
- Murray Darling Association
- Murray–Darling Conservation Alliance
- Murray–Darling Basin Authority
- National Irrigators Council
- NSW Department of Climate Change, Energy, the Environment and Water
- NSW Irrigators' Council
- QLD Department of Local Government, Water and Volunteers
- Sarah Greer

Appendix D: Detailed chronology of the Northern Basin Toolkit

2012	**29 November**	The Basin Plan is formally adopted.
2016	**24 November**	The MBDA publishes the *Northern Basin Review*, recommending a 'Toolkit' of measures to be implemented by the Australian, NSW and QLD governments.
	November	The NBPG established to drive delivery of the Toolkit measures.
2017	**June**	Basin ministers make an inprinciple commitment to implement the Toolkit measures, subject to amending the Basin Plan to formalise *Northern Basin Review* outcomes.
	24 July	ABC Four Corners Episode 'Pumped' airs, exposing serious allegations of water theft and mismanagement in the northern Basin.
	10 November	The MDBA formally recommends Basin Plan amendment to reduce the water recovery target in the northern Basin.
2018	**February**	The Australian Government announces funding of up to $180 million to support Queensland and New South Wales in Toolkit measure implementation.
	May	The Australian Government agrees to the Basin Plan amendment and a package of further initiatives to ensure delivery of *Northern Basin Review* outcomes.
	2 to 3 July	*Basin Plan Amendment Instrument (No. 1) 2018* (Cth) to amend the Basin Plan to formalise the outcomes of the *Northern Basin Review* (reducing the water recovery target in the northern Basin from 390 GL to 320 GL) adopted by the Australian Government Minister for Agriculture and Water Resources, registered and commenced.
	13 August	*Basin Plan Amendment Instrument (No. 1) 2018* (Cth) tabled in both Houses of Parliament.
	23 August	Mr Mick Keelty AO appointed to the newly created role of Northern Basin Commissioner.
	December	The Australian, NSW and QLD governments agree: a proportion of Toolkit funding to be made available to undertake project feasibility assessments, and to amend the 2013 IGA to include Toolkit implementation.
	December	Lower Darling fish death events.

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Appendix D *continued*

2018	January	Lower Darling fish death events.
2019	25 January	The Productivity Commission publishes the *Murray–Darling Basin Plan: Five-year assessment Inquiry Report 2018*. The report highlights risks with the Toolkit including limited accountability, unlikely timeframes and likely reduced environmental outcomes.
	April	The MDBA prepares the *Northern Basin Toolkit Ecological Prioritisation Framework Report* on behalf of the NBPG.
	9 August	Basin governments formalise the agreement to implement Toolkit measures by 30 June 2024 through a new Schedule 3 in the IGA.
	1 October	Mr Mick Keelty AO appointed as Interim Inspector – General of Murray – Darling Basin Water Resources for a period of 12 months.
	1 December	Northern Basin Commissioner first year report published.
	6 December	QLD feasibility activities bilateral project funding agreement signed, providing $451,250 in funding.
2020	March–April	First wave of COVID in Australia prompts lockdowns and state border closures.
	7 May	The Australian, NSW and QLD governments agree to the overarching bilateral project funding agreement for *Delivery of Environmental Measures in the northern Murray–Darling Basin*.
		NSW feasibility activities bilateral project funding agreement signed, providing $3,105,000 in funding.
		NSW Fish for the Future feasibility activities bilateral project funding agreement signed, providing $270,676.78 in funding.
		NSW Gwydir Constraints feasibility activities bilateral project funding agreement signed, providing $1,184,500 in funding.
	July	New South Wales submits feasibility proposals for 13 projects to DAWE for assessment.
	August	Queensland submits feasibility proposals for 14 projects to DAWE for assessment.
	October	The independent expert ecological panel finalises its report assessing 27 project proposals against ecological criteria, finding 7 particularly ecologically valuable.
	December	DAWE proposes 13 projects proceed to business case development.
	December	Mr Troy Grant appointed as Interim Inspector–General of Water Compliance.

continues

Appendix D *continued*

2021	**February**	The Australian Government Minister approves 4 projects for accelerated delivery, with a further 6 projects approved to develop business cases.
	2 August	NSW Gwydir Constraints business cases bilateral project funding agreement signed, providing $1,592,000 in funding.
	5 August	Inspector–General of Water Compliance role established with Mr Troy Grant appointed for a 4-year term.
	29 September	QLD Fish-Friendly Water Extraction business case bilateral project funding agreement signed, providing $962,000 in funding.
		QLD Bifurcation Weirs business case bilateral project funding agreement signed, providing $962,000 in funding.
	22 December	QLD Fish-Friendly Water Extraction bilateral project funding agreement signed, providing up to $6,614,000 in funding.
2022	**7 March**	NSW streamlined delivery bilateral project funding agreement signed, providing up to $79,920,000 in funding for the Reconnecting the Northern Basin, Macquarie Marshes Enhanced Watering, and Fish-Friendly Water Extraction projects.
	1 August	The MDBA publishes the second public progress update on Toolkit implementation.
	19 August	QLD Fish-Friendly Water Extraction business case bilateral project funding agreement amended to provide an additional $400,000 in funding.
		QLD Bifurcation Weirs business case bilateral project funding agreement amended to provide an additional $460,000 in funding.
	16 December	NSW Gwydir Constraints bilateral project funding agreement signed, providing up to $32,224,000 in funding.
2023	**10 August**	The MDBA publishes the second public progress update on Toolkit implementation.
	25 July	The MDBA provides advice to the Minister regarding Basin Plan implementation, including advice that the Toolkit would not be implemented by June 2024.
	August	Basin Ministers agree to extend the deadline for Toolkit project delivery from June 2024 to 31 December 2026.
	November	'Stocktake' of all Toolkit projects undertaken to reallocate funding that had been quarantined for QLD projects. The stocktake identifies widespread cost underestimation across the program.

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Appendix D *continued*

2023	**30 November**	*Water Amendment (Restoring our Rivers) Act 2023* passes both Houses of Parliament, supporting legislative reforms for Basin Plan delivery and extending the 'Bridging the Gap' water recovery deadline to December 2027.
	14 December	NSW Toolkit streamlined delivery bilateral project funding agreement amended to include Stage 2 project milestones after the Minister agrees to Stage 1 high-level project execution plans.
2024	**5 February**	QLD Fish-Friendly Water Extraction bilateral project funding agreement amended to allow more time and an additional $160,000 for project delivery.
	26 February	The Productivity Commission publishes *Murray–Darling Basin Plan Implementation Review Inquiry Report 2023*. The report highlights inadequate accountability, lack of oversight, and limited public information as factors contributing to delays in Toolkit implementation.
	30 June	Original deadline for Toolkit completion.
	30 June	The Commonwealth approves remaining Toolkit funding being allocated across 3 projects: Pindari Dam Cold-Water Pollution Mitigation, Reconnecting Watercourse Country, and NSW Fish-Friendly Water Extraction (Phase 2).
	1 November	NSW Gwydir Constraints bilateral project funding agreement amended, providing more time and an additional $5,455,000 in funding.
	15 November	NSW streamlined delivery bilateral project funding agreement amended to include Stage 3 project milestones.
	9 December	NSW Pindari Dam Cold-Water Pollution and Fish-Friendly Water Extraction bilateral project funding agreement signed, providing up to $52,784,198 in funding.
2025	**6 March**	Mr Troy Grant re-appointed for second and final tenure as the Inspector – General of Water Compliance.
	May	Severe flooding occurs in the NSW Mid–North Coast Region.
	8 September	The MDBA publishes the third public progress update on Toolkit implementation.
	11 September	DCCEEW publishes its December 2024 *Northern Basin Toolkit Evaluation of Environmental Outcomes Interim Report*.
	4 November	NSW Gwydir Constraints bilateral project funding agreement amended, allocating a final 4 milestones to the remaining $21.679 million.
2026	**31 December**	Toolkit implementation deadline.

Appendix E: Financial analysis

Toolkit cost comparison

Figure 10-1 Costs compared: QLD and NSW total Toolkit Australian Government funding

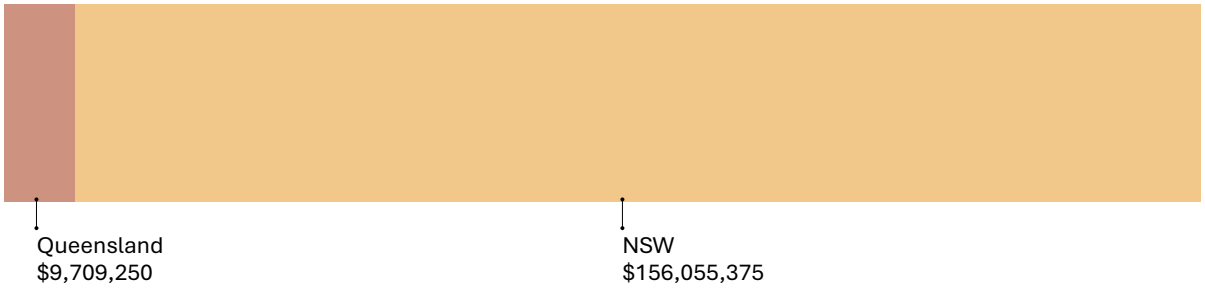
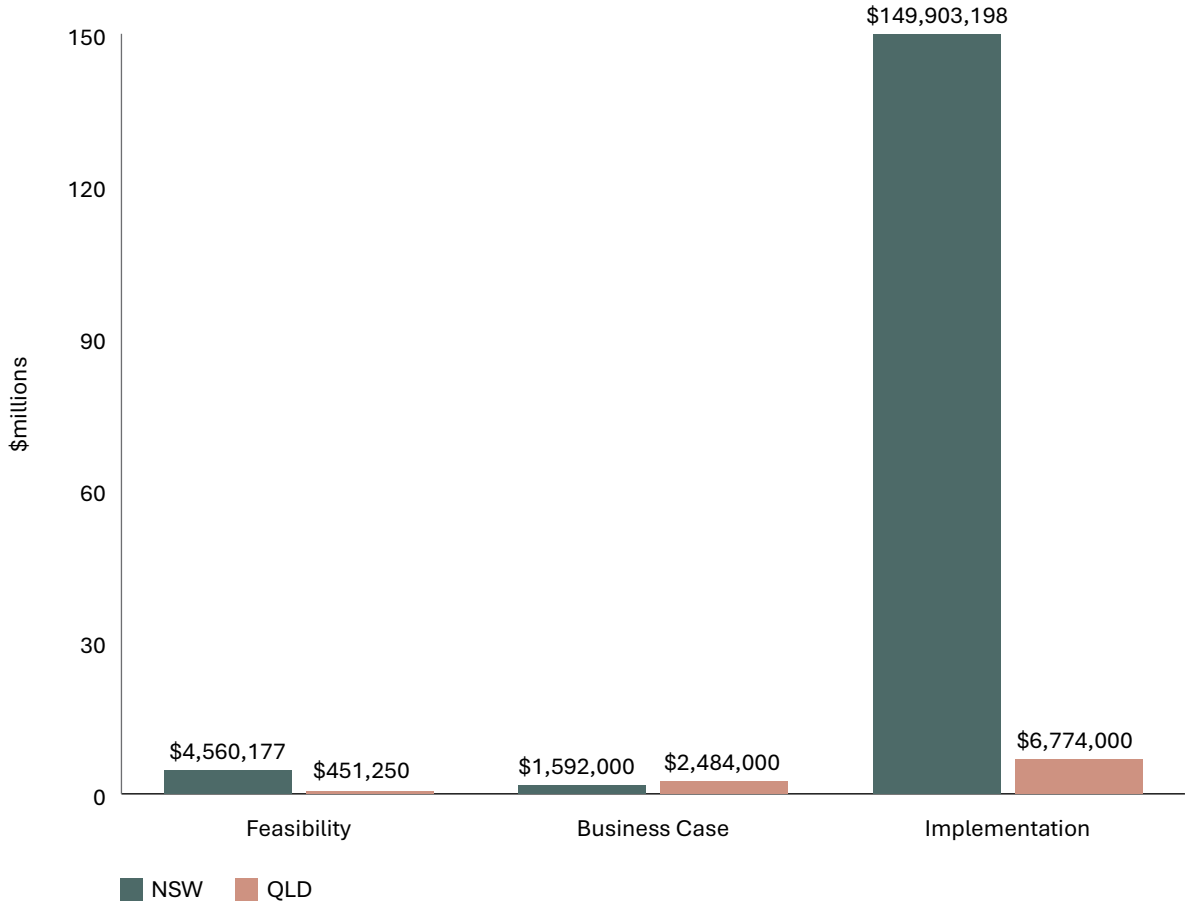
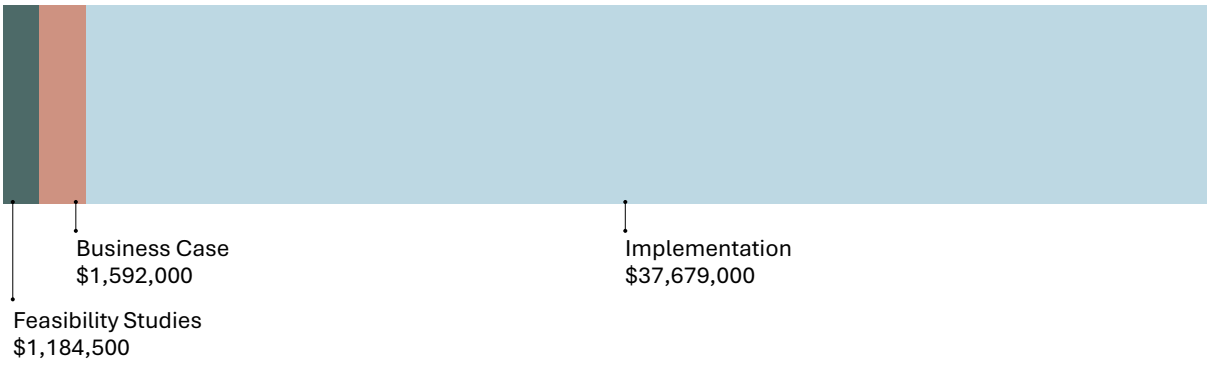


Figure 10-2 Costs compared: QLD and NSW feasibility, business case and implementation costs



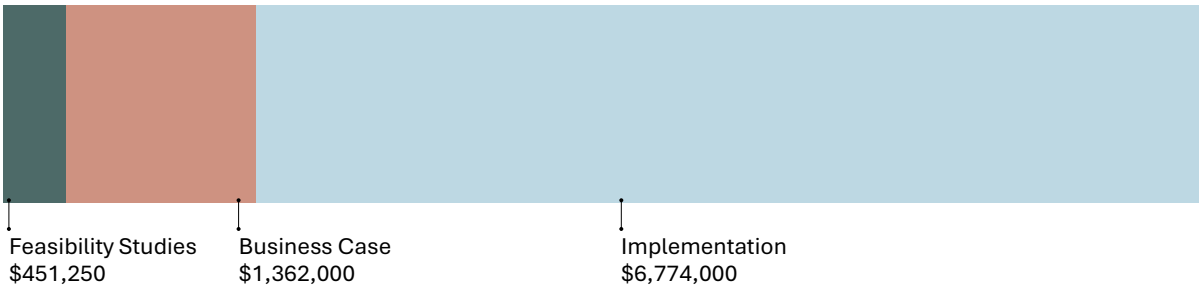
Gwydir Constraints (Reconnecting Watercourse Country) project

Figure 10-3 Gwydir Constraints project: feasibility, business case and implementation cost allocations under the bilateral project funding agreement ($40,455,500)



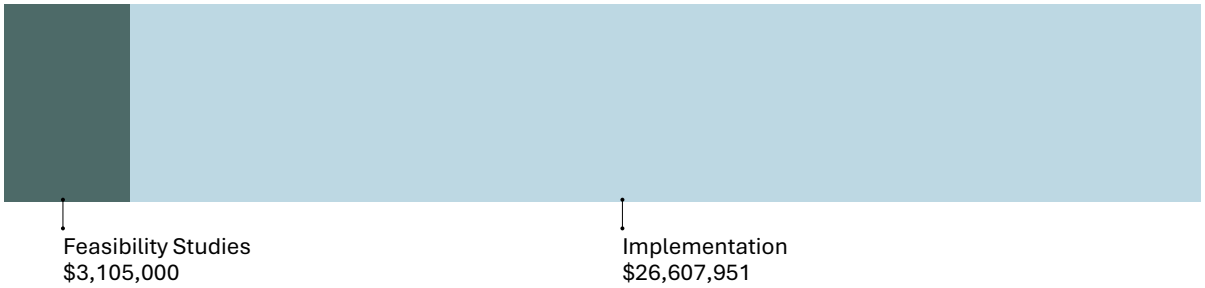
QLD Fish-Friendly Water Extraction project

Figure 10-4 Feasibility, business case and implementation cost allocations under the bilateral project funding agreement ($8,587,250). Note that feasibility costs were shared with the QLD Bifurcation Weirs project



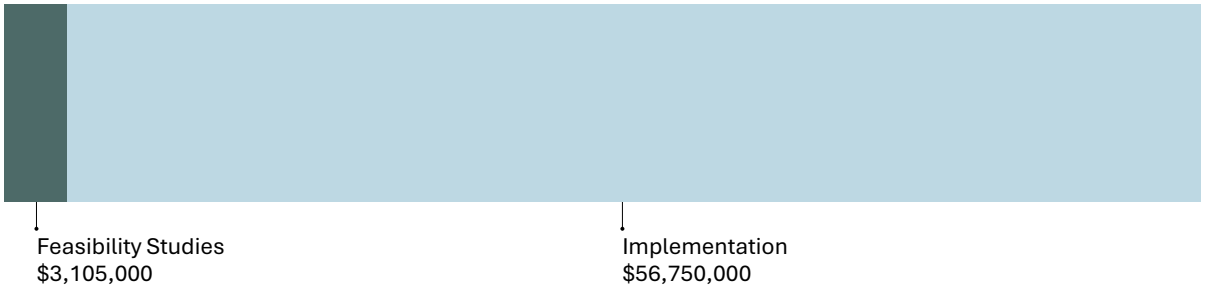
NSW Fish-Friendly Water Extraction project

Figure 10-5 Feasibility, business case and implementation cost allocations under the bilateral project funding agreement ($29,712,951). Note that Feasibility costs were shared with the NSW Reconnecting the Northern Basin project



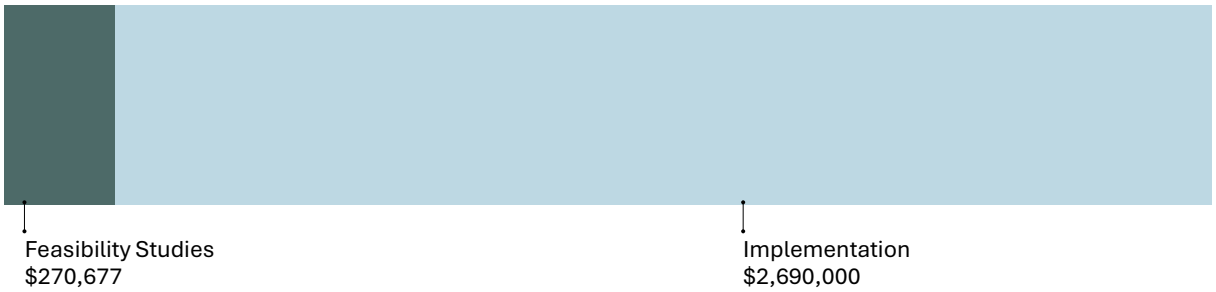
NSW Fish for the Future: Reconnecting the Northern Basin project

Figure 10-6 Feasibility, business case and implementation cost allocations under the bilateral project funding agreement ($59,855,000). Note that feasibility costs were shared with the NSW Fish-Friendly Water Extraction project



Macquarie Marshes Enhanced Watering project

Figure 10-7 Feasibility, business case and implementation cost allocations under the bilateral project funding agreement ($2,960,677). Note that feasibility costs were shared with the NSW Pindari Dam Cold Water Pollution project



Pindari Cold Water Pollution Mitigation project

Figure 10-8 Feasibility, business case and implementation cost allocations under the bilateral project funding agreement ($26,446,924). Note that feasibility costs were shared with the NSW Macquarie Marshes Enhanced Watering project