

Implementation of the recommendations from the 2020 first flush review

Final progress update #4 – August 2025

Summary of progress on recommendations

Table 1 provides a summary of the department's progress in implementing the recommendations. More information is provided in the following sections.

Table 1. Summary of implementation progress

Recommendation	Status	Comment
<u>1. Develop first flush arrangements</u>	In progress	Being progressed through the Connectivity Expert Panel recommendations and subsequent analysis by the department.
<u>2. Incorporate learnings into the system and manage future events</u>	Complete	--
<u>3. Evidence-based methodology</u>	In progress	Being progressed through hydrometric network upgrades, flow forecasting improvements, and cultural water planning initiatives.
<u>4. Incident Management Plan</u>	In progress	First Flush Incident Management Plan to be finalised by the end of December 2026.
<u>5. Interim measures (provisions in the regulatory and policy framework)</u>	Complete	--
<u>6. Proactive use of temporary water restrictions</u>	Complete	--

Recommendation	Status	Comment
<u>7. Regulatory and policy framework for managing drought</u>	In progress	Drought planning policy framework complete. Connectivity Expert Panel advice, currently under review, will inform future regulatory changes.
<u>8. Improve flow forecasting modelling and real-time monitoring capability</u>	In progress	Being progressed through hydrometric system upgrades, flow forecasting improvements, and monitoring initiatives.
<u>9. Implementation planning and progress reporting</u>	Ongoing	Final First Flush reporting is concluding. Future progress will be tracked through broader water strategy implementation and annual public reporting.
<u>10. Communication coordination and capability</u>	Ongoing	Work to improve communication and engagement is ongoing, with better coordination, clearer information, and more inclusive stakeholder involvement.

Introduction

In March 2020, the NSW Government appointed an independent panel to assess the management of the Northern Basin First Flush event. The panel's final report was submitted in September 2020, and the NSW Government responded, agreeing or agreeing in principle with all but one of the ten recommendations.

This final progress update focuses on actions taken since the March 2023 update, with an emphasis on current initiatives that continue to address the review's recommendations.

Many of the panel's recommendations have been addressed through broader water reform programs, including the NSW Water Strategy released in 2021. Future updates on connectivity, cultural flows, and incident response will be captured through these ongoing strategic initiatives.

Progress since the March 2026 update

Recommendation 1

Develop first flush arrangements, in consultation with water users, Traditional Owners and communities, that clearly articulate how connectivity within and between water sources in the Northern Basin, and critical human and environmental water needs, will be provided for during first flush events.

Status: **In progress**

The NSW Minister for Water established a Connectivity Expert Panel (the Panel) to provide independent advice on changes to water sharing plans that could improve flow outcomes across the Northern Basin, including the Barwon–Darling system during both dry and non-dry periods.

The Panel’s final report, released in July 2024, includes proposed rules to manage the resumption of flows after dry periods. While the report reflects the views of the Panel and is not government policy, it provides a foundation for further analysis and consultation.

The Department of Climate Change, Energy, the Environment and Water (the department) has undertaken hydrologic, environmental, and economic analyses of the Panel’s proposed rules to assess their potential benefits and impacts.

The results will be considered by the Minister for Water and used to inform advice to the NSW Government. Key stakeholders, including water users and Traditional Owners, will be consulted to provide input based on on-ground experience and local knowledge.

This analysis and consultation will guide the next steps, including potential amendments to water sharing plans to better support connectivity and critical water needs during first flush events.

Recommendation 2

Incorporate learnings from the 2020 Northern Basin First Flush event into systems that will be used to manage any future first flush event that arises in the short term.

Status: **Complete**

Key actions to address recommendation 2 are addressed in Table 2.

Table 2. Key actions to address recommendation 2

Action	Status:
1. Updating flow forecasting models	Complete
2. Ensuring the Department of Planning, Industry and Environment – Environment, Energy and Science is involved in future management	Complete

Action	Status:
3. Undertaking and publishing a <u>comparison of what outcomes would have been achieved if temporary water restrictions were not put in place</u>	Complete
4. Updating models to reflect the capacity of water sources to contribute to meeting downstream targets	Complete
5. Revising the objectives, principles and targets used to manage the event having regard to this information (and any further work completed pursuant to recommendation 3 below)	Complete
6. Seeking feedback on the revised objectives, targets and principles	Complete

Recommendation 3

Ensure the evidence base and method for first flush management is quantified, science-based and made publicly available, including estimated requirements to meet critical water needs (including basic landholder rights and cultural flow requirements that fall within critical water needs).

Status: **In progress**

The NSW Government has continued work under the Hydrometric Networks and Remote Sensing Program, progressing the installation of new gauging stations across the northern Murray–Darling Basin. These stations will provide detailed, real-time data on river flows, enhancing modelling, forecasting, and understanding of connectivity, flood risk, and drought preparedness. This work directly supports the development of a more robust evidence base for first flush management. The program also includes broader enhancements to monitoring through satellite and remote sensing technologies, with efforts underway to make time series data publicly accessible. Further detail on planned installations and priorities is outlined in the Hydrometric Improvement Plan.

WaterNSW has continued refining its flow forecasting models. During high flow events, river operators in regulated valleys often face time constraints, which can limit the accuracy of tributary inflow forecasts to the Barwon–Darling.

Specifically in the Barwon–Darling, WaterNSW has encountered challenges in developing accurate flow forecasts - an essential component of the active management framework used to determine volumes available for licensed extraction. To ensure environmental water is protected, operators conservatively assume that the extraction volume equals the announced daily volumetric limit, or the IDEC where normal licence conditions apply. In practice, actual extractions are often lower than assumed, leading to consistent underestimation of available volumes for licence holders, including held environmental water (HEW). This issue has been noted in each [active management annual review](#).

Recent improvements to the model include a correction factor applied by river operators where there is consistent evidence of lower than assumed extractions, resulting in more accurate downstream forecasts. The accuracy of system flow forecasting is expected to improve significantly as real-time usage data from telemetered meters becomes available.

The department has advanced the implementation of first flow triggers originally outlined in the [Western Regional Water Strategy](#), through upgraded hydrologic modelling. This includes enhanced valley models and automated simulation platforms, which support the testing of proposed flow rules developed by the Connectivity Expert Panel. Further detail is available in the [Northern Basin Connectivity Program Progress Update – December 2024](#).

Since early 2023, the NSW Government has been working with Aboriginal community groups through a [Cultural Watering Plans](#) pilot project. These co-developed plans reflect each community's cultural water objectives, identify access pathways, and highlight barriers within current water management frameworks. The pilot also supports two-way knowledge sharing and is intended to inform future policy and planning reforms.

Each plan remains the property of the community and can support applications for [Aboriginal Cultural Specific Purpose Access Licences](#), which are available free of charge until mid-2025. These licences enable access to water for cultural purposes such as maintaining wetlands, protecting sacred sites, and supporting traditional practices. Insights from the pilot will contribute to future water policy reviews and help strengthen engagement between government and Aboriginal communities.

Recommendation 4

Review and update incident management systems for managing first flush events.

Status: **In progress**

The NSW Government is developing a First Flush Incident Management Plan, with finalisation expected by the end of December 2026. The plan is being prepared in collaboration with partner agencies. It will set out processes for first flush management, including communication.

Recommendation 5

Until there are further provisions for first flush event management embedded in the regulatory and policy framework, publish guidance materials which outline how the NSW Government will use temporary water restrictions to manage first flush events.

Status: **Complete**

The NSW Government has continued to build on the first flush management framework outlined in the Western Regional Water Strategy, including the use of temporary water restrictions under section 324 of the *Water Management Act 2000*. While the strategy includes critical dry condition triggers, further work has focused on improving flow management through the establishment of the Connectivity Expert Panel, which released its [final report](#) in July 2024. The department is currently analysing the Panel's proposed flow rules, which may inform future amendments to water sharing plans and enhance the regulatory framework for managing first flush events.

Recommendation 6

Make any temporary water restrictions required to manage first flush events on a proactive basis (that is, before rain is forecast).

Status: **Complete**

The final [Western Regional Water Strategy](#) was published on 16 December 2022, including an implementation plan. Critical dry condition triggers are outlined in the strategy and continue to be refined. These triggers guide when temporary water restrictions should be made and lifted, enabling proactive management of first flush events following prolonged dry periods.

Temporary water restrictions are implemented under Section 324 orders, intended to be in place prior to flow events. These orders are made by the Minister, taking into account current conditions and other relevant information.

Recommendation 7

Embed the management of first flush events in the regulatory and policy framework for managing drought.

Status: **In progress**

The NSW Government has updated the valley-based Incident Response Guides, which are now included in the water resource plans submitted to the MDBA. These guides incorporate first flush protections as part of drought contingency measures. [The Extreme Events Policy](#) was updated in August 2023, reflecting lessons learned from the 2017–2020 drought. It provides a structured framework for managing water shortages and quality events, including staged responses and prioritisation of critical needs. WaterNSW has also completed drought contingency plans, for each inland regulated river valley, to help guide decision-making during drought.

In 2024, the Connectivity Expert Panel released its final report with proposed rules to improve flow outcomes, including first flush management. The department is analysing these recommendations, with results due in 2025. This will inform advice to the Minister and potential changes to water sharing plans. Final details will also feed into the First Flush Incident Management Plan under Recommendation 4.

Recommendation 8

Improve flow forecasting modelling and real-time monitoring capability, including measurement of extractions and the hydrometric system for inflows and monitoring end of system flows.

Status: **In progress**

Progress on this recommendation is addressed under Recommendation 2 and Recommendation 3 above. These initiatives contribute to improving real-time monitoring, modelling, and measurement of extractions and inflows.

Recommendation 9

Current (and future) reform programs should be accompanied by clear implementation plans and the government should publish regular reports of progress against these implementation plans on a collective basis.

Status: **Ongoing**

This final implementation update for the Northern Basin First Flush Review contributes to addressing this Recommendation. It follows the [previous update](#) published in March 2023.

At a broader level, the [NSW Water Strategy](#) (Released in September 2021) is accompanied by an implementation plan. The 12 regional water strategies and two metropolitan water strategies will also include implementation plans. The implementation plans will provide clear time frames and defined roles and responsibilities for delivering actions.

An integrated framework for reviewing and reporting against these strategies will allow the NSW Government to track the effectiveness of implementation in achieving the actions of the NSW Water Strategy. The reporting will be undertaken annually and be publicly available.

Recommendation 10

Improve and resource communication coordination and capability.

Status: **Ongoing**

Communications and engagement on water policy, planning, programs and services remain a priority for the NSW Government. The NSW State Water Strategy commits to building community confidence and capacity through engagement, transparency and accountability.

Several initiatives have been delivered to support this priority:

- The Water Stakeholder and Community Engagement Policy has been reviewed and updated to embed purposeful, inclusive, timely, transparent and respectful engagement principles.
- A new 'Have Your Say' section was launched on the department's website to improve access to consultation opportunities and engagement events.
- The Water Engagement Roundup webinar series continues monthly, providing updates and discussions on key water topics.
- A web-based water library was released in April 2024, offering access to reports, newsletters, webinars, and fact sheets.
- The department continues to expand its Open Data Framework, with over 198 water datasets now available via the SEED Water Hub.
- The [Independent Water Advisory Panel](#) was reappointed in July 2023 with a broadened statewide focus to strengthen policy development and community trust.

To address the recommendation to broaden stakeholder representation, the Water Group has strengthened engagement and communication since the last progress update through:

- Expanded engagement channels, including monthly Water Engagement Roundup webinars, regular newsletters, SMS updates, and an interactive online map providing regional information.
- Improved coordination and transparency, with cross-agency engagement meetings, a joint consultation calendar, and updates to the 'What We Heard' reporting format.
- Enhanced tools and guidance, including an internal communication and engagement toolkit to support consistent planning and delivery across the Water Group.

- Strengthened stakeholder engagement, with repurposed WaterNSW Customer Advisory Groups, and a developing model for regular engagement with peak water stakeholders.
- Policy refinement, including the April 2025 review and renaming of the Water Stakeholder and Community Engagement Policy to better reflect its scope.

Related to communications of water resource information, relevant agencies are making continuous improvements with the public in mind. The following resources may be of interest:

- [WaterNSW WaterInsights Portal](#)
- [‘Introduction to Water’ guides](#) (including allocations, groundwater, surface water)
- [Library of past Roundup webinars and presentations](#)

Ongoing implementation

This is the final progress update on the implementation of the 2020 Northern Basin First Flush Review recommendations. While formal reporting under this review is concluding, the NSW Government remains committed to improving water management in the Northern Basin. Work related to several recommendations is continuing through broader programs and reforms, including the department’s response to the Connectivity Expert Panel and the NSW Water Strategy. The [NSW Water Strategy](#) and its Implementation Plan have been published on the department’s website, and will continue to provide a framework for delivering and reporting on related actions.

Future updates on these areas will be delivered through the relevant programs and strategies, rather than through standalone First Flush reporting.