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Inspector-
General of
Water
Compliance

Monitoring and evaluation reporting of environmental outcomes – Stocktake report

Environmental Outcomes Program

June 2025

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Foreword

The Murray-Darling Basin is a vital national resource, supporting diverse ecosystems, agricultural activities, and communities. Over \$13 billion has been committed in water reform to date to improve the environment, and the community rightly expects this investment to deliver tangible outcomes, with clear and transparent reporting on progress.

In 2020, I was consistently hearing from the community that Commonwealth water management agencies were not doing their job. The ‘Steady as it flows’ assessment of the Murray-Darling Basin Authority (MDBA) river operations and the Commonwealth Environmental Water Holder (CEWH) which I published in 2022 highlighted the sentiment was somewhat misplaced, however I found significant gaps in communication and public understanding of how water was being managed and whether it was achieving its intended benefits.¹

In late 2023, I was hearing a consistent theme across all stakeholders who were asking ‘why can’t we see the environmental outcomes from the billions of dollars invested?’. When I looked for a simple status of environmental outcomes on the ground across the Basin in a single user-friendly report, I couldn’t find one. That’s a problem when demonstrated delivery of outcomes is critical to building trust in the Basin Plan.

In some ways, it’s an understandable problem to have in 2025. Only 13 years ago we didn’t even have a Basin Plan and investment was just commencing. We must continually remind ourselves to look at the big picture and remember where we have come from, and where we are now in terms of maturity in the way we are managing the Murray-Darling Basin.

However, there is evidence that some stakeholders are lacking confidence that governments and agencies

are monitoring, evaluating and reporting on the Basin Plan’s environmental outcomes. As the Inspector-General with oversight of agency performance against the Basin Plan, I wanted to know as a first step how the evaluation system was set up and also if the system has a fundamental gap in design. This report seeks to answer those two foundational questions.

My approach to performance assurance is simple; it is not enough for agencies to tell me they’re meeting their obligations; I need them to show me the evidence so I can make an independent assessment. I acknowledge the collaborative efforts of all agencies involved in this stocktake and their support of my approach and of transparency.

This report provides evidence that there is a legislated framework in place in the Basin Plan and that the Basin State agencies understand their role and are discharging their obligations to produce monitoring and evaluation reports to the Commonwealth. This is no small achievement given the collaborative federalism model which underpins the Basin Plan.

This stocktake highlights the efforts of Basin State and Commonwealth agencies in reporting on water management and environmental outcomes. Their ongoing efforts in providing information about water management is commendable.

I note a recurring theme which I am seeing in this piece of work and others; there are lots of plans. As part of the stocktake we received more than 50 management plans to demonstrate monitoring and evaluation reporting. Plans are great, but unless they are fully implemented, they don’t deliver the outcomes promised, and that’s why evidence-based monitoring and evaluation reporting is so critically important.

¹ ‘Steady as it flows’ An assessment of River Murray operations and environmental water management ([igwc.gov.au](https://www.igwc.gov.au))

Navigating and interpreting how the 200+ reports in this stocktake fit together is difficult. While the presence of legislated frameworks provide reassurance that reporting and monitoring must be undertaken, their effectiveness remains a separate and unresolved consideration.

These 200+ reports then cite various technical reports and data, typically at a catchment scale, which may not always be accessible to the public. This can make it difficult to identify the key evidence used for Basin-scale evaluations. Improved publication of underlying data would help deliver further transparency and support improved trust and confidence.

A legislated framework is in place and the reports are being submitted, but a recent audit by the Australian National Audit Office (ANAO) on 'Strategic Water Purchasing – Bridging the Gap 2023' highlighted that whilst there were evaluations of the program undertaken by the Department of Climate Change, Energy, the Environment and Water, the evaluations did not link the outputs (water recovered) to the program purpose under the Basin Plan (bridging the gap to sustainable limits) or to environmental outcomes under the Basin Plan.² This raises questions about whether the design and content of evaluations is part of a systemic risk.

There have been annual evaluations undertaken by the MDBA (and more detailed on a five yearly basis), but to date they haven't provided the outcomes-based information people are looking for to clearly assess performance of the Basin Plan. In part, this is expected given it is still relatively new in macro terms. Also, implementation of the Basin Plan has occurred at a much slower pace than originally anticipated and scheduled.

Delays in Basin Plan implementation are influencing the ability to demonstrate its impact on environmental outcomes. Key elements of the Basin Plan were scheduled to be completed across the Basin in 2019 (e.g. accreditation and implementation of water resource plans). A further tranche of key reforms were due for completion in 2024 (e.g. the recovery or reconciliation of 605GL through the Sustainable Diversion Limit adjustment mechanism). As we sit here in 2025, we are still not able to fully assess whether the Basin Plan is working as intended. The reality is we are still in the middle of implementation with key reforms still underway.

Regardless, as a matter of good practice, evaluation reports need to mature over time to support confidence in the Basin Plan. Whilst I haven't in this report examined the quality of report content, I can observe from my broader work over three years that there are some specific parts of the reporting system which are not meeting the specific needs of 2025. Developing clear, detailed and consistent expectations and requirements is difficult and time consuming, however it is necessary to drive continuous improvement.

The MDBA is currently conducting its 5-yearly evaluation of the Basin Plan and is due to report this year (2025).³ I note that a large piece of the puzzle has recently been put in place. Basin-wide condition monitoring by scientists is an essential evidence base for any meaningful assessment of environmental outcomes. The MDBA have recently completed a Sustainable Rivers Audit as an input to their 2025 Basin Plan Evaluation. These results should become available mid this year, providing an opportunity to reduce the gap between expectations and data.

The five yearly reports from Basin State agencies, combined with an independent scientific evidence base on condition monitoring provide the opportunity for the first detailed and meaningful assessment and evaluation of the impact the Basin Plan is having on the environment across the entire Murray-Darling Basin.

As the 10-year review of the Basin Plan approaches in 2026, it is not sufficient to merely produce evaluation reports; these reports must effectively demonstrate performance against outcomes and tell the story of the Basin, providing a clear narrative of progress and impact (or otherwise).

I am satisfied with the frameworks, effort and activity, however the unanswered question at this point is the design of outcomes-based metrics and the quality of the content of public reporting. The next step is to see what the MDBA produce in the 5-yearly evaluation in mid-2025. I will monitor throughout this year before committing to any further oversight work in this area.



The Honourable Troy Grant
Inspector-General of Water Compliance

² [Strategic Water Purchasing – Bridging the Gap 2023 \(anao.gov.au\)](https://www.anao.gov.au/reports-and-publications/strategic-water-purchasing-bridging-the-gap-2023)

³ [Framework for the 2025 Basin Plan Evaluation \(mdba.gov.au\)](https://www.mdba.gov.au/framework-for-the-2025-basin-plan-evaluation)



Key insights

We identified eight key insights from our stocktake of reports on environmental outcomes in the Murray-Darling Basin. These insights highlight the complexity of the reporting requirements and their impact on managing the Basin's water.









-  **Multi-faceted reporting:** It is very difficult to navigate and understand how the large number of publicly available reports are interconnected. These reports then reference numerous technical reports and data, usually at a catchment scale, which may not always be publicly available. This may present challenges in determining the key evidence used to inform Basin-scale evaluation.
-  **Structured reporting frameworks:** The stocktake of reports shows that the legislated framework in place for monitoring and evaluation reporting is clear and has been implemented.
-  **Roles and responsibilities:** It is clear within the legislated framework that Basin State and Commonwealth agencies have well defined roles and responsibilities. Under this framework the MDBA reports on Basin-wide outcomes, including water usage and environmental health, while the CEWH reports on the use and outcomes of Commonwealth environmental water. Basin State agencies are responsible for reporting on their water resource plans, compliance with sustainable diversion limits, and local environmental outcomes.
-  **Compliance:** There is evidence that agencies are discharging their roles and responsibilities to produce monitoring and evaluation reports and are committed to providing timely information about water management.
-  **Complex reporting needs:** The management of the Murray-Darling Basin requires detailed reporting across complex themes – environmental, social and economic, each of which have multiple indicators. This complexity is compounded by the involvement of multiple agencies and differing approaches to reporting, and reporting at different geographical scales – such as catchments, water resource plan areas, and Basin-scale.
-  **Aggregation at Basin-scale is a challenge:** The complex reporting requirements (mentioned previously in Complex reporting needs insight) may contribute to difficulties in synthesising information in a way that meaningfully reflects Basin-wide trends or progress towards achieving environmental outcomes.
-  **Potential for continuous improvement:** There are monitoring and evaluation reports available to support informed decision-making and improved management of water resources in response to changing conditions.
-  **Information access and availability:** The public availability of these reports via agency websites shows that the community has access to monitoring and evaluation information. Navigating these websites however can be challenging because the information is often deeply embedded within multiple layers of menus and subpages, making it difficult for individuals to locate the necessary information efficiently.

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Introduction

This stocktake is part of the Inspector-General's 2024–25 annual work plan and a key deliverable of the Environmental Outcomes Program. It addresses the evolving role of the Inspector-General to oversee the performance of Commonwealth and Basin State water management agencies under section 215C of the *Water Act 2007* (Cth) (the Water Act). As the 2026 review of the *Basin Plan 2012* (Cth) (the Basin Plan) draws nearer, there is a growing shift in public attention from implementation to evaluating the Basin Plan's effectiveness in achieving environmental outcomes. The Inspector-General has observed that this shift is already in its early stages.

During the amendment process of the Restoring Our Rivers Bill in late 2023, stakeholders expressed concerns about environmental water outcomes throughout the Basin. Research commissioned by the Inspector-General also revealed that there is a strong community consensus on the importance of effective water management in the Murray-Darling Basin. The study also uncovered a gap in awareness among participants regarding the extent and details of water management in the Basin, which also includes monitoring and evaluation reporting.⁴ This underscores the strong need for clear and accessible information relating to water management in the Basin.

This is a stocktake of publicly available reports from Commonwealth and Basin State agencies that meet the monitoring and evaluation requirements and obligations related to environmental outcomes, including for environmental water. The scope of the stocktake focuses on monitoring and evaluation reporting related to Basin Plan environmental outcomes. It does not examine water allocation, compliance enforcement, socioeconomic impacts, or the effectiveness of specific policy measures.

This stocktake does not draw conclusions about the environmental outcomes achieved or whether reporting obligations are being met, nor does it assess the contents of the reports. Instead, the stocktake examines if there is a legislated framework in place for monitoring and evaluation reporting.

⁴ [Murray-Darling Basin community perceptions research 2023 – Understanding the Audience \(igwc.gov.au\)](#)



Methods

Document collection

The Inspector-General commenced a stocktake on monitoring, evaluation and reporting of environmental outcomes available in the public domain. This stage spanned from July through to September 2024 and involved navigating numerous Commonwealth and Basin State agency websites (Table 1) to identify relevant monitoring, evaluation and reporting documents.

Early in the process, it became evident that many reports referenced additional technical reports or data particularly at smaller, catchment-scale levels and across various monitoring indicators, this resulted in larger-than-expected volume of reports and information. This complexity meant that the focus of the stocktake was refined to prioritise monitoring and evaluation reporting related to environmental outcomes. A substantial amount of time and effort was invested to ensure a comprehensive list was compiled.

Reports were collated using a spreadsheet which contained the name of the agency associated with the report, report title, a brief description or purpose of the report, the year of the most recently published document, the document's location, matter reporting and public availability (Table 2).

Commonwealth and Basin State agencies were contacted to obtain further information and verify the completeness of the stocktake.

Table 1. List of agencies from which documents and reports were collected for the stocktake

Agency name	Abbreviation	Commonwealth or Basin State agency	Agency homepage
Commonwealth Department of Climate Change, Energy, the Environment and Water	Commonwealth DCCEEW	Commonwealth	DCCEEW Website Homepage
Murray-Darling Basin Authority	MDBA	Commonwealth	MDBA Website Homepage
NSW Department of Climate Change, Energy, the Environment and Water	NSW DCCEEW	New South Wales	NSW Website Homepage
Department of Energy, Environment and Climate Action	DEECA	Victoria	Victoria Website Homepage
Department of Local Government, Water and Volunteers	DLGWV	Queensland	QLD Website Homepage
Department for Environment and Water	DEW	South Australia	SA Website Homepage
Environment, Planning and Sustainable Development Directorate	EPSDD	Australian Capital Territory	ACT Website Homepage

Table 2. Description of spreadsheet headings provided to respondents and used to request information

Heading	Explanation
Agency	<p>The business or organisation associated with the report.</p> <p>This report reflects agency names at the time of publication. Please note that agency names may change over time, so earlier monitoring and evaluation reports may reference agencies under different names.</p>
Report Title	Name of document.
Description/Purpose	Brief summary of document.
Document Type	Category which document belongs to. Documents were categorised as Legislative Document, Management Plan, Technical Report, Monitoring Information, Matter Report or Other. Further explanation can be found in Table 3.
Year of Most Recent Document	The month and year the document was last published.
Location	Where the document can be found. All are hyperlinked (current as at date of publication) and can be accessed via the hyperlink provided.
Matter Reporting	Linked each document to the Matter Reporting in Schedule 12 of the Basin Plan. Each document was reviewed to see if it aligned with the specified matters outlined in the schedule.
Is the reporting/ information publicly available (Y/N)	Indicated whether the document was publicly available. Each listed document was marked with Y (yes) or N (no) to show if it could be accessed by the public.

Commonwealth and Basin State agency involvement

The Inspector-General of Water Compliance contacted Commonwealth and Basin State agencies in October 2024 to request they review the preliminary list of publicly available documents for accuracy and coverage. Agencies were asked to fill any information gaps, verify if information collected was correctly linked to the Basin Plan and, if appropriate, provide additional information on any other monitoring and evaluation reporting undertaken.

The information provided by Commonwealth and Basin State agencies was categorised and summarised to provide a snapshot of current monitoring and evaluation reporting, including the range of document types and reporting formats used (Table 3). As the stocktake is a snapshot of current monitoring and evaluation reporting, only the most recently published version of each report was included in the stocktake rather than providing a full list of all published versions. The finalised stocktake table is available separately on the IGWC website.⁵

Table 3. Categorisation of document types

Category	Document Type	Example
Legislative Documents	Management acts, water acts and water allocation plans	Water Management Act 2000 (NSW)
Management Plan	Frameworks, strategy, guideline, roadmap, program plan, implementation plan, research and monitoring program	Basin-wide environmental watering strategy
Technical Report	Paper, report, report and story map	Nesting waterbird colony population size monitoring using automated counts on drone imagery
Monitoring Information	Monitoring data, spatial data layers of inundation, monitoring plan, monitoring program, survey, survey and data collection and monitoring report	WaterInsights from WaterNSW
Matter Report	Implementation report and report narrative	NSW Basin Plan Matter 8 Report 2024
Other	Websites, interactive map, story-map and statutory advisory group	Website from the ACT and Region Catchment Management Coordination Group

5 [Monitoring and evaluation reporting of environmental outcomes – stocktake spreadsheet \(igwc.gov.au\)](#)

Hierarchy of monitoring and evaluation reporting requirements

Understanding the hierarchy of monitoring and evaluation reporting requirements helps clarify the relationships and responsibilities among various Commonwealth and Basin State agencies and stakeholders. This hierarchy is established by the Water Act and Basin Plan to create a cohesive framework that provides a legislative and operational foundation. This framework aims to ensure reporting activities are aligned with the overarching goals of sustainable water resource management and environmental accountability in the Basin.

Legislation

Water Act 2007

The Water Act establishes critical provisions that guide the monitoring and evaluation reporting (MER) framework within the Basin Plan. These provisions ensure sustainable water resource management and accountability:

- **Section 21:** Defines the objectives and purposes of the Basin Plan, emphasising the need to achieve and monitor environmentally sustainable levels of water use. This section underpins Chapter 8 (Environmental Watering Plan), which ensures the delivery of water for the environment to restore and maintain ecosystems while aligning with sustainable diversion limits (SDLs).
- **Section 22:** Mandates the inclusion of provisions for monitoring and evaluating the Basin Plan's effectiveness. This directly informs Chapter 13 (Monitoring and Evaluation Program), which supports evidence-based assessments of the Basin Plan's progress and outcomes.
- **Section 172:** Requires the Murray-Darling Basin Authority (MDBA) to report on the Basin Plan's effectiveness and Basin States' compliance. This reporting obligation is operationalised through Chapter 13 and Schedule 12 of the Basin Plan, which provide frameworks for transparency, accountability, and achieving the Basin Plan's environmental, social, and economic goals.

These legislative sections work together to form the foundation of the Basin Plan's operational effectiveness.

Basin Plan 2012

The Water Act requires the MDBA to prepare a strategic plan for the integrated and sustainable management of water resources. This resulted in the development of the Basin Plan by the MDBA to manage the Basin as a connected system. The aim of the Basin Plan is to bring the Basin back to a healthier and sustainable level, whilst continuing to support farming and other industries for the benefit of the Australian community.

The Basin Plan outlines various provisions directly relating to MER for environmental outcomes. These provisions span several chapters and schedules, detailing specific requirements for assessing, tracking, and reporting progress towards achieving the environmental objectives of the Basin Plan. These chapters interlink to form a cohesive MER framework for environmental outcomes (Table 4).

Table 4. Key chapters in the Basin Plan relating to MER for environmental outcomes

Chapter	Title	Purpose
4	Identification and management of risks to Basin water resources	Identifies risks to water resources and underpins the MER framework by aligning risk management with adaptive and evidence-based practices essential for sustainable water resource management in the Basin.
5	Management objectives and outcomes to be achieved by Basin Plan	Provides the foundational framework for planning, delivering, and evaluating environmental water management, ensuring that monitoring results directly contribute to achieving and reporting on the Basin Plan's environmental outcomes.
6	Water accounting	Provides the technical foundation for water use data collection and reporting. Accurate water accounting enables robust evaluations of environmental outcomes and supports transparency and accountability in implementing the Basin Plan's objectives.
8	Environmental watering plan	Ensures that environmental watering decisions are guided by robust monitoring and reporting, enabling the achievement of the Basin Plan's ecological objectives through adaptive management.
9	Water quality and salinity management plan	Integrates with MER by establishing clear environmental quality objectives, mandating ongoing monitoring, and linking findings to adaptive management. It ensures water quality and salinity management aligns with broader goals of improving the health of the Murray-Darling Basin's ecosystems.
10	Water resource plan requirements	Embeds MER requirements into water resource plans, ensuring that environmental outcomes are consistently monitored, reported, and aligned with the Basin Plan's objectives.
12	Water trading rules	Water trading rules facilitate the trading of water rights within the Murray-Darling Basin, allowing for more efficient water use and allocation. Importantly, it also ensures that water is available for environmental purposes, such as maintaining the health of rivers, wetlands, and floodplains.
13	Program for monitoring and evaluating the effectiveness of the Basin Plan	Provides the structure and processes needed to evaluate environmental outcomes comprehensively and adaptively manage water resources across the Murray-Darling Basin.

Of particular importance to environmental outcomes are the reporting requirements stipulated in Schedule 12 of Chapter 13. Schedule 12 outlines specific matters that track progress toward environmental, social, and economic outcomes. Matter reports form a comprehensive MER framework to ensure environmental outcomes are achieved. These reports guide the assessment of progress toward key objectives, with relevant matter reports for the stocktake listed in Table 5.

Table 5. Relevant Basin Plan Schedule 12 Matter reports

Item	Matter	Reporter	Reporting Timeframe	Relevant Chapter
Basin Plan as whole				
1	The transparency and effectiveness of the management of the Basin water resources.	MDBA	5 yearly	5
2	The protection and restoration of water-dependent ecosystems and ecosystem functions in the Murray-Darling Basin, including for the purposes of strengthening their resilience in a changing climate.	MDBA	5 yearly	5
3	The extent to which the Basin Plan has affected social, economic and environmental outcomes in the Murray-Darling Basin.	Department, MDBA	5 yearly	5
4	The effectiveness of the management of risks to Basin water resources.	Basin States, MDBA	Annual	4, 5, 10
5	The transition to long-term average sustainable diversion limits.	Department	Annual	5, 6
6	The extent to which local knowledge and solutions inform the implementation of the Basin Plan.	Basin States, MDBA, CEWH	Annual	6, 8, 10
Environmental watering plan				
7	The achievement of environmental outcomes at a Basin scale, by reference to the targets in Schedule 7.	MDBA, CEWH	5 yearly	8
8	The achievement of environmental outcomes at an asset scale.	Basin States	5 yearly	8
9	The identification of environmental water and the monitoring of its use.	Basin States, CEWH, MDBA	Annual	8
10	The implementation of the environmental management framework (Part 4 of Chapter 8).	Basin States, CEWH, MDBA	Annual	8
Water quality and salinity				
11	The fitness for purpose of the Basin water resources.	MDBA	5 yearly	5, 9
12	Progress towards the water quality targets in Chapter 9.	Basin States, MDBA	5 yearly	9
13	The implementation, where necessary, of the emergency response process for critical human water needs.	Basin States, MDBA, Department	Annual	11
14	The implementation of the water quality and salinity management plan, including the extent to which regard is had to the targets in Chapter 9 when making flow management decisions.	Basin States, MDBA, CEWH	Annual	9
16	The implementation of water trading rules.	Basin States, MDBA	Annual	12

Water resource planning				
17	The certainty of access to Basin water resources.	MDBA	5 yearly	5, 10
18	The efficiency and effectiveness of the operation of water resource plans, including in providing a robust framework under a changing climate.	Basin States, MDBA	5 yearly	10
19	Compliance with water resource plans.	Basin States	Annual	10
21	The accountability and transparency of arrangements for water sharing.	Basin States	Annual	10

Agency roles and responsibilities

MDBA

The Murray-Darling Basin Authority (MDBA) has key legislative responsibilities under the Water Act and the Basin Plan to support effective MER for environmental outcomes. These responsibilities are critical to achieving the sustainable management of the Basin's water resources.

Under the Water Act, the MDBA must:

- Ensure that the Basin Plan aligns with the Water Act's objectives, including the promotion of sustainable water use and the protection of environmental assets.
- Oversee reporting of sustainable diversion limits (SDLs), which are crucial for balancing water use with ecological needs.
- Provide detailed reports to the Australian Government and stakeholders, ensuring accountability in water management.

- Use evidence-based approaches to address emerging challenges in water resource management.

The Basin Plan provides detailed guidelines for achieving environmental, social, and economic outcomes. Key MER responsibilities for the MDBA include:

- Assessing and optimising the use of environmental water to improve ecosystem health, as specified in Chapter 8.
- Tracking progress toward environmental objectives, such as water quality, ecosystem function, and species diversity.
- Reporting on sustainable water use via Chapter 9 which requires reporting on SDL compliance and water quality improvements.
- Identifying and addressing risks to water availability and ecosystem health under Chapter 4.

CEWH

The Commonwealth Environmental Water Holder (CEWH) has critical legislative responsibilities under the Water Act and the Basin Plan to contribute to MER for environmental outcomes. These responsibilities support the effective management of Commonwealth environmental water to support the ecological health of the Murray-Darling Basin.

Under the Water Act, the CEWH is tasked with:

- Managing water holdings to maximise environmental benefits, ensuring the sustainable use of water resources.
- Promoting environmental sustainability by contributing to the restoration and protection of ecosystems and biodiversity, aligning with the Water Act's objectives.
- Monitoring and evaluating on the ecological outcomes of environmental water use and reporting these findings to ensure accountability and inform future decisions.

The Basin Plan further refines these responsibilities and the CEWH:

- Plays a pivotal role in implementing the Environmental Watering Plan (Chapter 8) by identifying priorities, delivering water to key sites, and evaluating its ecological impacts.
- Supports efforts to meet water quality and salinity targets (Chapter 9), ensuring environmental water use contributes to improved ecosystem health.
- Participates in monitoring programs (Chapter 13) to assess the effectiveness of environmental watering activities and contribute to broader MER requirements.
- Identifies and manages risks to environmental outcomes (Chapter 4), such as climate variability and changes in water availability.

Basin State agencies

Under the Basin Plan, Basin State agencies have these three obligations:

- Collect environmental monitoring data on environmental indicators such as water quality, salinity, and ecological health.
- Assess the effectiveness of the Basin Plan by evaluating whether the expected environmental outcomes are being achieved.
- Report on their findings annually and every five years to the MDBA.

The Inspector-General of Water Compliance

The independent Inspector-General has a key role supporting effective implementation of the Basin Plan so that environmental outcomes are met. The Inspector-General broadly has the roles of:

- Monitoring and overseeing the performance of functions and exercise of powers by agencies of the Commonwealth.
- Monitoring and overseeing relevant Commonwealth, and Basin state and territory government agencies' performance in the management of Basin water resources.
- Enforcing compliance with Commonwealth laws that regulate the management of Basin water resources and the provision of water markets information.
- Engaging with the Australian community on the management of Basin water resources.

Monitoring and evaluation reporting requirements

Monitoring and evaluation reporting is essential to achieving the environmental outcomes outlined in the Basin Plan. The current delivery of monitoring and evaluation reporting by key Basin State agencies, the Murray-Darling Basing Authority (MDBA), and the Commonwealth Environmental Water Holder (CEWH), is critical for making progress toward goals such as healthy ecosystems, restored habitats, and improved resilience to climate change and other risks and threats.

Monitoring practices, evaluation methods, and reporting mechanisms are integral to these activities. Basin State agencies focus on water quality, ecosystem health, and environmental water delivery. The MDBA coordinates Basin-wide monitoring programs, while the CEWH tracks the outcomes of Commonwealth environmental water use.

This section outlines the approaches these agencies take in discharging their roles and responsibilities to produce monitoring and evaluation reports.

Monitoring practices

Monitoring practices employed by Basin State agencies, the MDBA, and the CEWH are designed to assess progress toward the environmental outcomes specified in the Basin Plan.

Basin State agencies

Basin State agencies monitor local and regional environmental conditions, focusing on water quality, flow regimes, ecosystem health, and biodiversity. Key practices include:

- **Water quality monitoring:** Measuring salinity, nutrient levels, and other parameters to assess compliance with water quality targets.
- **Hydrological monitoring:** Tracking water flow, storage and environmental water delivery.
- **Ecological surveys:** Monitoring vegetation, fish, and bird populations to assess ecosystem responses to environmental watering.
- **Groundwater assessments:** Examining groundwater levels and salinity to understand their role in supporting ecological outcomes.

MDBA

The MDBA oversees Basin-wide monitoring programs, integrating data from state agencies and Commonwealth programs. Key practices include:

- **Ecosystem condition assessments:** Evaluating long-term trends in ecosystem health through initiatives like the Sustainable Rivers Audit.

- **Salinity and water quality monitoring:** Operating the Basin Salinity Management Strategy to address salinity risks.
- **Hydrological modelling:** Using models to predict ecological responses and refine water management strategies.

CEWH

The CEWH focuses on monitoring the outcomes of Commonwealth environmental water delivery. Practices include:

- **Targeted ecological monitoring:** Assessing the impact of environmental watering on priority ecosystems, species, and habitats.
- **Water use tracking:** Monitoring how and where environmental water is used to optimise future allocations.
- **Collaborative projects:** Working with stakeholders to monitor shared outcomes, such as vegetation recovery or fish breeding events.

Collectively, these practices provide a framework for achieving and assessing environmental outcomes, ensuring the Basin Plan's objectives are met.

Evaluation methods

Evaluation methods employed by Basin State agencies, the MDBA, and CEWH are designed to assess the effectiveness of water management practices in achieving the environmental outcomes specified in the Basin Plan.

Basin State agencies

State agencies evaluate environmental outcomes at local and regional levels using methods such as:

- **Trend analysis:** Comparing data over time to identify patterns in water quality, flow regimes, and ecological responses.
- **Impact assessments:** Evaluating the effects of water delivery and management actions on specific ecosystems, such as wetlands or riparian zones.
- **Compliance evaluations:** Assessing adherence to water quality and sustainable diversion limit (SDL) targets.
- **Ecological indicators:** Using species populations, vegetation health, and habitat conditions as proxies for ecosystem health.

MDBA

The MDBA employs a Basin-wide approach, using standardised methods. Key methods include:

- **Integrated reporting frameworks:** Collating data from state agencies and Commonwealth programs to assess overall progress toward Basin Plan objectives.

- **System-scale evaluations:** Assessing ecological health across the Basin, through their 5-yearly Basin Plan Evaluation.
- **Scenario modelling:** Evaluating potential outcomes of different water management strategies to inform adaptive decision-making.
- **Multi-criteria analysis:** Weighing environmental, social, and economic factors in water resource planning.

CEWH

The CEWH focuses on evaluating the outcomes of Commonwealth environmental water delivery. Methods include:

- **Ecological response evaluations:** Measuring the effectiveness of environmental watering actions in supporting biodiversity, habitat restoration, and ecosystem resilience.
- **Targeted case studies:** Conducting detailed studies on specific watering events to refine future delivery strategies.
- **Collaborative evaluations:** Partnering with state agencies, scientists, and communities which contribute to comprehensive assessments.

Reporting mechanisms

Reporting mechanisms employed by Basin State agencies, the MDBA, and the CEWH are intended to provide transparency and accountability in achieving the environmental outcomes specified in the Basin Plan 2012. These mechanisms include structured reporting frameworks, collaborative reporting initiatives, and public accessibility of results.

Basin State Agencies

Basin State agencies report on water management and ecological health at the regional level, contributing to Basin-wide reporting. Key mechanisms include:

- **Annual reporting:** Providing updates on the implementation of accredited water resource plans, water quality targets, and ecological outcomes to the MDBA.
- **SDL compliance reporting:** Monitoring and documenting adherence to sustainable diversion limits.
- **Thematic reports:** Focusing on specific issues like salinity management, environmental watering outcomes, or groundwater assessments.
- **Data-sharing platforms:** Contributing real-time data to MDBA systems to support integrated reporting.

MDBA

The MDBA consolidates regional data into Basin-wide reports, and are responsible for ensuring alignment with the Basin Plan's objectives and that water resource management contributes to the long-term sustainability of the Murray-Darling Basin's environment, economy, and communities. Reporting mechanisms include:

- **Basin Plan annual reports:** Summarising progress toward achieving environmental, social, and economic outcomes, including water quality and ecosystem health.
- **Compliance:** Documenting adherence to SDLs in the Register of Take, and water resource plan requirements across the Basin through accreditation assessment.
- **State of the Environment reports:** Providing periodic assessments of the overall health of the Murray-Darling Basin ecosystems.

- **Interactive dashboards and tools:** Offering stakeholders and the public access to water management data.

The MDBA also undertakes additional reviews such as the "Review of the Environmental Watering Plan". This review assessed the effectiveness of the Environmental Watering Plan (EWP) in contribution to achieving the environmental objectives for the water-dependent ecosystems of the Murray-Darling Basin. The review found that the EWP had effective coordination in planning, prioritisation and in the use of environmental water across the Basin. Substantial changes were not needed but potential improvements in the implementation of the EWP was identified and potential improvements to be addressed for the Basin Plan review 2026.

These improvements were in relation to:

- First Nations access to cultural water
- Adaptative management
- Climate adaptation and objectives and targets setting
- Alignment within the EWP and to other Basin Plan chapters
- Regulatory power and interpretation of the EWP.

CEWH

The CEWH focuses on reporting the use and outcomes of Commonwealth environmental water through:

- **Annual watering reports:** Highlighting water deliveries, ecological responses, and key achievements.
- **Monitoring program reports:** Documenting results from ecological monitoring and targeted case studies.
- **Public engagement:** Sharing insights through newsletters, fact sheets, and online platforms to promote understanding of environmental water use.

Stocktake Analysis

In response to the stocktake request from the Inspector-General, Basin State and Commonwealth agencies submitted 221 reports.⁶ These reports covered a broad range of topics summarised in Figure 1, with 95% publicly available.

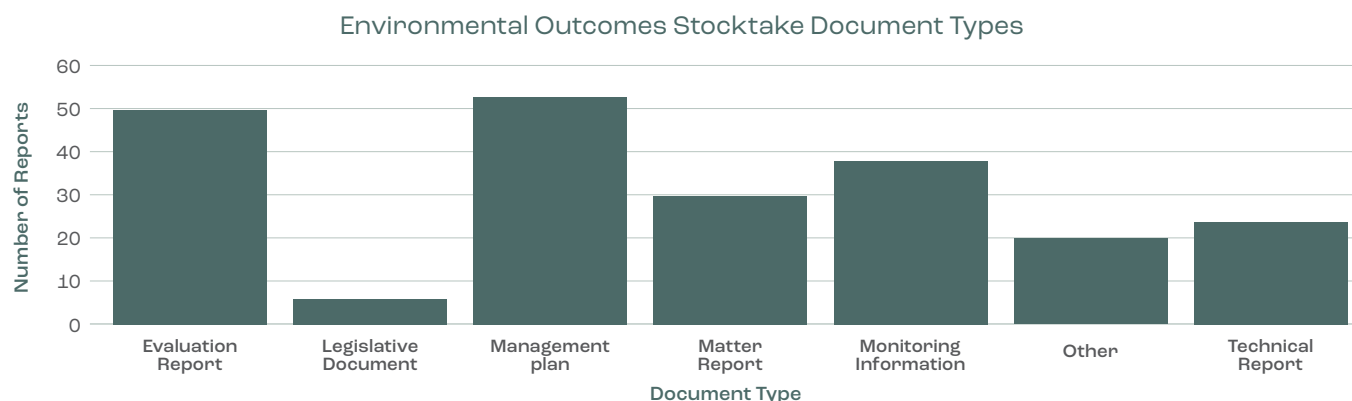


Figure 1. Document types of information received

Figure 2 illustrates the relationship between various document categories and the complexity of monitoring and evaluation reporting of environmental outcomes. High-level legislative documents establish legal guidelines and regulatory context, informing management plans and frameworks. These plans and frameworks provide structure, guidelines, and objectives for evaluation reports. Technical reports, monitoring data, and other supporting information flow upwards to inform evaluation reports, creating a cyclical process that allows for continuous improvement.

This interconnected process shows how evaluation reports are informed by both top-down strategies and ongoing data collection from multiple levels. Coordination across agencies is required to present a cohesive view of environmental outcomes.

Monitoring and evaluation occur at different timeframes, with annual reporting providing regular updates on progress and short-term changes, while five-yearly evaluations offer a more comprehensive assessment of long-term trends and the overall effectiveness of water management strategies. Integrating both approaches may support a balance between responsiveness to immediate issues and a broader perspective on the Basin's environmental, social, and economic sustainability.

Communication of monitoring and evaluation reporting by Basin States and Commonwealth agencies via publicly available reports, websites, newsletters, story-maps, and other media demonstrates a commitment to transparency and community engagement. However, cut-through appears to be an ongoing challenge.

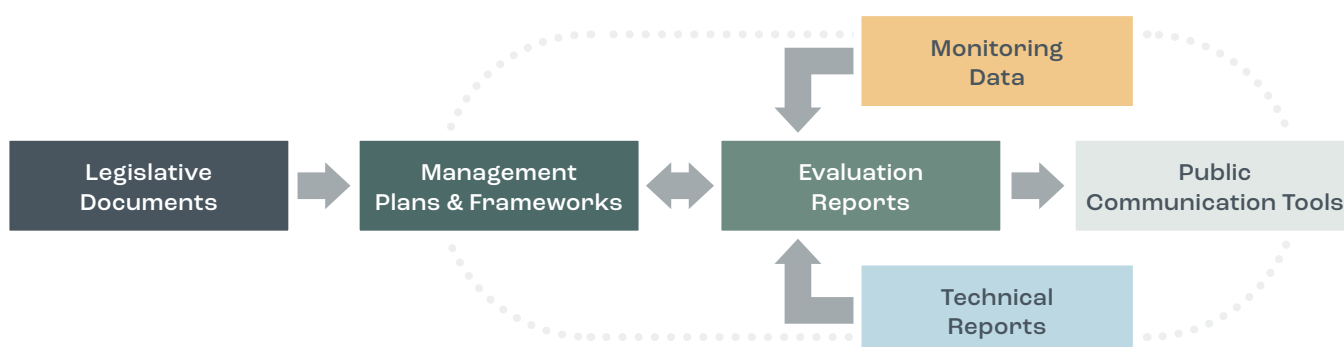


Figure 2. Relationship between different document types involved in monitoring and evaluation reporting of environmental outcomes

⁶ [Monitoring and evaluation reporting of environmental outcomes – Stocktake spreadsheet \(igwc.gov.au\)](#)

