



Australian Government

Commonwealth Environmental Water Office

Commonwealth Environmental Water Holder Response to the report *‘Outcome Evaluation of the Commonwealth Environmental Water Holder’s Long-Term Intervention Monitoring (LTIM) and Environmental Water Knowledge and Research (EWKR) Projects’*

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INTRODUCTION

In early 2020, the Commonwealth Environmental Water Office (CEWO) contracted Water's Edge Consulting and Associates to undertake an independent scientific evaluation (the evaluation) of the Long-Term Intervention Monitoring (LTIM) and Environmental Water Knowledge and Research (EWKR) projects.

The aim of the evaluation was to assess the success of the [LTIM](#) and [EWKR](#) projects and inform the future design of the CEWO's monitoring, evaluation, and research activities beyond June 2022.

Water's Edge Consulting and Associates engaged a team of independent expert scientists to undertake the evaluation. For LTIM - Prof. Barry Hart, Assoc. Prof. Anthony Ladson, and Dr Wayne Robinson¹; and for EWKR - Prof. Andrew Boulton and Prof. Peter Davies². A high-level review across both the LTIM and EWKR projects was also undertaken by Prof. Gene Likens³.

The evaluation assessed the LTIM and EWKR projects against the following five focal areas:

- the extent to which the projects' objectives were achieved
- the extent to which the projects supported the CEWO's legislative reporting requirements
- how well the environmental outcomes were either demonstrated (LTIM) or supported the achievement of environmental outcomes (EWKR)
- how well findings were communicated to all stakeholders
- the extent to which the projects were fit for purpose.

The evaluation assessment methodology was complex and robust utilising three lines of evidence (116 surveys, 78 interviews, and project reports) to answer 150 key evaluation questions (KEQs) and assessed four performance measures relating to effectiveness, appropriateness, impact, and efficiency for each project.

The evaluation rated the LTIM and EWKR projects as 'moderately effective' against each of the five focal areas listed above (rating scale range was minimally effective, moderately effective, effective). The evaluation provided 16 recommendations for improvements and considerations, which are addressed in the response to recommendations below.

The evaluation report [*Outcome Evaluation of the Long-Term Intervention Monitoring (LTIM) and Environmental Water Knowledge and Research (EWKR) Projects for the Commonwealth Environmental Water Office*⁴] was delivered to the CEWO in January 2021 and can be accessed via the [CEWO websites page on the evaluation](#).

1 Hart, B.T, Ladson, T. and Robinson, W. (2020). *Independent Expert Evaluators' Assessment of the Outputs and Outcomes of the Long-Term Intervention Monitoring (LTIM) Project*, Stage 1 Report, Appendix F.

2 Boulton, A.J and Davies, P.E.D. (2020). *Independent expert evaluators' assessment of the outputs and outcomes of the Environmental Water Knowledge and Research (EWKR) Project*, Stage 1 Report, Appendix D.

³ Likens, Gene E. (2020). *Review of Evaluative Process and Outputs from the Program Evaluation of the LTIM and EWKR Projects for the CEWO*, Appendix G

⁴ Water's Edge Consulting and Associates, (2021) *Outcome Evaluation of the Long-Term Intervention Monitoring (LTIM) and Environmental Water Knowledge and Research (EWKR) Projects for the Commonwealth Environmental Water Office*, Stage 1 Report.

BACKGROUND

The *Water Act 2007* and the *Basin Plan 2012* (Basin Plan) outline monitoring, evaluation, and reporting requirements that the Commonwealth Environmental Water Holder (CEWH) must comply with, including annual reporting on the management of Commonwealth environmental water, and contribution towards the achievements of Basin Plan watering objectives.

Between 2014 - 2019 the CEWH invested in the LTIM and EWKR projects to inform reporting requirements and adaptive management of Commonwealth environmental water. The Selected Area component of the LTIM project ended on 30 June 2019, and the Basin-scale evaluation component finished on 30 June 2020. The EWKR project ended on 30 June 2019.

From July 2019 – June 2022 the CEWO is continuing the LTIM and EWKR projects and additional activities under an integrated Monitoring, Evaluation and Research program ([Flow-MER](#)). Flow-MER has enabled the CEWO to:

- continue to meet legislative reporting requirements
- finalise the LTIM Basin-scale evaluation component
- allowed time to undertake an independent scientific evaluation of the LTIM and EWKR projects.

RESPONSE TO RECOMMENDATIONS

The Commonwealth Environmental Water Holder (CEWH) would like to thank Water's Edge Consulting and Associates for their work on the evaluation of LTIM and EWKR projects; and acknowledge the input of providers, stakeholders, delivery partners and Basin jurisdictions who provided their time and considered feedback.

The CEWO welcomes the evaluation findings and recommended improvements for the CEWO's future monitoring, evaluation, and research activities. These activities are key to informing the management of Commonwealth environmental water to protect and restore the environmental assets of the Basin.

The evaluation highlighted that both the LTIM and EWKR projects were highly ambitious and outlined areas of strengths and weaknesses. The evaluation also identified several key findings and improvements for consideration as we move forward, including:

- purpose: clarifying the purpose of Basin scale evaluation and improving alignment to Basin Plan watering objectives
- design: ensuring flexibility to be more responsive to on-ground events and improving integration through a multi-disciplinary approach
- collaboration and communication: improving collaboration through a co-design process; and communication and engagement, including with First Nations people
- data management: improving data management and accessibility across both monitoring and research activities

It is important that we maintain momentum and continue to build on our efforts while also ensuring that monitoring, evaluation, and research activities meet the current and future needs of the Office. At the end of Flow-MER in June 2022 it will be almost 10 years since the design of the LTIM and EWKR projects. Since that time the CEWO has evolved, we have acquired more water, our knowledge of how flora and fauna respond to environmental water has improved; and the scale, magnitude and complexity of water delivery has increased. There is still more to learn, and it is only natural that our accompanying programs should evolve, improve, and adapt too.

The Basin communities can be assured that the findings and recommendations from the evaluation are being carefully considered and will inform an improved monitoring, evaluation, and research program beyond June 2022.

Over the next year the CEWO will be consulting with Basin stakeholders further on the evaluation findings and recommendations and will also commence a process to establish and implement a new monitoring, evaluation, and research program for beyond June 2022.

We welcome the opportunity to discuss the evaluation findings and encourage you to get in touch. Provided below are links to the evaluation report, where you can access further information and details on how to get in contact with us:

- [information about the evaluation and access to the final report](#)
- [information on the CEWO](#)
- Get in contact with us CEWOmonitoring@environment.gov.au

1 – Purpose and objectives

It is recommended that the future objectives:

- *be based on the Basin-wide Environmental Watering Strategy (BEWS)*
- *address Basin Plan objectives not adequately addressed to date*
- *are Specific, Measurable, Achievable, Relevant and Timebound (SMART)*
- *focus on evaluating the ecological effects of all environmental water (that is both ‘held’ and ‘planned’ water) and not just Commonwealth Environmental Water (CEW)*
- *include First Nations cultural water needs*
- *shift emphasis from channel to floodplain investigations.*

The CEWH **supports** this recommendation and is actively considering it in the future design of the CEWO’s monitoring, evaluation, and research program beyond June 2022. The CEWH is also aware that several other activities will help inform implementation of Recommendation 1 including a forthcoming update of the Basin-wide Environmental Watering Strategy, development of a Basin-wide monitoring, evaluation and reporting strategy and Basin Plan 2026. Some further comments and considerations are outlined below.

In relation to ‘*evaluating the ecological effects of all environmental water*’ the CEWH **supports this in principle** and further consideration is required as part of future program design. The key purpose of the CEWO’s monitoring, evaluation and research activities has been to monitor and evaluate the outcomes from Commonwealth environmental water to meet legislative reporting requirements. The CEWH acknowledges however, that Commonwealth environmental water is only part of the picture and is often delivered in conjunction with planned environmental water, part of State held environmental water or on the back of natural flows. In this situation, Commonwealth environmental water is a part of the picture and we have monitored and evaluated the effects of all environmental watering in these situations. Our intention would be to continue this where appropriate and to explore cost sharing opportunities with water delivery partners who are supportive and interested in collaborating with us.

In relation to ‘*include First Nations cultural water needs*’, for the purpose of informing the design of the CEWO’s future monitoring, evaluation and research program, this component of Recommendation 1 is being considered in terms of how the CEWO can better engage First Nations in monitoring and research. Key projects such as the [First Nations Environmental Water Guidance \(FNEWG\) Project](#) are providing a good foundation on which to build with some progress being made through the Flow-MER program with investment in activities, such as employment of First Nations people to undertake monitoring and research and development of seasonal calendars. The CEWH is **supportive** of building on these activities and working with First Nations about ways to improve engagement and incorporating traditional ecological knowledge to inform adaptive management of commonwealth environmental water where appropriate and as agreed with First Nations people. This recommendation is also linked to Recommendation 11.

Our ability to respond to ‘*a shift in emphasis from channel to floodplain investigations*’ will be limited by physical and policy constraints such as water availability and progress on PPMs (Pre-requisite Policy Measures). The CEWH **supports this in principle** and will consider opportunities in the future program design where a focus on floodplain investigations may be operationally feasible and needed.

2 – Basin-scale evaluation

It is recommended that:

- *the CEWO determine whether a Basin-scale evaluation is best supported by fixed Selected Areas, variable Selected Areas, or a mix of the two before designing an appropriate monitoring and evaluation approach*
- *a robust method(s) for integrating this local data to the Basin-scale be developed (see also Recommendation 4).*

The CEWH **supports** this recommendation and is actively considering it in the future design of the CEWO's monitoring, evaluation, and research program beyond June 2022. This recommendation will also need to be considered within the context of Recommendation 1, 13 and 16.

3 – Co-development

It is recommended that:

- *the CEWO's future monitoring, evaluation and research program is co-developed with relevant stakeholders*
- *any targeted research components are well linked and integrated with the monitoring and evaluation components from the start*
- *and captured using mind-mapping as appropriate.*

The CEWH **supports** this recommendation and is actively considering how this could be integrated into the future design of the CEWO's monitoring, evaluation, and research program beyond June 2022. Some further comments and considerations are outlined below.

In relation to integration, progress has already been made under the CEWO's current Flow-MER Program which integrated the monitoring and evaluation (previously LTIM) and the research (EWKR) activities into a single integrated program.

The CEWH **notes** the use of '*mind-mapping*' and will further consider the use of this and other similar tools.

4 – Quantitative modelling

It is recommended that:

- *a model development plan be established from the commencement of the CEWO's future monitoring, evaluation, and research program*
- *this plan focuses on the development of quantitative flow-ecology and floodplain inundations models*
- *this plan be implemented by an adequately resourced hydro-ecological modelling team.*

The CEWH **supports** this recommendation and is actively considering it in the future design of the CEWO's monitoring, evaluation, and research program beyond June 2022. Some further comments and considerations are outlined below.

In relation to the focus and resourcing of modelling, the CEWO will need to further consider the full extent of our approach to modelling in the future design of the CEWO's ongoing

monitoring, evaluation and research program beyond June 2022, this includes hydro-ecological and other elements of the program.

5 – Data management

It is recommended that the CEWO's future monitoring, evaluation, and research program has:

- *a data management system that is robust, with strong data governance and a dedicated data manager to ensure compliance, and is protected against fire, vandalism, and theft*
- *a database that is accessible, meet the needs of the research program as well as client and stakeholder groups*
- *data protocols that comply with industry standards and are embedded within each individual research and monitoring activity*
- *meta-data with clear, consistent rules for data access and recognition of intellectual property*
- *a data management system that is properly resourced.*

The CEWH **supports** this recommendation and is actively considering it in the future design of the CEWO's monitoring, evaluation, and research program beyond June 2022. Some further comments and considerations are outlined below.

Significant progress has been made under the CEWO's current Flow-MER program via the continued support of a data coordinator role and improved quality assurance and control. In addition to this, monitoring data collected under Flow-MER and previously the LTIM project will be available on data.gov.au with all metadata included and accessible. Further improvements outlined in the evaluation will be considered in the future design of the program, the CEWO is committed to ensuring we access the most up to date and best practice data management systems. Implementation of this Recommendation to the full extent will be dependent on resourcing, IT requirements and collaborative opportunities that can be initiated.

6 – Governance and program management

It is recommended that the CEWO's future monitoring, evaluation, and research program include:

- *an overall program manager*
- *a program steering committee to assist the program manager and assist with collaboration*
- *the establishment of an independent science review committee to ensure the quality of the science being undertaken.*

The CEWH **supports** this recommendation and is actively considering it in the future design of the CEWO's monitoring, evaluation, and research program beyond June 2022. Some further comments and considerations are outlined below.

Progress has been made under the CEWO's current Flow-MER Program through the establishment of the Flow-MER Steering Committee and the Scientific Advisory Group for the Basin-Scale component of Flow-MER. Further improvements outlined in the evaluation will be considered.

In relation to ‘an overall program manager’ the CEWH **notes** this recommendation. The benefits of the CEWO playing a key role in managing and coordinating the program improves integration of monitoring and research into water planning; and strengthens interactions and relationships between scientist and water managers. Further consideration and consultation within the context of the program design, resourcing and roles and responsibilities is required.

7 – Collaboration and communication

It is recommended that:

- *a project collaboration, communication and reporting plan be established at the start of the CEWO’s future monitoring, evaluation, and research program*
- *appropriately skilled staff be engaged to produce a range of communication products*
- *examples of collaboration and communication be collected, documented, and reported annually.*

The CEWH **supports** this recommendation and is actively considering it in the future design of the CEWO’s monitoring, evaluation, and research program beyond June 2022. Some further comments and considerations are outlined below.

Progress has been made under the CEWO’s current Flow-MER Program to improve internal and external project communication and engagement and further improvements outlined in the evaluation will be considered.

8 – Integration of monitoring, evaluation, and research

It is recommended that CEWO’s future monitoring, evaluation, and research program:

- *is co-designed with relevant stakeholders*
- *has better alignment of research with the monitoring from the start*
- *supports transdisciplinary research that brings together researchers from multiple disciplines*
- *ensures managers work together during all the phases of planning, data collection and interpretation, and communication of findings.*

The CEWH **supports** this recommendation and is actively considering it in the future design of the CEWO’s monitoring, evaluation, and research program beyond June 2022. Some further comments and considerations are outlined below.

Progress has been made under the CEWO’s current Flow-MER Program including the monitoring and evaluation (previously LTIM) and the research (EWKR) activities into a single integrated program. Further improvements in relation to transdisciplinary research and engaging managers in all phases of the program will be considered to improve the future design of the program. Also refer to response to Recommendation 7.

9 – Adaptive management

It is recommended that a comprehensive knowledge management strategy:

- *be developed for the CEWO's future monitoring, evaluation, and research program to support the adaptive management of CEW*
- *includes the appointment of knowledge brokers to assist with the capture, collation, and dissemination of the lessons from management of CEW.*

The CEWH **supports** this recommendation and is actively considering it in the future design of the CEWO's monitoring, evaluation, and research program beyond June 2022. Some further comments and considerations are outlined below.

The CEWO acknowledges that successful adaptive management varies across our program, in some areas it is undertaken successfully through long and established processes such as Environmental Water Advisory Groups and in others it may be enhanced through better documentation. Progress has been made under the CEWO's current Flow-MER Program with improved real-time reporting and 'Learning by Doing' workshops to enable sharing of learnings. The CEWO will build on these activities while also considering further opportunities and improvements identified in the evaluation.

In relation to the appointment of 'knowledge brokers' the CEWO **supports this in principle** but further consideration is required within the context of the future program design and resourcing.

CONSIDERATIONS

10 – Flexibility

It is recommended that the CEWO's future monitoring, evaluation, and research program be sufficiently flexible to be able to inform Basin-scale evaluations, and to respond to extreme events and unexpected future changes.

The CEWH **supports** this recommendation and is actively considering it in the future design of the CEWO's monitoring, evaluation, and research program beyond June 2022. Some further comments and considerations are outlined below.

Progress has been made under the CEWO's current Flow-MER Program with contingency funding for ad hoc monitoring, research and engagement activities being allocated to all seven selected areas. Further improvements outlined in the evaluation will be considered.

11 – Social and cultural sciences

It is recommended that the planning, design, and implementation of the CEWO's future monitoring, evaluation, and research program have greater involvement of cultural and social sciences.

The CEWH **notes** this recommendation. Further consideration will be required within the context of ensuring the future program design aligns with core responsibilities of the CEWH and legislative reporting responsibilities under the *Water Act 2007* and *Basin Plan 2012*. Some further comments and considerations are outlined below.

In relation to cultural science, the CEWO is committed to continue to improve how we work with First Nations to plan, use, and monitor water for the environment. This commitment is supported through the CEWO's First Nations Participation Strategy which is in development. Also refer to Recommendation 1 for response in relation to First Nations engagement in future monitoring, evaluation, and research program.

12 – Groundwater

It is recommended that the planning, design, and implementation of the CEWO's future monitoring, evaluation, and research program consider including groundwater-surface water interactions affected by environmental watering.

The CEWH **notes** this recommendation. Further consideration will be required within the context of ensuring the future program design aligns with core responsibilities of the CEWH and responsibilities of the Murray-Darling Basin state jurisdictions.

13 – Additional monitoring sites

It is recommended that the CEWO's future monitoring, evaluation, and research program consider additional monitoring sites in the northern Basin and the inclusion of the Lower Lakes and Coorong as a Selected Area.

The CEWH **supports this in principle**. Further consideration will be required within the context of the future design of the CEWO's ongoing monitoring, evaluation, and research program beyond June 2022.

The CEWO's future monitoring, evaluation and research program will build on the efforts and momentum of LTIM, EWKR and Flow-MER while also taking advantage of the opportunity to refine and adapt to the current and future needs of the CEWO. The focus of on ground monitoring, evaluation and research activities will continue to be where Commonwealth environmental water is delivered to improve knowledge gaps and inform adaptive management. This recommendation will also need to be considered within the context of program resourcing and capacity as well as State jurisdiction responsibilities and not duplicating other monitoring programs efforts.

14 – Water quality and salinity

It is recommended that the CEWO's future monitoring, evaluation, and research program review the water quality and salinity monitoring and either:

- *improve this monitoring so it is better linked with specific flow indicators, or*
- *utilise data from state monitoring programs (these may need some modification to make the data more useful to the CEWO).*

The CEWH **notes** this recommendation. Further consideration will be required within the context of ensuring the future program design aligns with core responsibilities of the CEWH and responsibilities of the Murray-Darling Basin state jurisdictions.

15 – Indicators

It is recommended that the CEWO's future monitoring, evaluation, and research program review all ecological indicators for their relevance the Basin-scale evaluation and their value for money.

The CEWH **supports this in principle** and the selection of appropriate indicators is an active consideration for the future design of the CEWO's monitoring, evaluation, and research program beyond June 2022. The CEWH acknowledges the importance of continuity and consistency in collection of data over the past 10 years under the LTIM project and will need to further consider the current and future indicators within the context of the objectives and purpose of the future program.

16 – Selected Areas

It is recommended that the CEWO's future monitoring, evaluation, and research program review the appropriateness of continuing with the Warrego-Darling and Lower River Murray as fixed Selected Areas sites.

The CEWH **supports this in principle**. Active consideration of an appropriate set of monitoring sites and activities will be a key component of the future design of the CEWO's monitoring, evaluation, and research program beyond June 2022.

The CEWO's future monitoring, evaluation and research program will build on the efforts and momentum of LTIM, EWKR and Flow-MER while also taking advantage of an opportunity to refine and adapt to the current and future needs of the CEWO. The focus of on ground monitoring, evaluation and research activities will continue to be where Commonwealth environmental water is delivered to improve knowledge gaps and inform adaptive management. This recommendation will also need to be considered within the context of program resourcing and capacity.