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Evaluation Framework for PPMs Implementation in NSW

Prerequisite Policy Measures

September 2023





Acknowledgement of Country

The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land, and we show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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Contents

| | |
|---|-----------|
| Framework structure and navigation | 6 |
| Executive summary | 7 |
| 1 Introduction | 8 |
| 1.1 Purpose and use..... | 8 |
| 1.2 About PPMs..... | 8 |
| 1.3 Application..... | 9 |
| 1.4 Framework constraints and limitations..... | 10 |
| 2 Roles and responsibilities | 11 |
| 3 PPMs program logic | 13 |
| 4 Evaluation questions | 15 |
| 5 Undertaking annual evaluations | 20 |
| 5.1 Evaluation approach..... | 20 |
| 5.2 Evaluation process and annual timelines..... | 20 |
| 5.3 Evaluation standards and quality..... | 23 |
| 5.4 Evaluation ethics..... | 23 |
| 6 Data collection and analysis | 24 |
| 6.1 Using indicators and research questions..... | 24 |
| 6.2 Data collection and analysis methods..... | 24 |
| 6.3 Answering KEQs and evaluating against criteria..... | 25 |
| 7 Recommendations and reporting | 29 |
| 7.1 Annual requirement to report..... | 29 |
| 7.2 Developing and using recommendations..... | 29 |
| 8 References | 30 |
| Appendix A | 32 |
| Requirement for a framework..... | 32 |
| Appendix B | 35 |
| Detailed PPMs process..... | 35 |
| Appendix C | 36 |
| Evaluation and research question alignment..... | 36 |
| Full alignment tables..... | 37 |
| Appendix D | 41 |
| Performance indicator scoring guide..... | 41 |
| Annual ratings and trend directions summary..... | 45 |
| Activation decision tree for PI 1b..... | 46 |
| Criteria rating guide..... | 47 |
| Roles and responsibilities matrix..... | 48 |

Figures

| | |
|--|----|
| Figure 1: Navigating the framework using the logic of evaluation..... | 6 |
| Figure 2: Overview of the PPMs process | 9 |
| Figure 3: PPMs evaluation framework application..... | 9 |
| Figure 4: Stakeholder map for the NSW PPMs evaluation framework..... | 11 |
| Figure 5: NSW PPMs program logic model with mapped KEQs, PIs and agency responsibilities | 14 |
| Figure 6: Annual evaluation methodology | 20 |
| Figure 7: Evaluation process | 22 |
| Figure 8: Guide to evaluative synthesis points..... | 25 |
| Figure 9: Indicator finding use for developing KEQ answers, criteria ratings, and narratives | 26 |
| Figure 10: Detailed NSW PPMs process..... | 35 |
| Figure 11: Evaluation alignment for the consistency criterion..... | 37 |
| Figure 12: Evaluation alignment for the efficiency criterion..... | 38 |
| Figure 13: Evaluation alignment for the effectiveness criterion..... | 39 |
| Figure 14: Evaluation alignment for all criteria addressed by KEQ 5 | 40 |
| Figure 15: Activation decision tree for PI 1 b..... | 46 |

Tables

| | |
|--|----|
| Table 1: Agencies and their responsibilities within this framework | 11 |
| Table 2: Evaluation and review approval responsibilities..... | 12 |
| Table 3: Evaluation criteria and focus alignment with KEQs and PIs..... | 16 |
| Table 4: Assigned performance indicators for KEQs | 18 |
| Table 5: PPMs review cycle | 21 |
| Table 6: Data collection crosswalk | 25 |
| Table 7: Data collection and analysis summary..... | 27 |
| Table 8: Indicator benchmark rubric for use with annual indicator and multi-year trend results | 41 |
| Table 9: Implementation monitoring ratings reporting summary template | 45 |
| Table 10: Criteria synthesis rubric for combining indicator ratings..... | 47 |
| Table 11 Roles and responsibilities matrix..... | 48 |

Glossary

| Term | |
|------------------------------|---|
| Consistency | <p>The extent to which a program is implemented with integrity or fidelity (Carroll et al., 2007).</p> <p>In this document, whether the NSW prerequisite policy measures (PPMs) process was followed as intended and activities were implemented consistently to support return flows and piggybacking of water for the environment.</p> |
| Effectiveness | <p>The extent to which a program achieves its objectives (NSW Department of Premier and Cabinet, 2016).</p> <p>In this document, whether the NSW PPMs process is effective in providing a secure, operable and transparent framework that supports ongoing improvement for the use and accounting of water for the environment via return flows and piggybacking.</p> |
| Efficiency | <p>The extent to which a program is delivered with the lowest possible use of resources, to the areas of greatest need, and continues to improve over time by finding better or lower cost ways to deliver outcomes (NSW Department of Premier and Cabinet, 2016).</p> <p>In this document, whether the implementation of the NSW PPMs process was timely, whether the activities could be easily implemented and how the process (and its supporting arrangements) has improved over time.</p> |
| Process evaluation | <p>Process evaluations investigate how programs are implemented and delivered (Saunders, 2015). Evidence is drawn from a wide range of sources (e.g., document review, observation, surveys, qualitative inquiry, and analysis of administrative program data) depending on the nature of the program being evaluated. Process evaluation frequently uses recognised business and process analysis techniques (NSW Department of Premier and Cabinet, 2016).</p> <p>Process evaluation supports outcome evaluation by assessing whether implementation supports or impedes success. When planned outcomes are not realised, process evaluation can separate implementation issues from ineffective design, or unidentified externalities. As an ongoing strategy, process evaluation supports adaptive program improvement by informing delivery adjustments.</p> |
| Review and evaluation | <p>Within this document, ‘review’ refers to the annual NSW PPMs evaluation and review reports, the requirement established in the <u>procedures manuals</u> for ongoing adaptive management of PPMs.</p> <p>The approach and process for assessing PPMs implementation outlined in this document is termed ‘evaluation’. This includes the overall design, the use of program logic to inform selection of evaluation questions and indicators, annual data collection and analysis, and generation of findings and conclusions.</p> |

Framework structure and navigation

Sections of this document describe activities aligned to the logical evaluation steps explained in Figure 1. As you read and use the framework, refer to this figure to understand how the different sections of the document work together within an evaluative context.

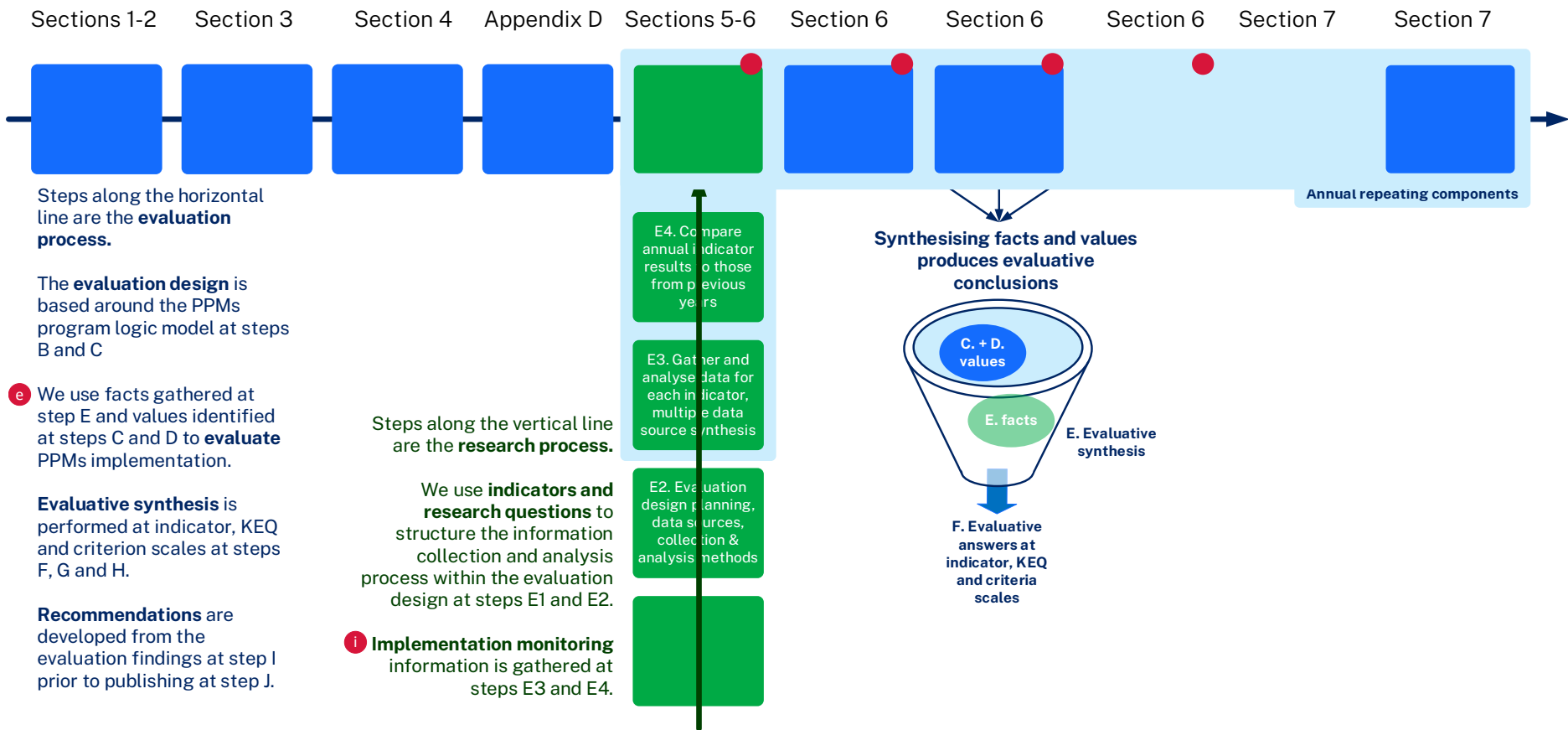


Figure 1: Navigating the framework using the logic of evaluation

Executive summary

Prerequisite Policy Measures (PPMs) establish secure and enduring legislative and operational arrangements for managing water for the environment in the southern-connected Murray–Darling Basin. In effect since 30 June 2019, PPMs are a requirement of the *Basin Plan 2012* (Cth). In NSW, PPMs are implemented by the three NSW water agencies¹ in consultation with the Commonwealth Environmental Water Office (CEWO) and the Murray-Darling Basin Authority (MDBA).

The requirement to annually review PPMs implementation for adaptive management is established by the PPMs Procedures Manuals and undertaken by the Department of Planning and Environment – Water Group. Review reports were completed for the 2019/20 and 2020/2021 water years with an initial recommendation to develop an evaluation framework to clearly define the process.

This framework applies from 2021/2022 onwards with a refresh planned for 2025. The requirements of the NSW PPMs Procedures Manuals are retained and expanded to provide a sound evaluative basis. A program evaluation approach and monitoring evaluation design are used and are compatible with the adaptive management requirements of PPMs and NSW and federal legislation and planning instruments.

A PPMs program logic model allows selection of evaluation questions and indicators relevant to implementation processes, evaluation criteria, and review purposes of accountability and improvement. Each water year, research questions guide the collection and analysis of implementation information which is compared to results from prior years and predetermined standards to answer the evaluation questions.

This framework contains an ongoing and overarching evaluation process and information on components that are repeated annually to produce each review report. Overarching information covers:

- context and review obligations including purpose, use, audiences, and responsibilities
- evaluative approach and structure, quality, and ethics
- criteria, key evaluation and research questions, indicators
- detailed information supporting annual information collection, evaluative analysis, report preparation and adaptive improvement processes
- annual design, timelines, data collection and analysis approaches
- processes to develop and approve findings, recommendations, and reports
- guidance and tools for objectively assessing indicators and adaptive improvement.

¹ NSW Department of Planning and Environment – Water Group, NSW Department of Planning and Environment – Environment and Heritage Group, and WaterNSW.

1 Introduction

1.1 Purpose and use

The purpose of this framework is to guide the ongoing and objective annual process evaluation of the consistency, efficiency, and effectiveness of the implementation of prerequisite policy measures (PPMs) in NSW. This is a real-time review of PPMs implementation processes for the dual purposes of annual accountability and ongoing program improvement. The framework expands on the annual review requirements outlined in the PPMs Procedures Manuals for the NSW Murray and Lower Darling and Murrumbidgee Regulated Rivers.

This framework, the production of annual review reports, and the ongoing implementation of recommendations demonstrates the Water Group's commitment to the improvement of PPMs through adaptive management, and to fulfilling NSW's Basin Plan PPMs requirements (Appendix A).

The evaluation findings are used to:

- demonstrate PPMs implementation and progress under adaptive improvement
- inform recommendations for ongoing refinement and improvement of PPMs
- inform and guide the prioritisation and implementation of recommendations and actions
- identify any changes required to the NSW PPMs Procedures Manuals or arrangements set out therein.

Scope

Murray–Darling Basin governments are required to adopt an adaptive management approach to the implementation of PPMs. The scope of the evaluation outlined in this framework is limited to the PPMs implementation process and associated activities.

1.2 About PPMs

PPMs are legislative and operational water management changes required to improve the use and accounting of water for the environment in the southern-connected Murray–Darling Basin. PPMs put in place secure and enduring water management arrangements for the efficient and effective use of water for the environment. PPMs are a requirement under the *Basin Plan 2012* (Cth) and have been determined by the Murray-Darling Basin Authority (MDBA) as being in effect since 30 June 2019.

The MDBA include PPMs implementation in their annual review of sustainable diversion limits adjustment mechanism (SDLAM) projects. It is likely the MDBA will report on the effectiveness of PPMs implementation in the 2025 Basin Plan Evaluation (Murray–Darling Basin Authority, 2022) as a strategy for achieving environmental outcomes.

In NSW, PPMs are implemented jointly by the three NSW water management agencies: Department of Planning and Environment – Water Group, Department of Planning and Environment – Environment and Heritage Group and WaterNSW, in consultation with the Commonwealth Environmental Water Office (CEWO) and the MDBA.

Enabling provisions in the relevant water sharing plans establish procedures manuals which codify the operation (including accounting) of PPMs in NSW. The PPMs implementation process includes planning, ordering and releasing of water, accounting, reporting and review (Figure 2). A more detailed implementation process is provided in Appendix B. This evaluation framework is used during the annual reporting and review stage but encompasses the entire process.

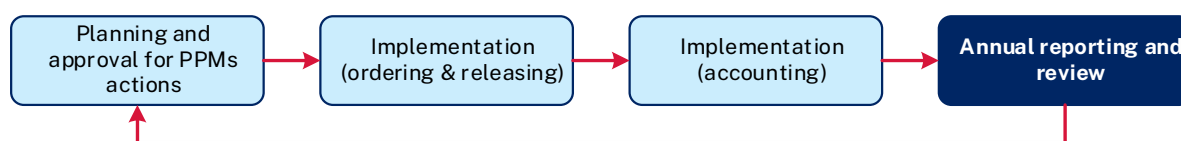


Figure 2: Overview of the PPMs process

1.3 Application

As set out in the procedures manuals, at the end of each water year the Water Group completes an annual review of PPMs implementation. The reviews operate on a two- to three-year cycle allowing for reporting, consultation, review, agreement, and any procedure amendments to be completed within each cycle. Review reports are finalised for publication 12 months after the end of each water year.

Reviews were completed for the 2019–2020 and 2020–2021 water years before this evaluation framework was developed (Figure 3). The approach outlined in this document will apply to reviews of watering actions from the 2021–2022 water year onwards. This framework will be reviewed in 2025 with adjustments commencing with the 2024–2025 water year review (due June 2026).

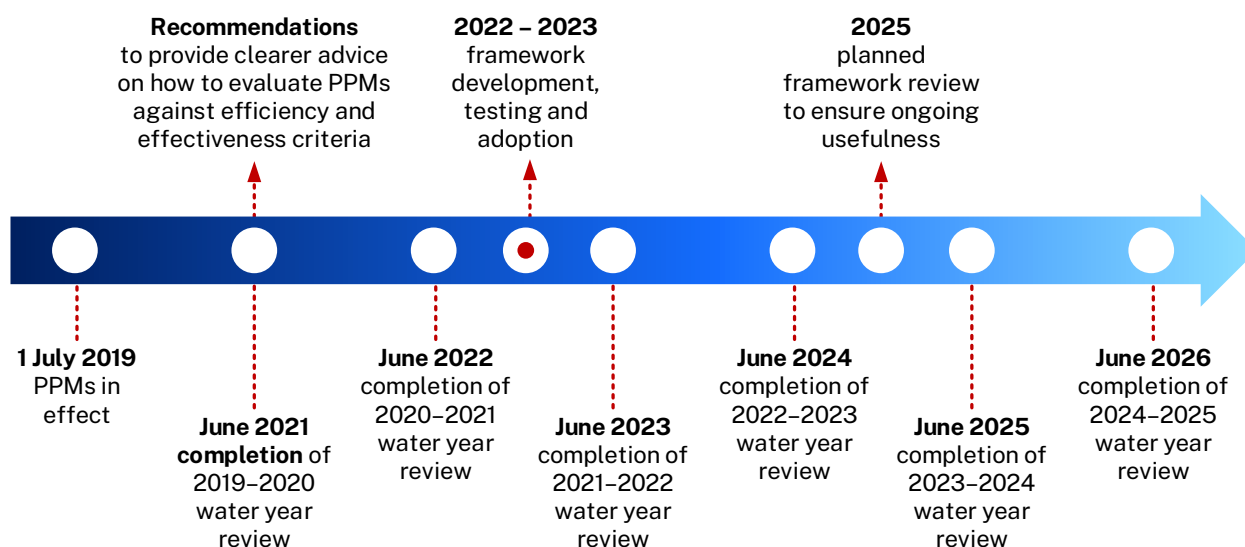


Figure 3: PPMs evaluation framework application

1.4 Framework constraints and limitations

This PPMs evaluation framework is limited to ongoing annual process evaluations of the implementation of PPMs in NSW against the stated criteria definitions. Assessing either the appropriateness of PPMs in delivering the Sustainable Diversion Limit Adjustment Mechanism (SDLAM) projects or the environmental outcomes of improving the use and accounting of environmental water are excluded from the evaluation scope. The efficiency criterion excludes any direct assessment of implementation resourcing costs to NSW agencies; however, barriers and enablers to implementation are considered.

The collection of performance information data is limited to the annual reporting requirements nominated in the PPMs Procedures Manual (including the Environmental Watering Statement and Environmental Release River Operations Report listed as appendices in the procedures manuals) as well as accompanying data and information collated during the planning for, and release and reporting of, environmental watering events relevant to the implementation of PPMs. Any additional information made available to the Water Group will first be assessed for relevance prior to its inclusion.

2 Roles and responsibilities

Agency roles and responsibilities for PPMs implementation are set out in the procedures manuals. The stakeholder map (Figure 4), agency responsibilities (Table 1) and approval responsibilities (Table 2) document the roles of NSW agencies within this evaluation framework.

Upstream stakeholders provide information for use in the evaluation undertaken by the NSW PPMs regulator (i.e., the Water Group). As downstream stakeholders, the NSW PPMs Working Group reviews and acts on the evaluation findings. Upstream stakeholders adopt recommendations, adaptively improving NSW PPMs implementation.

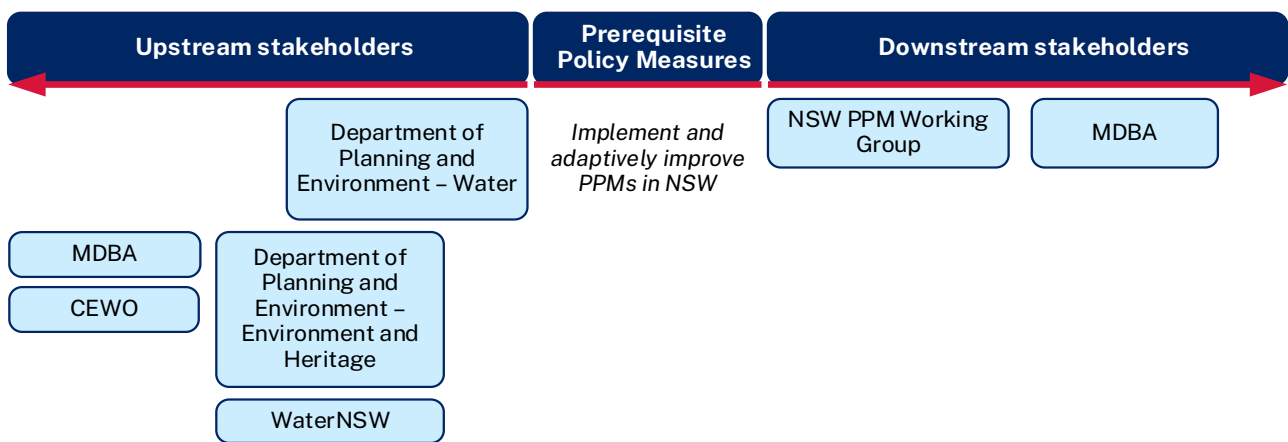


Figure 4: Stakeholder map for the NSW PPMs evaluation framework

Table 1: Agencies and their responsibilities within this framework

| Agency | Evaluation framework role | Key responsibilities related to evaluation | Secondary responsibilities |
|--|---------------------------------|---|---|
| Department of Planning and Environment – Water Group | NSW regulator for PPMs | <ul style="list-style-type: none"> Develops the evaluation framework and undertakes annual evaluations Completes the annual evaluation and review reports Updates procedures manuals and documents other supporting measures, including accounting arrangements Maintains the NSW PPMs workplan Chairs the working group | <ul style="list-style-type: none"> Builds and expands data sets Leads the development and review of accounting arrangements |
| Department of Planning and Environment – Environment and Heritage Group | NSW environmental water manager | <ul style="list-style-type: none"> Provides the annual environmental watering statement Working group member | <ul style="list-style-type: none"> Guide the prioritisation of actions in the workplan |

| Agency | Evaluation framework role | Key responsibilities related to evaluation | Secondary responsibilities |
|------------------------|--|---|---|
| WaterNSW | NSW river operator | Provides the annual environmental release river operations report Monthly environmental water accounting (including debiting and return flows) Working group member | Guides the prioritisation of actions in the workplan |
| CEWO | As an environmental water holder | Liaises with the NSW environmental water manager on the annual environmental watering statement Working group member | Guides the prioritisation of actions in the workplan |
| MDBA | As an environmental water holder | Liaises with the NSW environmental water manager on the annual environmental watering statement (as The Living Murray) Working group member | Guides the prioritisation of actions in the workplan |
| NSW PPMs Working Group | Representatives include the above agencies plus DPI Fisheries (as an observer) | Reviews annual evaluation and review report and its recommendations Uses the evaluation findings to develop solutions for addressing implementation gaps and deficiencies Participates as necessary to make good on recommendations | Prioritises actions on the NSW work plan Considers any new watering actions proposed and their supporting measures |

Table 2: Evaluation and review approval responsibilities

| Group or agency | Position | Item | Action |
|--|---|--------------------------------------|-------------------------|
| Department of Planning and Environment – Water Group | Director, Water Planning Implementation | Evaluation framework | Approve |
| NSW PPMs Working Group | Nominated representatives | Annual evaluation and Review reports | Endorse |
| Department of Planning and Environment – Water Group | Director, Water Planning Implementation | Annual evaluation and Review reports | Approve for publication |
| Department of Planning and Environment – Water Group | Director, Water Planning Implementation | Evaluation framework 2025 review | Approve |

3 PPMs program logic

Describing PPMs in a program logic model identifies links between conducting implementation activities, intended outputs and short- and long-term outcomes. The evaluation design uses the logic model as the basis for selecting evaluation questions and indicators. The PPMs logic model is restricted to process-related outcomes and excludes examination of environmental benefit outcomes as these are outside the evaluation scope. Laid out in a modified pipeline model (Figure 5), the diagram shows how the performance indicators are distributed at critical points across the program relevant to implementation consistency, efficiency, and effectiveness. The logic should be interpreted in conjunction with the evaluation questions and indicators with reference to model assumptions and the PPMs Procedures Manuals.

Assumptions made in this logic model include the following points:

- all key NSW water agencies agree to the implementation of PPMs as set out in the procedures manuals and as agreed to in the joint letter of commitment signed in June 2019, including adopting their respective roles and responsibilities as set out in the procedures manuals
- refining accounting arrangements is possible and will provide more water for the environment
- continual improvement under adaptive management is possible, including in an operational sense
- there is no risk to NSW on SDLAM reconciliation in 2024, or SDLAM assurance reporting, noting the MDBA's 2019 determination that PPMs were in effect in NSW.

PPMs – ANNUAL EVALUATION & REVIEW OF IMPLEMENTATION

Program objective: provide secure and enduring water management arrangements for the efficient and effective use of water for the environment without impacting on other water users, and provide greater flexibility in how this water can be used via:

- Accounting & protection of return flows
- Piggybacking on unregulated events.

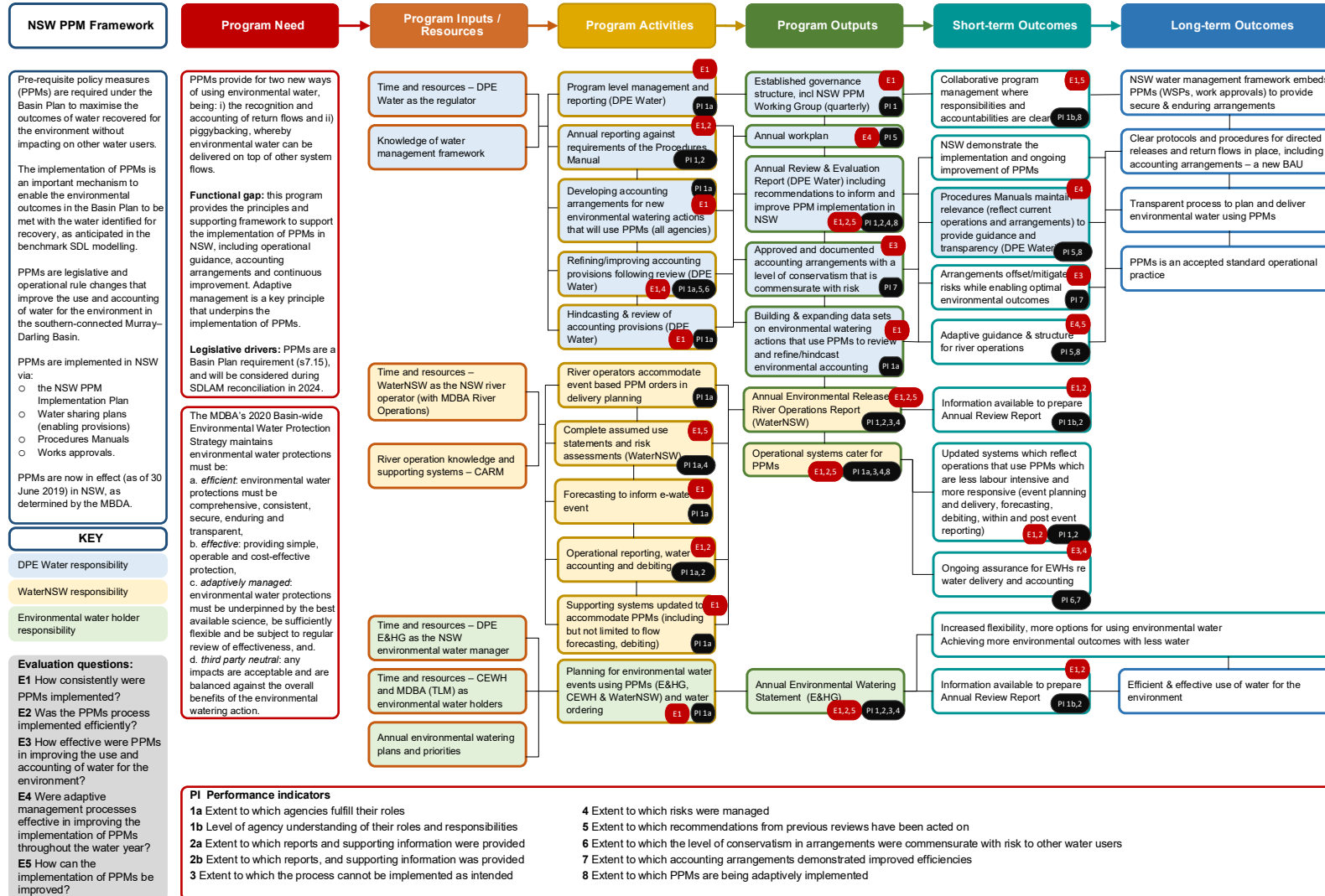


Figure 5: NSW PPMs program logic model with mapped KEQs, PIs and agency responsibilities

4 Evaluation questions

The PPMs program logic (Figure 5) provides the basis for selection of evaluation criteria and development of the key evaluation questions (KEQ) and performance indicators (PI) mapped below in this section.

The evaluation sets 5 KEQs to be answered annually. Some are answered using information from one water year, others connect that information to prior results. KEQ 5 identifies opportunities for PPMs improvement, allowing results to be reported for all criteria or for an individual criterion.

Key evaluation questions

- KEQ 1: How consistently were PPMs implemented during the last water year and how did that compare to previous years?
- KEQ 2: Was the PPMs process implemented efficiently during the last water year and how did that compare to previous years?
- KEQ 3: How effective are PPMs in improving the use and accounting of environmental water?
- KEQ 4: Are adaptive management processes effective in improving PPMs implementation?
- KEQ 5: How can the implementation of PPMs be improved?

Three interrelated criteria (consistency, efficiency, and effectiveness) set the evaluation focus (Table 3) and serve the evaluation purposes of implementation accountability and improvement. Assessment against effectiveness assumes a well-designed process implemented consistently and efficiently will be effective in delivering desirable outcomes. The criteria reflect the requirements for environmental water protections as described in the Basin-wide Environmental Water Protection Strategy (adopted at Basin Officials Committee (BOC) meeting 81 in 2021).

Basin-wide BOC Environmental Water Protection Strategy environmental water protection requirements

- (a) **Efficient:** environmental water protections must be comprehensive, consistent, secure, enduring and transparent.
- (b) **Effective:** providing simple, operable and cost-effective protection of both held and planned environmental water across the Basin.
- (c) **Adaptively managed:** environmental water protections must be underpinned by the best available science, be sufficiently flexible and be subject to regular review of effectiveness.
- (d) **Third-party neutral:** any impacts are acceptable and are balanced against the overall benefits of the environmental watering action.

Evaluation criteria and key evaluation questions and performance indicators are mapped in Table 3 and Table 4. Research questions (RQs) link PIs to KEQs (Appendix C). Adaptive management is addressed using PIs for the PPMs adaptive implementation design elements.

Table 3: Evaluation criteria and focus alignment with KEQs and PIs

| Criteria | Focus area |
|---|--|
| <p>Consistency¹</p> <p>Whether the PPMs process was followed as intended and activities were implemented consistently to support return flows and piggybacking of environmental water; whether consistency improves through time.</p> <p>To understand the degree and consistency of PPMs process implementation, identify constraints and barriers to implementation.</p> <p>KEQ 1, KEQ 5⁵</p> | <p>Roles and responsibilities</p> <p>Agencies understand their roles and consistently fulfil their implementation responsibilities. PI 1a, PI 1b (KEQ 1)</p> <p>Information quality</p> <p>Data availability and transparency to demonstrate consistent implementation of the PPMs process at each stage. PI 2a⁵ (KEQ 1)</p> <p>Impediments or barriers</p> <p>Identify steps and/or requirements which are impediments or barriers to implementation. PI 3 (KEQ 5)</p> |
| <p>Efficiency²</p> <p>Whether the implementation of the PPMs process was timely, activities could be easily implemented, how the process (and supporting arrangements) has improved over time.</p> <p>To understand whether the PPMs process is easy to follow and practical to implement across the agencies.</p> <p>To identify possible improvements within the PPMs process and document for action through the PPMs adaptive management process; to understand issue size and agency perspectives.</p> <p>KEQ 2, KEQ 4, KEQ 5</p> | <p>Information provision</p> <p>Timeliness, transparency and relevance of planning, accounting and reporting. PI 2b (KEQ 2)</p> <p>Risk identification⁴</p> <p>Identification and management of emerging risks during events or when reporting. PI 4 (KEQ 5)</p> <p>Adaptive response³</p> <p>Incorporation of new data, information, and acting on recommendations within the water year. PI 5 (KEQ 4)</p> <p>Improvement changes³</p> <p>Operational, policy or other changes needed to improve implementation of the PPMs process. PI 5 (KEQ 4)</p> <p>Balance within risk management⁴</p> <p>Level of conservatism is commensurate with risk. PI 7 (KEQ 4)</p> |

| Criteria | Focus area |
|--|--|
| <p>Effectiveness¹</p> <p>Whether the NSW PPMs implementation process is effective in providing a secure, operable, adaptive and transparent framework for held environmental water.</p> <p>To determine whether adaptive improvement processes are working; to inform recommendations for implementation design improvement; to identify opportunities to improve the PPMs process and refine related activities.</p> <p>KEQ 3, KEQ 5</p> | <p>PPMs outcomes³</p> <p>Evidence demonstrating the PPMs process provides a secure, operable and transparent framework that supports ongoing improvements in the protection of held environmental water. PI 6 (KEQ 3)</p> <p>PPMs Implementation³</p> <p>Evidence demonstrating that PPMs are being adaptively managed and implemented. PI 8 (KEQ 5)</p> |

Footnotes indicate where criteria or focus reflects BOC Environmental Water Protection Strategy ¹ efficiency, ² effective, ³ adaptive management and ⁴ third party neutral requirements. ⁵ See next sections for explanations of PI abbreviations.

For consistency, all KEQs are assigned indicators (Table 4). Numbering reflects similarities in information sources which assists evidence assembly (e.g., PI 2a and PI 2b focus on the quality and timeliness of implementing agency reports at the start of the evaluation process). Rationales for indicator inclusion form the basis of the indicator benchmark rubric (Appendix D Table 8).

Full alignment tables for each criterion with mapping between PIs, RQs and KEQs are provided in Appendix C (Figure 11 to Figure 14).

Table 4: Assigned performance indicators for KEQs

| Relevant key evaluation questions (KEQs) | Performance indicators (PIs) | Reason for indicator inclusion, use of indicator |
|---|--|--|
| <p>KEQ 1 How consistently were PPMs implemented during the last water year and how did that compare to previous years?</p> | <p>PI 1a Extent to which agencies fulfilled their roles as set out in the procedures manuals during each stage of the process</p> | <p>Demonstrate whether each agency fulfilled their key obligations through each of phase of PPMs i.e., planning, ordering, accounting, reporting phases. Assessed for each event relying on the implementation of PPMs.</p> |
| | <p>PI 1b Level of agency understanding of their roles and responsibilities</p> | <p>Determine how well each key agency understands of their obligations (activate if PI 1a assessment falls below acceptable benchmark level)</p> |
| | <p>PI 2a Extent to which reports and supporting information were provided (including annual reports, event forecasts and post-event accounting)</p> | <p>This indicator assesses the quality and comprehensiveness of the information provided by implementing agencies. The provision of data and reporting elements is a key element of successful PPMs implementation. Good indicator performance demonstrates NSW compliance with the PPMs procedure; ongoing identification of issues and recommendations and areas for improvements; building of data sets; building basis for future reviews.</p> |
| <p>KEQ 2 Was the PPMs process implemented efficiently during the last water year and how did that compare to previous years?</p> | <p>PI 2b Extent to which reports, and supporting information were submitted on time (including annual reports, event forecasts and post-event accounting)</p> | <p>This indicator assesses timeliness of information provided by implementing agencies. The timely provision of data and reporting elements is a key element of PPMs implementation and an Environmental Watering Plan commitment; delay may indicate onerous or inappropriate reporting requirements or lack of understanding. Delay may also limit the efficient and effective use of HEW.</p> |
| <p>KEQ 3 How effective are PPMs in improving the use and accounting of environmental water?</p> | <p>PI 6 Extent to which accounting arrangements demonstrated improved efficiencies for environmental water use</p> | <p>Demonstrate from an accounting perspective where and how there have been ongoing improvements and efficiencies for how environmental water is accounted for and used.</p> |

| Relevant key evaluation questions (KEQs) | Performance indicators (PIs) | Reason for indicator inclusion, use of indicator |
|---|--|---|
| <p>KEQ 4 Are adaptive management processes effective in improving PPMs implementation?</p> | <p>PI 5 Extent to which recommendations from previous reviews were actioned</p> | <p>Determine if NSW making good on our commitment for review and continuous improvement.</p> |
| | <p>PI 7 Extent to which the level of conservatism in arrangements was commensurate with risk to other water users</p> | <p>Determine if the level of conservatism changes (i.e., decreases) as our knowledge, understanding and management of the real risk improves (e.g., ensure that the Environmental Water Holders are not ‘paying’ for unnecessary conservatism to enable optimisation of e-water use).</p> |
| <p>KEQ 5 How can the implementation of PPMs be improved?</p> | <p>PI 3 Extent to which the process cannot be implemented as intended</p> | <p>Addresses consistency aspects. Identifies which elements of the process cannot be implemented by a particular agency (or agencies) and why not (impediments or barriers).</p> |
| | <p>PI 4 Extent to which risks were well managed</p> | <p>Addresses efficiency aspects. Management of risks, including risk to other water users, is important given that PPMs provide a new way of managing water requiring effective processes to be established and followed. New and emerging risks should be assessed, mitigated and documented as they arise. The mitigation of risks to other licence holders is also a key principle of PPMs implementation.</p> |
| | <p>PI 8 Extent to which PPMs are adaptively implemented</p> | <p>Builds on consistency (PI 3) and efficiency (PI 4) indicators to examine effectiveness aspects. Reports on adoption extent of adaptive implementation processes. Examines how identified barriers and impediments were or could be overcome and determine an appropriate way to resolve outstanding problems.</p> |

5 Undertaking annual evaluations

5.1 Evaluation approach

Approach statement

This process evaluation uses a monitoring evaluation design and takes a theory-driven approach using program logic and annual quantitative and qualitative information from implementing agency reports, datasets, and staff communications. The approach is compatible with the adaptive management requirements of PPMs, NSW and federal legislation and planning instruments.

The evaluation methodology (Figure 6) reports annual implementation monitoring information and connects those results to prior results to evaluate ongoing adaptive PPMs improvement. Qualitative and quantitative evidence is gathered from several sources including agency staff, reports, and databases. Using different information types allows a wider range of indicators and draws on the strengths of both types to develop well rounded and insightful evaluative interpretations. Bringing together qualitative and quantitative evidence from a variety of sources improves the strength of evaluation findings because results can be triangulated, and any discrepancies identified and examined. Analysis methods vary according to evidence type. Where different evidence sources and types are combined for one indicator or for multiple years, the analyses are completed separately before combining the results.

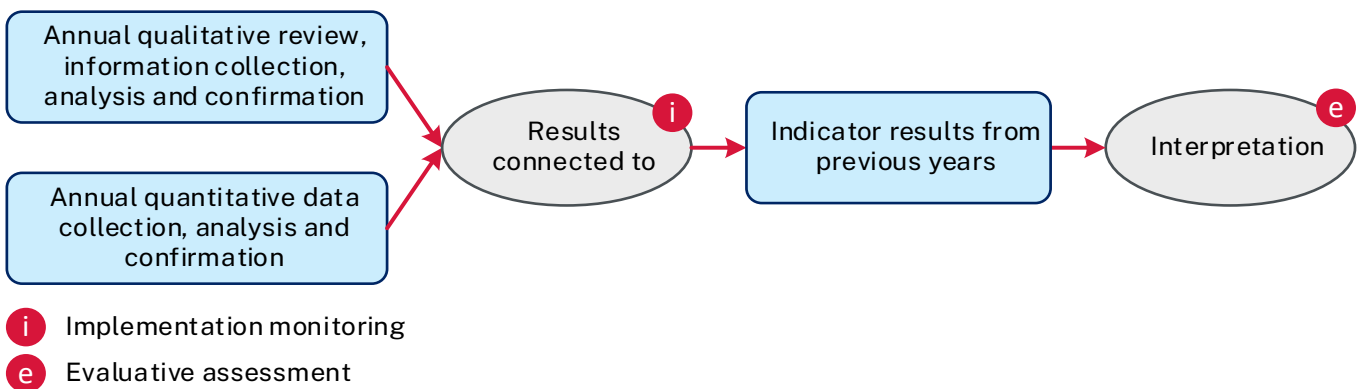


Figure 6: Annual evaluation methodology

5.2 Evaluation process and annual timelines

The annual evaluation process (Figure 7) produces output deliverables and contains several feedback and confirmation points. Meeting annual review cycle timing obligations (Table 5) is essential to successful use of the process including publication of final reports by due dates.

The main evidence sources are river operator and environmental water manager reports about annual watering actions delivered via PPMs. Additional information is drawn from regulating agency datasets and records. The framework includes guiding indicator benchmark and criteria synthesis rubrics (Appendix D) used to standardise assessments against indicators, activate dependent indicators and develop evaluative findings.

Table 5: PPMs review cycle

| Responsibility | All agencies | EHG, WaterNSW | DPE - Water | DPE – Water and PPMs Working Group | DPE - Water |
|------------------|-------------------------------|---------------------------------------|-------------------------------------|------------------------------------|--|
| Activity | Watering actions ¹ | Reporting & consultation ² | Evaluation & reporting ² | Review & consultation ² | Procedures manuals amendments ² |
| July | | | | | |
| August | | | | | |
| September | | Reports due | | | |
| October | | | | | |
| November | | | | | |
| December | | | Draft report due | | |
| January | | | | Consult & review | |
| February | | | | Consult & review | |
| March | | | | Revise | |
| April | | | | | |
| May | | | | | |
| June | | | Final report published | | Amended manuals published (if needed) |

¹ Watering actions occur throughout each water year. ² Agency annual reports and the PPMs review report and subsequent actions are completed each water year for the previous year’s watering actions.

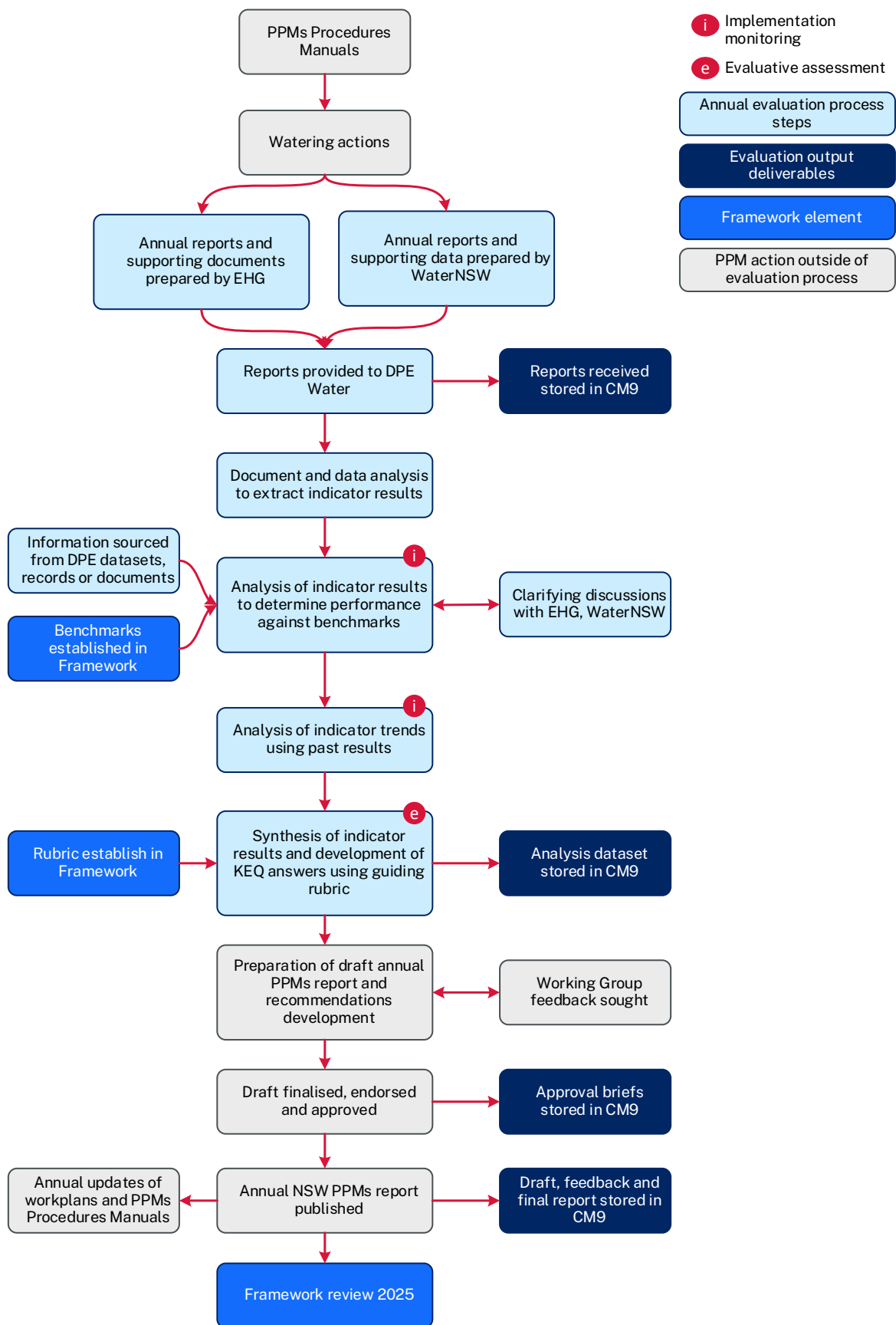


Figure 7: Evaluation process

5.3 Evaluation standards and quality

Quality-based threats are identified for utility and feasibility standards (Joint Committee on Standards for Educational Evaluation, 2018). Bias is a credibility threat for internal evaluations (Fitzpatrick, Sanders & Worthen, 2011), managed by applying propriety standards of clarity and fairness, transparency and disclosure, and conflict of interest. Descriptive content contained in assessment rubrics improves transparency, consistency and repeatability within the evaluation.

A key quality threat is the timely availability of good quality and comprehensive information. This requires ongoing maintenance of cross-agency relationships and attention to information delivery timelines and content standards. Potential information gaps are addressed by using several information types and sources. This provides flexibility and credibility through data triangulation (Miles, Huberman & Saldana, 2014) and participant fact-checking and review (Frambach, 2013). Confidence ratings on evaluative conclusions may be incorporated if identified as a significant quality threat.

The evaluation will be managed following the Water Group's project management guidelines (NSW Department of Industry, 2018a), data, records, and financial management systems and in compliance with the *State Records Act 1998* (NSW). Review of annual draft reports will be sought from key internal stakeholders and contributing agencies via the PPMs Working Group. Refer to Section 2 for further information.

5.4 Evaluation ethics

Conducting an evaluation ethically minimises the potential for harm occurring and respects the rights of participants. Evaluations that monitor or improve program quality and de-identify data may involve low (no more than discomfort) or minimal risk to participants, but consideration of the potential for exposure to any privacy, inconvenience or psychological risks is still required (National Health and Medical Research Council et al., 2018). The evaluation design is considered low risk in the following ways:

- much of the information identified for inclusion is already collected, or should be collected by implementing agencies, as a part of business practice and commitment to implement PPMs
- the scope of activities is linked to agency statutory obligations
- Collection of implementor views focuses on implementation improvement and will identify the agency as the source rather than an individual
- Primary and secondary data acquisition and analysis and comply with agency storage, retention, and privacy requirements.

Additional mitigations to keep risks low include seeking informed consent and willing participation when seeking feedback, ensuring neutrality in data collection and analysis (e.g., using rubrics to make standardised assessments), and minimising adverse effects on workloads. The evaluation will be undertaken following applicable professional ethics and conduct codes (NSW Department of Planning and Environment, 2022c; NSW Public Service Commission, 2022).

6 Data collection and analysis

6.1 Using indicators and research questions

The data collection crosswalk (Table 6) and summary (Table 7) outline collection and analysis methods for each indicator. These tables are relevant to the vertical green steps (E; E1-E4) in the evaluation logic (Figure 1). The primary information source used to determine the annual performance indicator results is the data and information about watering events collected continuously and reported at the end of each water year. The research questions are not answered directly but used to guide the use of indicator information in answering the KEQs. See section 5 of the procedures manuals and section 2 of this framework (roles and responsibilities) for further information about data provision and collection.

Synthesis methods are not provided for determining indicator results from multiple data sources. Methods may be developed if required in the future for complex indicators. There are relationships between indicators described in section 4 (Evaluation questions). Of note, PI 1b *Level of agency understanding of their roles and responsibilities* is only assessed if performance on PI 1a *Extent to which agencies fulfilled their roles as set out in the Procedures Manual during each stage of the process* falls below the expected benchmark. A decision tree for using this indicator is provided in Appendix D (Figure 15).

6.2 Data collection and analysis methods

A roles and responsibilities matrix guides information and data collection activities and analysis. The matrix is based on the roles and responsibilities set out in Table 2 of the procedures manuals and replicated in this framework in Appendix D Table 11. Supporting evidence, annual indicator and multi-year trend results and ratings, criteria ratings, evaluative narratives for KEQs and criteria are all recorded in an Excel spreadsheet and stored in CM9. This file contains an audit trail maintained each year as a record of data and information sources, storage locations, data collection and analysis activities and decisions.

Records and documents undergo deductive thematic content analysis to determine **annual indicator results**. This includes identifying status, improvement opportunities, barriers, or impediments. Information and data are sourced from reported information, databases, or spreadsheets. Datasets are analysed according to data type and indicator requirements. Information is sought directly from agency and internal staff in two circumstances: when records are not clear or incomplete and when improvement opportunities are better identified through email correspondence or discussion. When necessary, semi-structured exploratory interviews with relevant agency staff and discussions within PPMs Working Group meetings are used.

Table 6: Data collection crosswalk

| Data source | PI 1a | PI 1b | PI 2a | PI 2b | PI 3 | PI 4 | PI 5 | PI 6 | PI 7 | PI 8 |
|---|-------|-------|-------|-------|------|------|------|------|------|------|
| Annual reports and supporting information | | | | | | | | | | |
| Accounting spreadsheets | | | | | | | | | | |
| Operational spreadsheets | | | | | | | | | | |
| DPE Water event records and data | | | | | | | | | | |
| Documented arrangements | | | | | | | | | | |
| Annual workplan | | | | | | | | | | |
| Agency staff | | | | | | | | | | |
| DPE Water staff | | | | | | | | | | |
| PPMs Working Group | | | | | | | | | | |

6.3 Answering KEQs and evaluating against criteria

This section addresses evaluative analysis and is relevant to the horizontal blue steps F, G and H in the evaluation logic (Figure 1). These steps are expanded in Figure 8 where each step builds on the previous one to consolidate findings and present them in different ways. When the work described in this section is complete, the evaluation findings are ready for use in developing recommendations and preparing the annual review report (see Section 7).

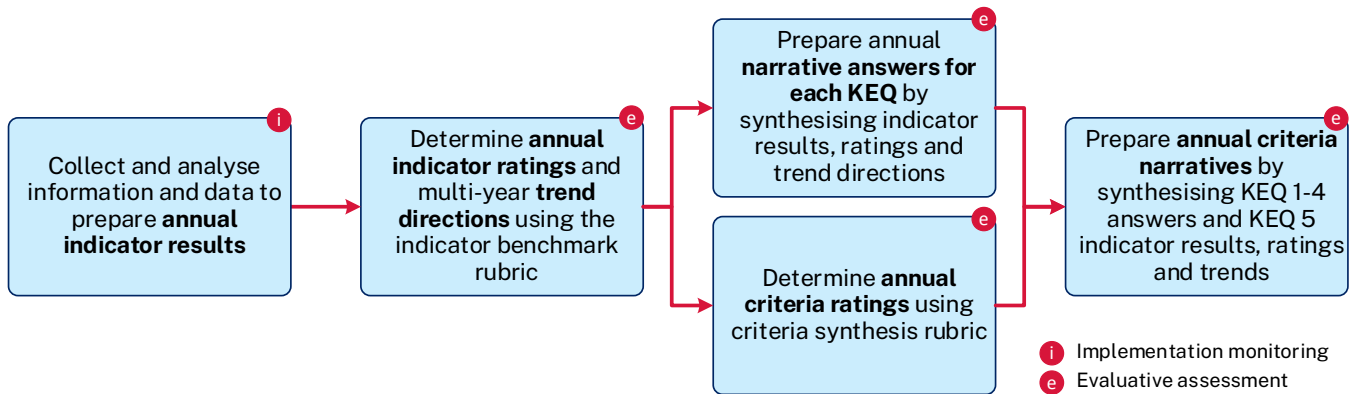


Figure 8: Guide to evaluative synthesis points

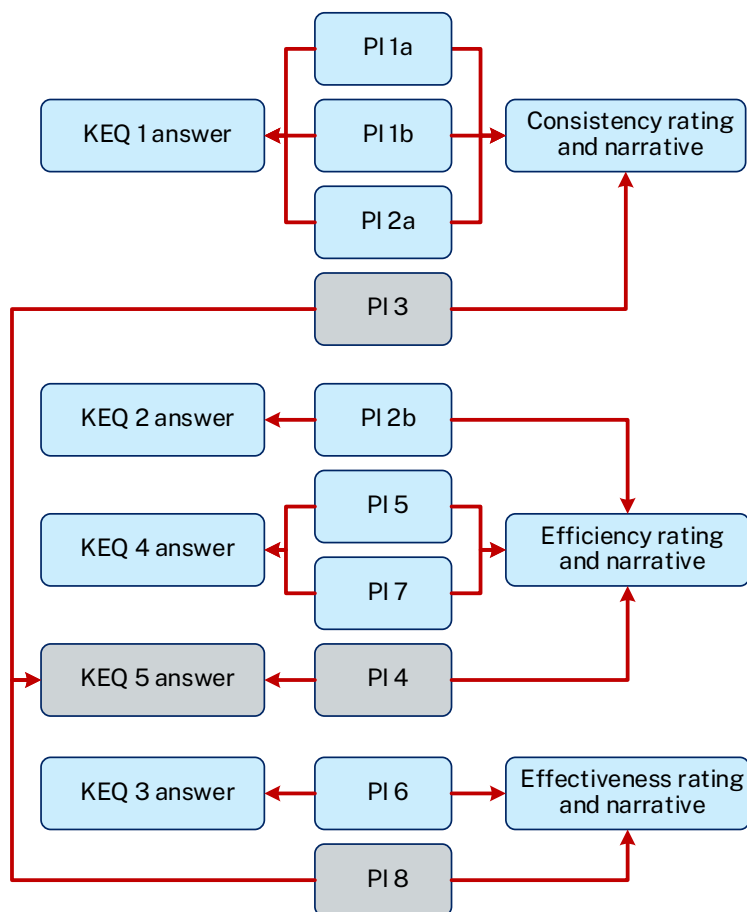
Once the **annual indicator results** are determined, the indicator benchmarking rubric (Appendix D Table 8) is used to determine value-based ratings for performance and multi-year trend directions for each indicator. The **annual indicator ratings and trend directions** are then summarised for

reporting annual performance monitoring information by each focus area using the template in Appendix D (Table 9).

The annual indicator ratings and trend directions, annual indicator results, supporting evidence are synthesised to produce **annual narrative answers for each KEQ** (Figure 9). The answers for KEQs 1-4 are combined with each other and KEQ 5 PPMs improvement indicator results to synthesise **annual criteria narratives and ratings** for consistency, efficiency, and effectiveness.

The criteria synthesis rubric (Appendix D; Table 10) combines multiple indicator ratings to produce a rating at the criterion scale. Although each indicator has equal weight in this assessment, minimum performance standards may be set for a key indicator within each criterion set.

The reporting obligations listed in Section 7.1, research questions (Appendix C), and information provided in Table 3 and Table 4 are used during the KEQ and criteria evaluation steps to ensure the necessary requirements and focus areas are addressed, and all indicators are used within the KEQ answers and criteria narratives. As PPMs mature, narrative length or detail level may change reflecting the working group’s interest in different focus areas, KEQs, or indicators.



KEQs 1-4 are specific to each criterion.
 KEQ 5 indicators link to all criteria and are shaded grey.

KEQ 5 indicator structure allows for discussion of improvement opportunities collectively, or alongside related indicator results

Figure 9: Indicator finding use for developing KEQ answers, criteria ratings, and narratives

Table 7: Data collection and analysis summary

| Performance indicators | Data sources | Data collection and analysis methods |
|---|---|---|
| PI 1a Extent to which agencies fulfilled their roles as set out in the procedures manuals during each stage of the process | Annual reporting and supporting information, documentation of events throughout the year (internal document database), internal DPE Water staff | Document review and analysis using roles and responsibilities matrix as assessment basis |
| PI 1b Level of agency understanding of their roles and responsibilities | Agency staff members | Exploratory interviews with relevant agencies (or discussion at working group meeting) using roles and responsibilities matrix as assessment basis |
| PI 2a Extent to which reports and supporting information were provided (including annual reports, event forecasts and post-event accounting) | Annual reporting and supporting information, documentation of events throughout the year (internal data base), internal Water Group staff | Document review and analysis using roles and responsibilities matrix as assessment basis |
| PI 2b Extent to which reports, and supporting information were submitted on time (including annual reports, event forecasts and post-event accounting) | Annual reporting and supporting information, documentation of events throughout the year (internal data base), internal Water Group staff | Document review and analysis using roles and responsibilities matrix as assessment basis |
| PI 3 Extent to which the process cannot be implemented as intended | Annual reporting and supporting information, documentation of events throughout the year, (internal document database, Technical Advisory Group minutes), internal Water Group staff | Document review and analysis, supported by exploratory or clarifying interviews with relevant agencies or PPMs Working Group discussions if necessary |
| PI 4 Extent to which risks were managed | Annual reporting and supporting information, including water orders and assumed use statements, documentation of events throughout the year (internal document database, Working Group minutes), internal DPE Water staff | Document review and analysis, supported by exploratory or clarifying interviews with relevant agencies or PPMs Working Group discussions if necessary |

| Performance indicators | Data sources | Data collection and analysis methods |
|--|--|--|
| <p>PI 5 Extent to which recommendations from previous reviews were actioned</p> | <p>Annual work plan, annual reporting, PPMs Working Group</p> | <p>Document review and analysis, supported by exploratory or clarifying interviews with relevant agencies or PPMs Working Group discussions if necessary</p> |
| <p>PI 6 Extent to which accounting arrangements demonstrated improved efficiencies for environmental water use</p> | <p>Annual reporting, post-event accounting spreadsheets, documented accounting arrangements</p> | <p>Data analysis and document review</p> |
| <p>PI 7 Extent to which the level of conservatism in arrangements was commensurate with risk to other water users</p> | <p>Post-event accounting spreadsheets, operational spreadsheets</p> | <p>Data analysis, including assessment of ‘actual’ losses versus accounted losses</p> |
| <p>PI 8 Extent to which PPMs are adaptively implemented</p> | <p>Annual reporting and supporting information, documentation of events throughout the year (internal document database), internal DPE Water staff</p> | <p>Document review and analysis using roles and responsibilities matrix as assessment basis</p> |

7 Recommendations and reporting

7.1 Annual requirement to report

The review reporting requirements are set out in Section 5 of the procedures manuals (see callout box). The evaluation provides information to meet these requirements and support recommendations development.

Annual PPMs review report requirements

1. Whether general operational procedures were followed for the delivery of Held Environmental Water via PPMs.
2. Whether the current PPM actions and the associated supporting measures provide for the effective and efficient use of held environmental water.
3. Whether there are sufficient mitigation measures in place, and whether they have been effective.
4. Any proposals for variations or new actions and/or supporting measures that may be brought forward by the river operator or the environmental water holder.
5. Any issues relating to PPMs raised through consultation with stakeholders in the valley.
6. The results and recommendations of the reporting elements provided by the river operator and environmental water manager.
7. Whether the actions and associated supporting measures should be expanded, modified, or remain unchanged.
8. Reporting on the implementation of recommendations from previous reviews.
9. Recommendations endorsed by the PPMs Working Group.

7.2 Developing and using recommendations

Draft recommendations prepared for the **annual review report** must be supported by the indicator results and narrative answers for KEQs and criteria. Where necessary, the working group will review the evaluation findings to develop solutions for addressing any identified implementation risks, gaps or deficiencies. Recommendation drafting will include consideration of recommendations made by agencies throughout the year or within annual PPMs agency reporting.

Refer to the procedures manual for further information about recommendation development, review report layout and content, and approval and dissemination.

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Appendix A

Requirement for a framework

This NSW evaluation framework for PPMs was developed in response to a recommendation from the first annual review of PPMs implementation in NSW and provides the necessary criteria definitions and guidance to complete future evaluations. The framework builds on the review process set out by NSW in the PPMs Procedures Manuals (NSW Department of Planning and Environment, 2022a; 2022b). It also incorporates key elements from the more recent Environmental Water Protection Strategy endorsed by the Basin Officials Committee (Murray–Darling Basin Authority, 2021). The NSW evaluation framework aims to provide a structured, robust and consistent approach to PPMs evaluation.

The overarching legislative framework for water management in NSW is the *Water Management Act 2000*. New provisions within water sharing plans establish the procedures manuals which provide more detailed codification of the operation of PPMs, including roles and responsibilities, accounting arrangements, mitigation measures and the adaptive management framework. The roles and obligations of the river operator to implement PPMs is also recognised through the inclusion of specific conditions to relevant works approvals held by WaterNSW.

As PPMs arrangements are still new and evolving, one of the underpinning implementation principles is to provide for ongoing refinement and improvement. The procedures manuals set out the adaptive management approach which includes the annual evaluation and review of implementation extent and processes (Section 7.1). The first PPMs review for the 2019/2020 water year identified a need to clarify, strengthen and detail the initial adaptive management approach:

“[to] amend the Procedures Manuals to include definitions for ‘efficient’ and ‘effective’ use of HEW and provide clearer advice on how to evaluate whether PPMs and supporting actions contributed to these requirements. This may include reference to an existing document that adequately describes ‘efficient’ and ‘effective’ in relation to the use of HEW.” Recommendation 1 of the NSW Annual Evaluation and Review Report for the 2019-2020 Water Year, NSW Department of Planning, Industry and Environment, 2021).

When the MDBA assessed PPMs in 2019, it also made recommendations for improvement. These recommendations are captured in the Basin Officials Committee’s Environmental Water Protection Strategy (the Strategy) and its supporting Implementation Plan which sets out the governance arrangements underpinning environmental water protection improvements across the Basin and provides a stocktake of all existing and planned environmental water protection activities across the Basin. The Strategy also sets out arrangements to establish and adaptively manage a collaborative approach to operating arrangements and the protection of environmental water. The Environmental Water Committee has oversight of the Strategy and the Implementation Plan.

In 2019, the MDBA used the following criteria when assessment PPMs implementation plans.

These plans are required to be secure and enduring, fully operable, transparent with risks identified and mitigated.

These principles have been adapted and expanded to encompass the Basin-wide environmental water protections set out in the Basin-wide Environmental Water Protection Strategy.

Environmental water protections must be:

- **Efficient:** environmental water protections must be comprehensive, consistent, secure, enduring and transparent.
- **Effective:** providing simple, operable and cost-effective protection of both held and planned environmental water across the Basin.
- **Adaptively managed:** environmental water protections must be underpinned by the best available science, be sufficiently flexible and be subject to regular review of effectiveness.
- **Third-party neutral:** any impacts are acceptable and are balanced against the overall benefits of the environmental watering action.

These updated principles may be used to guide the review of the effectiveness of the implementation, and prioritisation, of existing environmental water protection activities (including PPMs), as well as identify gaps and prioritise any necessary cross-jurisdictional improvements in environmental water protections.

Furthermore, the 2025 Basin Plan evaluation is likely to report on the effectiveness of PPMs implementation as part of the underpinning framework for achieving environmental outcomes. PPMs will be an element of the MDBA's annual assessment of Sustainable Diversion Limit Adjustment Mechanism (SLDAM) projects. As the Basin Plan regulator, the Authority is required by law to determine if the SDLAM projects have achieved the expected recovery of water by 30 June 2024, or if a new adjustment and water recovery volume are required. It is the MDBA's role to monitor compliance with sustainable diversion limits (SDLs) and the implementation of SDLAM projects, as well as assess the operation and effectiveness of SDLAM projects. In addition, the MDBA will continue to monitor the ongoing implementation of the pre-requisite policy measures and the Basin governments associated improvement programs as the implementation of operational rules could affect the outcome of the final determination.

2025 Basin Plan evaluation – environmental water protection outcomes

1. **Clear governance and reporting arrangements** to enhance transparency and accountability in the protection of environmental water.
2. **Improved accounting and measurement arrangements** (including development of documentation, trials and models) to support accurate accounting and measurement of environmental water use.
3. **Agreed approach for balancing the impacts, benefits and effectiveness** of risk treatments in order to enhance confidence and support the development of innovative approaches in operational water management to support environmental water outcomes.
4. **Mapping of related projects**, including innovative approaches to environmental water protection and long-term policy (includes potential MDB Agreement or legislative changes, SDLAM projects and catchments where environmental water protection activities have not yet been identified).

Appendix B

Detailed PPMs process

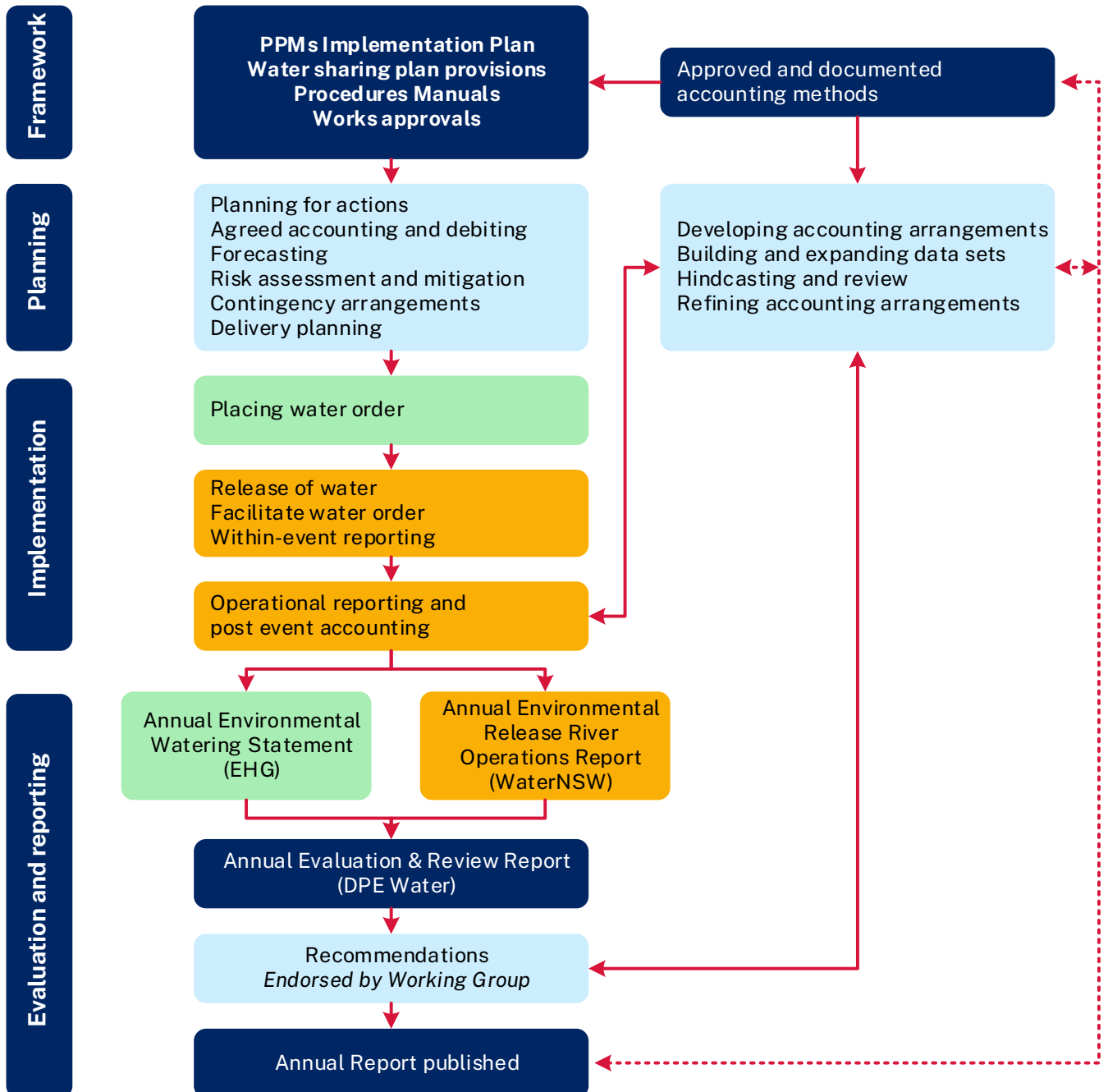


Figure 10: Detailed NSW PPMs process

Appendix C

Evaluation and research question alignment

The evaluation sets 5 key evaluation questions (KEQs) with nested research questions (RQs) to guide performance indicator information collection and use. Some KEQs are answered using information from the last water year, and others connect that information to prior results. KEQ 5 concentrates on identifying opportunities to improve PPMs with an RQ set for consistency (RQ 5a), efficiency (RQ 5b) and effectiveness (RQ 5c) criteria. This structure allows improvement information to be collated across all criteria or used within one criterion.

- **KEQ 1 How consistently were PPMs implemented during the last water year and how did that compare to previous years?**
 - RQ 1 Do agencies understand and make good on their respective roles and responsibilities for PPMs and how has that changed since PPMs commenced?
- **KEQ 2 Was the PPMs process implemented efficiently during the last water year and how did that compare to previous years?**
 - RQ 2 Were all the reporting requirements provided on time throughout the water year and how has that changed since PPMs commenced?
- **KEQ 3 How effective are PPMs in improving the use and accounting of environmental water?**
 - RQ 3 Do accounting arrangements identify efficiencies in how environmental water is used and accounted for?
- **KEQ 4 Are adaptive management processes effective in improving PPMs implementation?**
 - RQ 4a Are recommendations acted upon as part of the adaptive management process?
 - RQ 4b Has the risk to other water users being identified and have actual losses been compared to assumed losses?
- **KEQ 5 How can the implementation of PPMs be improved?**
 - RQ 5a Are there elements of the PPMs process that need changing to improve implementation consistency?
 - RQ 5b Have risks been identified, managed and documented and new risks captured for future considerations?
 - RQ 5c Are PPMs and the PPMs process evolving adaptively as the knowledge base in NSW grows?

Full alignment tables

| Criteria | CONSISTENCY of PPMs implementation processes Understand the degree and consistency of PPMs process implementation, identify constraints and barriers to implementation. | | | |
|------------------------|--|--|--|--|
| Evaluation question | KEQ 1 How consistently were PPMs implemented during the last water year and how did that compare to previous years? | | KEQ 5 How can the implementation of PPMs be improved? | |
| Research question | RQ 1 Do agencies understand and make good on their respective roles and responsibilities for PPMs and how has that changed since PPMs commenced? | | RQ 5a Are there elements of the PPMs process that need changing to improve implementation consistency? | |
| Focus areas | Roles and responsibilities | | Information quality | Impediments or barriers |
| Performance indicators | <i>i</i> PI 1a Extent to which agencies fulfilled their roles as set out in the Procedures Manuals during each stage of the process | PI 1b Level of agency understanding of their roles and responsibilities | PI 2a Extent to which reports and supporting information were provided (including annual reports, event forecasts and post-event accounting) | PI 3 Extent to which the process cannot be implemented as intended |
| Sampling strategy | All watering actions for each water year will be assessed | | | |
| Evidence sources | Annual reports and supporting information DPE Water event records and data DPE Water staff | Agency staff PPMs Working Group | Annual reports and supporting information DPE Water event records and data DPE Water staff | Annual reports and supporting information Agency staff PPMs Working Group |
| Analysis methods | Document review and analysis using roles and responsibilities matrix as assessment basis | Semi structured exploratory interviews & discussions with relevant agency staff and PPMs Working Group using roles and responsibilities matrix as assessment basis | Document review and analysis using roles and responsibilities matrix as assessment basis | Document review and analysis, supported by exploratory or clarifying interviews with relevant agencies or PPMs Working Group discussions |
| Evaluative conclusions | <i>e</i> Evaluative analysis and interpretation using performance indicator benchmark and criteria synthesis rubrics to form narrative answers to evaluation questions. | | | |
| Reporting and use | Annual reports and recommendations drafted with PPMs Working Group consultation, review and endorsement. DPE Water approval. Recommendations used to update PPMs Procedures Manuals. | | | |

i Implementation monitoring *e* Evaluative assessment

Figure 11: Evaluation alignment for the consistency criterion

| Criteria | EFFICIENCY of PPMs implementation processes Understand whether the PPMs process is easy to follow and practical to implement across the agencies. Identify possible improvements within the PPMs process and document for action through the PPMs adaptive management process | | | |
|------------------------|--|---|--|---|
| Evaluation question | KEQ 2 Was the PPMs process implemented efficiently during the last water year and how did that compare to previous years? | KEQ 4 Are adaptive management processes effective in improving PPMs implementation? | | KEQ 5 How can the implementation of PPMs be improved? |
| Research question | RQ 2 Were all the reporting requirements provided on time throughout the water year and how has that changed since PPMs commenced? | RQ 4a Are recommendations acted upon as part of the adaptive management process? | RQ 4b Has the risk to other water users being identified and have actual losses been compared to assumed losses? | RQ 5b Have risks been identified, managed and documented and new risks captured for future considerations? |
| Focus areas | Information provision | Adaptive response & improvement changes | Balance within risk management | Risk identification |
| Performance indicators | <i>i</i> PI 2b Extent to which reports, and supporting information were submitted on time (including annual reports, event forecasts and post-event accounting) | PI 5 Extent to which recommendations from previous reviews were actioned | PI 7 Extent to which the level of conservatism in arrangements was commensurate with risk to other water users | PI 4 Extent to which risks were managed |
| Sampling strategy | All watering actions for each water year will be assessed | | | |
| Evidence sources | Annual reporting and supporting information, documentation of events throughout the year (internal data base), internal DPE Water staff | Annual work plan, annual reporting, PPMs Working Group | Post-event accounting spreadsheets, operational spreadsheets | Annual reporting and supporting information, including water orders and assumed use statements, documentation of events throughout the year (internal document database, Working Group minutes), internal DPE Water staff |
| Analysis methods | Document review and analysis using roles and responsibilities matrix as assessment basis | Document review and analysis, supported by exploratory or clarifying interviews with relevant agencies or PPMs Working Group discussions if necessary | Data analysis, including assessment of 'actual' losses versus accounted losses | Document review and analysis, supported by exploratory or clarifying interviews with relevant agencies or PPMs Working Group discussions if necessary |
| Evaluative conclusions | <i>e</i> Evaluative analysis and interpretation using performance indicator benchmark and criteria synthesis rubrics to form narrative answers to evaluation questions. | | | |
| Reporting and use | Annual reports and recommendations drafted with PPMs Working Group consultation, review and endorsement. DPE Water approval. Recommendations used to update PPMs Procedures Manuals. | | | |

i Implementation monitoring *e* Evaluative assessment

Figure 12: Evaluation alignment for the efficiency criterion

| | | |
|-------------------------------|---|--|
| Criteria | EFFECTIVENESS of PPMs implementation processes Understand how limitations in implementation consistency and efficiency may affect PPMs effectiveness. Determine whether adaptive PPMs improvement processes are working. Inform recommendations for PPMs implementation design improvement through the PPMs adaptive management process. Identify opportunities to improve the PPMs process and refine related activities | |
| Evaluation question | KEQ 3 How effective are PPMs in improving the use and accounting of environmental water? | KEQ 5 How can the implementation of PPMs be improved? |
| Research question | RQ 3 Do accounting arrangements identify efficiencies in how environmental water is used and accounted for? | RQ 5c Are PPMs and the PPMs process evolving adaptively as the knowledge base in NSW grows? |
| Focus areas | PPMs outcomes | PPMs implementation |
| Performance indicators | PI 6 Extent to which accounting arrangements demonstrated improved efficiencies for environmental water use | PI 8 Extent to which PPMs are adaptively implemented |
| Sampling strategy | All watering actions for each water year will be assessed | |
| Evidence sources | Annual reporting, post-event accounting spreadsheets, documented accounting arrangements | Annual reports and supporting information DPE Water event records and data DPE Water staff |
| Analysis methods | Data analysis and document review | Document review and analysis using roles and responsibilities matrix as assessment basis |
| Evaluative conclusions | Evaluative analysis and interpretation using performance indicator benchmark and criteria synthesis rubrics to form narrative answers to evaluation questions. | |
| Reporting and use | Annual reports and recommendations drafted with PPMs Working Group consultation, review and endorsement. DPE Water approval. Recommendations used to update PPMs Procedures Manuals. | |

i Implementation monitoring **e** Evaluative assessment

Figure 13: Evaluation alignment for the effectiveness criterion

| Criteria | CONSISTENCY, EFFICIENCY, EFFECTIVENESS of PPMs implementation processes | | |
|------------------------|--|---|--|
| Evaluation question | KEQ 5 How can the implementation of PPMs be improved? | | |
| Research question | RQ 5a Are there elements of the PPMs process that need changing to improve implementation consistency? | RQ 5b Have risks been identified, managed and documented and new risks captured for future considerations? | RQ 5c Are PPMs and the PPMs process evolving adaptively as the knowledge base in NSW grows? |
| Focus areas | Impediments or barriers | Risk identification | PPMs implementation |
| Performance indicators | PI 3 Extent to which the process cannot be implemented as intended | PI 4 Extent to which risks were managed | PI 8 Extent to which PPMs are adaptively implemented |
| Sampling strategy | All watering actions for each water year will be assessed | | |
| Evidence sources | Annual reports and supporting information Agency staff PPMs Working Group | Annual reporting and supporting information, including water orders and assumed use statements, documentation of events throughout the year (internal document database, Working Group minutes), internal DPE Water staff | Annual reports and supporting information DPE Water event records and data DPE Water staff |
| Analysis methods | Document review and analysis, supported by exploratory or clarifying interviews with relevant agencies or PPMs Working Group discussions | Document review and analysis, supported by exploratory or clarifying interviews with relevant agencies or PPMs Working Group discussions if necessary | Document review and analysis using roles and responsibilities matrix as assessment basis |
| Evaluative conclusions | Evaluative analysis and interpretation using performance indicator benchmark and criteria synthesis rubrics to form narrative answers to evaluation questions. | | |
| Reporting and use | Annual reports and recommendations drafted with PPMs Working Group consultation, review and endorsement. DPE Water approval. Recommendations used to update PPMs Procedures Manuals. | | |

i Implementation monitoring **e** Evaluative assessment

Figure 14: Evaluation alignment for all criteria addressed by KEQ 5

Appendix D

Performance indicator scoring guide

Table 8: Indicator benchmark rubric for use with annual indicator and multi-year trend results

| <p>PI 1a Extent to which agencies fulfilled their roles as set out in the procedures manuals during each stage of the process</p> | <p>Low: No agency met all nominated responsibilities. No explanations or reasoning provided to the Water Group. Reports submitted with varying degrees of completeness. Activates assessment of PI 1b.</p> | <p>Moderate: Agencies generally fulfilled nominated responsibilities. When not met, explanation of when, why and circumstances are identified and documented. Reports submitted in full. Activates assessment of PI 1b.</p> | <p>High: Agencies fulfilled all responsibilities as set out in the procedures manual for each stage of the PPM process, including reporting. Impediments are articulated and options to resolve are identified.</p> | <p>Positive: increasing performance or retention of high performance Neutral: Retention of low or moderate performance Negative: declining performance level</p> |
|---|---|--|---|---|
| <p>PI 1b Level of agency understanding of their roles and responsibilities Note: optional indicator activated when PI 1a performance is low or moderate</p> | <p>Low: Agency does not understand nominated responsibilities. Reluctance to address or improve</p> | <p>Moderate: Agencies generally understand nominated responsibilities. Most areas of poor understanding are identified and there are plans to address them</p> | <p>High: Agencies understand all responsibilities as set out in the procedures manual for each stage of the PPM process, including reporting. Areas of poor understanding are identified and addressed</p> | <p>Positive: increasing performance or retention of high performance Neutral: Retention of low or moderate performance Negative: declining performance level</p> |
| <p>PI 2a Extent to which reports and supporting information were provided, including annual reports, event forecasts and post-event accounting</p> | <p>Low: Most reporting elements were not submitted or only provided at the request of the Water Group</p> | <p>Moderate: Most agencies submitted reporting elements within the nominated timeframes.</p> | <p>High: Agencies fulfill reporting responsibilities in the timeframes nominated to provide meaningful input to the PPMs process.</p> | <p>Positive: increasing performance or retention of high performance Neutral: Retention of low or moderate performance Negative: declining performance level</p> |

| Indicator | Low performance | Moderate performance | High performance | Trend directions (since PPMs started) |
|--|--|---|--|---|
| PI 2b Extent to which reports, and supporting information was provided, including annual reports, event forecasts and post-event accounting, were submitted on time | Low: Less than 50% submitted within agreed timeframes or by submission dates | Moderate: 50% - 75% submitted within agreed timeframes or by submission dates | High: More than 75% submitted within agreed timeframes or by submission dates | <p>Positive: increasing performance or retention of high performance</p> <p>Neutral: Retention of low or moderate performance</p> <p>Negative: declining performance level</p> |
| PI 3 Extent to which the process cannot be implemented as intended | Low: Process is not fully implemented as intended; barriers cannot/have not been identified and no efforts undertaken to identify and resolve. | Moderate: Process is generally implemented; where there have been deviations or departures from process, there is a documented reason including identifying any possible risk or implications; barriers have been identified but not addressed. | High: Process is implemented as intended; any barriers to full implementation can be identified and with an agreed pathway for resolution; any changes to procedures or other documentation have been made. | <p>Positive: increasing performance or retention of high performance</p> <p>Neutral: Retention of low or moderate performance</p> <p>Negative: declining performance level</p> |
| PI 4 Extent to which risks were managed | Low: No evidence of consideration of risks during PPMs implementation. | Moderate: Some evidence that consideration has been given to risks during PPMs implementation with documentation indicating how risks were managed. | High: Risks were considered during planning and implementation phase of PPMs and well documented; any necessary arrangements have been reviewed and updated to address any new risks or mitigation measures. | <p>Positive: increasing performance or retention of high performance</p> <p>Neutral: Retention of low or moderate performance</p> <p>Negative: declining performance level</p> |

| Indicator | Low performance | Moderate performance | High performance | Trend directions (since PPMs started) |
|--|---|--|---|--|
| PI 5 Extent to which recommendations from previous reviews have been actioned | Low: Prior review recommendations are not included in the next year's work plan; high and medium priority recommendations are more than 12 months old; the PPMs Working Group are not satisfied with this year's progress | Moderate: Prior review recommendations are included in this year's workplan; PPMs Working Group are not satisfied with this year's progress on high priority actions | High: Prior review recommendations are included in this year's workplan; prior recommendations are prioritised with high priority tasks addressed; the working group are satisfied with this year's progress | Positive: increasing performance or retention of high performance Neutral: Retention of low or moderate performance Negative: declining performance level |
| PI 6 Extent to which accounting arrangements demonstrated improved efficiencies | Low: No accounting arrangements in place or no post-event accounting undertaken | Moderate: Accounting arrangements have been implemented for three+ years without review; post-event accounting can demonstrate efficiencies in the volumes of e-water used. | High: Post-event accounting and/or hindcasting demonstrates efficiencies in the volumes of e-water used; new arrangements in place and implemented; accounting arrangements have been subjected to review within their first three-five years of implementation | Positive: increasing performance or retention of high performance Neutral: Retention of low or moderate performance Negative: declining performance level |
| PI 7 Extent to which the level of conservatism in arrangements were commensurate with risk to other water users | Low: No evidence the level of conservatism in discretionary decision making considers the NSW <i>Water Management Act 2000</i> (NSW) water sharing principles; new knowledge and understanding not incorporated into any arrangements; no data available to | Moderate: Level of conservatism in discretionary decision making reflects some consideration of the NSW <i>Water Management Act 2000</i> (NSW) water sharing principles; new knowledge, understanding and data partially incorporated; not all | High: Level of conservatism in discretionary decision making is commensurate with adequate consideration of the NSW <i>Water Management Act 2000</i> (NSW) water sharing principles; new knowledge and understanding incorporated. | Positive: increasing performance or retention of high performance Neutral: Retention of low or moderate performance Negative: declining performance level |

| Indicator | Low performance | Moderate performance | High performance | Trend directions (since PPMs started) |
|--|---|--|---|---|
| | determine actual versus estimated losses. | arrangements have been subject to review of actual versus estimated losses | arrangements have been reviewed to determine actual versus estimated losses to refine assumed use arrangements. | |
| PI 8 Extent to which PPMs are being adaptively implemented | Low: Recommendations from previous years have not been adopted; barriers not identified; no evidence that the knowledge base is being continually improved. | Moderate: Any barriers to implementation are identified and discussed by the PPMs WG; supporting documentation (including procedures manuals) are updated as needed. | High: Identified barriers have been addressed and supporting documents amended as needed; general trend for year-on-year improvement in the implementation of PPMs. | <p>Positive: increasing performance or retention of high performance</p> <p>Neutral: Retention of low or moderate performance</p> <p>Negative: declining performance level</p> |

Annual ratings and trend directions summary

To use the template, refer to the analysis spreadsheet and

- enter the criteria ratings in the first column replacing placeholder text
- remove the shading from cells to correspond with the performance level reached for each indicator
- insert the appropriate trend arrow and text.

Table 9: Implementation monitoring ratings reporting summary template

| Criteria ratings | Focus area | Low performance | Moderate performance | High performance | Trends since PPMs started |
|----------------------|--|-----------------|----------------------|------------------|---------------------------|
| Consistency | Roles and responsibilities PI 1a, PI 1b | | | | ↑ increasing |
| Rating | Information quality PI 2a | | | | ↓ decreasing |
| | Impediments or barriers PI 3 | | | | → neutral |
| Efficiency | Information provision PI 2b | | | | |
| Rating | Risk identification PI 4 | | | | |
| | Adaptive response PI 5 | | | | |
| | Improvement changes PI 5 | | | | |
| | Balance within risk management PI 7 | | | | |
| Effectiveness | PPMs outcomes PI 6 | | | | |
| Rating | PPMs Implementation PI 8 | | | | |

Activation decision tree for PI 1b

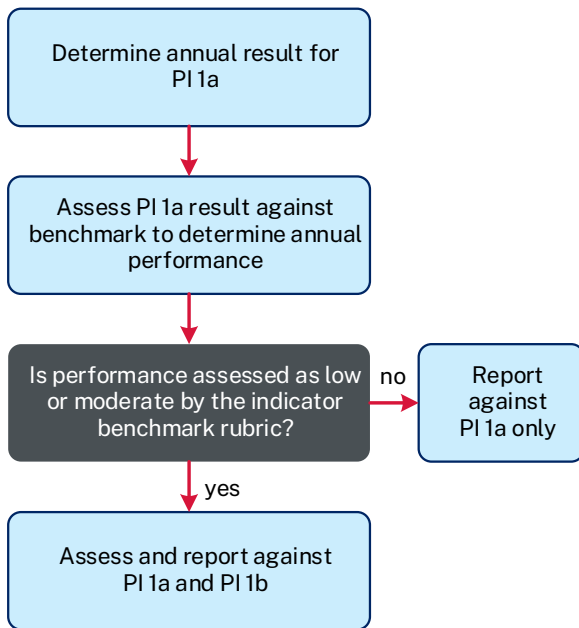


Figure 15: Activation decision tree for PI 1 b

Criteria rating guide

Use the criteria ratings determined using the rubric within the narrative reporting.

Table 10: Criteria synthesis rubric for combining indicator ratings

| Definition | Criteria rating | Annual indicators performance ratings | Multi-year indicator trend ratings |
|--|---------------------|---|------------------------------------|
| Evidence of strong performance, exceeds expectations | Excellent | No ratings below moderate | No negative trends |
| Evidence of positive performance, meets expectations | Good | Mostly high and moderate ratings; no low ratings for the follow indicators: <u>Consistency</u> , roles and responsibilities (PI 1a) <u>Efficiency</u> , information provision (PI 2b) | Mostly positive or neutral trends |
| Evidence of minimal positive performance, below expectations | Average | Mostly moderate and low ratings | Mostly neutral or negative trends |
| Evidence of unacceptable performance, fails to meet expectations | Unacceptable | No ratings above low | No positive trends |

Roles and responsibilities matrix

This matrix is based on Table 2 of the procedures manuals and will be used as a guide during annual information and data collection activities.

Table 11 Roles and responsibilities matrix

| Role | Organisation | Responsibilities |
|---|--|--|
| Regulator (shared resources) for actions under the Murray PPM Implementation Plan that are administered by MDBA River Operations | Basin Officials Committee (BOC) | <ul style="list-style-type: none"> • Agree any changes to the “Objectives and Outcomes for River Operations in the River Murray System” document • Approve those aspects of any large-scale environmental watering event trials which deviate from past river practice |
| Regulator (within NSW) for actions under the NSW PPM IP and actions within NSW required to support BOC agreements | NSW Department of Planning and Environment–Water | <ul style="list-style-type: none"> • The effective implementation of PPMs via NSW’s policy and regulatory framework • Adhere to the principles of the NSW PPM IP • Ensure the required statutory instruments are in place to give effect to agreed actions • Undertake annual review of the implementation of PPMs • Review and approve actions and any subsequent variations following the review phase of PPM operations • Assess assumed use/in-stream loss rates/methods as per principles and rules in this manual • Approve proposed trials if suitable conditions and mitigation measures are demonstrated • Consult with the PPM Working Group on any new or revised actions or supporting measure • Consult with WaterNSW, Environment and Heritage Group, MDBA and CEWO when conducting each annual review, including the annual evaluation and review report and its recommendations • Classification of take/return measurement at recognised environmental watering sites |

| Role | Organisation | Responsibilities |
|-----------------------------------|-----------------------|--|
| River operator (shared resources) | MDBA River Operations | <ul style="list-style-type: none"> • Manage release of environmental water at the wholesale level to meet NSW orders • Undertake bulk water accounting for Held Environmental Water and River Murray Increased Flow within the River Murray system according to agreed rules, including estimates of directed releases from the upper Murray storages |
| River operator (within NSW) | WaterNSW | <ul style="list-style-type: none"> • Work collaboratively with Environment and Heritage Group to develop orders for environmental water actions and recommend appropriate mitigation strategies • Assist in developing assumed use/in-stream loss rates/methods as per principles and rules in this manual • Undertake risk assessment of proposed events and recommended mitigation strategies in collaboration with Environment and Heritage Group prior to approval or rejection of water orders • Operate the river to give effect to agreed and trial actions for the delivery of PPMs, including advice and action on events (e.g., rain/inflows) that trigger changes to the action • Prepare an assumed use statement for an environmental watering event that relies on an assumed use method • Provide operational reporting on release of environmental water, including regular environmental water use accounting during events • Provide monthly reporting to environmental water holders on water usage and return flows • Submit an annual Environmental Releases River Operations Report on river operations involving actions • Support the development of new proposals and trials for the operation of PPMs • Classification of take/return measurement at recognised environmental watering sites |

| Role | Organisation | Responsibilities |
|-------------------------------------|--|--|
| Environmental water managers | NSW Department of Planning and Environment– Environment and Heritage Group | <ul style="list-style-type: none"> • Work collaboratively with other environmental water holders (i.e., CEWO and through the Southern Connected Basin Environmental Watering Committee – (SCBEWC) if appropriate) in the planning and coordinated use of environmental water in consultation with river operators, including risk assessments and mitigation measures • Work collaboratively with the river operator when developing orders for environmental water that rely on actions • In collaboration with other environmental water managers, submit an annual environmental watering statement to Department of Planning and Environment–Water that reports on the delivery / accounting issues for environmental watering relying on the use of PPMs • Development of new proposals for the operation of PPMs • As the environmental water manager for NSW, place water orders with WaterNSW |
| | Commonwealth Environmental Water Office (CEWO) | <ul style="list-style-type: none"> • Work collaboratively with Department of Planning and Environment–Environment and Heritage and other environmental water managers as appropriate, in the planning and coordinated use of environmental water in consultation with river operators, including risk assessments and mitigation measures • Work collaboratively with Environment and Heritage Group to develop orders for environmental water that rely on PPM actions and their mitigation measures, and to develop new proposals for the operation of PPMs • Provide input into the annual environmental watering statement prepared by Environment and Heritage Group |

| Role | Organisation | Responsibilities |
|------|--|---|
| | <p>MDBA via The Living Murray Initiative</p> | <ul style="list-style-type: none"> • Work collaboratively with Environment and Heritage Group and other environmental water managers as appropriate, in the planning and coordinated use of environmental water in consultation with river operators, including risk assessments and mitigation measures • Work collaboratively with Environment and Heritage Group to develop orders for environmental water that rely on PPM actions and their mitigation measures, and to develop new proposals for the operation of PPMs • Provide input into the annual environmental watering statement prepared by Environment and Heritage Group |