Expenditure review of Water Administration Ministerial Corporation

Prepared for:
Independent Pricing and Regulatory Tribunal

13 May 2025

Prepared by:
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Project:
300204186

Stantec Australia Pty Ltd

Revision schedule

Revision no.	Date	Description	Prepared by	Quality reviewer	Reviewer	Project manager final approval
A	27/02/2025	Draft for IPART review	Ella Hingston (Stantec) Benjamin Steel (Stantec) Geoffrey Kleu (Stantec) Ross Muir (Rockpool Consulting)	Ella Hingston (Stantec)	N/A	Ella Hingston (Stantec)
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Executive summary

Introduction

The Independent Pricing and Regulatory Tribunal (IPART) is the independent pricing regulator in New South Wales (NSW) established under the *Independent Pricing and Regulatory Tribunal Act 1992*. IPART acts as a pricing regulator for water, public transport and local government, as well as acting as the licence administrator of water, electricity and gas. Pricing for these services is determined through an independent decision utilising advice from external reviewers and set to reflect the efficient cost of delivering a utility's monopoly services.

IPART is required to review and set the maximum prices that the Water Administration Ministerial Corporation (WAMC) can charge water access licence holders across regulated rivers, unregulated rivers and groundwater sources for its water management activities in NSW. WAMC's services are delivered by three agencies:

- Department of Climate Change, Energy, the Environment and Water (DCCEEW)
- WaterNSW
- Natural Resources Access Regulator (NRAR).

The prices set by IPART for WAMC will apply for the five-year period from 1 July 2025. Stantec, in association with Rockpool Consulting, has been engaged by IPART to undertake a review of WAMC's expenditure to inform the prices set by IPART.

The objective for this review is to provide an opinion to IPART on the efficient level of historical and proposed operating and capital expenditure required by WAMC to deliver its services. Historical expenditure is that in the time since the 2021 Determination (1 July 2021 to 30 June 2025), and proposed expenditure is that which is proposed for the period from 1 July 2025 to 30 June 2030.

WAMC has submitted a single pricing proposal covering the services delivered by the three WAMC agencies. Together with the notional revenue requirement model populated by WAMC, we have taken the pricing proposal to be the point of truth for historical and forecast expenditure. IPART provided to us the pricing proposal, including attachments, and the populated notional revenue requirement model on 24 October 2024 and 29 October 2024.

In this report and our expenditure analysis, we have sought to present all historical and forecast expenditure in a consistent real price base of 2024/25, enabling a better comparison of underlying cost drivers over time.

Review methodology

The majority of WAMC expenditure is operating expenditure. The Water Regulation Handbook published by IPART (July 2023) sets out an expectation for businesses to submit their operating expenditure forecasts using a base-trend-step approach for recurrent controllable operating expenditure. However, WAMC has not based its submission on a base-trend-step approach, which has inhibited our ability to review operating expenditure in these terms. Instead, our methodology has focussed on understanding and making an informed assessment about the material increases in expenditure from the 2021 Determination and between the current and future determination periods.

It is worth noting there are around 30 activity codes, which means we have had to apply our methodology across a range of different circumstances, with different organisations involved and with varying degrees of information and justification. This means we have needed to adapt our methodology to the information available for each individual activity.

In applying this methodology, we have:

- Conducted a detailed review of the WAMC pricing proposal, including attachments
- Held interviews with WAMC personnel
- Issued requests for information (RFIs) to obtain further clarity or analysis about the changes in expenditure (actual and proposed)
- Formed a consolidated view on the efficient range of expenditure through top-down adjustments to the WAMC proposed expenditure, based on the information provided, supported through our own analysis and, where possible and appropriate, benchmarking and industry knowledge.

IPART requested we recommend an upper and lower bound of efficient expenditure, based on:

- Low case: the minimum expenditure that the business needs to conduct its essential operations
- High case: the efficient expenditure that the business needs in order to continue to grow and set up for success into the future.

Unless noted otherwise, all costs provided in this report are in a real price base of 2024/25.

Operating context

Legislative framework

The guiding legislation for the management of water in NSW is the *Water Management Act 2000* (the 'Act'). The objective of the Act is the sustainable and integrated management of water resources. The Act is supported by the *Water Management (General) Regulation 2018*. WAMC is created under this legislation, and many of the monopoly services that WAMC delivers are functions under Chapter 3 of the Act.

The *Water Management Act 2000* has largely superseded the *Water Act 1912*, particularly in the creation of water sharing plans that cover all water sources in the State. Most water user licences have also been converted to the *Water Management Act 2000*. However, the *Water Act 1912* remains in place and is relevant for licences which have not yet been converted and for the sharing of water in circumstances not covered by the *Water Management Act 2000*.

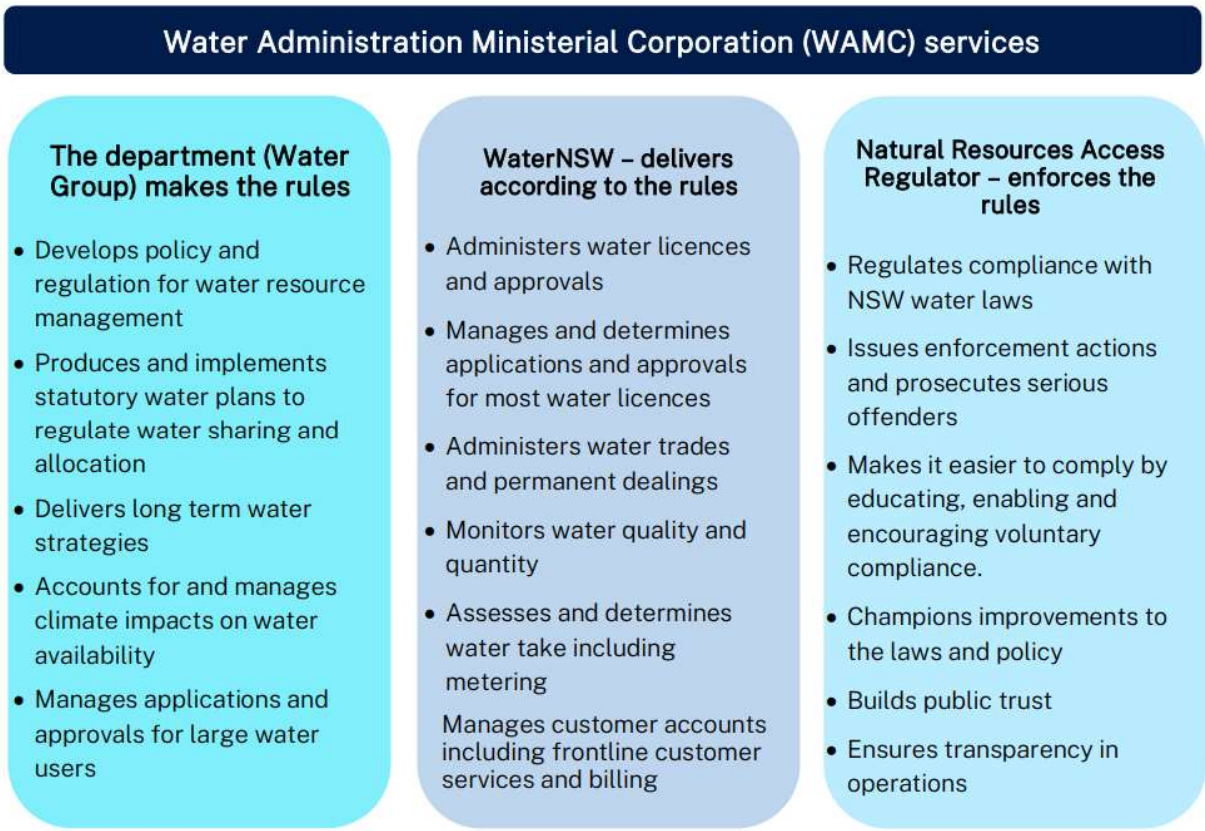
About WAMC

WAMC is responsible for planning and managing water resources on behalf of the NSW Government. WAMC is constituted under section 371 of the *Water Management Act 2000* (the 'Act'). The main functions of WAMC are set out in the Act, which requires it to:

- Construct, maintain and operate water management works, gauging stations and other monitoring equipment
- Conduct research, collect information and develop technology in relation to water management
- Acquire rights to water, whether within or beyond NSW
- Undertake any action required for the purpose of fulfilling the objects of the Act.

Roles of the WAMC agencies

WAMC delegates its functions to DCCEEW, NRAR and WaterNSW. The roles and responsibilities of these agencies are summarised below.



Executive summary – Figure 1: *Roles and responsibilities of WAMC agencies*

Activities delivered by each WAMC agency

Executive summary – Table 1: *Activities delivered by each WAMC agency*

No.	W-code	Activity	Responsible agency(s)
	W01	**Surface water monitoring**	
1	W01-01	Surface water quantity monitoring	WaterNSW
2	W01-02	Surface water data management and reporting	WaterNSW
3	W01-03	Surface water quality monitoring	WaterNSW
4	W01-04	Surface water algal monitoring	WaterNSW
5	W01-05	Surface water ecological condition monitoring	DCCEEW
	W02	**Groundwater monitoring**	
6	W02-01	Groundwater quantity monitoring	WaterNSW and DCCEEW
7	W02-02	Groundwater quality monitoring	WaterNSW and DCCEEW
8	W02-03	Groundwater data management and reporting	DCCEEW
	W04	**Water modelling and impact assessment**	
9	W04-01	Surface water modelling	DCCEEW
10	W04-02	Groundwater modelling	DCCEEW
11	W04-03	Water resource accounting	DCCEEW
	W05	**Water management implementation**	
12	W05-01	Systems operations and water availability management	DCCEEW
13	W05-02	Blue-green algae management	WaterNSW
14	W05-03	Environmental water management	DCCEEW and WaterNSW
15	W05-04	Water plan performance assessment and evaluation	DCCEEW
	W06	**Water management planning**	
16	W06-01	Water plan development (coastal)	DCCEEW
17	W06-02	Water plan development (inland)	DCCEEW
18	W06-03	Floodplain management plan development	DCCEEW
19	W06-05	Regional planning and management strategies	DCCEEW
20	W06-06	Development of water planning and regulatory framework	DCCEEW
21	W06-07	Cross border and national commitments	DCCEEW
	W07	**Water management works**	
22	W07-01	Water management works	DCCEEW and WaterNSW
	W08	**Water regulation management**	
23	W08-01	Regulation systems management	WaterNSW
24	W08-02	Consents management and licence conversion	WaterNSW and DCCEEW
25	W08-03	Compliance management	NRAR and WaterNSW
	W10	**Business and customer services**	
26	W10-01	Customer management	WaterNSW and DCCEEW
27	W10-02	Business governance and support	WaterNSW
28	W10-03	Billing management	WaterNSW

Targeted review of monopoly services and user shares

Monopoly services

We recommend IPART remove W06-03 and W06-05 from the scope of WAMC monopoly activities, as these are not core water resource management functions and do not fall within our interpretation of the NWI pricing principles for water management and planning charges.

We also recommend controlled activity approval charges and flood work approval charges are removed from the WAMC scope on the same basis.

We recommend W06-03 and W06-05 are better funded through annual budget processes rather than through a WAMC allowance. The costs for metropolitan water planning can continue to be recovered from Sydney Water and Hunter Water via licence charges to WaterNSW's Greater Sydney business and Hunter Water. We recommend regional water strategy costs should not be funded by licence holders given their urban planning focus. Rather the costs of these strategies can be centrally funded, or the costs shared with the utilities providing water supply services to these regional towns and cities (e.g., councils).

We also recommend that W06-04 is removed, as there has been no actual expenditure against this activity, nor is any expenditure proposed bringing into question its need. This enables a fresh assessment to be made if there is proposed expenditure for future reviews, against the definition of monopoly services at the time.

User shares

We recommend IPART accepts WAMC's proposed user shares except for:

- W06-01, W06-02, W06-03 and W06-05: We recommend the user shares table should include reference that DCCEEW intends to seek separate Government funding for an increase in scope to these activities, and that this increase in scope (if approved) will attract 0% user share of cost.
- W06-05: We recommend this activity is now outside the scope of WAMC monopoly services. If IPART decides to retain W06-05 then we do not agree with WAMC's proposed decrease in user share from 60% to 50%. We recommend the share remains at 60%. We agree with WAMC's proposal to recover metropolitan water planning costs directly from Hunter Water via WaterNSW, like what occurs for Sydney Water.

Cost drivers

In relation to cost drivers, we agree with WAMC's proposal for cost drivers with the exception of W05-03 as the reasons for the change are unclear based on the information provided by WAMC in their proposal.

Strategic review of the WAMC pricing proposal

Overview of expenditure

The actual overall expenditure for the current period averages $154.9 million per year, which is a significant increase of $67.8 million per year (78%) from the allocated overall expenditure in the 2021 Determination, averaging $87.1 million per year. The proposed overall expenditure for the future period averages $160.5 million per year, which is an increase of $73.4 million per year (84%) from the 2021 Determination, and an increase of $5.6 million per year (4%) from the actual overall expenditure in the current period.

It is clear that the total actual expenditure in the current period has exceeded the forecast at the time of the 2021 Determination and the total expenditure for the future period is proposed to begin at similar levels to that of the later years of the current period actual expenditure and is projected to continually decrease towards the later years of the future period.

Review of corporate overheads

Based on our assessment and analysis of proposed corporate overhead costs for WAMC, considering the information provided and the limited benchmarking available, we have taken the following into account:

- We consider NRAR's corporate expenditure is reasonable and falls within the median presented in the PWC benchmarking study.
- WaterNSW's overhead expenditure has remained within the IPART allowance, being 7% lower during the current period, with additional reduction in proposed overhead expenditure by 16%, aiming for proposed corporate overheads to average 14% of revenue. Benchmarking WaterNSW with the PWC median figures for corporate overheads as a portion of OPEX is not valid, as the scope of the PWC benchmarking activity exclude billing and customer services. Irrespective, we find that proposed overhead expenditure to NRR percentage of 14% is reasonable.
- We are concerned the DCCEEW corporate overhead expenditure, driven by increases in scope and expenditure for business services has, and is proposed to continue to increase and is significantly above median levels presented in the PWC study.
- All agencies are utilising reasonable, and sound overhead cost build up methodologies for corporate overhead inputs and expenditure and consistent approaches to develop their proposed overhead cost inputs for WAMC as per previous determinations (except for DCCEEW business services forecasted expenditure).

Review of digital expenditure

We have been cautious as to not establish duplicated or conflicting expenditure adjustment recommendations throughout this expenditure review report given that individual WAMC agency expenditure is split across many elements of the pricing proposal. However, we have made specific observations relating proposed technology roadmap digital expenditure by WAMC for the next determination period, which includes adjustment recommendations to be incorporated into the scope and efficiency adjustments in relevant sections of the expenditure review for each WAMC agency respectively.

When considering proposed WAMC technology roadmap expenditure, we have assessed which initiatives should be retained, reduced or removed. We recommend using the WAMC proposed expenditure as the upper bound level of expenditure for the next determination. This recommendation is purely driven by evidenced prioritisation and cost / scope reduction activities having been undertaken by WAMC as an input to the pricing proposal.

Retain

We are proposing to make no scope or efficiency adjustments to the following activities within the WAMC technology roadmap as being sufficiently justified in both cost and benefits:

- Water Compliance ($2.5 million)
- Customer Metering Systems ($7 million).

Reduce

We have made the following adjustment recommendations based on our assessment of proposed expenditure and the extent to which these costs and benefits could validated and justified:

- Ecosystem Data Strategy, Use Cases and Governance ($15.3 million). We recommend a 14% reduction.
- Water Market Systems ($22.9 million). We propose an 8.5% reduction.

Remove

We are not proposing to remove any initiatives or associated expenditure from the WAMC technology roadmap.

Quality assurance of pricing proposal

In undertaking our expenditure review, we have identified several instances where quality assurance of the WAMC pricing proposal has not been undertaken. In particular, we have identified discrepancies between the agencies' underlying cost models and the WAMC pricing proposal. The reasons for these discrepancies include:

- An agency 'belatedly' proposing to recover costs through an activity code that is primarily used by a separate agency, based on advice provided by the latter agency
- One agency's costs and revenue being excluded from a 'shared' activity that was delivered by multiple agencies. We note that this impacted cost/revenue breakdowns included in Attachment F to the pricing proposal but not the agencies' overall proposed charges.
- The omission of endorsed wage increases
- The application of an incorrect escalation factor.

Key themes from our expenditure review

We have listed below the key recurring themes from the observations and findings made in our expenditure review:

- In the current period, DCCEEW has exhibited improvement in its approach to resource estimation, with each activity manager estimating their resource requirement by position grade as part of their initial cost build-up. However, the transparency and granularity of DCCEEW's proposed resourcing profiles have been diluted by the application of top-down reductions by its Executive and Water Group leadership. This results in a lack of clarity regarding the final resourcing profiles (number of FTEs by position grade) that form the basis of DCCEEW's operational activities in the WAMC pricing proposal. In turn, this weakens the link between any risk-based prioritisation applied by DCCEEW in making its top-down reductions, and optimisation of the resource mix to effect that prioritisation.
- For a small number of activities, DCCEEW has considered several options to achieve the activity outcomes, the cost of each option, and the impacts of not funding that option. However, for most of its activities, DCCEEW has identified a single option for achieving the activity requirements, without structured consideration of the service level outcomes achievable through different levels of funding, the resulting risk profiles, and how those risk profiles compare with its stated and endorsed risk appetite. That is, DCCEEW has not consistently and robustly considered the trade-offs between service level, cost and risk in proposing its operating expenditure.

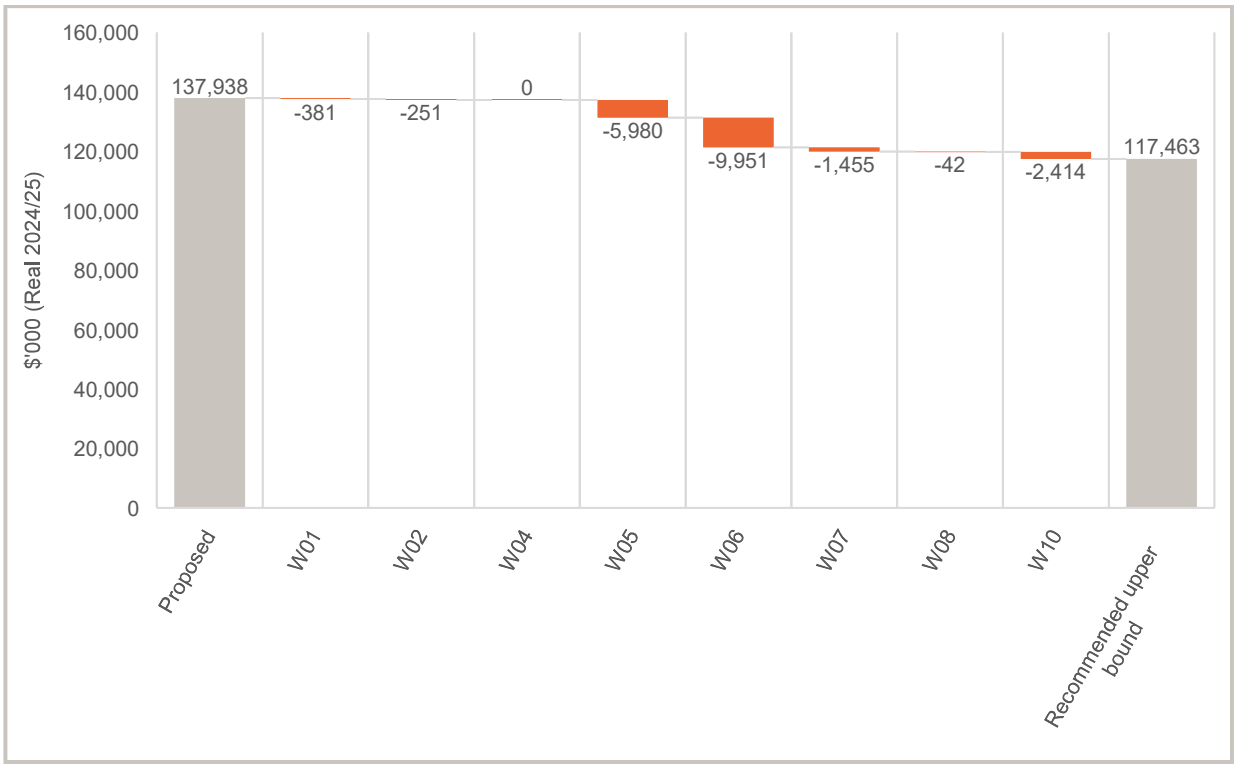
- While NRAR and DCCEEW have risk frameworks in place, there was not a clear statement of risk tolerance or appetite in relation to their functions and outcomes – for example, whether there was a tolerance for 'less-than-perfect' in some areas where the consequences might be minor. Having said this, both agencies have begun to take a risk-based approach in some areas. For example, DCCEEW has created risk rankings for water sharing plans to guide effort, and NRAR has set targets for audit that are also risk based. We also saw evidence of using risk to prioritise effort in the non-urban metering program.
- While WAMC has undertaken significant customer and community consultation on its pricing proposal more broadly, this is often at a higher level than what could be applied to a specific activity code. Consequently, it is not clear that DCCEEW – which has generally proposed the most material increases in expenditure when compared with the current period allocation – has arrived at an appropriate balance between affordability (whether that is customer affordability via the user share of the proposed costs or 'community affordability' via the government share) and the level of service delivered. Critically, DCCEEW has not consulted on its proposed significantly increased consent transaction charges, and WaterNSW has not conducted two-way consultation on its proposed floodplain harvesting charges.
- For some activities, DCCEEW has identified business process improvements implemented in the current period or planned for the future period. However, in most of these cases, the cited impacts of the improvements are qualitative only. It is, therefore, challenging to quantify a direct link between the WAMC efficiency strategy (including DCCEEW's efficiency strategies) summarised in Attachment H to the pricing proposal, and the final operating expenditure forecast proposed by DCCEEW for each activity.
- For some activities, particularly office-based activities, WaterNSW has demonstrated a relatively immature approach to resource (labour) estimation, relying on actual expenditure in the current period (resource supply) as an indication of their future resource requirement, rather than an estimation of the efficient level of resource demand.
- The full cost of implementing the *Water Management Act 2000* (the 'Act') is only now emerging. For example, the costs for water sharing plans are increasing as they must incorporate growing requirements from changes in best practice, learnings from the past, and achieving compliance with the Act.

Our recommended efficient level of expenditure

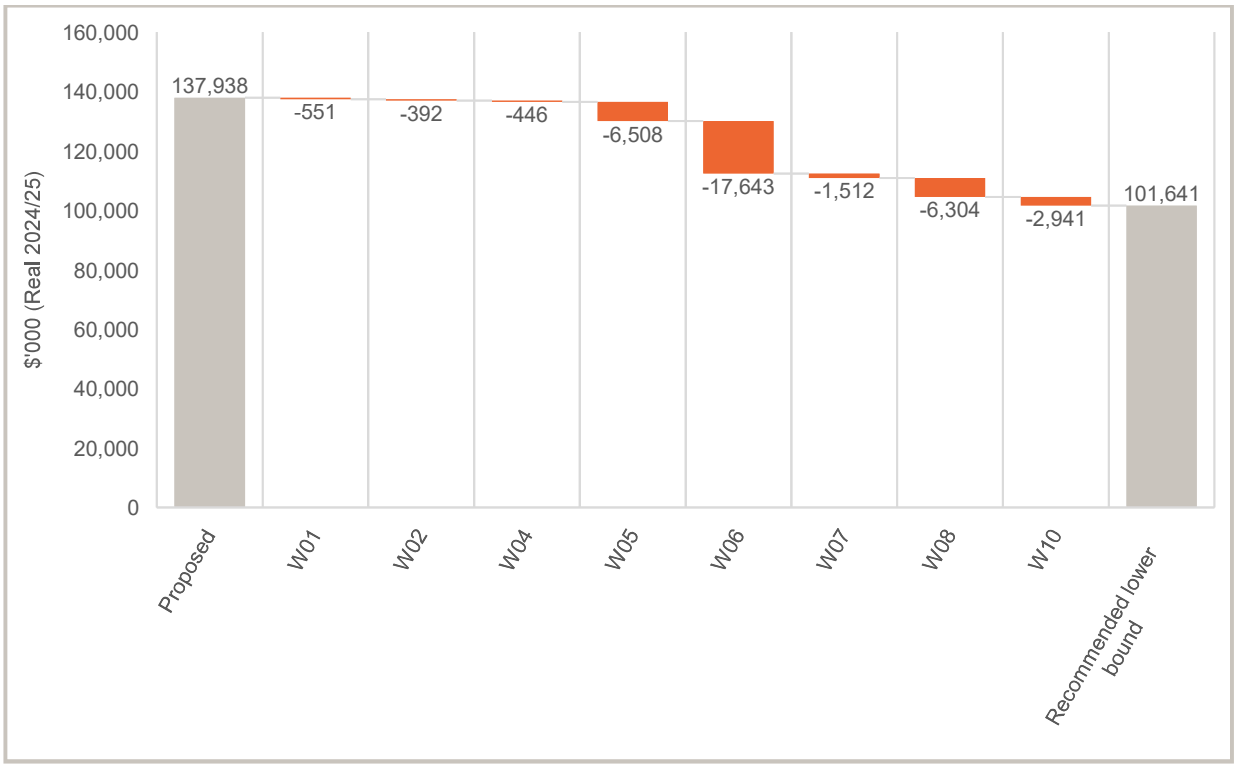
Operating expenditure

Impacts of adjustments to direct costs

The following figures present, by activity group, the impacts of our direct cost adjustments (excluding our adjustments to DCCEEW's corporate overheads) for operating expenditure only. We have used 'waterfall' charts to illustrate these impacts, with the first figure depicting the impact of our upper bound adjustments on annual average operating expenditure, and the second figure depicting the impact of our lower bound adjustments.



Executive summary – Figure 2: *Total adjustment by activity group for recommended upper bound operating expenditure (excluding adjustments to DCCEEW corporate overheads)*



Executive summary – Figure 3: *Total adjustment by activity group for recommended lower bound operating expenditure (excluding adjustments to DCCEEW corporate overheads)*

It can be seen from these figures that, for our recommended upper and lower bounds, the most material adjustments have been those made to the W06 (water management planning) activity group. For our recommended lower bound, material adjustments have also been made to the W05 (water management implementation) and W08 (water regulation management) activity groups.

For the activity groups where we have made material adjustments, our adjustments have been driven by the following key factors:

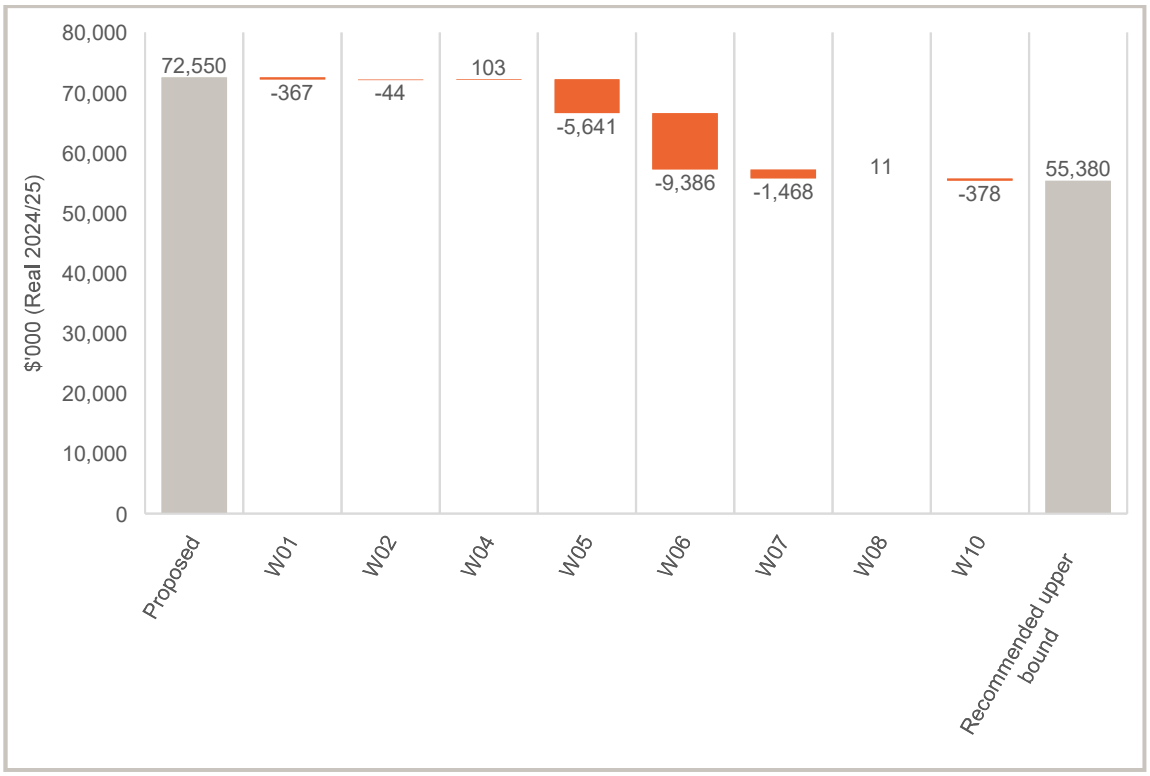
- W06:
  - Reducing expenditure to what we would expect for the proposed outputs when compared with actual expenditure and outputs in the current period
  - Reducing strategy implementation costs to an efficient benchmark for monitoring, evaluation and reporting
  - Improving the development and implementation of risk-based frameworks used to prioritise activities, deferring low-risk activities, and leveraging available options for the deferral of statutory activities (e.g., the deferral of low-risk water sharing plan replacements)
  - Removing 'legacy' costs arising from a historical lack of active compliance management.
- W05:
  - Reducing non-urban metering costs to reflect the transition of reform activities to business-as-usual activities
  - Deferring activities with limited justification, timing certainty, or understanding of the consequences of not undertaking the activity
  - Continuing current levels of service where the adoption of a higher level of service has not been justified.
- W08:
  - Removing 'legacy' costs arising from a less mature water resource management environment.

We note that, relative to the proposed expenditure at the activity level, we have also made 'material' adjustments for most other activity groups. However, when the WAMC pricing proposal is considered in aggregate, our most material adjustments have been made to the W06, W05 and W08 activity groups – that is, in the planning, management and enforcement of water management.

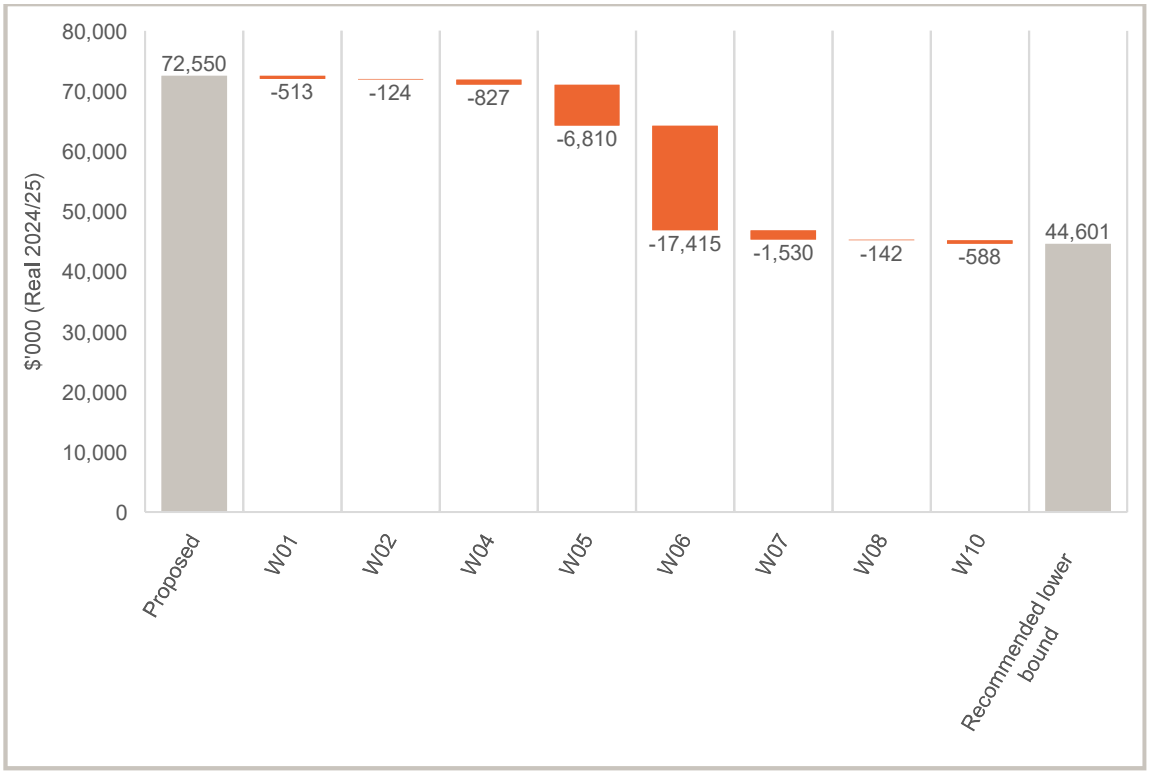
Indicative combined impacts of direct cost adjustments and adjustments to corporate overheads

We have separately recommended adjustments to DCCEEW's corporate overheads. The outlying factor in overall increased WAMC overhead expenditure is the inclusion of DCCEEW's WAMC Business Services functions and activities in its overhead allocation. Therefore, we have undertaken a detailed assessment of these proposed additional costs.

To illustrate the impact of combining our recommended adjustments to DCCEEW's corporate overheads with our recommended direct cost adjustments, we have replicated the waterfall charts presented earlier but only for W-code activities undertaken by DCCEEW. We note that the combined calculations presented in these graphs are indicative only. As such, we suggest that if IPART adopts either our upper bound or lower bound recommendations for DCCEEW's corporate overheads, that DCCEEW updates its overhead allocation model to recalculate the total allowed expenditure at the activity level.



Executive summary – Figure 4: *Indicative total adjustment by activity group for recommended upper bound operating expenditure (including adjustments to DCCEEW corporate overheads)*



Executive summary – Figure 5: *Indicative total adjustment by activity group for recommended lower bound operating expenditure (including adjustments to DCCEEW corporate overheads)*

Capital expenditure

The following tables present our recommended upper and lower bounds for capital expenditure. These reflect adjustments made to direct costs only.

Executive summary – Table 2: *Recommended upper bound and lower bound efficient capital expenditure by W-code activity (excluding adjustments to DCCEEW corporate overheads)*

Recommended upper bound ($'000)						
2025/26	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**Annual average**	**Average annual adjustment from expenditure proposed by WAMC**
4,115	3,999	3,980	4,009	4,070	**4,035**	**0**
4,215	4,236	4,219	4,244	3,990	**4,181**	**0**
378	374	124	124	76	**215**	**-930**
23,863	23,098	19,182	9,893	4,744	**16,156**	**1,500**
32,571	**31,707**	**27,505**	**18,270**	**12,880**	**24,587**	

Recommended lower bound ($'000)						
2025/26	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**Annual average**	**Average annual adjustment from expenditure proposed by WAMC**
3,045	2,959	2,945	2,967	3,012	**2,986**	**-1,049**
3,583	3,601	3,586	3,607	3,392	**3,554**	**-627**
378	374	124	124	76	**215**	**-930**
22,863	21,898	17,982	9,393	4,744	**15,376**	**720**
29,869	**28,832**	**24,637**	**16,091**	**11,224**	**22,131**	

1 Introduction

1.1 Background

The Independent Pricing and Regulatory Tribunal (IPART) is the independent pricing regulator in New South Wales (NSW) established under the *Independent Pricing and Regulatory Tribunal Act 1992*. IPART acts as a pricing regulator for water, public transport and local government, as well as acting as the licence administrator of water, electricity and gas. Pricing for these services is determined through an independent decision utilising advice from external reviewers and set to reflect the efficient cost of delivering a utility's monopoly services.

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- Department of Climate Change, Energy, the Environment and Water (DCCEEW)
- WaterNSW
- Natural Resources Access Regulator (NRAR).

The prices set by IPART for WAMC will apply for the five-year period from 1 July 2025. Stantec, in association with Rockpool Consulting, has been engaged by IPART to undertake a review of WAMC's expenditure to inform the prices set by IPART.

1.2 Review objectives and scope

The objective for this review is to provide an opinion to IPART on the efficient level of historical and proposed operating and capital expenditure required by WAMC to deliver its services. Historical expenditure is that in the time since the 2021 Determination (1 July 2021 to 30 June 2025), and proposed expenditure is that which is proposed for the period from 1 July 2025 to 30 June 2030.

To achieve this objective, the following key tasks are required to be undertaken and are adapted from the scope of works issued by IPART to complete the expenditure review:

- Tasks 1 and 2 – a detailed review of WAMC's historical and proposed operating and capital expenditure to recommend efficient levels of expenditure
- Task 3 – a review of Murray-Darling Basin Authority (MDBA) and Border Rivers Commission (BRC) proposed costs. The findings of this review are covered by a separate report authored by Stantec in association with Rockpool Consulting.
- Task 4 – additional tasks for the review of the regulated rural business of WaterNSW ('WaterNSW-Rural'). The expenditure review of WaterNSW-Rural is covered by a separate report authored by AtkinsRéalis.

- Task 5 – additional tasks for the review of WAMC, comprising:
    - A strategic review of WAMC's expenditure, including a review of WAMC activity scopes against monopoly services
    - A targeted review of user shares
    - A review of WAMC's performance against its output measures and performance indicators
    - A review of WAMC's consent transaction and miscellaneous charges
    - A comprehensive review of WAMC's proposed metering program and associated costs across the three WAMC agencies
    - An interjurisdictional comparison of water management activities and costs.

An extract detailing IPART's scope of work for the rural water reviews (WAMC and WaterNSW-Rural) is provided in Appendix A.

1.3 Price base and cost data

WAMC has submitted a single pricing proposal (Water Administration Ministerial Corporation 2025-30 pricing proposal, 30 September 2024) covering the services delivered by the three WAMC agencies. Together with the notional revenue requirement model populated by WAMC ('2024 WAMC NRR Model - Final Proposal'), we have taken the pricing proposal to be the point of truth for historical and forecast expenditure. IPART provided to us the pricing proposal, including attachments, and the populated notional revenue requirement model on 24 October 2024 and 29 October 2024. The key underlying cost data relied upon for our review is outlined in Section 2.3.

In this report and our expenditure analysis, we have sought to present all historical and forecast expenditure in a consistent real price base of 2024/25, enabling a better comparison of underlying cost drivers over time. To achieve a consistent price base, the inflation indices supplied by IPART[1], and replicated in Table 1-1, have been used to convert all costs to a real price base of 2024/25.

Table 1-1: Indices used to convert costs to real 2024/25 price base

Period	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Inflation factor (CPI) to inflate to subsequent year	-0.30%	3.80%	6.10%	6.00%	3.80%	3.00%
Compounding factor to inflate to real 2024/25	1.248	1.202	1.133	1.069	1.030	1.000

Unless noted otherwise, all costs provided in this report are in a real price base of 2024/25.

[1] Via e-mail on 29 October 2024.

1.4 Terminology used in this report

Table 1-2 outlines the terminology used in this report, detailing alternative terms and their use.

Table 1-2: Terminology used in report

Term	Alternative term	Usage
2021 Determination	-	The determination made by IPART which sets the maximum prices for WAMC's services for the period from 1 July 2021 to 30 June 2025
2021 Determination period	*Current determination period* or *Current period*	The period from 1 July 2021 to 30 June 2025
2025 Determination period	*Future determination period* or *Future period*	The period from 1 July 2025 to 30 June 2030
WAMC pricing proposal	-	The document (including attachments) prepared by the WAMC agencies that summarises the level of service that they will provide with respect to WAMC services for the future determination period, how they will provide this service, and the operating and capital expenditure required to do so. A single pricing proposal was submitted to IPART by the three WAMC agencies.
WAMC agency	-	Any of the three agencies that deliver WAMC services. These are: • DCCEEW • WaterNSW • NRAR

1.5 Structure of this report

This report is structured to address the specific requirements and focus areas outlined in the scope of work, while setting out our recommended efficient level of expenditure and the rationale underpinning our recommendation. Throughout this report, we have sought to clearly distinguish between the activities included in the overall WAMC water management charge, and additional charges (consent transaction charges, metering charges, and floodplain harvesting charges). This delineation is reflected in the report structure. The overall structure of this report is outlined in Table 1-3.

Table 1-3: Structure of report

No.	Section	Purpose
1	Introduction	• Sets out the background, objectives and scope of the review • Identifies the price base and 'point of truth' information source for costs presented throughout this report
2	Review methodology	Provides an overview of our approach to the review and key information sources relied upon
3	Operating context	Provides an overview of the legislative and structural context of WAMC and the activities delivered by each WAMC agency

4	Targeted review of monopoly services and user shares	• Provides an overview of the definition of WAMC monopoly services and the principles of user shares and cost drivers
		• Documents the recommendations made by our targeted review of:
		  ○ WAMC activities against the definition of WAMC monopoly services
		  ○ User shares
		  ○ Cost drivers
		• Documents our rationale for those recommendations

5	Strategic review of the pricing proposal	• Provides an overview of the 'shape' of current (allocated and actual) and future period expenditure • Documents the recommendations made by our review of corporate overheads and digital business improvement strategies, along with our rationale for those recommendations
6	Summary of the efficiency of proposed expenditure	• Provides a summary of our recommended efficient level of expenditure • Provides a summary of the key findings of our review
7	Detailed review of activities included in water management prices	• Provides detailed documentation of our recommended efficient level of expenditure for activities included in the overall WAMC water management charge • Provides detailed documentation of our rationale for those recommendations
8 – 10	Review of additional charges (consent transaction charges, metering charges, and floodplain harvesting charges)	• Provides detailed documentation of our recommended efficient level of expenditure (or, in the case of fee-for-service charges, our recommended efficient level of charges) for consent transaction charges, metering charges, and floodplain harvesting charges • Provides detailed documentation of our rationale for those recommendations

2 Review methodology

The IPART Water Regulation Handbook[2] sets out the expectations for water businesses in how they go about making pricing proposals. The '3Cs' framework is at the core of this handbook and approach:

Figure 2-1: IPART's '3Cs' framework and guiding principles

The Water Regulation Handbook provides expectations for the development and presentation of forecast capital and operating expenditure by regulated entities.

The Water Regulation Handbook also provides guidance for our methodology and approach for reviewing WAMC's capital and operating expenditure proposals.

2.1 Overview of our approach

Our approach to reviewing expenditure was influenced by the nature of the information provided to us, and the significant increases in expenditure both in the current determination period and proposed for the next determination period.

In its pricing submission, WAMC acknowledged that it has not structured its proposals consistent with the expectations set out in the Water Regulation Handbook. The WAMC submission acknowledged DCCEEW and NRAR did not adopt a base-step-trend approach and presentation of their expenditure proposal, on the basis that expenditure can vary materially from year to year.[3]

WAMC suggested the overall forecast operating expenditure can be presented as: 'base year' (2023-24) operating expenditure less the impact of planned efficiency measures, a continuing efficiency factor and the government cost saving challenge.[4]

[2] IPART 2023, *Water Regulation Handbook*, Handbook-Water-regulation-July-2023-V2.PDF, viewed on 27 February 2025.

[3] WAMC 2025-30 Pricing Proposal, pp. 96-97.

[4] WAMC 2025-30 Pricing Proposal, p. 97.

However, we could not meaningfully apply a base-step-trend approach to the DCCEEW expenditure for several reasons:

- DCCEEW chose not to present information as a base-step-trend as indicated above and hence we did not have the base data
- The actual expenditure during 2023-24 for many activity codes was significantly above (often double or more) the allowance from the 2021 Determination for that year and the period as a whole
- Some activity carried out in the current determination period was externally funded through grants or other means, with some of those activities proposed to continue into the future determination period
- While DCCEEW provided explanations and some more detailed information about the increases in actual and forecast expenditure, overall, it was difficult to reconcile with any precision or confidence to the forecast from the 2021 Determination

Our methodology therefore focusses on understanding and making an informed assessment about the material increases in expenditure between the forecasts provided in the 2021 Determination and the forecasts proposed by DCCEEW over the future determination period.

NRAR provided a high-level reconciliation for actual and forecast expenditure against the forecast set in the 2021 Determination in its submission, and the model provided to us enabled a comparison on broad categories of expenditure between 2023-24 and the future determination period. However, as noted in the WAMC proposal, this was not sufficient to conduct a detailed base-step-trend analysis. Consistent with our approach for DCCEEW, we have focused on understanding and assessing the material increases in expenditure between forecasts provided in the 2021 Determination and the expenditure proposed NRAR for the future determination period.

WaterNSW did present information more aligned to the base-step-trend framework, which aided our assessment in these terms.

In applying the above methodology we have,

- Conducted a detailed review of the WAMC pricing proposal, including attachments
- Held interviews with WAMC personnel
- Issued requests for information (RFIs) to obtain further clarity or analysis about the changes in expenditure (actual and proposed)
- Formed a consolidated view on the efficient range of expenditure through top-down adjustments to the WAMC proposed expenditure, based on the information provided, supported through our own analysis and, where possible and appropriate, benchmarking and industry knowledge.

2.2 Our approach to recommending a range of efficient expenditure

IPART requested we recommend an upper and lower bound of efficient expenditure, based on:

- Low case: the minimum expenditure that the business needs to conduct its essential operations
- High case: the efficient expenditure that the business needs in order to continue to grow and set up for success into the future.

During our review IPART provided further guidance on the definition of this high and low range:

The high range is the WAMC pricing proposal less:

- Scope adjustments (activities that could be considered outside the scope of the regulated service or are not sufficiently certain to proceed) and
- Efficiency adjustments (e.g. removal of operational inefficiencies, more realistic cost assumptions, bundling of activities, more realistic expenditure profiling etc.).

The low range is the high range less:

- Service level adjustments, removing projects that can be deferred, removing non-essential activities and projects (with accompanying risk analysis), and identifying non-essential projects/ activities to provide the Tribunal with flexibility to balance service level and affordability
- Potential savings from changes in assumptions, such as accepting high risk of failure, lower population growth, etc.
- Potential savings opportunities from reforms to the operating environment.

In adopting this methodology, we have expressed the low range in broader terms given the nature of the issues before us:

- Low range scope adjustments: including changes to service levels and other matters of scope that could be removed or deferred from the expenditure forecast, but with some risk to service delivery or water resource outcomes
- Low range efficiency adjustments, including savings from changes in assumptions and opportunities from reform, as well as any other efficiency measures could be achieved with the removal of certain constraints, or an increase in risk to service delivery of water resource outcomes.

We have adopted the terms ‘upper bound’ to describe the high range of expenditure and ‘lower bound’ to describe the low range.

2.3 Information sources

Table 2-1 lists the key cost data relied upon for our review. We have also reviewed the supporting information, calculations and clarifications provided by WAMC in response to the 199 RFIs that we have raised throughout the review.

Table 2-1: Key cost data relied upon for review

File name	Date provided by WAMC	Description of information
CIE - 20240917 QA Cost model - outputs - Report version.xlsx	13/12/2024	Summary of operating or capital expenditure by agency, activity and year for the current (allocated and actual) and future periods. For DCCEEW and NRAR, the approximate number of full-time equivalent staff (FTEs) by activity and year in the current and future periods is also provided, along with the split between expenditure funded through the WAMC

File name	Date provided by WAMC	Description of information
		determination, expenditure funded through other sources, and corporate overheads.
20241213 (Final - sent to Stantec) NRR model input - DCCEEW WAMC costs.xlsx	20/12/2024	• Budgeted FTEs (approximation) and 'project' operating expenditure by activity and year for the current period for DCCEEW • Forecasted FTEs and 'project' operating expenditure by activity and year for the future period for DCCEEW • Overhead allocation by activity and year for the future period for DCCEEW
NRAR IPART Cost model - 29 August 2024.xlsx	20/12/2024	• 'Baseline' annual FTEs, costs, efficiency dividends and compliance revenue for NRAR • Forecasted FTEs, costs, efficiency dividends and compliance revenue for each year of the future period for NRAR
WaterNSW Proposal non-urban water metering - D24 24462 Final Metering Cost Model Model FY26-FY30 - 9 October 2024.xlsx	27/11/2024 (provided by IPART)	Calculation model for WaterNSW's metering charges
• 01. W09.01 and W10.01 Indirect costs for consent transaction charges - Tech roadmap efficiencies FY26-30 - 17 Sept 2024 2024 - P.xlsx • 02. WAMC and other transaction processing time estimates - Tech roadmap Efficiencies Included - 17 Sept 2024 - Post QA.xlsx • 03. WAMC L and A transactions and forecasts - With Tech Roadmap Efficiencies - 17 Sept 2024 - Post QA.xlsx • Activity Based Costing - Groundwater Team Consent Transactions - 17 Sept 2024 Post QA.xlsx	16/12/2024	Calculation models for Type A consent transaction charges and groundwater assessment components
RFI 143 new consent charges breakdown.docx	18/12/2024	Calculation model for Type B consent transaction charges
FINAL_FPH_Cost Model FY26-FY30.xlsx	6/02/2025[5]	Calculation model for floodplain harvesting charges

[5] Received in response to a RFI raised on 4 February 2025.

3 Operating context

3.1 Legislative framework

The guiding legislation for the management of water in NSW is the *Water Management Act 2000* (the 'Act'). The objective of the Act is the sustainable and integrated management of water resources. The Act is supported by the *Water Management (General) Regulation 2018*. WAMC is created under this legislation, and many of the monopoly services that WAMC delivers are functions under Chapter 3 of the Act.

The *Water Management Act 2000* has largely superseded the *Water Act 1912*, particularly in the creation of water sharing plans that cover all water sources in the State. Most water user licences have also been converted to the *Water Management Act 2000*. However, the *Water Act 1912* remains in place and is relevant for licences which have not yet been converted and for the sharing of water in circumstances not covered by the *Water Management Act 2000*.

3.2 About WAMC

WAMC is responsible for planning and managing water resources on behalf of the NSW Government. WAMC is constituted under section 371 of the *Water Management Act 2000* (the 'Act'). The main functions of WAMC are set out in the Act, which requires it to:

- Construct, maintain and operate water management works, gauging stations and other monitoring equipment
- Conduct research, collect information and develop technology in relation to water management
- Acquire rights to water, whether within or beyond NSW
- Undertake any action required for the purpose of fulfilling the objects of the Act.

3.3 Roles of the WAMC agencies

WAMC delegates its functions to DCCEEW, NRAR and WaterNSW. Broadly speaking, DCCEEW has a policy setting role, with responsibility for ensuring sustainable, secure and healthy water resources and services for NSW. DCCEEW undertakes this function by developing and setting policies, plans and rules for sharing water between users and the environment. This includes determining water allocations; preparing water sharing plans and regional water strategies; performing analytics, modelling and scientific functions; processing some licence and approval applications; and delivering the Murray-Darling Basin Agreement and the Basin Plan. DCCEEW is governed by the *Water Management Act 2000*.

WaterNSW is responsible for implementing the policies set by DCCEEW, including conducting water monitoring to meet the needs of DCCEEW, processing most licence and approval applications, administering water trades, performing account management and billing, providing customer support, and supplying water resource information. In addition to these functions, WaterNSW is responsible for providing water take assessment and meter maintenance services, operating water infrastructure and the State's river systems, and supplying bulk and environmental water. The functions of WAMC that are conferred to WaterNSW are set out in Schedule A of the WaterNSW Operating Licence 2024-2028. WaterNSW is established under the *Water New South Wales Act 2014*.

NRAR is established under the *Natural Resources Access Regulator Act 2017* as an independent regulator with total carriage of the compliance and enforcement of water management legislation in NSW. NRAR was formed in 2018 as a result of an independent investigation into water management and compliance in NSW (the 'Matthews Report') that was commissioned by the former Department of Industry in 2017. As part of its compliance and enforcement role, NRAR is responsible for monitoring and auditing the use of surface water and groundwater and investigating and enforcing compliance.

These roles and responsibilities are summarised in Figure 3-1.

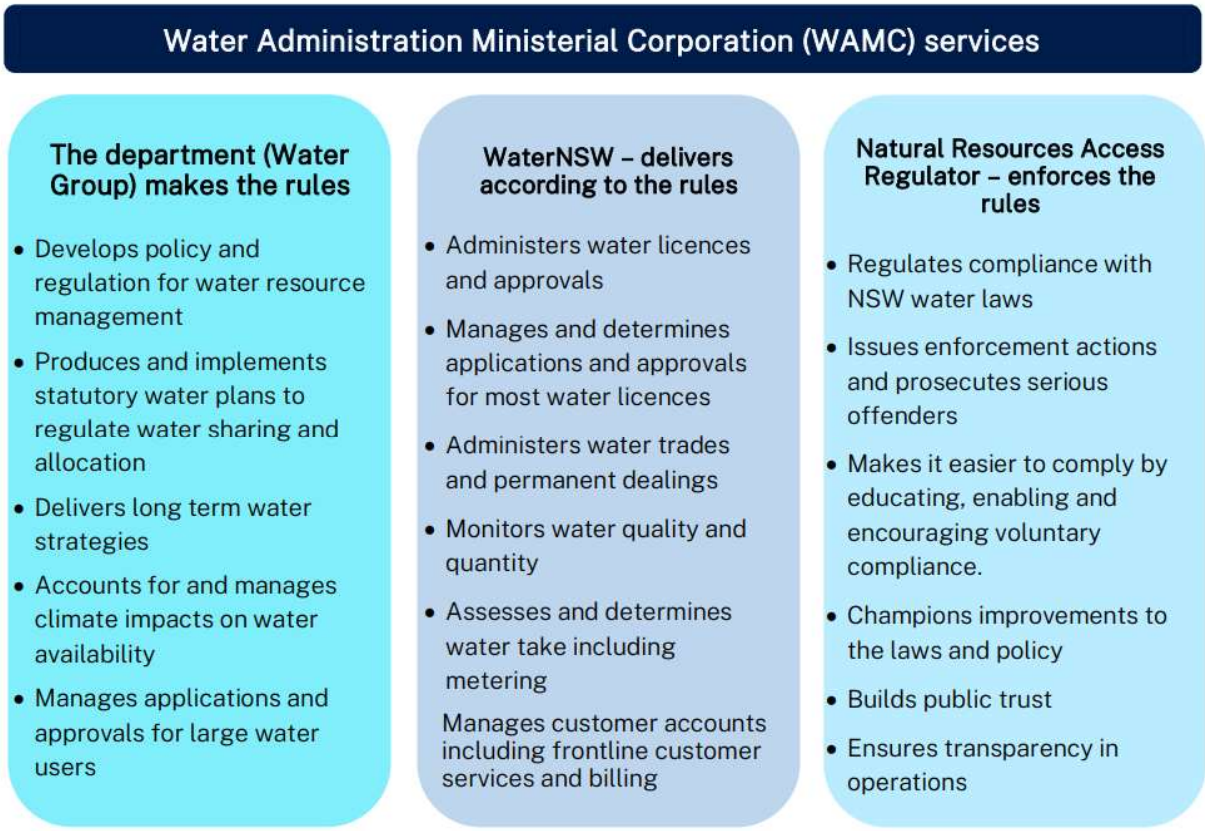


Figure 3-1: Roles and responsibilities of each WAMC agency

3.4 Relationships with the MDBA and BRC

Under the *Water Act 2007* (Commonwealth) (the 'Act') and Murray-Darling Basin Agreement, which is Schedule 1 to the Act, NSW is deemed to be a 'Basin State' for the purpose of implementing the Basin Plan and a 'Contracting Government' for the purpose of delivering Joint Programs. The Joint Programs can be broadly separated into two main programs – the River Murray Operations Joint Program and the Natural Resource Management Joint Program. While the Basin Plan is wholly funded by the Australian Government, the Joint Programs are funded in agreed shares by the Contracting Governments.

Through water users and the prices determined by IPART, DCCEEW recovers part of NSW's contribution to the Joint Programs, with the amount recovered determined based on 'protection of [New South Wales'] interests – economically and environmentally – and the integration of the Joint Program with the [New South Wales] policy and legislative framework'[6]. In the 2016 determination, these Joint Program activities were accepted by IPART as monopoly services.

In a similar fashion to its commitments to the Murray-Darling Basin Joint Programs, DCCEEW also recovers part of NSW's contribution to the costs of the Dumaresq-Barwon Border Rivers Commission ('Border Rivers Commission'). The Border Rivers Commission is constituted under the *New South Wales-Queensland Border Rivers Act 1947* and the associated agreement, and exists to 'control and coordinate water available from the rivers around the border of [NSW and Queensland]'[7]. The costs of the Border Rivers Commission are shared equally between NSW and Queensland, with DCCEEW recovering part of NSW's contribution through water users and the prices determined by IPART.

3.5 Activities delivered by each WAMC agency

Activity codes are used in the regulation of the WAMC business to help describe and delineate the monopoly services that it provides. While the activity codes have changed over previous determinations, most notably at the 2016 determination, they are founded on the definition of water planning and management activities included in the National Water Initiative pricing principles and as interpreted by IPART at the 2011 determination.

A summary of the activities delivered by DCCEEW, NRAR and WaterNSW on behalf of WAMC is provided in Table 3-1, including the agency responsible for delivering each activity. There are a total of 13 activities that are wholly delivered by DCCEEW and 8 activities that are wholly delivered by WaterNSW, as well as a total of 7 activities with multiple agencies responsible for delivery.

[6] NSW DPIE 2020, *Pricing proposal*, PUB20/518.

[7] NSW DPIE 2020, *Pricing proposal*, PUB20/518.

Table 3-1: Activities delivered by each WAMC agency

No.	W-code	Activity	Responsible agency(s)
	W01	**Surface water monitoring**	
1	W01-01	Surface water quantity monitoring	WaterNSW
2	W01-02	Surface water data management and reporting	WaterNSW
3	W01-03	Surface water quality monitoring	WaterNSW
4	W01-04	Surface water algal monitoring	WaterNSW
5	W01-05	Surface water ecological condition monitoring	DCCEEW
	W02	**Groundwater monitoring**	
6	W02-01	Groundwater quantity monitoring	WaterNSW and DCCEEW
7	W02-02	Groundwater quality monitoring	WaterNSW and DCCEEW
8	W02-03	Groundwater data management and reporting	DCCEEW
	W04	**Water modelling and impact assessment**	
9	W04-01	Surface water modelling	DCCEEW
10	W04-02	Groundwater modelling	DCCEEW
11	W04-03	Water resource accounting	DCCEEW
	W05	**Water management implementation**	
12	W05-01	Systems operations and water availability management	DCCEEW
13	W05-02	Blue-green algae management	WaterNSW
14	W05-03	Environmental water management	DCCEEW and WaterNSW
15	W05-04	Water plan performance assessment and evaluation	DCCEEW
	W06	**Water management planning**	
16	W06-01	Water plan development (coastal)	DCCEEW
17	W06-02	Water plan development (inland)	DCCEEW
18	W06-03	Floodplain management plan development	DCCEEW
19	W06-05	Regional planning and management strategies	DCCEEW
20	W06-06	Development of water planning and regulatory framework	DCCEEW
21	W06-07	Cross border and national commitments	DCCEEW
	W07	**Water management works**	
22	W07-01	Water management works	DCCEEW and WaterNSW
	W08	**Water regulation management**	
23	W08-01	Regulation systems management	WaterNSW
24	W08-02	Consents management and licence conversion	WaterNSW and DCCEEW
25	W08-03	Compliance management	NRAR and WaterNSW
	W10	**Business and customer services**	
26	W10-01	Customer management	WaterNSW and DCCEEW
27	W10-02	Business governance and support	WaterNSW
28	W10-03	Billing management	WaterNSW

3.6 Organisational structures and resources

3.6.1 DCCEEW

The NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) works to ensure the sustainable management of water resources across the State to support the environment, communities and industry; conserve and protect the State's environment and heritage; and manage the NSW national park estate.

Formerly the Department of Planning, Industry and Environment (DPIE), it was renamed to the Department of Planning and Environment (DPE) in December 2021. On 1 January 2024, DPE was split into two departments: the Department of Planning, Housing and Infrastructure (DPHI), and the Department of Climate Change, Energy, the Environment and Water (DCCEEW). DCCEEW is responsible for the water portfolio, including the Department's WAMC functions, through the Water Group, which is one of six delivery groups within the Department.

3.6.2 NRAR

NRAR is an independent regulator established under the *Natural Resources Access Regulator Act 2017*. NRAR commenced operations in April 2018, following the publication of the Matthews Report in November 2017, formative work by its Board in late 2017, and subsequent appointment of its Executive team in March 2018. NRAR reports to an independent Board, comprising four members, which is appointed by the relevant Minister and reports to the Minister. However, once appointment of the Board is undertaken, the Minister may only give directions of a general nature and in accordance with the *Natural Resources Access Regulator Act 2017*. The Chief Regulatory Officer of NRAR is responsible for day-to-day operations and is accountable to the Board.

NRAR's role is to enforce the NSW water laws to ensure that the environment, communities and industry all receive their fair share. NRAR regulates the taking of water, the building and use of water management works, how water is used, and activities on waterfront land. It also provides educational services and engages with water users to encourage voluntary compliance.

3.6.3 WaterNSW

WaterNSW operates the state's regulated river systems, undertakes surface and groundwater monitoring, processes applications and approvals for most customers, and provides customer services including billing and water trading. WaterNSW is a state-owned corporation that is established under the *Water New South Wales Act 2014*, merging the responsibilities of the State Water Corporation (renamed to WaterNSW) and the former Sydney Catchment Authority. Many of WAMC's functions delegated to the former Department of Primary Industries – Water were transferred to WaterNSW on 1 July 2016.

WaterNSW operates[8] with a Board of eight directors, comprising a non-executive Chair, six non-executive directors and one executive director (the Chief Executive Officer). There are eight Executive Managers reporting to the Chief Executive Officer. As at June 2024, WaterNSW had 1,044 full-time equivalent (FTE) staff.

[8] WaterNSW Annual Report 2023-2024.

4 Targeted review of monopoly services and user shares

4.1 Definition of WAMC monopoly services

The *Independent Pricing and Regulatory Tribunal Act 1992* defines WAMC monopoly services as:

- Services for which fees and charges are payable under Chapter 3 of the *Water Management Act 2000*
- Services that are in accordance with the definition of 'government monopoly services' set out in the *Independent Pricing and Regulatory Tribunal (Water Services) Order 2004*.

The scope of Chapter 3 of the *Independent Pricing and Regulatory Tribunal Act 1992* includes basic landholder rights, access licences, approvals, conditions imposed by regulations, and regulations relating to water management works.

The *Water Services Order 2004* declares WAMC's monopoly services as any service provided by WAMC, to the extent to which the service involves:

- The making available of water,
- The making available of water supply facilities, or
- The supplying of water, whether by means of water supply facilities or otherwise.

IPART provided guidance in 2011 to provide greater clarity as to the intended scope of WAMC monopoly services:[9]

> *In interpreting this clause for this (and past) determinations, we have adopted a broad interpretation of the phrase 'the making available of water' to include activities necessary to ensure water resources are managed on a sustainable basis to support long-term use. For example, we have included activities related to the assessment, allocation, planning, monitoring and reporting of water resources, as far as these activities are undertaken to ensure supply to users.*
>
> *We also had regard to the objectives of the National Water Initiative (NWI), and the guidance this agreement provides on setting prices for water management services. For example, the NWI's direction to exclude (when setting prices) any costs related to Ministerial and Parliamentary services and to the development and refinement of overarching policy frameworks from efficient costs.*

The National Water Initiative (NWI) pricing principles[10] establish a framework for implementing the commitments in the NWI for recovering costs of water planning and management. This document sets the context for the scope of what is considered water planning and management.

[9] IPART, Final Report – Review of Prices for the Water Administration Ministerial Corporation (2011). P. 36.

[10] National Water Initiative Pricing Principles.

First, the NWI principles discuss the broader aims of water planning and management:[11]

> *Water planning and management aims to provide clear rights to water while managing the negative external impacts of water use on other water users and the environment. These rights are provided to both consumptive users (e.g. rights to extract water for irrigation and stock and domestic use) and non-consumptive users (e.g. rights for environmental flows). In providing these rights, water planning and management helps to address water users' obligation or duty of care to ensure their activities accord with environmental, social and economic objectives.*

The NWI pricing principles go on to describe the scope of water planning and management:[12]

> *The water planning component of water planning and management is concerned with establishing transparent (statutory based) frameworks for ensuring an appropriate balance between economic, environmental and public benefit outcomes. It aims to ensure the future integrity of the resource by facilitating adjustments to the total consumptive pool in response to scientific input and establishing pathways to adjust for over-allocation and/or overuse. Water planning also provides the mechanism through which resource security outcomes are determined through the specification of shares in the consumptive pool and the rules to allocate these shares.*
>
> *The water management component of water planning and management is concerned with operationalising water planning, including the implementation of statutory plans which aim to codify water management decisions to meet economic, environmental and social objectives, noting that water management has both strategic and operational dimensions. Water management activities also occur in water systems that do not have water plans*.

The NWI pricing principles then describe the activities involved:

> *In the context of the NWI, water planning and management involves activities:*
>
> *a) to promote the long-term sustainability of the resource and to maintain the health of natural ecosystems by minimising impacts associated with water extraction; and*
>
> *b) that are necessary to manage the impacts of past, current and future patterns of water extraction; or*
>
> *c) that are concerned directly with the hydrology of surface and groundwater systems (as opposed to wider catchment management activities, although there are close linkages); or*
>
> *d) that protect the integrity of the entitlement system and the security of users' authorised access to water*.

While the pricing principles have further detail in Appendix B, in our view the above provides the over-arching guidance as to the scope and intent of the NWI. Moreover, this aligns with the IPART 2011 guidance above which refers to an objective of ensuring water resources are managed on a sustainable basis to support long-term use.

In our view, a first-principles approach to defining water planning and management would be based on the broad concept of resource management. We can consider resource management in the context of a finite resource for which there is consumptive demand, and that demand needs to be maintained within sustainable limits. Examples elsewhere include:

[11] National Water Initiative Pricing Principles, P. 12.

[12] National Water Initiative Pricing Principles, P. 12-13.

- Fisheries: where sustainable limits of fishing are set, and rights assigned to various 'users' (e.g., commercial and recreational fishers) up to that sustainable limit of extraction (the taking of fish from the environment)
- Forestry: where sustainable limits of logging are set and rights assigned to various users (commercial loggers) up to that sustainable limit of extraction (e.g., harvesting of trees from a forest).

In both cases the resource manager also manages the allocation of those rights among users.

It is reasonable (but not always the case) that the costs of this resource management are at least partly met by those holding the extractive rights, as they are impactors on the resource, as well as benefitting from the rights granted to them for resource extraction, and the ongoing management of those extraction rights (e.g., ensuring all rights holders comply with the limits placed upon them)

We suggest this first-principles view – which is the lens of resource management – is useful when considering the definition of water planning and management and interpreting past guidance from IPART on this matter. A first-principles view is also important as it is possible to cherry-pick clauses or specific statements in the NWI pricing principles to support a broader definition of scope, when (in our view) doing so takes the NWI out of context and goes beyond its original intent.

To assist our analysis, we have adopted the following first-principles definition which we believe is consistent with the 2011 IPART guidance and the intent of the NWI and its pricing principles:

> **The core scope of WAMC monopoly services is that of a water resource manager, whose role is to (a) set the sustainable limit of extraction (or the consumptive pool of water resource); (b) manage how that limit is shared among competing uses and users; and (c) ensuring water extractions are within those limits. This includes activities related to the assessment, allocation, planning, monitoring and reporting of water resources.**

Furthermore, this scope describes the functions and activities that those with extraction rights (i.e., licence holders) are expected to contribute towards, either partially or fully, via water management charges. That is, licence holders create the need for water resource management through their extractive use of water and also benefit from that management through a regime that allocates rights to and shares of the resource.

We adopted this first-principles approach as an initial assessment, while also examining certain activities against the more specific provisions of the NWI pricing principles and IPART guidance, for completeness.

In response to our draft report, DCCEEW raised concerns over our proposed 'first principles' approach and its application:

> *Stantec has reinterpreted the regulatory environment – the National Water Initiative pricing principles, the WAMC monopoly services order, IPART's impactor pays guidance and the [Water Management] Act – and applied its new, untested definition to redefine the scope of WAMC monopoly services. These definitions depart diverge from IPART's past determinations. This has led to erroneous exclusion of some WAMC costs…*

DCCEEW also raised concerns that we had gone beyond our remit in making and applying a first-principles approach.

Applying a scope definition requires judgement and interpretation as to the meaning of the terms within that definition, and that definition needs to be considered in a broader context, particularly in relation to the underlying purpose. We have provided a first-principles approach as our interpretation of the 2011 IPART guidance, and in doing so we have sought to be transparent and add clarity. In doing so we are comfortable the first-principles approach is within our remit and accords with the intended meaning of the 2011 guidance.

DCCEEW also raised concerns that the first-principles approach had incorrectly assumed that water use only relates to the extraction of water from rivers or creeks. We can clarify that *(b) manage how that limit is shared among competing uses or users* includes non-consumptive uses.

DCCEEW also expressed concern that we did not give due regard to IPART precedent in applying the NWI pricing principles, and in particular how IPART had previously referred to Appendix B of the NWI pricing principles to inform decisions.[13]

We recognise that the 2011 guidance states IPART has had regard to the NWI and the pricing principles in providing its guidance. As indicated above and below, the NWI and the pricing principles require a level of interpretation and judgement in their application in having regard to their meaning and application.

4.2 Targeted review of activities against the definition of monopoly services

We have undertaken a targeted review of WAMC activities and concluded that W06-03 ('Floodplain management plan development') and W06-05 ('Regional planning and management strategies') do not fall within the scope of WAMC monopoly services.

In doing so, we do not suggest these activities should not occur, but rather we recommend they fall outside of the scope of WAMC monopoly services and should be funded through other means. In response to our draft report, DCCEEW raised concerns that funding would not be available:

> *If WAMC activities are excluded from the price determination there is no alternative funding source. In contrast, where IPART considers a cost efficient and determines a 100% government share, as was done for W06-03 – Floodplain Management Planning in 2016 and 2021, Government may agree to fund the IPART's assessment of the efficient cost of that activity*.

This concern goes beyond a review of the scope of monopoly services. We have assumed that if an activity is required (e.g., to meet a government priority or legislative obligation) then a range of funding opportunities exist, including annual State Government budget processes.

Detailed consideration of each of W06-03 and W06-05 is set out below.

W06-03 – Floodplain management plan development

Floodplain management plan development (W06-03) attracts a 0% user share – it is 100% funded by Government.

IPART defines this activity as 'the development, review, amendment, and extension or replacement of Floodplain Management Plans, in collaboration with the Office of Environment and Heritage.'[14]

[13] DCCEEW also outlined how the draft National Water Agreement provisions supported their view. We have not considered this draft document for our review given its status, but we have not observed anything in that draft agreement that would change our view.

[14] IPART (2019). Rural Water Cost Shares, Final Report. P. 40.

DCCEEW defines this activity as involving the development, audit, review, amendment or replacement of rural floodplain management plans to comply with the *Water Management Act 2000*. Section 29 of the Water Management Act 2000 sets out core provisions for floodplain management plans:

> *The floodplain management provisions of a management plan for a water management area must deal with the following matters—*
>
> *a) identification of the existing and natural flooding regimes in the area, in terms of the frequency, duration, nature and extent of flooding,*
>
> *b) the identification of the ecological benefits of flooding in the area, with particular regard to wetlands and other floodplain ecosystems and groundwater recharge,*
>
> *c) the identification of existing flood works in the area and the way they are managed, their benefits in terms of the protection they give to life and property, and their ecological impacts, including cumulative impacts,*
>
> *d) the risk to life and property from the effects of flooding.*

The objectives of a floodplain management plan relate largely to the management of the flow of flood water across the flood plain, for environmental and indigenous outcomes and protection of life and property. The Objectives for the Macquarie Valley Floodplain provide an illustration of the objectives more broadly for this activity[15]:

> *The objectives of this Plan are as follows:*
>
> - *Facilitate the orderly passage of floodwaters through the Floodplain*
> - *To establish a framework for the granting or amending of flood work approvals for flood works located in the Floodplain*
> - *To contribute to the minimisation of the risk to life and property from the effects of flooding in the Floodplain*
> - *To maintain flood connectivity to wetlands, other floodplain ecosystems and areas of groundwater recharge in the Floodplain*
> - *To contribute to the protection of flood-dependent ecological assets and flood-dependent ecological values in the Floodplain*

We established a first-principles definition of water management and planning as relating to the role of a water resource manager. In our view, floodplain management (W06-03) does not fall within this first-principles definition as it is primarily about land management, not water resource management. It does not involve defining the consumptive pool of the water resource nor allocating that resource among uses and users. It is primarily about managing works on a floodplain so as to avoid unacceptable impacts to life and property, or the environment, from water flow over a floodplain.

DCCEEW submitted that W06-03 forms one of the key water planning and management activities listed in the NWI's pricing principles.[16]

[15] Floodplain Management Plan for the Macquarie Valley Floodplain 2021 (S9).

[16] WAMC. Attachment F. Summary of expenditure and services by WAMC Activity (30 September 2024). P. 100.

The NWI pricing principles make specific reference to floodplain management in the context of measures to improve water use, where they list the following as being captured in their definition of water planning and management under 'measures to improve water use'. The activities listed are[17]:

- Water use efficiency programs (irrigation, commercial and urban)
- Development of property-level water management plans
- Great Artesian Basin Sustainability Initiative
- Floodplain management.

On the other hand, the NWI principles differentiate between water use and land management, stating water planning and management:[18]

- Are those activities undertaken as a result of water use, and
- Do not include activities undertaken to manage land-based impacts such as those associated with land clearing.

In the 2019 review of cost shares, IPART's consultant commented that W06-03 is not related to water use and the primary driver is to protect the environment, communities and third parties from the impacts of development on floodplains[19].

In that same review, IPART applied a 0% share to floodplain management on the basis that 'in a world without high consumptive water use broad land management planning is likely to occur. There is no direct link between this activity and water consumption'.[20]

In our view, W06-03 is primarily about managing land use on a floodplain that might impact on the flow of flood water. The activity is intended to achieve positive environmental and Aboriginal water outcomes, while also protecting life and property. While a floodplain management plan may impact on the way water flows out of, or into, streams or groundwater systems through controlling works on a floodplain, this is not the central purpose or objective as set out in the objectives for the plans themselves.

We acknowledge that the NWI mentions floodplain management as an example measure to improve water use; however, the NWI also states activities to manage land-based impacts are excluded. As such we consider there is a tenuous link between the NWI pricing principles and W06-03.

We also note the expenditure for this activity does not impact on water users as they are allocated 0% share – the activity is 100% Government funded.

In response to our draft report, DCCEEW commented that coordination of flood works to maintain flood flow connectivity ensures water continues to be made available: '*Floodplain management plans regulate the construction of flood works which, by preventing unmanaged diversion or impediment of water by flood works, ensure that water is made available through floodplains and in-stream for consumptive and non-consumptive water uses*.'

[17] National Water Initiative Pricing Principles. Appendix B (C)(1).

[18] Refer to Section 5.

[19] Aither (2019). Rural Cost Sharing Review. P. 56.

[20] IPART (2019). Rural Water Cost Shares. WaterNSW, Water Administration Ministerial Corporation. P. 72.

However, published floodplain management plans have multiple objectives as set out above, including protection of life and property and flood-dependent ecosystems. We also note past reviews that concluded these plans do not have a link to water consumption, and past decisions to apply a 0% user share to the recovery of this activity.

In response to our draft report DCCEEW raised several other points in support of retaining W06-03 within the definition of a WAMC monopoly activity. We acknowledge many of these points are valid, while also noting that published floodplain management plans recognise multiple objectives that go beyond our proposed first principles definition. Furthermore, we recognise this matter can become highly technical and there is a degree of 'grey' involved in the assessment, given floodplain management plans have multiple objectives.

We have also examined W06-03 from a broader, practical perspective, noting:

- There is no impact on water management charges, and therefore water users, by including W06-03 within WAMC monopoly services given the long-standing (and uncontested) position of applying a 0% user share.
- Rather, the outcome of W06-03 being included is to set a (minimum) budget allocation for this activity and the agencies involved, for multiple years
- History has shown (including over the current determination period) that floodplain management priorities for Government can change over time and from year to year. This is not unreasonable, and annual budget cycles would better accommodate budget decisions and changing government priorities.

For clarity, we do not suggest that floodplain management plans are unnecessary or should not be funded. But we consider the activities and costs relating to floodplain management plan development are outside of WAMC services.

Furthermore, we do not consider that flood work approvals are water planning and management activities under the NWI pricing principles, and we do not consider that they fall within the scope of WAMC monopoly services. As such, we recommend that the 'New application for a Flood work approval – technical referral' charge (the flood work approval charge) is excluded from the WAMC determination. This is discussed further in later sections.

DCCEEW has also proposed to bring 13 existing controlled activity approval charges into the scope of the WAMC determination. Controlled activities are works or actions performed on waterfront land, where 'waterfront land' is defined in the Water Management Act 2000 ('the Act'). Under the Act, 'controlled activities' are defined as:

a) *the erection of a building or the carrying out of a work (within the meaning of the Environmental Planning and Assessment Act 1979), or*

b) *the removal of material (whether or not extractive material) or vegetation from land, whether by way of excavation or otherwise, or*

c) *the deposition of material (whether or not extractive material) on land, whether by way of landfill operations or otherwise, or*

d) *the carrying out of any other activity that affects the quantity or flow of water in a water source.*

Examples of controlled activities include erecting a building, carrying out works such as the construction of bridges or sea walls, removing material from waterfront land, depositing material on waterfront land, and any activity which affects the quantity or flow of water in a water source.

We consider this activity similar to floodplain management, in so far as it deals with land uses and development and is not related to water resource management. We have provided a detailed assessment later in this report where we examine these charges and propose to exclude it from the WAMC scope.

W06-05 – Regional planning and management strategies

Regional planning and management strategies (W06-05) expenditure has a 60% user share and a 40% Government share. This relates to statewide and regional water strategies.

The costs of metropolitan water strategies are assigned to the relevant utility. The Greater Sydney Water Strategy costs are assigned to Sydney Water, and DCCEEW proposes to assign expenditure for the Lower Hunter Water Security Strategy to Hunter Water.[21]

In 2019, IPART defined W06-05 as follows: '*The review of planning instruments, and the development, evaluation, review and stakeholder engagement of planning and management strategies for water sharing and water plans (where the water market alone will not provide for economic or urban growth).*'[22] In responding to our draft report, DCCEEW commented that the more recent definition[23] applied from the 2021 Determination, namely '*The development, evaluation and review of regional water strategies, metropolitan water plans and other planning instruments, including the associated stakeholder engagement.*'

DCCEEW has applied a scope for this activity that comprises two types of plans and strategies:

- Statewide plans and strategies
- Regional and metropolitan plans and strategies.

These are considered separately below.

Statewide plans and strategies

The NSW Government has published two statewide strategies in the current period: The NSW Water Strategy (August 2021); and The NSW Groundwater Strategy (December 2022).[24]

DCCEEW has incurred costs relating to the management of the implementation of these strategies as part of W06-05 over the current period. DCCEEW developed internal guidance (June 2023) for the preparation of its expenditure proposal for the next regulatory period.[25] This guidance was based on DCCEEW's interpretation of the NWI pricing principles for water management and planning charges. We note that DCCEEW's internal guidance for determining the scope of WAMC excluded the development of broad statewide strategies for water management such as the NSW Water Strategy, but included the operationalisation and implementation of those strategies.[26]

[21] In some cases, this occurs via a charge to WaterNSW.

[22] IPART (2019). Rural Water Cost Shares, Final Report. P. 40.

[23] We have not been able to independently source this definition to confirm, but we note that while it is more precise than the 2019 definition, it does not alter our analysis and conclusions.

[24] The NSW Aboriginal Water Strategy was also developed in the current determination period. DCCEEW has not proposed to include costs relating to this strategy into the future determination period, and so we have not considered it here.

[25] Response to RFI 152.

[26] Response to RFI 152.

The NSW Water Strategy is described as follows:[27]

> *The NSW Water Strategy will tackle the key challenges and opportunities for water management and service delivery across the whole of the state and set the strategic direction for water service delivery and resource management in NSW over the long-term.*

The document describes what the NSW Water Strategy is intended to do (Figure 4-1)[28].

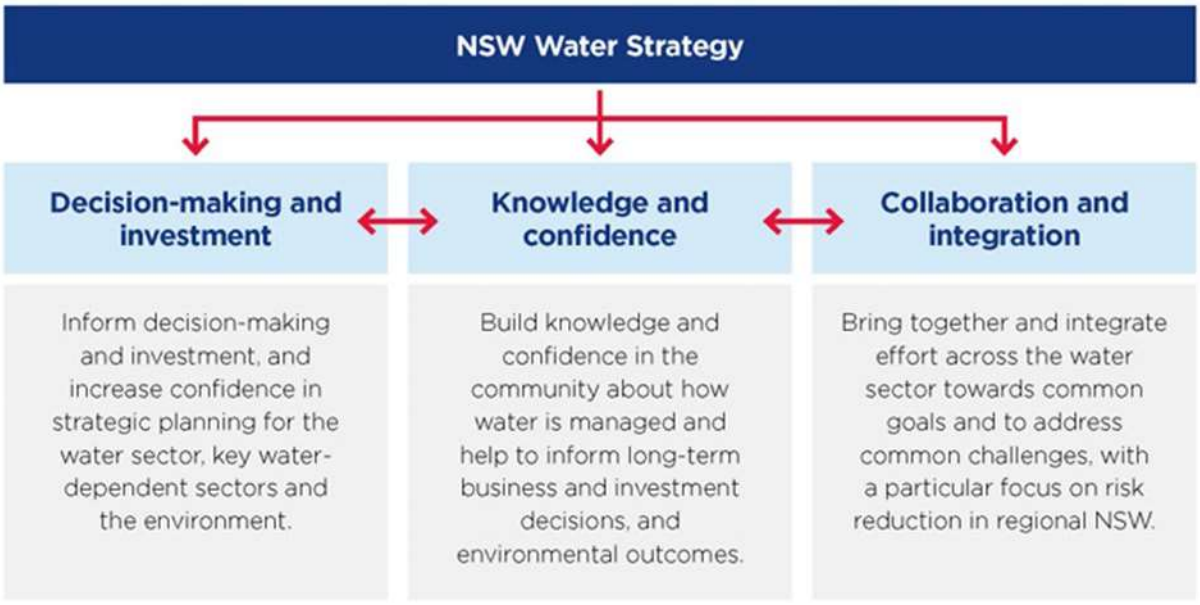


Figure 4-1: What the NSW Water Strategy will do

The NSW Water Strategy has a dedicated chapter on managing and sharing water resources, which describes the current institutional arrangements and recent reforms, and highlights the needs of urban/human water needs in times of extreme drought. There is also recognition of the need to incorporate climate change into assessing water security risks and future streamflow scenarios.

The NSW Water Strategy identifies seven priorities and a suite of implementation actions (Figure 4-2).

[27] Department of Planning, Industry and Environment (2021). NSW Water Strategy. P. 8.
[28] Department of Planning, Industry and Environment (2021). NSW Water Strategy. P. 8.

Figure 4-2: Priority actions for the NSW Water Strategy[29]

[29] NSW Water Strategy: Towards 2050: Our priorities

The NWI pricing principles requires Government to fully fund the cost of activities such as policy development.[30] The principles provide the following guidance to determine the scope[31]:

> *Policy development includes the development and/or refinement of overarching policy frameworks designed to plan for and manage water resources. Policy development can typically be characterised by the development of a comprehensive strategy that articulates the long-term policy objectives for sustainable water management and the overarching policy and institutional framework for achieving these options. This includes …. Overarching policy frameworks (e.g. the State Water Plan (Western Australia), Securing our Future Together – White Paper (Victoria) and the State Water Management Outcomes Plan (NSW).*

The State Water Management Outcomes Plan[32] (the Outcomes Plan) referenced above was made in 2002 and was in effect for five years. An example of the targets contained in that plan are set out below:

- Target 2: All management plans incorporating mechanisms to protect and restore aquatic habitats, and the diversity and abundance of native animals and plants, with particular reference to threatened species, populations and communities and key threatening processes
- Target 10: Degree of connectivity between aquifers and rivers assessed, and zones of high connectivity mapped to enable baseflows to the river to be maintained or improved
- Target 13: The knowledge sharing, training and resources necessary to ensure that Aboriginal people have the capacity to be effectively involved in water management identified and addressed.

These targets are similar in nature to the priorities and actions set out in the NSW Water Strategy above, noting these were made at a different stage in the reform process. For example, Priority 2 in the current NSW Water Strategy sets policy direction in relation to First Nations/Aboriginal contribution and role in water management, as does Target 13 of the Outcomes Plan. Priority 3 of the NSW Water Strategy provides policy focus and direction for environmental matters, similar to Targets 2 and 10 in the Outcomes Plan.

The NSW Water Strategy provides important policy direction for water management and planning in response to current and future threats and opportunities. The NSW Water Strategy scope spans, necessarily, a broad range of matters including land use/catchment management, urban water security and institutional arrangements while also providing direction and priorities for the water planning and management task itself.

In our view, the NSW Water Strategy meets the definition of government policy under the NWI pricing principles – as it involves 'development of a comprehensive strategy that articulates the long-term policy objectives for sustainable water management and the overarching policy and institutional framework for achieving these options'. The NWI pricing principles would therefore require the cost of this activity be 100% Government funded, rather than the current arrangement which would see users (licence holders) contribute 60% of the costs through water management charges.

[30] Refer to Appendix B, Principle 2.

[31] National Water Initiative pricing principles. Appendix B, Principle 2 (15)(i).

[32] Refer to the State Water Management Outcomes Plan.

DCCEEW has proposed the implementation activities and costs for the statewide strategies (including the NSW Water Strategy and NSW Groundwater Strategy) form part of the eligible costs for W06-05. DCCEEW describes these implementation functions as supporting, enabling and coordinating the delivery of actions by different areas, and occurring alongside program-level monitoring, evaluation and review. In our view, these functions should not be divorced from the overall consideration of the strategy itself for the scope of WAMC monopoly services. That is, these functions ensure the strategy is being delivered, is effective and is revised/updated in accordance with changing circumstances. Without these functions the value of the original strategy development would be diminished. These functions are different to the delivery/implementation of individual strategy actions. Such actions would form part of WAMC where they align to the scope of WAMC activities.

Furthermore, we suggest that funding for the NSW Water Strategy, including its ongoing review, development and implementation, is better managed through conventional NSW Government budget processes.

The need for expenditure will vary from year to year, and we have observed that there is uncertainty about the timing for update and review of this Strategy over the future determination period. Funding this strategy work through the WAMC process commits Government to a five-year budget and deprives Government of considering funding on an annual basis taking account of the overall budget position and priorities.

The NSW Groundwater Strategy

The NSW Groundwater Strategy was published in 2022 and sets out long-term policy objectives and aspirations, and actions to achieve certain outcomes. The introduction to the NSW Groundwater Strategy document sets out the problem statement and strategy need[33]:

> *… our groundwater resources are vulnerable. A more variable climate is affecting rainfall patterns, decreasing surface water flows and reducing groundwater recharge and availability. These risks are heightened as population growth, land use practices and increased demand from communities and industries place a strain on our groundwater resources. Apparent gaps in our knowledge and data about the resource and its quality make managing these risks challenging. Without better management, ecosystems, regional towns and cities, communities and valuable economic activities that depend on groundwater are threatened.*
>
> *A renewed effort is required to sustainably manage this important natural resource so that it can underpin long-term community and economic development and support the services and opportunities on which our society relies. Put simply, if we do not continue to adapt and manage our groundwater resources wisely, we will create unacceptable risks to the critical values and uses they support – both today and in the coming decades.*

The document illustrates the process of reform and improvement management over past decades (Figure 4-3)[34].

[33] Department of Planning and Environment (2022). NSW Groundwater Strategy. P. 11.

[34] Department of Planning and Environment (2022). NSW Groundwater Strategy. P. 11.

Figure 4-3: Evolution of groundwater management in NSW[35]

The NSW Groundwater Strategy explains the overall framework for groundwater management in NSW (Figure 4-4). This framework clearly separates out the tasks of strategy, legal/policy and implementation. Notably, the state and regional strategies are included as part of the 'strategic direction and collaboration' part of the framework.

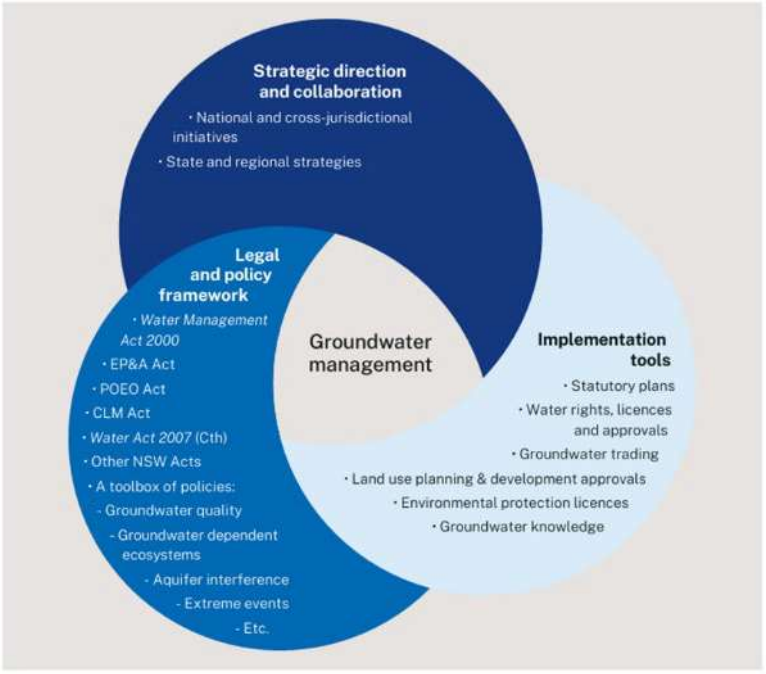


Figure 4-4: Groundwater management framework in NSW[36]

[35] Department of Planning and Environment (2022). NSW Groundwater Strategy. Figure 1.
[36] Department of Planning and Environment (2022). NSW Groundwater Strategy. Figure 9.

The NSW Groundwater Strategy sets a vision that groundwater resources in NSW support cultural and social values, dependent ecosystems and resilient towns and industries, and sets three priorities[37]:

- Protect groundwater resources and the ecosystems that depend on them
- Build community and industry resilience through sustainable groundwater use
- Improve groundwater information and knowledge.

The document identifies several challenges that then frame the strategy response[38]:

Challenge 1: Groundwater resources and the ecosystems that depend on them are under pressure

- Our policy framework for sustainable groundwater management needs to be refreshed and expanded to respond to emerging changes and future challenges
- Ecosystems that depend on groundwater face increased threats
- Our groundwater management framework needs to be better integrated with surface water and land management
- Threats to groundwater quality are growing and need to be addressed.

Challenge 2: Community and industry resilience is at risk

- Increasing groundwater demand for town water supply and other domestic use
- New and expanding industries need to consider groundwater opportunities and constraints
- Aboriginal people's rights to groundwater are not adequately recognised.

Challenge 3: Better information is needed to manage groundwater resources sustainably

- Information about groundwater is lacking because it is underground and difficult to investigate
- There are gaps in our scientific knowledge and research capabilities
- Our groundwater monitoring network is ageing and has limited coverage.

To respond to these challenges, the NSW Groundwater Strategy sets three strategic priorities:

- Strategic Priority 1: Protect groundwater resources and the ecosystems that depend on them
- Strategic Priority 2: Build community and industry resilience through sustainable groundwater use
- Strategic Priority 3: Improve groundwater information and knowledge.

[37] Department of Planning and Environment (2022). NSW Groundwater Strategy. P. 12.

The NSW Groundwater Strategy provides important policy direction for groundwater management and planning, in response to current and future threats and opportunities. Like the NSW Water Strategy, the NSW Groundwater Strategy identifies threats and challenges at a broad, sector-wide level (including land use, urban water security and environment) and sets high-level actions in response. At its core, the strategy provides direction for how groundwater management needs to change and adapt over time. Indeed, the Minister's foreword to the document sets out this purpose[39]:

> *Although NSW has a strong framework and robust policies in place to manage the extraction and use of groundwater, the highly vulnerable resource is coming under increased pressure from climate change, growing demand, urban development and changing land uses. We have to protect and secure our groundwater resources so they continue to support the environment, communities and industries into the future. That requires taking stock of the current condition of these resources, looking at the challenges we face and applying new knowledge and science to adopt the right approaches, policies and tools to manage groundwater sustainably.*

In our view, the NSW Groundwater Strategy meets the definition of government policy under the NWI pricing principles – as it involves 'development of a comprehensive strategy that articulates the long-term policy objectives for sustainable water management and the overarching policy and institutional framework for achieving these options'. The NWI pricing principles would therefore require the cost of this activity to be 100% Government funded, rather than the current arrangement which would see users (licence holders) contribute 60% of the costs through water management charges.

Furthermore, we suggest that funding for the NSW Groundwater Strategy, including its ongoing review, development and implementation, is better managed through conventional NSW Government budget processes. The need for expenditure will vary from year to year, and we have observed that there is uncertainty about the timing for update and review of this strategy over the future determination period.

Metropolitan and regional water strategies and plans

DCCEEW has proposed expenditure to develop, review and implement regional water strategies over the future determination period, as well as costs to review, update and implement the Greater Sydney Water Strategy and the Lower Hunter Water Security Plan.

We established a first-principles definition of water management and planning above, referencing the functions of a water resource manager. In our view, regional water strategies do not fall within this first-principles definition. While these strategies may have connections to water sharing plans, they do not involve defining the consumptive pool of the water resource nor allocating that resource among uses and users.

Rather, regional water strategy objectives have been defined as[40]:

- Deliver and manage water for local communities
- Enable economic prosperity
- Recognise and protect Aboriginal water rights, interests and access to water
- Protect and enhance the environment
- Affordability (identifying the most cost-effective policy and infrastructure options).

[39] Department of Planning and Environment (2022). NSW Groundwater Strategy. P. 4.

[40] Extract from the Border Rivers Regional Water Strategy, P. 11.

In its 2021 Determination, IPART considered the scope of W06-05 and differentiated between policy making and implementation activities[41]:

> *We consider regional water planning is a 'policy implementation' activity. Under the National Water Initiative Pricing Principles, these costs should be recovered from water users (i.e. only policy development activities should be excluded… Further, WAMC needs to establish water management plans and strategies mainly due to high consumptive water use. Therefore, water users are the primary drivers of these activities.*

While it may still be argued that regional water strategies satisfy the NWI criterion above, we suggest that now, with the benefit of these strategies having been completed, the linkage is tenuous. For example, a key focus of regional strategies is responding to growing urban demand and water security, which is a matter of urban water supply and infrastructure planning rather than water resource management.

In responding to our draft report, DCCEEW commented that strategies address a range of outcomes for long-term sustainable water management in a region, and the regional water strategies do not replace functions undertaken by the Department to support regional local water utilities with their strategic planning functions. Nonetheless, as set out above, the regional water strategies as published have multiple objectives, including delivering and managing water for communities and affordability. We also observed in many strategies a large emphasis on infrastructure options to meet growing urban demand.

We note that previous WAMC price reviews have focused on the NWI pricing principles that include catchment-scale and localised water plans within the scope for water resource planning. The specific references are[42]:

- *Catchment scale water plans – allocation and sustainable management of water resources (strategic and operational), including planning for current and future water use, environmental flow arrangements*
- *Localised water plans – plans developed to address specific water resource problems (quantity or quality) at a local level*.

Applying these NWI provisions in the context of 'water resource management' is important to arrive at an interpretation.

Catchment-scale water plans would relate to the allocation and sustainable management of water resources at a catchment level. Future water use would be a factor in considering the impacts of changing demands for water in a catchment on environmental and other sustainability risks. It may also inform allocation decisions in catchments where available resource might exist within the consumptive pool (i.e., unallocated water).

Localised water plans would be developed to address water resource problems in that area. These 'resource' problems would relate to the water resource itself, such as the quality of the water resource (salinity, etc.), or quantity issues such as environmental flows, or minimum stream flows or dam releases to service water entitlement holders or stock and domestic rights.

The inclusion of regional water strategies in the scope of WAMC means that licence holders contribute to the cost of these strategies through the water management charge.

[41] IPART (2021). Review of Prices for the Water Administration Ministerial Corporation from 1 October 2022 to 30 June 2025. P. 92.

[42] Refer to Appendix B, Part B, 1. Water resource planning (P. 19).

A large part of these strategies relates to planning for a supply-demand balance for a town or city, including planning for future infrastructure. Other parts of regional water strategies identify environmental issues, such as groundwater stress or environmental flows, or other social and economic issues in that region. We would argue that assessing environmental, economic and social issues that are relevant to water resource management in a regional water strategy is a duplication of effort as other mechanisms are in place to gather this information for water sharing plans (e.g., through monitoring and evaluation of plans, plan reviews and the processes for replacement).

If the regional water strategies instead are to provide direction and priorities for action, then they become 'broad strategies for managing water" under the NWI pricing principles and should attract a 100% Government share.

In responding to our draft report, DCCEEW commented that regional strategies identify potential changes to the consumptive pool and to how this water is allocated between uses, and to current rules and policies. DCCEEW provided illustrations of how the strategies operate in this way, including:

- The Western Regional Water Strategy and issues of recurring fish death in Menindee, where the Western Regional Water Strategy helped shape the consideration of changes to the statutory plan rules and amendment of the Barwon Darling water sharing plan
- The North Coast Regional Water Strategy, which identified a growing threat from saltwater intrusion to water quality. DCCEEW noted that water sharing plans for the affected areas (Clarence and Macleay river catchments) did not consider the impacts from changes in freshwater inflows due to climate change, and this shortcoming was identified through the regional water strategy process. As a result, the water sharing plans may not have sufficient cease-to-pump rules to protect users and the environment in the future.

This seems to suggest that regional water strategies have identified environmental issues that were not considered in water sharing plans or not addressed via the water sharing plan implementation processes. However, as noted above, it is unclear why the evaluation and development of water sharing plans would not (and perhaps should) identify and address such risks rather than relying on a parallel regional water strategy process. It is also unclear why the consideration of climate change impacts on water sharing plans should occur via regional water strategies, and not by direct use of climate change data and modelling of impacts via water sharing plan evaluations, reviews and remakes.

DCCEEW's response to our draft report also commented that regional water strategies and water sharing plans worked at different, but complimentary timescales: '*Stantec's opinion fails to recognise the role of regional water strategies and the relationship between long-term strategic planning that aims to ensure the sustainability of water resources and identify and respond to future impacts of water extraction, and shorter-term statutory planning that must address core provisions under legislation*.' However, it is not clear why a water sharing plan would not consider long-term or emerging risks and issues, including climate change, that were material to the purpose and efficacy of that water sharing plan.

In our view regional water strategies are not strongly related to water resource management as per our first-principles definition. We also suggest licence holders are not the beneficiaries of those strategies, nor do they create the need. (Rather, licence holders create the need for and benefit from resource management, including other WAMC activities such as water sharing plans). Licence holders should not pay the cost of an activity that may duplicate what occurs for water sharing plans, nor should they pay water management charges that contribute to the cost of a 'broad strategy for managing water' in a particular region.

This is not to say we disagree with the need for regional strategies, but rather we recommend they exist outside of the WAMC framework for the purposes of setting water management charges. We also note there are connections to water sharing plans and these strategies may form one of many inputs.

If regional water strategies, as part of W06-05, are removed from the WAMC scope then those strategies can still be funded by Government through the usual budget cycle. We recognise that Government would be funding 100% of the cost, rather than the 40% Government share as is currently the case. However, this is a better outcome than water licence holders partly funding this activity for the reasons set out above.

In relation to metropolitan water plans, we suggest these plans fall outside the scope of water resource management and therefore WAMC monopoly services. We suggest the expenditure associated with metropolitan water plans is better managed through an annual budget process, as the costs are volatile, uncertain and often dependent on Government decisions and directions. If they were to be excluded from WAMC, we acknowledge a mechanism may need to be created to enable the costs to continue to be passed onto the relevant utility as these plans support metropolitan water planning.

4.3 User shares

4.3.1 Principles of user shares

IPART has set out key principles for determining cost shares[43]:

> *Preferably, the party that creates the need to incur the cost should pay in the first instance.*
>
> *If that is not possible, the party that benefits should pay. We note that often the party creating the need to incur the cost and the party that benefits from the activity are the same.*
>
> *When it is not feasible to charge the above parties (e.g., because of social welfare policy, public goods, externalities or an administrative or legislative impracticality of charging), the NSW Government (taxpayers) should pay.*

Based on the 'impactor pays' principle, user shares form the basis for apportioning costs between users and the Government for WAMC's monopoly services.

4.3.2 User shares proposed by WAMC

The WAMC pricing proposal accepted the continuation of all user shares from the current period into the next period, with one exception – W06-05. This is examined below.

However, we note that the WAMC pricing proposal means the concept of user shares by activity becomes largely irrelevant. This is because WAMC has proposed to cap price increases, which means Government bears a higher proportion of the cost. However, this is a separate matter for IPART to consider.

4.3.3 Targeted review of proposed user shares

IPART carried out a substantial review of cost shares in 2019, which then informed the 2021 Determination. We have carried out a targeted review of user shares, acknowledging the significant review conducted in 2019 and applied in the 2021 Determination.

We have focused our review:

- Where changes from the 2021 Determination are proposed by WAMC
- Where there is evidence of a material change in scope to an activity that might warrant reconsideration of how the costs of delivering that (changed) scope are shared.

[43] IPART (2019). Rural Water Cost Shares – Final Report. P. 23.

WAMC provided information during our review process indicating an intention to seek external (Government) funding for some activities over the next regulatory period. We are concerned about this approach as it inadvertently undermines the cost share framework. We have therefore also examined this issue and made recommendations accordingly.

4.3.3.1 Changes proposed by WAMC

WAMC proposed one change to the customer share of W06-05 'Regional planning and management strategies', for a decrease in the share from 60% to 50%. WAMC proposed this reduction as this activity had changed in scope to consider climate change and to understand and adapt to the impacts across a range of reform programs, including water allocation reviews, connectivity, water security investments for small and large towns, and Aboriginal water rights. WAMC found that around 13% of this activity was attributed to addressing climate change.

WAMC considered the broader community rather than customers as the "impactors" of this change.

IPART provided guidance in its 2021 Determination, in response to a related argument that Government should bear a greater proportion of costs relating to climate change[44]:

> *Our counterfactual starting point, which we use to anchor our cost shares framework, is a world without high consumptive use of water resources. That is, a world without the need for WAMC to manage NSW water resources.*
>
> *We can apply our framework to this question in the following way:*
>
> *If costs associated with climate change would still need to be incurred in the absence of high consumptive use, then water users would not be the impactor of these costs.*
>
> *Alternatively, if costs need to be incurred to secure water use and entitlements for water users beyond our counterfactual starting point, then water users can be considered the impactors.*

Notwithstanding our assessment above that W06-05 is outside the scope of WAMC monopoly services, we do not agree with the proposal to decrease cost shares. Climate change in a WAMC context presents new information about water availability that can be expected into the future, and the extent to which historic record can be relied upon (e.g., streamflow data) when making resource management decisions. This process of gathering new and better information about risks to water availability is required because there is high consumptive use of the water resource, requiring intensive management. That is, reassessing resource availability due to climate change (or any other new impact or knowledge) is only required because WAMC needs to manage NSW water resources.

If IPART decides to retain W06-05 as part of the WAMC scope, then we recommend the user share continues, given the composition of work in this activity is consistent with the current period. We therefore suggest that, if W06-05 is retained, the 60% user share continues.

WAMC has also proposed to recover the costs of metropolitan water planning (also part of W06-05) from Sydney Water and Hunter Water through direct licence charges to WaterNSW's Greater Sydney business and Hunter Water. WAMC noted this approach was already in place for Greater Sydney and should be expanded to include Hunter Water.[45] We agree with this approach for both as it enables direct allocation of those costs to the relevant customers.

[44] IPART (2021). Review of Prices for the Water Administration Ministerial Corporation from 1 October 2022 to 30 June 2025. P. 91.

[45] WAMC Pricing Proposal, P. 168.

4.3.3.2 Material changes to activity scope

WAMC has proposed significant increases in expenditure for most activities. Much of this increase was due to a greater intensity of the same scope, rather than a fundamental change to the scope established in the 2021 review.

WAMC made no reference to W06-04 'Drainage management plan development' in its submission and has not proposed any expenditure for the next period.

We recommend removing this activity from WAMC on the basis it has been unused and is not proposed to be used. Should WAMC propose a future scope of work and expenditure for drainage management, then that proposal can be considered separately at the time, based on a first principles assessment as to whether it falls within the scope of WAMC monopoly activities, or not.

4.3.3.3 Intentions to seek future external funding

WAMC has applied top-down reductions to its bottom-up cost build up, to arrive at its proposed expenditure in its submission. In doing so, WAMC has confirmed that it intends to seek funding for certain activities external to WAMC. The examples provided are[46]:

- W06-01: Approximately $0.3M government funding to subsidise peak water sharing plan workload, and an additional $2.1M for implementation of the Aboriginal Water Program and targeted First Nations engagement.
- W06-02: Approximately $1.7M government funding for Water Resource Planning and to subsidise peak water sharing plan workload, and an additional $2.4M for implementation of the Aboriginal Water Program and targeted First Nations engagement
- W06-03: Approximately $2.6M sought externally to establish regulation of floodplain harvesting in the southern basin, and an additional $0.9M for implementation of the Aboriginal Water Program and targeted First Nations engagement.
- W06-05: Approximately $1.2M government funding for implementation of the Aboriginal Water Program and targeted First Nations engagement.

The total external funding to be sought is $11.2M per annum over the next regulatory period.

While it is at WAMC's discretion to exclude certain scope and cost as part of its proposal, doing so with an intention to still carry out those activities using external Government funding undermines the cost sharing framework established for WAMC charges.

For example, the user cost share for W06-01 and W06-02 is 70%. This cost share is applied to forecast expenditure for the regulatory period. If there is an intention to expand scope and cost with additional Government funding, then Government will bear 100% (rather than the residual 30%) of the costs of this additional activity.

We acknowledge that Government bears the cost risk for WAMC activities over a regulatory period. Indeed, in the last period, Government took decisions to fund additional activities, for which it fully funded (with no user contribution despite a user share being in place), consistent with this risk allocation.

[46] WAMC response to RFI 72.

However, if WAMC is entering a regulatory process with an intention to seek separate government funding for an activity, then it is doing so with the expectation that users will not contribute as would have been the case if these costs were included in the submission itself. In our view this undermines the cost share framework. A better, more transparent approach would be to fully disclose this intention and acknowledge that the cost shares in these activity codes apply to a certain scope, that WAMC is intending to expand this scope, and that it intends to seek 100% Government funding for these additional costs.

We do not recommend including these costs in the cost base for pricing and then applying the user cost share, as WAMC has chosen to exclude them, and their inclusion is uncertain subject to future Government decisions. Rather, we recommend WAMC is transparent when putting forward expenditure proposals so that all stakeholders can understand how all costs for WAMC activities (including those expected to attract separate funding) will be shared between users and Government.

We acknowledge there will be no or little practical impact if the WAMC pricing proposal is accepted, as Government will bear a greater proportion of costs regardless. However, this is a matter of methodology and should create a precedent for future reviews.

4.3.4 Targeted review of proposed cost drivers

Cost drivers are used to distribute costs between geographic pricing groups with the objective of prices reflecting underlying costs. A detailed review of cost drivers occurred for the 2021 IPART review.

Regularly changing cost drivers between reviews will change the costs to be recovered from users in each area, which in turn will mean prices change between areas with no change in overall revenue to WAMC.

As for user shares above, we have performed a targeted review of cost drivers, focusing on:

- Changes proposed by WAMC
- Material changes to the nature of the costs we have observed for each activity through our review.

4.3.4.1 Cost drivers proposed by WAMC

WAMC proposed the continuation of all cost drivers from the current period into the next period, with the following exceptions:

- W05-01 ‘Systems operation and water availability management’: WAMC proposed changing from ‘water operations complexity’ to ‘implementation of water management plans’
- W05-03 ‘Environmental water management’: WAMC proposed changing from ‘environmental entitlements’ to ‘environmental water management works dollar cost’
- W05-04 ‘Water plan performance assessment and evaluation’: WAMC proposed changing from ‘volume of entitlements’ to ‘prioritisation matrix for MER plans’.

The impacts from these changes over the future period are set out in Table 4-1 in terms of the type of water source.

Table 4-1: Impact of WAMC proposed drivers on costs allocated to water source types

Water source type	W05-01	W05-03	W05-04
Regulated	12,861	(5,630)	(8,818)
Unregulated	6,260	5,630	6,942
Groundwater	(19,121)	0	1,876

W05-01 – Systems operation and water availability management

The WAMC proposal is intended to result in the costs of this activity allocated based on the level of expenditure required to manage each pricing valley and water source. This would see an increase in allocation to regulated and unregulated water sources and a corresponding reduction in costs allocated to groundwater sources.

The WAMC proposal did not include a detailed analysis or justification for this change.

Nonetheless, we consider the proposed change to be a better approach than current practice of allocating based on an assessment of "water operations complexity" on the basis that:

- Some valleys/water sources may involve a high degree of complexity but be relatively small in size, and therefore could bear a disproportionate share of costs to their overall impact
- Complexity requires a subjective assessment and is less transparent.

Moreover, the proposed approach results in groundwater sources receiving a lower allocation of costs, implying that groundwater sources have a lesser impact on this activity's costs. We agree with this outcome, as carrying out this activity for groundwater will be simpler and lower cost in functions such as making available water determinations and reporting implementation of water sharing plans.

W05-03 – Environmental water management

WAMC proposed to set the cost driver for this activity to environmental water management works dollar cost. This will see more cost allocated to unregulated sources and less cost allocated to regulated sources.

WAMC did not justify in their submission why this is a better approach than the current approach of allocating by environmental entitlements. Unlike W05-01 above, it is not apparent why the WAMC proposal is needed or superior to the current driver.

W05-04 – Water plan performance assessment and evaluation

WAMC proposed to set the cost driver for this activity through a prioritisation matrix for monitoring, evaluation and reporting (MER) plans, with costs allocated based on an estimate of effort level (high, medium or low). This will see more cost allocated to unregulated sources and groundwater, and less cost allocated to regulated sources.

WAMC explained that the current cost driver of entitlement meant most funds were allocated to Murray and Murrumbidgee with little costs to unregulated, coastal or groundwater plans. The new cost driver reflects drivers such as extraction pressure, risk to ecosystems, and stakeholder contention. It also acknowledges that all plan areas require MER activities under the Act.

We agree with DCCEEW's proposal, which more evenly spreads the cost of this activity across all water sources, which is consistent with the need for plan assessments to occur at all locations. We have observed the prioritisation matrix for MER, provided by DCCEEW, and are satisfied it is suitable for this purpose.

4.3.4.2 Material changes to activity scope

We did not find changes in scope to activities that warrant a change to cost driver.

4.4 Conclusions and recommendations

We recommend IPART remove W06-03 and W06-05 from the scope of WAMC monopoly activities, as these are not core water resource management functions and do not fall within our interpretation of the NWI pricing principles for water management and planning charges.

We also recommend controlled activity approval charges and flood work approval charges are removed from the WAMC scope on the same basis.

We recommend W06-03 and W06-05 are better funded through annual budget processes rather than through a WAMC allowance. The costs for metropolitan water planning can continue to be recovered directly from Hunter Water and from Sydney Water via licence charges to WaterNSW's Greater Sydney business. We recommend regional water strategy costs should not be funded by licence holders given their urban planning focus. Rather the costs of these strategies can be centrally funded, or the costs shared with the utilities providing water supply services to these regional towns and cities (e.g., councils).

We also recommend that W06-04 is removed, as there has been no actual expenditure against this activity, nor is any expenditure proposed bringing into question its need. This enables a fresh assessment to be made if there is proposed expenditure for future reviews, against the definition of monopoly services at the time.

We recommend IPART accepts WAMC's proposed user shares except for:

- W06-01, W06-02, W06-03 and W06-05: We recommend the user shares table should include reference that DCCEEW intends to seek separate Government funding for these activities, and that this increase (if approved) will attract 0% user share of cost
- W06-05: We recommend this activity is now outside the scope of WAMC monopoly services. If IPART decides to retain W06-05 then we do not agree with WAMC's proposed decrease in user share from 60% to 50%. We recommend the share remains at 60%. We agree with WAMC's proposal to recover metropolitan water planning costs directly from Hunter Water via WaterNSW, like what occurs for Sydney Water.

Table 4-2: Recommended user shares

Activity code	User share %	Comment
W01-01 Surface water quantity monitoring	77	
W01-02 Surface water data management and reporting	77	
W01-03 Surface water quality monitoring	77	
W01- 04 Surface water algal monitoring	77	
W01-05 Surface water ecological condition	77	
W02-01 Groundwater quantity monitoring	100	
W02-02 Groundwater quality monitoring	100	
W02-03 Groundwater data management	100	
W03-01 Water take data collection	100	
W03-02 Water take data management and reporting	100	
W04-01 Surface water modelling	100	
W04-02 Groundwater modelling	100	
W04-03 Water resource accounting	100	
W05-01 Systems operation and water availability management	100	
W05-02 Blue-green algae management	40	
W05-03 Environmental water management	80	
W05-04 Water plan performance assessment and evaluation	50	
W06-01 Water plan development (coastal)	70	WAMC intends to seek additional funding from Government, outside of WAMC, to carry certain work that would fall within the scope of these activities. If this occurs, the effective user share will be lower.
W06-02 Water plan development (inland)	70	
~~W06-03 Floodplain management plan development~~	~~0~~	Stantec has recommended this is removed from the scope of WAMC monopoly services.
~~W06-04 Drainage management plan development~~	~~0~~	Stantec has recommended this is removed from the scope of WAMC monopoly services.
~~W06-05 Regional planning and management strategies~~	~~60~~	Stantec has recommended this is removed from the scope of WAMC monopoly services.
W06-06 Development of water planning and regulatory framework	80	
W06-07 Cross-border and national commitments	50	
W07-01 Water management works	80	
W08-01 Regulation systems management	100	
W08-02 Consents management licence conversion	100	
W08-03 Compliance management	100	
W09-01 Water consents transaction	100	
W10-01 Customer management	100	

Activity code	User share %	Comment
W10-02 Business governance support	80	
W10-03 Billing management	100	

In relation to cost drivers, we agree with WAMC's proposal for cost drivers with the exception of W05-03 as the reasons for the change are unclear based on the information provided by WAMC in their proposal.

5 Strategic review of the pricing proposal

5.1 Overview of expenditure

5.1.1 Overall expenditure

Figure 5-1 illustrates the total expenditure (operating expenditure and capital expenditure) for each year across the current and future periods consolidated across all W-code activity groups, excluding fee-for-service activities. The actual total expenditure in the current period has collectively exceeded the 2021 Determination forecast with a continual upwards trajectory each year. A slight decrease of 9% is observed between the actual expenditure in the final year of the current period (2024/25) and the proposed expenditure in the first year of the future period (2025/26). Overall, a continual downward trajectory is observed for the proposed overall expenditure for the future period, varying no more than 9% year on year.

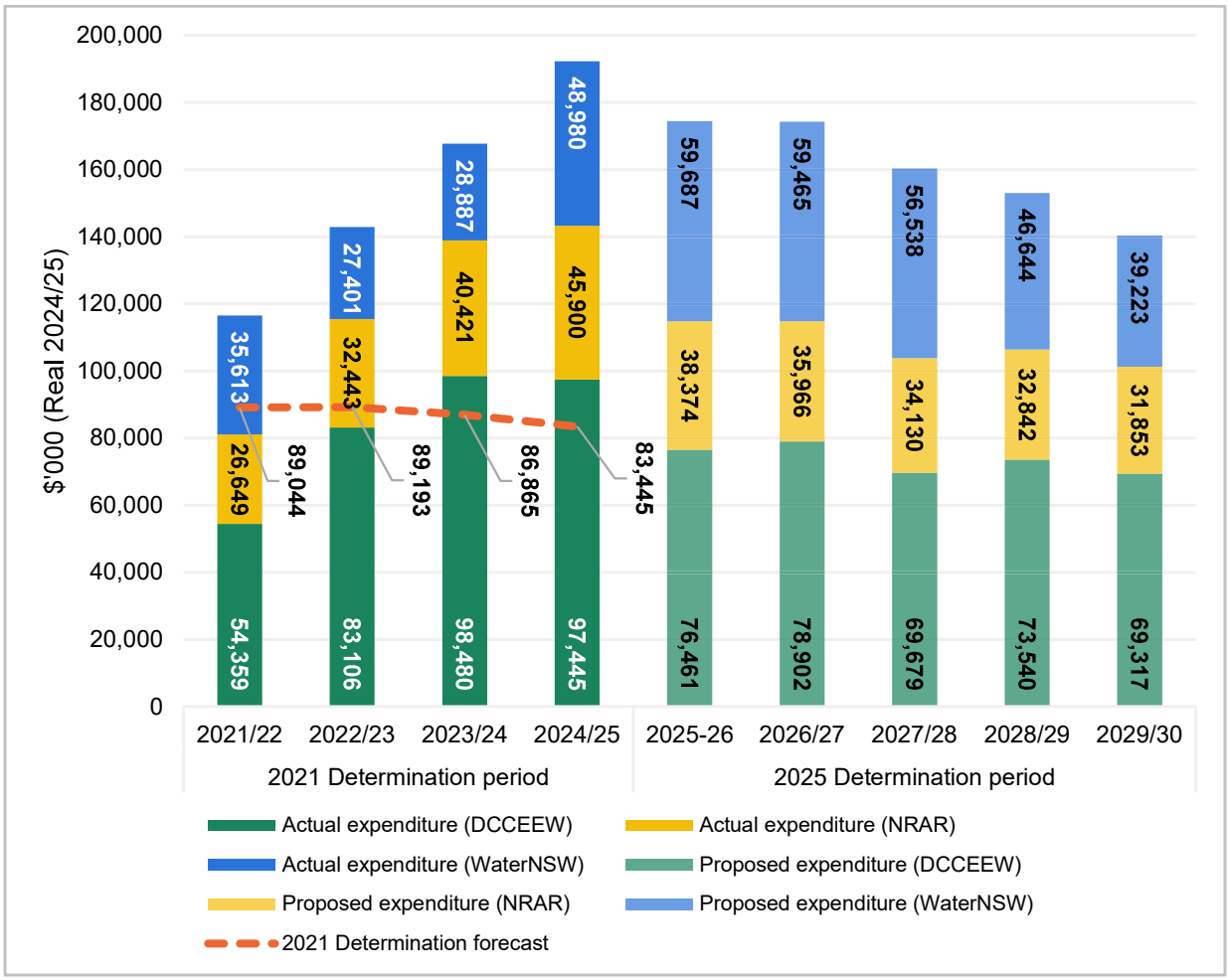


Figure 5-1: Overall comparison of 2021 and 2025 Determination period actual and forecasted total expenditure

The actual total expenditure for the current period averages $154.9 million per year, which is a significant increase of $67.8 million per year (78%) from the allocated total expenditure in the 2021 Determination, averaging $87.1 million per year.

The proposed total expenditure for the future period averages $160.5 million per year, which is an increase of $73.4 million per year (84%) from the 2021 Determination forecast, and an increase of $5.6 million per year (4%) from the actual total expenditure in the current period.

Figure 5-2 shows the split between operating expenditure and capital expenditure for each year across the current and future periods consolidated across all activity groups, excluding fee-for-service activities. The actual operating expenditure in the current period averages $143.6 million per year, which is an increase of $67.1 million per year (88%) from the allocated operating expenditure in the 2021 Determination period, averaging $76.5 million per year. The actual capital expenditure in the current period averages $11.3 million per year, which is a slight increase of $653,000 per year (6%) from the allocated capital expenditure in the 2021 Determination period, averaging $10.6 million per year.

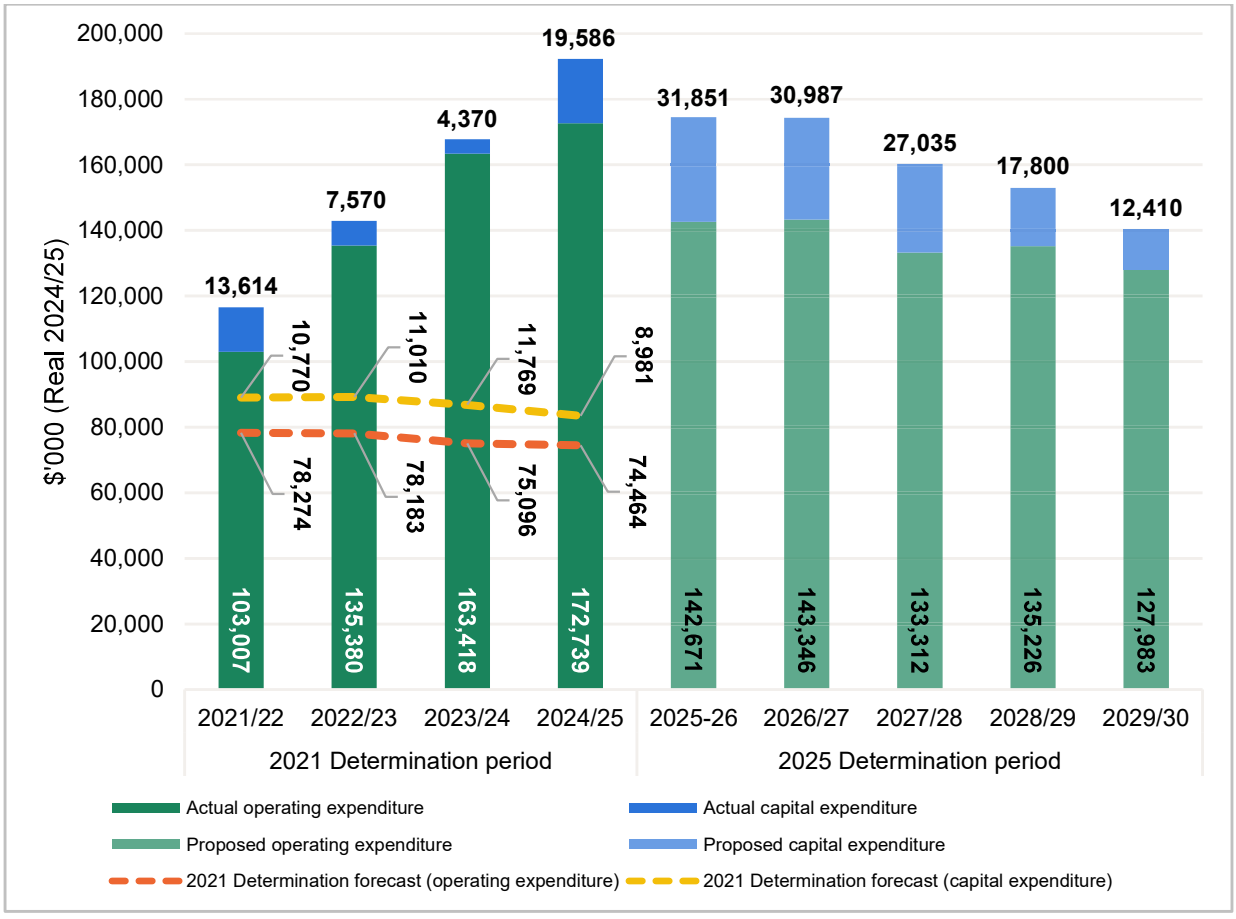


Figure 5-2: Comparison of 2021 and 2025 Determination period actual and forecasted operating and capital expenditure

From this analysis, it is clear that the total actual expenditure in the current period has exceeded the forecast at the time of the 2021 Determination and the total expenditure for the future period is proposed to begin at similar levels to that of the later years of the current period actual expenditure and is projected to continually decrease towards the later years of the future period.

The agencies responsible for delivering WAMC services cite the following reasons for the observed increases in expenditure:

- The 2021 Determination not adequately reflecting the full range of WAMC activities necessary for the efficient delivery of water management outcomes. This is particularly relevant to expenditures required in response to unscheduled activities in response to

issues such as flooding, high river events, mass fish death events, and the findings and recommendations of inquiries, such as those of the NRC. Furthermore, further provisions were required to reform water sharing plans and floodplain management plans, and to address corrections for IPART's 2021 decision that the efficient level of compliance and enforcement expenditure in NSW should be based on benchmarking to Victoria's compliance costs. There is also a necessity to account for legal expenditure previously funded by the Crown Solicitor's Office (NSW).

- An 'overspend' in capital expenditure incurred during the current period is reflected by the challenging capital expenditure environment, dealing with the impacts of COVID-19, flood and bushfire events, supply chain issues, and cost inflations. Higher expenditure in corporate and digital support activities were primarily due to investment in digital customer systems (WAVE) required to replace aging systems.

A summary of common reasons cited by each agency for the increase in expenditure across the current period is noted, with details provided per activity in Section 7.

- DCCEEW:
    - Understated labour requirements in the determination (for example spatial work, communication and engagement team, management costs and general FTE to achieve required tasks)
    - Developing tools and automation of processes (for future benefit)
    - Increase of requirements of analysis and development of metrics (such as the long-term average annual extraction limits, sustainable diversion limit adjustment mechanism, development of evaluation process for environmental, and social and economic performance indicators)
    - Metering costs
    - Additional reviews and resulting actions (such as S10 reviews, S43 floodplain review for Barwon darling, NRC audit outcomes)
    - Increase in requirements for water sharing plan evaluations
    - Increased scope for completion of water strategies
    - Meeting the requirements of the basin salinity management plan in accordance with Schedule B of Murray-Darling Basin Agreement
    - Developing an asset management framework
    - Increase in overheads.
- NRAR – education of license holders, legal costs as a result of no longer being funded by the NSW Government, and additional compliance requirements for non-urban metering and floodplain harvesting
- WaterNSW – reinstating monitoring stations after fire and flood events, a greater focus on groundwater monitoring, increased algae monitoring based on specific events, IT costs and increasing insurance costs.

For the proposed future period expenditure, some of the reasons provided by the agencies for increases are summarised here, with explanations provided in Section 7.

- DCCEEW:
    - General increase in scope of work through increases in the number, frequency, requirement and quality of various reporting and planning activities (including water accounting, water sharing plans, floodplain management plans, regional strategies)
    - Implementation of strategies

  - Basin salinity management review
  - Increase is scope of analysis and data processes (such as modelling)
  - Compliance with NRC audit outcomes
  - Development of asset management framework
  - Renewals required to ensure assets remain in good condition and meet environmental requirements.
- NRAR – ongoing education and meter compliance
- WaterNSW:
  - Expansion of the water quality monitoring program, especially in higher risk water sources
  - Additional telemetry on monitoring sites (future benefit)
  - Renewals required to ensure assets remain in good condition and meet desired services levels.

To provide context on the relative level of expenditure which each agency is responsible for delivering, a breakdown of the proportion of overall expenditure allocated to each agency in the 2021 Determination and the actual expenditure by each agency in the current period is provided in Figure 5-3 and Figure 5-4 respectively. Similarly, a breakdown of the proportion of proposed overall expenditure allocated to each agency in the future period is provided in Figure 5-5.

Figure 5-3 shows the proportion of overall expenditure allocated to each agency in the 2021 Determination forecast, with DCCEEW accounting for 40%, NRAR 22%, and WaterNSW 38%.

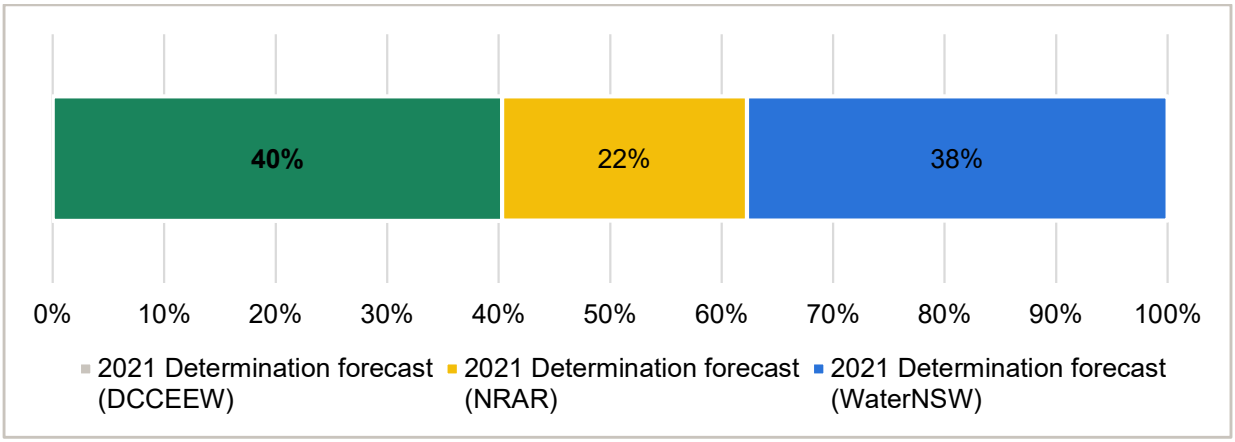


Figure 5-3: Overall expenditure allocated to each agency in the 2021 Determination forecast

Figure 5-4 shows the proportion of overall actual expenditure by each agency over the current period, with DCCEEW accounting for 54%, NRAR 23%, and WaterNSW 23%.

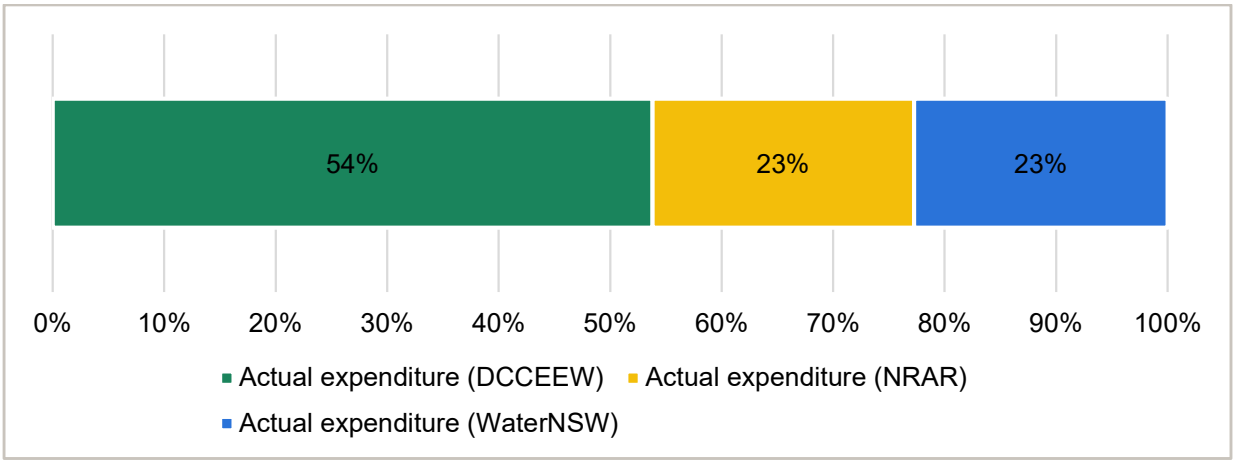


Figure 5-4: Overall actual expenditure by each agency over the current period.

Figure 5-5 provides a breakdown of the proportion of overall proposed expenditure allocated to each agency for the future period, with DCCEEW accounting for 46%, NRAR 22%, and WaterNSW 33%.

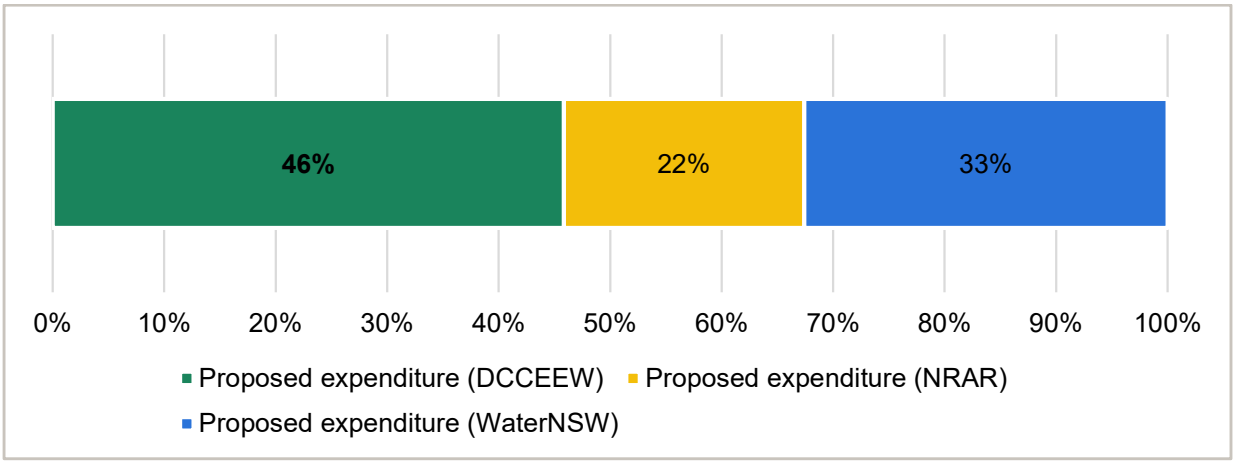


Figure 5-5: Overall proposed expenditure allocated to each agency for the future period

From this analysis, a notable shift is observed in the allocation of overall proposed expenditure to each agency for the future period, demonstrating the management of the proposed expenditure driven by the trends observed in the current period. The main features of this analysis are:

- DCCEEW – forecasted at the time of the 2021 Determination to account for 40% of the overall expenditure but was relatively higher accounting for 54% of the current period actual overall expenditure. The future period allocates 46% of the proposed overall expenditure to DCCEEW.
- NRAR – forecasted at the time of the 2021 Determination to account for 22% of the overall expenditure and was only slightly higher accounting for 23% of the current period actual overall expenditure. The future period proposed expenditure allocation to NRAR remains consistent at 22%.
- WaterNSW – forecasted at the time of the 2021 Determination to account for 38% of the overall expenditure but was significantly lower accounting for only 23% of the current period actual overall expenditure. 33% of the proposed overall expenditure is allocated to expenditure by WaterNSW for the future period.

The allocation of the proposed overall expenditure for the future period across the different agencies indicate expenditure dominated by DCCEEW, with an increase to 46% of the overall expenditure in the future period from the forecast 40% in the 2021 Determination. There is a reduced allocation to WaterNSW (from 38% in the 2021 Determination to 23% for the future period) and a consistent allocation to NRAR to that of the 2021 Determination (22%). The allocation of the proposed overall expenditure for the future period to the different agencies is reflective of the actual expenditure accounted by each agency in the current period.

The proposed overall expenditure for the future period at an activity code level is shown in Figure 5-6. The proposed expenditure for majority of activity codes for the future period is below $40 million, except for a total of five activity codes that have proposed expenditure exceeding this amount. The overall proposed expenditure for a total of 16 activity codes is below $20 million for the future period, with an observed minimum of $212,000 for W08-01 (Regulation systems management). A substantially higher proposed overall expenditure totaling $174.1 million is observed for W08-03 (Compliance management) and accounts for 22% of the total proposed overall expenditure for the future period.

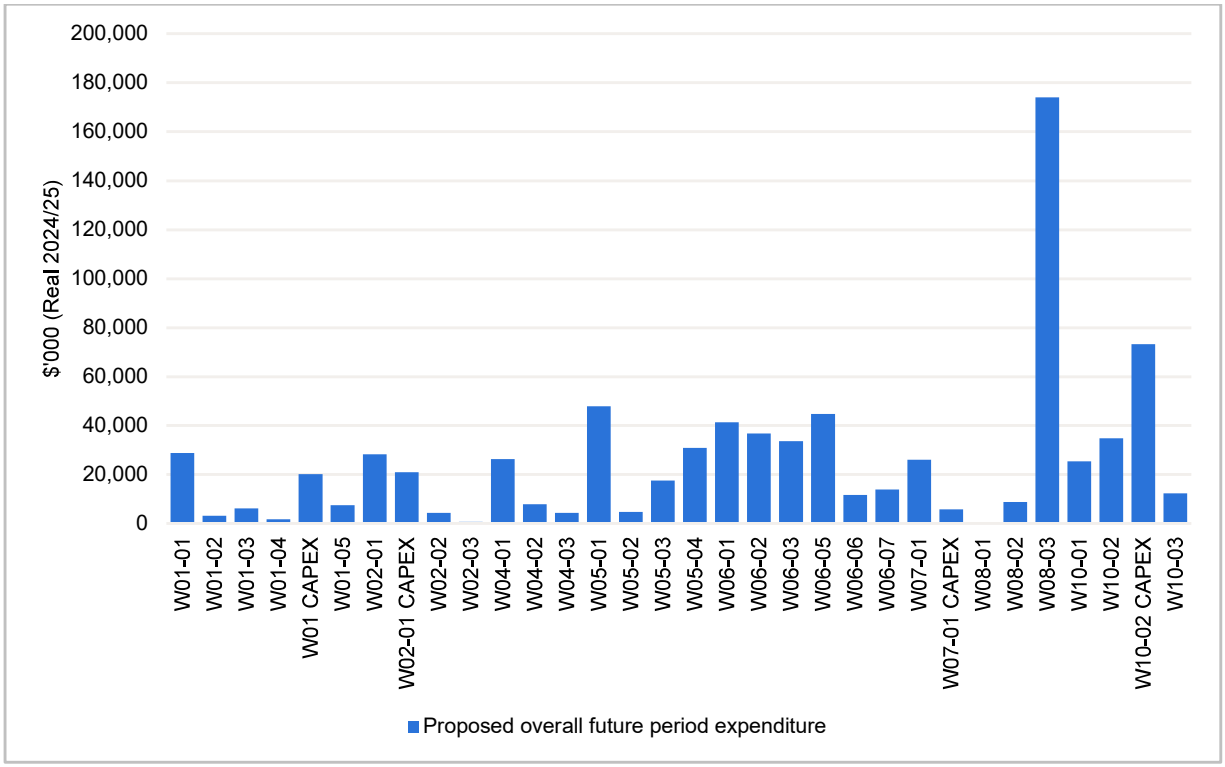


Figure 5-6: Proposed overall future period expenditure by activity code

5.1.2 Operating expenditure

Figure 5-7 shows the variance in average annual actual operating expenditure in the current period to the average annual forecast operating expenditure in the 2021 Determination by activity group, excluding fee-for-service activities.

This analysis shows that the major drivers of actual expenditure in the current period exceeding the 2021 Determination were:

- W06 (Water management planning), which had an average annual exceedance of $28 million from the 2021 Determination.
- W08 (Water regulation management), which had an average annual exceedance of $17.3 million from the 2021 Determination.

- W05 (Water management implementation), which had an average annual exceedance of $14 million from the 2021 Determination.

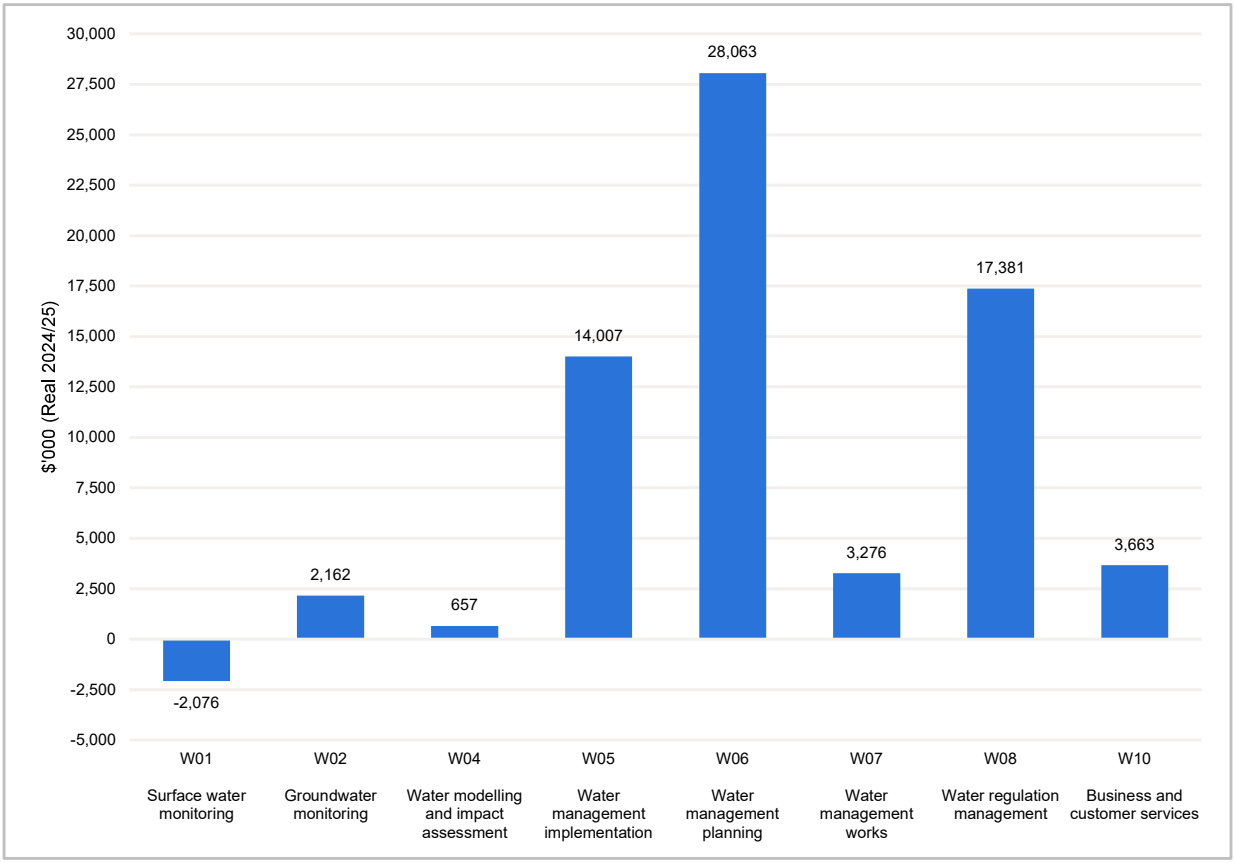


Figure 5-7: Variance of average annual actual operating expenditure to 2021 Determination by activity group

Figure 5-8 Figure 5-8shows the variance of the proposed average annual operating expenditure to the average annual actual operating expenditure in the current period by activity group, excluding operating expenditure for the consent transactions group (W09). The main features of this analysis are:

- The proposed operating expenditure for W06 (Water management planning) at an activity group level is substantially lower than the current period expenditure, averaging $9.4 million per year lower (21% decrease) from the actual expenditure during the current period
- There is a large step in the proposed operating expenditure for W10 (Business and customer services) for the future period, averaging $3.9 million per year higher (37% increase) than the current period expenditure.

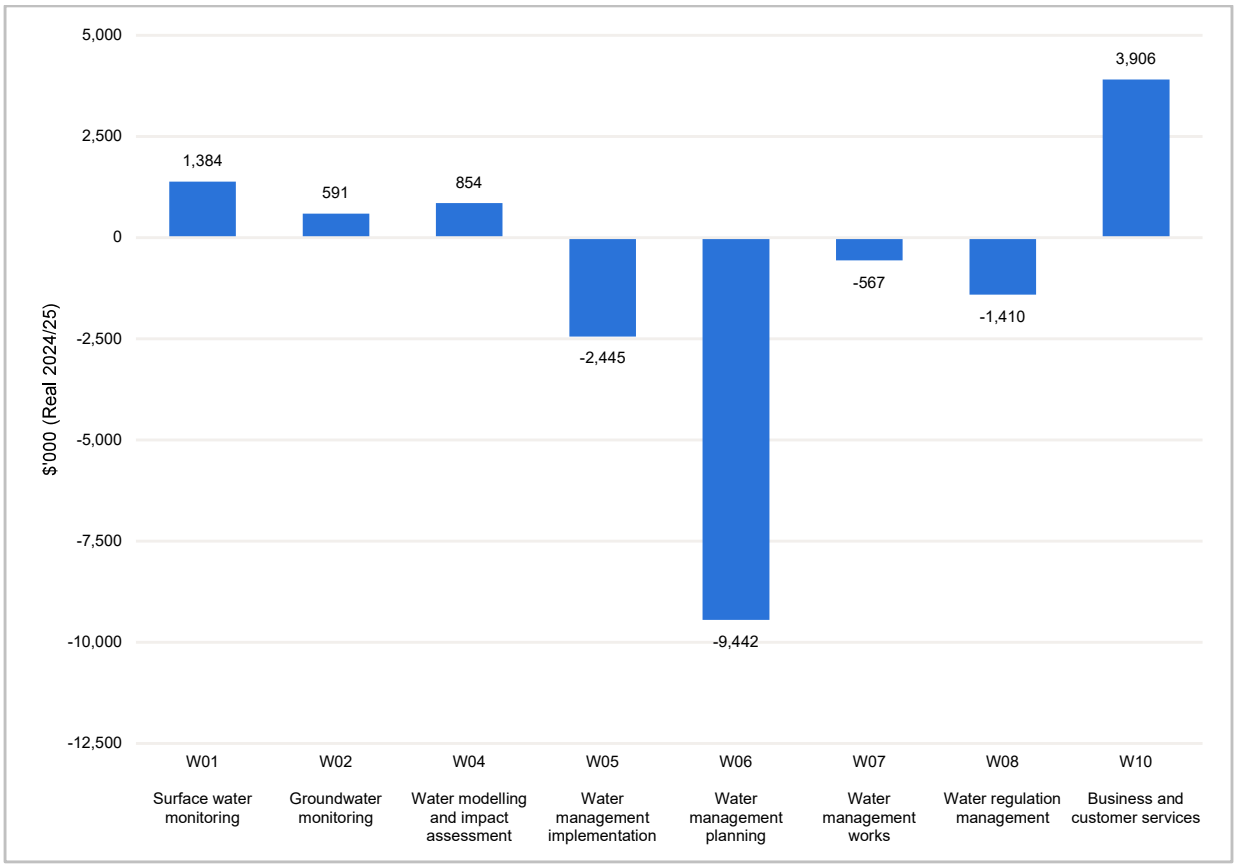


Figure 5-8: Variance of future period average annual operating expenditure to current period actual operating expenditure by activity group

Figure 5-9 shows the variance of future period average annual operating expenditure to the operating expenditure allowed for in the 2021 Determination by activity group, excluding operating expenditure for the consent transactions group (W09). The main features of this analysis are:

- The proposed operating expenditure for W06 (Water management planning) at an activity group level is substantially higher than the 2021 Determination forecast, averaging $18.6 million per year higher (105% increase)
- There is a large step in the proposed operating expenditure for W08 (Water regulation management) than forecasted in the 2021 Determination, averaging $15.9 million per year higher (77% increase).

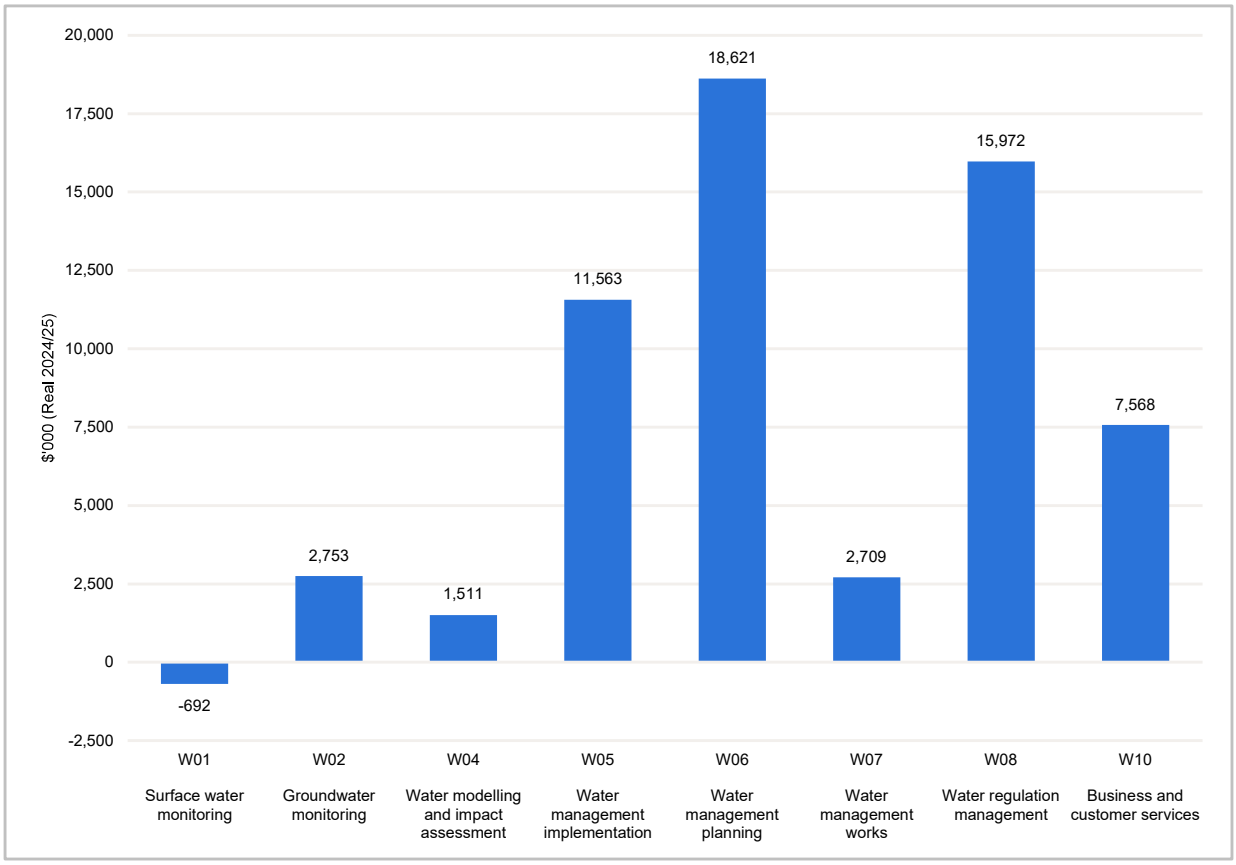


Figure 5-9: Variance of future period average annual operating expenditure to 2021 Determination by activity group

5.1.3 Capital expenditure

The actual and forecast capital expenditure in the current and future periods for the respective activity codes is shown inFigure 5-10, excluding capital expenditure recorded against activity code W10-02 (Business governance and support). The overall capital expenditure is recorded against a small number of activity codes and is almost entirely attributable to expenditure by WaterNSW.

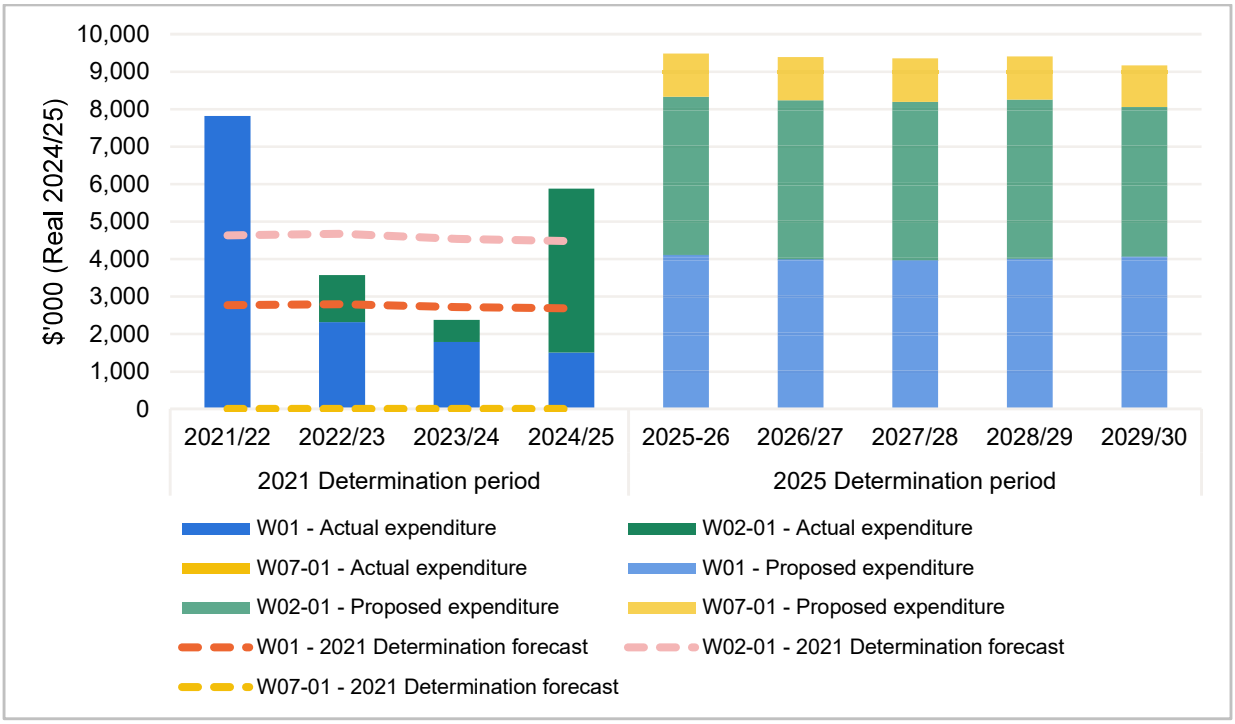


Figure 5-10: Current and future period capital expenditure (forecast and actual) by activity codes, excluding W10-02 (Business governance and support)

Figure 5-10 shows that the actual capital expenditure recorded against W01 (Surface water monitoring) is significantly higher (by a total of $5 million) than the 2021 Determination in the first year of the current period (2021/22) but remains lower than the forecast for the remainder of the current period. The actual capital expenditure for activities related to W02-01 (Groundwater quantity monitoring) remains below the 2021 Determination forecast for the entirety of the current period. There was no expenditure for W07 (Water management works) in the current period and no allowance was made for this activity in the 2021 Determination.

The actual and forecast capital expenditure in the current and future periods for W10-02 (Business governance and support) is shown in Figure 5-11. The actual capital expenditure recorded against W10-02 (Business governance and support) is higher than forecasted in the 2021 Determination, except for the third year of the current period (2023/24). The actual capital expenditure incurred in the final year of the current period (2024/25) is $11.9 million higher than the forecasted.

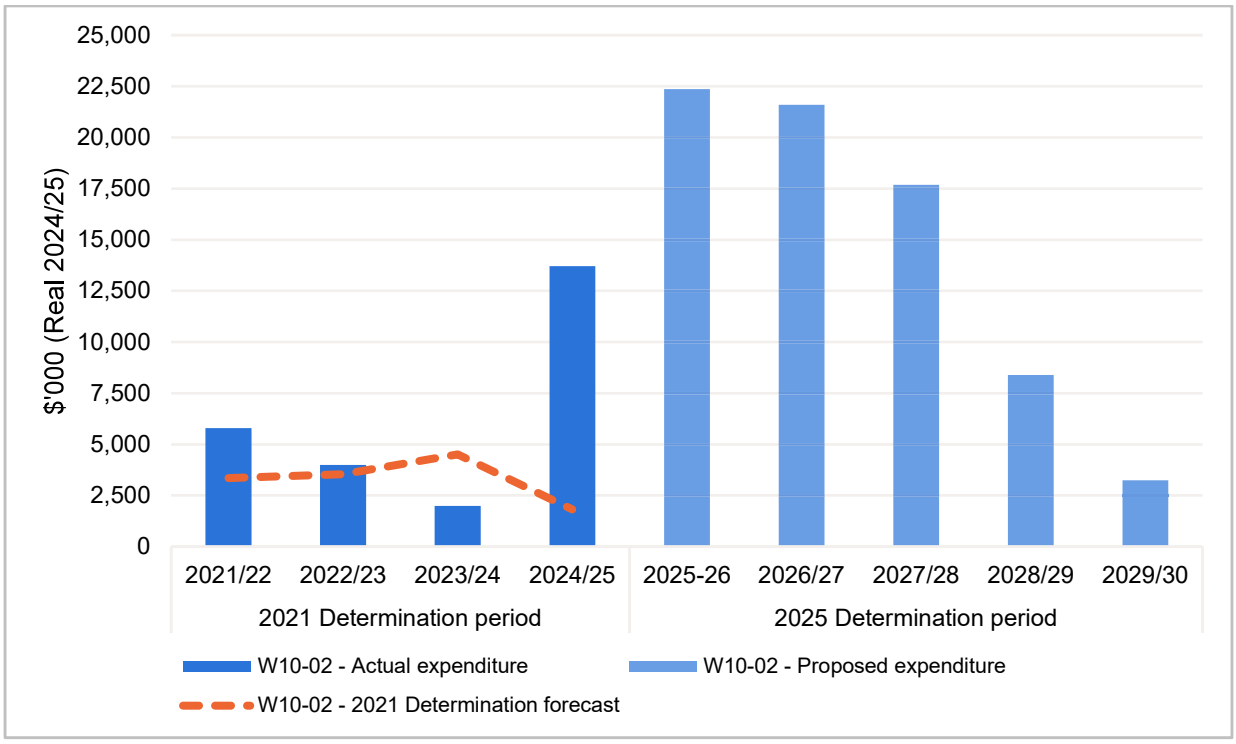


Figure 5-11: Current and future period capital expenditure (forecast and actual) for activity code W10-02 (Business governance and support)

Overall, the actual total capital expenditure in the current period exceeds the forecast at the time of the 2021 Determination by an average of $653,000 per year, and this variance is primarily attributed to capital expenditure recorded against activity codes W10-02 (Business governance and support) and W01 (Surface water monitoring).

The observed increased actual capital expenditure for W10-02 (Business governance and support) activities in the current period is primarily due to investment in digital customer systems (WAVE programs). In addition, there was higher digital costs due to cloud adoption, licensing cost increases, and increased people related expenditure from the introduction of New Ways of Thinking. The higher actual capital expenditure for W01 (Surface water monitoring) activities is attributed to the procurement and implementation of specialised equipment to support safe water monitoring activities during flood events, as well as renewal costs necessary to restore damaged sites to working order from bushfires and flood events. We provide a detailed discussion of capital expenditure for W10-02 (Business governance and support) and W01 (Surface water monitoring) in Section 0.

There is an increase in capital expenditure proposed for the future period from the actual capital expenditure incurred during the current period, rising from an average actual expenditure of $11.3 million per year to an average of $24 million per year (113% increase) in the future period. This increase is largely attributed to the delivery of digital business improvement strategies and the capital expenditure required for delivering critical surface water and groundwater assets.

5.2 Corporate overheads

WAMC follows a detailed activity-based costing approach to account for its direct and indirect costs associated with water management activities. Direct costs, which can be specifically attributed to particular WAMC activities, are allocated directly to those activities. Indirect costs, which support WAMC's operations more broadly (such as legal, corporate and financial services costs) are categorised as overheads. These overhead costs are then distributed across the various WAMC management activity codes to ensure a fair and proportional allocation of costs.

We have undertaken a critical assessment of the approach and justification used by WAMC in the development of their proposed overhead costs for the 2025 Determination. Our analysis looks to assess the effectiveness and transparency of this approach and proposed expenditure outcomes. Our assessment of proposed WAMC overheads has focused on cost justification and alignment to best-practice and industry benchmarks.

Our assessment of WAMC (and individual WAMC agency) corporate overheads for the 2025 Determination has highlighted that while proposed overhead expenditure appears to be within reasonable percentage levels of the overall (and individual) NRR, we have sought to contextualise and recognise that these total overhead percentage values are skewed due to the overall increase in proposed WAMC expenditure.

Our view is that the significant rise in proposed expenditure has potentially inflated the base against which overheads are calculated. Our assessment of the prudent basis of non-direct costs on WAMC overheads for the next determination period includes the methodologies and assumptions used in their allocation. We have also assessed, to the extent that justifiable and supporting information was available, the rationale behind these overhead costs to ensure they are necessary and reasonable.

In our assessment, we have been conscious that proposed overhead allowance expenditure by WAMC is not standalone. We recognise that these costs have been integrated and factored into the overall WAMC activity code costs for the next determination period – they are not additional costs.

5.2.1 Corporate overheads benchmarking

The value of benchmarking is that it can provide insights into the relative costs and performance of agencies and identify areas for further scrutiny and improvement. In our experience, it can be difficult to reliably benchmark services across various organisations due to unique differences in operating environments, contexts, service levels, scope and scale of operations, and methods of allocating direct costs. The availability of reliable data can also be challenging.

It is our view that the scope of WAMC services is quite unique in the context of the Australian Water Industry in that they are undertaken by only a few agencies. New South Wales is the only jurisdiction in Australia to consistently subject water planning and management activities to regulatory oversight, resulting in limited availability of reliable comparative data.

In our approach to benchmarking of corporate overhead costs, we have taken the following approach through comparing corporate overhead expenditure:

- Trends across the current and future periods of the three WAMC agencies
- Against available national benchmarking of Australian government agencies
- Against corporate overhead expenditure in other water sector agencies.

DCCEEW and NRAR, at our expenditure review interview, indicated that separate benchmarking had been undertaken and provided the following figures to support DCCEEW and NRAR's proposed overhead costs for the next determination period are reasonably within benchmarked overheads as a portion of revenue:

- Gains Research and Development Corporation – 8.9% of total expenditure
- Australian Fisheries Management Authority – 21% of total budget (4% below target)[47].

[47] DCCEEW and NRAR Corporate Overheads Presentation 2024-12-06.

5.2.1.1 National benchmarking of Australian government agencies

In our approach to assessing WAMC corporate overhead costs, we identified limitations to the benchmarking information that exists on corporate overheads, particularly in the government sector. The most recent Australian benchmarking of Commonwealth and State Government corporate services was a report prepared by Price Waterhouse Coopers (PwC) in 2014[48]. This was the detailed benchmarking study on corporate services in the public sector and included 16 Commonwealth and four State Government departments of various sizes. Unfortunately, we were unable to identify additional or similar studies that have been undertaken since 2014 that are publicly available. The benchmarking study's findings have been referenced in previous IPART expenditure reviews (Synergies (2016) and Cardno, now Stantec (2021)). Despite this report's date of publishing, we consider this benchmarking study as a useful framework to inform our opinion and assessment of corporate overheads for this review.

The scope of corporate services within the PwC benchmarking study included finance, human resources, legal, ICT, procurement, communications and property management. However, the PwC scope of corporate services excluding billing and customer services.

The benchmarked entities and agencies were categorised into 3 cohorts based on their total operating expenses:

- Small < $100 million (FY14)
- Medium - $101 million to $500 million (FY14)
- Large < $501 million (FY14)

Each individual WAMC agency would be categorised in the small cohort, while the collective WAMC organisation would be classified within the medium cohort using the PwC scale above.

We have utilised this categorisation to compare WAMC agency corporate costs as a percentage of OPEX, and we have also assessed WAMC as a single entity against the median score for the cohort size based on the PwC benchmarking study findings. We consider that while the WaterNSW corporate overhead costs may not be fully aligned to corporate cost definitions utilised by PwC at the time of this benchmarking study, the assessment provides a high-level overview assessment and comparison of WAMC, and individual WAMC agency, costs.

Table 5-1 provides an overview of the WAMC agency corporate cost comparison outcomes.

Table 5-1: Overheads per FTE

Agency	Corporate services costs (% of OPEX)	Media for cohort size (PwC study)	Difference
WaterNSW	23%	14%	9%
DCCEEW	20%	14%	6%
NRAR	12%	14%	-2%
WAMC	18%	14%	4%

[48] PWC 2015, *Sustainable Productivity*, PwC Report, viewed on 27 February 2025.

5.2.1.2 Corporate overhead expenditure in other water sector agencies

As part of our assessment of proposed WAMC corporate overhead expenditure, we also attempted to assess similar expenditure across other water sector agencies in Australia. We identified the price review model undertaken by water utilities in Victoria as part of their pricing submissions to the Essential Services Commission[49]. This information provides reliable data on expenditure of the Victorian Water Utilities and includes corporate, billing and customer service expenditure.

Our analysis of this data for a range of agencies by utility type (rural, regional urban and major urban), was intended to establish any patterns or relationships between water utility cost and expenditure profiles that may be useful in supporting our analysis and assessment of WAMC corporate overheads. However, the results highlighted the extent of variability of performance measure between the different water utilities. We considered that these comparisons were not appropriate for assessing WAMC overhead expenditure against.

5.2.2 WAMC agency overhead comparisons and allocations

Our assessment of total overhead expenditure and allocation over the current period (against IPART allowances) and the proposed overhead allocation and expenditure for the 2025 Determination period resulted in the following observations:

- DCCEEW's corporate overhead costs and corresponding percentage of revenue are continuing to increase, having increased by 186% over the IPART allowance in the current period. DCCEEW have provided that this increase in overhead expenditure was driven by the decision to add 'critical core delivery services' to the Water Group within the department.
- DCCEEW propose to increase corporate expenditure by a further 12% over the next Determination period. DCCEEW will have the highest corporate overhead to corporate revenue percentage of the three WAMC agencies based on current proposed expenditure.
- While NRAR's corporate expenditure is proposed to increase, its overhead to revenue percentage will be the lowest of the three WAMC agencies at 12%
- WaterNSW's proposed corporate overheads expenditure has remained within the IPART allowance (7% lower) during the current Determination period, with proposed plans to reduce overhead expenditure to an average of corporate overheads being 14% of revenue (this represents a proposed 16% reduction).

[49] Essential Services Commission 2025, *Water Price Review 2023*, Water price review 2023 | Engage Victoria, viewed on 27 February 2025.

Table 5-2: Overhead and revenue over the current and future periods ($'000 2024/25)

WAMC agency	Current period, IPART allowed (FY22–25, annual average)			Current period, actual expenditure (FY22–25, annual average)			Future period, proposed (FY26–30, annual average)		
	Overhead	NRR	Allowed portion of NRR	Actual overhead expenditure	Actual WAMC expenditure	Portion of actuals	Proposed overhead	Proposed NRR	Portion of NRR
DCCEEW	4,458	35,129	12.7%	12,761	86,210	14.8%	14,277	73,580	19.0%
NRAR	2,713	19,122	14.2%	3,501	36,353	9.6%	4,008	34,633	12.0%
WaterNSW	8,726	32,855	26.6%	8,157	35,220	23.2%	6,825	50,510	14.0%
Total	15,897	87,106	18.3%	24,419	157,783	15.5%	25,110	158,723	16.0%

Source: Table 2 of Attachment G to the WAMC Pricing Proposal

As part of our assessment of corporate overheads, we also completed a comparative assessment of corporate overhead costs per FTE across the agencies and these are shown in Table 5-3. Total WAMC FTEs for WaterNSW were unavailable at the time of our assessment and we have relied on the FTE rates derived from the parallel WaterNSW Rural Bulk Water Expenditure Review as an approximation. The comparison indicates that overall overhead costs per FTE is relatively high for DCCEEW. WaterNSW's overhead costs per FTE are higher than that of NRAR's however, we would highlight the fact that the scope of WaterNSW and NRAR activities aren't directly comparable (WaterNSW's overheads also account for billing and corporate services).

Table 5-3: Overheads per FTE ($'000 2024/25)

Agency	Total overheads	FTE	Overhead/FTE
WaterNSW	-	-	36,769
DCCEEW	14,277	266	53,673
NRAR	4,008	181	22,144

5.2.2.1 Assessment of DCCEEW Business Services overheads

When reviewing and assessing the overall WAMC overhead expenditure profile across the current and future determinations, the outlying factor in overall increased WAMC overhead expenditure is driven by the expansion of DCCEEW's scope of activities to be included within WAMC's overhead allocation through the inclusion of DCCEEW's WAMC Business Services functions and activities. We acknowledge that DCCEEW has specific and broad governance, administrative and corporate support and enablement functions and responsibilities that are delivered to support the broader WAMC business and WAMC agencies in the delivery and discharge of responsibilities and obligations. We have chosen to undertake a detailed assessment of these additional proposed DCCEEW corporate overhead costs.

Table 5-4 provides a summary of DCCEEW WAMC business services forecasted overhead costs by component over the 2025 Determination period.

Table 5-4: Overview of DCCEEW business services overhead costs ($'000 2024/25)

Overheads component	Overheads sub-component	Calculation method	2025/26	2026/27	2027/28	2028/29	2029/30	Total
DCCEEW WAMC business services	Finance	Bottom-up resource plans	600	598	598	598	691	**3,085**
	PMO including reporting		1,221	1,338	1,460	1,582	1,704	**7,306**
	Economics		455	454	1,506	1,318	966	**4,699**
	WAMC efficiency strategy		1,860	1,531	1,639	1,629	1,614	**8,273**
	Technology support		4,993	4,436	4,120	4,120	4,125	**21,794**

We have made several key observations as a result of our assessment and analysis of proposed DCCEEW business services related overhead expenditure and activities, for the 2025 Determination period and have outlined our findings and recommendations in the following section. This assessment is of the DCCEEW Business Services activities related overhead expenditure only and does not include DCCEEW corporate cost inputs to overhead expenditure.

5.2.2.2 Water Finance

Table 5-5: DCCEEW WAMC business services forecast, financial overheads (Water Finance)

Business service	Average annual proposed costs FY2026/30		Proposed outputs
	FTE	Total ($'000 2024/25	
Water Finance	3.5	626	• Coordination of and systems for WAMC activity-based costing • WAMC activity code creation, review and management • WAMC financial reporting in Prime (monthly, quarterly, annual) • WAMC statutory account preparation and review • Financial governance and oversight • Audit of WAMC accounts (Audit Office) • Cash management • Treasury and Expenditure Review Committee coordination • WAMC asset planning coordination • Full asset revaluation for statutory accounts (every 5 years 2029-30) • Preparation for the full IPART determination process (every 5 years)

Our review of the proposed finance overhead sub-component costs and activities has led to the following observations:

- Our assessment identified $350,000 of proposed capital expenditure ($100,000 of proposed IT system expenditure in FY30 for the SAP Asset Module, and $250,000 of proposed software (intangible asset) costs over the life of the next determination period for MyOutcomes software to support proposed automation of IPART activity reporting)[50].
- Our review of supporting and supplementary information provided by DCCEEW in RFI116[51] does not provide the transparency of business need, impact, benefit and scope to provide an assessment of the proposed financial overheads expenditure for the next determination period. Cost transparency is not clear to us to enable a detailed assessment of cost build up to proposed capital expenditure.
- Our analysis of remaining proposed DCCEEW finance outputs and overheads for WAMC business services aligns with the department's role in coordinating financial governance, reporting, auditing and regulatory pricing and expenditure activities across WAMC activities, legislative drivers and obligations.

5.2.2.3 Program Management Office

Table 5-6: DCCEEW WAMC business services forecast, financial overheads (Program Management Office)

Business service	Average annual proposed costs FY2026/30		Proposed outputs
	FTE	Total ($'000 2024/25)	

Program Management Office	7.6	1,489	• Project and program management governance, framework implementation, maintenance and support
			• Project and program Monitoring, Evaluation and Reporting (MER) framework implementation, maintenance and support
			• Expertise in project delivery, scheduling and acceleration
			• Ongoing, efficient coordinated reporting
			  ○ Annual IPART determination reporting to customers and IPART
			  ○ Quarterly expenditure and performance reporting to the Water Executive and Roles and Responsibilities Agreement governance bodies
			  ○ Other WAMC-related quarterly and annual reporting
			• Data analysis

[50] NRR model input - DCCEEW WAMC costs – OH Finance Tab – Table 4.

[51] RFI116.1 WAMC DCCEEW Cost Efficiency Review, RFI116.2 BN24/4898 Efficiency Projects Briefing Note, RFI116.3 INT24/67720 Slide pack illustrating changes to myWorkZone for asset management (see item 3), RFI116.4 risk-based planning estimated savings.

Our analysis of the DCCEEW NRR cost model inputs and bottom-up resource estimates for PMO (including reporting) has led to the following observations:

- We note that this activity and overhead expenditure is included in DCCEEW's business services activities in 2022/23 under the 'deliberate initiative' to increase the Water Group's capacity and capability
- There is insufficient data within the DCCEEW overhead cost build-up model, or supplementary information provided via RFI, to determine if the level of proposed resourcing or expenditure for PMO activities is relative to typical organisational spend for PMO functions and activities, being approximately 2% - 5% of the total program value being managed[52] (as a general benchmark of typical PMO costs to organisations)
- With both estimated costs and FTE for PMO activities relatively consistent (slight increases year-on year) over the next determination period, we have assumed for the purposes of our assessment that DCCEEW has adopted a fixed cost and fixed resource PMO model. This may have several benefits ranging from budget predictability and resource stability[53], and conversely challenges and risks. These include the potential underutilisation of fixed cost resources and limited flexibility to scale up or down to meet the needs of the program or business.
- We have not assessed the extent of prudency or efficiency of both scope and cost of these proposed PMO activities as we have not been able to ascertain the total quantum, scale, application or total proposed value of WAMC PMO activities over the next determination period
- Our assessment of the bottom-up resource inputs to the proposed PMO costs within DCCEEW's NRR model[54] has identified contingent staff costs for WAMC projects over the next determination period. It is unclear through the review of the model, proposal or supplementary information as to the justification for this proposed contingent cost.
- We do not consider that there is sufficiently available justification as to the scope and extent of costs and activities proposed for PMO activities and resources for the next determination period. We would look to recommend some level of scope or efficiency adjustment to the WAMC proposed overheads expenditure as a result.

[52] World Bank Group 2018, *Financial Modelling of Water Utilities and Projects; Session 9*, Microsoft PowerPoint - Session090Financial0Modelling0160413.pptx, viewed on 27 February 2025.

[53] Ward, J. L. 2010, *The PMO in hard times: adding value or adding cost?*, The PMO in hard times, viewed on 27 February 2025.

[54] 20241213 (Final - sent to Stantec) NRR model input - DCCEEW WAMC costs – OH PMO Tab – Row 28.

5.2.2.4 Economics Advisory

Table 5-7: DCCEEW WAMC business services forecast, financial overheads (Economics Advisory)

Business service	Average annual proposed costs FY2026/30		Proposed outputs
	FTE	Total ($'000 2024/25)	
Economics Advisory	3.7	954	• Development of the 2024 WAMC price proposal, management of the 2024 price review and implementation of the 2025 Determination • Coordinating and developing the 2029 WAMC price proposal to justify and secure funding for water management activities delivered by the department • Stakeholder engagement on 2025-30 initiatives and in the development of the 2029 pricing proposal • ACCC reporting requirements • Ad hoc economic advice to inform WAMC activities • Ongoing advice to WAMC staff on reporting and development of the pricing proposal

Our review of the proposed economics advisory overhead sub-component costs and activities did not identify any element of the scope or proposed outcomes, resourcing or activity cost estimates that would be considered as being outside the scope of reasonable WAMC overhead expenditure.

5.2.2.5 Business Improvement (WAMC Efficiency Strategy)

Our analysis of the DCCEEW NRR cost model inputs and bottom-up resource estimates for WAMC Efficiency Strategy activities proposed for the Business Services Group (including proposed upfront and ongoing investments) has led to several observations detailed below.

Table 5-8 provides an overview of proposed DCCEEW average expenditure, FTE and outputs for WAMC Efficiency Strategy activities over the future period.

Table 5-8: DCCEEW WAMC business services forecast, financial overheads (WAMC Efficiency Strategy)

Business service	Average annual proposed costs FY2026/30		Proposed outputs
	FTE	Total ($'000 2024/25)	
WAMC Efficiency Strategy	3.6	645	• Scheduling and coordination of all necessary inputs to Water Sharing Plans (WSP), drive delivery of risk-based approach to WSP review and remake, and integrated quality assurance • Increased efficiency and coordination in engagement – reducing costs and duplication – including costs of greater Borealis CRM uptake • Continue efficiencies in joined up customer research and communications across WAMC activities • Process redesign, in line with digital investments, to ensure realisation of the benefits of digital business improvement strategies (technology roadmap) • Implement digital project management software system across all WAMC activities – to reduce project variation costs, increase delivery confidence and further reduce report costs
Upfront and ongoing investment (WAMC Efficiency Strategy)	0	1,010	• Licenses for single online program management system • Investment into the WAMC Efficient Strategy

- We consider that the proposed outputs and activities (and associated FTE allocation) relating to the scheduling and coordination of all necessary inputs to Water Sharing Plans (WSP), driving delivery of risk-based approach to WSP review and remake, and integrated quality assurance activities[55] are not indirect costs to be treated as overheads, and that these should be direct costs against activity codes W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) respectively.
- The impact of this recommendation to the proposed DCCEEW overhead FTE and cost allocation for Efficiency Strategy activities is difficult to quantify in real dollar terms with the information that is available to us. For the purposes of this review, we recommend that a scope adjustment be considered for this activity to enable the transfer DCCEEW proposed WSP overhead costs to be attributed to activity codes W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) respectively, subject to specific cost clarification by WAMC.
- As part of our assessment of supplementary information provided by DCCEEW in response to RFI116, we have been able to determine and identify the high-level efficiency / business improvement initiatives, proposed resourcing and indicative costs from the supporting information provided by DCCEEW[56]. However, we have been unable to transparently translate the data and information relating to total cost,

[55] Table 14 – Attachment G (Corporate Overheads) – WAMC Pricing Proposal.

[56] RFI116.1 WAMC DCCEEW Cost Efficiency Review, RFI116.2 BN24/4898 Efficiency Projects Briefing Note, RFI116.3 INT24/67720 Slide pack illustrating changes to myWorkZone for asset management (see item 3), RFI116.4 risk-based planning estimated savings.

resource effort, timeframes for delivery, project definition or detailed and substantive justification to align with the proposed DCCEEW overhead expenditure over the next determination period.

Our analysis of the business improvement / WAMC Efficiency Strategy activities and proposed overhead expenditure by DCCEEW for the next determination period has not been able to establish a baseline and/or efficient level of proposed expenditure (to meet minimum levels of service and obligations) against which additional proposed WAMC business improvement activities and costs could be assessed against in order to provide IPART with a recommendation on the total level of upper and lower range of efficient cost.

5.2.2.6 Technology Support (data improvement and technology uplift)

DCCEEW has proposed almost $21.8 million in technology support costs for the business services function over the next determination period. Our analysis of this proposed expenditure and DCCEEW's supporting information raised some discussion regarding alignment of these costs to the overall ICT related costs of the Joint Technology Roadmap and digital business improvement strategies.

Given that each WAMC agency has outlined their relevant and proposed overhead, corporate and business-related costs in separate sections of the WAMC pricing proposal, we decided to provide our analysis of DCCEEW costs in the context of impacts on proposed overheads expenditure for WAMC.

Table 5-9: DCCEEW WAMC business services forecast, financial overheads (data improvement)

Business service	Average annual proposed costs FY2026/30		Proposed outputs
	FTE	Total ($'000 2024/25)	
Data improvement	6.3	1,345	• Embedding the ongoing capability to continue increasing transparency and public confidence in water resource management • A data quality capability tasked with elevating the quality of the department's data and making it fit for purpose • Data governance and access processes and procedures to improve speed of access to data • Heightened monitoring and performance to assure data is available as requested • Increased open data sets published and available on publicly available website data portals • Implemented document library for customers and community to access information

Our analysis of the proposed data improvement overhead costs within the NRR input model provided by DCCEEW has highlighted significant proposed expenditure as it relates to data and information resources over the next determination period (refer Table 5-9 for annual average FTE and cost).

Our review and assessment of supplementary information provided by WAMC agencies through the RFI process relating to direct and indirect cost impacts of implementing the joint digital business improvement strategies[57] does not identify DCCEEW indirect costs for the delivery of the Joint ICT Roadmap outcomes. DCCEEW provides some context to the inclusion of proposed enabling technology and data support in their supporting presentation on corporate overhead expenditure:

> *The DCCEEW Technology and Data overhead function is a key component for ongoing operations and is an enabler of the Technology Roadmap and Efficiency Programs. Post 2030 the Technology and Data function benefits from the Technology Roadmap with efficiencies*.

While there is broad reference towards a blended resourcing model to support digital improvement and technology roadmap delivery, and the observations and identified risk of a potential lack of internal capability to meet the needs of the improvement program and roadmap objects, we were unable to identify the specific context of justification for DCCEEW's proposed digital support overhead expenditure.

Additionally, DCCEEW have identified the need to establish the technology service capability as a 'shared service' that coordinates and consolidates data and technology resources and services to enable the explicit data and technology requirements identified in many of the WAMC activity codes[58] – see Figure 5-12 which provides a summary of the data dependency and technology uplift priorities and requirements across the various WAMC activity codes.

Activity number	WAMC agency	Description	Data Improvement Dependency	Technology Uplift
W01-05	DCCEEW	Surface water ecological condition monitoring	Yes	yes
W02-01	DCCEEW and WNSW	Groundwater quantity monitoring	Yes	yes
W02-02	DCCEEW and WNSW	Groundwater quality monitoring	Yes	yes
W02-03	DCCEEW and WNSW	Groundwater data management and reporting	Yes	yes
W04-01	DCCEEW	Surface water modelling	Yes	Yes
W04-02	DCCEEW	Groundwater modelling	Yes	Yes
W04-03	DCCEEW	Water resource accounting	Yes	Yes
W05-01	DCCEEW	Systems operation and water availability management	Yes	Yes
W05-03	DCCEEW	Environmental water management	Yes	Yes
W05-04	DCCEEW	Water plan performance comment and evaluation	Low	Low
W06-01	DCCEEW	Water plan development (coastal)	Yes	Yes
W06-02	DCCEEW	Water plan development (inland groundwater and surface water)	Low	Low
W06-03	DCCEEW	Floodplain management plan development	Low	Low
W06-05	DCCEEW	Regional planning and management strategies & Metropolitan Water Planning and Management Strategies	Yes	Yes
W09-01	DCCEEW and WaterNSW	Water consents transactions	Low	Low

Figure 5-12: Data Improvement and Technology Uplift activities across WAMC activity codes

The coordinated and centralised shared services and resourcing model approach is sound. We have been unable to quantify the allocation of proposed total activity and resourcing demand for data improvement and digital uplift services and activities across each of the WAMC activity codes. We have been unable to assess the prudency or allocation of proposed expenditure overall for technology support capability for DCCEEW.

[57] WAMC Responses to W10-02 (Business governance and support) and Technology Roadmap RFIs.

[58] DCCEEW and NRAR Corporate Overheads presentation (clean).pptx – slide 12.

We have been unable to specifically identify the activities and costs across DCCEEW's proposed technology support expenditure of ~$21.8 million over the next period, with the DCCEEW allocated direct costs within the Joint Technology Roadmap ($3.12 million over FY26 – FY30 as the direct DCCEEW contribution to the Ecosystem Data strategy, use cases and governance project)[59]. We have assumed that the DCCEEW Joint Technology Roadmap is included in these overall business services costs. Further analysis on the proposed digital business improvement strategies is detailed in Section 5.3.

Table 5-10: DCCEEW WAMC business services forecast, financial overheads (technology uplift)

Business service	Average annual proposed costs FY2026/30		Proposed outputs
	FTE	Total ($'000 2024/25)	
Technology uplift	13.6	1,345	• A planned, prioritised and delivered portfolio of the department's technology initiatives to meet WAMC requirements • Technical governance and coordination, so cross sector efficiency is achieved, ad technology is connected and efficient • Heightened monitoring and performance to assure systems • Systematise capability, so that the group retains knowledge and can implement programs and projects despite disruption • Implementation of a system, processes and procedures to appropriately handle, manage and store Aboriginal Indigenous, Culturally Intellectual Property, data and information • All systems and technology are performing to known and agreed service and performance levels • A team and capability responsible for the department's systems to be integrated and interoperable with sector and government systems

Benchmarking of proposed technology uplift costs (combined with the Digital Information Office corporate overhead costs) has been undertaken by DCCEEW[60] as a measure of efficient digital spend relative to total operating expenditure, cost per employee and the total number of IT FTEs as a percentage of total DCCEEW FTE. The benchmarking identified that for spending as a percentage of total operating expense and FTE, that DCCEEW was within median for government organisations, but considerably higher against IT spend per employee[61].

Our assessment is that this IT cost and resourcing benchmarking undertaken by DCCEEW may provide valuable insight into its specific and unique performance of needs. Our concern is that it does not present a holistic view of the overall operational and cost efficiency relating to total IT investment (financial and FTE) across the entire regulatory corporation[62].

[59] WAMC Submission Digital Business Improvement Strategies Presentation – slide 8.

[60] DCCEEW and NRAR Corporate Overheads presentation (clean) – 2024.

[61] DCCEEW and NRAR Corporate Overheads presentation (clean) – 2024.

[62] Gartner 2013, *Creating Successful Joint Venture IT Services*, Creating Successful Joint Venture IT Services, viewed on 27 February 2025.

A dual approach to cost benchmarking ensures that specific inefficiencies and unique needs within each agency are identified, while also providing a complete picture of the total proposed IT investment for WAMC.

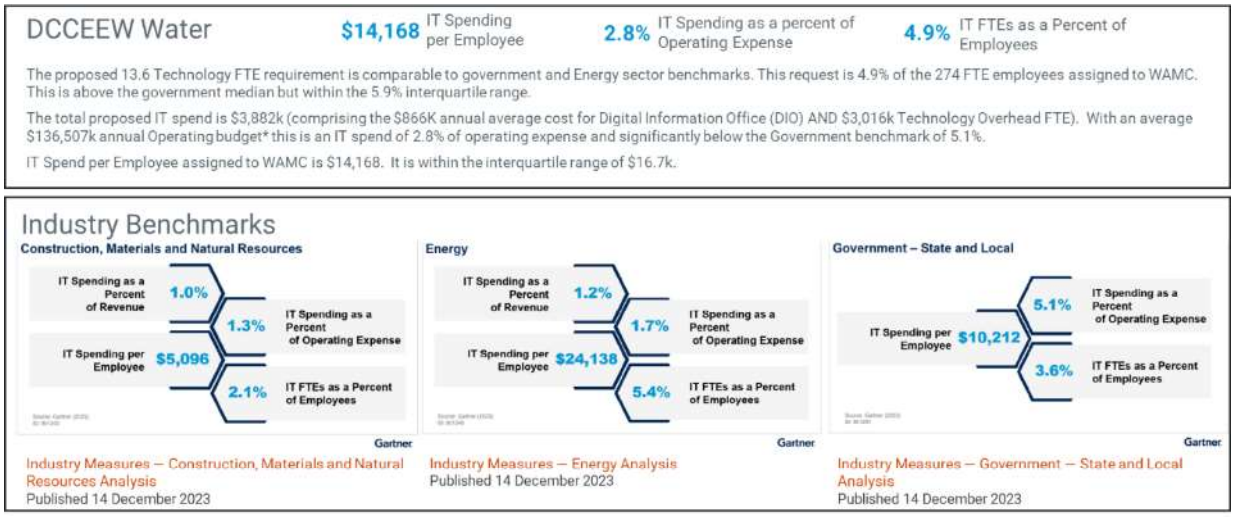


Figure 5-13: DCCEEW digital expenditure benchmarking using Gartner metrics

5.2.2.7 Proposed upper and lower bound adjustments – DCCEEW business services

Following our analysis of the proposed business services expenditure, outcomes and supplementary information available, we recommend the following upper and lower bound adjustments for IPART's consideration and determination.

Upper bound adjustments

We have proposed a 40% efficiency adjustment across the Program Management, Efficiency Strategy and Technology Support expenditure across the life of the 2025 Determination. This was primarily driven by the level of uncertainty in the drivers, justification and cost transparency of the proposed expenditure levels. The upper bounds recommendation also allows for reduced levels of activity to occur across proposed business service activities over the 2025 Determination period, subject to greater cost clarity and justification.

Lower bound adjustments

Our lower bound efficient expenditure recommendation uses the 2021 IPART determination allowed scope for DCCEEW corporate overheads as the base, with the water finance and economics advisory elements of business services functions unchanged as they are currently proposed. We also propose to include $2.75 million for DCCEEW's technology roadmap commitments (with proposed reduction as outlined in Section 5.3).

While we are proposing scope efficiency adjustments to DCCEEW business services overhead expenditure to IPART for the next period, our concern is that this may represent a real and significant risk (albeit largely unquantifiable from our perspective) that the proposed lower bound efficient operating expenditure for business services will impact current DCCEEW activities, resourcing, ways of working, and works in progress. This is driven by the reality that many of these activities and resources are already established following DCCEEW's decision to expand the Water Group's activities via the integration business services during the 2021 IPART determination period. It is our view that for IPART to consider any alternate lower-bound of efficient expenditure, greater clarity of cost justification, benefit, priority, need and alignment to specific WAMC activity is required.

Table 5-11: Recommended range of efficient expenditure – DCCEEW Business Services overheads only ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	**9,128**	**8,357**	**9,323**	**9,193**	**9,100**
Water Finance	*600*	*598*	*598*	*598*	*691*
Program Management Office	*1,221*	*1,338*	*1,460*	*1,582*	*1,704*
Economics Advisory	*454*	*454*	*1,506*	*1,318*	*966*
WAMC Efficiency Strategy	*1,860*	*1,531*	*1,639*	*1,629*	*1,614*
Technology Support	*4,993*	*4,436*	*4,120*	*4,120*	*4,125*
Scope adjustments	**0**	**0**	**0**	**0**	**0**
Efficiency adjustments	**-3,230**	**-2,921**	**-2,888**	**-2,993**	**-2,978**
Water Finance	*0*	*0*	*0*	*0*	*0*
Program Management Office	*-489*	*-535*	*-584*	*-633*	*-682*
Economics Advisory	*0*	*0*	*0*	*0*	*0*
WAMC Efficiency Strategy	*-744*	*-612*	*-656*	*-652*	*-646*
Technology Support	*-1,997*	*-1,774*	*-1,648*	*-1,648*	*-1,650*
Recommended upper bound efficient operating expenditure	**5,898**	**5,436**	**6,435**	**6,314**	**6,122**
Water Finance	*600*	*598*	*598*	*598*	*691*
Program Management Office	*732*	*803*	*876*	*949*	*1,022*
Economics Advisory	*454*	*454*	*1,506*	*1,318*	*966*
WAMC Efficiency Strategy	*1,116*	*919*	*983*	*977*	*968*
Technology Support	*2,996*	*2,662*	*2,472*	*2,472*	*2,457*
Scope adjustments	**-4,156**	**-3,696**	**-3,643**	**-3,710**	**-4,447**
Water Finance	*0*	*0*	*0*	*0*	*0*
Program Management Office	*-732*	*-803*	*-876*	*-949*	*-1,022*
Economics Advisory	*0*	*0*	*0*	*0*	*0*
WAMC Efficiency Strategy	*-1,116*	*-919*	*-983*	*-977*	*-968*
Technology Support	*-2,308*	*-1,974*	*-1,784*	*-1,784*	*-2,457*
Efficiency adjustments	**0**	**0**	**0**	**0**	**0**
Recommended lower bound efficient operating expenditure	**1,742**	**1,740**	**2,792**	**2,604**	**1,657**
Water Finance	*600*	*598*	*598*	*598*	*691*
Program Management Office	*0*	*0*	*0*	*0*	*0*
Economics Advisory	*454*	*454*	*1,506*	*1,318*	*966*
WAMC Efficiency Strategy	*0*	*0*	*0*	*0*	*0*
Technology Support	*688*	*688*	*688*	*688*	*0*

5.2.3 Conclusion and recommendations

Based on our assessment and analysis of proposed corporate overhead costs for WAMC, considering the information provided and the limited benchmarking available, we have taken the following into account:

- We consider NRAR's corporate expenditure is reasonable and falls within the median presented in the PWC benchmarking study
- WaterNSW's overhead expenditure has remained within the IPART allowance, being 7% lower during the current period, with additional reduction in proposed overhead expenditure by 16%, aiming for proposed corporate overheads to average 14% of revenue. Benchmarking WaterNSW with the PWC median figures for corporate overheads as a portion of OPEX is not valid, as the scope of the PWC benchmarking activity exclude billing and customer services. Irrespective, we find that proposed overhead expenditure to NRR percentage of 14% is reasonable.
- We are concerned the DCCEEW corporate overhead expenditure, driven by increases in scope and expenditure for business services has, and is proposed to continue to increase over the next determination period.
- All agencies are utilising reasonable, and sound overhead cost build up methodologies for corporate overhead inputs and expenditure and consistent approaches to develop their proposed overhead cost inputs for WAMC as per previous determinations (except for DCCEEW business services forecasted expenditure).

In response to our draft report, WaterNSW provided feedback regarding the potential impacts to WaterNSW WAMC overhead allocation as a result of the final outcomes from the WaterNSW (Rural Valleys) expenditure review undertaken by AtkinsRéalis.

In their draft report on the WaterNSW (Rural Valleys) expenditure, AtkinsRéalis has highlighted that the recommended and outturn expenditure for different determinations and non-regulated activities may have a significant impact on the overhead allocation to each (being Greater Sydney, Rural Valleys and WAMC)[63].

AtkinsRéalis also provided several recommendations specific to operating and capital overhead allocation throughout their review of WaterNSW (Rural) expenditure, utilising their recommended 'simple' approach for overhead allocation[64].

We acknowledge that there may be future impacts to the WaterNSW allocation of WAMC overhead expenditure resulting from the Bulk Water review recommendations and subsequent IPART determination.

Our assessment of total WAMC overhead allocation, proposed expenditure and subsequent recommendations have not changed.

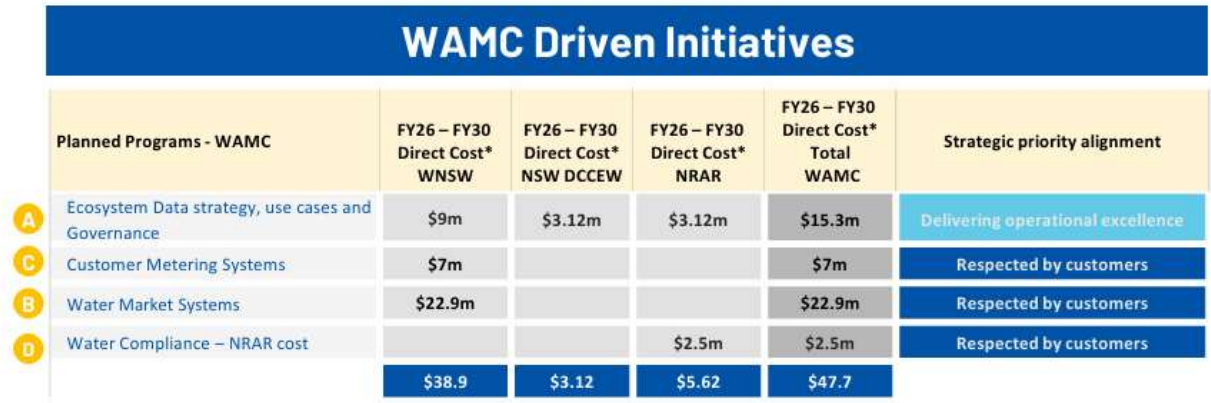
[63] WNSW Rural Valleys Expenditure Review (2025) – Draft Report, page 27.
[64] WNSW Rural Valleys Expenditure Review (2025) – Draft Report, page 27.

Table 5-12: Recommended efficient range of operating expenditure – All DCCEEW overheads ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	**14,547**	**14,166**	**14,217**	**14,484**	**13,972**
Scope adjustments	*0*	*0*	*0*	*0*	*0*
Efficiency adjustments	*-3,230*	*-2,921*	*-2,888*	*-2,993*	*-2,978*
Recommended upper bound efficient operating expenditure	**11,317**	**11,245**	**11,329**	**11,491**	**10,994**
Scope adjustments	*-4,156*	*-3,696*	*-3,643*	*-3,710*	*-4,447*
Efficiency adjustments	*0*	*0*	*0*	*0*	*0*
Recommended lower bound efficient operating expenditure	**7,161**	**7,549**	**7,686**	**7,781**	**6,547**

5.3 Digital business improvement strategies

The NSW Water Sector Shared Technology Ecosystem Roadmap outlines a long-term digital strategy for WAMC and its agencies. The roadmap aims to align technology investments to improve operational efficiency, data management, and customer service. Our review of the proposed $47.7 million direct investment for 2025–2030 raises key considerations regarding cost-effectiveness, prioritisation, and expected outcomes.



WAMC Driven Initiatives

	Planned Programs - WAMC	FY26 – FY30 Direct Cost* WNSW	FY26 – FY30 Direct Cost* NSW DCCEW	FY26 – FY30 Direct Cost* NRAR	FY26 – FY30 Direct Cost* Total WAMC	Strategic priority alignment
A	Ecosystem Data strategy, use cases and Governance	$9m	$3.12m	$3.12m	$15.3m	Delivering operational excellence
C	Customer Metering Systems	$7m			$7m	Respected by customers
B	Water Market Systems	$22.9m			$22.9m	Respected by customers
D	Water Compliance – NRAR cost			$2.5m	$2.5m	Respected by customers
		$38.9	$3.12	$5.62	$47.7	

Figure 5-14: WAMC Submission Digital Business Improvement Strategies Presentation – slide 8

Our review has attempted to provide a holistic assessment of total WAMC digital expenditure proposed for the next period.

5.3.1 Alignment to other expenditure reviews

While our assessment of the proposed digital expenditure for WAMC was conducted independently, ensuring alignment with the broader expenditure reviews for WaterNSW (Greater Sydney and Rural Valleys) was critical. Given that the WAMC component represents only a fraction of WaterNSW's overall proposed digital portfolio over the next determination period, it was essential to consider the interdependencies between these investments and how they fit within the larger digital strategy for WaterNSW.

This alignment allowed us to assess whether the proposed WAMC digital expenditure was appropriately scaled, integrated, and complementary to WaterNSW's other digital initiatives, rather than duplicative or misaligned. By taking this approach, we aimed to ensure that our assessment provided a holistic view of digital investments, minimising gaps or inconsistencies that could impact the accuracy and credibility of the overall determination process.

5.3.2 Visibility of digital and technology activities across WAMC

Achieving end-to-end visibility and cost transparency of the total proposed digital expenditure across the WAMC pricing proposal has been highly challenging. The fragmented nature of digital investment allocations across WaterNSW, NRAR, and DCCEEW and the various components of the WAMC pricing proposal, combined with inconsistent reporting structures and varying levels of detail in cost justifications, has made it difficult to establish a clear, consolidated view of total digital spend.

This lack of transparency has directly impacted our ability to provide certainty that our assessment of digital expenditure for the next determination period is both accurate and complete. Without a comprehensive and consistently structured breakdown of proposed investments, there remains a risk of underestimating total costs, overlooking potential duplication, or failing to capture longer-term financial commitments. Consequently, this uncertainty weakens confidence in the alignment of digital investments with strategic priorities and value-for-money outcomes for stakeholders.

To the best of our knowledge and resulting from our assessment of the complete WAMC pricing proposal, we have taken a view that the allocation of proposed digital expenditure for WAMC is allocated to the following pricing proposal components (inclusive of Technology Roadmap commitments):

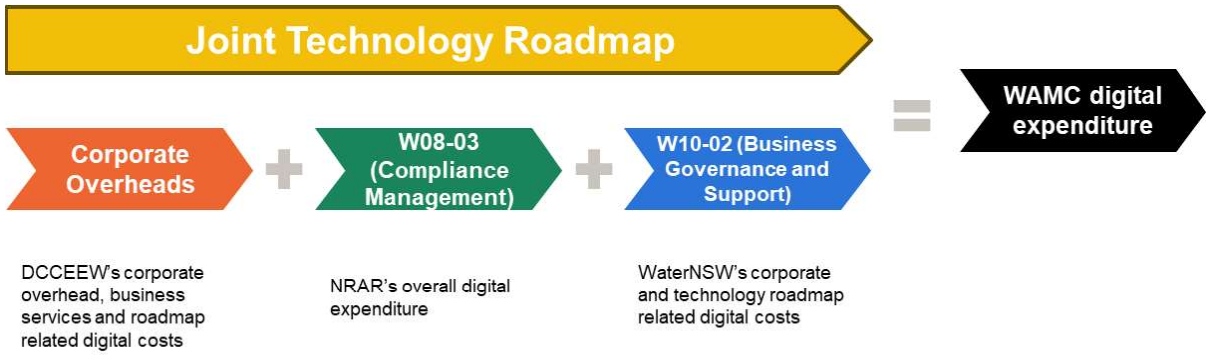


Figure 5-15: Cost components of joint technology road map

5.3.3 Proposed expenditure

Technology Ecosystem Roadmap

The NSW Water Sector Shared Technology Ecosystem Roadmap outlines a substantial investment of $47.7 million in digital initiatives for WAMC agencies between 2025 and 2030. While these initiatives aim to modernise water management and customer services, our review of these initiatives has identified potential uncertainty regarding cost-effectiveness, strategic alignment, and execution risks.

We provide a brief assessment of each proposed WAMC driven initiative identified with the technology roadmap - not for the purposes of providing a deep-dive assessment of the validity of each initiative, but for the purposes of assessing potential risks and impacts to the proposed levels of expenditure by WAMC over the next determination in delivering these digital improvement outcomes.

Water Market System Modernisation

The Water Market System Modernisation project, managed to be funded by WaterNSW, aims to redesign and digitise water user transaction processes to enhance efficiency and accessibility across multiple customer interactions and interfaces related to WAMC services. With a proposed budget of $22.9 million across the next period, this initiative seeks to streamline operations and improve user experience through advanced digital solutions.

We acknowledge that this initiative is essential for improving customer self-service and internal works management and driving internal efficiencies for WaterNSW. The roadmap lacks clarity on whether this funding includes both system development and ongoing maintenance.

We consider $22.9 million as a significant investment for transactional system upgrades without clear benchmarks for savings or efficiency gains, it is difficult to assess whether the expenditure is justified to that extent. Additionally, given the pace of digital innovation, we consider that there is a risk the system could become outdated before full implementation but do acknowledge the foundational benefits to customer experiences and works management under the current scope and implementation.

Our assessment is that the information provided in the pricing proposal or additional information provided by WAMC does not explicitly account for customer adoption and transition to a digital-first platform as a cost or implementation risk consideration[65]. This is evidenced by WaterNSW expected benefits to date are very limited due to phased functionality development approach over the current and future periods[66].

Ecosystem Data, Strategy, Use Cases and Governance

The Shared Data Management and Governance project, proposed to be proportionally funded by all WAMC agencies, aims to consolidate and upgrade data systems, enable inter-agency integration of core datasets and associated governance to improve transparency and access to data to drive efficiencies in decision-making and customer delivery. WAMC is proposing $14.9 million in expenditure over the next determination period, with WaterNSW proposed investment of $8.6 million and both DCCEEW and NRAR proposed expenditure of $3.12 million for each agency[67].

We acknowledge that this initiative is critical for long-term water resource planning and regulatory enforcement, by planning to reduce inefficiencies associated with data quality, reliability and availability. We acknowledge WAMC's collective commitment to a renewed joint, cross-agency governance model established to manage shared technology ecosystem risk and provide oversight as a step towards a mature model to oversee digital investment outcomes.

However, we also note that in our interviews with WAMC, that this new governance model was recently established and going through its initial machinations and forming stages as a governance group[68]. While the WAMC pricing proposal and subsequent Need Analysis Business Cases (NABCs) provided by WAMC[69] outline approaches to governance and controls to manage cost and delivery risks, it is our view that there remains a moderate level of cost and delivery risk associated with multiple agencies working to create a unified and common data platform to support WAMC activities.

Customer Metering Systems

This proposed project, to be delivered by WaterNSW at an estimate cost of $7 million over the life of the next determination, aims to establish a centralised portal that will allow customers to manage their water account for meter installation / replacement, usage tracking, faulty meter reporting, maintenance and recording and reporting. Additionally, improved meter data is estimated to improve the accuracy of customer water accounts, billing, and WaterNSW reporting obligations.

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[65] Platform 3 (D13) Nabc Tech Platform Roadmap (Connected Customer Experience needs Analysis Business Case).

[66] Joint Technology Roadmap Interview – WAMC (NRAR, DCCEEW and WaterNSW) – December 2024.

[67] NSW Water Sector Shared Technology Ecosystem Roadmap Strategic Business Plan FINAL Version (Attachment K) p51.

[68] Joint Technology Roadmap Interview – WAMC (NRAR, DCCEEW and WaterNSW) – December 2024.

[69] Ecosystem Data strategy, use cases and Governance NABC_V2.2.

We agree with WAMC's identified technology roadmap risks regarding future viability of technology (currently no upgrade path) and uncertainty in regulatory changes required additional and unaccounted for system functionality, and the extent to which this adds additional cost and impacts for WaterNSW (either as part of deployment, or as an ongoing operational and maintenance risk).

We would consider that the cost-effectiveness of this proposed investment by WaterNSW would be strengthened if anchored in clear benchmarks on expected efficiency gains, such as reduced call volumes, faster processing times, or reduction in metering related costs and charges over time as customers level of self-sufficiency and self-service increases.

Water Compliance

The Water Compliance project, an NRAR activity with a proposed cost of $2.5 million over the next determination, is intended to automate data and information interfaces from partner systems to NRAR's compliance system to drive improvements in quality and productivity relating to the compliance activities and obligations undertaken by NRAR for WAMC.

The intent of this project will also enable NRAR (as part of a broader and connected ecosystem), source accurate information about licence holders, their water assets and their obligations (and shift away from a historically fragmented and siloed current state[70]).

Prioritisation of Joint Technology Roadmap expenditure

Direct costs	**Round 1 Total $ (FY26-30) in million**	**Round 2 Total $ (FY26-30) in million**	**Submission Total $ (FY26-30) in million**
Ecosystem Data Strategy, use Cases and Governance	$17.76	$17.60	$15.30
Metering Systems	$8.20	$8.20	$7.00
Water Compliance	$5.00	$5.00	$2.50
Water Market Systems	$33.40	$27.00	$22.90
Total Roadmap – *Direct Costs*	**$64.36**	**$57.80**	**$47.70**

Figure 5-16: WAMC Digital Improvement Strategies Presentation

We have evidence of WAMC's approach and efforts to prioritising and adjusting the overall program through its reviews, revisions, and cost reduction efforts across the Technology Roadmap for the next determination period[71]. We are of the view that while this approach to ensuring that scope, benefit and prudency of activities within the technology roadmap represents a balance between overall cost and expected delivery of outcomes, that the extent of total proposed WAMC digital expenditure remains high.

[70] Platform 3 (D13) - Nabc Tech Platform Roadmap (Connected Customer Experience needs Analysis Business Case).

[71] WAMC Submission Digital Business Improvement Strategies Presentation – slide 29.

In RFI 134, we requested WAMC agencies identify which of the initiatives would be most essential (and why) in a further constrained financial environment to understand where additional cost reduction or re-scoping of the overall program could occur. The response provided for all intents and purposes, indicates that WAMC considers all the technology roadmap projects (and associated cost) represent minimum viable levels for cost, and scope:

> *All the initiatives listed have been identified as essential due to their critical role. The 4 modules remain from a series of refinements that have reduced the project to the minimum necessary to maintain operational effectiveness, meet legislative requirements, and address key risks. Without the inclusion of water compliance, there is a risk of undermining efforts across the water sector ecosystem.*
>
> *The shortlist was rigorously evaluated at multiple levels of government and against strategic priorities, operational needs, and risk factors, and each initiative is considered indispensable within the current financial constraints.*
>
> *Each module is an integral component of a unified system. Removing or reducing the scope of any single module would compromise the overall functionality and prevent the project from achieving its intended objectives. Specifically, the compliance module serves as a critical bridge, connecting core functions and enabling the system to unlock its broader benefits and efficiencies. It acts as the capstone that ensures all other components can interact cohesively, optimising performance and enabling the project to meet its full potential*[72]*.*

There is clear evidence of considered prioritisation efforts and cost-reduction activities across the competing technology roadmap portfolio for WAMC to support the current pricing proposal cost. However, we have not seen (or requested) evidence of broader prioritisation or reduction of overall WAMC expenditure to accommodate these 'essential' digital improvement costs. This may be an improvement for WAMC in terms of balancing total cost and benefit of increased digital investments with broader cost management approaches.

Total digital expenditure by WAMC

In addition to the technology roadmap expenditure, we have identified that WaterNSW and DCCEEW are proposing additional digital expenditure to support BAU activities and deliver agency specific digital improvement outcomes. We are of the view that it is important to provide an assessment of WAMC and its digital expenditure as a single entity to provide a holistic view of proposed digital expenditure.

For WAMC proposed digital expenditure, we have provided the following observations:

- WaterNSW's proposed total digital expenditure is estimated at $83.3 million over the next determination period. WaterNSW's direct Technology Roadmap capital and operating expenditure ($47.9 million and $600,000 respectively) representing almost 72% of proposed WAMC digital investment expenditure over the next period. Non-roadmap digital expenditure includes $23.4 million in digital operating expenditure (largely driven by the costs of digital consultants and contractors, software licencing and support), and $11.4 million in digital capital expenditure.
- NRAR's total proposed digital expenditure is aligned to the digital roadmap with $6.7 million in operating expenditure. We have identified $6.7 million in the NRAR IPART Cost Model for 'New IT Project' and 'CIRAM & IT Licences'[73]. We have assumed that this proposed expenditure covers NRAR's proposed technology roadmap commitments.

[72] NRAR response to RFI134 by IPART Consultants.

[73] NRAR IPART cost model – 29 August 2024 – Cost Calculations Tab.

- DCCEEW's proposed digital expenditure is $26.1 million in operating expenditure over the next determination period. We have assumed that this includes the $3.1 million in direct costs for DCCEEW under the digital roadmap. DCCEEW's proposed digital expenditure includes corporate Digital & Information Office related digital costs ($4.3 million), and $21.9 million proposed for data improvement and digital uplift activities. Refer to Section 5.2.

Our observations have predominantly been reliant on WAMC agency expenditure contributions provided both in the pricing proposal, and subsequent information and presentations provided by WAMC agencies. There is one notable conflict as it relates to proposed cost shares for the Shared Data Ecosystem Management and Governance project.

The WAMC pricing proposal[74] indicates that the proposed $15.3 million for this initiative is to be funded by WaterNSW (program costs) and DCCEEW (ecosystem costs) for $8.6 million and $6.2 million respectively. However, image 5.4-1 identifies the proposed costs split between all three WAMC agencies[75].

For completeness and consistency, we will make our assessments based on the pricing proposal information and allocation.

Table 5-13 provides a total summary (to the best of our ability) of proposed WAMC digital expenditure for the next determination period.

Table 5-13: WAMC digital expenditure 2026–2030 ($, millions 2024/25)

Total WAMC Digital Expenditure	**2026–2030**
Capital expenditure	59.3
Operating expenditure	56.8
Digital Total expenditure	**116.1**
WaterNSW (W10-02)	
Capital expenditure	59.3
Operating expenditure	24.0
WaterNSW Digital Total expenditure	**83.3**
DCCEEW (Overheads)	
Capital expenditure	0
Operating expenditure	26.1
DCCEEW Digital Total expenditure	**26.1**
NRAR (W08-03)	
Capital expenditure	0
Operating expenditure	6.7
NRAR Digital Total expenditure	**6.7**

Source: Stantec analysis

[74] NSW Water Sector Shared Technology Ecosystem Roadmap Strategic Business Plan FINAL Version (Attachment K) p51.

[75] WAMC Submission Digital Business Improvement Strategies Presentation – slide 8.

5.3.4 Risks and observations

Specifically for delivery of digital initiatives and strategies defined within the Technology Roadmap, we have identified the following risks and general observations.

Justification of digital investments

The roadmap's staged approach—spanning three horizons from foundational systems to an integrated digital ecosystem—is ambitious. However, a significant portion of the early investment is allocated to "foundational technology and streamlined processes" (Horizon 1, 2025–2026), which lacks clear KPIs for measuring identified efficiency gains. Without specific benchmarks for return on investment (ROI), there is a risk of excessive spending on infrastructure without corresponding service improvements. We acknowledge that the proposed joint governance and delivery model for the joint programs is intended to manage this risk.

Coordination across agencies and cost redundancies

A core objective of the roadmap is to align digital strategies across agencies, yet inter-agency coordination has historically been a challenge in government initiatives across Australia[76]. We have evidenced the proposed governance and decision-making framework that WAMC agencies have committed to working against. The roadmap does not explicitly address potential duplication of digital projects or investment between WaterNSW, NRAR, and DCCEEW, and this is evidenced in our assessment of total digital expenditure development for the next determination period. It is our view that that WAMC could consider application of the technology roadmap governance approach to all proposed digital investment and activities, not just technology roadmap initiatives. If digital transformation efforts remain siloed, there is a risk of fragmented investments that do not deliver the full value of an integrated ecosystem.

Timeline feasibility and cost escalation risks

The roadmap's Horizon 2 (2027–2029) aims to leverage integrated systems for data-driven decision-making, while Horizon 3 (2030–2035) seeks full digital transformation. However, given the evolving nature of technology, a 10-year projection without built-in flexibility may result in cost overruns as new technologies emerge. Past large-scale public sector IT projects (Australia and globally), suggest a high probability of budget blowouts and delays if adaptability is not factored in[77].

Stakeholder benefits versus investment scale

The roadmap highlights customer-centric improvements, yet the investment breakdown lacks a clear cost-benefit analysis for end-users. Noting that detailed business cases are yet to be finalised, based on the outcome of this determination (which is not uncommon for digital investment activities), the direct impact of digital spending on improved water service delivery and regulatory efficiency remains loosely defined, raising concerns about whether the scale of investment is proportionate to tangible benefits.

We observe that while many of the technology roadmap initiatives have broad benefit statements, these are largely qualitative. While detailed business cases for these initiatives are yet to be developed, we would expect to see much greater specificity and definition of expected business and customer benefits (qualitative measures) to provide greater certainty to proposed investment levels.

[76] Australian Politics and Policy 2024 – Chapter 48 Intergovernmental Coordination.

[77] Delivering large-scale IT projects on time, on budge, and on value – McKinsey 2013 mof45_largescaleit.ashx.

Digital governance and delivery

We have observed collective efforts by WAMC agencies in their efforts to improve project delivery performance and governance of digital projects and expenditure – particularly related to Technology Roadmap projects and portfolio outcomes.

WAMC has established a portfolio level governance approach, with two key portfolio governance committees established to support the prioritisation and delivery of investment projects, manage risks and issues and escalating as needed. This includes the establishment of Digital Ecosystem Oversight Committee (DEOC), which includes the appointment of an independent chair to oversee investment ecosystem initiatives:

- Digital Ecosystem Oversight Committee (DEOC) commenced since August 2024 and serves as a governing body that provides oversight of WaterNSW, DCCEEW Water and NRAR ecosystem investment in technology initiatives with independent Chair. Committee reports through to WAMC CEOs forum.
- Digital Portfolio Committee (DPC) commenced in October 2024 to oversee the prioritisation, project delivery and key support for Digital portfolio of projects.

We have observed collective efforts by WAMC agencies in their efforts to improve project delivery performance and governance of digital, but given their recent establishment we would expect that there will be some period of time before the full extent of their proposed purpose and value will be realised across the portfolio.

5.3.5 Benchmarking digital expenditure

Benchmarking digital expenditure can be a valuable tool for assessing overall digital spend against industry standards and peers, drawing out comparators and providing useful insights to inform decision making. We recognise that benchmarking must be approached with caution and context when used as an input into decision-making.

We include our assessment of WAMC's proposed digital expenditure and benchmarking from organisations and information that were available to us. from a prudency and efficiency perspective.

We include our assessment of individual WAMC agency digital spend and total WAMC combined digital spend with benchmarking information available to Stantec and AtkinsRéalis (WaterNSW – Rural – expenditure review consultant)[78].

Table 5-14 provides a summary of WAMC digital expenditure benchmarking by AtkinsRéalis and Stantec.

[78] AtkinsRéalis draft Expenditure Review for WaterNSW (Rural) 2025.

Table 5-14: Digital expenditure benchmarking – WAMC

Atkins Realis Observations – WaterNSW (Rural) Expenditure Review	Digital TOTEX as % of total expenditure	Costs or revenue?
Deloitte Chief Information Officer cross industry global survey (2018)	3.6%	Total revenue
Gartner survey of global mid-sized utilities (2022)	4.2%	Total revenue
Sunwater 2026-29 from 2024 Price Submission	3.7%	Total revenue
SA Water Regulatory Business Plan (2023)	3.9%	Total revenue
Northumbrian Water (UK) 2015-2020 Business Plan	3.2%	Total costs
Yorkshire Water (UK) 2015-2020 Business Plan	4.3%	Total costs
Severn Trent Water (UK) 2015-2020 Business Plan	5.0%	Total costs
Anglian Water (UK) 2015-2020 Business Plan	5.0%	Total costs
Sydney Water 2026-2030 from 2024 Price Submission	5.5%	Total costs
Sydney Water 2021-2025 Actuals and Forecast	7.0%	Total costs
WNSW 2021-2025 Actuals and Forecast	9.7%	Total costs
Stantec Observations – WAMC Expenditure Review	-	-
Goulburn Murray Water (Rural)	3.6%	Total revenue
Southern Rural Water (Rural)	4.2%	Total revenue
GWM Water (Rural)	3.7%	Total revenue
Lower Murray Water (Rural)	3.9%	Total revenue
Central Highland Water (Regional Urban)	3.2%	Total costs
Goulburn Valley Water (Regional Urban	5.20%	Total costs
South East Water (Large Urban)	1.30%	Total costs
Yarra Valley Water (Large Urban)	1.6%	Total costs
WAMC (combined)	16%	Total costs

Despite the inherent limitations of benchmarking, WAMC's total IT expenditure is notably higher compared to industry standards. It is our view that this discrepancy may be indicative of the following factors:

- Operational Efficiency – WAMC may be operating at a less efficient level of digital expenditure. This could be due to outdated systems, lack of streamlined processes, or insufficient optimisation of current technologies, leading to higher costs.
- Organisational Arrangements – The unique organisational structure of WAMC, particularly through the RRA, might necessitate digital investments that exceed typical expectations. These investments could be required to manage inter-agency process and system inefficiencies.
- Contextual Differences – The operating environment and context in which WAMC functions might be significantly different from other comparators. Factors such as regulatory requirements, geographic challenges, or specific operational needs could justify higher levels of digital expenditure to maintain effective and compliant operations.

WAMC has not made the case that its context, circumstances or operating environment require a much higher level of expenditure.

5.3.6 Conclusion and recommendations

We have been cautious as to not establish duplicated or conflicting expenditure adjustment recommendations throughout this expenditure review report given that individual WAMC agency expenditure is split across many elements of the pricing proposal.

However, we have made specific observations relating proposed technology roadmap digital expenditure by WAMC for the next determination period, which includes adjustment recommendations to be incorporated into the scope and efficiency adjustments in relevant sections of the expenditure review for each WAMC agency respectively (see alignment below).

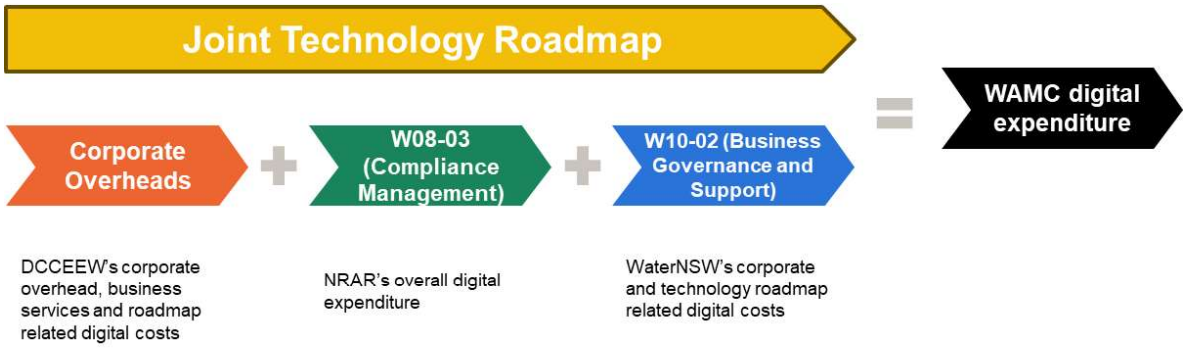

Figure 5-17: Cost components of joint technology road map

Recommended adjustments – technology roadmap only

When considering proposed WAMC technology roadmap expenditure, we have chosen to adopt a similar approach that AtkinsRéalis has applied to the WaterNSW (Rural) digital expenditure review in assessing which initiatives should be retained, reduced or removed.

We recommend using the WAMC proposed expenditure as the upper bound level of expenditure for the next determination. This recommendation is purely driven by evidenced prioritisation and cost / scope reduction activities having been undertaken by WAMC as an input to the pricing proposal.

Retain

We are proposing to make no scope or efficiency adjustments to the following activities within the WAMC technology roadmap as being sufficiently justified in both cost and benefits:

- Water Compliance ($2.5 million) will deliver a quantifiable 'spend to save' outcome for NRAR and we have found this proposed expenditure to be efficient (see recommendations in our analysis of W08-03 (Compliance management) in section 8).
- Customer Metering Systems ($7 million) will deliver a centralised portal that will allow customers to manage their water account for meter installation / replacement, usage tracking, faulty meter reporting, maintenance and recording and reporting. Additionally, improved meter data is estimated to improve the accuracy of customer water accounts, billing, and WaterNSW reporting obligations. While we see there's opportunity for WAMC to define more qualitative business and customer benefits of this project, we see it is a critical element to WaterNSW's adjustments to meet the evolving requirements of non-urban metering reform and floodplain harvesting changes. Our recommendation will be reflected in our analysis and proposed adjustments to proposed activity expenditure for W10-02 (business systems and governance).

Reduce

In making our recommended adjustments for reduction, we acknowledge and appreciate the extent to which WAMC has undertaken cost and scope reduction activities across the proposed technology roadmap initiatives for the next determination period.

We have made the following adjustment recommendations based on our assessment of proposed expenditure and the extent to which these costs and benefits could be validated and justified.

Accounting for adjustments already made by WAMC to these projects as part of the pricing proposal, we are proposing reductions for the following projects there the level of costs or benefits are not sufficiently justified:

- Ecosystem Data Strategy, Use Cases and Governance ($15.3 million) costs are not sufficiently justified and the delivery of proposed $72 million of efficiencies and benefit[79] across the WAMC agencies is also uncertain. Noting WAMC reductions of 16%, we recommend an additional 14% reduction to this activity. This proposed adjustment will be referenced across the relevant sections of this report for each contributing WAMC agency.
- Water Market Systems ($22.9 million) costs are not sufficiently justified, and benefits definition (to a qualitative level) and outcomes are also uncertain. We propose an additional 8.5% reduction to the WAMC reductions of 31.5%. This proposed adjustment will be referenced across the relevant sections of this report for each contributing WAMC agency.

WAMC provided feedback to the draft report relating to the justification and rationale for our proposed expenditure reductions above. Our rationale for the extent of proposed reductions considered several factors:

1. We sought to ensure that our analysis, assessment, and approach to any adjustments to proposed expenditure across the WAMC joint technology roadmap were aligned with the WaterNSW expenditure reviews for Rural and Greater Sydney, acknowledging the importance of alignment across the total digital investment portfolio for WaterNSW (including WAMC). In particular, alignment to the Atkins Realis review and assessment of WaterNSW (Rural) proposed digital expenditure.
2. Consideration of the prioritisation process undertaken by WAMC across the joint technology roadmap initiatives. Our recommended adjustments, while considerate and in acknowledgement of prioritisation undertaken, are primarily to account for the extent to which these activities and associated expenditure are justified.

Stantec are not recommending any change to our proposed adjustments to WAMC joint technology roadmap expenditure.

Remove

We are not proposing to remove any initiatives or associated expenditure from the WAMC technology roadmap.

[79] Connected Customer Experience Needs Analysis Business Case.

5.4 Quality assurance of pricing proposal

In undertaking our expenditure review, we have identified several instances where quality assurance of the WAMC pricing proposal has not been undertaken. We have listed some examples below:

- In reviewing DCCEEW's bottom-up cost model for the W-code activities, we identified some activities (e.g., W06-06 (Development of water planning and regulatory framework)) where the sum of the proposed overhead-exclusive expenditure and the proposed overhead allocation is slightly higher than the proposed expenditure set out in the WAMC pricing proposal. We queried DCCEEW about this discrepancy. In response, DCCEEW advised that, for some activities, the wage increases endorsed by Treasury had not 'rolled through' the model.
- In reviewing DCCEEW's bottom-up cost model for consent transaction charges, we identified a set of small discrepancies between interrelated spreadsheets regarding the direct cost calculation for controlled activity approvals. We queried DCCEEW about these discrepancies. In response, DCCEEW advised that it had applied an incorrect escalation factor and that this had impacted on the charges set out in Table 86 of the WAMC pricing proposal.
- We have identified the following typing errors in Table 86 of the WAMC pricing proposal, which sets out the charges proposed by DCCEEW for Type A consent transaction charges:
    - A fee of '$8,98.09' instead of '$8,098.09' proposed for the 'New application for a water supply work approval - town water supply - groundwater assessment charge not included (WSWA – GW for TWS)' charge
    - A fee of '$2,34516' instead of '$2,345.16' proposed for the 'Application to amend water supply works and/or use approval - irrigation corporations (IC inclusion/exclusion)' charge.
- Upon requesting a breakdown of current period (allocated and actual) and proposed future period expenditure and revenue for consent transaction charges, WAMC advised that WaterNSW's costs and revenue had been excluded from Tables 59 and 60 of Attachment F to the WAMC pricing proposal. We note that consent transaction charges are delivered by two WAMC agencies – WaterNSW and DCCEEW. Additionally, WAMC advised that DCCEEW's overheads had been excluded from Table 60.
- In comparing NRAR's cost model for W08-03 (Compliance management) with Attachment F to the WAMC pricing proposal, we identified a discrepancy of more than $1 million between the cost model and Table 57 in Attachment F, regarding the average proposed financial cost over the future period. We queried NRAR about this discrepancy. In response, NRAR advised the following reasons for the discrepancy:

    The department, independently applied wage increases across cost codes to align with a Treasury announcement, including across cost code 0803. However, the adjustment to cost code 0803 was not communicated to NRAR.

    WaterNSW belatedly proposed to recover costs for 0803 in addition and distinct from the NRAR business case which increased the total for 08 03 Compliance management.

    …

    These adjustments were applied after NRAR had communicated its costs externally, leading to a misalignment between the figures used in the business case and the final cost model.

6 Summary of efficiency of expenditure

6.1 Application of efficiency methodology to our expenditure review

In Section 2, we described our methodology and approach for this expenditure review. In that section, we described how WAMC did not base its submission on a base-step-trend approach, which has inhibited our ability to review operating expenditure in these terms. The majority of WAMC expenditure is operating expenditure. Instead, our methodology has focussed on understanding and making an informed assessment about the material increases in expenditure from the 2021 Determination and between the current and future determination periods.

It is worth noting there are around 30 activity codes, which means we have had to apply our methodology across a range of different circumstances, with different organisations involved and with varying degrees of information and justification. This means we have needed to adapt our methodology to the information available for each individual activity.

We sought additional information through requests for information to augment the information provided to us in the WAMC submission and interviews.

The information provided to us from WAMC did not always support a detailed analysis, and sometimes we had information about discrete functions and their costs, but not always. Similarly, we did not always have visibility of the cost of a particular task, function or output within an activity code across determination periods, nor the corresponding forecast from the 2021 Determination.

Where we had detailed information available, we have made an assessment at a granular level. Where we did not have information with adequate precision and that in our judgement, could be relied upon, then we have made high-level assessments and where necessary, adopted high-level, top-down recommended adjustments to the proposed expenditure.

We have recommended an upper bound of efficient expenditure consistent with the IPART guidance provided. This has involved making judgements about the scope and efficiency of the proposed expenditure within the informational constraints for the activity. We have accepted the scope proposed by WAMC where there was a clear, urgent and compelling need for the work, aligned to the scope of that activity and WAMC monopoly services more generally. In most cases, we have not seen a need to make scope adjustments when recommending an upper bound.

Our approach to the upper bound assessment of efficiency has also been dependant on the information available to us. We have used benchmarking where we had suitable data and could make useful comparators to peers. Where we had good, detailed information about the composition of expenditure, we could make informed judgements about whether the resourcing was reasonable for the output. In other cases – and on the proviso we were satisfied the actual expenditure for the current period was reasonable – we have based our assessment on a comparison between the actual expenditure and output in the current determination period, and the proposed expenditure and output for the future determination period. We have also examined the profiling of the proposed expenditure to check if it is deliverable and necessary, and we have searched for potential duplication with the expenditure proposed in other activity codes.

We have then recommended an upper bound of efficient expenditure. Generally, we have recommended an upper bound that is lower than the proposed expenditure for the activity. However, in some cases, we have been satisfied that the proposed expenditure for an activity is efficient and at an appropriate scope, and we have accepted that expenditure as the upper bound value.

We have subsequently examined each activity code for potential further adjustments to arrive at a lower bound expenditure recommendation.

In some cases, we have found that a scope of work could be deferred, reduced or removed on the basis that it was non-essential or not urgent, but doing so increased the risk to service delivery and/or water resource management outcomes. We have also identified opportunities to reduce the scope, or deliver the outputs more efficiently, if certain constraints were relaxed or removed. In most of these cases, we could estimate the value of the savings and the adjustment associated with these changes.

We have also examined reform and other opportunities that could lead to more effective or efficient service delivery. We often did not have sufficient information to make a useful estimate of the savings that would arise, and in many cases those savings could only be estimated following a very extensive review of options.

We have then applied adjustments to determine an efficient lower bound. We have identified lower bound adjustments for many, but not all, activities as in some cases no such opportunities exist.

6.2 Key themes from our expenditure review

We have listed below the key recurring themes from the observations and findings made in our expenditure review:

- In the current period, DCCEEW has exhibited improvement in its approach to resource estimation, with each activity manager estimating their resource requirement by position grade as part of their initial cost build-up. However, the transparency and granularity of DCCEEW's proposed resourcing profiles have been diluted by the application of top-down reductions by its Executive and Water Group leadership. This results in a lack of clarity regarding the final resourcing profiles (number of FTEs by position grade) that form the basis of DCCEEW's operational activities in the WAMC pricing proposal. In turn, this weakens the link between any risk-based prioritisation applied by DCCEEW in making its top-down reductions, and optimisation of the resource mix to effect that prioritisation.
- For a small number of activities, DCCEEW has considered several options to achieve the activity outcomes, the cost of each option, and the impacts of not funding that option. However, for most of its activities, DCCEEW has identified a single option for achieving the activity requirements, without structured consideration of the service level outcomes achievable through different levels of funding, the resulting risk profiles, and how those risk profiles compare with its stated and endorsed risk appetite. That is, DCCEEW has not consistently and robustly considered the trade-offs between service level, cost and risk in proposing its operating expenditure.
- While NRAR and DCCEEW have risk frameworks in place, there was not a clear statement of risk tolerance or appetite in relation to their functions and outcomes – for example, whether there was a tolerance for 'less-than-perfect' in some areas where the consequences might be minor. Having said this, both agencies have begun to take a risk-based approach in some areas. For example, DCCEEW has created risk rankings for water sharing plans to guide effort, and NRAR has set targets for audit that are also risk based. We also saw evidence of using risk to prioritise effort in the non-urban metering program.
- While WAMC has undertaken significant customer and community consultation on its pricing proposal more broadly, this is often at a higher level than what could be applied to a specific activity code. Consequently, it is not clear that DCCEEW – which has generally proposed the most material increases in expenditure when compared with the current period allocation – has arrived at an appropriate balance between affordability (whether that is customer affordability via the user share of the proposed costs or

'community affordability' via the government share) and the level of service delivered. Critically, DCCEEW has not consulted on its proposed significantly increased consent transaction charges, and WaterNSW has not conducted two-way consultation on its proposed floodplain harvesting charges.

- For some activities, DCCEEW has identified business process improvements implemented in the current period or planned for the future period. However, in most of these cases, the cited impacts of the improvements are qualitative only. It is, therefore, challenging to quantify a direct link between the WAMC efficiency strategy (including DCCEEW's efficiency strategies) summarised in Attachment H to the pricing proposal, and the final operating expenditure forecast proposed by DCCEEW for each activity.
- For some activities, particularly office-based activities, WaterNSW has demonstrated a relatively immature approach to resource (labour) estimation, relying on actual expenditure in the current period (resource supply) as an indication of their future resource requirement, rather than an estimation of the efficient level of resource demand.
- The full cost of implementing the *Water Management Act 2000* (the 'Act') is only now emerging. For example, the costs for water sharing plans are increasing as they must incorporate growing requirements from changes in best practice, learnings from the past, and achieve compliance with the Act.

6.3 Recommended efficient range of expenditure

Table 6-1 and Table 6-2 summarise our recommended upper bound and lower bound efficient expenditure by W-code activity for the future period, for operating expenditure and capital expenditure, respectively. To illustrate the impact of adjustments made to direct costs, the costs presented in these tables exclude the adjustments we have recommended for DCCEEW's corporate overheads (Section 0). We discuss the impact of our adjustments to DCCEEW's corporate overheads later in this section (Section 6.3). In both tables, we have included the expenditure proposed by WAMC for context. We summarise our recommendations for charges that are additional to the WAMC water management charge (i.e., consent transaction charges, metering charges, and floodplain harvesting charges) separately in Sections 8 to 10.

Table 6-1: Recommended upper bound and lower bound efficient operating expenditure by W-code activity (excluding adjustments to DCCEEW corporate overheads)

	Expenditure proposed by WAMC ($'000)						Recommended upper bound ($'000)							Recommended lower bound ($'000)						
W-code	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**Annual average**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**Annual average**	**Average annual adjustment from proposed**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**Annual average**	**Average annual adjustment from proposed**
W01-01	5,720	5,595	5,670	5,815	5,971	**5,754**	5,720	5,595	5,670	5,815	5,971	**5,754**	**0**	5,663	5,539	5,613	5,757	5,911	**5,697**	**-58**
W01-02	626	609	613	627	642	**623**	626	609	613	627	642	**623**	**0**	626	609	613	627	642	**623**	**0**
W01-03	1,232	1,204	1,217	1,252	1,289	**1,239**	1,232	1,204	1,217	1,252	1,289	**1,239**	**0**	1,220	1,192	1,205	1,239	1,276	**1,226**	**-12**
W01-04	326	318	322	331	340	**327**	326	318	322	331	340	**327**	**0**	326	318	322	331	340	**327**	**0**
W01-05	1,562	1,637	1,440	1,367	1,397	**1,481**	1,230	1,091	1,077	1,035	1,065	**1,100**	**-381**	1,130	991	977	935	965	**1,000**	**-481**
W02-01	5,820	5,596	5,736	5,600	5,426	**5,636**	5,820	5,428	5,457	5,268	5,094	**5,413**	**-222**	5,820	5,428	5,457	5,009	4,844	**5,312**	**-324**
W02-02	1,870	614	622	598	608	**862**	900	1,110	1,062	569	579	**844**	**-18**	900	1,110	1,004	513	523	**810**	**-52**
W02-03	200	120	120	121	120	**136**	200	120	110	101	100	**126**	**-10**	200	120	110	91	80	**120**	**-16**
W04-01	5,268	5,113	5,329	5,265	5,319	**5,259**	5,268	5,113	5,329	5,265	5,319	**5,259**	**0**	4,899	4,755	4,956	4,896	4,947	**4,891**	**-368**
W04-02	1,564	1,507	1,582	1,560	1,579	**1,558**	1,564	1,507	1,582	1,560	1,579	**1,558**	**0**	1,486	1,432	1,503	1,482	1,500	**1,481**	**-78**
W04-03	858	840	875	865	874	**862**	858	840	875	865	874	**862**	**0**	858	840	875	865	874	**862**	**0**
W05-01	9,542	9,299	9,695	9,552	9,677	**9,553**	9,542	5,370	4,400	4,346	4,381	**5,608**	**-3,945**	9,542	5,370	4,400	4,346	4,381	**5,608**	**-3,945**
W05-02	929	913	932	957	980	**942**	929	913	932	957	980	**942**	**0**	929	913	932	957	980	**942**	**0**
W05-03	4,484	4,221	2,974	2,963	2,912	**3,511**	2,395	2,464	1,355	1,459	1,482	**1,831**	**-1,680**	1,148	1,249	1,295	1,399	1,422	**1,303**	**-2,208**
W05-04	6,269	5,770	6,408	6,277	6,079	**6,161**	6,269	5,597	6,048	5,739	5,375	**5,806**	**-355**	6,269	5,597	6,048	5,739	5,375	**5,806**	**-355**
W06-01	6,824	11,877	7,820	8,105	6,606	**8,246**	2,616	4,553	2,997	3,107	2,532	**3,161**	**-5,085**	1,746	3,039	2,001	2,074	1,690	**2,110**	**-6,136**
W06-02	7,184	10,558	4,380	8,772	5,805	**7,340**	5,163	7,588	3,148	6,304	4,172	**5,275**	**-2,065**	4,236	6,226	2,583	5,173	3,423	**4,328**	**-3,012**
W06-03	7,201	6,136	6,799	6,528	6,965	**6,726**	7,201	6,136	6,799	6,528	6,965	**6,726**	**0**	4,921	3,856	4,519	4,248	4,685	**4,446**	**-2,280**
W06-05*	9,776	8,535	8,860	8,736	8,820	**8,945**	7,865	6,337	5,603	5,984	5,570	**6,272**	**-2,674**	4,890	3,539	2,691	3,133	2,689	**3,388**	**-5,557**
W06-05^	1,456	1,456	1,163	1,002	966	**1,209**	1,456	1,456	1,163	1,002	996	**1,215**	**6**	689	734	587	1,002	966	**796**	**-413**
W06-05#	222	222	222	222	222	**222**	222	222	222	222	222	**222**	**0**	112	112	222	222	222	**178**	**-44**
W06-06	2,321	2,256	2,358	2,309	2,354	**2,320**	2,205	2,143	2,240	2,194	2,236	**2,204**	**-116**	2,136	2,136	2,136	2,136	2,136	**2,136**	**-184**
W06-07	2,862	2,717	3,007	2,780	2,440	**2,761**	2,797	2,632	2,866	2,769	2,654	**2,744**	**-18**	2,797	2,632	2,866	2,769	2,654	**2,744**	**-18**
W07-01	4,906	5,393	5,540	5,415	4,734	**5,198**	3,837	3,723	3,454	3,853	3,844	**3,742**	**-1,455**	3,779	3,667	3,402	3,795	3,786	**3,686**	**-1,512**
W08-01	42	41	42	43	44	**42**	0	0	0	0	0	**0**	**-42**	0	0	0	0	0	**0**	**-42**
W08-02	1,772	1,691	1,691	1,761	1,801	**1,743**	1,772	1,691	1,691	1,761	1,801	**1,743**	**0**	1,506	1,437	1,437	1,497	1,531	**1,482**	**-262**
W08-03	38,552	36,140	34,306	33,024	32,040	**34,812**	38,552	36,140	34,306	33,024	32,040	**34,812**	**0**	32,552	30,140	28,306	27,024	26,040	**28,812**	**-6,000**
W10-01	5,092	4,912	5,049	5,087	5,176	**5,063**	4,179	4,026	4,120	4,171	4,249	**4,149**	**-914**	3,894	3,752	3,843	3,887	3,959	**3,867**	**-1,196**
W10-02	7,423	7,371	7,536	7,033	5,420	**6,957**	5,923	5,871	6,036	5,533	3,920	**5,457**	**-1,500**	5,923	5,871	6,036	5,533	3,920	**5,457**	**-1,500**
W10-03	2,445	2,364	2,389	2,482	2,566	**2,449**	2,445	2,364	2,389	2,482	2,566	**2,449**	**0**	2,200	2,128	2,151	2,234	2,310	**2,205**	**-245**
Total	**144,348**	**145,025**	**134,697**	**136,449**	**129,172**	**137,938**	**129,112**	**122,161**	**113,083**	**114,123**	**108,837**	**117,463**		**112,397**	**104,732**	**98,090**	**98,913**	**94,071**	**101,641**	

* Excluding metropolitan water planning costs
^ Greater Sydney Water Strategy only
# Lower Hunter Water Security Program only

Table 6-2: Recommended upper bound and lower bound efficient capital expenditure by W-code activity (excluding adjustments to DCCEEW corporate overheads)

	Expenditure proposed by WAMC ($'000)						Recommended upper bound ($'000)							Recommended lower bound ($'000)						
W-code	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**Annual average**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**Annual average**	**Average annual adjustment from proposed**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**Annual average**	**Average annual adjustment from proposed**
W01-01	4,115	3,999	3,980	4,009	4,070	**4,035**	4,115	3,999	3,980	4,009	4,070	**4,035**	**0**	3,045	2,959	2,945	2,967	3,012	**2,986**	**-1,049**
W02-01	4,215	4,236	4,219	4,244	3,990	**4,181**	4,215	4,236	4,219	4,244	3,990	**4,181**	**0**	3,583	3,601	3,586	3,607	3,392	**3,554**	**-627**
W07-01	1,158	1,154	1,154	1,154	1,106	**1,145**	378	374	124	124	76	**215**	**-930**	378	374	124	124	76	**215**	**-930**
W10-02	22,363	21,598	17,682	8,393	3,244	**14,656**	23,863	23,098	19,182	9,893	4,744	**16,156**	**1,500**	22,863	21,898	17,982	9,393	4,744	**15,376**	**720**
Total	**31,851**	**30,987**	**27,035**	**17,800**	**12,410**	**24,017**	**32,571**	**31,707**	**27,505**	**18,270**	**12,880**	**24,587**		**29,869**	**28,832**	**24,637**	**16,091**	**11,224**	**22,131**	

Figure 6-1 and Figure 6-2 on the following page present, by activity group, the impacts of our direct cost adjustments for operating expenditure only. As noted earlier, the majority of WAMC expenditure is operating expenditure. We have used 'waterfall' charts to illustrate these impacts, with Figure 6-1 depicting the impact of our upper bound adjustments on annual average operating expenditure, and Figure 6-2 depicting the impact of our lower bound adjustments.

It can be seen from these figures that, for our recommended upper and lower bounds, the most material adjustments have been those made to the W06 (water management planning) activity group. For our recommended lower bound, material adjustments have also been made to the W05 (water management implementation) and W08 (water regulation management) activity groups.

For the activity groups where we have made material adjustments, our adjustments have been driven by the following key factors:

- W06:
    - Reducing expenditure to what we would expect for the proposed outputs when compared with actual expenditure and outputs in the current period
    - Reducing strategy implementation costs to an efficient benchmark for monitoring, evaluation and reporting
    - Improving the development and implementation of risk-based frameworks used to prioritise activities, deferring low-risk activities, and leveraging available options for the deferral of statutory activities (e.g., the deferral of low-risk water sharing plan replacements)
    - Removing 'legacy' costs arising from a historical lack of active compliance management.
- W05:
    - Reducing non-urban metering costs to reflect the transition of reform activities to business-as-usual activities
    - Deferring activities with limited justification, timing certainty, or understanding of the consequences of not undertaking the activity
    - Continuing current levels of service where the adoption of a higher level of service has not been justified.
- W08:
    - Removing 'legacy' costs arising from a less mature water resource management environment.

We note that, relative to the proposed expenditure at the activity level, we have also made 'material' adjustments for most other activity groups. However, when the WAMC pricing proposal is considered in aggregate, our most material adjustments have been made to the W06, W05 and W08 activity groups – that is, in the planning, management and enforcement of water management.

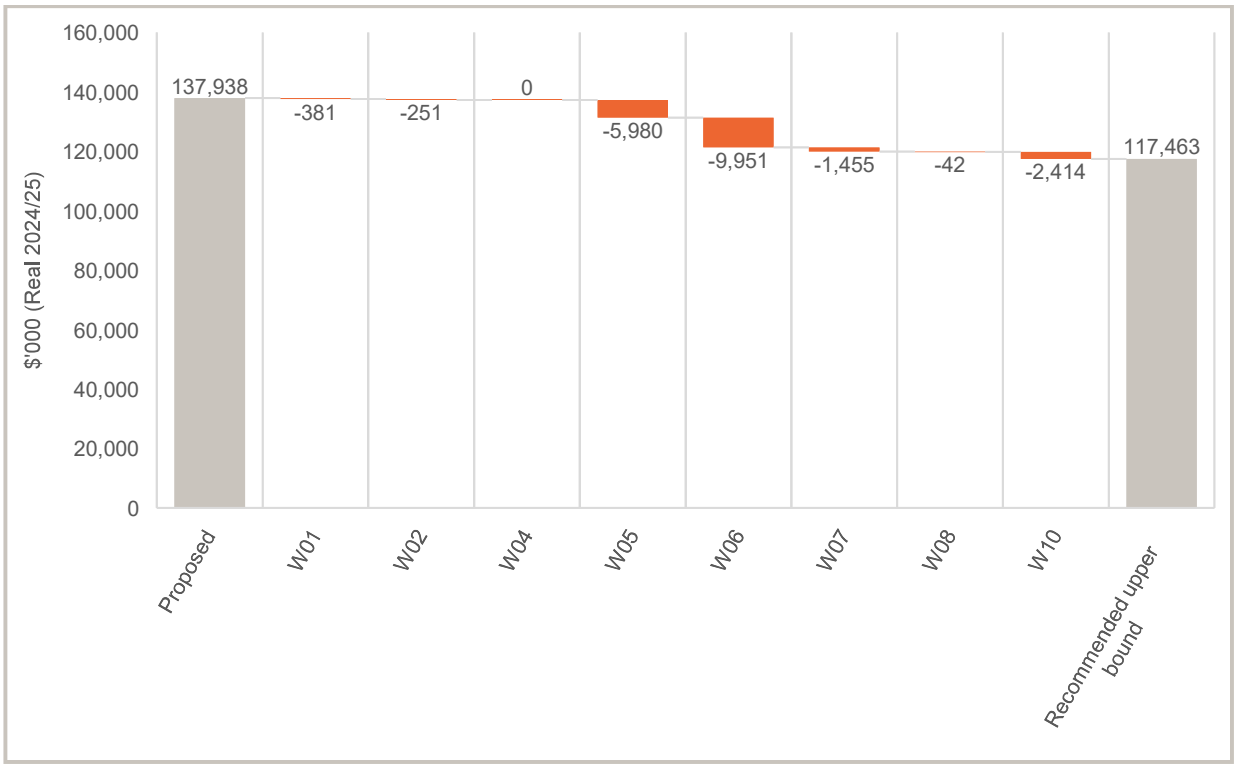

Figure 6-1: Total adjustment by activity group for recommended upper bound operating expenditure (excluding adjustments to DCCEEW corporate overheads)

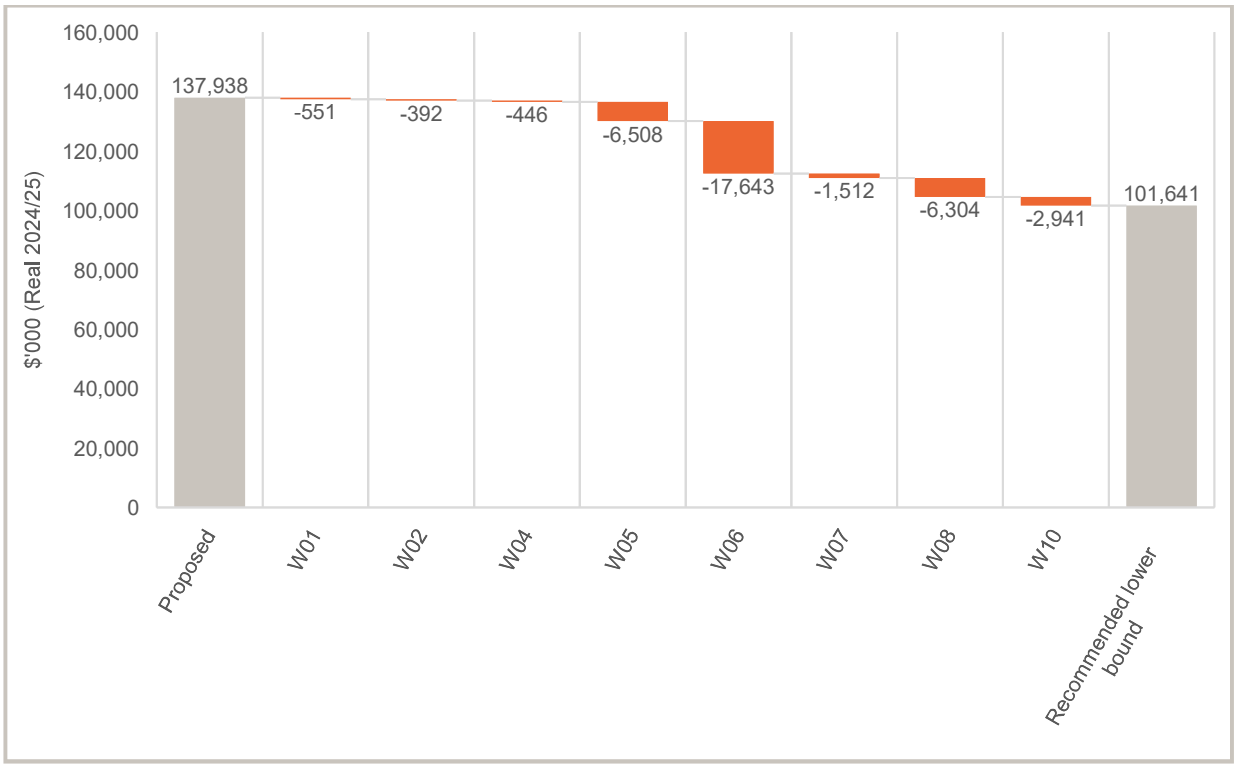

Figure 6-2: Total adjustment by activity group for recommended lower bound operating expenditure (excluding adjustments to DCCEEW corporate overheads)

As noted earlier, we have separately recommended adjustments to DCCEEW's corporate overheads (Section 0). The outlying factor in overall increased WAMC overhead expenditure is the inclusion of DCCEEW's WAMC Business Services functions and activities in its overhead allocation. Therefore, we have undertaken a detailed assessment of these proposed additional costs.

To illustrate the impact of combining our recommended adjustments to DCCEEW's corporate overheads with our recommended direct cost adjustments, we have replicated the waterfall charts presented earlier but only for W-code activities undertaken by DCCEEW. The combined impact of our upper bound adjustments is depicted in Figure 6-3, while the combined impact of our lower bound adjustments is depicted in Figure 6-4.

We note that the combined calculations presented in these graphs are indicative only. This is because DCCEEW's apportionment of its overhead allocation is based on the number of FTEs assigned to each activity and, as noted in Section 6.2, the application of a top-down reduction by DCCEEW has reduced the clarity of the exact resourcing profiles underpinning its estimates. As such, we suggest that if IPART adopts either our upper bound or lower bound recommendations for DCCEEW's corporate overheads, that DCCEEW updates its overhead allocation model to recalculate the total allowed expenditure at the activity level.

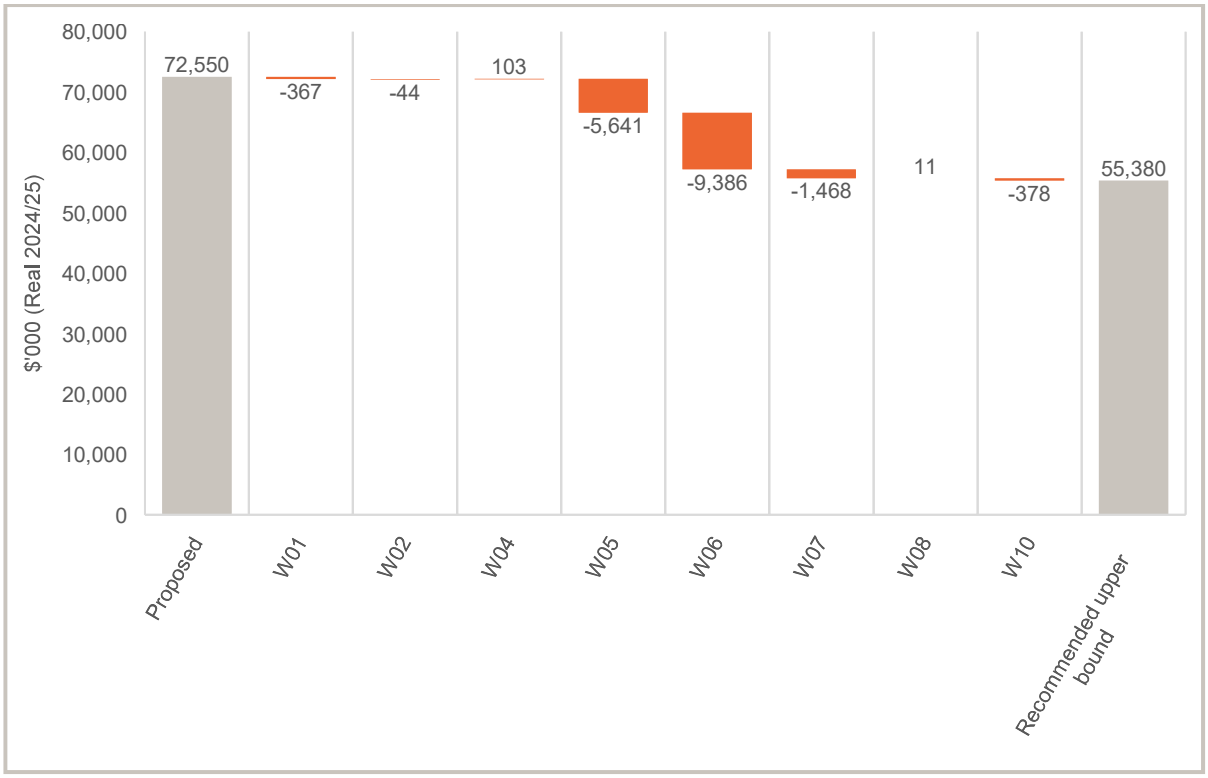

Figure 6-3: Indicative total adjustment by activity group for recommended upper bound operating expenditure (including adjustments to DCCEEW corporate overheads)

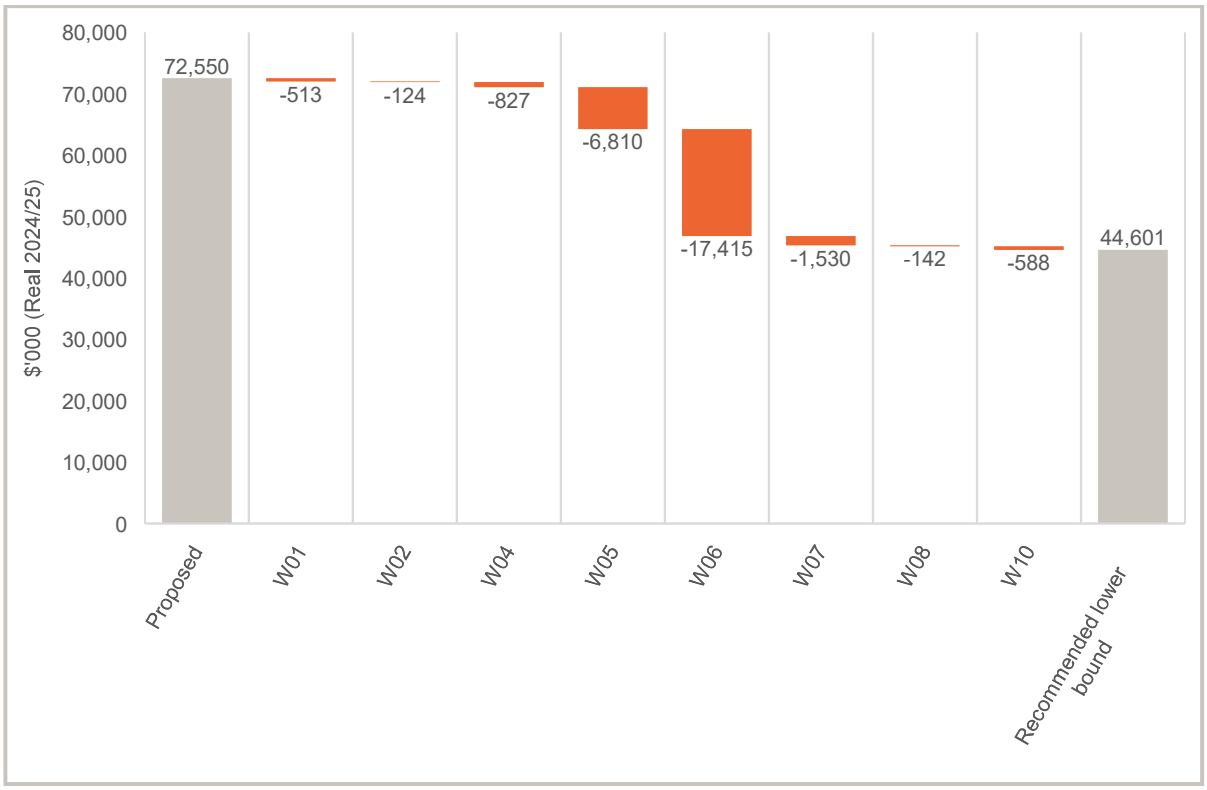

Figure 6-4: Indicative total adjustment by activity group for recommended lower bound operating expenditure (including adjustments to DCCEEW corporate overheads)

7 Detailed review of activities included in water management prices

7.1 W01-01 (Surface water quantity monitoring), W01-02 (Surface water data management and reporting), W01-03 (Surface water quality monitoring), and W01-04 (Surface water algal monitoring)

7.1.1 Operating expenditure

7.1.1.1 Background

These activities involve the undertaking of surface water monitoring across the catchment to collect, store, analyse and report on the required data. A broad summary of each activity follows:

- W01-01 (Surface water quantity monitoring) – includes the design, calibration, data collection, processing, encoding, quality assurance, and archiving from the networks of water monitoring stations; the delivery of near real time height and/or flow data and water quality parameters from all telemetered sites to the corporate database; and the maintenance and operation of surface water monitoring stations.
- W01-02 (Surface water data management) – includes the data management and reporting of surface water quantity, quality and biological information; including compilation, secure storage, management and publishing of data to customers, stakeholders and the public.
- W01-03 (Surface water quality management) – includes the design, sample collection, laboratory testing and analysis, test result quality assurance to accepted standards, and test result encoding to make it available for data management and reporting
- W01-04 (Surface water algal monitoring) – includes the design, sample collection, laboratory analysis, algal identification and enumeration to accepted standards, and result encoding for provision to regional coordinating committees.

WaterNSW undertakes the tasks within these activity codes. There is operational expenditure across all four codes, and the capital expenditure is incurred in W01-01 (Surface water quantity monitoring). The monitoring information collected in these activity codes is used for a range of purposes, primarily by DCCEEW in administering the water planning, policy and reporting activities of water resource management in NSW, for example, the data is used in W04-01 (Surface water modelling), and the subsequent outputs are then used in W06 (Water management planning).

There are 437 surface water monitoring sites that are subject to WAMC funding, and a further 132 sites that are jointly funded by WAMC and other agencies (for example, the MDBA). The share of funding is based on the services performed and parameters monitored as required for each agency. Additionally, WaterNSW operates other surface water monitoring sites funded separately, and makes this data available to DCCEEW.

WaterNSW has developed a criticality assessment tool for the monitoring sites, aligned with the corporate risk framework. An assessment was completed in FY21 and again in FY24, with scores ranging from 1 (low criticality) to 5 (high criticality). Most sites were assigned a rating of 3, with less sites assigned a rating of 2, and only a few sites as rating 1. No sites were given ratings of 4 or 5 as the consequences did not meet risk and consequence criteria established within the framework.

There is a potential overlap with W02-01 (Groundwater monitoring), as the same staff undertake both activities, and tasks can be scheduled together.

W01-01 (Surface water quantity monitoring)

Figure 7-1 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

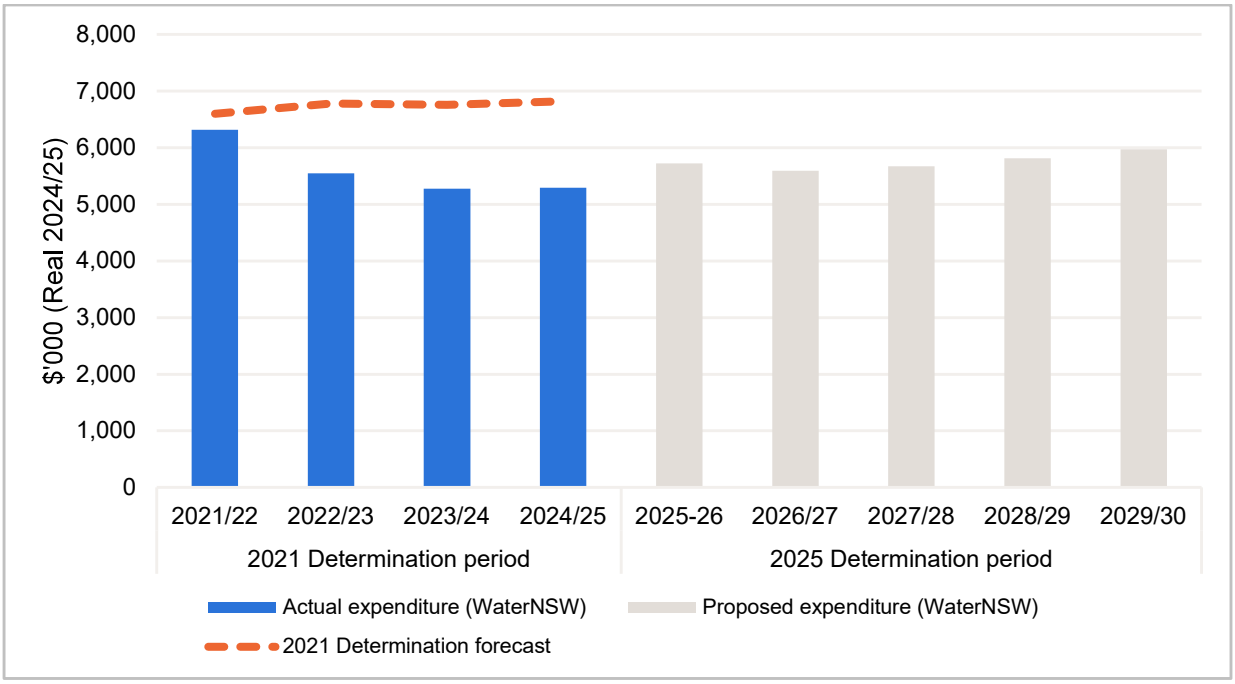

Figure 7-1: Current and future period expenditure for W01-01 (Surface water quantity monitoring)

Table 7-1 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination and actual expenditure.

Table 7-1: Current period expenditure for W01-01 (Surface water quantity monitoring) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	6,598	6,780	6,757	6,816	**26,951**	**6,738**
Actual expenditure (WaterNSW)	6,318	5,548	5,274	5,294	**22,434**	**5,609**
Variance	-280	-1,232	-1,483	-1,522	**-4,517**	**-1,129**

Table 7-2 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-2: Future period expenditure for W01-01 (Surface water quantity monitoring) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	5,720	5,595	5,670	5,815	5,971	**28,771**	**5,754**

The actual expenditure in the current determination period averages $5,609,000 per year. This is $1,129,000 per year (17%) lower than allowed for in the 2021 Determination forecast, which averaged $6,738,000 per year.

The proposed expenditure for the 2025 Determination period averages $5,754,000 per year. This is $984,000 per year (15%) lower than the average annual expenditure allowed for in the 2021 Determination period, and $146,000 per year (3%) higher than the actual annual expenditure incurred in the current period.

W01-02 (Surface water data management and reporting)

Figure 7-2 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

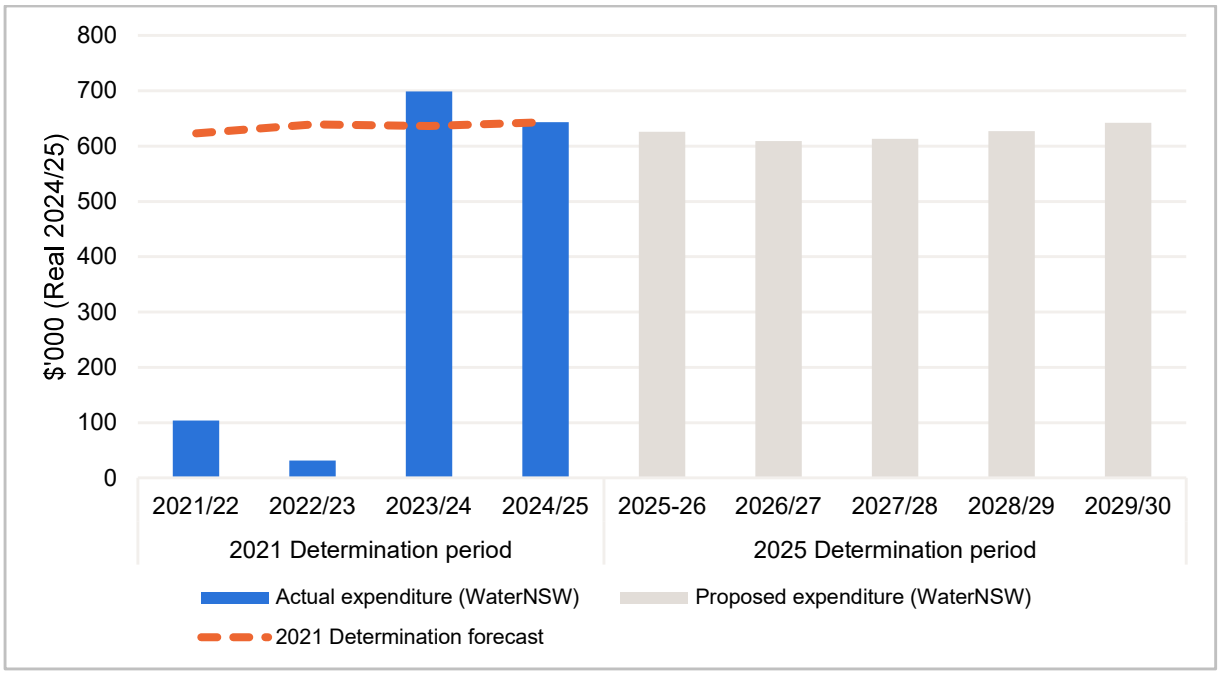

Figure 7-2: Current and future period expenditure for W01-02 (Surface water data management and reporting)

Table 7-3 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-3: Current period expenditure for W01-02 (Surface water data management and reporting) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	623	639	636	643	**2,541**	**635**
Actual expenditure (WaterNSW)	104	32	699	643	**1,478**	**370**
Variance	-519	-607	63	0	**-1,063**	**-266**

Table 7-4 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-4: Future period expenditure for W01-02 (Surface water data management and reporting) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	626	609	613	627	642	**3,117**	**623**

The actual expenditure in the current determination period averages $370,000 per year. This is $266,000 per year (42%) lower than allowed for in the 2021 Determination forecast, which averaged $635,000 per year.

The proposed expenditure for the 2025 Determination period averages $623,000 per year. This is $12,000 per year (2%) lower than the average annual expenditure allowed for in the 2021 Determination period, and $254,000 per year (69%) higher than the actual annual expenditure incurred in the current period.

W01-03 (Surface water quality monitoring)

Figure 7-3 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

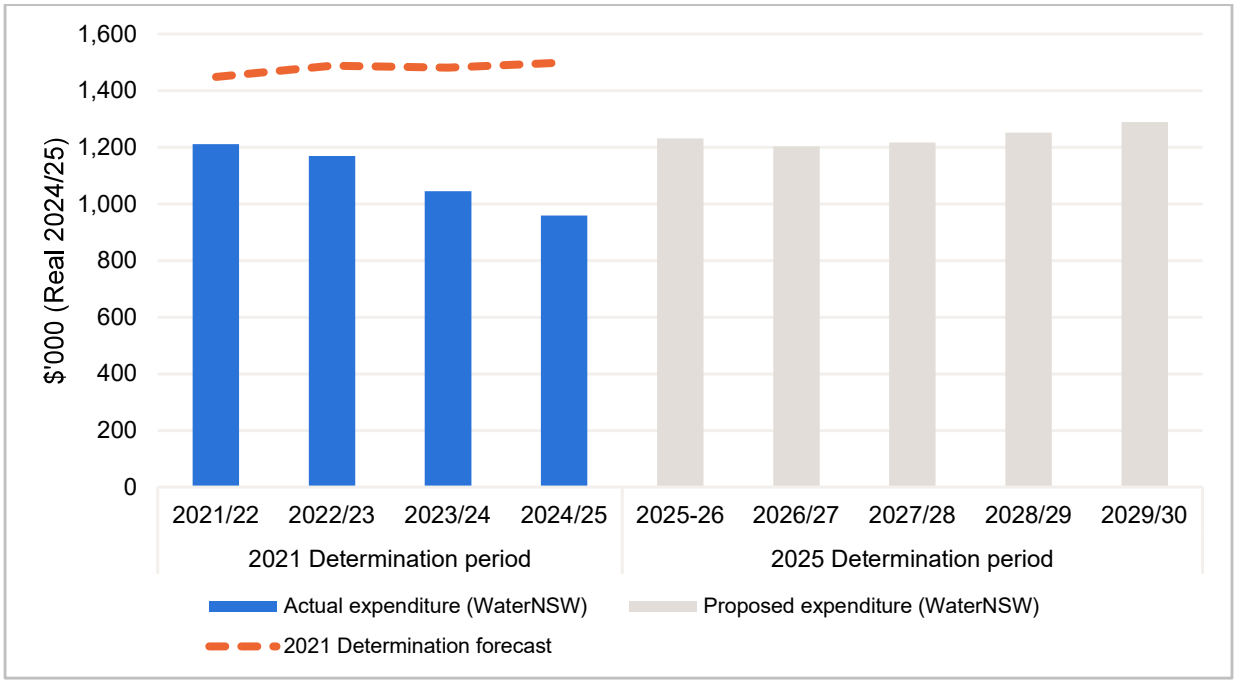

Figure 7-3: Current and future period expenditure for W01-03 (Surface water quality monitoring)

Table 7-5 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-5: Current period expenditure for W01-03 (Surface water quality monitoring) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	1,449	1,488	1,482	1,499	**5,918**	**1,480**
Actual expenditure (WaterNSW)	1,211	1,170	1,045	959	**4,385**	**1,096**
Variance	-238	-318	-437	-540	**-1,533**	**-383**

Table 7-6 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-6: Future period expenditure for W01-03 (Surface water quality monitoring) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	1,232	1,204	1,217	1,252	1,289	**6,194**	**1,239**

The actual expenditure in the current determination period averages $1,096,000 per year. This is $383,000 per year (26%) lower than allowed for in the 2021 Determination forecast, which averaged $1,480,000 per year.

The proposed expenditure for the 2025 Determination period averages $1,239,000 per year. This is $241,000 per year (16%) lower than the average annual expenditure allowed for in the 2021 Determination period, and $143,000 per year (13%) higher than the actual annual expenditure incurred in the current period.

W01-04 (Surface water algal monitoring)

Figure 7-4 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

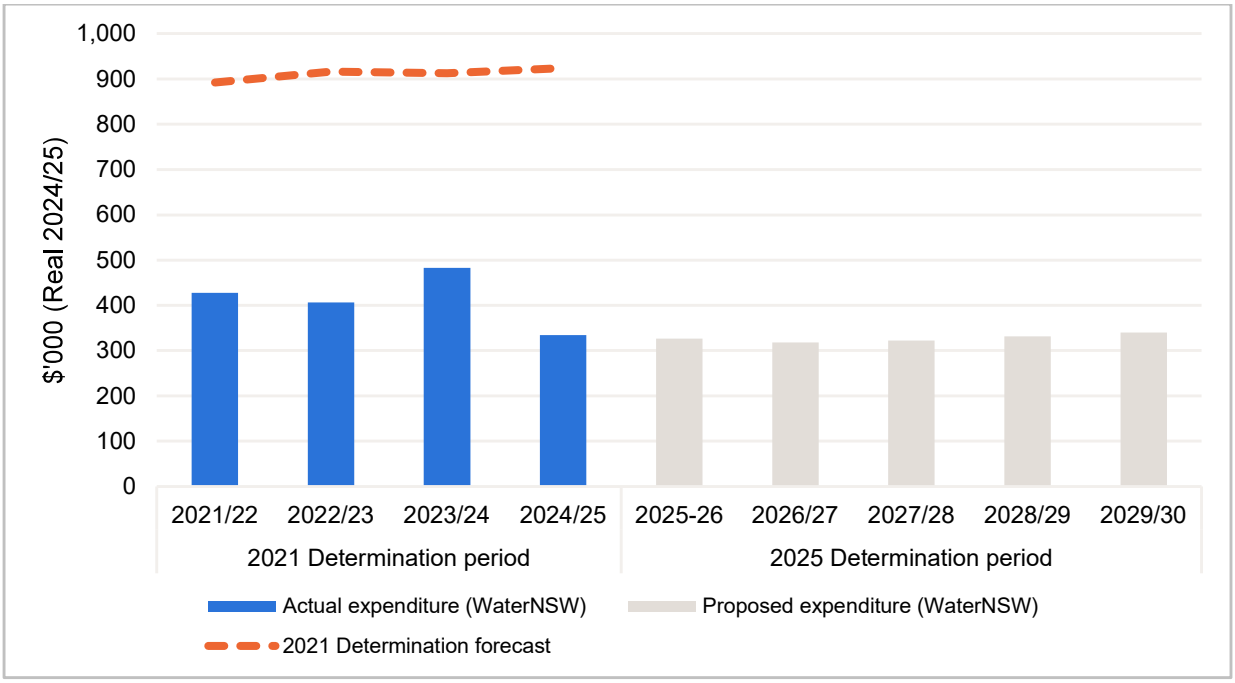

Figure 7-4: Current and future period expenditure for W01-04 (Surface water algal monitoring)

Table 7-7 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-7: Current period expenditure for W01-04 (Surface water algal monitoring) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	892	916	913	924	**3,645**	**911**
Actual expenditure (WaterNSW)	427	406	483	334	**1,650**	**413**
Variance	-465	-510	-430	-590	**-1,995**	**-499**

Table 7-8 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-8: Future period expenditure for W01-04 (Surface water algal monitoring) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	326	318	322	331	340	**1,637**	**327**

The actual expenditure in the current determination period averages $413,000 per year. This is $499,000 per year (55%) lower than allowed for in the 2021 Determination forecast, which averaged $911,000 per year.

The proposed expenditure for the 2025 Determination period averages $327,000 per year. This is $584,000 per year (64%) lower than the average annual expenditure allowed for in the 2021 Determination period, and $85,000 per year (21%) lower than the actual annual expenditure incurred in the current period.

7.1.1.2 Drivers for expenditure

The monitoring of surface water is fundamental in providing data to inform a range of outcomes for WAMC. Surface water quantity monitoring sites are established at various surface water bodies, such as rivers, lakes, and streams across NSW. Water quality monitoring sites focus specifically on assessing the chemical, physical, and biological properties of water and collect data on water flow rates, water quality and sediment transport.

The requirements of the water monitoring program undertaken by WaterNSW is outlined in Service Schedule 6 of the Roles and Responsibilities Agreement, which was implemented in July 2022. The schedule sets out the agreed monitoring parameters for each site. A review of the network and monitoring requirements is planned to take place as part of the Roles and Responsibilities Agreement in the future period (FY26 – FY30). Ultimately DCCEEW establishes the requirements of the monitoring activities, based on the data required to meet the scope of the subsequent activities that use the outputs.

7.1.1.3 Performance in the current period

In FY24, WaterNSW reported that it met four and did not meet one of the output measures for this group of activity codes. The output measure that was not met was attending 437 sites as per forecast, compared with 420 sites attended in the year. High flow events and wet weather hindered access to these sites.

For the Performance Indicators in FY24, four were met and one was not met. The measure that was not met was that 88% of the cost of assets were in condition grade 2 or better, compared with a target 95%. Though maintaining the condition of monitoring equipment is crucial to this activity and more broadly to the remit of WAMC, we view this target as being aspirational for asset condition, driving over-investment and not reflective of what is typically seen in the water industry. As such, we consider 88% to be a reasonable outcome for this measure.

7.1.1.4 Review of current period expenditure

W01-01 (Surface water quantity monitoring)

There was an underspending for this activity over the period. This was partially the result of lack of access to some sites due to bush fires, floods and fish kill events; and partially attributed to efficiencies implemented in the period. Efficiencies were sighted as the multiskilling of staff; the distribution of office locations and planning of inspection runs.

WaterNSW has a team of approximately 100 staff involved in undertaking monitoring activities across the broader remit of all their determinations. Staff members will undertake WAMC monitoring activities as determined by the scheduling of tasks. WaterNSW stated they have been focused on training staff to be multi-skilled, able to complete surface water and groundwater monitoring activities. This improves flexibility with scheduling, enabling more efficient inspection runs to be programmed by incorporating different monitoring tasks on the same run, reducing travel time and cost. WaterNSW has 14 office locations for field staff throughout NSW, typically with four to five staff in each office. This has enabled a reduction in travel time to monitor sites and allowed for optimisation of inspection routes. WaterNSW stated they review the location of staff when opportunities arise to complement the monitoring program. An example provided was that when two vacancies arose in the town of Orange, the roles were moved to Leeton and Warragamba to better align with requirements.

During FY24, there were several new sites installed at the request of DCCEEW. These activities were absorbed into the schedule using the existing FTE's:

- Fifteen new hydrometric stations and five upgraded stations
- Twelve new dissolved oxygen sites (six in Lachlan, six in Barwon Darling)
- Thirty-five additional dissolved oxygen sensors being scoped for inland valleys (Murray, Murrumbidgee and Buronga)
- Menindee water quality sampling – 100% Buronga team plus support from other areas. Required weekly sampling and event work over a 3-month period and the installation of two dissolved oxygen buoys
- (Per- and polyfluoroalkyl substances) PFAS testing

Costs for this activity are primarily FTE and travel costs. Efficiencies are driven by optimising the monitoring runs to meet the required program. Because surface water and groundwater sites are combined on monitoring runs, there is a risk of inaccuracies in time allocations, which was noted by WaterNSW. We view this as a minor risk as WaterNSW is aware of this issue and the aggregate costs between W01-01 (Surface water quantity monitoring) and W02-01 (Groundwater quantity monitoring) are balanced.

W01-02 (Surface water data management and reporting)

The underspend in FY22 and FY23 was due to incorrect coding of costs to W01-01 (Surface water quantity monitoring). This was addressed through organisational changes part way through the current period and expenditure is in line with allowance in the final two years.

W01-03 (Surface water quality monitoring)

WaterNSW stated a portion of costs were misallocated to W01-01 (Surface water quantity monitoring) during the current period and there was a small increase in the quantum of water quality data required. Taking these considerations into account, we are of the opinion this expenditure is appropriate for the scope of the work for this activity.

W01-04 (Surface water algal monitoring)

The current period allowance included FTE costs for data collection and the laboratory analysis, however most of the data collection labour was allocated to W01-03 (Surface water quality monitoring) as the tasks are done in conjunction with each other. This resulted in an underspending of this activity code.

7.1.1.5 Review of future period expenditure

Future expenditure for W01-01 (Surface water quantity monitoring) is driven by ongoing compliance to Schedule 6 of the Roles and Responsibilities matrix. Efficiencies are derived from telemetry upgrades, a network review as part of the Roles and Responsibilities matrix, improvements to the resource forecasting process and ongoing optimisation of monitoring runs. WaterNSW have developed a Monitoring Cost Model[80] that is based on the number of parameters at each station. This bottom-up cost estimate calculates the total annual cost per site and includes a 3.5% escalation year on year. The resulting future period expenditure is in line with current actuals and below the current allowance. Based on a similar number of sites for the future period, we are of the opinion the cost estimate is appropriate.

There is a review of Schedule 6 to be included in the future period. Should the review recommend there be a change in the number of sites or additional parameters required at existing sites, the scope of work may increase or decrease for this activity. WaterNSW has shown it has capacity to incorporate additional sites through scheduling efficiencies, however, we are of the opinion there is a realistic limit to the number of additional sites that can be monitored within the nominated budget. Conversely, should the scope decrease, there may be some opportunities for savings. While changes do happen, to set an upper bound, we are assuming the number of sites remains constant.

The future expenditure for W01-02 (Surface water data management and reporting) is in line with FY24 actuals and allowance. There are no changes to scope, which remains consistent in ensuring the data is compiled, securely stored, and published to customers, stakeholders and the public.

A slight increase in the future expenditure of W01-03 (Surface water quality monitoring) is offset by a reduction in W01-04 (Surface water algal monitoring) to account for the labour costs of algae sampling that are now undertaken in conjunction with the water quality sampling. This leaves W01-04 (Surface water algal monitoring) primarily consisting of the laboratory analysis costs. WaterNSW recently engaged a new contract for laboratory analysis, resulting in some efficiencies gained in the proposed costing estimate.

7.1.1.6 Conclusions and recommendations

The cost estimates for W01-01 (Surface water quantity monitoring) and W01-03 (Surface water quality monitoring) are proportional to the number of sites required to be monitored as specified by DCCEEW through Schedule 6 of the Roles and Responsibilities Matrix. We are of the opinion the proposed expenditure is efficient in achieving the current scope. In setting an upper bound, we have not made any adjustments from the proposed future estimate.

In setting a lower bound, we have allowed for a 1% improvement in efficiency, based on continued improvement in the planning of monitoring runs and the established maturity of the systems in place. We note this activity is likely reaching a level of efficient operation and future cost outcomes will be driven by scope adjustments.

[80] RFI 79 – 'Water Monitoring Cost Model v10.0.xlsx', WaterNSW (03/12/2024).

Table 7-9: Recommended range of efficient expenditure – W01-01 (Surface water quantity monitoring) operating expenditure ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	5,720	5,595	5,670	5,815	5,971
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**5,720**	**5,595**	**5,670**	**5,815**	**5,971**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-57	-56	-57	-58	-60
Recommended lower bound efficient operating expenditure	**5,663**	**5,539**	**5,613**	**5,757**	**5,911**

For activity W01-02 (Surface water data management and reporting), we see no basis to adjust for the upper and lower bounds.

Table 7-10: Recommended range of efficient expenditure – W01-02 (Surface water data management and reporting) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	626	609	613	627	642
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**626**	**609**	**613**	**627**	**642**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**626**	**609**	**613**	**627**	**642**

As noted, expenditure for activity W01-03 (Surface water quality monitoring) is proportional to the number of sites and parameters to be measured. We have made the same adjustments to the upper and lower bounds as for W01-01 (Surface water quantity monitoring).

Table 7-11: Recommended range of efficient expenditure – W01-03 (Surface water quality monitoring) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	1,232	1,204	1,217	1,252	1,289
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**1,232**	**1,204**	**1,217**	**1,252**	**1,289**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-12	-12	-12	-13	-13
Recommended lower bound efficient operating expenditure	**1,220**	**1,192**	**1,205**	**1,239**	**1,276**

Expenditure for activity W01-04 (Surface water algal monitoring) is primarily laboratory costs and is proportional to the number of sites and parameters to be measured. Efficiencies are captured within the contracted laboratory pricing. We see no basis to adjust for the upper and lower bounds.

Table 7-12: Recommended range of efficient expenditure – W01-04 (Surface water algal monitoring) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	326	318	322	331	340
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**326**	**318**	**322**	**331**	**340**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**326**	**318**	**322**	**331**	**340**

7.1.2 Capital expenditure

7.1.2.1 Background

Capital expenditure for W01-01 (Surface water quantity monitoring) is primarily focussed on renewals of the existing monitoring stations to maintain the monitoring network to ensure the continued capability of the surface water monitoring program. Secondly, there are a range of upgrades included to improve resilience, incorporate technology upgrades and the installation of backup equipment at critical sites.

The capital expenditure is all within activity W01-01 (Surface water quantity monitoring) and is carried out by WaterNSW. Please refer to Section 7.1.1.1 for a description of the other aspects of this activity.

Figure 7-5 shows the capital expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

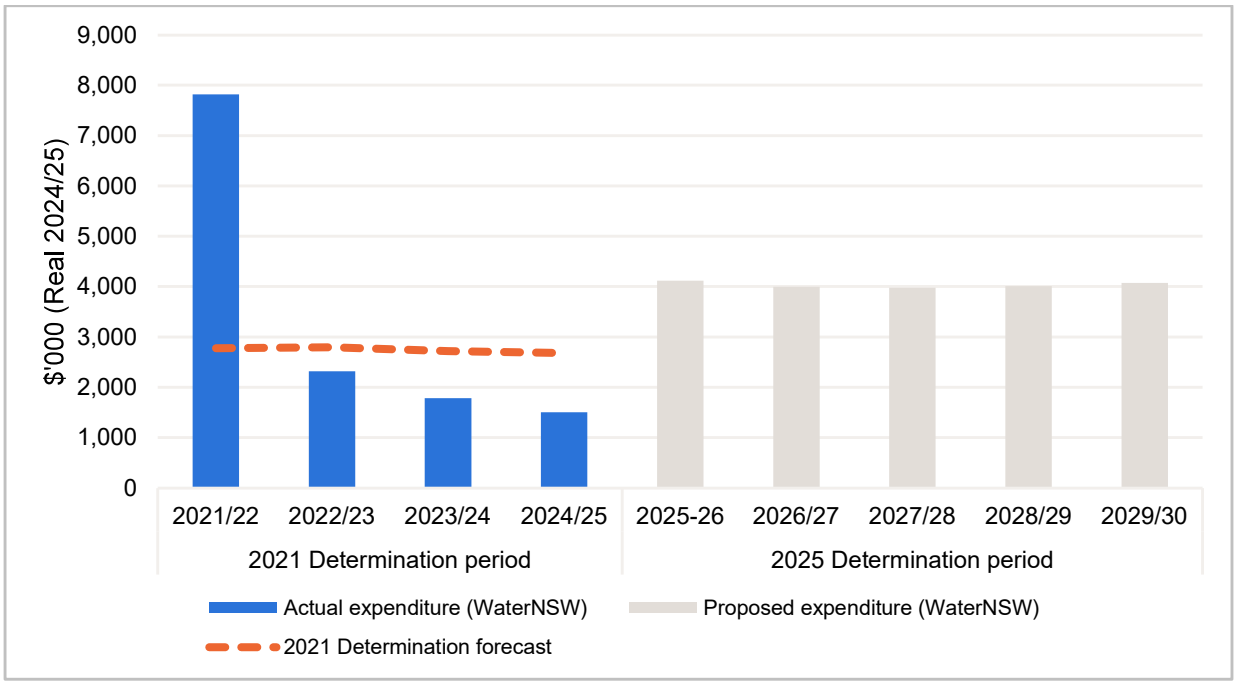

Figure 7-5: Current and future period capital expenditure for W01 (Surface water monitoring)

Table 7-13 presents the current period capital expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-13: Current period capital expenditure for W01 (Surface water monitoring) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	2,776	2,797	2,719	2,685	**10,977**	**2,744**
Actual expenditure (WaterNSW)	7,816	2,318	1,787	1,505	**13,426**	**3,357**
Variance	5,040	-479	-932	-1,180	**2,449**	**612**

Table 7-14 presents the future period capital expenditure for this activity, including the average annual expenditure across all years.

Table 7-14: Future period capital expenditure for W01 (Surface water monitoring) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	4,115	3,999	3,980	4,009	4,070	**20,173**	**4,035**

The actual capital expenditure in the current determination period averages $3,357,000 per year. This is $612,000 per year (22%) higher than allowed for in the 2021 Determination forecast, which averaged $2,744,000 per year.

The proposed capital expenditure for the 2025 Determination period averages $4,035,000 per year. This is $1,290,000 per year (47%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $678,000 per year (20%) higher than the actual annual expenditure incurred in the current period.

7.1.2.2 Drivers for expenditure

The underlying need for surface water monitoring is discussed in Section 7.1.1.2. For the capital expenditure, qualitative drivers sighted by WaterNSW include:

- Maintaining equipment to the agreed level of service to facilitate accurate water data for water storage and release operations, resource management, compliance monitoring, and flood warning
- Responding to stakeholder needs for increased dependability and timely data for parameters, for example, the hydrometric network and remote sensing, and dissolved oxygen measurements
- Equipment deployed in remote and harsh environments, subject to potential bushfire and flood damage, requires an ongoing renewals program to maintain capability
- Ensuring the safety of people requires a shift to automation and remote operation to replace high-risk activities, such as reducing the instances when staff must work on or in water.

For the future period, WaterNSW have set out six key areas of capital spend that align with the above drivers. The first item is the baseline renewals, the remaining items are the new initiatives:

1. Baseline instrumentation and asset renewals – this activity is driven by the need to maintain the condition of the monitoring stations
2. Field reference equipment for quality assurance – required to meet quality standards
3. Bushfire resilience upgrades for critical sites – upgrading instrument shelters using fire and heat-resistant materials to better protect the monitoring stations

4. Flood resilience upgrades for critical sites – relocating or elevating instrument shelters away from flood zones
5. Specialised equipment to improve workforce safety – unmanned vehicles to reduce the need for staff to work on or in the water, telemetry and flow sensors
6. Instrumentation redundancy for critical sites – installation of backup equipment at remote sites to prevent data outages.

7.1.2.3 Performance in the current period

The performance indicators for W01-01 (Surface water quantity monitoring) (discussed in Section 7.1.1.3) are relevant, in that undertaking renewals of equipment at monitoring stations will increase the number of sites in condition grade 2 or better and upgrades of equipment will improve the quality of data received.

7.1.2.4 Review of current period expenditure

The capital expenditure in FY22 exceeded the budget allocation as a result of reinstating gauging stations that were damaged from bush fire and floods. WaterNSW indicated this was more than $2.5 million. Additionally, there was specialised equipment purchased in the first year to the value of approximately $1 million.

The overspend in the first year was managed by bringing forward expenditure that was allocated to later years in the current period, resulting in an underspend in the remaining three years. While the total expenditure over the current period will still exceed the allowance, we view it as prudent and efficient as evidenced by prioritising spending and managing the costs to reduce the deficit in later years.

7.1.2.5 Review of future period expenditure

WaterNSW presented the options and risk assessment processes used to evaluate the required capital spend. The options included do nothing, only replace obsolete equipment, (uncosted), undertake the baseline renewals program (costed at $13 million), and do the baseline renewals plus the new initiatives (preferred option, costed at $18.5 million).

The baseline renewal cost was built up based on the expected useful life of each instrument type and number of instruments in service. We are of the view this is a prudent calculation. The impact of reducing this program would be that instruments would remain in service longer than their expected useful life, with the risk that performance measures could be impacted if failures occur prior to the units being replaced. This would drive an increase in operating expenditure. Reducing the renewal program, by say 10%, has the effect of extending out the expected useful life of the instruments by 10%. This would require a commensurate reduction of the performance indicator for W01-01 (Surface water quantity monitoring) (see Section 7.1.1.3). OM1 currently states that '*Sites are in acceptable condition % of replacement cost of monitoring sites in condition grade 2 or better = 95%',* we recommend changing it to be either '… in grade 3 of better' or reducing the percentage to 80%.

The bushfire, flood prevention and instrument redundancy programs are based on a criticality assessment that selected the sites with the highest risk in the respective areas. Together these three programs cost $4 million. Any reduction in these programs would increase the risk the nominated measuring stations may be impacted by future events, it is dependent on risk appetite. Table 7-15 shows the impact of a 30% reduction. A scenario of not undertaking the site upgrades was also considered.

Table 7-15: Comparison of fire, flood and instrumentation capital program spend for W01-01 (Surface water quantity monitoring)

Program	Cost per Site	No sites proposed	Total	Reduce No. sites (30%)	Reduced Total
Bushfire resilience upgrades	$45,000.00	35	$1,575,000	24.5	$1,102,500
Flood resilience upgrades	$40,000.00	25	$1,000,000	17.5	$700,000
Instrumentation redundancy	$15,000.00	100	$1,500,000	70	$1,050,000.
Total			**$4,075,000**		**$2,852,500**

We are of the view the specialised equipment for workforce safety is a prudent measure and should be maintained in the budget at $930,000. It demonstrates a commitment to safety and to the wellbeing of the staff. It is noted that some of the component items within this scope are only allocated as 30% share to WAMC, as they are used on the broader NSW water monitoring network.

7.1.2.6 Conclusions and recommendations

The total proposed expenditure was $20.17 million. Our recommended upper bound is in line with the submitted pricing proposal. We are of the view that the projects are in alignment with the requirements of these activities and adequate justification was provided. The monitoring activities provide the foundation for the core responsibilities of WAMC across a range of other activity codes, so investing in the infrastructure to ensure the resulting data and quality information is available to a high standard is prudent.

The selection of the lower bound is dependent on risk appetite. We evaluated two scenarios based on the discussion in Section 7.1.2.5 as follows:

1. Reduction of the renewal program by 10% and reduction of the site upgrades (fire, flood, instrumentation) by 30% (see Table 7-15), a reduction of $2,250,000 to give a total $17.95 million
2. Reduction of the renewal program by 10% and no site upgrades (fire, flood, instrumentation), a reduction of $5,245,000 to give a total of $14.93 million.

We have used the second scenario for the lower bound, noting that not undertaking any site upgrades will increase the risk of additional operating expenditure to manage instrument failure and unplanned capital expenditure in the case of flood or fire events (as seen in FY22 and discussed in Section 7.1.2.4). Additionally, reducing the lower bound may increase risks for the availability of information, especially during events, e.g. floods, which may impact the ability to provide effective public communication.

Our opinion is the efficient cost would be between the upper bound and the first scenario.

Table 7-16: Recommended range of efficient expenditure – W01-01 (Surface water quantity monitoring) capital expenditure ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed capital expenditure	4,115	3,999	3,980	4,009	4,070
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient capital expenditure	**4,115**	**3,999**	**3,980**	**4,009**	**4,070**
Scope adjustments	-1,070	-1,040	-1,035	-1,042	-1,058
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient capital expenditure	**3,045**	**2,959**	**2,945**	**2,967**	**3,012**

7.2 W01-05 (Surface water ecological condition monitoring)

7.2.1 Background

Activity W01-05 (Surface water ecological condition monitoring) is focused on the development and application of tools and data-based products that interpret and present insights into ecological condition of surface water sources. The focus is on information and knowledge generation, and the tools/products that enable sharing of this information to enable management activities to be undertaken, particularly the implementation and outcomes of water sharing plans.

The work for activity W01-05 (Surface water ecological condition monitoring) is undertaken by DCCEEW. The work undertaken in W01-05 (Surface water ecological condition monitoring) contributes directly to W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)), as well. It was noted that risk assessments have moved from W05-04 (Water plan performance assessment and evaluation) to W01-05 (Surface water ecological condition monitoring).

The data products produced in this activity include risk assessments, river styles, High Ecological Value Aquatic Ecosystems (HEVAE), groundwater HEVAE, hydro stress, Water Quality Index (WaQI) and the River Condition Index (RCI). HEVAE identifies areas of NSW river systems that have high ecological value, threatened species, threatened communities and areas where extraction may threaten those communities. Providing the data underpinning adaptive water management decision making enables a focus on high risks and high-risk areas. Risk assessments are closely aligned with data products under this code.

The River Condition Index is a compilation of the other indices, a state-wide representation of river health. It brings in six different components to come up with an overall measure of the health of a particular river section. The index is prepared at the water sharing plan and water source scale, and contains the following components:

- Riparian vegetation health
- Catchment health – land use activities occurring, quantum of natural vegetation, land use impacts
- Water quality index – five-year average to view long-term change rather than episodic events (new index developed in current period)
- Geomorphic condition – bank stability, erosion
- River Styles – uses fish as an indicator of biotic health of system with information provided from Fisheries
- Hydrologic stress – stress from extraction.

HEVAE and River Styles are updated by region two years prior to the corresponding water sharing plan update. Risk assessments are then created 18 months to two years prior, utilising River Styles, Hydro stress and HEVAE to identify risks to water sources to enable commencement of the review. This results in a ten-year cycle for the data set aligned with the water sharing plans.

Figure 7-6 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

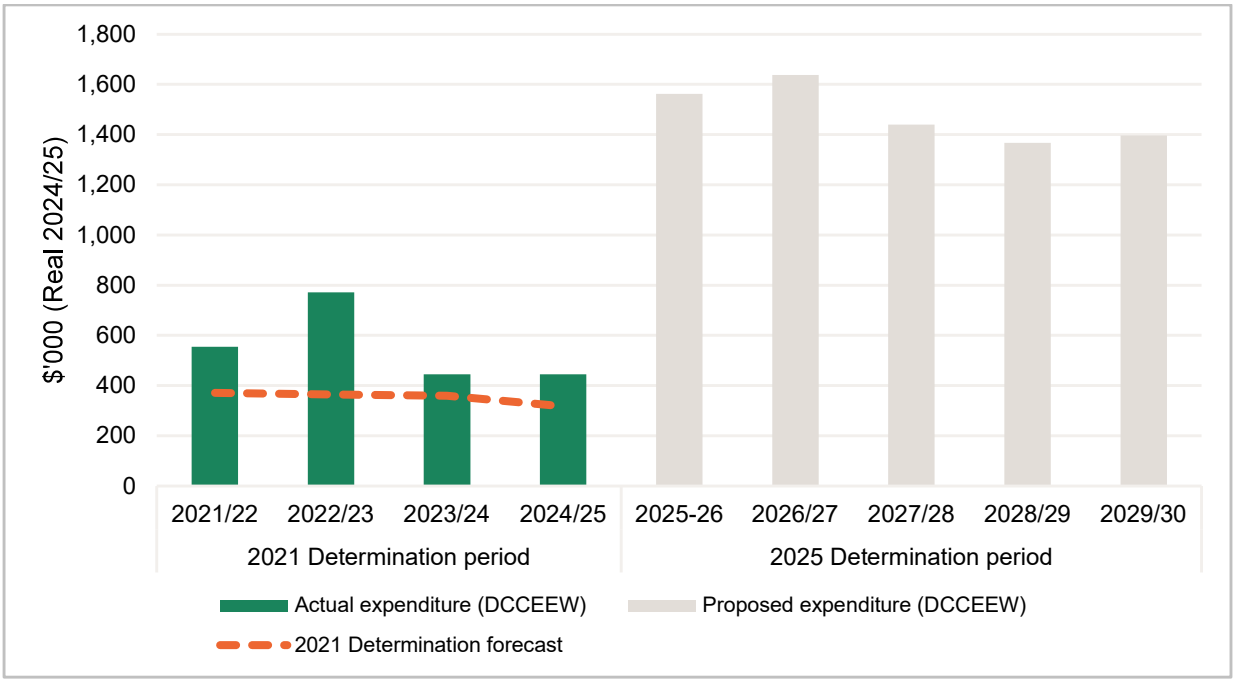

Figure 7-6: Current and future period expenditure for W01-05 (Surface water ecological condition monitoring) ($'000 2024/25)

Table 7-17 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-17: Current period expenditure for W01-05 (Surface water ecological condition monitoring) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	371	365	359	317	**1,412**	**353**
Actual expenditure (DCCEEW)	555	771	445	445	**2,216**	**554**
Variance	184	406	86	128	**804**	**201**

Table 7-18 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-18: Future period expenditure for W01-05 (Surface water ecological condition monitoring) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	1,562	1,637	1,440	1,367	1,397	**7,403**	**1,481**

The actual expenditure in the current determination period averages $554,000 per year. This is $201,000 per year (57%) higher than allowed for in the 2021 Determination forecast, which averaged $353,000 per year.

The proposed expenditure for the 2025 Determination period averages $1,481,000 per year. This is $1,128,000 per year (319%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $927,000 per year (167%) higher than the actual annual expenditure incurred in the current period.

7.2.2 Drivers for expenditure

The legislative drivers for this activity are:

- Water Management Act 2000 – notably Section 7 (classification of water sources), Section 10 (review of water management and sharing every five years), Section 35 (requirements and performance measures) and Section 33-36, 91, 95 (water sources)
- Implementation of the NSW State Water Strategy and Regional Water Strategies
- Independent audits and reviews – feedback from ICAC, the NRC and stakeholders emphasise the importance of having data products available to both the department and the public to ensure all water management decisions are based on up-to-date information
- Stakeholder views and customer expectations regarding confidence in water sharing decisions and management.

7.2.3 Performance in the current period

DCCEEW reported meeting 12 of 14 of its output measures and performance indicators as of 30 June 2024. They expect to meet all performance indicators and output measures by June 2025. The outstanding output measure and performance indicator both relate to the HEVAE technical report and the WaQI. The status of the HEVAE report is in draft status and is about to undergo peer review; the WaQI is reported as being near completion.

7.2.4 Review of current period expenditure

Expenditure was above the allowance for the current period. The reasons provided by DCCEEW was primarily that the labour cost was underestimated in the allowance. Two examples were provided, the first being the additional cost for a spatial analyst that was not previously included, and no cost allowance for management/supervision.

7.2.5 Review of future period expenditure

The River Condition Index and Water Quality Index were updated and delivered in 2013 and 2023; however, it was noted that the ten yearly update was providing insufficient data for decision making. It is now proposed to update the RCI and WaQI in 2028 moving these two products to a five-year cycle. This will require work to commence in 2025 to support reporting under the Water Management Act. DCCEEW stated that ideally the RCI would be updated every three years to align with the State of the Environment report, but this is not the primary use of this data product; we are of the view this would not be an efficient use of the resources.

There are three new data products included in the future period, adding a cultural component to HEVAE, adding water table depth to HEVAE and river typing. The cultural value element was noted by NRC as being something not covered elsewhere by DCCEEW. While there may be value in including cultural value in the products, it is not clear to us how this will be used to improve decision making and benefit broader water resource management. It also poses the question that if it is included here, does that then need to be cascaded elsewhere and increase costs further. We do see benefits in the water table depth and river typing improvements.

The labour breakdown provided in the NRR model[81] outlines the FTE' s against the various tasks, totaling $5.3 million (excluding overheads) over the future period. While the labour cost estimate does articulate the requirements to achieve the nominated scope, it is a significant step up from the current period.

Key inclusions in the future period noted in the pricing submission as not being in the current allowance are the costing for the spatial analyst to provide a graphical publication of the data ($1.2 million), risk assessments including the modelling from W05-04 (Water plan performance assessment and evaluation) ($760,000), the cultural value ($140,000), river typing ($100,000), the water table depth ($60,000) and management/supervision ($532,000). This is a total of $2.8 million (excluding overheads) across the period. In general, we agree with the risk assessments, river typing, water table depth and management components. Cultural value was discussed above and for the spatial capabilities, we question if a more efficient option may be to draw on a central team as needed rather than embed a staff member in W01-05 (Surface water ecological condition monitoring), however we acknowledge the quantum of work may be such that a full-time staff member is required.

DCCEEW provided a business case[82] that requests funding for WaQI, RCI and HEVAE work, and outlines a cost of $1.9 million (excluding overheads). It appears this cost is already captured in the proposed labour breakdown provided. The business case provides the objectives, rationale and risks associated with the improvements, suggesting these products are critical tools to provide the data for water sharing plans and the resulting management decisions for the water sources. DCCEEW provided feedback that there is a need to continually update the products to adjust for changes in data availability and methods for analysis. These changes need to be captured to ensure stakeholders have trust in the data. We fundamentally agree with this premise; however, we view these benefits as described to be continual improvements covered under business as usual. We do not believe the business case or the feedback articulate the specific improvements for each product that would demonstrate a step change in function, capability or performance. The feedback provided some helpful rationale on the importance of data in decision making; however, there was an absence of detail explaining how these improvements would be used for decision making in the subsequent areas of water management (such as WSPs). We are of the view that this business case has not been justified sufficiently to be considered as prudent or efficient.

Overall, the above changes in the submission increase the estimate from the 1.9 FTE allowance in the current period to 6.3 FTE in the future period estimate.

7.2.6 Conclusions and recommendations

For the upper bound, we have removed the $1.9 million (25%) captured in the business case as we are of the opinion there was insufficient justification provided. This leaves in the specific upgrades and improvements as listed in the submission ($2.8 million, 37%). We have made no efficiency adjustments.

For the lower bound, we recommend removing the cultural value work as a scope change. For efficiency we recommend reducing the spatial component by 30% (of $1.2 million total across the five years, resulting in a reduction of $72,000 per year) on the basis that a centralised model will result in efficiency gains. Outputs of work in W01-05 are used in the water sharing plans (WSP); we have not adjusted the lower bounds here to correspond to the potential reduction in the quantum of WSPs as noted in W06, on the basis that data received from monitoring activities still needs to be processed and analysed. However, in the case that fewer WSPs are undertaken, we recommend the lower bound be adopted.

[81] 202411213 (Final – sent to Stantec) NRR model input – DCCEEW WAMC costs.xlsx, tab 2. DCCEEW Cost – Aug24($23-24), row 12; and tab W01-05.

[82] RFI 26: W01-05 RFI 12112024.docx.

Table 7-19: Recommended range of efficient expenditure – W01-05 (Surface water ecological condition monitoring) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	1,562	1,637	1,440	1,367	1,397
Scope adjustments	-332	-546	-363	-332	-332
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**1,230**	**1,091**	**1,077**	**1,035**	**1,065**
Scope adjustments	-28	-28	-28	-28	-28
Efficiency adjustments	-72	-72	-72	-72	-72
Recommended lower bound efficient operating expenditure	**1,130**	**991**	**977**	**935**	**965**

7.3 W02-01 (Groundwater quantity monitoring), W02-02 (Groundwater quality monitoring), and W02-03 (Groundwater data management and reporting)

7.3.1 Operating expenditure

7.3.1.1 Background

Groundwater provides up to 3,200 GL of water each year and accounts for 15% of water entitlements in NSW. It generates a direct annual value of $1 billion to NSW's economy. Over 70% of the groundwater extracted each year is used for agriculture, followed by 10% used for industry and 5% for town water supply. Groundwater also supports unique groundwater dependent ecosystems that cover 8% of NSW's land surface[83].

W02-01 (Groundwater quantity monitoring) helps track groundwater availability over time. In conjunction with W02-02 (Groundwater quality monitoring) it aids in sustainable groundwater management and ensures that groundwater resources are not overexploited. Groundwater monitoring helps inform of the impact of resource extraction on groundwater systems, groundwater users and ecosystems.

Annexure A of Schedule 6 of the Roles and Responsibilities document lists groundwater monitoring as being required to support:

- Specific programs such as the salinity Joint Venture Programs with the MDBA (salt interception schemes for example) or the Great Artesian Basin Sustainability Initiative (GABSI) program with the Commonwealth
- Assessment of groundwater trades and bore approval applications
- Implement water sharing plan rules, including the setting of Available Water Determinations, determine resource condition, evaluate and protect the environmental and social values of the resource
- Assessment and management of the saltwater interface on coastal areas, aquifer contamination, urban groundwater flow management (dewatering, mounding).
- Commitments for knowledge acquisition made in the Water Sharing Plans and Water Resource Plans
- Building the resource knowledge on the state's groundwater resources and their evolution over time (quantity, quality, aquifer characteristics). This is used to for example create local impact management areas or review the impact from a mining development, water bottling application on the resources or to inform long term planning with respect to period of drought, rising sea levels.

WAMC, through WaterNSW, maintains a comprehensive groundwater monitoring network consisting of approximately 4,432 groundwater monitoring sites across. The monitoring program is delivered through four sub-regions - upper north, central north, southwest, and southeast. Water monitoring team leaders and maintenance teams report to the relevant area manager.

[83] Volume 1-Groundwater Quality Monitoring Strategy, Jacobs, December 2022.

Groundwater monitoring assets include monitoring stations (including bores), instruments, and associated equipment necessary for data collection, analysis, and reporting. The distribution of assets throughout rural NSW and the Greater Sydney region allows for comprehensive groundwater monitoring and assessment in these areas. To date, the assets are concentrated mostly in the inland main aquifers.

WAMC uses monitoring bores mostly to gather different types of data to monitor and manage groundwater resources. While the monitoring bores are largely located in alluvial groundwater systems, more recent additions to the network include bores built to monitor and better manage the water resources in deeper locations.

These deeper bores have been added to the network in the last decade and costs have not previously been included in the WAMC IPART determination. During the current determination period DCCEEW provided $470,000 per year to maintain these deeper bores which are critical for monitoring and managing groundwater resources and the impacts of usage. These bores play a crucial role in ensuring compliance with environmental regulations and safeguarding water resources. WAMC is seeking to recover the efficient ongoing costs associated with these monitoring bores through the 2025 WAMC price determination.

Table 7-20 summarises the groundwater monitoring frequency and method as listed in Annexure B in Schedule 6 of the Roles and Responsibilities Agreement. Table 7-21 lists the monitoring methods currently adopted, 77% of bores are monitored manually while 10% are telemetered. Based on the information provided, over 19,000 visits are required annually to meet the requirement of the Roles and Responsibilities Agreement.

Table 7-20: Groundwater monitoring frequency and method

Frequency (number of visits per year)	Logger	Manual	Lab sample	Telemetered	Total	Percentage
0.5		-	22	-	22	0%
1		-	382	6	389	9%
2		98	618	127	432	1275	29%
3		4	96	-	-	100	2%
4		308	700	20	2	1030	23%
5		-	746	-	-	746	17%
6		-	331	-	-	331	7%
8		-	201	-	-	201	5%
12		-	302	-	-	302	7%
20		-	36	-	-	36	1%
Total		**410**	**3434**	**153**	**435**	**4432**	**100%**
Percentage		9%	77%	3%	10%	-	-

Table 7-21: Groundwater monitoring methods

Method	Number	Percentage
Logger	410	9%
Manual	3434	77%
Laboratory Sample	153	3%
Telemetered	435	10%
Total	4432	100%

The current groundwater quality monitoring program is limited to four small areas of the state:

- Three areas in the areas of high intensity extraction in the Namoi, Murray and Murrumbidgee (output measure OM16). This program involves manual sampling and has been ongoing for over 20 years.
- One area on the coast for salt intrusion near Stuart Point (loggers and manual sampling).

Some field salinity probe monitoring via in-situ salinity probes (output measure OM17) is also undertaken.

Data management involves the collection and maintenance of groundwater data from the groundwater monitoring network that allows the data to be effectively used for management and planning purposes and allows improvements in the monitoring network to be identified.

Roles of DCCEEW and WaterNSW

The role of each of the two agencies is set out in Schedule 6 of the Roles and Responsibilities Agreement.

DCCEEW leads the design of the network and monitoring (quantity and quality) specifications. DCCEEW uses the monitoring data to build on existing knowledge of aquifers and aquitards[84], making this available to the broader public to manage groundwater resource and to manage local impacts.

WaterNSW operates, maintains and monitors the groundwater monitoring (quality and quantity) network and undertakes associated data management, quality control validation and distribution

W02-01 (Groundwater quantity monitoring)

Figure 7-7 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

[84] Aquitards are compacted layers of clay, silt or rock that retard water flow underground. They act as a barrier separating aquifers and limit and direct surface water that seeps down and replenishes aquifers

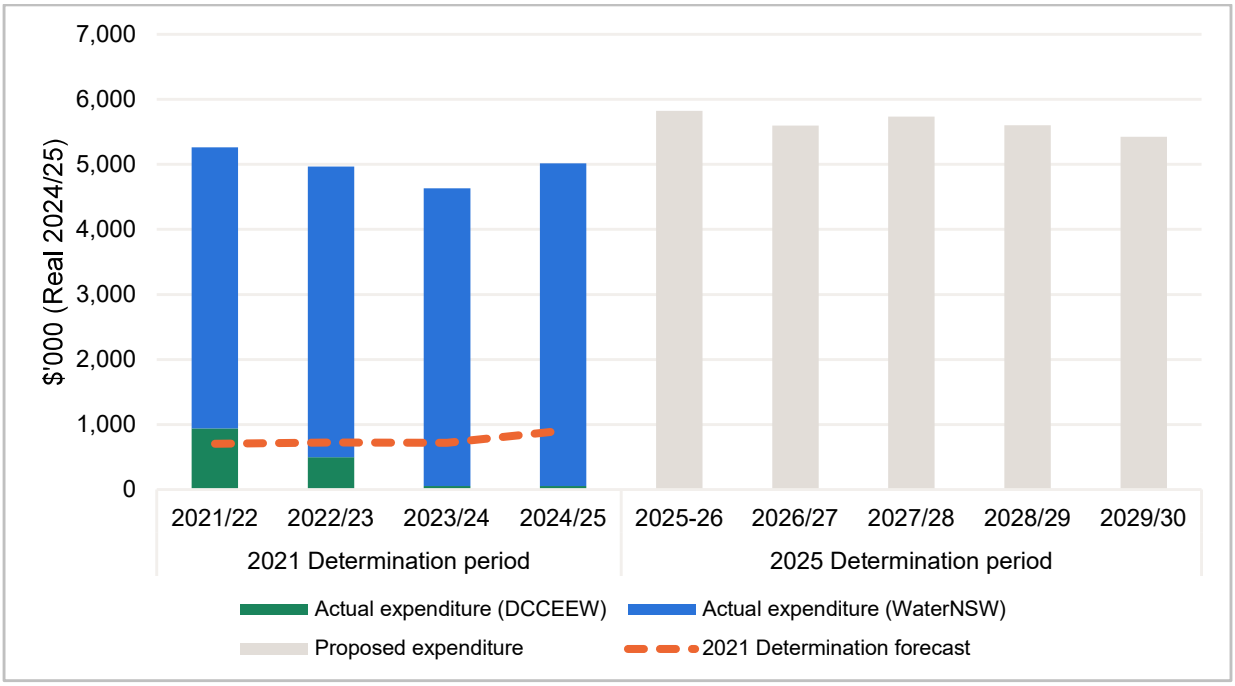

Figure 7-7: Current and future period expenditure for W02-01 (Groundwater quantity monitoring)

Table 7-22 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-22: Current period expenditure for W02-01 (Groundwater quantity monitoring) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (DCCEEW)	0	0	0	0	0	0
2021 Determination forecast (WaterNSW)	704	723	720	904	3,051	763
2021 Determination forecast	704723	720	904	**3,051**		**763**
Actual expenditure (DCCEEW)	942	498	54	54	1,548	387
Actual expenditure (WaterNSW)	4,320	4,469	4,578	4,961	18,328	4,582
Actual expenditure	5,262	4,967	4,632	5,015	**19,876**	**4,969**
Variance	4,558	4,244	3,912	4,111	**16,825**	**4,206**

Table 7-23 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-23: Future period expenditure for W02-01 (Groundwater quantity monitoring) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	500	272	109	108	109	1,098	220
Proposed expenditure (WaterNSW)	5,320	5,324	5,627	5,492	5,317	27,080	5,416
Proposed expenditure	5,820	5,596	5,736	5,600	5,426	**28,178**	**5,636**

The actual expenditure in the current determination period averages $4,969,000 per year. This is $4,206,000 per year (551%) higher than allowed for in the 2021 Determination forecast, which averaged $763,000 per year.

The proposed expenditure for the 2025 Determination period averages $5,636,000 per year. This is $4,873,000 per year (639%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $667,000 per year (13%) higher than the actual annual expenditure incurred in the current period.

W02-02 (Groundwater quality monitoring)

Figure 7-8 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

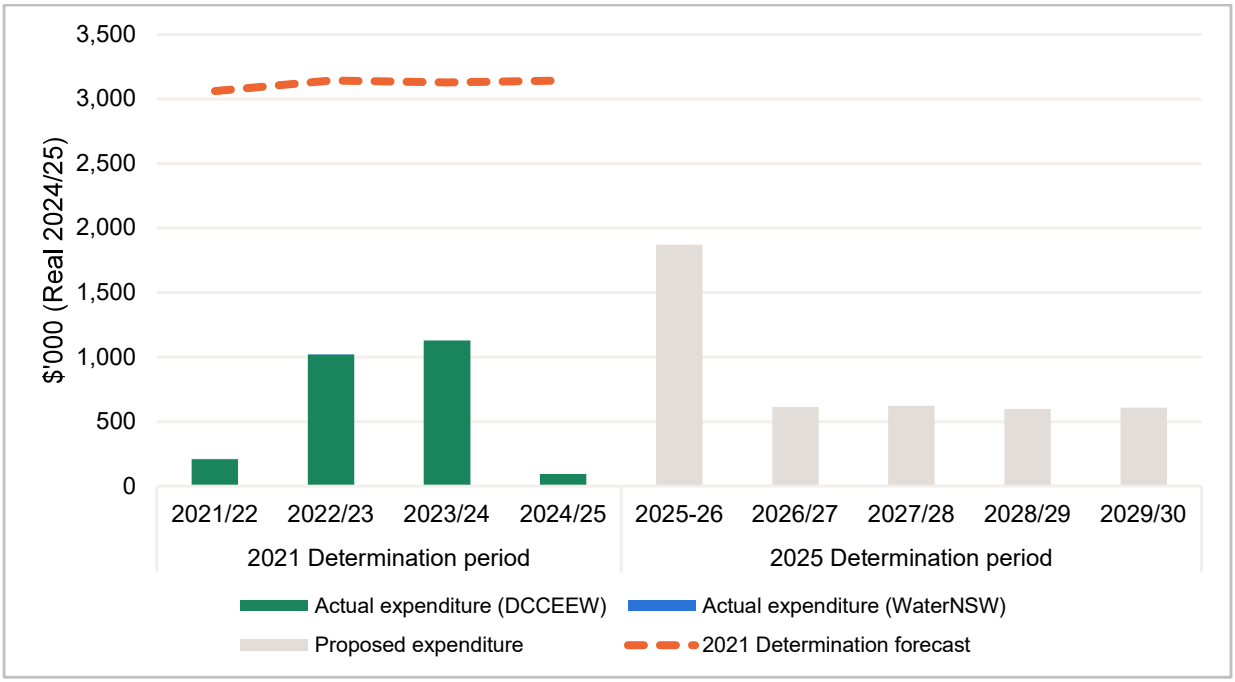

Figure 7-8: Current and future period expenditure for W02-02 (Groundwater quality monitoring)

Table 7-24 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-24: Current period expenditure for W02-02 (Groundwater quality monitoring) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (DCCEEW)	0	0	0	0	0	0
2021 Determination forecast (WaterNSW)	3,060	3,142	3,128	3,143	12,473	3,118
2021 Determination forecast	3,060	3,142	3,128	3,143	**12,473**	**3,118**
Actual expenditure (DCCEEW)	210	1,020	1,130	95	2,455	614
Actual expenditure (WaterNSW)	1	2	0	0	3	1
Actual expenditure	211	1,022	1,130	95	**2,458**	**615**
Variance	-2,849	-2,120	-1,998	-3,048	**-10,015**	**-2,504**

Table 7-25 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-25: Future period expenditure for W02-02 (Groundwater quality monitoring) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	1,870	614	622	598	608	4,312	862
Proposed expenditure (WaterNSW)	0	0	0	0	0	0	0
Proposed expenditure	1,870	614	622	598	608	**4,312**	**862**

The actual expenditure in the current determination period averages $615,000 per year. This is $2,504,000 per year (80%) lower than allowed for in the 2021 Determination forecast, which averaged $3,118,000 per year.

The proposed expenditure for the 2025 Determination period averages $862,000 per year. This is $2,256,000 per year (72%) lower than the average annual expenditure allowed for in the 2021 Determination period, and $248,000 per year (40%) higher than the actual annual expenditure incurred in the current period.

W02-03 (Groundwater data management and reporting)

Figure 7-9 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

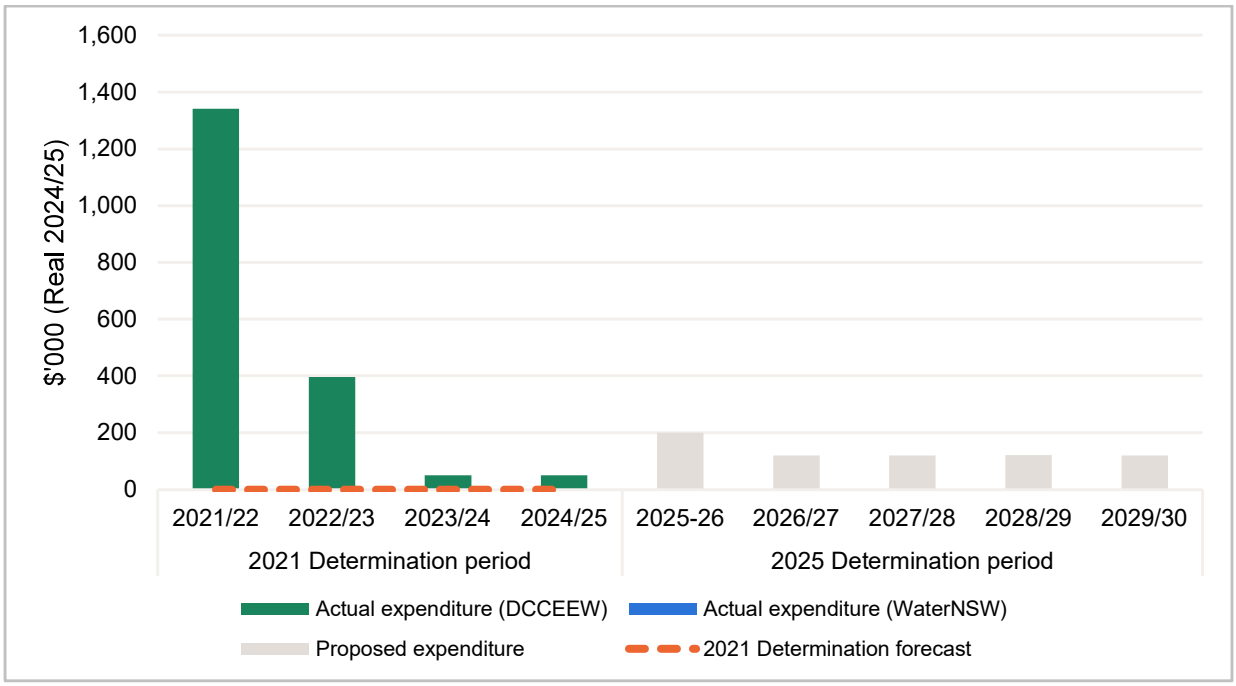

Figure 7-9: Current and future period expenditure for W02-03 (Groundwater data management and reporting)

Table 7-26 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-26: Current period expenditure for W02-03 (Groundwater data management and reporting) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (DCCEEW)	0	0	0	0	0	0
2021 Determination forecast (WaterNSW)	0	0	0	0	0	0
2021 Determination forecast	0	0	0	0	**0**	**0**
Actual expenditure (DCCEEW)	1,342	396	50	50	1,838	460
Actual expenditure (WaterNSW)	0	0	0	0	0	0
Actual expenditure	1,342	396	50	50	**1,838**	**460**
Variance	1,342	396	50	50	**1,838**	**460**

Table 7-27 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-27: Future period expenditure for W02-03 (Groundwater data management and reporting) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	200	120	120	121	120	681	136
Proposed expenditure (WaterNSW)	0	0	0	0	0	0	0
Proposed expenditure	200	120	120	121	120	**681**	**136**

The actual expenditure in the current determination period averages $460,000 per year. There was no allowance made for this activity group in the 2021 Determination forecast.

The proposed expenditure for the 2025 Determination period averages $136,000 per year. This is $323,000 per year (70%) lower than the actual annual expenditure incurred in the current period.

7.3.1.2 Drivers for expenditure

The drivers for the W02 activity code expenditure are:

Water Management Act 2000 requirements regarding sustainable groundwater resources and the maintenance of groundwater quality:

- NSW Aquifer Interference Policy which requires appropriate management of impacts arising from any aquifer interference activities
- NSW Groundwater Strategy, which delivers on a key priority of the NSW Water Strategy by ensuring an enhanced, statewide focus on sustainable groundwater management for the next 20 years. The strategy provides a blueprint for devising and delivering initiatives that will protect and future proof NSW's groundwater resources, in response to changing climate conditions, population growth and land use changes consistent with the Groundwater Strategy and statutory plans, expanding groundwater monitoring across NSW to allow sustainable management of groundwater resources and ensure compliance. Relevant actions include:
    - Action 1.4 – protecting groundwater quality within natural limits

  - Action 1.3.3 – a framework for water resource monitoring, water data collection and analysis, water communications and environmental data management (the Water Monitoring Framework, or WMF) for coal basins areas and coal seam gas areas of NSW
  - Action 3.1 – developing the groundwater components of a water knowledge plan. including data, systems, tools and information products required
  - Action 3.2 – better sharing and integrating groundwater information data, systems, tools and information products required.
- Basin Plan Matter 12 requires monitoring and reporting on groundwater quality throughout the Basin Plan area to ensure groundwater quality doesn't deteriorate and retains its beneficial use.
- Coal Basin Bore Water Monitoring Framework for a framework for water resource monitoring, water data collection and analysis, water communications and environmental data management (the Water Monitoring Framework, or WMF) for coal basins areas
- Water sharing plan implementation – data management is crucial to trades and approvals, groundwater models, groundwater resource management and implementation of rules of water sharing plans
- Groundwater trade principles under the Water Management Act
- Groundwater models require reliable and timely data to aid water resources decision making and provide greater confidence to customers and other stakeholders
- The National Water Initiative renewal has a strong emphasis on water quality. This national policy approach is currently in development.

7.3.1.3 Performance in the current period

None of the output measures and performance indicators were met for W02-01 (Groundwater quantity monitoring) and W02-02 (Groundwater quality monitoring) during the current period. Groundwater monitoring was substantially impacted by adverse wet weather conditions, which impacted on being able to safely access water monitoring sites. This affected both manual and telemetered site visits. Visit frequency was achieved for 54% of sites in 2022/23.

Condition assessment of the groundwater monitoring network indicated that 37% of bores are currently in need of refurbishment or replacement, and of these, more than 25% have exceeded their effective life. Only 63% met the target in 2022/23 of 95% in condition grade 2 or better. The performance indicator for the pressure data quality code better than 40 (95%) was not met (90.1%) in 2022/23.

For W02-02 (Groundwater quality monitoring), the forecast number of samples taken in 2022/23 was not achieved. 67% of the forecast samples taken (360) were taken against a target of 95%.

50% (1/2) of the output measures and performance indicators for W02-03 (Groundwater data management and reporting) were met for 2022/23. Again, unprecedented wet weather conditions and COVID impacted on performance. 91.5% of sites had data available daily in 2022/23 against a target of 90%. 3,997 sites had data collected in 2022/23 against a forecast of 4,384.

7.3.1.4 Review of current period expenditure

In the current period, all groundwater monitoring expenditure was recorded against the groundwater quantity monitoring activity code W02-01 (Groundwater quantity monitoring). It was explained that this was because field-based groundwater quality monitoring was undertaken concurrently with groundwater quantity monitoring. Organisational changes and reporting lines for water monitoring staff during the current determination period also resulted in expenditure predominantly being recorded against the groundwater quantity monitoring activity W02-01 (Groundwater quantity monitoring). As a result, the actual expenditure on W02-01 (Groundwater quantity monitoring) in the current period was lower than shown in Table 7-22. Table 7-22 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-22As a result, actual expenditure on W02-02 (Groundwater quality monitoring) is higher than shown in Table 7-24.

We combined the two tables into one Table 7-28 which shows that the average annual over-spend on W02-01 and W02-02 combined during the current period was $1.7 million (44%). DCCEEW's average annual overspend was $1.0 million over an initial forecast of zero. WaterNSW' s average annual over-spend was $702,000 (18%).

The main reason for the over-spend was that in the past, groundwater monitoring was seen to have a lower priority than surface water monitoring. In 2021/22 a review was undertaken of groundwater monitoring which highlighted gaps in the program and required a larger amount of work than was envisaged in the submission for the 2021 Determination. This upgraded groundwater monitoring program is documented in the Roles and Responsibilities Agreement Schedule 6.

WaterNSW has continued its multiskilling of staff to gain efficiencies. We were advised that 10, previously dedicated groundwater staff, now perform all aspects of water monitoring. Monitoring staff are based in 14 locations across NSW, minimising travel and providing geographic coverage. Due to difficulties in recruiting suitable staff, WaterNSW will identify the optimal location for a recruit, which may not be in the same location based on workload volume and location. An example was provided where this approach saved approximately $20,000.

Currently 77% of bores are manually monitored. WaterNSW propose to convert 630 sites from manual to telemetered in 2024/25 under the WAVE program. This will result in 24% of bores being telemetered and 63% being manually monitored.

Table 7-28: Combined expenditure in the current period for W02-01 (Groundwater quantity monitoring) and W02-02 (Groundwater quality monitoring) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (DCCEEW)	0	0	0	0	0	0
2021 Determination forecast (WaterNSW)	3,764	3,865	3,848	4,047	15,524	3,881
2021 Determination forecast	**3,764**	**3,865**	**3,848**	**4,047**	**15,524**	**3,881**
Actual expenditure (DCCEEW)	1,152	1,518	1,184	149	4003	1,001
Actual expenditure (WaterNSW)	4,321	4,471	4,578	4,961	18,331	4,583
Actual expenditure	**5,473**	**5,989**	**5,762**	**5,110**	**22,334**	**5,584**
Variance	**1,709**	**2,124**	**1,914**	**1,063**	**6,810**	**1,703**

At the 2021 Determination no allowance was made for groundwater data management for either DCCEEW or WaterNSW. Over that period DCCEEW allocated an expenditure of $1.84 million to this activity code. The bulk of this expenditure ($1.34 million) occurred in 2021/22. At the time there had been a system change for the groundwater bore (and level) database as previous systems were no longer supported. The process resulted in data missing, incomplete data, data truncated in transfer, data absent, etc., which required the assistance of DCCEEW subject matter experts to resolve the data issues.

7.3.1.5 Review of future period expenditure

W02-01 (Groundwater quantity monitoring) and W02-02 (Groundwater quality monitoring)

The variance between future and current (actual) expenditure and the 2021 Determination for W02-01 (Groundwater quantity monitoring) and W02-02 (Groundwater quality monitoring) is shown in Table 7-29. Overall, the average increase is $914,000 (16%) above the average annual current expenditure and $2,616,000 (67%) above the average annual 2021 Determination.

Table 7-29: Variance between future and current expenditure and 2021 Determination for W02-01 (Groundwater quantity monitoring) and W02-02 (Groundwater quality monitoring) ($'000 2024/25)

Expenditure	Agency	2021 Determ Average	Current period average expenditure	Future period average expenditure	Variance of future period expenditure from 2021 Determination	Variance of future period expenditure from current expenditure
W02-01	DCCEEW	0	387	220	-	-43%
	WaterNSW	763	4,582	5,416	610%	18%
	Total DCCEEW/ WaterNSW	763	4,969	5,636	639%	13%
W02-02	DCCEEW	0	614	862	-	40%
	WaterNSW	3,119	1	0	-100%	-100%
	Total DCCEEW/ WaterNSW	3,119	615	862	-72%	40%
Total combined W02-01 and W02-02	DCCEEW	0	1,001	1,082	-	8%
	WaterNSW	3,882	4,583	5,416	40%	18%
	Total DCCEEW and WaterNSW	**3,882**	**5,584**	**6,498**	**67%**	**16%**

It was indicated in Attachment F of the Pricing Proposal that the forecast expenditure was largely in line with the programs set out in the Roles and Responsibilities Agreement and expenditure in the current period. Two new additional programs are included, and these are discussed below.

The expansion of water quality monitoring will consider all of NSW rather than the four areas currently monitored. In the last four years, DCCEEW has secured external funding to determine a state-wide baseline of groundwater quality; however, this funding source is not ongoing. This has included a baseline for the new deep groundwater monitoring bores in coal basins which is, to date, only partly complete. The expansion of the program is based on the risk to groundwater resources and assessment against the recently established baseline. The program involves:

- Review of the existing groundwater quality program and adaptation as required based on an assessment of the data collected, and now published, for the areas of intensive monitoring
- Expansion of the water quality monitoring program across NSW, to provide insights into the overall characterisation of groundwater quality and support a deeper understanding of key physical processes such as water path, groundwater recharge, and risk of salinisation due to extraction induced flow movements. Additionally, it will contribute to ongoing research efforts and benefit various industries. The monitoring frequency will be determined based on risk and groundwater usage. In the first year, the focus will be on completing the scoping phase, which will involve assessment by WaterNSW of the status of existing bores and preparing for program delivery. This phase will also include a performance review of the program.
- Up to 500 bores will require additional testing resulting in additional operating expenditure to perform the management activities. Procedures and new equipment will be set-up/procured to complete the sampling and train staff on the new equipment and testing requirements.
- Increase in groundwater quality monitoring in higher risk water sources. The program aims to implement rigorous groundwater quality monitoring in areas where groundwater use by coal mines has a potential to affect groundwater quality and impact the groundwater resource. It will continuously track changes in groundwater as a result of water use and water impacts from mining projects. This monitoring is part of the state-wide approach and will provide ongoing data that will be made publicly available, enhancing transparency. There are 79 existing deep monitoring bores in coal basins that will be transferred to WaterNSW. These will supplement the existing knowledge of impacts on water resources across the state with a particular focus on the coal basins.

Groundwater monitoring costs in the future period will include monitoring costs from the Border Rivers Commission not previously passed onto NSW by Queensland. This changeover is scheduled to commence in 2025/26.

During this period, DCCEEW will be undertaking the following activities under W02-01 (Groundwater quantity monitoring):

- Groundwater quality specification and program liaison ($75,000 over period)
- Review of the groundwater network to inform the Roles and Responsibilities Agreement schedule. The work will include the definition of a state-wide and consistent rationale (as opposed to local expert judgement) and consideration of the bore status information acquired by WaterNSW, informing the use and specification requirements of each monitoring location. Data gaps will also be identified ($146,00 over period).
- Team training on monitoring of the Great Artesian Basin bores ($50,000 over period)
- Interferometric synthetic aperture radar (InSAR) subsidence studies ($577,000 over period)
- Subsidence markers maintenance and survey ($40,000 over period).

Most DCCEEW costs associated with the groundwater monitoring program are covered under W02-02 (Groundwater quality monitoring), with $132,000 per year included in W02-01 (Groundwater quantity monitoring) as part of WaterNSW's cost forecasts due to the close alignment of the quality and quantity activity for these costs. Costs of monitoring the deeper bores over the 2025 Determination period are forecast to decrease to an average of $170,000 per year as WAMC moves to an operational monitoring routine following completion of the acquisition of baseline conditions.

During the future period, DCCEEW proposes to undertake the following activities:

- Groundwater specification and program liaison ($50,000 over period)
- Baseline first state-wide groundwater quality status dataset report in 2025/26 ($410,000) followed by a Basin Plan data report in 2029/30
- Groundwater quality network review and risk-based rationale ($250,000)
- Completion of groundwater quality strategy ($100,000)
- Planning (e.g. site election and verification) and preparation (sampling equipment and training) for expansion of the water quality monitoring programs across NSW ($470,000 including WaterNSW costs)
- Expanding the water quality monitoring programs across NSW to include early warning aquifer salinisation risk monitoring (via EC loggers) ($500,000)
- Field activities associated with the expanded water quality sampling program ($2,510,000)
- Training in groundwater sampling and new technologies ($10,000).

These activities are based on a 2019 consultant report which considers a range of cost options for 15 regional groundwater quality monitoring programs. The consultant developed a costing tool that incorporated cost factors based on bore depth, location, government staff vs external staff costs, laboratory costs and analyte suites, sampling frequency and risk profile of the groundwater sources. A two-year program which only includes high risk groundwater sources within the regional programs, was estimated to cost between $1.2 million to $1.7 million.

W02-03 (Groundwater data management and reporting)

The proposed expenditure for W02-03 (Groundwater data management and reporting) for the 2025 Determination period averages $136,000 per year. This is $323,000 per year (70%) lower than the actual annual expenditure incurred in the current period but $323,000 higher than the 2021 Determination. Proposed DCCEEW activities over the period include:

- Ongoing support by DCCEEW subject matter experts to WaterNSW to correct database errors ($250,000 over period)
- Provision of advice on groundwater data on DCCEEW and WaterNSW portals. This advice will cover a range of matters including data visualization, completeness, appropriateness of data reported, metadata, analytics and corrections etc. ($300,000 over period)
- Development of a groundwater spatial library of groundwater documentation, to provide more responsive information and service to customers and stakeholders.

It is proposed that WaterNSW ‘s data management costs will continue to be included in groundwater quantity monitoring W02-01 (Groundwater quantity monitoring).

We consider it important to have reliable and transparent data to WAMC users, customers and other stakeholders.

7.3.1.6 Conclusions and recommendations

Currently 77% of bores are manually monitored. WaterNSW proposes to convert 630 sites from manual to telemetered in 2024/25 under the WAVE program. This will result in an increase in telemetered bores from 435 (10% of the total) to 1,065 (24% of the total). We anticipate that efficiencies should become evident by 2026/27 which is over a year later.

We have applied the following continuing efficiencies between 2026/27 and 2028/29 which will then continue onto 2029/30 for WaterNSW:

- 2026/27 – 3%
- 2027/28 – 2%
- 2028/29 – 1%

It should be noted that continuing efficiencies take into account the efficiency gained in the previous year. The recommended upper and lower bound efficient expenditure is listed in Table 7-30.

We also anticipate that the groundwater network review, scheduled for 2026/27, will realise cost savings through rationalising the monitoring network based on balancing performance, cost and risk. These cost savings, estimated at 5%, should become evident by 2028/29 and have been incorporated into the lower bound efficient expenditure.

The risk in adopting the lower bound efficient operating expenditure is that vulnerable groundwater sources may not receive the required monitoring.

Table 7-30: Recommended efficient range of operating expenditure W02-01 (Groundwater quantity monitoring) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Total proposed operating expenditure	5,820	5,596	5,736	5,600	5,426
DCCEEW	500	272	109	108	109
WaterNSW	5,320	5,324	5,627	5,492	5,317
Scope adjustments	0	0	0	0	0
DCCEEW	0	0	0	0	0
WaterNSW	0	0	0	0	0
Efficiency adjustments	0	-168	-279	-332	-332
DCCEEW	0	0	0	0	0
WaterNSW	0	-168	-279	-332	-332
Recommended upper bound efficient operating expenditure	**5,820**	**5,428**	**5,457**	**5,268**	**5,094**
DCCEEW	500	272	109	108	109
WaterNSW	5,320	5,164	5,358	5,171	4,996
Scope adjustments	0	0	0	-259	-250
DCCEEW	0	0	0	0	0
WaterNSW	0	0	0	-259	-250
Efficiency adjustments	0	0	0	0	0
DCCEEW	0	0	0	0	0
WaterNSW	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**5,820**	**5,428**	**5,457**	**5,009**	**4,844**
DCCEEW	500	272	109	108	109
WaterNSW	5,320	5,164	5,358	4,912	4,746

We consider that the proposed expenditure profile for W02-02 (Groundwater quality monitoring) is skewed to the first year of the period (2025/26). We have deferred some expenditure into the second year and commencement of the enhanced field sampling program to 2027/28. We consider that the proposed groundwater quality review and risk-based rationale ($250,000) should be completed and agreed by WAMC before planning and implementation of the field program commences. We consider that further evaluation of the program with a greater focus on balancing service, cost and risk should be able to identify cost savings or at least defer some program components. We consider that a 5% reduction in the expanded groundwater quality sampling expenditure is a reasonable target to be achieved.

For the lower bound efficient operating expenditure, we have proposed a further 10% reduction in the expanded groundwater quality sampling expenditure.

As a result of the adjustments there may be some risk that emerging adverse groundwater quality trends may be missed but we do not see the risk as being major, particularly since the reduction is on the expanded program. WAMC has a good overall knowledge of groundwater quality issues in the state and will be able to prioritise expenditure in the areas of greatest risk. Our adjustments are only deferring implementation of some components of the enhanced monitoring program.

The recommended upper and lower bound efficient expenditure for W02-02 (Groundwater quality monitoring) is listed in

Table 7-31.

Table 7-31: Recommended efficient range of operating expenditure W02-02 (Groundwater quality monitoring) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	1,870	614	622	598	608
Scope adjustments					
Defer enhanced WQ monitoring planning/preparation by one year	-970	970			
Defer enhanced field sampling program by one year		-474	474		
Reduce enhanced sampling program by 5%			-30	-29	-29
Efficiency adjustments					
Recommended upper bound efficient operating expenditure	900	1,110	1,062	569	579
Scope adjustments					
Further reduce sampling program by 10%			-57	-56	-56
Efficiency adjustments					
Recommended lower bound efficient operating expenditure	**900**	**1,110**	**1,004**	**513**	**523**

We are satisfied with the prudence of expenditure on W02-03 (Groundwater data management and reporting). We have made some minor adjustments to data correction support and groundwater portals in later years as we consider that these processes will be more mature, and the number of database errors will have declined. We have made slightly more aggressive reductions in these expenditures to come to a recommended lower bound efficient operating expenditure. The adjustments are shown in Table 7-32.

Table 7-32: Recommended efficient range of operating expenditure W02-03 (Groundwater data management and reporting) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	200	120	120	121	120
Scope adjustments					
Efficiency adjustments					
Reduce data correction support in later years			-5	-10	-10
Reduce groundwater portals and coordination in later years			-5	-10	-10
Recommended upper bound efficient operating expenditure	**200**	**120**	**110**	**101**	**100**
Scope adjustments					
Efficiency adjustments					
Further reduce data correction support in later years				-5	-10
Further reduce groundwater portals and coordination in later years				-5	-10
Recommended lower bound efficient operating expenditure	**200**	**120**	**110**	**91**	**80**

7.3.2 Capital expenditure

7.3.2.1 Background

The WAMC groundwater monitoring network consists of approximately 4,432 active monitoring sites with assets in varying levels of condition. 779 bores have on-site instrumentation recording water level and/or water quality

Instrumentation assets including sensors, data loggers, power supplies and enclosures are installed in harsh environments and have an expected lifespan of 5-7 years.

Bore condition assessment is fairly rudimentary and currently based on serviceability criteria such as identified issues, blockages etc. Condition assessment of the groundwater monitoring network indicates 37% of bores are currently in need of refurbishment or replacement, and of these, more than 25% have exceeded their effective life. Overall integrity of the network is significantly impacted by the cohort of older bores. Prioritised inspections of bores are proposed using downhole inspection cameras.

A condition review has identified 18% of bores are completely blocked off from the aquifer and are not providing useful data. A further 19% are partially blocked and require remediation to avoid further loss of integrity.

Where appropriate, air lifting and sediment removal on bores is considered viable for remediation. WaterNSW advised at interview that a tender had recently been issued for service providers.

The proposed capital expenditure for groundwater monitoring provides for an ongoing program involving the renewal of groundwater civil works, bore refurbishments and the renewal of hydrometric instrumentation. Potential exists to decommission some older bores and invest in increased telemetry (with significant additional data, reduced safety risk and operational efficiencies).

Figure 7-10 shows the capital expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

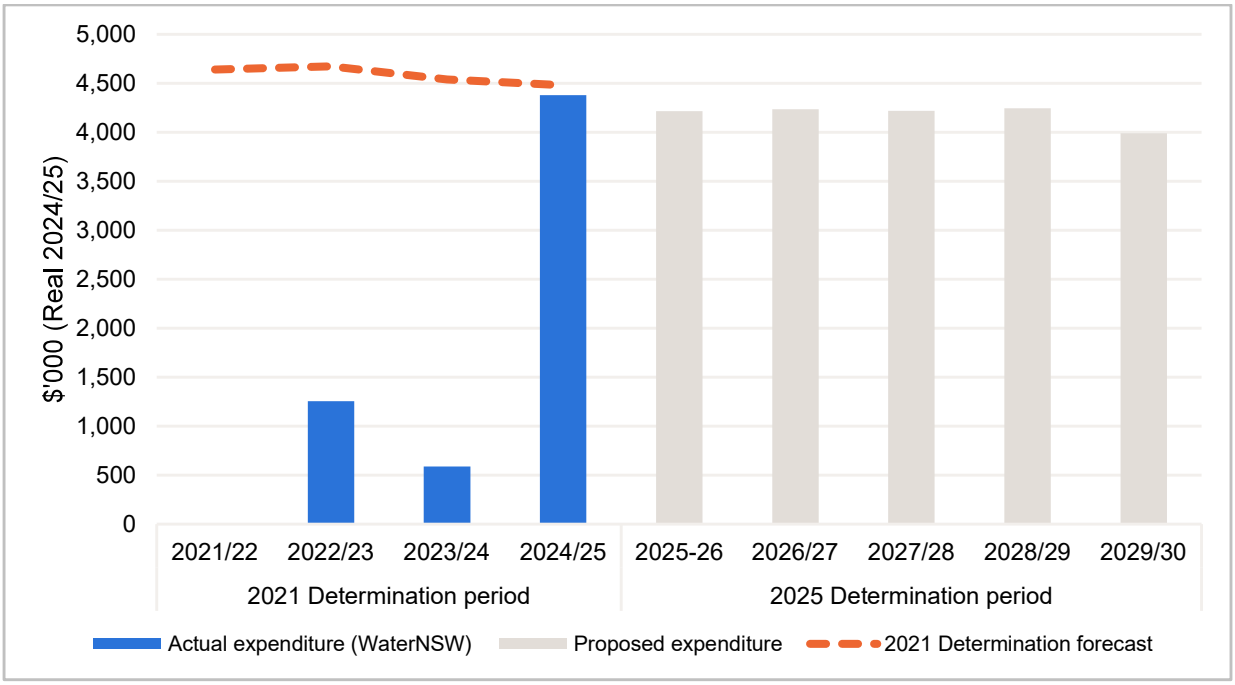

Figure 7-10: Current and future period capital expenditure for W02-01 (Groundwater quantity monitoring)

Table 7-33 presents the current period capital expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-33: Current period capital expenditure for W02-01 (Groundwater quantity monitoring) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	4,638	4,671	4,538	4,478	**18,325**	**4,581**
Actual expenditure (WaterNSW)	0	1,257	589	4,377	**6,223**	**1,556**
Variance	-4,638	-3,414	-3,949	-101	**-12,102**	**-3,026**

Table 7-34 presents the future period capital expenditure for this activity, including the average annual expenditure across all years.

Table 7-34: Future period capital expenditure for W02-01 (Groundwater quantity monitoring) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	4,215	4,236	4,219	4,244	3,990	**20,904**	**4,181**

The actual capital expenditure in the current determination period averages $1,556,000 per year. This is $3,026,000 per year (66%) lower than allowed for in the 2021 Determination forecast, which averaged $4,581,000 per year.

The proposed expenditure for the 2025 Determination period averages $4,181,000 per year. This is $400,000 per year (9%) lower than the average annual expenditure allowed for in the 2021 Determination period, and $2,626,000 per year (169%) higher than the actual annual expenditure incurred in the current period.

7.3.2.2 Drivers for expenditure

Drivers for expenditure includes the need to renew poor condition assets and the drivers listed in Section 7.3.1.2.

7.3.2.3 Performance in the current period

Condition assessment of the groundwater monitoring network indicated that 37% of bores are currently in need of refurbishment or replacement, and of these, more than 25% have exceeded their effective life. Only 63% met the target in 2022/23 of 95% in condition grade 2 or better. This target may not be realistic or be cost-effective for the bores.

The performance indicator for the pressure data quality code better than 40 (95%) was not met (90.1%) in 2022/23.

7.3.2.4 Review of current period expenditure

Capital expenditure for the current period for the groundwater monitoring code W02-01 (Groundwater quantity monitoring) was significantly below ($12.1 million or 66%) the IPART allowance. The main reason for the underspend was difficulty with site access due to wet weather, flooding and COVID restrictions. We note that WaterNSW anticipates that it should be able to achieve the forecast capital expenditure this financial year, which is slightly higher than the forecast annual capital expenditure in the future period. We do not consider the current period capital expenditure to be either inefficient or imprudent.

Condition assessments have been undertaken by WaterNSW staff in conjunction with routine site visits. The initial proposal to engage contractors to undertake condition assessments was found to be cost prohibitive.

7.3.2.5 Review of future period expenditure

The proposed capital expenditure program averages $4,181,000 per year which is $400,000 per year (9%) lower than the average annual expenditure allowed for in 2021.

WaterNSW analysed three options and proposes to implement Option 2:

- Option 1: Do nothing
- Option 2: Refurbish and renew infrastructure based on condition and network prioritisation. Cost estimate $11.2 million (excluding overheads).
- Option 3: Restore the entire network over FY26-30. This would allow the performance indicator of 95% of assets in condition grade 2 or better. Cost estimate $30 million - $40 million (excluding overheads).

In-ground civil works renewal requires specialist contractors. Prioritised works will be tendered in 2024/25, seeking regional contractors for specific areas. WaterNSW consider the approach of using multiple locally based specialist contractors across NSW will deliver cost-effective outcomes.

Instrumentation is procured in bulk through supply of goods contracts established through competitive tendering, which are renewed every 5 years. Instruments are evaluated against quality and cost objectives to ensure minimum acceptance criteria are met, and value for money is achieved. Instrumentation renewals are carried out by WaterNSW staff, as part of routine site visits where practical.

WaterNSW estimates that the replacement cost of the groundwater monitoring assets is in the order of $303 million. The proposed renewal annual renewal expenditure of $4.18 million is around 1.4% of the total replacement cost, equating to an average useful life of 72 years. This is considered reasonable given the renewals program includes instrumentation with an average life of 5-7 years.

From our discussions with WaterNSW and the information provided, we are satisfied that the proposed capital expenditure is prudent and efficient.

7.3.2.6 Conclusions and recommendations

Our recommended upper bound is in line with the submitted pricing proposal. We are of the view that the projects are in alignment with the requirements of these activities and adequate justification was provided. We are satisfied that WaterNSW have sought an achievable, risk-based and cost-efficient approach to implementing the renewal program.

The monitoring activities provide the foundation for the core responsibilities of WAMC across a range of other activity codes, so investing in the infrastructure to ensure the resulting data and quality information is available to a high standard is prudent. We are also conscious that the underspend in the current period will increase the risk of failure of the groundwater monitoring asset portfolio.

For the lower bound we have taken a 15% reduction in the scope of the renewal program. This could be realised by WaterNSW proactively reducing the scope through further prioritisation, or it could occur reactively through wet weather conditions impacting on construction progress, which occurred in the current period (66% reduction in expenditure). These climate-related challenges are likely to continue in the future.

Taking the lower bound approach will increase the risk of asset failure, reduce data reliability, increase operating costs, and transfer additional renewals expenditure into the following period.

Table 7-35: Recommended efficient range of capital expenditure for W02-01 (Groundwater quantity monitoring) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	4,215	4,236	4,219	4,244	3,990
Scope adjustments					
Efficiency adjustments					
Recommended upper bound efficient operating expenditure	**4,215**	**4,236**	**4,219**	**4,244**	**3,990**
Scope adjustments					
15% reduction in scope of renewal program	-632	-635	-633	-637	-599
Efficiency adjustments					
Recommended lower bound efficient operating expenditure	**3,583**	**3,601**	**3,586**	**3,607**	**3,392**

We consider that the performance indicator '*monitoring sites in acceptable condition % of replacement cost of monitoring sites in condition grade 2 or better = 95%'* may be aspirational and suggest that grade 3 or better may be a more optimal target.

7.4 W04-01 (Surface water modelling) and W04-02 (Groundwater modelling)

7.4.1 Background

Activity W04-01 (Surface water modelling) ensures the development, upgrade and application of surface water resource management models for use in water planning. In NSW, 85% of the water use is taken from surface water. This activity assesses performance in terms of statutory requirements, interstate agreements, regional water supply optimisation and third-party impacts on NSW stakeholders. Modelling is undertaken by DCCEEW as operational expenditure and is dependent on data from W01 (Surface water monitoring) and W05-01 (Systems operations and water availability management) activities.

Activity W04-02 (Groundwater modelling) ensures the development, upgrade and application of groundwater resource management models for use in water planning. In NSW, 15% of water use is taken from ground sources. This activity assesses performance in terms of statutory requirements, interstate agreements, regional water supply optimisation and third-party impacts on NSW stakeholders. Modelling is undertaken by DCCEEW as operational expenditure and is dependent on data from W02 (Groundwater monitoring) and W05-01 (Systems operations and water availability management) activities.

All planning functions, including water sharing plans W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) and regional planning W06-05 (Regional planning and management strategies), depend on modelling outputs to meet statutory obligations and to provide knowledge and insights about the functioning of the groundwater and surface water resources modelled or audited.

W04-01 (Surface water modelling)

Figure 7-11 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

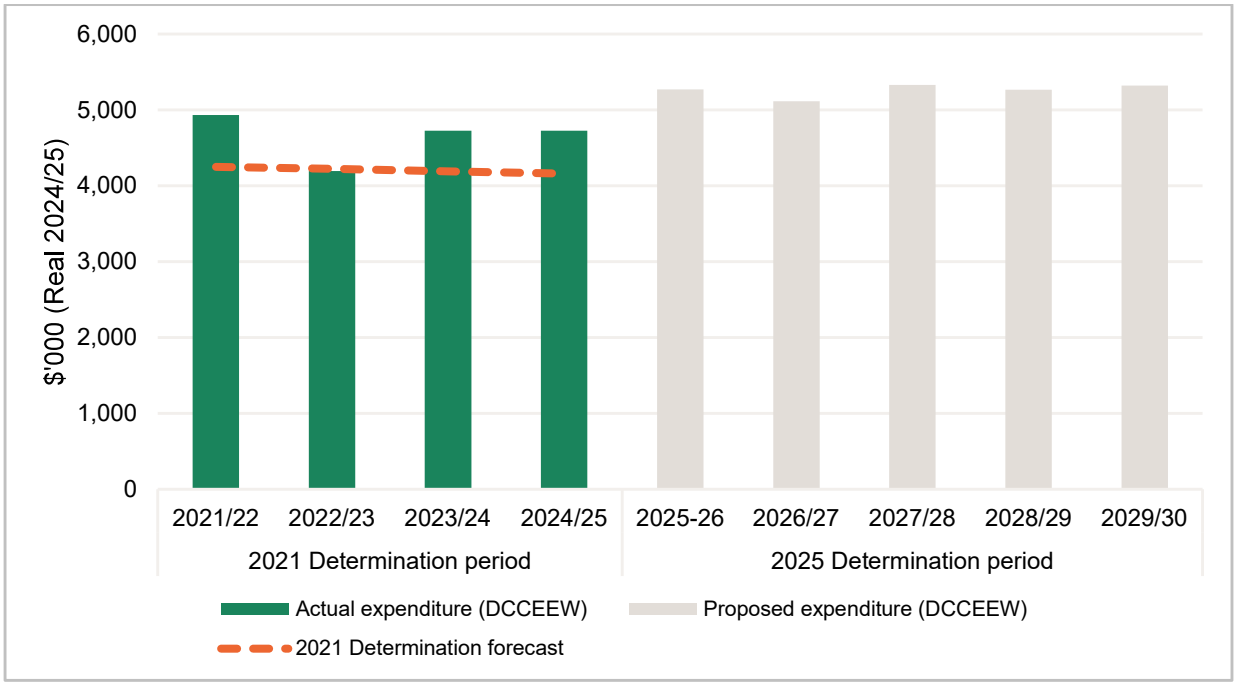

Figure 7-11: Current and future period expenditure for W04-01 (Surface water modelling)

Table 7-36 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-36: Current period expenditure for W04-01 (Surface water modelling) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	4,251	4,221	4,191	4,162	**16,825**	**4,206**
Actual expenditure (DCCEEW)	4,930	4,192	4,723	4,723	**18,568**	**4,642**
Variance	679	-29	532	561	**1,743**	**436**

Table 7-37 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-37: Future period expenditure for W04-01 (Surface water modelling) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	5,268	5,113	5,329	5,265	5,319	**26,294**	**5,259**

The actual expenditure in the current determination period averages $4,642,000 per year. This is $436,000 per year (10%) higher than allowed for in the 2021 Determination forecast, which averaged $4,206,000 per year.

The proposed expenditure for the 2025 Determination period averages $5,259,000 per year. This is $1,053,000 per year (25%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $617,000 per year (13%) higher than the actual annual expenditure incurred in the current period.

W04-02 (Groundwater modelling)

Figure 7-12 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

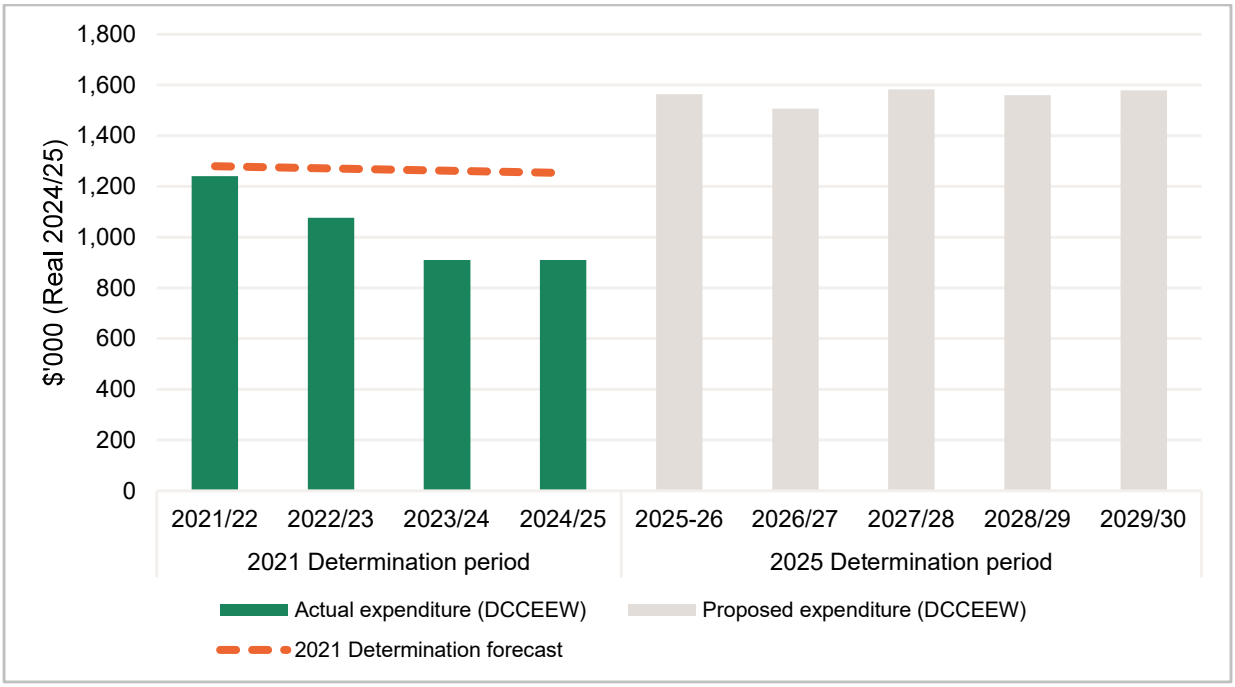

Figure 7-12: Current and future period expenditure for W04-02 (Groundwater modelling)

Table 7-38 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-38: Current period expenditure for W04-02 (Groundwater modelling) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	1,279	1,271	1,262	1,253	**5,065**	**1,266**
Actual expenditure (DCCEEW)	1,240	1,077	910	910	**4,137**	**1,034**
Variance	-39	-194	-352	-343	**-928**	**-232**

Table 7-39 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-39: Future period expenditure for W04-02 (Groundwater modelling) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	1,564	1,507	1,582	1,560	1,579	**7,792**	**1,558**

The actual expenditure in the current determination period averages $1,034,000 per year. This is $232,000 per year (18%) less than allowed for in the 2021 Determination forecast, which averaged $1,266,000 per year.

The proposed expenditure for the 2025 Determination period averages $1,558,000 per year. This is $292,000 per year (23%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $524,000 per year (51%) higher than the actual annual expenditure incurred in the current period.

7.4.2 Drivers for expenditure

The legislative drivers for these activities are:

- *Water Management Act 2000*, including in relation to scenario modelling, long term average annual extraction limits, water balance assessments and performance evaluation, stakeholder consultation, water sharing plan modelling, the function of the ministerial corporation and reviews by the National Resources Commission
- Water Act 2007 (Commonwealth), including in relation to the Murray-Darling Basin Plan 2012, water that can be taken, environmental watering plan, salinity management, water quality and water trading.

Meeting the National Water Initiative pricing principles for recovering costs of water planning and management activities provides another driver, as the models are used to meet the requirements of Part 3 to describe the available water resource, the level of extractions, the physical response to extract and the future water security and environmental outcomes. Further, the information from the models is used to provide an understanding of the likely outcomes of policy and management initiatives, thereby informing water management policy.

7.4.3 Performance in the current period

For activity W04-01 (Surface water modelling), DCCEEW reported that the two output measures and one performance indicator were met in 2024 and are expected to be met for 2025. The first measure requires five reviews to be undertaken to ensure the models meet the required accuracy and reliability guidelines, the second measure requires at least 15 models to be updated, and DCCEEW stated that the surface water models across 28 systems are updated annually.

For activity W04-02 (Groundwater modelling), DCCEEW reported they did not meet the two output measures or the one performance indicator. The first output measure required four documented model performance reviews to be completed, of which two were completed. The associated performance indicators require that 100% of models meet the AGWMG (2012) criteria, which was also listed as 50% complete. The second output measure was the number of models updated with an additional year of climate and hydrological data, of which only one out of two was completed. The reason provided was lack of resources to complete the required work.

7.4.4 Review of current period expenditure

W04-01 (Surface water modelling)

There was overspend in all years of the current period for W04-01 (Surface water modelling). DCCEEW stated this primarily due to a limited resource market in which they struggled to recruit the appropriate expertise. This was compensated for through contract engagements, resulting in higher costs, which DCCEEW stated is not as cost effective as internal staff to produce the modelling deliverables required. Their experience is it can take 18 months to bring new staff up to the desired competence level for some of the required modelling tasks.

Another driver is the increased requirements of the models to provide the relevant information. An example is the inclusion of long-term annual extraction limits, which requires additional effort to achieve. Including these requirements increases in the quantum of work required, which in turn results in a higher per unit cost for each model. Currently the modelling team is approximately 30 people (for all modelling areas, including W04-02 (Groundwater modelling)) and they compete for resources with the consulting firms. DCCEEW stated that to meet all the potential requirements, including NRC recommendations, they estimate a team of more than 60 people would be required, but acknowledge that this would not be justifiable or even realistic in the current employment market. The result of limited resources in an environment of increasing requirements and quality standards is that DCCEEW acknowledge they are not meeting expectations in the delivery of outputs.

DCCEEW stated that new model builds are the most resource intensive task, depending on the size and requirements, can be up to two years and eight FTEs, or a cost of nearly $2 million. DCCEEW have done a quick comparison and noted that the equivalent team in Queensland allows $1.3 million for a new model build, though it is not clear if the requirements are the same.

DCCEEW are involved in running the Modelling and Monitoring Hub[85] where hundreds of modellers can share content, ideas and collaborate which has potential efficiency gains from sharing data, learnings and models.

We discussed the levels of service for each model and the following points are noted:

- Models are developed based on a request or a need for a model. While most models are driven by a consistent set of requirements (for example, to support water sharing plans), ad hoc requests for models can have varying requirements.
- The modelling team has previously been subject to scope creep where the customer of the model would keep requesting additional features, generally on the ad hoc projects. They are now focussed on defining the user requirement prior to commencing work on discrete projects to fulfil modelling requests. This is an improvement opportunity to reduce workload by ensuring models are fit for purpose and do not include features when they are not required.
- There is the potential that additional ad hoc requests for models can drive an increase in workload. There was no clarity provided on the process used to assess and prioritise additional modelling requests.
- Groundwater modelling has a national guideline, but there is no equivalent guideline for surface water modelling. There is high level guidance available on their website, and DCCEEW are now developing detailed guidance for surface water modelling.
- The level of complexity of a model will follow the level of irrigation development (water uses) in that system, the number of data sources are available and ultimately the questions that are being asked by the end users (outputs required). This reinforces the need to understand user requirements and have guidelines in place.
- DCCEEW now have the capability to bring more data into their systems, particularly from remote sensing instruments. From this data they can infer water usage, for example, they can forensically review a field and determine if it was cropped or not, which would imply water usage through irrigation.

[85] http://www.mamh.nsw.gov.au/

All new models developed by DCCEEW are independently reviewed. This covers a detailed technical review but does not cover a fit-for-purpose review. DCCEEW is of the opinion that the customer should pay for the fitness for purpose review, and we agree with this view. However, DCCEEW stated they are receiving more pressure and requests for independent reviews. They have recently had requests from the courts for independent reviews. This again is adding to the workload and requirements. To balance this, DCCEEW has set up expert reference groups for particular model types, comprised of experienced modelers, former modelling leads and principal modelers to facilitate these reviews and provide internal advice.

DCCEEW have made over 77 different data sets and models available on the seed portal, fulfilling a need to have data and models more discoverable and accessible.

The above discussion brings us to the view that a range of factors have impacted the expenditure during the current period. The key factors are an increase in requirements and expectations for the model outputs, additional modelling requests and a challenging resource market to meet the increasing demands. However, we see a need to prioritise any additional work requests and features to ensure that scope creep does not occur, and work is not being performed over and above the remit of this activity, unless there is separate funding, and it doesn't impact the delivery of the core scope of work.

W04-02 (Groundwater modelling)

Groundwater modelling has faced a similar challenge to the surface modelling team in finding the appropriate technical staff to undertake the work. However, in this case, it resulted in underspending, not meeting the expectations of users and reduced performance as noted in the output measures. DCCEEW engaged an external consultancy for one project to cover this deficit, but were not satisfied with the outcomes and stated they would have to reconsider how they approach any future consultant engagement. Similarly to surface water, DCCEEW have found undertaking groundwater modelling internally to be more cost effective.

As noted previously, the broader modelling team is approximately 30 people, mostly focused on surface water, with only a small number of members dedicated to groundwater modelling. DCCEEW stated at the interviews the management of the groundwater modelling function was challenging, with additional challenges due to the groundwater modelling function being embedded within a larger surface water modelling function, leading to suboptimal mentoring and support. In the last 12 months, a dedicated groundwater team leader has been appointed, and they are rebuilding, with new staff joining the team. At the time of the interviews, there were only three staff, with a new starter due to start in February 2025. This is well below the current period allowance of 6.2 FTEs.

DCCEEW stated they are seeing a strong desire from users to have 'good' models that provide confidence in the ability to keep drawing water from underground sources. Some models are showing declines in groundwater availability, so they are building in new functionalities to confirm and convey this information, such as using the Leapfrog software that provides a three-dimensional visual output, greatly assisting communication. During the 2017-2020 drought, they were able to quantify that in one system, 300,000 megaliters of water were used, dropping the groundwater level by 0.5 m; it would require 28 mm of rain to recharge this system, which, based on the trade price of water, has a potential cost of $64 million - $135 million. Being able to articulate this level of information, particularly when systems are under stress, demonstrates the value of these models to enable the assessment of potential interventions, resolve allocation issues and ensure the equitable distribution of water use. Additionally, funding was received from the MDBA for building some concept models to test new functionalities.

7.4.5 Review of future period expenditure

W04-01 (Surface water modelling)

DCCEEW provided FTE estimates in the WAMC NRR model[86] indicating an original bottom-up estimate of 57 FTE, reduced to 27 FTE in the top-down estimate and 20.6 FTE in the final rebalance as submitted in the proposal. This is an increase over the 18.8 FTE in the current allowance but is reflective of the increase in requirements of the modelling team (as already discussed). DCCEEW stated the forecast is based on the forecast workload and a previously included margin for ad hoc work has been removed. The approach going forward is to prioritise projects to accommodate ad hoc work, however, we were not provided with a process for how this prioritisation would be implemented, or how decisions would be made to reduce or postpone work to maintain performance to budget.

There needs to be a focus on defining modelling scope per project and for discrete projects that are outside the normal scope of W04-01 (Surface water modelling), budget should be provided outside of the budget of W04-01 (Surface water modelling). An example is that W05-03 (Environmental water management) included an amount for the generation of a model to assess flows and trigger points for environmental water.

Efficiencies are focused on leveraging automation of data handling processes, system centralisation and the benefits of the digital improvement strategy. We are satisfied these have been considered into the proposal. DCCEEW stated that are confident of delivering 'value' for the proposed $5.2 million per annum, however they are not confident they will meet all expectations at this price point.

In discussions it was noted that some expectations are changing as uses of water change. Some low-risk systems do not have models, such as Mookai, however, cotton is now being grown in this region, (near the town of Carinda), which is increasing the demand on irrigation. It is now likely that a model will be required for this system to do the increased use of water. This example demonstrates how circumstances and assumptions change and have material impacts on workloads. These changes need to be managed and prioritised against the agreed scope of work.

Activities W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) cover the development of water sharing plans. In Section 7.10.5.2 we discuss the potential deferral of WSPs that are nominated as low risk. The core modelling tasks support the preparation of the WSPs, so any reduction in the quantum of WSPs that are developed in the future determination period should be reflected in this activity as well. Across these two W06 codes, we have nominated a lower bound reduction of 21% in aggregate. We acknowledge that the modelling tasks cover more scope than just WSPs, so our lower bound recommendation for W04-01 (Surface water modelling) is a reduction of 7% to reflect a lower workload if some WSPs are deferred.

W04-02 (Groundwater modelling)

The future period estimate is based on 7.1 FTEs[87], up from 6.3 FTEs in the current allowance. DCCEEW have benchmarked team size with similar departments in other states and they claim to have a good understanding of the staff requirements to deliver the models to the required level of service. Ideally DCCEEW would like to have 12 FTEs to deliver the full suite of services for this activity but believe they can deliver the minimum viable product to meet requirements at the proposed estimate. There are Australian groundwater modelling guidelines that form part of the output measures and define the requirements, providing clarity of model parameters.

[86] 20241213 (Final - sent to Stantec) NRR model input - DCCEEW WAMC costs – Tab '2. DCCEEW Cost -Aug24'– Row 23.

[87] 20241213 (Final - sent to Stantec) NRR model input - DCCEEW WAMC costs – Tab '2. DCCEEW Cost -Aug24'– Row 26.

Several efficiencies were described in the WAMC proposal[88] and noted as being accounted for in the future period. We have not applied an efficiency change to the upper bound based on the understanding these efficiencies are indeed included in the future period.

The groundwater team works closely with the team undertaking work in the W02 activities, as that is the source of much of the data for the groundwater models. Collaborating helps to prioritise model updates and ensure the information is available for WSP updates. As noted for surface water, the WSPs updates undertaken in the W06 codes are a significant driver of requirements for groundwater models. We have the same view that if the scope of WSPs is reduced through deferrals, then the scope of modelling should be reduced proportionally.

7.4.6 Conclusions and recommendations

For the upper bound of W04-01 (Surface water modelling), we accept the proposal as submitted. We note that the largest risk with this activity code is the potential for scope creep. Technology keeps advancing, and it is easy to ask for more model functionality, but each 'extra' thing that is added, increases cost and time commitments. We recommend that the following actions are implemented to mitigate the scope creep risk:

- Detailed guidelines for surface water modelling are developed and agreed
- The list of defined models being maintained under this code is confirmed
- A process is put in place with clear criteria on accepting modelling work outside the activity scope with guidance on how it is prioritised against the scheduled work
- Ensure user requirements are agreed prior to each discrete project being commenced.

For the lower bound of W04-01 (Surface water modelling), we recommend a proportional scope reduction in line with the W06 codes for water sharing plan development. We have nominated a 7% reduction in the lower bound.

Table 7-40: Recommended range of efficient expenditure – W04-01 (Surface water modelling) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	5,268	5,113	5,329	5,265	5,319
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**5,268**	**5,113**	**5,329**	**5,265**	**5,319**
Scope adjustments	-369	-358	-373	-369	-372
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**4,899**	**4,755**	**4,956**	**4,896**	**4,947**

For the upper bound of W04-02 (Groundwater modelling), we accept the proposal as submitted. The largest risk is ensuring the team has sufficient members to deliver the scope of work as listed.

For the lower bound of W04-02 (Groundwater modelling), we recommend a proportional scope reduction in line with the W06 codes for water sharing plan development. We have nominated a 5% reduction in the lower bound.

[88] Attachment F, Summary of expenditure and services by WAMC activity, page 56

Table 7-41: Recommended range of efficient expenditure – W04-02 (Groundwater modelling) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	1,564	1,507	1,582	1,560	1,579
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**1,564**	**1,507**	**1,582**	**1,560**	**1,579**
Scope adjustments	-78	-75	-79	-78	-79
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**1,486**	**1,432**	**1,503**	**1,482**	**1,500**

7.5 W04-03 (Water resource accounting)

7.5.1 Background

This activity undertakes the collation, analysis, publishing and archiving of water resource accounts and information regarding NSW water resources, for use by external stakeholders and for internal water planning, management and evaluation purposes. Quality assured water accounting data underpins the development, operation and evaluation of water resource sharing and delivery services.

DCCEEW undertakes this activity, it is dependent on inputs from W05 (Water management implementation) activities and, in turn, these data management and analysis services support water modelling, planning, science and environmental activities.

In this activity, water accounts for nine reports, covering eleven sources, which are delivered annually. Each report has a length of 100 pages, covering the climate, inflows, dam storage, trade, environmental flows, irrigation, town water and other uses. The methods for preparing the information in the reports are documented, most notably for the information that is derived and not measured.

Figure 7-13 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

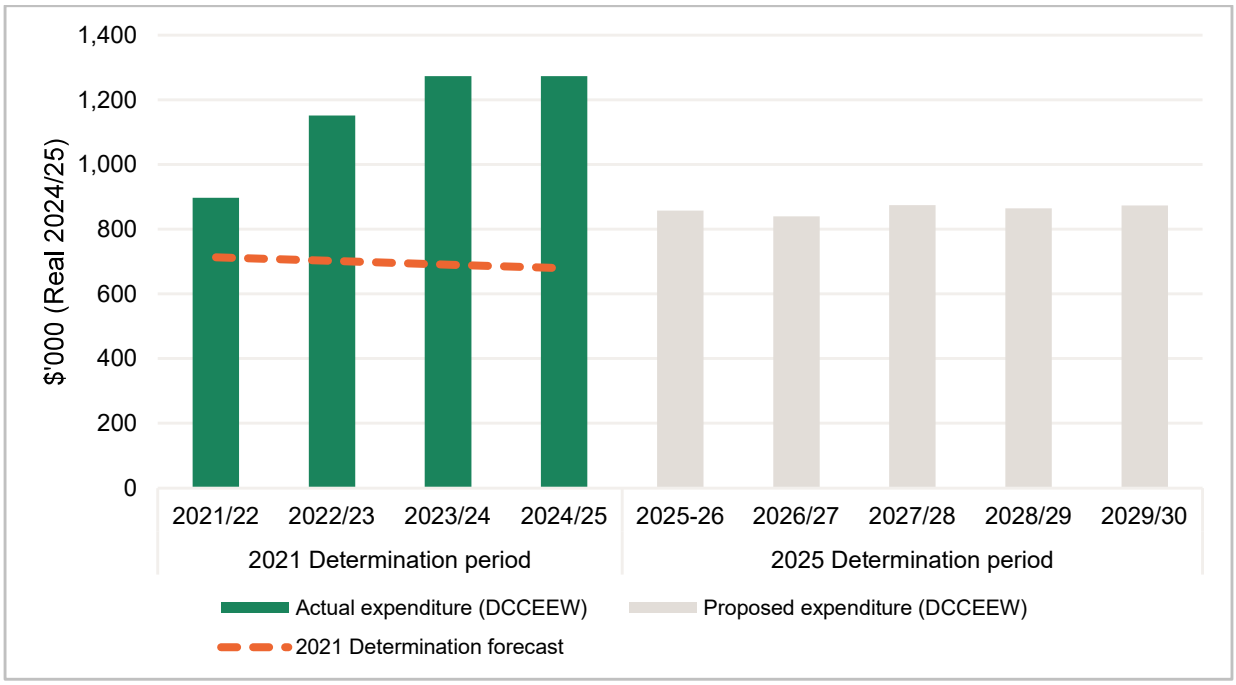

Figure 7-13: Current and future period expenditure for W04-03 (Water resource accounting)

Table 7-42 presents the current period expenditure for this activity, including the average annual expenditure across all years and, the variance between the 2021 Determination forecast and actual expenditure.

Table 7-42: Current period expenditure for W04-03 (Water resource accounting) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	713	702	690	679	**2,784**	**696**
Actual expenditure (DCCEEW)	898	1,152	1,273	1,273	**4,596**	**1,149**
Variance	185	450	583	594	**1,812**	**453**

Table 7-43 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-43: Future period expenditure for W04-03 (Water resource accounting) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	858	840	875	865	874	**4,312**	**862**

The actual expenditure in the current determination period averages $1,149,000 per year. This is $453,000 per year (65%) more than allowed for in the 2021 Determination forecast, which averaged $696,000 per year.

The proposed expenditure for the 2025 Determination period averages $862,000 per year. This is $166,000 per year (24%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $287,000 per year (25%) lower than the actual annual expenditure incurred in the current period.

7.5.2 Drivers for expenditure

The primary drivers for this activity are:

- Intergovernmental Agreement on a National Water Initiative, clauses 80–88
- Water Management Act 2000 – water resources insights for review and evaluation of Water Sharing Plans (WSP)
- Water Act 2007 – MDBA water audit monitoring reports and water accounting under the Murray-Darling Basin Plan, the provision of water information to the Bureau of Meteorology

7.5.3 Performance in the current period

All performance measures were met in 2024. The nine general purpose water allocation reports were published within 12 months and the reports were deemed to have met the reporting obligations.

7.5.4 Review of current period expenditure

The current period result was an overspend against the allowance. The reasons stated in discussions were that time was spent developing improved processes and tools to increase the level of automation in the process and to refine accuracy; and that two new products were included in the reporting period. The new reports were for the Hunter region and the Barwon Darling and were not included in the previous estimate. The proposal submission lists some further tasks were not previous included in the allowance, including data requests (including ministerial responses), supporting account rules development and monitoring for planning and allocation and developing and maintaining dashboards.

7.5.5 Review of future period expenditure

The current period allowance was for 2.8 FTEs; the proposed future estimate is for 3.3 FTEs, an 18% increase. Including the two new products for Hunter and Barwon Darling brings the number of reports from 9 to 11, a 22% increase, demonstrating a small efficiency gain. The proposed future estimate is 25% lower than the current period actuals, reflecting a notable increase in efficiency from the tools and automation developed in the current period.

DCCEEW propose to expand into the groundwater and unregulated systems to enable better scrutiny, this will require understanding how they can map the standard to their existing framework; long term they are aiming for annual reports, but initial will be a lower frequency, noting there is lower levels of metering coverage for groundwater.

Through separate funding, DCCEEW has developed tools in the hydro metric program that they are looking to roll into the catchments in the next round of reporting, starting with Namoi system.

7.5.6 Conclusions and recommendations

Based on the information presented, we are of the opinion that there are no adjustments required to the proposed submission for W04-03 (Water resource accounting). We do recommend that requests over and above the agreed WAMC scope are reviewed and prioritised to ensure this code does not suffer from scope creep.

Table 7-44: Recommended range of efficient expenditure – W04-03 (Water resource accounting) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	858	840	875	865	874
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**858**	**840**	**875**	**865**	**874**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**858**	**840**	**875**	**865**	**874**

7.6 W05-01 (Systems operation and water availability management)

7.6.1 Background

This activity involves the preparation and implementation of the procedures and systems required to deliver the provisions of the *Water Management Act 2000* and water sharing plans.

The main components of this activity are:

- Making of available water determinations which determine the water available to water access licence holders from time to time
- Annual reporting of implementation of water sharing plans
- Modelling and measurement of compliance with long-term extraction limits and sustainable diversion limits
- Metering, including implementation of the non-urban water metering reforms.

This activity comprises operating expenditure only and has connections to several other WAMC activities, particularly the metering charges and W08-03 (Compliance management). The activity is performed by DCCEEW.

Figure 7-14 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

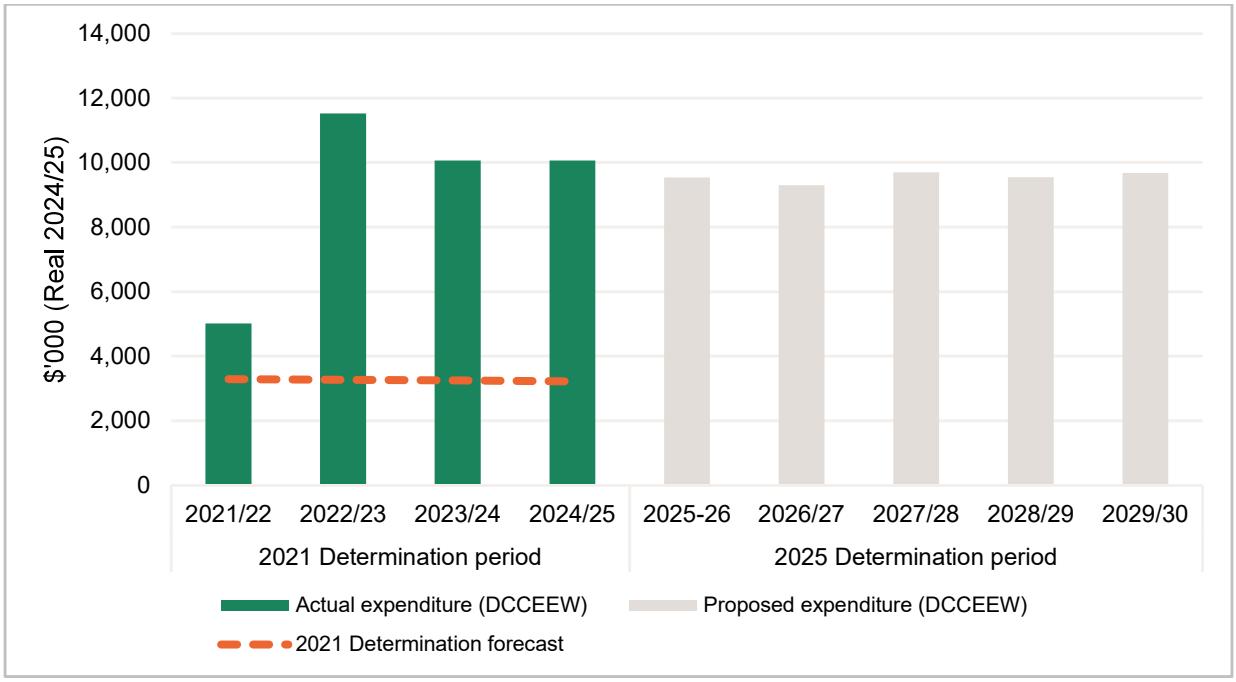

Figure 7-14: Current and future period expenditure for W05-01 (Systems operation and water availability management)

Table 7-45 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-45: Current period expenditure for W05-01 (Systems operation and water availability management) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	3,292	3,269	3,246	3,223	**13,030**	**3,258**
Actual expenditure (DCCEEW)	5,014	11,519	10,060	10,060	**36,653**	**9,163**
Variance	1,722	8,250	6,814	6,837	**23,623**	**5,906**

Table 7-46 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-46: Future period expenditure for W05-01 (Systems operation and water availability management) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	9,542	9,299	9,695	9,552	9,677	**47,765**	**9,553**

The actual expenditure in the current determination period averages $9,163,000 per year. This is $5,906,000 per year (181%) more than allowed for in the 2021 Determination forecast, which averaged $3,258,000 per year.

The proposed expenditure for the 2025 Determination period averages $9,553,000 per year. This is $6,296,000 per year (193%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $390,000 per year (4%) higher than the actual annual expenditure incurred in the current period.

7.6.2 Drivers for expenditure

The drivers for this activity code expenditure are:

- Water Management Act 2000, in particular Chapter 2 (water management planning) and Chapter 3 (available water determinations, metering and dealings such as trade)
- Access Licence Dealings Principles Order
- Water Management (General) Regulation 2018, in particular part 10 'Metering Equipment Standards'
- *Water Act 2007* (Commonwealth).

7.6.3 Performance in the current period

DCCEEW met six performance indicators and output measures in the current period. The seventh measure – Snowy License Review implementation – was targeted for completion in 2022. DCCEEW advised this was set to be achieved by December 2024.

7.6.4 Review of current period expenditure

As set out above, expenditure for the current period was significantly more than the expenditure allowance in the 2021 Determination.

DCCEEW explained the reasons for the increase were largely due to:

- Costs to develop Long-Term Average Annual Extraction Limits (LTAAEL) for water sharing plan implementation. DCCEEW needed to resource this work with heavy reliance on consultants.
- Unplanned expenditure relating to managing hypoxic blackwater
- Metering costs that were not included in the expenditure allowance for the current determination period.

The requirements to measure compliance against LTAAEL will be ongoing, as will related requirements to measure compliance against Sustainable Diversion Limits (SDLs) which also form part of this activity.

The additional metering costs arose from a renewed focus on metering diversions across NSW in 2023, including compliance with pre-existing obligations for metering by water users. This resulted in a target to achieve metering for 95% of licensed water take in NSW by December 2026.

7.6.5 Review of future period expenditure

The DCCEEW forecast expenditure is mostly comprised of internal labour costs, and the high consultant costs referred to above have not continued into the forecast expenditure.

Performing available water determinations comprises around 23% of total forecast expenditure, and DCCEEW advised this was a small decrease from actual expenditure over the current determination period.

DCCEEW submitted they required an increase in expenditure to implement LTAAEL, including additional modelling and remote sensing. These are new, additional costs to actual expenditure over the current determination period, and account for around 13% of total proposed expenditure for W05-01 (Systems operations and water availability management). DCCEEW also submitted they need to perform additional analysis and reporting as required by the Inspector General of Water Compliance of Australia for reporting against the SDLs in Basin water resource plans.

The costs for annual reporting against water sharing plan implementation are stable and comprise around 7% of total costs.

Metering comprises around 46% of proposed forecast expenditure. DCCEEW submitted this expenditure was required to support ongoing metering and measurement implementation activities. The WAMC submission outlined the activities as follows:

- Supplier/market engagement on types of meters to enable policy amendments to be made as capability improves and adapts
- Ensuring systems/processes for non-urban metering and floodplain measurement remain fit for purpose
- Ensuring metering is considered and incorporated in all future policy work enabling confidence in LTAAEL and SDL compliance
- Working with other jurisdictions to help share national metering policy
- Rolling out metering in new areas, such as for floodplain harvesting
- Assessing applications for exemptions to install a pattern-approved meter
- Undertaking LTAAEL assessments in areas which require reconciliation of metered water take with an estimate of take for smaller users, using remote sensing and other methods.

DCCEEW also proposed costs for communications and engagement to support the implementation of metering reforms (6%), taking the total expenditure for metering-related expenditure to 52% of proposed expenditure.

7.6.5.1 Upper bound assessment

Scope adjustments

We accept the overall scope of the proposed activities as relevant to W05-01 (Systems operations and water availability management) and within the definition of WAMC monopoly services.

Efficiency adjustments

DCCEEW has proposed a constant stream of expenditure for metering over the future determination period, yet the NSW Government has set a target to achieve metering of 95% of licensed water take by December 2026. We asked DCCEEW to justify why the proposed expenditure for metering did not reduce from this target date, given this will represent significant risk reduction for water resource management. DCCEEW pointed to the requirement for smaller water users (who use between 15 ML and 100 ML per annum) to have compliant meters in place by 2027 to 2034. DCCEEW also stated that resources will start to transition from activating larger water users to ensuring ongoing maintenance of larger users and activation of smaller water users[89].

DCCEEW's submission also referred to the need to roll out metering in new areas, such as for floodplain harvesting. DCCEEW presented to us the roles and responsibilities for implementing metering reform, and the broader process for metering itself, as shown in Figure 7-15.

[89] Response to RFI 66.

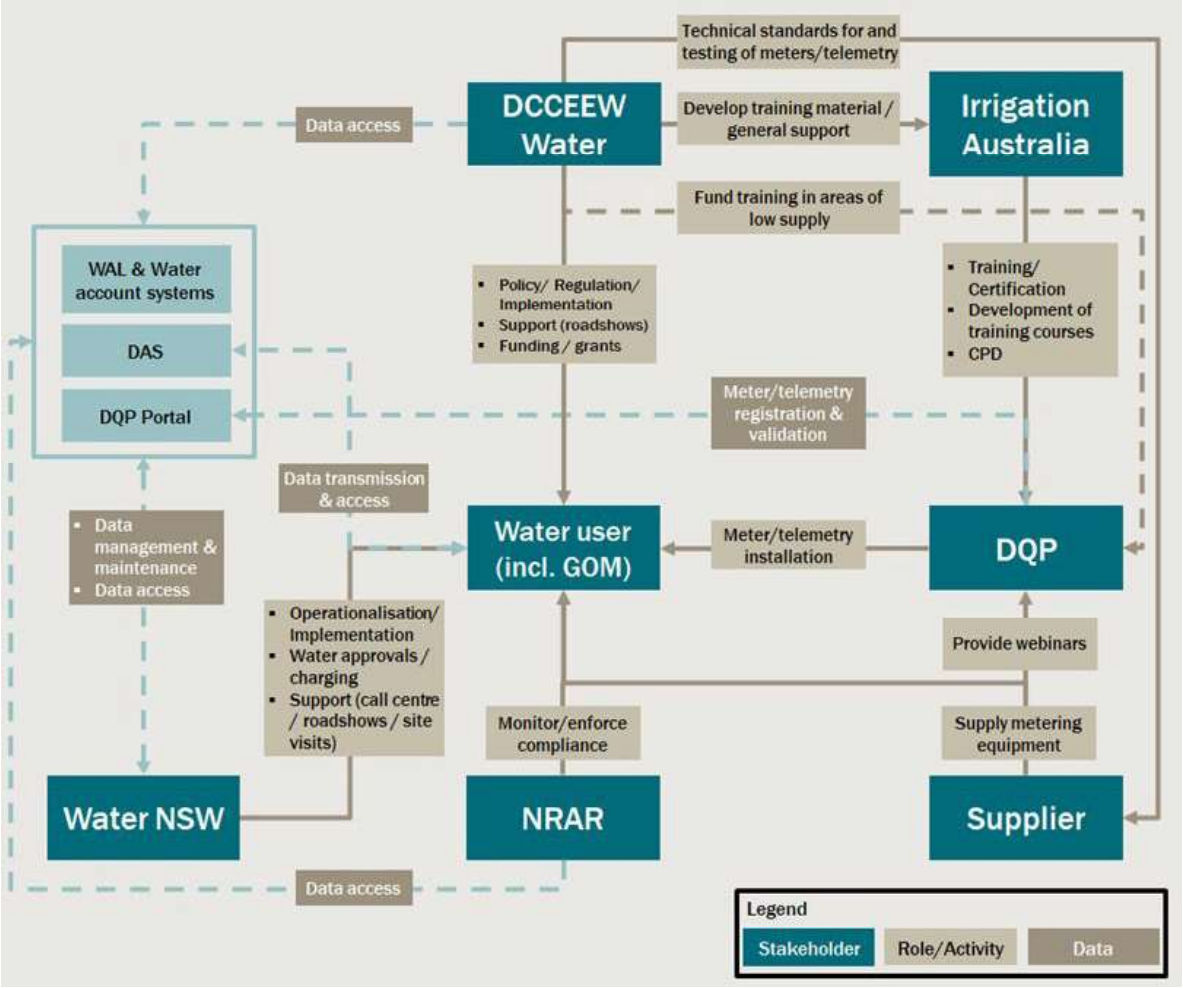

Figure 7-15: Roles in metering (DCCEEW). Information provided in interview presentation December 2024.

The above figure shows all three WAMC agencies are involved to some extent in metering and the implementation of the non-urban metering reforms.

DCCEEW also provided information about the number of works related to various categories of proposed metering requirement.

Table 7-47: Number of works captured by different metering requirements, and the metering requirement

Water user	Number of works	Metering requirement
High Risk – surface water pump > 500 mm	1,041	AS4747 Meter + Telemetry. Installed by duly qualified person (DQP). Obligations for some to have installed now, and for others by **December 2026**.
Larger water user (over 100 ML)	10,992	
Smaller water user (15 ML to 100 ML)	5,972	Pattern Approved Meter. To be installed by **December 2027 to December 2034** (depending on the works approval expiry date).
Low Risk (less than 15 ML)	10,199	No meter required (record and report only)

By January 2027, the risk associated with unmetered water take should be largely addressed (i.e. the 95% target achieved), and around two thirds of works that require a meter will have had one installed. In our draft report we did not accept DCCEEW's justification for maintaining the expenditure for metering over the five years of the future determination period, on the basis that:

- By 2027, metering should become a business-as-usual activity rather than implementation of a reform. There should be sufficient industry, user and community awareness of the requirements, the initial wave of exemptions should have been largely processed, and training resources and other supporting material will already exist.
- The policy-making component of non-urban metering reform seems to be largely completed, with the replacement of the Water Management (General) Regulation due in 2025
- There is (or will be, following update to the above regulation) a clear compliance obligation for works owners which has been broadly communicated
- NRAR has the responsibility for enforcing compliance with the above requirements for metering, including for those works owners who have not complied with the requirement to install a meter by the set dates
- The expansion of non-urban metering reform into new areas should involve incremental effort only given the body of work already in place
- It is not clear why DCCEEW needs to make assessments of water use from small water users when that data should exist regardless through self-reporting obligations.

In response to our draft report, DCCEEW provided additional activities to the above that were considered independent of non-urban metering reform, and business as usual:

- Managing the Duly Qualified Persons pipeline, including developing training and support for other approved installers, working with Irrigation Australia to keep training materials current and funding training in areas of low supply
- Reviewing, analysing and reporting metering data to identify areas for improvement, regulation amendment
- Ensuring awareness of metering obligations
- Where needed, amending metering rules
- Managing Ministerial exceptions and reviewing past exemptions as technology improves or rules change

DCCEEW's proposed costs for metering are in the order of $3.6 million per annum for each of the five years over the future regulatory period. In our view, DCCEEW has not provided adequate evidence that the above business as usual work supports an efficient expenditure allowance in the order of $3.6 million per annum.

In response to our draft report, DCCEEW also commented on our recommendation to allow expenditure only to December 2026:

> *The recommendation to exclude is unreasonable as it fails to recognise the continuous policy and other efforts required to maintain this goal. Currently WAMC estimates that 35% of works with more than 100 ML entitlement are compliant with the metering standard. While WAMC embraces the aim of ensuring 95% of licensed water take in NSW is measured, recorded and reported by December 2026, realising this aspiration depends on both the actions of water users, the ability of the market to respond and continuous focus on implementation.*

We acknowledge that meeting the target will involve challenges. However, in our view an efficient expenditure forecast would align the period of expenditure to the timeframes set for implementing reform. Furthermore, for the reasons set out above, we would expect the costs associated with metering after January 2027 (i.e. for the remaining 5%) to be business-as-usual and note that NRAR will be active in metering compliance regardless.

We therefore recommend that the costs for metering are scaled back from 2026/27, as the key objectives for the non-urban metering reform will be met by this time and the risks associated with unmetered use will be largely addressed by achieving the December 2026, 95% target. If this target is not met due to implementation delay, then the costs of this delay should be borne by WAMC.

We have accepted the proposed expenditure for modelling and other improvements relating to LTAAEL assessments, on the basis this work is a compliance requirement and consistent with best practice.

We have accepted the proposed expenditure relating to the balance of activities, including the making of available water determinations and water sharing plan implementation reporting, as these remain at a steady state from actual expenditure from the current determination period or involve minor increases to improve capability[90]. We also acknowledge an increasing workload as implementation reporting will expand to floodplain management plans.

7.6.5.2 Lower bound assessment

Scope adjustments

DCCEEW has proposed a step change increase in capability and cost to undertake additional modelling and remote sensing to both expand the assessment of LTAAELs to new areas (such as inland unregulated and coastal water sharing plans) and for modelling improvements for areas where LTAAELs are already applied to improve the quality of assessments.

In our draft report we observed that while the LTAAELs framework may be best practice water management, DCCEEW's justification for the improvement was weak, and did not address the underlying driver or need and/or the benefits. We also noted DCCEEW's website which indicates a risk-based approach to updating models, and that LTAAELs assessments for most unregulated and coastal areas would only be enabled when sufficient data became available[91]:

> *A compliance assessment will be completed yearly for inland regulated and Barwon-Darling unregulated water sharing plans using the best available models. A risk-based strategy will be used to determine the extent and timing of updates to the current conditions models.*
>
> *In other water sharing plans, LTAAEL compliance assessment will only be enabled when sufficient data becomes available through the non-urban water metering policy. This includes most unregulated and coastal water sharing plans.*

In response to our draft report, DCCEEW commented that the LTAAEL scope of work was a compliance requirement, and we mis-interpreted the website information. We have agreed with DCCEEW's comments, and as a result accept that LTAAEL costs be included in the upper bound expenditure.

Accordingly, we have recommended no lower bound adjustments.

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[90] For example, additional groundwater science support for available water determinations.

[91] Refer to www.dpie.nsw.gov.au/water/our-work/allocations-availability/extraction-limits/tracking-surface-water/ltaael-compliance-results.

Efficiency adjustments

We have not identified any potential reforms or other lower bound adjustments that might lead to a change in efficiency for this activity.

7.6.6 Conclusions and recommendations

The overall scope proposed by DCCEEW for this activity is reasonable in terms of an upper bound assessment; however, we recommend scaling back expenditure for metering from 2026/27, based on a judgement that only 25% of that expenditure is required in 2026/27 for metering and nil cost for communications. For 2027/28 onward we recommend reducing the forecast to nil on the basis that ongoing metering activities should form part of business as usual across the three WAMC agencies by this time.

Our lower bound review found no further adjustments were needed. Table 7-48 summarises our recommended expenditure.

Table 7-48: Recommended range of efficient expenditure – W05-01 (Systems operations and water availability management) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	9,542	9,299	9,695	9,552	9,677
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	-3,929	-5,295	-5,206	-5,296
Recommended upper bound efficient operating expenditure	**9,542**	**5,370**	**4,400**	**4,346**	**4,381**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**9,542**	**5,370**	**4,400**	**4,346**	**4,381**

7.7 W05-02 (Blue-green algae management)

7.7.1 Background

Figure 7-16 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

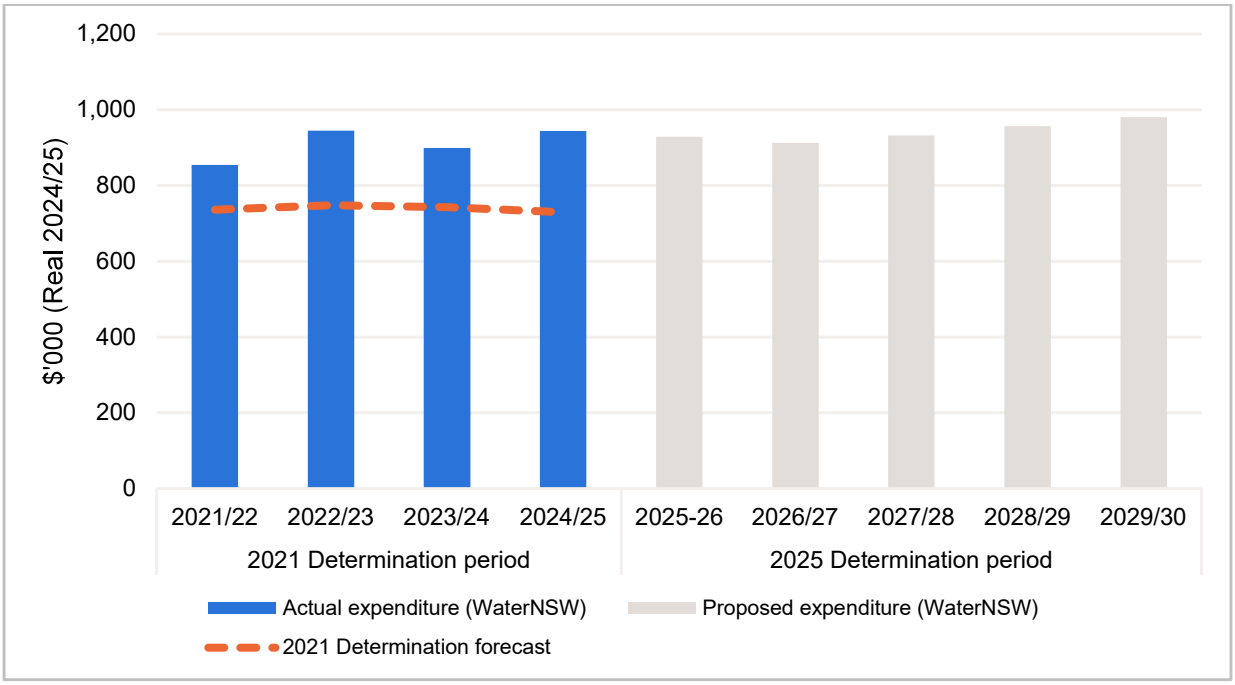

Figure 7-16: Current and future period expenditure for W05-02 (Blue-green algae management)

Table 7-49 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-49: Current period expenditure for W05-02 (Blue-green algae management) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	736	748	743	729	**2,956**	**739**
Actual expenditure (WaterNSW)	854	945	899	944	**3,642**	**911**
Variance	118	197	156	215	**686**	**172**

Table 7-50 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-50: Future period expenditure for W05-02 (Blue-green algae management) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	929	913	932	957	980	**4,711**	**942**

The actual expenditure in the current determination period averages $911,000 per year. This is $172,000 per year (23%) more than allowed for in the 2021 Determination forecast, which averaged $739,000 per year.

The proposed expenditure for the 2025 Determination period averages $942,000 per year. This is $203,000 per year (27%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $32,000 per year (3%) higher than the actual annual expenditure incurred in the current period.

7.7.2 Drivers for expenditure

This activity involves oversight of the algal risk management framework for fresh and marine waters, which has been developed to ensure that the risk from potentially toxic algal blooms is managed appropriately. The activities include:

- Coordinating and supporting the Regional Algal Co-ordinating Committees (RACC).
- Contributing to the State Algal Advisory Group (SAAG).
- Contributing to the Regional Algal Management Guidelines.
- Managing algal communications including hotline, media enquiries, website and briefings to Minister.
- Monitoring rivers and storages to service those aspects of the RACC's reporting requirements, in accordance with the RACC Guidelines and WaterNSW Service Provision Deed.

7.7.3 Performance in the current period

WaterNSW met the two output measures. They reported that regional guidelines have been updated regarding algal risk management. 100% of algal red alerts had been sent on time to stakeholders through media statements and reports.

7.7.4 Review of current period expenditure

The actual expenditure was $172,000 per year (23%) more than allowed for in the 2021 Determination forecast. Staff include four regional water quality advisors under a Water Quality Services Manager. The Water Quality Services Manager undertakes a range of duties and costs are appropriately assigned to the relevant activity code.

The level of expenditure is influenced by the following:

- WaterNSW is required to increase response monitoring where higher levels are detected. Increased levels of algae are to be expected following periods of wet weather and flooding where nutrient rich materials are brought into the storages, as well as when weather conditions are warmer.

- Where higher levels are detected WaterNSW is also required to engage with its counterparts and provide advice as appropriate. The frequency of field sampling, laboratory analysis and reporting also increases under these conditions.

In summary the expenditure on this activity is influenced by climatic conditions.

At the interview, WaterNSW staff were able to demonstrate that expenditure had been managed as efficiently as possible.

7.7.5 Review of future period expenditure

Expenditure over the future period is forecast to continue at a similar level to the current period, with a nominal $31,000 (3.3%) average increase above the current annual expenditure.

From our discussions with WaterNSW staff we concluded that the team were committed and undertook their tasks in an efficient manner. We were unable to identify any material efficiency opportunities in their operation.

7.7.6 Conclusions and recommendations

Based on our review of the information provided and discussions with WaterNSW staff we have not identified any scope or efficiency adjustments. No adjustments have been made to the proposed operating expenditure.

We did not identify any non-essential activities or any projects/activities that could be deferred. As a result, no adjustments have been made to the proposed operating expenditure.

Table 7-51: Recommended efficient range of operating expenditure for W05-02 (Blue-green algae management) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	929	913	932	957	980
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**929**	**913**	**932**	**957**	**980**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**929**	**913**	**932**	**957**	**980**

7.8 W05-03 (Environmental water management)

7.8.1 Background

This activity develops and implements collaborative governance arrangements for environmental flow strategies and the provision of environmental water flows to achieve ecological outcomes. It is performed jointly by WaterNSW and DCCEEW and involves operating expenditure. This activity interfaces with several other WAMC activities, including W04-01 (Surface water modelling), W04-02 (Groundwater modelling), and W05-01 (Systems operations and water availability management).

Figure 7-17 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

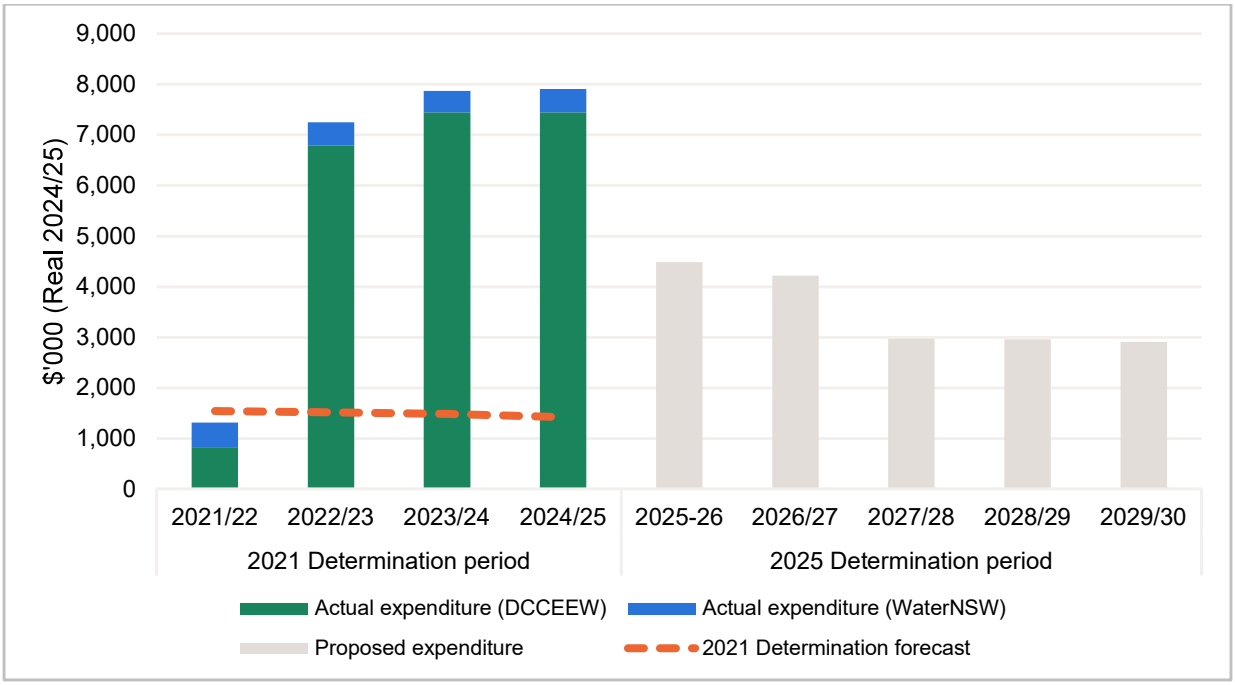

Figure 7-17: Current and future period expenditure for W05-03 (Environmental water management)

Table 7-52 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-52: Current period expenditure for W05-03 (Environmental water management) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (DCCEEW)	1,330	1,303	1,276	1,250	5,159	1,290
2021 Determination forecast (WaterNSW)	212	214	210	171	807	202
2021 Determination forecast	1,542	1,517	1,486	1,421	**5,966**	**1,492**
Actual expenditure (DCCEEW)	813	6,797	7,448	7,448	22,506	5,627
Actual expenditure (WaterNSW)	505	453	420	458	1,836	459
Actual expenditure	1,318	7,250	7,868	7,906	**24,342**	**6,086**
Variance	-224	5,733	6,382	6,485	**18,376**	**4,594**

Table 7-53 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-53: Future period expenditure for W05-03 environmental water management ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	4,032	3,779	2,525	2,499	2,433	15,268	3,054
Proposed expenditure (WaterNSW)	452	442	449	464	479	2,286	457
Proposed expenditure	4,484	4,221	2,974	2,963	2,912	**17,554**	**3,511**

The actual expenditure in the current determination period averages $6,086,000 per year. This is $4,594,000 per year (308%) more than allowed for in the 2021 Determination forecast, which averaged $1,492,000 per year.

The proposed expenditure for the 2025 Determination period averages $3,511,000 per year. This is $2,019,000 per year (135%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $2,575,000 per year (42%) lower than the actual annual expenditure incurred in the current period.

7.8.2 Drivers for expenditure

The legislative drivers for this activity are:

- Water Management Act 2000, including in relation to water sharing plans, environmental water and temporary water restrictions
- Water Act 2007 (Commonwealth), including in relation to the Murray-Darling Basin Plan 2012, environmental and supply considerations in S14, and Schedule 1 of the Murray-Darling Basin Agreement
- Fisheries Management Act 1994, in relation to the provision of suitable fish passage under S218.

The scope and intensity of this activity is influenced by factors including independent reviews and audits and stakeholder views and customer expectations. The scope for DCCEEW is primarily project-based and is also influenced by a government desire to improve the efficacy of environmental flows through management and infrastructure measures.

7.8.3 Performance in the current period

DCCEEW and WaterNSW reported meeting 83% of output measures and performance indicators as of 30 June 2024. They expect to meet all performance indicators and all but one output measure by 30 June 2025 being implementation of the Northern Basin Interim Unregulated Flow Management Plan. The WAMC submission states the delay is caused by an unforeseen requirement for an expert panel to review the original plan.

Output measures relating to the Snowy licence have been met, as has the performance indicator to gain agreement from stakeholders on the processes to recognise return flows from environmental water.

7.8.4 Review of current period expenditure

The increase in expenditure for W05-03 (Environmental water management) over the current determination period is largely due to unforeseen costs arising from:

- The Sustainable Diversion Limit Adjustment Mechanism (SDLAM) acceleration project which commenced during the period. This involved delivery of five externally funded infrastructure projects to improve environmental flows, to be delivered by December 2026.

- Northern Basin Toolkit (NBTK) projects aimed at improving environmental flows and fish passage.

Based on the information provided to us from DCCEEW, we have estimated that the actual cost associated with SDLAM accelerated projects and NBTK projects comprised the vast majority (over 80%) of DCCEEW's actual costs for W05-03 (Environmental water management) for the current determination period.

The actual costs for WaterNSW were higher than the 2021 Determination forecast due to higher-than-expected complexity in operationalising environmental water measures during the period. In total dollar terms this increase was minor.

Expenditure for environmental water management, which is largely project based, was significantly lower – around half of the 2021 Determination forecast. DCCEEW stated this was due to the delay of some activity and the reassignment of some staff resources to other work funded outside of WAMC[92]. DCCEEW indicated the expected actual costs for 2024/25 will return to around the 2021 Determination forecast for that year.

Expenditure on the management of the Snowy licence was also below the 2021 Determination forecast. DCCEEW explained much of the anticipated work was performed by other WAMC activity codes, and only $0.037 million was accounted for under W05-03 (Environmental water management).

7.8.5 Review of future period expenditure

DCCEEW and WaterNSW have proposed expenditure that is above the 2021 Determination allowance, but well below actual costs over recent years.

DCCEEW has proposed costs for its environmental water management team, which represent 39% of DCCEEW's proposed expenditure.

DCCEEW has also proposed additional expenditure over 2025/26 and 2026/27 to develop a model to improve forecasting of flows and triggers for environmental water. This modelling work represents around 14% of DCCEEW's proposed expenditure for W05-03 (Environmental water management) over the five-year future determination period.

DCCEEW has proposed expenditure relating to the ongoing operation of SDLAM acceleration projects and NBTK projects which together account for around 34% of DCCEEW's proposed expenditure.

DCCEEW has proposed ongoing costs relating to the Snowy licence that represent 8% of DCCEEW's proposed expenditure.

Further expenditure for communications and engagement is proposed and represents around 5% of DCCEEW's proposed expenditure.

WaterNSW has proposed expenditure consistent with its actual expenditure over the current determination period (around $0.45 million per annum).

[92] Response to RFI 69 - Table 1. DCCEEW labelled this work 'environmental water projects' however it relates the environmental water management team.

7.8.5.1 Upper bound assessment

Scope adjustments

We are satisfied with the proposed scope of activity for W05-03 (Environmental water management) in terms of an upper bound efficiency assessment.

Efficiency adjustments

The environmental water management component to W05-03 (Environmental water management) is largely project based, and forecasts are based on an expectation about needs for particular projects over the future determination period.

DCCEEW advised projects for environmental water management for the future determination period included[93].

- Implement Connectivity Expert Panel recommendations relating to environmental water
- Active management rules and variable access thresholds, involving ongoing improvements
- Implementation and adaptive management of prerequisite policy measure (PPMs)
- Improved management of environmental water, including responding to independent review recommendations and developing procedures related to water sharing plans.

In its pricing submission DCCEEW noted other additional work arising from external reviews, such as the Claydon Review and First Flush Review, in addition to the Connectivity Expert Panel review above, impacted the forecast expenditure proposal.

DCCEEW's forecast expenditure of $0.997 million per annum (excluding overheads) for this environmental water management work is the same as the forecast actual expenditure advised to us for 2024/25. However, this amount is well above the actual expenditure recorded the three years prior (2021/22 to 2023/24) which averaged $0.541 million per annum.

In relation to communications and engagement expenditure, DCCEEW has not justified the need for this expenditure.

DCCEEW's proposed forecast expenditure relating to the Snowy licence is well above actual expenditure in the current determination period. DCCEEW has proposed an annual average of $0.203 million per annum (excluding overheads), comprising costs across several different DCCEEW teams. This compares to the actual expenditure incurred for W05-03 (Environmental water management) in 2022/23 of $0.037 million[94].

In our view, DCCEEW has not provided a compelling justification as to why future expenditure for environmental water management, communications and engagement, and the Snowy licence should exceed the actual expenditure over the current determination period.

Based on the above we recommend the expenditure allowance relating to environmental water management and the Snowy licence is based on actual expenditure over the current period, and no allowance is provided for communications and engagement. We propose to set the environmental water management actual expenditure over the years where actual costs have been recorded – 2021/22 to 2023/24, excluding the forecast for 2024/25.

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[93] Refer to RFI 34.

[94] WAMC pricing proposal, Attachment F, p77.

We are also concerned about the costs proposed by DCCEEW for the operation of SDLAM and NBTK projects. DCCEEW provided information on the costs relating to the operating costs of these projects in response to a request for information[95]. This information is summarised in Table 7-54.

Table 7-54: Detail regarding SDLAM and NBTK projects' ongoing costs

Project	Future asset owner/ operator	Proposed expenditure
Millewa Forest (SDLAM)	WaterNSW	Nil. Costs to be included as part of MDBA.
Yanga National Park (SDLAM)	National Parks and Wildlife Service (NPWS)	WAMC to provide $0.3 million to NPWS over five years ($0.06 million per annum)
Yanco Creek Modernisation Project (SDLAM)	WaterNSW	WAMC to provide operations and maintenance (O&M) costs of $0.1 million per annum from the period of construction completion to 30 June 2030 (a total of $0.2 million). We have assumed this to mean $0.1 million for the two years 2028/29 and 2029/30.
Koondrook-Perricoota Flow Enabling Works (SDLAM)	WaterNSW	WAMC to provide operations and maintenance (O&M) costs of $0.03 million per annum from the period of construction completion to 30 June 2030 (a total of $0.12 million). We have assumed this to mean $0.03 million for the four years 2026/27 to 2029/30.
NBTK projects	WaterNSW	WAMC to provide operations and maintenance (O&M) costs of $0.08 million per annum from the period of construction completion to 30 June 2030 (a total of $0.32 million). We have assumed this to mean $0.08M for the four years 2026/27 to 2029/30.

The total of the costs provided to us from DCCEEW over the next regulatory period are $0.62 million for SDLAM projects and $0.32 million for NBTK – a total of $0.94 million. This compares with the DCCEEW proposal in the WAMC submission, and the detailed model, that provides for $3.035 million and $1.240 million for SDLAM and NBTK respectively, a total of $4.275 million over the future determination period (excluding overheads).

In setting an upper bound assessment of the efficient range, we recommend accepting the more recent and detailed cost information from DCCEEW as set out above, rather than the higher costs contained in the submission and associated model, and adjusting the original proposed expenditure accordingly.

7.8.5.2 Lower bound assessment

Scope adjustments

The Connectivity Expert Panel (2024) made certain recommendations about the management of environmental water, particularly the use of forecasting models to improve decision making. DCCEEW has accepted this recommendation and described the need for developing a forecasting model as reflecting the 'highest level of service to implement the recommendations, using forecasting models rather than static, derived flow targets'[96]. DCCEEW did not justify why the highest level of service was necessary, apart from stating 'once the modelling work is complete, the level of service to implement the plan will reflect the same level of service to deliver similar environmental water protection mechanisms, i.e. active management rules'[97].

[95] Response to RFI 33

[96] Refer to WAMC Submission, Attachment F, p78.

[97] WAMC Submission, Attachment F, p78.

At the same time, as noted by the Connectivity Expert Panel there have been previous recommendations to improve forecasting which have not been acted upon in the past, and there are other options to improve forecasting. For example, the report notes that 'WaterNSW has indicated that with more experience forecasting will improve'[98].

We recommend the efficient lower bound is set based on excluding this forecasting model as this expenditure can be deferred while accepting the continuation of the current level of service, noting the statement above that WaterNSW expected improvements to its ability to forecast regardless.

The ongoing costs for SDLAM priority projects include a payment to the National Parks and Wildlife Service for Yanga National Park projects. In setting a lower bound of efficient expenditure, we recommend that the costs of operations for Yanga National Park should reside with the National Parks and Wildlife Service and be secured through an annual budget process rather than via WAMC. We recommend this for administrative ease given the small amount ($60,000 per annum) involved. Keeping this asset and expenditure within the scope of this activity code will require ongoing administration, cost reporting and forecasting for a different agency which is not justified given the scale of impact on prices.

Considerations for the risks associated with this lower bound level of expenditure are set out below.

In relation to the forecasting model expenditure, the Connectivity Expert Panel Report stated that improving forecasting is urgent[99].

> *Forecasting ability for connectivity events down the Barwon-Darling with multi-valley contributions remains limited despite numerous previous recommendations that this forecasting be improved as a matter of urgency. Data and criteria used to make forecasting decisions are not transparent. Gauging that is needed for improving forecasting may not be adequate.*

However, as set out above, WaterNSW indicated they expect to improve their forecasting using existing methods.

Poor forecasting increases the likelihood of inequitable sharing of water resources during flood events and the failure to fully meet target environment outcomes.

There is a risk that the National Parks and Wildlife Service is unable to secure an additional budget and is therefore compromised in its operation and management of assets. This in turn may result in the target environmental flow outcomes of the project not being fully achieved.

Efficiency adjustments

We do not propose any lower bound efficiency adjustments.

7.8.6 Conclusions and recommendations

In recommending an upper bound, we have proposed limiting DCCEEW's future environmental water management and Snowy licence expenditure to the average of its actual expenditure over the years 2021/22 to 2023/24 and removing proposed expenditure for communications and engagement. We also recommend adopting the later estimate from DCCEEW for operating costs for SDLAM and NBTK projects, rather than the higher estimate provided in the original WAMC proposal and model.

We recommend setting a lower bound that excludes proposed expenditure on a forecasting model, and that the National Parks and Wildlife Service secures its own budget and funding relating to the Yanga National Park SDLAM project.

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[98] Connectivity Expert Panel Final Report (2024). P92.

[99] Connectivity Expert Panel Final Report (2024). P92.

Table 7-55: Recommended range of efficient expenditure – W05-03 (Environmental water management) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Total proposed operating expenditure	**4,484**	**4,221**	**2,974**	**2,963**	**2,912**
Proposed operating expenditure (DCCEEW)	4,032	3,779	2,525	2,499	2,433
Scope adjustments (DCCEEW)	0	0	0	0	0
Efficiency adjustments (DCCEEW)	-2,089	-1,757	-1,619	-1,504	-1,430
Recommended upper bound efficient operating expenditure (DCCEEW)	*1,943*	*2,022*	*906*	*995*	*1,003*
Proposed operating expenditure (WaterNSW)	452	442	449	464	479
Scope adjustments (WaterNSW)	0	0	0	0	0
Efficiency adjustments (WaterNSW)	0	0	0	0	0
Recommended upper bound efficient operating expenditure (WaterNSW)	452	442	449	464	479
Total recommended upper bound efficient operating expenditure	**2,395**	**2,464**	**1,355**	**1,459**	**1,482**
Scope adjustments (DCCEEW)	-1,247	-1,215	-60	-60	-60
Efficiency adjustments (DCCEEW)	0	0	0	0	0
Recommended lower bound efficient operating expenditure (DCCEEW)	*696*	*807*	*846*	*935*	*943*
Scope adjustments (WaterNSW)	0	0	0	0	0
Efficiency adjustments (WaterNSW)	0	0	0	0	0
Recommended lower bound efficient expenditure (WaterNSW)	*452*	*442*	*449*	*464*	*479*
Total recommended lower bound efficient operating expenditure	**1,148**	**1,249**	**1,295**	**1,399**	**1,422**

7.9 W05-04 (Water plan performance assessment and evaluation)

7.9.1 Background

This activity involves the assessment, evaluation and review of water sharing plans and floodplain management plans. More specifically, the scope of work within W05-04 (Water plan performance assessment and evaluation) includes:

- Describing the measurement, evaluation and review (MER) activities to occur over the term of a plan by year two of each plan
- Collection and analysis of social, cultural, economic, aboriginal, environmental and water quality performance indicators
- Plan term evaluations by year 9 of each plan, to provide the departmental assessment of plan performance through evaluative findings to inform Natural Resources Commission (NRC) S43A reviews and recommendations for water sharing plan replacements, and S43 reviews of flood management plans
- Establishing and maintaining evaluation frameworks and methods for water sharing plans and flood management plans to support all MER activities to ensure an efficient, effective and relevant approach.
- Various reporting requirements set out in water sharing plans
- S10 review of works and activities DCCEEW.

The activity is carried out by DCCEEW and involves operating expenditure.

This activity has connections to various WAMC activities, in particular W06-01 (Water plan development (coastal)), W06-02 (Water plan development (inland)), W06-03 (Floodplain management plan development) and W05-01 (Systems operations and water availability management).

DCCEEW has proposed to transfer the risk assessment component for this activity W01-05 (Surface water ecological condition monitoring) for the future determination period. We agree with this proposal.

Figure 7-18 shows the expenditure for this activity in the current and future periods. For the current period both the 2021 Determination and actual expenditure are shown.

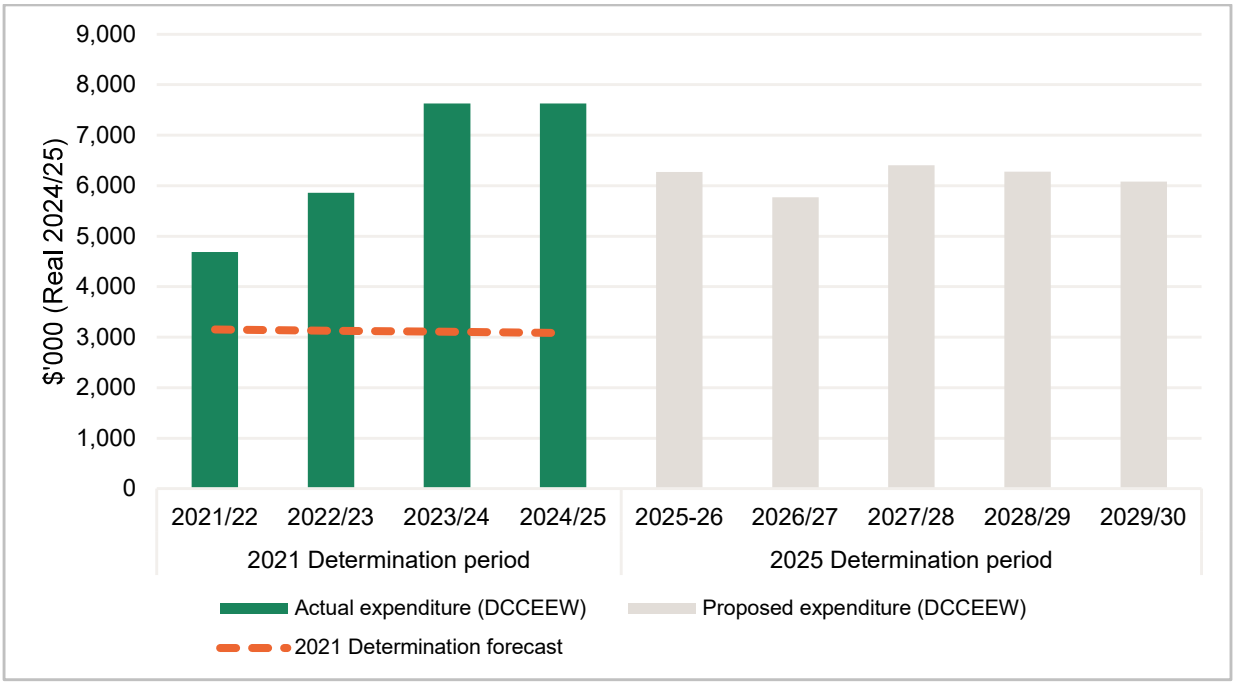

Figure 7-18: Current and future period expenditure for W05-04 (Water plan performance assessment and evaluation)

Table 7-56 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-56: Current period expenditure for W05-04 (Water plan performance assessment and evaluation) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	3,149	3,127	3,105	3,083	**12,464**	**3,116**
Actual expenditure (DCCEEW)	4,685	5,861	7,631	7,631	**25,808**	**6,452**
Variance	1,536	2,734	4,526	4,548	**13,344**	**3,336**

Table 7-57 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-57: Future period expenditure for W05-04 (Water plan performance assessment and evaluation) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	6,269	5,770	6,408	6,277	6,079	**30,803**	**6,161**

The actual expenditure in the current determination period averages $6,452,000 per year. This is $3,336,000 per year (107%) more than allowed for in the 2021 Determination forecast, which averaged $3,116,000 per year.

The proposed expenditure for the 2025 Determination period averages $6,161,000 per year. This is $3,045,000 per year (98%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $291,000 per year (5%) lower than the actual annual expenditure incurred in the current period.

7.9.2 Drivers for expenditure

This activity is necessary to meet DCCEEW's obligations under the Water Management Act 2000, in particular to comply with the requirement for plans to include performance indicators to measure the success of strategies to meet objectives. The activity also generates evidence to the Natural Resources Commission (NRC) about the actual performance of plans, as part of the NRC's statutory functions to carry out water sharing plan reviews and audits. The NSW Water Strategy also requires DCCEEW to undertake monitoring and research into performance indicators under Priority 3 of that strategy.

It is also expected that the reporting on monitoring and evaluation of water sharing plans will be a requirement as part of assessing compliance with the Basin Plan.

7.9.3 Performance in the current period

DCCEEW reported achieving all output measures and performance indicators, including requirements for water sharing plan evaluations into the scope of monitoring programs.

7.9.4 Review of current period expenditure

As set out above, actual expenditure has been well above the forecast set in the 2021 Determination. DCCEEW explained the reasons for this higher expenditure, which included work that was not anticipated at the time of the 2021 Determination[100]:

- The development of methods to evaluate environmental, social and economic performance indicators, along with related monitoring and evaluation programs and products (e.g. for water quality)
- Responding to a S10 review of DCCEEW that was not foreseen at the time of the 2021 Determination
- A S43 floodplain management plan review for Barwon Darling.

DCCEEW also noted that the resourcing and cost required to respond to water sharing plan evaluations over the period was higher than expected[101].

7.9.5 Review of future period expenditure

DCCEEW has proposed future period expenditure that is less than actual expenditure over the current determination period, but still higher than the forecast set in the 2021 Determination.

7.9.5.1 Upper bound assessment

Scope adjustments

We acknowledge there is a growing requirement to improve the quality and frequency of reporting and evaluating plan performance which drove higher expenditure over the current determination period. For example, DCCEEW has advised that additional performance and evaluation measures have recently been included, including:

[100] WAMC pricing submission, Attachment F and response to RFI 68.

[101] Response to RFI 68.

- An additional objective to maintain, and, where possible, improve water quality within target ranges for the water sources to support water-dependent ecosystems and social, cultural and economic values
- By 31 December 2026, the Minister must publish the monitoring, evaluation and reporting plan for a water sharing plan that links to the objectives, strategies and performance indicators of that plan
- By 31 December 2025 and annually thereafter, the Minister must publicly report on implementation of the water sharing plan, including on progress against the monitoring, evaluation and reporting plan
- The Minister must publicly report in year 9 of a water sharing plan on the results of the monitoring and evaluation undertaken according to the above plan.

DCCEEW has set out the activities and timing relating to water sharing plan performance and assessment over the 10-year life of a plan:

- Develop MER Plan (by year two)
- Collection and analysis of plan performance indicators as set out in the MER Plan (ongoing)
- Contribution to annual plan implementation reporting
- Evaluation of plan outcomes (year nine)
- Contribution to and progress tracking for NRC reviews.

DCCEEW has identified the load of water sharing plans requiring these various activities over the future determination period. We also note that more water sharing plans require review or audit by the NRC over the future determination period compared to the current period.

DCCEEW also noted it would need to conduct a similar scope for floodplain management plans.

We are satisfied that the scope of work for evaluation and reporting has increased significantly since the 2021 Determination. This scope aligns with DCCEEW's obligations and the schedule of plan evaluations, and we do not recommend any scope adjustments.

Efficiency adjustments

DCCEEW delivers this activity with a mix of in-house staff and outsourced services. We consider this to be an appropriate mix given the workload will vary between years (with different plan evaluation timings) and the need for specialist resources (e.g. environment, social, indigenous and economic) to advise and assist with evaluation and performance.

DCCEEW submitted that the costs of implementing improved evaluation and performance reporting will flow into the future determination period and be ongoing. We agree that these costs, particularly for evaluating ecological plan performance, may be significant.

DCCEEW noted efficiencies are expected with improved governance processes, clear understanding of interagency roles and responsibilities and following the establishment of the evaluation framework and methods. DCCEEW also noted the opportunity for technology-driven efficiencies, including from semi-automation of data extraction. DCCEEW also has developed a prioritisation tool to guide the MER program and effort across different plan evaluations.

While we cannot see evidence of these efficiencies in the proposed expenditure for the future determination period, we are satisfied that the mix of resourcing (inhouse-external) is appropriate, and the overall level of expenditure proposed is suitably lower than the actual expenditure for the current determination period for what has been a significant growth in requirement over recent years.

We also note the new and additional requirements for W05-04 (Water plan performance assessment and evaluation) since the timing of WAMC making its submission, including in relation to water quality and annual reporting (referenced above). DCCEEW will need to meet these new requirements within its proposed expenditure. We also note that further requirements may emerge, consistent with recent years, which will further challenge DCCEEW in undertaking W05-04 (Water plan performance assessment and evaluation) within the proposed expenditure over the future determination period.

Nonetheless we would expect DCCEEW should start to harness the efficiencies arising from the opportunities it has identified above. We therefore recommend a continuing efficiency adjustment is appropriate, and propose to set this at 3% per annum, the same rate as offered by DCCEEW's WAMC peer, NRAR.

7.9.5.2 Lower bound assessment

Scope adjustments

We have not identified any scope adjustments in our lower bound assessment.

Efficiency adjustments

We have not identified any scope adjustments in our lower bound assessment.

Potential reform opportunities and other observations

DCCEEW has 58 water sharing plans across coastal and inland systems:

- 16 groundwater plans
- 17 combined groundwater and unregulated surface water plans
- 11 regulated surface water plans
- 12 unregulated surface water plans
- 2 plans that are a consolidation of groundwater, regulated and unregulated surface water, and groundwater.

We discuss in detail opportunities to consolidate water sharing plans as part of our assessment of W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)). Doing so would also reduce the plan evaluation task to some extent. For example, combining plans would also provide an opportunity to consolidate performance indicators and reporting through measuring performance at a larger geographic scale. However, the opportunity to consolidate or combine plans is administratively difficult to achieve and would require consent outside of WAMC's direct control. Moreover, the benefits are difficult to estimate without detailed analysis and an understanding of how performance measures could be aggregated or simplified, and the corresponding reductions to cost.

Hence, we have not proposed specific adjustments but recommend DCCEEW reports on measures taken to consolidate plans and create economies of scale for this and related activities. This is discussed in more detail in our review of W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)).

7.9.6 Conclusions and recommendations

The requirements upon DCCEEW to undertake this activity are extensive and only being fully understood with the completion and review of water sharing and floodplain management plans. There are also more water sharing plan reviews and audits scheduled for the future determination period than the current period, increasing workload and cost.

We have accepted the scope of work proposed by DCCEEW and have observed this activity has now largely reached a steady state. We have recommended a continuing efficiency adjustment of 3% per annum, consistent with that offered by NRAR. We did not find any lower bound adjustments. Table 7-58 summarises our recommended expenditure.

Table 7-58: Recommended range of efficient expenditure – W05-04 (Water plan performance assessment and evaluation) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	6,269	5,770	6,408	6,277	6,079
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	-173	-360	-538	-704
Recommended upper bound efficient operating expenditure	**6,269**	**5,597**	**6,048**	**5,739**	**5,375**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**6,269**	**5,597**	**6,048**	**5,739**	**5,375**

7.10 W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland))

7.10.1 Background

Water plan development in coastal NSW (W06-01 (Water plan development (coastal))) involves the development, review, amendment, and extension or replacement of water management plans, and the consultation activities associated with developing these plans for the coastal water sources.

For inland NSW (W06-02 (Water plan development (inland))), this activity involves the development, review, amendment, and extension or replacement of water management plans; the development of additional planning instruments to comply with the Commonwealth Water Act 2007; and the consultation activities associated with developing these plans for the inland water sources.

DCCEEW undertakes the work needed to replace these plans within statutory timeframes under the Water Management Act 2000. A range of other activities provide input to plan development, including W04-01 (Surface water modelling), W04-03 (Water resource accounting), W05-03 (Environmental water management) and W05-04 (Water plan performance assessment and evaluation).

The NRC undertakes periodic audits and reviews of those plans. These activities include some of the costs of DCCEEW participating in these audits and reviews. Other activities, including W05-04 (Water plan performance assessment and evaluation), also include expenditure relating to participating in these NRC audit and review processes.

These water sharing plans set the rules for how water is shared between the environment and other water users. They are foundational to effective water planning and management in NSW.

DCCEEW has developed water sharing plans to cover all surface water and groundwater sources in NSW. There are currently 58 water sharing plans across the state, of which 26 are coastal and 32 are inland.

The nature of the work and outputs for both coastal and inland plans is largely the same, and we have decided to review both activities together to ensure a consistent approach.

Expenditure in these activities is entirely operational and undertaken by DCCEEW alone.

7.10.1.1 W06-01 (Water plan development (coastal))

Figure 7-19 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

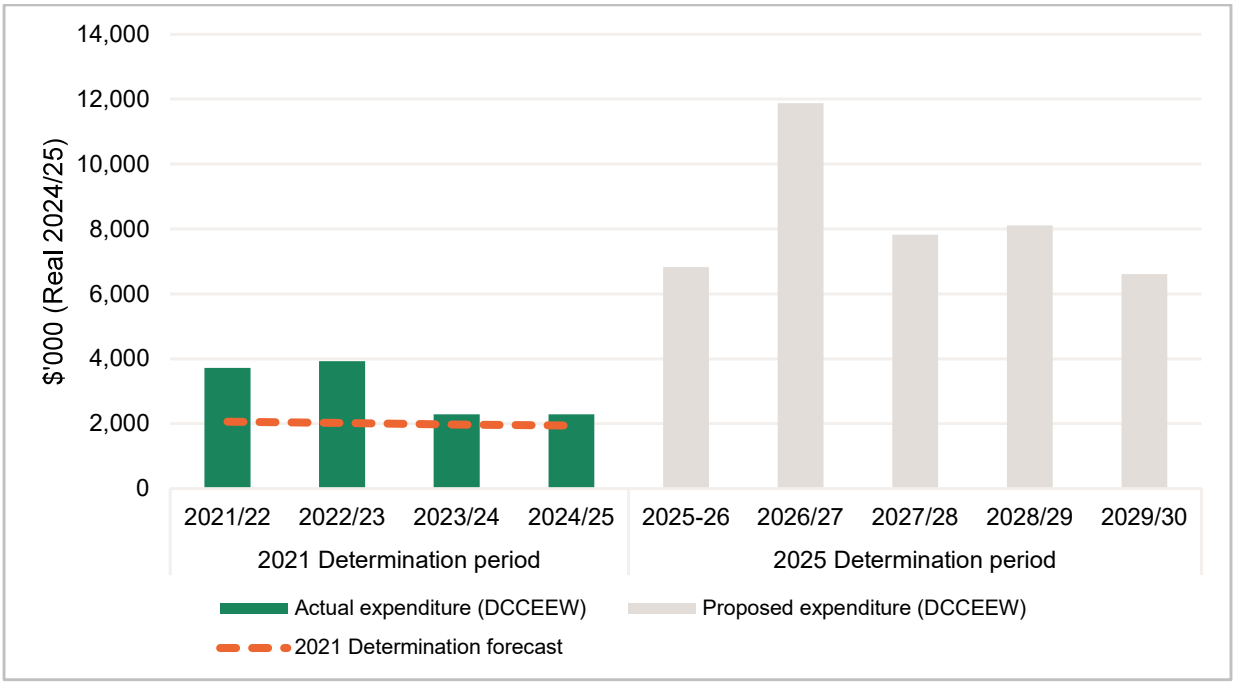

Figure 7-19: Current and future period expenditure for W06-01 (Water plan development (coastal))

Table 7-59 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-59: Current period expenditure for W06-01 (Water plan development (coastal)) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	2,064	2,021	1,979	1,938	**8,002**	**2,001**
Actual expenditure (DCCEEW)	3,724	3,928	2,286	2,286	**12,224**	**3,056**
Variance	1,660	1,907	307	348	**4,222**	**1,056**

Table 7-60 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-60: Future period expenditure for W06-01 (Water plan development (coastal)) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	6,824	11,877	7,820	8,105	6,606	**41,232**	**8,246**

The actual expenditure in the current determination period averages $3,056,000 per year. This is $1,056,000 per year (53%) more than allowed for in the 2021 Determination forecast, which averaged $2,001,000 per year.

The proposed expenditure for the 2025 Determination period averages $8,246,000 per year. This is $6,246,000 per year (312%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $5,190,000 per year (170%) higher than the actual annual expenditure incurred in the current period.

7.10.1.2 W06-02 (Water plan development (inland))

Figure 7-20 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

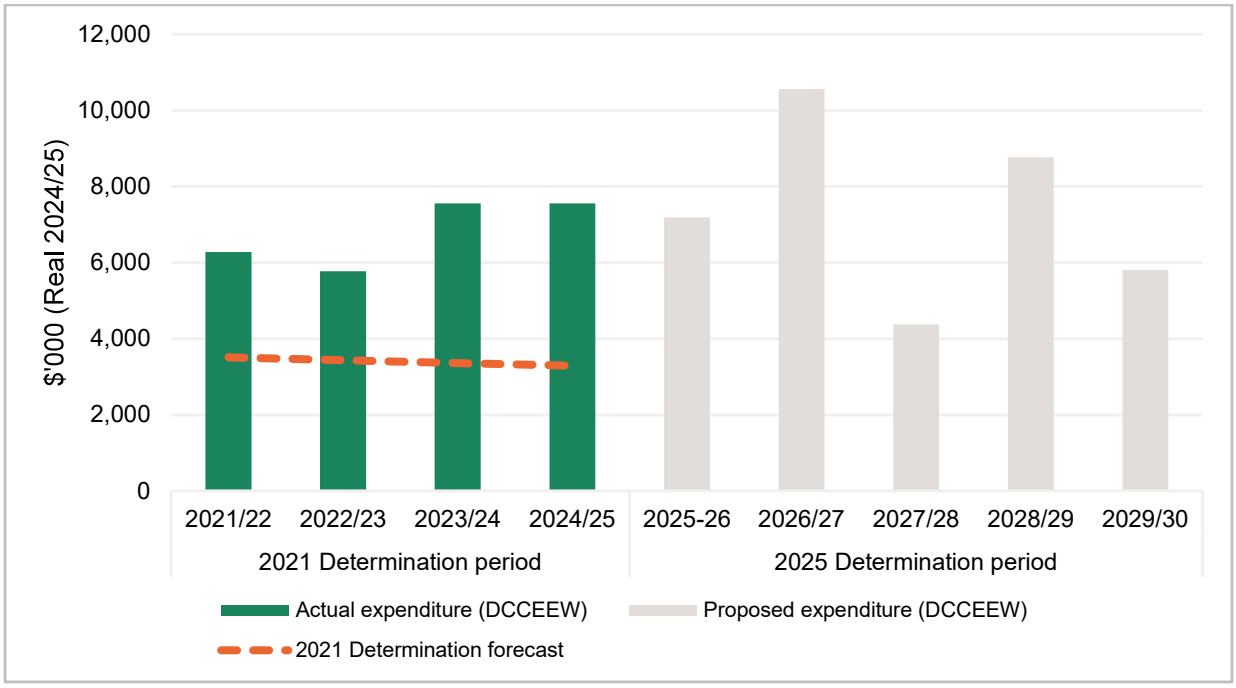

Figure 7-20: Current and future period expenditure for W06-02 (Water plan development (inland))

Table 7-61 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-61: Current period expenditure for W06-02 (Water plan development (inland)) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	3,506	3,433	3,361	3,291	**13,591**	**3,398**
Actual expenditure (DCCEEW)	6,279	5,773	7,554	7,554	**27,160**	**6,790**
Variance	2,773	2,340	4,193	4,263	**13,569**	**3,392**

Table 7-62 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-62: Future period expenditure for W06-02 (Water plan development (inland)) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	7,184	10,558	4,380	8,772	5,805	**36,699**	**7,340**

The actual expenditure in the current determination period averages $6,790,000 per year. This is $3,392,000 per year (100%) more than allowed for in the 2021 Determination forecast, which averaged $3,398,000 per year.

The proposed expenditure for the 2025 Determination period averages $7,340,000 per year. This is $3,942,000 per year (116%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $550,000 per year (8%) higher than the actual annual expenditure incurred in the current period.

7.10.2 Drivers for expenditure

The development of water sharing plans is required under the Water Management Act 2000: Chapter 2, Part 3 Management plans, Division 1, Division 2 Water sharing, Division 3 Water use, and Part 4 Minister's plans for the making of management plans for water sharing.

The drivers of the scope, cost and timing for water sharing plans are influenced by a range of matters including:

- Compliance with the Water Management Act 2000
- State water strategies, including the NSW Water Strategy, the NSW Groundwater Strategy and the Aboriginal Water Strategy
- Regional water strategies
- Stakeholder views and customer expectations.

7.10.3 Performance in the current period

For coastal plans, W06-01 (Water plan development (coastal)), DCCEEW reported it had met 92% (9/11) of its output measures and performance indicators to 30 June 2024, and it expected all measures and performance indicators would be met by 30 June 2025. For inland water sharing plans, W06-02 (Water plan development (inland)), DCCEEW reported it had met 21% (3/14) output measures and performance indicators by 30 June 2024, and it expected all measures and performance indicators would be met by 30 June 2025.

7.10.4 Review of current period expenditure

Actual expenditure in the current determination period was well above the forecast in the 2021 Determination for both coastal and inland plans.

DCCEEW provided the following explanation in its submission[102]:

> *The primary reason why actual expenditure has exceeded IPART's allowance for this activity is because the allowance determined for the current period did not cover the entire workload involved in developing and maintaining coastal [and inland] WSPs. For example IPART's allowance covered costs for plan extension, replacement and amendment but it did not cover contribution to the statutory review and audit of plans nor work on priority projects required from audit and review recommendations to the minister, to then support plan replacement and implementation.*

We have concluded that the actual expenditure for the current determination period is likely to reflect the full cost of compliance with the Act in undertaking plan extensions, replacements and amendments and also participating in reviews and audits and implementing outcomes. Moreover, these costs are now more fully 'revealed' or understood as a result of the plan reviews and replacements undertaken over the current period.

[102] WAMC submission to IPART, Attachment F, p94.

7.10.5 Review of future period expenditure

As set out above, DCCEEW proposes a significant increase from actual expenditure in the current determination period, and well above the forecast from the 2021 Determination. In its submission, DCCEEW explained the reason for the increase as follows[103]:

> *This is due to increased resources required to address the cyclical nature of water planning, with a high number of coastal plans due for review, replacement, extension or amendment in the coming years. The increase in forecast expenditure represents a proportional increase in the number of staff required to deliver the services. It is also related to improvements in how we estimate costs along with increased input to First Nations engagement, implementation of state strategies and several priority projects to deliver contemporary plans.*

DCCEEW developed a bottom-up build of resourcing and cost required for different plan types; however, later iterations of their proposal (prior to submission) resulted in significant top-down reductions to the proposed expenditure. In doing so, DCCEEW advised[104] that it intends to seek funding for certain activities outside of the WAMC pricing process, in particular:

- W06-01 (Water plan development (coastal)) – approximately $0.3 million government funding to subsidise peak Water Sharing Plan (WSP) workload, and an additional $2.1 million for implementation of the Aboriginal Water Program and targeted First Nations engagement
- W06-02 (Water plan development (inland)) – approximately $1.7 million government funding for Water Resource Planning and to subsidise peak Water Sharing Plan (WSP) workload, and an additional $2.4 million for implementation of the Aboriginal Water Program and targeted First Nations engagement.

We have not considered nor included this cost or funding into the proposed expenditure but have noted elsewhere in this report our concerns with the impacts of this approach on the user share framework.

7.10.5.1 Upper bound assessment

Scope adjustments

DCCEEW has determined a scope of work for the next regulatory period that reflects the statutory timeframes for plan replacement, extension, review and audit. We are satisfied with this scope for determining the upper bound of efficient expenditure. We have considered a lesser scope when considering the lower bound.

DCCEEW has included a contingency allowance for 2.5 amendments per year, for each of W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)). DCCEEW has based this contingency on its historical observations of around five unplanned amendments per year. We note that over the current four-year period there have been 48 amendments. We find the proposed contingency is reasonable and acknowledge there is some uncertainty about the need for plan amendments over a five-year period.

[103] WAMC submission, Attachment F. p89.

[104] Response to RFI 172.

Efficiency adjustments

We are concerned that the change in DCCEEW's proposed outputs between periods is inconsistent with the increase from actual to proposed expenditure. The tables below compare the outputs over each period, noting that the current period is for four years, and the next period is five years.

Table 7-63: DCCEEW proposed outputs: current and next period for W06-01 (Water plan development (coastal))

Output	Current period	Next period
Replacements	11	14
Amendments	16	16
Extensions	0	15
Reviews	2	15
Audits	3	10
Total	**32**	**70**

Table 7-64: DCCEEW proposed outputs: current and next period for W06-02 (Water plan development (inland))

Output	Current period	Next period
Replacements	14	18
Amendments	32	13
Extensions	12	6
Reviews	12	18
Audits	18	2
Total	**88**	**57**

The above tables suggest a large increase in the total number of outputs for W06-01 (Water plan development (coastal)) and a decrease in the total outputs for W06-02 (Water plan development (inland)).

Plan replacements involve the most significant effort among all the above outputs, followed by plan amendments. When considering both inland and coastal Water Sharing Plans together, DCCEEW is forecasting a 28% increase in the number of plans being replaced and a 40% reduction to the number of Water Sharing Plans requiring amendment.

Any comparison of output between periods must take account of the different level of effort/resourcing required for each output. For example, while there is a significant reduction in total outputs for W06-02 (Water plan development (inland)), more plan replacements are proposed – these replacements involve a far higher level of effort than plan extensions or amendments. To compare the total output between periods, we need to apply a weighting to plan replacements, amendments, extensions, reviews and audits.

DCCEEW provided us with an estimate of the cost per output for its Water Planning Division[105]:

- $1.389 million for replacements
- $0.294 million for amendments
- $0.013 million for extensions

[105] WAMC provided a range, in $22/23. We have selected the mid-point and adjusted to $24/25.

- $0.080 million for reviews[106]
- $0.080 million for audits[107].

DCCEEW advised these unit costs could not be reconciled against the proposed expenditure for the next period, for reasons including the costs did not include overheads or the costs of partner teams involved in those activities[108]. However, we can use these unit costs per output to assess the relative effort or cost for different types of outputs.

In response to our draft report, DCCEEW commented that the use of water planning team costs to weight outputs was flawed because '*it does not account for the other components of the activity .... including priority projects, strategy requirements, BAU, and importantly all the support services (partner costs) for carrying out the statutory planning function that make up some 50% of the proposed costs.'*

We acknowledge that a better, more accurate approach to weight outputs would be to apply the full costs (including partner team contributions) for each output, however we do not have this information from DCCEEW. Furthermore, the above values used to assess relative effort between outputs to arrive at a common unit measure out total output, not total costs. We are interested in the relativities between outputs and consider the water planning team costs per output to be a reasonable approach.

Using the above to weight outputs suggests that plan replacement would be around four to five times the level of effort compared to an amendment, and 17 times the effort of a review or audit[109]. This in turn allows us to develop a weighted total output for each period and compare periods on a like-for-like basis.

In doing so we found a 29% increase in weighted output for W06-01 (Water plan development (coastal)) and a 3% reduction in weighted output for W06-02 (Water plan development (inland)) between the current and future determination periods. However, we found the increase in expenditure was far higher than the increase in output between periods, as set out below.

Table 7-65: Comparison of weighted output and expenditure change between regulatory periods

Item	Weighted change in output between periods (%)	Change in expenditure between periods (%)
W06-01 (Water plan development (coastal))	29	237
W06-02 (Water plan development (inland))	-3	35

This change could be explained by additional cost pressures on the plan development activity in the next period. In its pricing submission, DCCEEW submitted increases in costs related to:

- The high number of coastal plans due for replacement
- Increased First Nations engagement
- Implementation of state strategies
- Several priority projects to deliver contemporary plans

[106] The total cost for reviews and audits will be far higher – as advised by WAMC (RFI 40) there are significant costs outside of W06-01 and W06-02 for participating in reviews and audits, including W05-04. Given our focus here is on the water sharing plan development codes, using these amounts provided for Water Planning Division appears to be a reasonable way to assess relative effort within those codes.

[107] Refer above.

[108] Response to RFI 40.

[109] Acknowledging the total cost for participating in audit and review will be higher, and these total costs sit across several activity codes including W05-04. Our focus here is on the relative costs within these plan development codes.

- Implications of climate change on regulated river systems being expanded to cover all water sources.

The high number of coastal plans due for replacement is accounted for in assessment of weighted output between periods and contributes to the 29% increase and so has been accounted for in the table above.

In relation to First Nations engagement, DCCEEW has advised that it intends to seek additional funding outside the price review for the implementation of the Aboriginal Water Program ($4.5 million across both W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland))). Hence the cost of this engagement does not seem to be a driver of the increase in costs for plan development in the next regulatory period.

In relation to state strategies, we note that the NSW Water Strategy and NSW Groundwater Strategy have been in existence since 2021 and 2022 respectively, and we would expect their requirements to have been largely reflected in the scope and cost of those plans completed in the current period. However, in response to our draft report, DCCEEW commented that many actions will be delivered over the future regulatory period and beyond. DCCEEW did not provide a comparison between the strategy implementation activities and costs impacting on W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) in the current versus future determination period, and in the absence of this information it is difficult to make a corresponding allowance.

In relation to priority projects to deliver contemporary plans, costs will have been incurred across both periods, as noted in DCCEEW's submission[110].

In relation to climate change, DCCEEW has confirmed that much of the initial work to develop climate datasets has been undertaken, but gaps exist in coastal catchments[111]. DCCEEW saw an ongoing need to update the datasets based on new or improved science. DCCEEW also claimed there was an ongoing cost in applying methods to embed climate science into all statutory responsibilities including setting minimum inflows and extraction limits.

We would also expect the cost of the climate program to already be in the actual costs for the current period to a large extent, and hence the costs of this program are not new. Moreover, the amount of the climate program proposed expenditure for W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) is relatively minor (1.5% of total proposed direct costs for both activities for 2025/26 and 2026/27) and hence does not explain the significant increase.

In response to our draft report, DCCEEW commented that our assumption that expenditure in the current period already included climate program costs was incorrect, and that DCCEEW was required to undertake new work on policy positions to be able to embed climate change in statutory planning instruments, which had not yet occurred. DCCEEW commented that the '*relative low cost in this proposal is due to knowledge level at the time that has since expanded and understanding of the work program has grown*.' DCCEEW concluded that it was therefore important to ensure that expenditure included is recognised in the final determination as it is likely to be more than proposed. In the absence of more specific information, we have not adopted any changes as a result of these comments, noting that the proposed costs are a relatively minor component of total costs.

In our draft report, we proposed to accept the actual expenditure over the current period as a reasonable representation of efficient delivery of the outputs and activities associated with W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)).

[110] For example, in Attachment F of that submission, DCCEEW notes there were costs to work on priority projects required from audit and review recommendations to the Minister (P94).

[111] DCCEEW response to RFI 133.

In response to our draft report, DCCEEW commented that the actual expenditure over the current period is *'an inadequate baseline for setting future efficient expenditure as it does not include interjurisdictional commitments, priority projects, strategy projects or partner team costs.*'

We have addressed comments relating to priority projects and strategy projects above. DCCEEW did not provide any specific information about interjurisdictional commitments and how the costs for the future determination period compare to the actual costs incurred over the current determination period.

The partner team costs for the future period are material, as noted by DCCEEW (around 50% of total costs). DCCEEW's comments on our draft report suggest that the actual expenditure it has reported over the current determination period, outlined in its submission, did not include partner team costs, implying only costs for the water planning team were reported as actuals.

In its submission, DCCEEW did not reference partner team costs when explaining the difference between actual and proposed expenditure in its submission, but rather provided other reasons as set out above.

If there are material and justifiable differences in the composition of actual costs reported by DCCEEW to the proposed costs, then adopting actual costs as a baseline could indeed be flawed. However, in responding to our draft report DCCEEW has not provide evidence that actual, reported costs did not include partner costs, nor information about where those costs would have been reported and their value. In the absence of this evidence and information, we have retained our approach and recommendations.

Accordingly, we have used the actual expenditure[112] over the current determination period as the basis to scale, up or down, the forecast for the future determination period based on the forecast weighted output. That is, an increase in weighted output for W06-01 (Water plan development (coastal)) of 29% leads to a corresponding 29% increase to actual expenditure over the current determination period, to arrive at the forecast expenditure for W06-01 (Water plan development (coastal)). The reduction in weighted output for W06-02 (Water plan development (inland)) is 3%, and we set the forecast expenditure for W06-02 (Water plan development (inland)) at 3% less (97%) of actual expenditure for the current determination period.

This results in significant reductions to DCCEEW's proposed expenditure for W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) as we found the proposed increases in expenditure were out of proportion to the expenditure and output revealed in the current determination period.

For W06-01 (Water plan development (coastal)) we recommend an upper bound forecast that is 38% of the DCCEEW forecast. However, our recommended forecast represents an increase of 29% to actual expenditure over the 2021 Determination period, which is consistent with the increase in weighted output between periods.

For W06-02 (Water plan development (inland)), we recommend an upper bound forecast that is 72% of the DCCEEW forecast. Our recommended upper bound is 3% below the 2021 Determination period actual expenditure, which is consistent with the decrease in weighted output between periods.

[112] In responding to our draft report, DCCEEW commented that using the IPART 2021 efficient expenditure as the baseline was inappropriate, for a range of reasons. We can confirm that we have not used the IPART 2021 efficient expenditure but rather actual expenditure for the current determination period.

7.10.5.2 Lower bound assessment

Scope adjustments

In determining the lower bound we have focused on the opportunity to defer plan replacements. We also comment on the broader structural factors that may be creating embedded inefficiencies, but which are difficult to quantify.

The Water Management Act 2000 sets the timeframes for water sharing plans and their replacement. Two extensions are possible:

- Up to 10 years under S43A(1), or
- Up to two years under S43(6).

The key provisions for a 10-year extension are:

> *(1) The Minister may, on the recommendation of the Natural Resources Commission and by notice published in the Gazette before its expiry under section 43 or this section, extend a management plan that deals with water sharing for a further period of 10 years after the plan was due to expire.*
>
> *(2) More than one such extension of a management plan that deals with water sharing may be made.*
>
> *(3) Before deciding whether to extend a management plan that deals with water sharing or to make a new management plan, the Minister is to consider a report of the Natural Resources Commission that reviews (within the previous 5 years) the following—*
>
> > *(a) the extent to which the water sharing provisions have materially contributed to the achievement of, or the failure to achieve, environmental, social and economic outcomes,*
> >
> > *(b) whether changes to those provisions are warranted.*

The provisions for a two-year extension relate to providing additional time, if needed, to complete a replacement:

> *(6) If the Minister decides not to extend a management plan under this section, the Minister may, by notice published in the Gazette, extend the existing management plan until the commencement of a replacement management plan or until the second anniversary of the date the plan would otherwise have expired, whichever first occurs.*

We understand that a 10-year replacement under S43A(1) has never occurred. DCCEEW has assumed that no water sharing plans will be granted a 10-year extension in their forecast for the next period.

The conditions required for the NRC to recommend a 10-year plan extension do not appear to yet exist. For example, we note comments from a 2024 consultant report[115] made available through the RFI process that commented on the shortcomings in trying to determine whether a plan should be extended or not due to a lack of clear, approved outcomes. This lack of clear outcomes to measure performance may have made the NRC hesitant to recommend plans for 10-year extension, including for those plans due to expire over the future regulatory period.

The consultant, who considered more efficient 'light touch' approaches to plan replacement (including extensions) concluded that:[116]

> *… it is not possible to take a light touch approach to low and medium effort WSPs that maintains or improves confidence and transparency of water planning decisions and their processes without a further and significant upfront investment being made in the policy and processes applying to all WSPs (irrespective of their characterisation).*

Hence despite the legislation being in place for over 20 years, it appears DCCEEW is not currently in a position to successfully advocate for extensions to water sharing plans, nor for the Natural Resources Commission (NRC) to recommend such extensions.

We also acknowledge that DCCEEW does not control decision making about extensions nor the process under S43A(1). However, we would expect that an efficient business would seek to ensure conditions were in place that enable greater flexibility in water sharing plan replacements, including extensions, and to achieve such conditions within reasonable timeframes (noting the significant length of time the legislation has been in place). We are therefore concerned that the proposed expenditure for W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) is greater than would have been the case if the option to extend certain plans or take other 'light touch' measures was available.

We have therefore considered a lower bound that reflects what might have been able to be achieved if DCCEEW had already created conditions that supported plan extensions leading into the future regulatory period.

DCCEEW has developed tools to support the categorisation of plan effort to manage planning requirements and associated workloads. In its submission DCCEEW states it has removed the costs of inefficient peaks in the process and will make efficiency savings through introducing risk-based planning. Through the RFI process DCCEEW clarified that the prioritisation of Water Sharing Plans (WSP) was not applied at an individual plan level during the build-up of forecast expenditure but was applied as part of the overall top-down adjustments for W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)).

The categorisation of plan effort was based on an assessment of whether there was evidence of material hydrological stress in the plan area as the first gateway criterion. If not, then the second criterion was whether there was evidence of significant environmental values that must be considered as part of revisiting water sharing arrangements. The DCCEEW categorisation framework is displayed in Figure 7-21[113].

[113] Response to RFI 37.

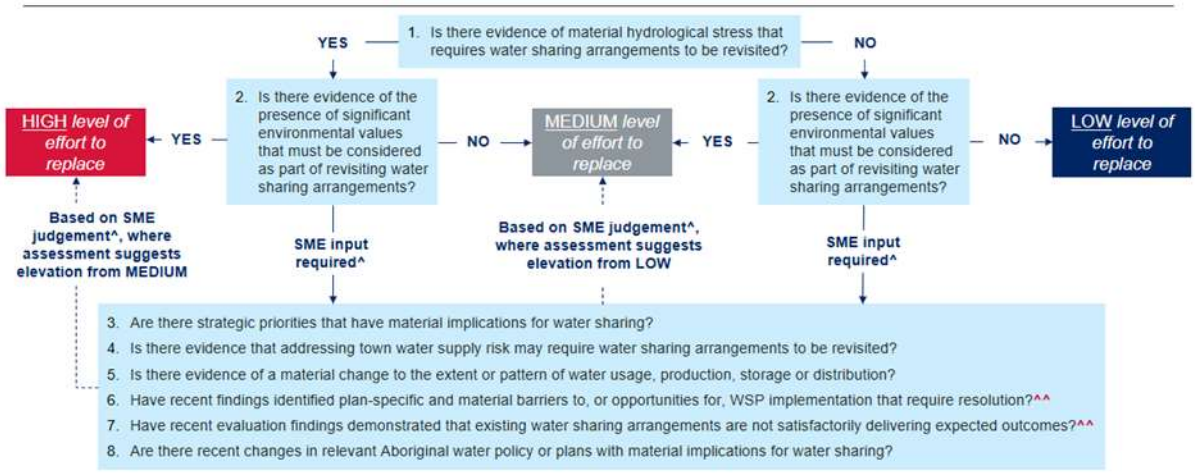

Figure 7-21: DCCEEW categorisation framework of WSP effort

In our view this tool is a useful way to estimate what plans could possibly have been extended rather than replaced over the future determination period, if DCCEEW had created the right conditions for extensions to be considered by the NRC[114] and the Minister under the Act.

If these conditions were in place, then we would expect that plans classified as 'low effort' could have been considered for plan extension rather than having to be replaced.

The schedule for coastal plans is summarised below, along with their assigned effort level. This shows that only 6 plans out of the 14 proposed for the next regulatory period are medium or high effort.

Table 7-66: Coastal water sharing plans to be replaced 2025/26 to 2029/30

Coastal plans proposed for replacement (W06-01)	Effort
Macleay Unregulated and Alluvial WSP	Medium
Clarence River Unregulated and Alluvial WSP	Low
Hunter Regulated River WSP	High
North Coast Coastal Sands Groundwater WSP	Medium
North Coast fractured Rock & Porous Rock Groundwater WSP	Low
Brunswick Unregulated and Alluvial WSP	Low
Clyde River Unregulated and Alluvial WSP	Low
Deua River Unregulated and Alluvial WSP	Low
Nambucca Unregulated and Alluvial WSP	Medium
Snowy Genoa Unregulated and Alluvial WSP	Low
South Coast Groundwater WSP	Low
Tuross River Unregulated and Alluvial WSP	Medium
Hastings Unregulated and Alluvial WSP	Medium
Bellinger Unregulated and Alluvial WSP	Low

However, there is a far higher proportion of high and medium effort plans for inland plans in W06-02 (Water plan development (inland)).

[114] Indeed the consultant and DCCEEW have characterised this work in terms of risk as well as effort.

Table 7-67: Inland water sharing plans to be replaced 2025/26 to 2029/30

Inland plans proposed for replacement (W06-02)	Effort
Murrumbidgee Regulated River WSP	High
Lachlan Regulated River WSP	High
Murray Lower Darling Regulated River WSP	High
Macquarie Cudgegong Reg	High
Upper Namoi & Lower Namoi Reg WSP	High
Gwydir Reg WSP	High
NSW Murray Darling Basin Porous Rock WSP	Low
Darling Alluvial WSP	Low
Murray Alluvial WSP	High
Murrumbidgee Alluvial WSP	High
Lachlan Alluvial WSP	High
NSW Murray Darling Basin Fractured Rock WSP	Low
Macquarie Castlereagh GW WSP	High
NSW Great Artesian Basin Shallow GW WSP	Low
Namoi Alluvial WSP	High
Gwydir Alluvial WSP	High
NSW Border Rivers Alluvial WSP	Low
NSW Great artesian Basin GW WSP	Medium

In determining a lower bound, we recommend assuming the plans assigned a low effort rating might have been able to have been extended to after 2030 if conditions were in place that enabled plan extensions to be considered and recommended by the NRC and approved by the Minister. While these plans are likely to need to be replaced given the conditions for extension have not yet been achieved, we are concerned that costs for these replacements could have been avoided or deferred (as an extension might otherwise have been achieved).

For coastal water sharing plans, this results in a recommended scope of 6 water sharing plans compared to the DCCEEW proposal for 14: a reduction of 8 plans.

For inland Water Sharing Plans, this results in a scope of 13 water sharing plans compared to the DCCEEW proposal for 18: a reduction of 5 plans.

We acknowledge this is a hypothetical scenario, and in that scenario some of the extended plans would have required amendment over their longer term under S45 of the Water Management Act. DCCEEW's expenditure proposal is based on 16 amendments to coastal plans and 14 amendments to inland water plans including a contingency allowance for 2.5 amendments per year, for each of W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)).

We propose to expand the contingency allowance for plan amendments in recognition that long-term plan extensions will increase the likelihood of the need for unplanned amendments over the longer terms. We propose allowing one amendment per extended plan, or an additional 12 amendments, over the five-year period of the next determination period.

If we adjust the weighted output of W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) by removing low risk plan replacements and add more plan amendments as outlined above, the weighted output in the next period becomes:

- 86% of the current period weighted output for W06-01 (Water plan development (coastal))

- 80% of the current period weighted output for W06-02 (Water plan development (inland)).

This results in the following lower bound efficient expenditure:

- For W06-01 (Water plan development (coastal)), a recommended forecast expenditure that is 26% of the DCCEEW proposed expenditure over the period. This represents 86% of actual expenditure of the current determination period, consistent with the comparative weighted output.
- For W06-02 (Water plan development (inland)), a recommended forecast expenditure that is 59% of the DCCEEW proposed expenditure over the period. This represents 80% of actual expenditure over the current determination period, consistent with the comparative weighted output.

We have considered the risks of adopting this lower range expenditure.

Based on the information available to us, it is unlikely that the NRC would recommend extensions (and the Minister extensions) for the above low effort plans, as the conditions needed for this to occur do not yet exist. Hence DCCEEW is likely to have to replace low effort plans regardless. This may compromise its ability to complete the full program of water sharing plan replacements within statutory timeframes and/or the compromise the quality of water sharing plans replaced over the future determination period.

Efficiency adjustments

We have not recommended any efficiency adjustments for the lower bound efficient expenditure.

Potential reform opportunities and other observations

DCCEEW has 58 water sharing plans across coastal and inland systems:

- 16 groundwater plans
- 17 combined groundwater and unregulated surface water plans
- 11 regulated surface water plans
- 12 unregulated surface water plans
- 2 plans that are a consolidation of groundwater and regulated and unregulated surface water.

These plans are for discrete geographic areas. Only two areas have a consolidated plan that draws together all resource types (regulated, unregulated and groundwater). DCCEEW has also proposed to merge the Paterson and Hunter water sharing plans.

In some geographic areas, up to three different plans are developed which then need to be audited, reviewed and updated at different times.

These multiple processes (per area) will involve re-work or duplication in activities such as stakeholder engagement; the administration of plan making; evaluation, audit and review; plan replacement mobilisation and demobilisation; and potentially scientific or engineering effort.

The timings for the amendment or review of plans in a single area are different as they tend to have been completed at different times. Hence it now appears to be far more difficult to consolidate plans as they each have their own life and associated statutory timeframes.

During our review DCCEEW provided further detail about its approach to plan consolidations[115]:

> *The merge of Hunter and Paterson water sharing plans is being driven by the potential for better interaction of rules in the area. However, no savings are expected until the next plan replacement cycle, outside the next regulatory period.*
>
> *The Department already has a process to review and consider amalgamation of plan areas where possible. Adding more water sources within a plan area can be complex and/or with many stakeholder needs.*
>
> *The Department recently completed a project: "Categorisation for [water sharing plan] Replacements"; and there are further recommendations to give consideration to larger scale plan amalgamations. The project recommendations are currently under review and consideration by the Department, for implementation*.

These recommendations identified two options[116]:

- Clustering of water sharing plan replacements by geographic area, so that for example all plans in an area were replaced at the same time
- Merging medium or low effort water sharing plans in similar geographic areas so they become a single water sharing plan. The consultant identified one option that would see 16 plans merged into four, larger water sharing plans.

The consultant noted that dealing with plan replacements on a regional basis would allow for:

- Environmental, social and economic issues to be compared and considered on a regional/bioregional basis
- Improving transparency and confidence in water sharing plan processes and time and cost savings to deliver any changes
- Better consideration of connectivity between water source types be they unregulated river tributaries or distributaries and their associated regulated rivers, or connected groundwater sources, also improving transparency and confidence in water sharing plan processes and time and cost savings to deliver any changes required
- More efficient stakeholder engagement processes, and mitigation of consultation fatigue concerns of many stakeholders, leading to reduction in water sharing plan replacement resourcing demand, greater transparency and, where appropriate, consistency of approaches across a region.

The second option, merging water sharing plans, would have the benefits of plan clustering described above as well as:

- Delivering time and cost savings associated with the DCCEEW administrative effort required to support the delivery of plan replacements
- Distinct audit, review, public exhibition and approval processes related to the unmerged water sharing plans
- Presenting an opportunity to identify where standard approaches have not been consistently adopted in like for like contexts and ensure that any differences are appropriate.

[115] RFI 39.

[116] Response to RFI 39 - EMM Consulting (2024). Categorisation of Water Sharing Plan Replacements – Stage 2 Revised replacement approach options. Final Report. pp20-27

The consultant's high-level assessment of clustering the timing of reviews by area found the potential for 'medium' cost savings, while the cost savings from merging Water Sharing Plans were rated 'low'. We have interpreted this to mean the savings from merging were additional to the savings from clustering reviews. However it is difficult to quantify the potential savings from the information available, which would require a detailed review of processes and resources across all plan areas.

There are also structural and legislative constraints upon clustering or consolidating plans, as noted in the consultant's report. Nonetheless, we encourage DCCEEW to continue to explore these opportunities to streamline the plan remaking process. We also recommend that continuous improvement in streamlining plan replacement is included as an outcome measure for both W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)), where DCCEEW would report on progress on how it had progressed towards achieving the "light touch" opportunities for replacement.

7.10.6 Conclusions and recommendations

We found the need to make efficiency adjustments to both W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)) as the proposed expenditure was significantly above what we would expect for the proposed output when we compared to the actual expenditure and output from the current determination period. We recommend an upper bound level of efficient expenditure that better aligns to the cost-output achieved in the current determination period.

We recommend the lower bound be set on a reduced scope based on a scenario where some plans could have been extended rather than replaced if conditions existed that supported such decisions.

The tables below set out our recommended range of efficient expenditure.

Table 7-68: Recommended range of efficient expenditure – W06-01 (Water plan development (coastal)) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	6,824	11,877	7,820	8,105	6,606
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-4,208	-7,324	-4,823	-4,998	-4,074
Recommended upper bound efficient operating expenditure	**2,616**	**4,553**	**2,997**	**3,107**	**2,532**
Scope adjustments	-870	-1,514	-997	-1,033	-842
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**1,746**	**3,039**	**2,001**	**2,074**	**1,690**

Table 7-69: Recommended range of efficient expenditure – W06-02 (Water plan development (inland)) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	7,184	10,558	4,380	8,772	5,805
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-2,021	-2,970	-1,232	-2,468	-1,633
Recommended upper bound efficient operating expenditure	**5,163**	**7,588**	**3,148**	**6,304**	**4,172**
Scope adjustments	-927	-1,362	-565	-1,132	-749
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**4,236**	**6,226**	**2,583**	**5,173**	**3,423**

We recommend IPART set an output or performance measure in relation to the consolidation or aggregation of plans, and progress against achieving options for “light touch” plan replacements generally.

7.11 W06-03 (Floodplain management plan development)

This activity has been discussed in detail in Section 4, where we recommended it falls outside the scope of a WAMC monopoly activity and is better funded through normal State Government budget processes. Nonetheless we have undertaken a review of the proposed expenditure in the event IPART decides to retain this activity within scope.

7.11.1 Background

This activity involves the development, audit, review, amendment or replacement of rural floodplain management plans. It is led by DCCEEW.

The activity involves operating costs only and does not have dependencies with other WAMC activities[117]. Ecological and hydraulic reviews against the objectives of the Water Management Act 2000 are undertaken as part of W06-03 (Floodplain management plan development) in addition to work undertaken in W05-04 (Water plan performance assessment and evaluation).

The work includes continual update of hydraulic models that underpin the floodplain management plans to ensure compliance with cumulative impact rules and provision of up-to-date data to WaterNSW for the assessment of applications for flood work approvals.

The NRC carries out audits of floodplain management plan, which are supported by expenditure also in W05-04 (Water plan performance assessment and evaluation).

Figure 7-22 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

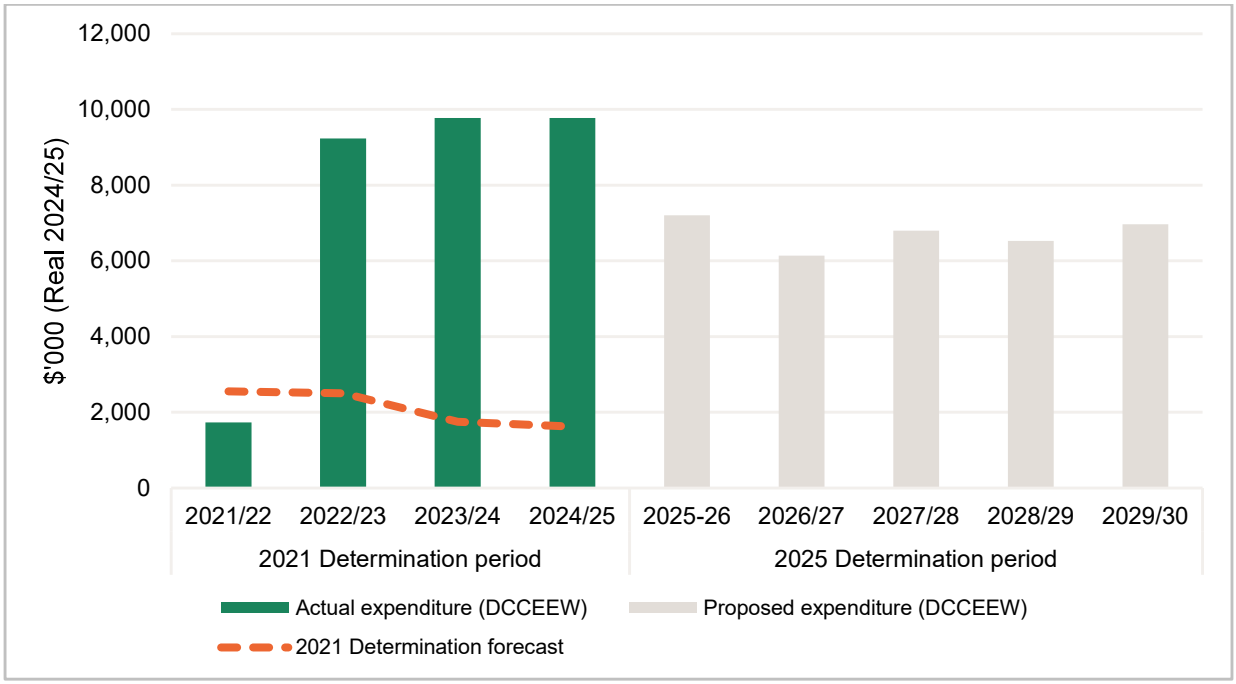

Figure 7-22: Current and future period expenditure for W06-03 (Floodplain management plan development)

[117] WAMC Submission, Attachment F P106.

Table 7-70 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-70: Current period expenditure for W06-03 (Floodplain management plan development) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	2,559	2,505	1,747	1,624	**8,435**	**2,109**
Actual expenditure (DCCEEW)	1,731	9,234	9,771	9,771	**30,507**	**7,627**
Variance	-828	6,729	8,024	8,147	**22,072**	**5,518**

Table 7-71 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-71: Future period expenditure for W06-03 (Floodplain management plan development) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	7,201	6,136	6,799	6,528	6,965	**33,629**	**6,726**

Actual expenditure in the current determination period averages $7,627,000 per year. This is $5,518,000 per year (262%) more than allowed for in the 2021 Determination forecast, which averaged $2,109,000 per year.

The proposed expenditure for the 2025 Determination period averages $6,726,000 per year. This is $4,617,000 per year (219%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $901,000 per year (12%) lower than the actual annual expenditure incurred in the current period.

7.11.2 Drivers for expenditure

A floodplain management plan is required to control and manage works on a floodplain. The Water Management Act 2000 provides for:

- Audit of plans (S44), with the NRC to conduct an audit within the first five years of the plan to determine whether its provisions are being given effect to
- Review of plans (S43), where DCCEEW is to review the floodplain management plan within five years prior to its expiry
- Replacement of plans (S43), with a floodplain management plan to be replaced at the end of 10 years
- Amendment of plans (S45)
- Implementation of plans – accelerated compliance of priority unapproved flood works – S91D and S95 of the Act and S11 of the Natural Resources Access Regulator Act 2017.

The scope of floodplain management plans is influenced by NRC audit outcomes, S43 reviews as well as statewide strategies including:

- NSW Flood Prone Land Policy
- NSW Water Strategy

- Aboriginal Water Strategy
- Regional Water Strategies.

The scope is also influenced by stakeholder views and customer expectations.

7.11.3 Performance in the current period

DCCEEW reported meeting 86% of output measures and performance indicators to 30 June 2024 and stated that all measures and indicators will be achieved by 30 June 2025.

7.11.4 Review of current period expenditure

DCCEEW significantly increased focus and resourcing for floodplain management over the current determination period to complete planning and accelerate the rate at which flood works are brought into compliance. This was not foreseen at the time of setting the forecast in the 2021 Determination, which largely explains why expenditure over the current period is well above that forecast.

DCCEEW advised that the NSW Government provided funding of $3.45 million in 2021 over three years to supplement funding in the current determination period to develop floodplain management plans.

7.11.5 Review of future period expenditure

DCCEEW proposed expenditure in two main scopes of work:

- Plan development: making, amending, reviewing and participating in the audit of floodplain management plans, which comprises around two thirds of the proposed expenditure or around $22.2 million
- Addressing past non-compliance: assessing, prioritising and categorising unapproved floodplain works in the southern Murray-Darling Basin and implementation of an accelerated compliance program for those works. This activity comprises around $11.4 million of proposed expenditure over the next regulatory period. DCCEEW is to carry out this work.

DCCEEW advised there is no allowance for NRAR or WaterNSW as part of this proposed expenditure.

7.11.5.1 Upper bound assessment

Scope adjustments

The Water Management Act 2000 sets the timeframes for floodplain management plans and their replacement.

Compliance assessment is clearly needed given our understanding of the extent of unapproved floodplain works, and we are comfortable including it into the upper bound. We are also satisfied this activity falls within the scope of W06-03 (Floodplain management plan development) as it is foundational for plan development, albeit in areas where there has been relatively little attention given to floodplain works in the past.

Efficiency adjustments

DCCEEW has proposed a larger scope of work compared to the current period in relation to floodplain management plans, as set out below.

Table 7-72: DCCEEW proposed scope and outputs: current and next period for W06-03 (Floodplain management plan development)

Output	Current period	Next period
Replacements	1	8
Amendments	4	10
Extensions	0	0
Reviews	1	4
Audits	4	6
Total	10	28

DCCEEW also plans to undertake extensive activity to assess and consider unauthorised floodplain works in the southern Murray-Darling Basin and assess their status under a new floodplain management plan. DCCEEW has forecast expenditure for this work at $11.4 million over the period. This suggests the proposed expenditure for floodplain management plan development set out above would be $22.2 million, given the total proposed expenditure of $33.6 million.

Actual costs for the current period were $30.5 million, which mostly related to floodplain management plan development. This compares to DCCEEW's forecast expenditure for the future determination period for plan development of $22.2 million, as well as to undertake compliance assessment ($11.4 million). Hence DCCEEW's proposed expenditure is set to achieve more output – more floodplain management plans and compliance assessment work – for a similar level of expenditure to actual expenditure in the current determination period.

We have noted DCCEEW's analysis on the relative effort between a floodplain management plan replacement and water sharing plan replacements. This showed that a floodplain management plan required over 30% more resourcing than the average requirement for water sharing plans. We compared the combined cost[118] per plan replacement/amendment for coastal and inland water sharing plans to the combined cost for plan replacement/amendment for floodplain management plans. We found the costs for floodplain management plans are comparable to our proposed efficient costs for water sharing plans.

We are therefore satisfied the DCCEEW proposal reasonably demonstrates efficiency.

7.11.5.2 Lower bound assessment

Scope adjustments

Around one third of the costs for floodplain management are related to addressing historical non-compliance. We understand this situation has arisen due to a lack of active compliance management over the past decades, and now significant expenditure is required to assess whether some of those works could remain under a new floodplain management plan or not.

Should W06-03 (Floodplain management plan development) remain as a WAMC monopoly service, IPART may wish to consider removing the $11.4 million relating to unapproved works given this cost is arising from a failure of the past. However, it is necessary for developing floodplain management plans and removing the $11.4 million from W06-03 (Floodplain management plan development) would transfer government funding from a WAMC process to an annual budgeting cycle given there is a 0% user share for W06-03 (Floodplain management plan development).

[118] We used the combined number of replacements and amendments to generate a better like-for-like comparison, given the differences between WSPs and FMPs.

Efficiency adjustments

We have not identified any adjustments needed for efficiency in setting a lower bound.

Potential reform and other observations

The Water Management Act 2000 does not give Government discretion to extend floodplain management plans beyond 10 years. Amending the Act to allow the Minister to extend a floodplain management plan, subject to certain conditions, would provide greater flexibility to re-program future plan replacements for more streamlined delivery, and adjust the frequency of replacements according to risk and need.

7.11.6 Conclusions and recommendations

We have recommended that W06-03 (Floodplain management plan development) does not fall within the definition of WAMC monopoly services and would be better managed through the conventional Government budget cycle. We recognise that IPART may not accept this recommendation and decide to continue with W06-03 (Floodplain management plan development). We have therefore reviewed the expenditure proposed for W06-03 (Floodplain management plan development) and are satisfied it is reasonable and efficient for the purpose of recommending an upper bound.

DCCEEW's forecast expenditure includes $11.4 million to address, in our view, what are legacy costs that could have been avoided with more stringent management and compliance effort in the past. Hence, there is a case to remove that expenditure in setting a lower bound. However, doing so will not benefit users and simply require Government to fund the costs in a different way, given this activity has a 0% user share.

The table below sets out our recommended efficient expenditure.

Table 7-73: Recommended range of efficient expenditure – W06-03 (Floodplain management plan development) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	7,201	6,136	6,799	6,528	6,965
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	7,201	6,136	6,799	6,528	6,965
Scope adjustments	-2,280	-2,280	-2,280	-2,280	-2,280
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**4,921**	**3,856**	**4,519**	**4,248**	**4,685**

7.12 W06-05 (Regional planning and management strategies)

In Section 4 we recommended W06-05 (Regional planning and management strategies) falls outside the scope of a WAMC monopoly activity and is better funded through normal State Government budget processes. Nonetheless we have undertaken a review of the proposed expenditure in the event IPART decides to retain this activity within the WAMC scope.

7.12.1 Background

This activity is performed by DCCEEW and involves operating costs only.

Figure 7-23 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

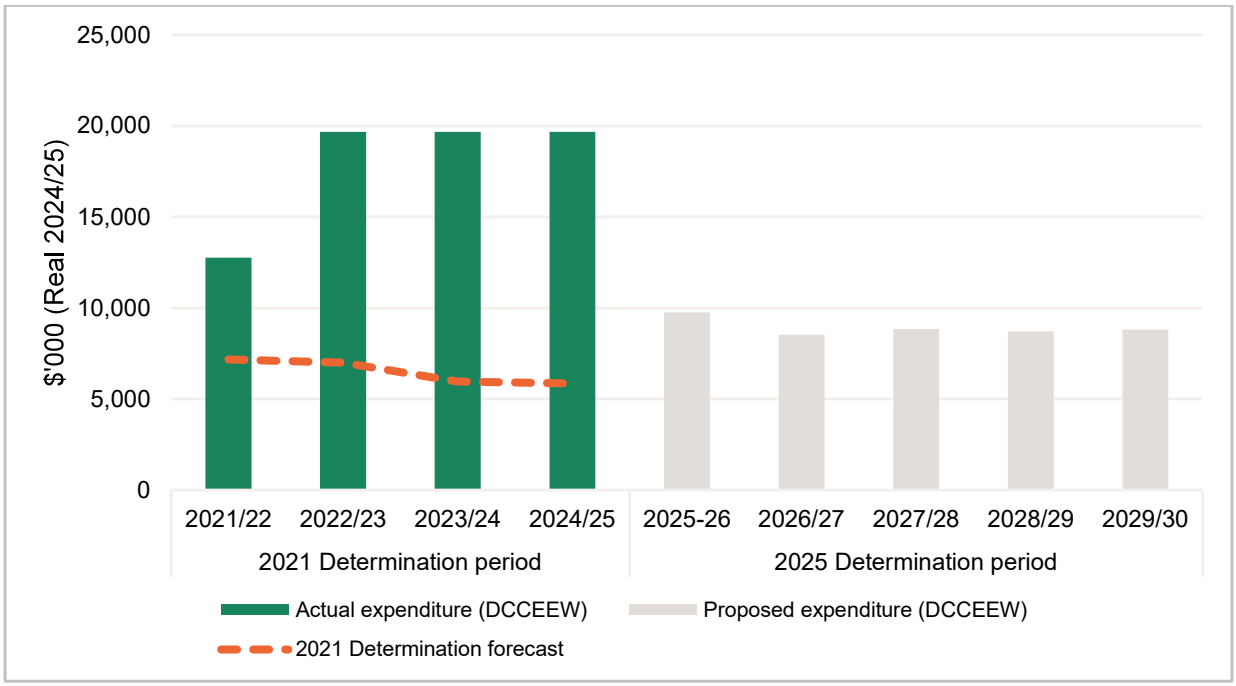

Figure 7-23: Current and future period expenditure for W06-05 (Regional planning and management strategies)

Table 7-74 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-74: Current period expenditure for W06-05 (Regional planning and management strategies) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	7,168	7,018	5,976	5,851	**26,013**	**6,503**
Actual expenditure (DCCEEW)	12,773	19,684	19,680	19,680	**71,817**	**17,954**
Variance	5,605	12,666	13,704	13,829	**45,804**	**11,451**

Table 7-75 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-75: Future period expenditure for W06-05 (Regional planning and management strategies)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	9,776	8,535	8,860	8,736	8,820	**44,727**	**8,945**

The actual expenditure in the current determination period averages $17,954,000 per year. This is $11,451,000 per year (176%) more than allowed for in the 2021 Determination forecast, which averaged $6,503,000 per year.

The proposed expenditure for the 2025 Determination period averages $8,945,000 per year. This is $2,442,000 per year (38%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $9,009,000 per year (50%) lower than the actual annual expenditure incurred in the current determination period.

In addition, DCCEEW has forecast expenditure for metropolitan water plans and strategies for the Lower Hunter and Greater Sydney regions, which total some $7.1 million across the future determination period. DCCEEW proposes to recover these costs from Sydney Water and Hunter Water through direct licence charges to WaterNSW's Greater Sydney business, and Hunter Water. We agree with the proposal to expand the direct-charging approach for Hunter Water, as it more precisely assigns costs to impactors and beneficiaries.

DCCEEW also proposes to seek additional funding, outside of this WAMC pricing process, of $1.2 million for implementation of the Aboriginal Water Program and targeted First Nations engagement[119]. We have not examined this expenditure as it falls outside this process and will be a matter for DCCEEW and Government. We have commented on the ramifications for the cost share framework in that chapter.

7.12.2 Drivers for expenditure

In its pricing submission DCCEEW described a range of drivers for expenditure under this activity. DCCEEW references the Water Management Act 2000 and the NSW Water Strategy in particular.

DCCEEW provided additional information as to the origin of the need for the strategy work program within this activity[120] referencing the recommendations from the State Infrastructure Strategy (2018) and the NSW Auditor General Performance Report - Support for Regional Town Water Infrastructure (September 2020). DCCEEW also set out various obligations arising from directives or license conditions, including:

- 2021 Ministerial Direction under clause 3.2.4 of the 2019/2023 Sydney Water Operating License. This instrument transfers of accountability for water supply augmentation functions for Greater Sydney from WaterNSW to Sydney Water, and state 'The Department of Planning, Industry and Environment - Water is to maintain existing responsibility for setting the Government's strategic directions, actions and priorities under the Metropolitan Water Plan and any subsequent Water Strategy including the Greater Sydney Water Strategy'.
- Hunter Water Operating License 2022/2027. Clause 14 Water planning (1) Hunter Water must calculate the System Yield either: (a) in accordance with the memorandum of understanding with DPE referred to in clause 33; or (b) if no such memorandum of understanding is in effect, in accordance with a reasonable methodology that Hunter

[119] RFI 72.

[120] Response to RFI 60.

Water considers suitable. (2) Hunter Water must undertake long term water planning consistent with its memorandum of understanding with DPE referred to in clause 33.

- Memorandum of Understanding for Long Term Water Planning between the Department of Planning and Environment and Hunter Water. Under Section 5 – Responsibilities of the parties with respect to the Lower Hunter Water Security Plan (LHWSP) - DPE will primarily be responsible for monitoring and reporting overall progress on the implementation of actions outlined in the LHWSP and consulting with key stakeholders on adaptive management of the LHWSP; delivering actions' assigned to DPE in the LHWSP or as agreed in subsequent monitoring-evaluation-reporting (MER) reviews or as determined by the Implementation Oversight Committee; commissioning, funding and project managing any work required to inform the implementation of DPE actions.
- DPE will use its best endeavours to develop a MER Framework that supports adaptive management of the LHWSP; lead monitoring and evaluation of the LHWSP as per the MER Framework.

7.12.3 Performance in the current period

DCCEEW states it has met one output measure (completion of Sydney Metropolitan Water Strategy) and stated it is on track to complete regional water strategies and associated implementation plans. One output – a forward program for implementation and MER and public reporting published by June 2021 – was delivered in December 2021.

7.12.4 Review of current period expenditure

Expenditure over the current period was well above the forecast in the 2021 Determination. In its submission, DCCEEW advised the primary reasons for the increase as:

- Delivery of the entire water strategy program to meet the expectations of Government, rather than the partial allowance provided in the 2021 Review
- Completion of all remaining regional water strategies
- Development of the Fish River – Wywandy Regional Water Strategy to address energy transition and town water security issues
- Targeted implementation of the NSW Water Strategy, including development of the NSW Groundwater Strategy and the Aboriginal Water Strategy
- Continued expansion planning and business case development for the Sydney Desalination Plant
- Climate work including development of climate risk data sets and delivery of water sharing plans.

DCCEEW advised that the NSW Government provided some $48.6 million of additional funding for this expanded scope of work, including $3.4 million from the Snowy Hydro Legacy Fund and $26 million from consolidated revenue. An additional $19.2 million was approved by NSW Treasury in 2023 as part of the extreme risks funding package to support the long-term water strategies and implementation of priority actions.

7.12.5 Review of future period expenditure

DCCEEW has provided detailed information about the composition of the proposed expenditure for the future determination period. We have categorised this as:

- Strategy development, review or update – which represents around 20% of proposed expenditure[121]
- Strategy implementation – which represents around 48% of proposed expenditure
- Climate program – which represents around 32% of proposed expenditure.

In 2019, IPART defined W06-05 (Regional planning and management strategies) as[122]:

> *The review of planning instruments, and the development, evaluation, review and stakeholder engagement of planning and management strategies for water sharing and water plans (where the water market alone will not provide for economic or urban growth).*

In our draft report, we commented that DCCEEW's submission represented an expansion to the scope of W06-05 (Regional planning and management strategies)[123]:

> *Over the 2021-25 determination period, the regional planning and management strategies activity code has covered the development of regional and metropolitan water strategies... Moving into the 2026-30 period, action will transition from strategy development to strategy implementation, improving water management outcomes through targeted, prioritised implementation of actions that are informed by risk, cost and customer preferences.*

Our draft report found that the nature and composition of activities within W06-05 (Regional planning and management strategies) has grown beyond the original intent of scope set in 2019. However, DCCEEW disputed this finding, referencing the 2021 Determination and in particular (DCCEEW's emphasis added in bold):

- The expenditure review consultant (Cardno) who stated: '*The W06-05 (Regional planning and management strategies) activity code is used to cover the development, evaluation and review of these regional water strategies, metropolitan water plans, and other planning instruments, including stakeholder engagement,* ***that deliver the strategies****…. DPIE is seeking funding in the period to finalise the remaining strategy documents and provide the ongoing coordination,* ***implementation****, and stakeholder engagement for each regional water strategy*.'
- IPART, who stated: '*We consider regional water planning is a '****policy implementation****' activity.'*

DCCEEW went on to say they have applied the agreed scope from the 2021 Determination period, noting this reflects the most up-to-date advice provided by IPART.

The reference drawn above from the expenditure review consultant's report was made in the context of background information to W06-05 (Regional planning and management strategies). The IPART reference above was made as part of user cost shares consideration, where IPART concluded that users should contribute to the costs given the NWI allowed for 'policy implementation' costs to be recovered in charges. IPART did not refer to strategy implementation costs or explicitly state that W06-05 should include implementation costs or suggest a change to the 2019 definition.

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[121] These are the proportion of direct costs, before overheads, and exclude metropolitan plans.

[122] IPART (2019). Rural Water Cost Shares. P40.

[123] WAMC submission, Attachment F. P107.

We note that the scope of W06-05 (Regional planning and management strategies) has been a topic of discussion across various WAMC pricing reviews and acknowledge that circumstances have evolved over time. We also note that the definition of W06-05 (Regional planning and management strategies) could be to open to a range of interpretations and (perhaps due to its nature) is not as specific as definitions for many other activity codes.

DCCEEW also commented on our draft report that in the 2021 Determination, IPART defined W06-05 (Regional planning and management strategies) as:

> *The development, evaluation and review of regional water strategies, metropolitan water plans and other planning instruments, including the stakeholder engagement.*

We have not been able to source this reference, including from the 2021 IPART Final Report. Nonetheless, this definition provided from DCCEEW does not include reference to implementation.

We have therefore found no evidence to suggest the 2019 definition was changed to include implementation activities / costs for the 2021 review.

Furthermore 'implementation' of strategies can be broadly interpreted, and could include the delivery of strategy actions, including infrastructure planning and, potentially, investment and need not be confined to the costs of the WAMC agencies without specific carve outs. This could result in a very wide range of costs and expenditure outcomes, including for water management charges, without a high degree of clarity. We therefore prefer a narrow interpretation (as per the 2019 definition) as the basis of our assessment.

We are also concerned that some of the expenditure for strategy implementation and the climate program – which together comprise 80% of the DCCEEW forecast – may be more relevant to other WAMC activity codes. Centralising expenditure in W06-05 (Regional planning and management strategies) rather than assigning it to individual WAMC activity codes undermines transparency about the costs of those activities and distorts the way costs are shared between Government and users.

7.12.5.1 Upper bound assessment

Scope adjustments

The scope of *strategy development, review and updates* is set out below, compared to the scope delivered in the current determination period.

Table 7-76: State and regional water strategies – current and future determination period

Strategy	Current period	Next period
NSW Water Strategy	Developed	Review and update
NSW Groundwater Strategy	Developed	Review
Regional Water Strategies	11 Developed 1 Reviewed	Develop 1 Update 1 Review 2

This demonstrates there is a significant reduction in scope compared to the current determination period.

DCCEEW has proposed expenditure for the review and update of the NSW Water Strategy over 2025/26 to 2026/27, and the review of the NSW Groundwater Strategy in 2028/29. This represents a review schedule of around five years. We accept this is a reasonable assumption as circumstances and Government policy can change over 5-year timeframes sufficient to warrant review and update at this frequency.

DCCEEW has proposed to develop one regional water strategy, update one strategy review two strategies over the future determination period. We considered this a reasonable scope for the future period, with DCCEEW providing evidence it has prioritised this work based on risk.

DCCEEW has also proposed expenditure for the review and update of the two metropolitan strategies / plans for Greater Sydney and Lower Hunter. This timing reflects a five-year cycle for these strategies, which is consistent with their intent and that of other metropolitan areas in Australia[124]. We accept this scope for the purpose of recommending an upper bound level of efficient expenditure.

DCCEEW has proposed significant implementation costs. We have concerns with this proposal both in terms of scope and efficiency. The two are interrelated in terms of our assessment. We have therefore considered implementation costs as part of our efficiency assessment below.

Efficiency adjustments

DCCEEW provided information about the activities that comprise *strategy implementation,* which comprise some 48% of forecast expenditure for W06-05 (Regional planning and management strategies). In its submission DCCEEW stated it had a key role in the implementation of priority strategy actions, including[125]:

- Government priorities for climate adaptation and resilience, economic recovery, industry and energy transformation, food security and environmental outcomes through statutory and regulatory functions. This requires a step change in BAU activity.
- Ensuring water sharing plans, water allocation decisions, operating licenses and the remake of the Murray-Darling Basin Plan account for long-term drivers including climate change, population growth, net zero transition, food security and major industry changes
- Coordinated implementation across the strategies program, and supporting other agencies and water managers design and implement water initiatives through robust and collaborative governance arrangements
- Effective, evidence-based monitoring, evaluation and reporting (MER).

DCCEEW described the key functions for implementing the strategies program as including[126]:

- Lead or support the delivery of new projects or programs identified from a strategy
- Enable and coordinate implementation through MER, identify emerging trends, insights and risks, facilitation, advocacy and governance.

DCCEEW provided more detail about the costs, activities and composition of state, regional and metropolitan strategies implementation tasks and costs[127].

For the NSW Water Strategy, DCCEEW described the activity as to support, coordinate and enable implementation for the NSW Water Strategy and NSW Groundwater Strategy, and undertake program level monitoring, evaluation and reporting and identify key issues and emerging risks and opportunities at a state level. DCCEEW has already established a MER framework for the NSW Water Strategy. The information provided by DCCEEW indicated a direct cost for this activity (excluding overheads) of $3.8 million over the future determination period.

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[124] For example, a water security program for south-east Queensland must be reviewed every five years under the Water Act 2000.

[125] WAMC submission, Attachment F, pp112-113.

[126] Response to RFI 59.

[127] Response to RFI 59.

DCCEEW explained that it had five FTEs for the NSW Water Strategy in relation to reviews, updates and implementation / MER, and assigned costs each year between strategy update, review and implementation depending on the activities for that year. In years where no review or updates to the strategies are expected, the full cost is assigned to implementation / MER. This means the cost of implementation / MER is volatile – for example in 2027/28 the cost proposed for implementation / MER is nearly double the cost assigned in the other years, as there is no strategy update/review proposed for that year.

In doing so, implementation / MER costs seem to be treated as a balancing item rather than identifying the efficient, stand-alone cost. We would expect there would be an underlying cost for implementation / MER that would be consistent each year, and overall expenditure would rise or fall depending on the need to update or review those strategies. That is, aligning expenditure to changes in output each year, rather than assigning a fixed cost across the various outputs from year to year.

In response to our draft report, DCCEEW commented that a fixed cost method of resourcing was the most efficient way of delivering strategy development and implementation. DCCEEW commented that its approach allowed the retention of skills and knowledge needed and was better than assigning resourcing that is task-based which would create resourcing and skill gaps. While we agree that it is important to retain skills and resources, the structure for WAMC activities and expenditure is largely output based. We would expect that there would be a relationship between the changes in costs of a WAMC activity and changes to activity outputs – particularly for W06-05 (Regional planning and management strategies) where we expect there would be peaks and troughs in outputs over time. We have also observed expenditure for many other WAMC activities is based on contributions from different teams to different activities.

For regional water strategies, DCCEEW provided further information setting out the scope and composition of implementation costs, which fall into two categories.

The first category relates to DCCEEW being the delivery lead for key projects, which totals $5.137 million of direct cost (excluding overhead) over the future regulatory period. DCCEEW provided examples of projects for particular regional strategies, namely:

- Strategic assessment of reserve required for town water supply (Tamworth) in Chaffee Dam
- Coordination and implementation of the NSW Government response to fish deaths at Menindee (Western Regional Water Strategy)
- A saltwater intrusion vulnerability assessment
- Developing options for catchment-based governance to improve water quality and availability.

We are concerned that these proposed strategy implementation expenditures for regional water strategies have been centralised into W06-05 (Regional planning and management strategies) rather than being first assessed as whether they fall within the definition of WAMC monopoly service, and if so what WAMC activity they relate to. This approach also distorts the cost-share framework as it applies the W06-05 (Regional planning and management strategies) user share to expenditures that should attract a different user share under a different WAMC activity.

In response to our draft report, DCCEEW commented that centralising the costs for implementation would rather 'would distort the cost shares of other management activities by applying an inconsistent approach to cost sharing based on mapping to existing activity codes rather than applying the principles underpinning the cost sharing framework for discrete WAMC activity'. We agree that MER costs relating to strategies should continue to be captured under W06-05 (Regional planning and management strategies). However, we suggest rigour is needed to ensure that expenditure relating to strategy implementation – particularly for projects and actions (above) or activities relating to insights, advocacy and integration (below) – relates (a) to WAMC monopoly services and (b) if so, the correct WAMC activity. As evidenced above (and below), there are several projects or activities that, while contained in a regional strategy, may not be relevant to WAMC monopoly services or be more relevant to another WAMC activity code.

The second category was described as insights, advocacy and integration, which total $5.793 million of direct cost (excluding overhead) over the future regulatory period. DCCEEW described this activity as follows:

> *Following the completion of the Murray-Darling Basin review process at the end of 2026, we anticipate that strategic projects will focus on integrating and applying the latest climate science on a regional basis to understand issues, needs, vulnerabilities and outcomes. The scoping of this work will be contingent on the outcome of the review and the establishment of the strategies MER program.*

DCCEEW provided examples of the insights, advocacy and integration activities as follows[128]:

- Integrating and applying the latest climate science on a regional basis to understand issues, needs, vulnerabilities and outcomes
- Integration of strategy findings and data into the water sharing plan remake process
- Review of documents such as water related environmental impact statements through the planning process
- Responses to NRC requests for information – including through the Water Sharing Plan audit and review process
- Supporting major infrastructure investigations
- Working across government and with the community to ensure evidence-based decision-making for water resource management.

We have several concerns with the 'insights, advocacy and integration' tasks described above, in particular:

- DCCEEW has proposed expenditure for a climate program elsewhere, however this is also categorised as a strategy implementation activity
- There are several tasks that appear to duplicate, or be better assigned to, the relevant WAMC activity such as water sharing plan development (W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland)))
- Some task descriptions are very high level, and the connection to WAMC monopoly services has not been demonstrated.

[128] Response to RFI 59.

In commenting on our draft report, DCCEEW noted many projects were catchment-wide, and therefore broad in nature. DCCEEW also commented it had already filtered implementation actions to exclude actions that were outside the scope of WAMC (which were most actions). However, we still consider that at least some of the activities above are unlikely to fall within the definition of WAMC monopoly services (e.g. infrastructure investigations if these are relating to urban water supply).

DCCEEW also commented that the interface between activity codes was considered in developing costs and that 'this is effectively what the regional water strategies seek to achieve by considering broader (regional) scale of issues, water sources and stakeholders'. However, we remain concerned that activities such as those above relating to water sharing plans have not been captured under W06-01 (Water plan development (coastal)) and W06-02 (Water plan development (inland))[129].

As noted above, we have adopted IPART's 2019 definition for W06-05 (Regional planning and management strategies) which relates to *review* of planning instruments, and *development*, *evaluation, review and stakeholder engagement* of planning and management strategies. While evaluation and reporting (such as MER) is within this definition, implementation is not. This concern applies to both state and regional strategies (DCCEEW has not yet established a MER framework for regional water strategies). We have noted DCCEEW's comment in our draft report on this matter above, along with our response.

In setting an upper bound, we proposed to limit the scope to the task of performing MER for state and regional strategies, consistent with the 2019 IPART definition of W06-05 (Regional planning and management strategies). We have done this on the basis that some of this expenditure is uncertain (as noted by DCCEEW the scope is dependent on establishing a MER framework for regional strategies), there appears to be duplication with the climate program, and the relationship between expenditure for some tasks and the relevant WAMC activity is not clear.

In the future, we suggest DCCEEW assigns implementation tasks arising from strategies (apart from MER) to the relevant WAMC activity. This will enhance transparency, avoid distortions to cost shares between users and government, and help ensure the implementation project / task falls within the scope of the WAMC monopoly service. In doing so, DCCEEW may wish to revise its assessment of strategy implementation activities and their relevance to W06-05 (Regional planning and management strategies) or other WAMC codes.

DCCEEW did not separate the cost of implementation and MER for the NSW Water Strategy for us to assess, nor did DCCEEW provide a cost for MER for state water strategies as a MER framework was not yet in place[130].

We therefore recommend applying a benchmark cost for MER for each strategy.

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[129] In its response to our draft report, DCCEEW provided the saltwater intrusion vulnerability assessment as an example of how it had considered whether an implementation activity was relevant to W06-05. In its assessment of whether the activity was better aligned with a different activity code, DCCEEW found that '*Although this activity supports the development, review, amendment and extension or replacement of water management plans, and the consultation activities associated with developing these plans for coastal water sources under W06-01 (Water plan development (coastal)), the issue requires time and resources beyond the time frame to review a relevant water sharing plan and is therefore out of scope of W06-01 (Water plan development (coastal)) activity*'. We do not agree that activities or expenditure for activities other than W06-05 should be time bound. Expenditures for many other WAMC activities relate to programs of work delivered over long timeframes and are contained within those activity codes.

[130] In its response to our draft report, DCCEEW noted that the costs were not separated as it did not consider them to be discrete activities that should be itemised. Rather DCCEEW commented that keeping the costs together supported an adaptive approach. We support an adaptive approach but are of the view that this can still be achieved while having more granular costing of the components of strategy.

In arriving at a benchmark, we have used the outputs and costs for W05-04 (Water plan performance assessment and evaluation) and for water plan implementation evaluation and reporting (part of W05-01 (Systems operations and water availability management)) as reference points. In doing so, we recognise the need to include monitoring, review and reporting of implementation strategy actions and activities. We also accept the need for a level of coordination of parties with strategy action responsibilities[131]. These activities have an annual average expenditure of around $6.79 million and manage 58 water sharing plans – around $0.117 million per plan.

We have adopted this as a benchmark for the purpose of estimating the efficient cost of MER per strategy. This is additional to the proposed DCCEEW expenditure for strategy review, which would also form part of MER costs.

In response to our draft report, DCCEEW commented that our benchmarking approach would need to consider the complexity of water source and geographical coverage of the strategy, which our benchmarking failed to take account of. DCCEEW noted that within one regional strategy area (Namoi) there were eight water sharing plans, and therefore the benchmark cost for that strategy area should be 8 x $0.117 million. Similarly, DCCEEW commented that the benchmark cost for the NSW Water Strategy should be $6.79 million, reflecting the cost for all water sharing plans.

Our benchmarking adopts an average cost, and in doing so accept there would be variations in actual costs across strategies (above and below) to the benchmark cost.

There are 12 regional[132] and 2 state-level strategies that form part of the DCCEEW submission, a total of 14. Applying the benchmark cost to these 14 strategies results in $1.638 million per annum for MER across state and regional strategies.

We note that DCCEEW submission suggests using an implied MER for water sharing plans is not appropriate for MER for water strategies[133]:

> *MER for water strategies operates at different geographical and time scales to other MER functions of the department, such as water sharing plan MER. It includes the need to evaluate policy and programs that are not captured in other MER settings... Of critical importance is that this MER is capable of identifying when major drivers of change will impact in a way that is likely to change the basis of water management at a regional level – like what we anticipate may happen where crops are viable and how they are propagated in the face of climate change, where region-wide shifts from surface to groundwater may be necessary to shore up water security for critical needs, and what were we are currently seeing with regional economic shifts associated with renewable energy investment and net zero requirements.*

However, as set out above DCCEEW has not set out a specific scope and cost for MER for state and regional strategies for us to review. In the absence of better information, we have adopted a MER benchmark from water sharing plans.

[131] In its response to our draft report, DCCEEW outlined a scope of implementation actions for state strategies to date. We are satisfied there is broad alignment between this scope and our proposed benchmarking approach, while recognising benchmarking is, by its nature, an approximation. A better approach would be for DCCEEW to specify the costs for this scope of work.

[132] We have arrived at this number by assuming the regional strategy scheduled for development in the future determination period is additional to the 11 that already exist.

[133] WAMC pricing proposal, Attachment F, pp 112 – 113.

For metropolitan water strategies (Greater Sydney Water Strategy (GSWS) and Lower Hunter Water Security Plan (LHWSP)), DCCEEW's forecast relates to plan/strategy implementation as well as MER[134]:

> *Implementation of the GSWS and LHWSP will continue to focus on supporting strategic planning for water supply augmentation and water source diversification to improve resilience, including the delivery of Belmont Desalination Plant in the Lower Hunter and potential purified recycled water infrastructure in Greater Sydney, improving liveability and waterway health though water quality governance improvements and integrated water cycle management approaches, drought response and water conservation planning, annual monitoring, evaluation and reporting and supporting governance for oversight and decision making.*

DCCEEW did not justify the need or cost relating to the implementation tasks for metropolitan water plans, and it was not clear to us how those implementation tasks are assigned between DCCEEW and other agencies nor the timing and scope of those tasks that might relate to DCCEEW. For example, DCCEEW mentions implementation effort for the Belmont Desalination Plant, but the LHWSP nominates Hunter Water as the lead agency for that action.

Furthermore, DCCEEW appeared to assign a fixed resource pool for metropolitan water planning across the various activities expected over the future determination period. This results in some perverse outcomes, including implementation costs for the LHWSP doubling in the years where there are no updates or reviews scheduled.

We accept the need to undertake MER for the GSWS and LHWSP, having regard both to best practice and the obligations set out above for DCCEEW. However, in preparing our draft report the broader implementation tasks were unclear and uncertain, and DCCEEW's overall proposed implementation expenditure did not appear to have been forecast based on an assessment of scope and effort.

In response to our draft report, DCCEEW provided further detail on the tasks for GSWS and LHWSP, which supported their expenditure proposal. We also note that the metropolitan water plan activities are self-contained with very limited risk that some activities are better accounted for in other WAMC activities or fall outside an appropriate scope given the clear requirements set by Government. We have therefore accepted the implementation costs for GSWS and LHWSP, without adjustment.

7.12.5.2 Lower bound assessment

Scope adjustments

DCCEEW described the climate program in its submission as follows[135]:

> *The Climate Program will be implemented across the department to deal with new climate challenges, including implementing whole-of-government climate objectives, developing new methods for incorporating climate evidence and maintaining and updating datasets that were originally developed as part of the water strategies program. These are now critical to support a range of water management functions, allowing assessment of the impact of climate change on water resources and the environment through other statutory and planning processes across the department and the broader water sector.*

[134] Response to RFI 59.

[135] WAMC pricing submission, Attachment F. p114.

> *Maintaining these up-to-date datasets is essential to ensure the department continues to satisfy the statutory principles and objectives of the Water Management Act 2000... This data will be used within the next funding cycle to embed climate considerations into the setting of minimum inflow assumptions in a number of regulated plans across the state. The datasets will also allow for consideration of climate change and variability in the development of coastal sustainable extractions, review of sustainable diversion limits within the Murray-Darling.... and incorporating climate considerations into risk assessments for water sharing plans more generally. Climate change will also be a part of floodplain management plan considerations.*

In a follow-up request for information, DCCEEW confirmed that the task of developing datasets that incorporated climate change impacts had largely been completed, and that resourcing was required to update that data as new information emerged and to stay abreast of science and related developments. DCCEEW stated this activity was not the main body of work for the climate program[136]:

> *The main body of work required is to make sure that that we are embedding methods for climate analysis using this information into our statutory responsibilities and other duties of the organisation. As an example, the current minimum inflows project is determining methods for analysing risk using these new datasets... This is only one small element of the water sharing plan ruleset, and similar analysis methods will be required to be developed and agreed for other components of the WSP (water sharing plan) process, including for setting extraction limits, Cease to Pump levels and groundwater management rules. The datasets also provide an opportunity to improve the methods used by local water utilities in determining water security risk - there is a need to provide guidance and assistance in how to use the datasets to undertake this analysis. Similar discussions will be required with Water NSW, Sydney Water and Hunter Water.*

The above suggests most of the task and expenditure for the climate program is about the adoption of climate change information and data sets in various WAMC activities, such as water sharing plans. The above also suggests the climate program may be operating outside of the WAMC scope of monopoly services, such as by implementing whole-of-government climate objectives and by assessing the impact of climate change across the broader water sector.

We agree with the overall need for climate change to be incorporated into water management and planning and accept the proposed expenditure when recommending an upper bound. However, we consider this proposed expenditure as non-essential in terms of recommending a lower bound, on the basis that:

- Datasets have already been developed and updating those datasets is not the main component of the climate program expenditure proposal
- The main component to the climate program is about applying climate change datasets to water management and planning functions. This work, and the associated expenditure, should be performed by and costed to the relevant WAMC activity[137].
- The climate program is intended to operate broadly across Government, and the extent to which it relates to WAMC monopoly services versus the broader water sector is unclear.

In response to our draft report, DCCEEW commented that the climate program was essential, a requirement under various strategies, a WAMC customer priority, an expectation of stakeholders and a factor identified by reviews undertaken by the NRC that climate risk must be incorporated into agency decision making. DCCEEW also referenced the draft National Water Agreement which had extensive references to climate change adaptation.

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[136] Response to RFI 133.

[137] DCCEEW has included $0.434 million into its forecast expenditure for W06-01 and W06-02.

We agree with the need to use the best information for water resource management, including the impacts of climate change on water resources. We have considered the climate change program through the lens of a lower bound expenditure assessment, where we identify non-essential projects or activities to provide the Tribunal with flexibility to balance service level and affordability.

Based on our review of the information available, it is not clear what service benefit the program and its associated expenditure (over $11 million for the future period) will bring, given the current availability of data and the functions of different WAMC activities.

DCCEEW commented that:

> … *while datasets exist, they have not yet been used to inform a substantial change to the regulatory or statutory framework surrounding water. There are a number of reasons for this, including a lack of clarity available for planning staff on how to apply and utilise this data to inform regulatory decisions… The majority of the work to be undertaken by the program team will involve providing this guidance, identifying other blockers to update and overcoming them, and assisting staff across the business to apply climate change – largely to inform statutory responsibilities.*

DCCEEW also commented that it was difficult to identify exact timing for data updates, as they would only update datasets as a result of a specific need, such as substantially improved data inputs.

In response to our position that it was better to assign climate change related costs to the relevant WAMC activity code, DCCEEW's comments to our draft report were that the costs associated with the climate program in W06-05 (Regional planning and management strategies) would need to be included in those other activity codes, and the user / government share would need to be modified '*in a way that is specific to the costs for the climate change program so as not to distort the cost sharing framework for other WAMC activity…*'.

As set out above, it is our view that that climate program costs should be assigned to relevant WAMC activities rather than centralised in W06-05 (Regional planning and management strategies). This will give a more accurate and complete assessment of the costs of those activities and ensure that the climate program costs and activities included were aligned to the scope of WAMC monopoly services. We continue to encourage DCCEEW to adopt this approach.

In doing so, we would not expect the user / government shares for those activities to change or be materially affected. As set out in our targeted review of user shares earlier in this report, we found there was no need to change the user share for W06-05 (Regional planning and management strategies) as a result of the climate change program and would expect this would be the case across all activities.

Our consideration of the risk of adopting this lower bound adjustment is set out below.

Excluding the climate change program expenditure increases the risk that DCCEEW is unable to maintain and update its streamflow and other datasets with changes in climate knowledge, which may in turn undermine the efficacy of future water sharing plans and other water management and planning tasks. DCCEEW has not explained the precise timing for any update and the extent and rate of change in scientific information.

Furthermore, the application of climate change across water management and planning functions may be compromised if those activities are unable to directly develop new methods to apply the new climate data sets to their functions. This could occur if those functions / activities were unable to gather the resources needed, or re-prioritise existing resources, to do this work. The consequence of this scenario is some water management and planning decisions may not be based on the best available information (i.e. including the risk of climate change to water resource availability).

While we accepted the review of the Greater Sydney Water Strategy and Lower Hunter Water Security Program in scope for the upper bound assessment, we recommend setting a lower bound with expenditure for those expected reviews removed, as DCCEEW noted the precise scope and timing for their review and update was uncertain[138]:

> *The Greater Sydney Water Strategy and the Lower Hunter Water Security Plan are anticipated to need some level of update through the 2025-2030 period. The timing of this will be driven by the timing of delivery of key infrastructure actions set out in the current strategies, which will influence the scope of the review and update process. It is estimated this will occur around 2028.*

In the absence of more information, we recommend excluding the costs of updates and review on the basis the timing is uncertain and would be subject to future government decision making on significant matters such as major infrastructure investment.

Not including this expenditure may compromise the ability of DCCEEW to review and update these metropolitan water plans / strategies if this activity is required over the future regulatory period. If these updates were needed but not made, then any new actions required to support water security in those metropolitan areas may also be delayed.

Efficiency adjustments

We do not recommend any efficiency-related adjustments for a recommended lower bound.

Potential reform opportunities and other observations

Our recommendations in relation to reform and other observations for W06-05 (Regional planning and management strategies) are set out in detail in Section 4 above where we discuss this activity in the context of the scope of WAMC monopoly services.

7.12.6 Conclusions and recommendations

Earlier in this report we recommended that W06-05 (Regional planning and management strategies) should be removed from the WAMC scope of monopoly services, and a different funding model applied (e.g. annual budgets). Notwithstanding this recommendation, we conducted a review of this activity in the event that IPART decided to retain W06-05 (Regional planning and management strategies) within scope.

DCCEEW has proposed to expand the scope of W06-05 (Regional planning and management strategies) to include strategy implementation and a climate program.

We are concerned about the way expenditure for implementation has been derived as well as the proposed scope. We would prefer DCCEEW assign implementation tasks arising from a strategy to the relevant WAMC activity code to increase transparency, ensure alignment with the definition of WAMC monopoly services, and avoid potential duplication within WAMC activities. We reduced DCCEEW's proposed expenditure to implement water strategies to our assessment of a benchmark efficient cost for conducting MER of those strategies only, while retaining the proposed costs to review those strategies.

[138] Response to RFI 44.

In recommending a lower bound, we found the climate program could be considered non-essential. While applying hydrological data sets that account for climate change is best practice, the data sets already exist[139]. Their use for water planning and management processes and decisions are better accounted for in the relevant WAMC activity. The lower bound carries the risk that WAMC may not be able to adequately update these data sets to account for new information or be able to adopt new methods to apply that data to decision-making. This in turn may reduce the quality and efficacy of its water management and planning activities.

Table 7-77: Recommended range of efficient expenditure – W06-05 (Regional planning and management strategies) (excluding metropolitan water plans) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	9,776	8,535	8,860	8,736	8,820
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-1,911	-2,198	-3,257	-2,752	-3,250
Recommended upper bound efficient operating expenditure	**7,865**	**6,337**	**5,603**	**5,984**	**5,570**
Scope adjustments	-2,974	-2,798	-2,912	-2,851	-2,881
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**4,890**	**3,539**	**2,691**	**3,133**	**2,689**

We have accepted the proposed expenditure for metropolitan water plans in recommending an upper bound. For the lower bound, we recommend excluding expenditure for metropolitan plan/strategy updates and reviews as the timing is uncertain, and dependent on other matters outside of DCCEEW's control.

Table 7-78: Recommended range of efficient expenditure – Greater Sydney Water Strategy ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	1,456	1,456	1,163	1,002	966
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**1,456**	**1,456**	**1,163**	**1,002**	**996**
Scope adjustments	-767	-722	-576	0	0
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**689**	**734**	**587**	**1,002**	**966**

[139] With some minor exceptions

Table 7-79: Recommended range of efficient expenditure – Lower Hunter Water Security Program ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	222	222	222	222	222
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**222**	**222**	**222**	**222**	**222**
Scope adjustments	-110	-110	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**112**	**112**	**222**	**222**	**222**

7.13 W06-06 (Development of water planning and regulatory framework)

7.13.1 Background

The scope of this activity is to develop and amend subordinate policies and regulatory instruments for the purpose of:

- Effectively administering the legislative framework for water management in NSW
- Enabling the implementation of policy decisions made by Government for the sharing and management of water resources
- Enabling the implementation of water management reforms.

This activity is undertaken by DCCEEW. DCCEEW has classified all expenditure for this activity as operating expenditure in the WAMC pricing proposal.

We note that cost recovery of subordinate legislation development and amendment is consistent with the National Water Initiative Pricing Principles, which provides the following clarification:

> *Developing and refining statutory, catchment/valley/regional-level water plans or other secondary/subordinate legislation that operationalises water planning and management activities does not constitute policy development or a Ministerial or Parliamentary service and the associated activity costs should not be exempt from cost recovery.*

DCCEEW advised[140] that the WAMC component of policy work is in the later phase when a policy decision is implemented. The policy development phase (the initial phase of policy work) is not a WAMC activity and is funded through other sources, typically recurrent funding. Recurrent funding has not yet been allocated to DCCEEW by Treasury for the future period.

Figure 7-24 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

[140] Advised to Stantec on 23 January 2025 in response to a series of requests for information (RFIs 134 – 147).

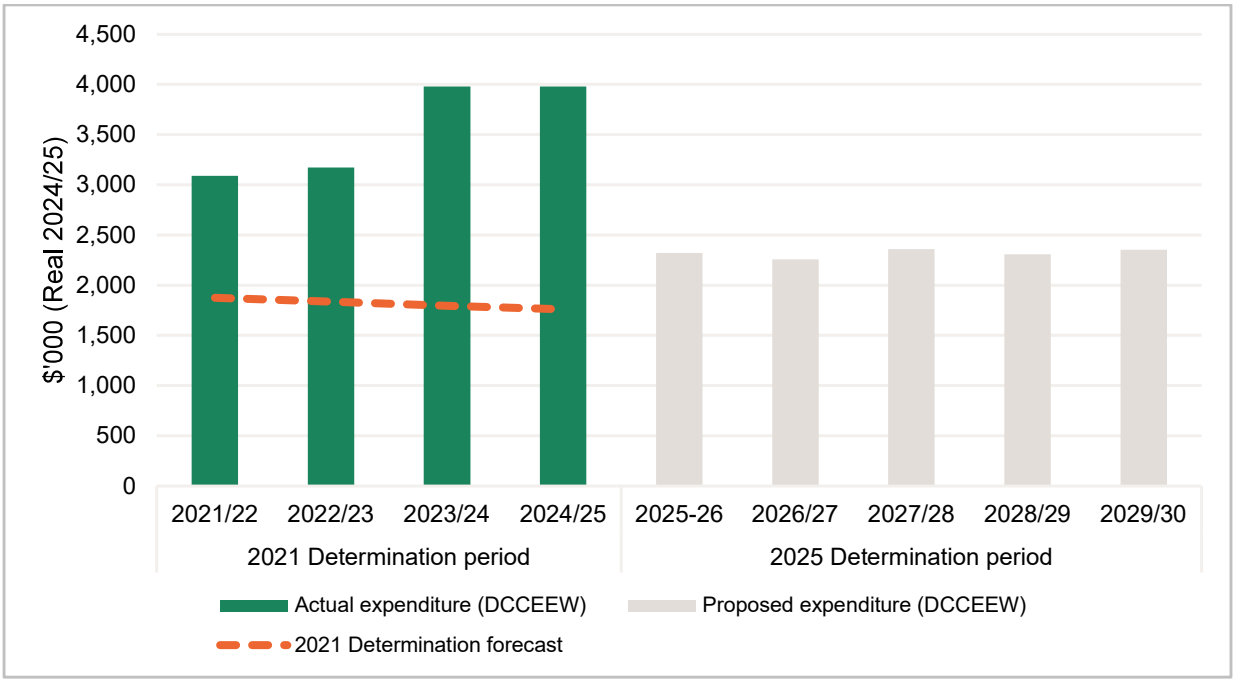

Figure 7-24: Current and future period expenditure for W06-06 development of water planning and regulatory framework

Table 7-80 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination and actual expenditure.

Table 7-80: Current period expenditure for W06-06 development of water planning and regulatory framework ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	1,874	1,835	1,796	1,759	**7,264**	**1,816**
Actual expenditure (DCCEEW)	3,091	3,172	3,980	3,980	**14,223**	**3,556**
Variance	1,217	1,337	2,184	2,221	**6,959**	**1,740**

Table 7-81 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-81: Future period expenditure for W06-06 development of water planning and regulatory framework ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	2,321	2,256	2,358	2,309	2,354	**11,598**	**2,320**

The actual expenditure in the current determination period averages $3,556,000 per year. This is $1,740,000 per year (96%) more than allowed for in the 2021 Determination, which averaged $1,816,000 per year.

The proposed expenditure for the 2025 Determination period averages $2,320,000 per year. This is $504,000 per year (28%) higher than the average annual expenditure allowed for in the 2021

Determination, and $1,236,000 per year (35%) lower than the actual annual expenditure incurred in the current period.

7.13.2 Drivers for expenditure

The driver for this activity is to effectively administer and operationalise the legislative framework for water management in NSW and to respond to evolving Government policy and reform agenda. DCCEEW is responsible for an extensive portfolio of water management legislation and subordinate legislation. The key pieces of State legislation governing water management in NSW include, but are not limited to, the *Water Management Act 2000*, *Water Act 1912*, Water Management (General) Regulation 2018, Natural Resources Access Regulator Regulation 2018, and *Water NSW Act 2014.* Regulations are subject to repeal every five years under section 10 of the *Subordinate Legislation Act 1989*, at which point the Minister can allow the regulation to lapse if it is no longer needed. If it is needed, the Minister can seek to remake the regulation without amendments (provided there are no legal barriers to doing this) or with amendments. The Minister can also request the Premier to postpone the repeal until the following year.

7.13.3 Performance in the current period

Three output measures and two associated performance indicators are in place for this activity in the current period. These seek to ensure that policies and regulatory instruments are progressed each year, that a risk-based framework is used to inform the prioritisation of policy and regulatory work, and that timely public access is provided to approved policies and regulatory instruments. WAMC reported that all output measures and performance indicators are being met in the current period.

7.13.4 Review of current period expenditure

DCCEEW has overspent its allocation by 96% in the current period. 'Internally funded core' expenditure (i.e., expenditure that is funded through the WAMC determination and that excludes corporate overheads) comprises around 45% of total actual expenditure in the current period. The remaining components are corporate overheads (20%) and externally funded costs (35%) for Aboriginal Water Program development, which was not included in WAMC's pricing proposal for the 2021 Determination, and water sharing plan template development. DCCEEW does not propose externally funded costs for this activity in the future period.

We note that if 'internally funded core' expenditure is considered in isolation, actual expenditure is around 5% higher than allocated. This small increase is driven by the inclusion of just over 1 FTE from the Communications and Engagement team. DCCEEW advised[141] that Communications and Engagement staff were omitted from WAMC's pricing proposal for this activity for the 2021 Determination. We note that, excluding Communications and Engagement staff, DCCEEW's current FTEs are similar to its allocation.

In the WAMC pricing proposal (p. 118), DCCEEW noted that 'extensive research, analysis and consultation is needed to ensure the recommended policy position and regulatory option is customer-focused and able to be effectively implemented and understood'. We consider that the inclusion of just over 1 FTE from the Communications and Engagement team is appropriate for ensuring that policy positions and regulatory options are in the public interest and informed by consultation, which is consistent with the principles set out in the NSW Government Guide to Better Regulation[142].

[141] Via our W06-06 interview with DCCEEW on 4 December 2024.

[142] NSW Treasury 2019, *NSW Government Guide to Better Regulation*, TPP 19-01 Policy and Guidelines Paper, TPP19-01 - Guide to Better Regulation.pdf, viewed on 19 February 2025.

7.13.5 Review of future period expenditure

7.13.5.1 Upper bound assessment

Scope adjustments

DCCEEW has determined a Water Policy Work Program for the future period that reflects statutory timeframes for remaking regulations as well as projected deliverables and milestones from existing, known projects. However, the nature of policy work requires both planned and responsive approaches to be taken, with the latter being more challenging to forecast into a forward work program. To this end, DCCEEW proposes to maintain resourcing at current actual levels (9.8 – 10 FTEs), comprising around 8.6 FTEs from the Water Policy team and just over 1 FTE from the Communications and Engagement team.

For determining the upper bound of efficient expenditure, we are satisfied with the proposed scope being based on:

- A Water Policy Work Program reflecting known timeframes for planned work, including statutory timeframes
- Maintenance of current resourcing levels to enable planned work to be complemented by responsive work.

We have considered a lesser scope when setting our recommended lower bound, which we discuss in Section 7.13.5.2.

Efficiency adjustments

DCCEEW has determined a larger planned scope of work for the future period when compared with the current period. This is based on seven regulation remakes being anticipated in the future period, compared with the one regulation remake that was undertaken in the current period. Although the number of regulation remakes is expected to increase sevenfold (notwithstanding any differences in relative resourcing requirements), DCCEEW's proposed 'core' expenditure (exclusive of overheads) is in the order of its current period allocation.

In its initial bottom-up cost build-up, prior to the application of a top-down reduction by the Executive team across all activities, DCCEEW proposed the resourcing profile summarised in Table 7-82.

Table 7-82: Proposed resourcing profile for W06-06 (Development of water planning and regulatory framework)

Position grade	Proportion of total annual FTEs
Clerk 3/4	7%
Clerk 5/6	7%
Clerk 7/8	27%
Clerk 9/10	29%
Clerk 11/12	27%
SES B1	3%
Total	**100%**

Assuming the 'shape' of the resourcing profile (i.e. relative proportions of FTEs) has remained constant following the top-down reduction, we consider that this profile – which is skewed toward intermediate to senior staff – is appropriate for the nature of policy and regulatory work. That is, we consider it appropriate for such work to be led by senior staff, who possess significant policy and/or regulation experience and who may possess tertiary qualifications in relevant fields such as law, public policy/governance or science. We note that DCCEEW has made a small allowance for junior to intermediate staff, which we consider appropriate for routine tasks.

In developing its work program, DCCEEW advised that it seeks to:

- Prioritise strategic, planned work to reduce the number of reactive projects required to respond to incidental needs or requests for bespoke arrangements
- Apply a risk-based approach to prioritising work.

In respect of the latter, DCCEEW has developed a Governance & Risk Framework (OM63)[143], which seeks to ensure that time and resources are allocated to the projects that present the greatest risks or that provide the most significant benefits or opportunities. The framework sets out the considerations that should be made when prioritising projects, such as statutory requirements; Government and Ministerial priorities; strategic and Executive priorities; risks, needs and opportunities; and budget and cost. The framework also describes the role that each level of Government – and each overarching strategy or business plan – plays in setting and achieving priorities. However, we note that the document does not set out a framework for assessing and managing the risk of not delivering a project. It also does not set out a framework for understanding and managing trade-offs and prioritising between projects.

DCCEEW provided to us[144] an example presentation that was internally delivered to the Water Leadership team on 3 November 2023 and that, among other matters, provided an overview of each policy and regulatory work program, key achievements in 2022 – 2023 and 2023 – 2024, and a high-level risk assessment of priority projects in respect of the risk of not delivering each project. We acknowledge that this demonstrates an element of risk assessment being performed. However, we note the following:

- Neither the risk statements (e.g., 'regulatory effectiveness') nor the consequence statements (e.g., 'ineffective water resource management') clearly articulate the risk or consequence of not delivering a project
- Consequences are described as short statements only (e.g., 'ineffective water resource management') and are not assessed against a scale
- It is not clear how initial risks compare with DCCEEW's risk appetite and how prioritisation has been performed.

Based on the above, we consider that there is an opportunity for improved project prioritisation through the development and documented implementation of a structured risk management approach. This approach should result in the clear articulation of the specific consequences and risks of not delivering each project; clear communication of how initial risk ratings compare with DCCEEW's risk appetite; and transparency of how projects have been prioritised. In articulating and endorsing its risk appetite for regulatory risks, DCCEEW should have regard to the principles of the NSW Government Guide to Better Regulation, including consideration of an outcomes and risk-based approach to regulation. We have applied a 5% reduction to the annual expenditure proposed by DCCEEW to allow for cost savings resulting from improved project prioritisation.

[143] Received on 29 November 2024 in response to RFI 46.

[144] Received on 23 January 2025 in response to RFI 135.

7.13.5.2 Lower bound assessment

Scope adjustments

As mentioned in Section 7.13.5.1, the planned scope of work for the future period includes seven regulation remakes. Three of these remakes are scheduled for the final year of the future period (2029/30). However, as mentioned in Section 7.13.2, an option for regulation remakes is to postpone the repeal of the regulation by one year. Therefore, to set our lower bound, we have made a scope adjustment to defer one regulation remake to the subsequent determination period (i.e., the period beginning 1 July 2030).

To set our lower bound, we have firstly removed, from the final year of the future period, the estimated minimum resourcing effort (2 FTEs) required for a high-intensity regulation remake[145]. We have then reprofiled the resulting total expenditure over the future period to create a stable resourcing profile – that is, a profile of 9.4 FTEs per year in each year of the future period, rather than 9.8 FTEs per year between 2025/26 and 2028/29 and then a sudden reduction to 7.8 FTEs in 2029/30.

We note that selecting the lower bound presents the following potential risks:

- Statutory obligations not being met in the event that the Premier does not decide to postpone the repeal of a regulation
- Increased responsive costs in the short to medium terms, resulting from a potential need to reactively propose several separate amendments to a regulation, over the timeframe that the regulation is in effect, rather than a single, consolidated set of amendments.

We have proposed a moderate scope adjustment (the deferral of one regulation remake) in setting our lower bound to balance the above risks with customer affordability.

Efficiency adjustments

We have not identified any adjustments needed for efficiency in setting a lower bound.

[145] In slide 6 of the W06-06 PowerPoint presentation delivered by DCCEEW to Stantec on 4 December 2024, DCCEEW referenced a resourcing requirement of '2 FTE+' for high-effort policy and regulatory projects. A copy of the PowerPoint presentation was provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

7.13.6 Conclusions and recommendations

Our recommended range of efficient expenditure for this activity in the future period is set out in Table 7-83.

Table 7-83: Recommended range of efficient expenditure – W06-06

	($'000 2024/25)				
Item	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**
Total proposed operating expenditure	2,321	2,256	2,358	2,309	2,354
Total scope adjustments	0	0	0	0	0
Total efficiency adjustments	-116	-113	-118	-115	-118
Recommended total upper bound efficient operating expenditure	2,205	2,143	2,240	2,194	2,236
Total scope adjustments	-69	-7	-104	-58	-100
Total efficiency adjustments	0	0	0	0	0
Recommended total lower bound efficient operating expenditure	2,136	2,136	2,136	2,136	2,136

7.14 W06-07 (Cross border and national commitments)

7.14.1 Background

The scope of this activity is to:

- Represent the NSW Government in interjurisdictional water planning and management forums
- Deliver the Basin Salinity Management program
- Provide input into interjurisdictional statutory reviews, such as the Basin Salinity Management 2030 Strategy review, the review of the Basin Plan in 2026, and the review of the *Water Act 2007* (Cth) in 2027
- Fulfil interjurisdictional reporting requirements.

This activity is undertaken by DCCEEW. DCCEEW has classified all expenditure for this activity as operating expenditure in the WAMC pricing proposal.

Figure 7-25 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

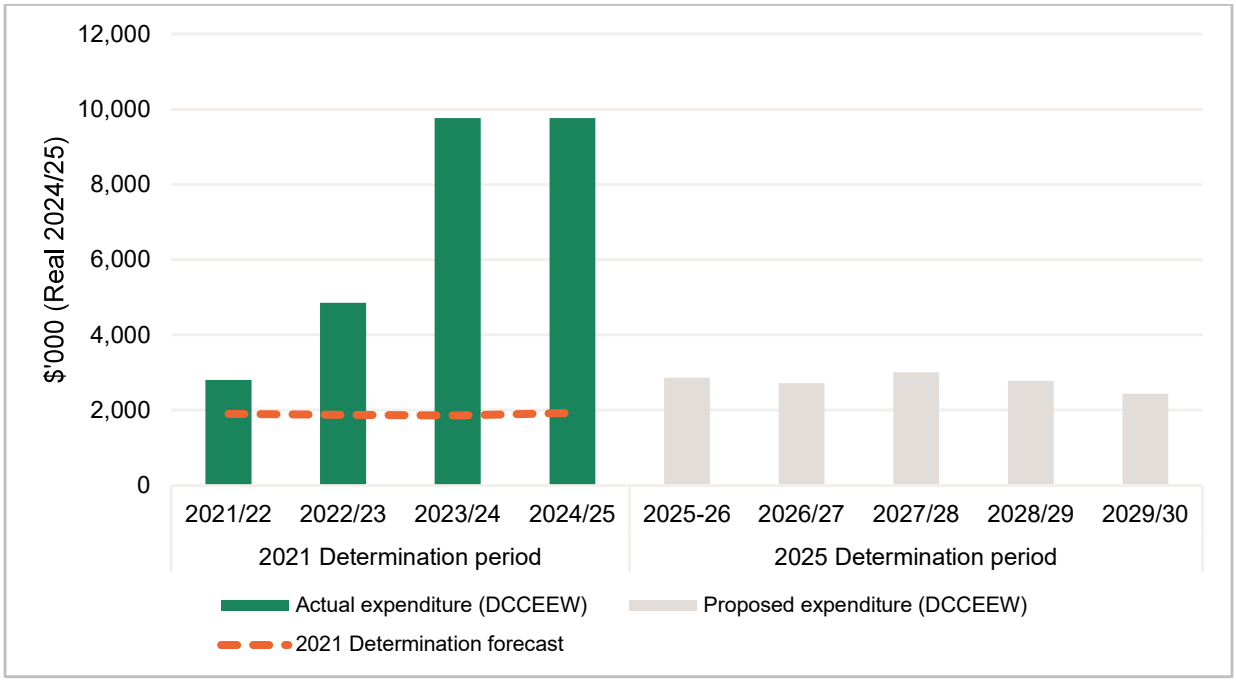

Figure 7-25: Current and future period expenditure for W06-07 cross border and national commitments

Table 7-84 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination and actual expenditure.

Table 7-84: Current period expenditure for W06-07 cross border and national commitments

Expenditure ($'000)	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	1,899	1,876	1,862	1,928	**7,565**	**1,891**
Actual expenditure (DCCEEW)	2,803	4,853	9,767	9,767	**27,190**	**6,798**
Variance	904	2,977	7,905	7,839	**19,625**	**4,906**

Table 7-85 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-85: Future period expenditure for W06-07 cross border and national commitments

Expenditure ($'000)	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	2,863	2,716	3,007	2,781	2,439	**13,806**	**2,761**

The actual expenditure in the current determination period averages $6,798,000 per year. This is $4,906,000 per year (259%) more than allowed for in the 2021 Determination, which averaged $1,891,000 per year.

The proposed expenditure for the 2025 Determination period averages $2,761,000 per year. This is $870,000 per year (46%) higher than the average annual expenditure allowed for in the 2021 Determination, and $4,036,000 per year (59%) lower than the actual annual expenditure incurred in the current period.

7.14.2 Drivers for expenditure

The driver for this activity is to meet the NSW Government's obligations and commitments under interjurisdictional instruments and agreements. The key interjurisdictional instruments and agreements governing this activity include, but are not limited to, the *Water Act 2007* (Cth) (the 'Act'), *Murray-Darling Basin Agreement* (which is Schedule 1 to the Act), *Basin Plan* (Cth), *New South Wales-Queensland Border Rivers Act 1946*, Intergovernmental Agreement on a National Water Initiative, and Great Artesian Basin Sustainability Initiative.

7.14.3 Performance in the current period

One output measure is in place for this activity in the current period, and there are no performance indicators. The output measure is that DCCEEW publish on its website 'an annual statement on interjurisdictional participation and performance against interstate agreements'. WAMC reported that this output measure is expected to be met in the current period. We note that this output measure does not enable an assessment to be performed of whether the intended outcomes of this activity are being achieved or whether those outcomes are being achieved in a cost-effective manner.

7.14.4 Review of current period expenditure

DCCEEW has overspent its allocation by 259% in the current period. 'Internally funded core' expenditure (i.e., expenditure that is funded through the WAMC determination and that excludes corporate overheads) comprises around 26% of total actual expenditure in the current period. The remaining components are corporate overheads (18%) and externally funded costs (56%). Expenditure in the last two years of the current period (2023/24 – 2024/25) has been fully externally funded.

DCCEEW advised[146] that, as at the end of the current period, there are anticipated to be around 3.5 FTEs for Basin Salinity Management and 7.6 FTEs for Intergovernmental Agreements. Additionally, DCCEEW advised[146] that surface water and groundwater science and modelling staff were omitted from WAMC's pricing proposal for Basin Salinity Management for the 2021 Determination.

Regarding Basin Salinity Management, DCCEEW advised that a key driver of its overspend in the current period was its recurring non-compliance against Schedule B to the *Murray-Darling Basin Agreement*, which in turn is Schedule 1 to the *Water Act 2007* (Cth). These non-compliances were highlighted by the Independent Audit Group for Salinity, who remarked in their January 2020 report[147], covering the July 2017 – June 2019 period, that 'any further delay will put both the investors and the health of the River Murray at risk'. Under Clause 34 of Schedule B, the Murray-Darling Basin Authority (the 'Authority') must appoint independent auditors to carry out an audit of the Contracting Governments' and Authority's performance against Schedule B. The Contracting Governments are the Governments of Australia, New South Wales, Victoria, South Australia, Queensland, and the Australian Capital Territory.

7.14.5 Review of future period expenditure

7.14.5.1 Upper bound assessment

Scope adjustments

Intergovernmental agreements

DCCEEW has determined a larger scope of work for the future period when compared with the current period. This is due to several significant intergovernmental instruments and agreements being scheduled for review in the future period, such as the 2026 Basin Plan Review, and the new National Water Agreement that is currently being drafted. Each of these will require increased representation at interjurisdictional forums. We are satisfied with this scope for determining the upper bound of efficient expenditure.

Basin Salinity Management

DCCEEW has determined a larger scope of work for the future period when compared with the actual scope delivered in the current period. This is primarily due to a strategic review of the Basin Salinity Management 2030 Strategy necessitating commencement by 2026. We are satisfied with this scope for determining the upper bound of efficient expenditure.

[146] Via our W06-07 interview with DCCEEW on 4 December 2024. This was later clarified by DCCEEW in its response to our draft report.

[147] Independent Audit Group for Salinity 2020, *Report of the Independent Audit Group for Salinity: July 2017–June 2019*, January 2020, report-independent-audit-group-salinity-2019.pdf, viewed on 23 February 2025.

Efficiency adjustments

Intergovernmental agreements

DCCEEW proposes an annual average resourcing level of 6 FTEs[148] in the future period. This is less than its current resourcing level (7.6 FTEs) but does not appear to account for the full extent of the reductions recommended in our 2021 review. In our 2021 review, we noted that DCCEEW's expenditure forecast at the time was based on 6.8 FTEs for intergovernmental activities, and we recommended the following adjustments:

- *A reduction of 25% to reflect our opinion that around one-quarter of the effort for intergovernmental activities fell outside of the scope of WAMC monopoly services*
- *A reduction of 5% to reflect the increased efficiency that we expected to be realised through improved governance arrangements and less involvement of the Basin States in committee work, following the implementation of the recommendations from the 2019 Claydon review of Murray-Darling Basin joint governance arrangements[149].*

Accounting for the above reductions results in a current period FTE allocation of substantially less than 6 FTEs. We acknowledge that there is a larger scope of work in the future period due to the impending review of significant intergovernmental instruments and agreements. However, after accounting for the reductions recommended in our 2021 review, it is not clear how the quantum of increased FTEs (relative to our 2021 review recommendations) is justified. As such, in setting an upper bound, we have made a modest adjustment to the proposed future period expenditure to reflect 5.9 FTEs. We note that this maintains resourcing at a higher level than recommended in our 2021 review to account for the increased scope of work in the future period.

Basin Salinity Management

DCCEEW proposes to maintain its current resourcing level of 3.5 FTEs into the future period. DCCEEW has identified three options for achieving the outcomes of Basin Salinity Management activities under W06-07. The description, basis and considerations underpinning each option are summarised in Table 7-86.

[148] Column K of the '2. DCCEEW Cost - Aug24($23-24)' tab of the '20241213 (Final - sent to Stantec) NRR model input - DCCEEW WAMC costs' spreadsheet. This spreadsheet was provided by DCCEEW to Stantec on 13 December 2024 in response to a follow-up request for information for greater granularity of cost build-ups (RFI 77), which followed earlier requests for information (RFIs 28 and 30).

[149] Claydon, G 2019, *Review of the Murray-Darling Basin joint governance arrangements: Final report*, 18 March 2019, review-of-mdb-joint-governance-arrangements-final-report.pdf, viewed on 23 February 2025.

Table 7-86: Options identification for Basin Salinity Management activities

No.	Description	Basis	Considerations
1	Current level of funding	Maintain the current level of funding (around $435,000 per year)	Risks of: • Returning to non-compliance • Funding corrective actions as a result • Program instability
2	Optimal level of funding	Fund all identified activities (6 FTEs), including full internal technical support for salinity modelling	N/A – all identified activities are funded
3	Modified level of funding	Reduce proposed FTEs from 6 FTEs (Option 2) to 3.4 FTEs to maintain core Basin Salinity Management and program management functions	• Proposed expenditure is based on prioritisation of larger salinity register entries and high-risk catchments • Proposed expenditure excludes, for example: ○ Delivery of lower priority register actions at the required frequencies ○ Review and update of all catchment salt load models ○ Update of models to new climatic or benchmark periods ○ Changes to the Core Salinity Modelling Network ○ Participation in the Basin Plan review and any additional governance processes under the Basin Salinity Management 2030 Strategy review

DCCEEW advised[150] that an allowance for surface water and groundwater science and modelling staff was included in its initial bottom-up cost build-up for Basin Salinity Management activities, but that it was subsequently removed as part of the application of a top-down reduction by the Executive team. We reviewed the cost build-up spreadsheet provided by DCCEEW[151] and confirmed this to be the case.

We consider that DCCEEW has appropriately considered a range of options for achieving the outcomes of Basin Salinity Management activities under W06-07. In considering a range of options, DCCEEW has identified the required activities that can be deferred, the risks caused by deferral, and the risks it is willing to accept. Therefore, we have not identified any adjustments needed for efficiency in setting either a lower bound or an upper bound.

However, we recommend that, for the next determination, DCCEEW review its process for applying top-down reductions to ensure that resourcing that is core to the delivery of WAMC water planning and management functions, such as modelling, are appropriately prioritised, including where they provide input into other W-code activities. We further recommend that DCCEEW clearly articulate and maintain controlled documentation of:

- The decision-making criteria established for its top-down prioritisation process
- The required authorities for endorsing those criteria
- The agreed accountabilities and responsibilities for applying those criteria to prioritise proposed expenditure between and within W-code activities, and the required authorities for endorsing the results of that process

[150] Via our W06-07 interview with DCCEEW on 4 December 2024.

[151] '20241213 (Final - sent to Stantec) NRR model input - DCCEEW WAMC costs' provided by DCCEEW to Stantec on 13 December 2024 in response to a follow-up request for information for greater granularity of cost build-ups (RFI 77), which followed earlier requests for information (RFIs 28 and 30).

- Its risk appetite and how that appetite has been considered in prioritising proposed expenditure.

7.14.5.2 Lower bound assessment

Scope adjustments

Intergovernmental agreements

We have not identified any required scope adjustments in setting a lower bound. We did not find any opportunities to reduce the proposed expenditure further based on scope matters such as service levels, non-essential or deferrable activities, or changes in assumptions.

Basin Salinity Management

We have not identified any required scope adjustments in setting a lower bound. We did not find any opportunities to reduce the proposed expenditure further based on scope matters such as service levels, non-essential or deferrable activities, or changes in assumptions.

Efficiency adjustments

Intergovernmental agreements

We do not propose any additional efficiency adjustments in setting a lower bound. We note that our recommended 'core' expenditure (exclusive of overheads) for the first year of the future period is within 4% of the corresponding allocation for the first year of the current period. We consider this to be an appropriate balance between the increased scope of work for the future period and the efficiencies that should be realised.

Basin Salinity Management

We have not identified any adjustments needed for efficiency in setting a lower bound.

7.14.6 Conclusions and recommendations

Our recommended range of efficient expenditure for this activity in the future period is set out in Table 7-87.

Table 7-87: Recommended range of efficient expenditure – W06-07

	($'000 2024/25)				
Item	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**
Total proposed operating expenditure					
Intergovernmental agreements	1,340	1,348	1,461	1,280	1,013
Basin Salinity Management	1,522	1,369	1,546	1,500	1,427
Total scope adjustments					
Intergovernmental agreements	*0*	*0*	*0*	*0*	*0*
Basin Salinity Management	*0*	*0*	*0*	*0*	*0*
Total efficiency adjustments					
Intergovernmental agreements	*-65*	*-85*	*-140*	*-11*	*214*
Basin Salinity Management	*0*	*0*	*0*	*0*	*0*
Recommended total upper bound efficient operating expenditure					
Intergovernmental agreements	***1,275***	***1,263***	***1,320***	***1,269***	***1,227***
Basin Salinity Management	***1,522***	***1,369***	***1,546***	***1,500***	***1,427***
Total scope adjustments					
Intergovernmental agreements	*0*	*0*	*0*	*0*	*0*
Basin Salinity Management	*0*	*0*	*0*	*0*	*0*
Total efficiency adjustments					
Intergovernmental agreements	*0*	*0*	*0*	*0*	*0*
Basin Salinity Management	*0*	*0*	*0*	*0*	*0*
Recommended total lower bound efficient operating expenditure					
Intergovernmental agreements	***1,275***	***1,263***	***1,320***	***1,269***	***1,227***
Basin Salinity Management	***1,522***	***1,369***	***1,546***	***1,500***	***1,427***

7.15 W07-01 (Water management works)

7.15.1 Operating expenditure

7.15.1.1 Background

The scope of this activity is to undertake water management works to reduce the impacts arising from water use or to remediate water courses. This involves works in two main areas: to reduce salinity effects and to restore riverbank stability. Erosion effects are addressed by restoring river frontage through structural erosion controls, such as log and rock revetment, fencing to exclude stock and protect revegetation, and assistance with off-stream stock watering and planting of local native species. Salinity effects on surface water are mitigated by the operation of salt interception schemes.

Typical functions delivered under this activity include:

- Operation of works, such as the operation of regulators for watering events
- Maintenance of works such as regulators, culverts, levees, spillways and embankments (including topping up embankments, weed control, erosion remediation, and the replacement of electrical controls and solar power devices)
- Bank protection and erosion control
- Willow control and woody weed management
- Aboriginal cultural heritage management
- Instream habitat management
- Wetland management
- Monitoring (bank and asset condition)
- Contractor management.

This activity is undertaken by DCCEEW and involves both operational (this section) and capital expenditure (covered in the next section). WaterNSW has proposed expenditure in the future period for this activity but had no expenditure in the current period.

The current scope of works for this activity covers river works, salt interception schemes, regulators and weirs. There are currently five sites for river works:

- Tumut – Remediation of bank erosion from Blowering Dam operations, maintenance of works, and instream and wetland management works. Remediation of bank erosion resulting from Snowy Hydro operations.
- Upper Murray – Maintenance of works delivered via Snowy Hydro Agreement, remediation of bank erosion resulting from Snowy Hydro operations and MDBA river operations
- Edward/Wakool – Remediation of bank erosion resulting from Burrinjuck Dam operations and NSW river operations
- Lower Murrumbidgee – Remediation of bank erosion resulting from Burrinjuck Dam operations and NSW river operations
- Upper Murrumbidgee – Remediation of bank erosion resulting from Tantangara Dam operations (community consultation and strategic planning only).

There are two salt interception schemes (SIS):

- Buronga (joint with MDBA) – Operation and maintenance. This scheme consists of eight production bores, three monitoring pontoons and 90 monitoring bores, with 29 data loggers.
- Billabong – Operation and maintenance. This scheme consists of three production bores and 16 monitoring bores.

There are 54 unregulated weirs and several larger regulator structures within this activity.

Additionally, this activity includes delivering asset management functions for WAMC water infrastructure assets managed by DCCEEW at Gayini, Poon Boon lakes and Anabranch with a net book value of $24.5 million. This includes the development of an asset management framework, including a strategic asset management plan (SAMP), asset management plans (AMP) and asset registers.

Figure 7-26 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

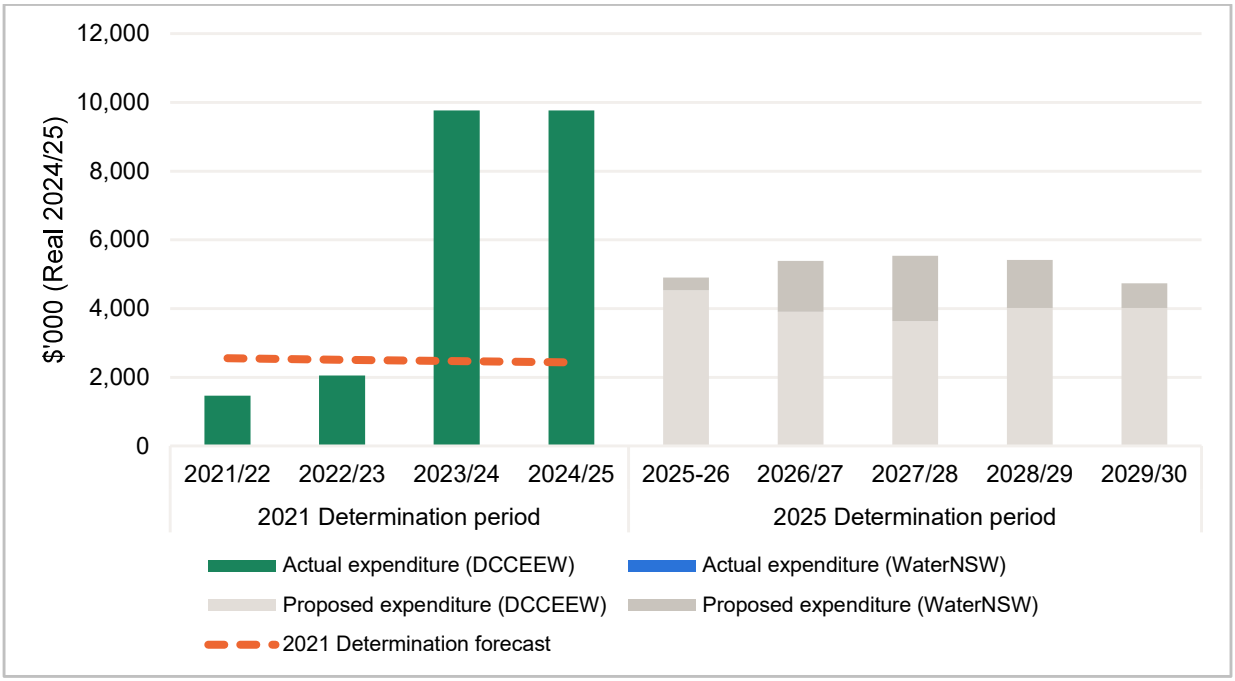

Figure 7-26: Current and future period expenditure for W07-01 (Water management works)

Table 7-88 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-88: Current period expenditure for W07-01 (Water management works) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (DCCEEW)	2,549	2,509	2,469	2,429	9,956	2,489
2021 Determination forecast (WaterNSW)	0	0	0	0	0	0
2021 Determination forecast	2,549	2,509	2,469	2,429	**9,956**	**2,489**
Actual expenditure (DCCEEW)	1,458	2,056	9,772	9,772	23,058	5,765
Actual expenditure (WaterNSW)	0	0	0	0	0	0
Actual expenditure	1,458	2,056	9,772	9,772	**23,058**	**5,765**
Variance	-1,091	-453	7,303	7,343	**13,102**	**3,276**

Table 7-89 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-89: Future period expenditure for W07-01 (Water management works) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	4,534	3,902	3,632	4,022	4,021	20,111	4,022
Proposed expenditure (WaterNSW)	372	1,491	1,908	1,393	713	5,877	1,175
Proposed expenditure	4,906	5,393	5,540	5,415	4,734	**25,988**	**5,198**

The actual expenditure in the current determination period averages $5,765,000 per year. This is $3,276,000 per year (132%) more than allowed for in the 2021 Determination forecast, which averaged $2,489,000 per year.

The proposed expenditure for the 2025 Determination period averages $5,198,000 per year. This is $2,709,000 per year (109%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $567,000 per year (10%) lower than the actual annual expenditure incurred in the current period.

7.15.1.2 Drivers for expenditure

DCCEEW stated the drivers for this activity code include the following:

- *Water Act 2007* (Commonwealth):
  - Salinity management requirement in Chapters 5, 9 and 11 of the Murray-Darling Basin Plan
  - Performance of works arrangements that enable NSW to comply with its formal salinity credit obligations in Schedule B to the Murray-Darling Basin Agreement, which is Schedule 1 to the Act
  - Joint Venture asset management obligations listed within the Joint Venture work plan, which is required to be prepared and approved annually under the Murray-Darling Basin Agreement.
- *Water Management Act 2000*:
  - Murray and Murrumbidgee Water Sharing Plans – specifically, mitigation of riverbank erosion and geomorphic instability that arises from river regulation and dam operations, such as water releases for downstream water uses. There is a legislative responsibility to assess the impact of erosion control works on the stability of the river channel through this Act.

- Murray and Murrumbidgee Regional Water Strategies, in which the Billabong SIS is noted as providing an important service to the broader community. These strategies set out the following objectives relevant to W07-01 (Water management works):
    - Development of a river and catchment recovery program (including a designated river works program)
    - Delivery and management of water
    - Enhancement of the environment.
- NSW Water Strategy priorities:
    - Improve river, floodplain and aquifer ecosystem health and system connectivity (Priority 3), primarily by improving water quality in these systems, by stabilising riverbanks and the operation and maintenance of SIS
    - Increase resilience to changes in water availability (variability and climate change) (Priority 4) through maintaining channel capacity and stabilising riverbanks to manage future risks associated with changes to how water is delivered to meet forecast demand.
- NSW Government's asset management policy.

Additional to the above drivers, there are levels of service in place that have a linkage to the Joint Venture with the MDBA. These key performance indicators include salinity measurements in the River Murray at Morgan (for SIS performance), zero non-compliance with flow/volume and weir pool changes and timing directives from the MDBA (river works performance), and compliance with environmental legislation and safe operating requirements. Of note, there is a key performance indicator stating that 100% of assets are better than or equal to condition rating 3 (fair). We view this requirement as being aspirational and limiting the asset planning process, as it is typically only seen on critical assets. Maintaining all assets to this indicator will drive over-investment in the asset base forcing assets to be renewed sooner.

The condition definition provided in Appendix 2 of the WAMC AMP (DCCEEW)[152] for condition rating 3 is 'Fair: Repair work required / ≥20% useful life remaining'. For condition rating 4, the minimum remaining useful life prescribed by the AMP is 5%. The (DCCEEW) WAMC portfolio is comprised mostly of long-life assets with an average expected life of 80 years and an average remaining life of 32 years[153].

Adopting the '100% of assets in condition 3 or better' indicator implies that these assets are being renewed at or before 20% of remaining life. Based on the average life of 80 years, this means assets are being planned to be renewed, on average, with 16 years of remaining life[154].

The other factor to consider is assets that are deemed to be critical should have a higher standard of renewal (i.e., replacing them sooner is appropriate), but the AMP only defines 64 assets as 'most critical' and 151 assets as 'critical' (211 assets in total), whereas 890 assets are listed as 'important' or 'not-critical'[155]. That is, less than 25% of the asset base is considered critical, and we consider it would be appropriate to renew those critical assets at condition rating 3. However, for the balance of assets that are not listed as critical, they could be prudently renewed at condition rating 4, with their renewal deferred by up to 10 years on average, depending on condition assessment outcomes and provided they are effectively maintained.

[152] As provided in RFI 7.
[153] Section 7.5, WAMC AMP.
[154] It is noted these are average values and specific assets will vary.
[155] Figure 13, WAMC AMP.

Condition is used in asset management as a proxy for remaining useful life and is often the basis for renewals planning, although other factors should be considered as well. By adhering to the level of service as currently stated, WAMC is potentially investing in renewals sooner than may be necessary, leading to potential over-investment.

A level of service statement such as '100% of assets in condition 3 or better' does not account for the context of each asset, its criticality, functionality, risk or resilience; and it does not leave room to consider alternate strategies to manage assets. For example, run to failure is a valid strategy for some asset types, and while it may not suit the assets in this portfolio, this level of service statement precludes the consideration of some of these alternate strategies in the asset planning process. It is expected that in a large asset portfolio there will be a small proportion of assets in poor condition (i.e., near the end of their life) that are due to be renewed as part of the asset lifecycle. It is recommended this level of service is reviewed and updated to better reflect the intent of the renewals planning process.

7.15.1.3 Performance in the current period

There are five output measures and performance indicators for this activity. DCCEEW water reported that at the end of the FY24, they had met two, were on track for the third and two measures were at risk. The first at risk measure is the length of river remediated where 5.54 km was achieved against a target of 12 km. Works in the first two years of the current determination period were impacted by high river levels and flooding. The works programs were reduced for both these two years and the modified program was completed. This measure will not be achieved by the end of FY25 as the cost of the outstanding 6 km is reported by DCCEEW as being approximately $4.3 million, well above the available remaining budget. It is planned to complete 6.7 km by the end of FY25.

The second at risk item is the performance indicator for the channel capacity at Tumut where 4,801 ML/day was achieved compared to the target of 9,200 ML/day. This was due to high rainfall and floods affected Snowy Hydro operations.

The output measures that were met or are on track include:

- High priority areas of erosion identified and remediated, met the target of 90%
- Salt diverted from the River Murray System diverted, achieved 47,999 t in FY23 against target of 50,000 t (3-year rolling average); on track to meeting the target for the current year
- Maintain the net credit (EC) balance for NSW on the BSM2030 Salinity Register =>20 EC, where the outcome was 26.7 in FY24.

It was noted in the submission and interviews that there are proposed changes to the output measures for the activity. There are two measures to be removed:

- High priority sites – annual work plans are developed to fit within budget constraints, resulting in only high and very high priority sites being actioned, so this measure is not a good indicator of success
- Channel capacity – difficultly decoupling river operations, impact of extreme climatic events (flooding) and the attribution of bank erosion remediation to this output measure.

One measure is to be changed for the length of bank protection works, adjusted based on past performance. It was discussed in the interviews that the target is likely to be 2 km/year, because that is what has been achieved in the past. We would question this methodology of setting a target, rather it should be based on what is required to achieve the required performance of the asset to meet objectives, then scaled for cost considerations if necessary. The target should be a result of the work done in preparing the asset management plan, not the historical performance.

New measures to be included to better align with program objectives and the Joint Venture framework:

- SIS and river works asset condition – It is expected that as asset renewals and repairs are completed, condition ratings will improve
- Establishment of Community Reference Groups and Strategic Management Plans (river works) – to ensure that program delivery is transparent and accountable to water users and the broader community
- Operating and maintenance protocol adherence (SIS) – to reduce the risk of future cost spikes associated with asset repair/renewals and to prevent further deterioration of assets which may impact performance requirements.

There were no performance metrics provided for the Joint Venture levels of service outcomes for the current period.

For the asset management component of this activity, DCCEEW have included the asset objectives developed in preparing the SAMP. They have nominated the current performance as a baseline measure to be referenced in future reviews over the 10-year life of the SAMP. There are four objectives that were provided, relating to safety, asset management maturity, climate change and financial decisions.

7.15.1.4 Review of current period expenditure

In the first two years of the current period, the underspend was attributed to a sustained high river level and flooding that prevented access to undertake river works construction and impacted on the operations of the Buronga SIS, reducing the costs expended.

Some of the works noted as being completed in the current period by DCCEEW are:

- Buronga SIS tower removal and switchboard replacements underway (to be completed by FY28)
- Buronga SIS safety audit completed
- Buronga SIS Asset Management framework in place
- Buronga SIS scheme performance review completed
- Billabong SIS groundwater model was developed and showed the effectiveness of the scheme
- Platypus, black cray and freshwater shrimp condition assessments were undertaken to investigate flow impacts and past river works activities' impacts on these populations in the Nimbo Creek and adjoining anabranch system
- Additional fencing of remnant native vegetation completed to protect riverbank integrity.
- Review of the Tumut River works program completed
- Bank condition assessments complete. Tumut asset condition assessments proposed for March 2025
- Upper Murray AMP drafted
- Addressed shortfall in Upper Murray funding associated with works delivered via Snowy Hydro funding agreement.

During FY23 some of the available budget from W07-01 (Water management works) was transferred to W06-07 (Cross border and national commitments) to fund basin salinity management (BSM) works. It was not articulated to us exactly what these works were, or the approval process that was followed, so it is difficult to determine if this reallocation was prudent. Given both activities involve salinity management through the salt interception scheme (W07-01 (Water management works)) and BSM (W06-07 (Cross border and national commitments)), there is some merit to this transfer, especially since the BSM activities were underfunded. We do note however, this activity is more focussed on operationally delivering physical works, whereas W06-07 (Cross border and national commitments) has a larger focus on management and planning.

The latter two years of the period were significantly overspent, each year by more than $7 million. The primary reasons stated by DCCEEW was the establishment of an asset management system to comply with the NSW treasury asset management policy. Other reasons provided were:

- Development of fixed asset register – no amount specified
- Overspend on Tumut river works strategic management framework – 112%
- Water access licenses held in the name of WAMC – $725,000/year
- DCCEEW asset management resources – $546,000 in FY24
- Emergency operation and maintenance of WAMC-owned assets – $13,000 in FY24
- Audit office, Infrastructure NSW and asset valuation service fees – $155,000 in FY24.

The total of these amounts for FY24 is $1.44 million, leaving a discrepancy of $5.9 million where no information was provided. DCCEEW clarified that the overspend on Tumut river works was a result of increased high-priority remediation activities that were identified post-flood, primarily due to the exacerbation of bank erosion caused by the floods.

WaterNSW did not report any expenditure in the current period.

Asset management

The proposal referenced a large overspend on asset management costs, most of which was externally funded, but the extent of this funding was not disclosed. We have some concerns with the overspend on asset management tasks undertaken in this activity, particularly as it was verbally described as being ‘urgent’ in the interviews. The development of asset management artefacts is a strategic activity to be approached in a considered manner, and given than DCCEEW has allocated resources to achieve this task, we have assumed that a planned approached was adopted. Systems and frameworks are important, and we acknowledge there is a requirement from NSW Treasury that all state agencies have asset management systems in place. In this circumstance, these assets are jointly funded by the MDBA Joint Venture and WAMC, creating a rather unique management context.

Our view ordinarily would be that there should be one strategic asset management plan (SAMP) across the broader asset portfolio and associated asset management plans (AMPs) below this SAMP that focus on different asset classes, or different systems. However, given that this cohort of assets need to align with the MDBA Joint Venture requirements as well as the WAMC framework, it is understandable that a separate SAMP is required to capture how the management of these assets will align with both MDBA Joint Venture and WAMC requirements and ensure that a conflicting approach is not adopted. Yet the artefacts presented by DCCEEW in RFI 7 do not articulate this context well, do not mention the WAMC objectives, nor clearly explain the sources of funding and amounts received from the MDBA Joint Venture and WAMC.

From a WAMC perspective, there appears to be minimal collaboration in the development of these artefacts which is a missed opportunity. WaterNSW manages a large portfolio of related assets and would have learnings that can be shared and incorporated into the development of the DCCEEW artefacts. Even the titles of the documents provide the impression they relate to WAMC as a whole, yet they only cover the assets managed by DCCEEW. The titles are 'Strategic Asset Management Plan for Water Administration Ministerial Corporation' and 'Asset Management Plan – 2025/26 Water Administration Ministerial Corporation'.

We believe the costs attributed to the development of the asset management framework are in excess of costs seen in the water industry and are disproportionate to the quantum of assets involved. We do not view the expenditure on asset management as efficient or prudent. We are of the view there are efficiencies to be gained through working collaboratively within the WAMC organisation to leverage learnings and re-use existing processes to achieve the outcomes more efficiently, rather than creating separate systems within each individual agency.

Water access license costs

It was stated by DCCEEW that the costs for water access licenses were generally for obtained to support environmental flows by authorisation of the Minister for Water[156]; some were from hand backs for environmental reasons and could not be returned to the general pool. This is an ongoing cost that must be managed through WAMC where water rights are required to achieve the desired outcomes. We considered the appropriate of this cost being incurred on this activity and agree the costs should be on W07-01 (Water management works). The water management works are likely to create the need for the water entitlements and other activity codes are either fee for service or relate to creating license conditions, which would be less suitable.

7.15.1.5 Review of future period expenditure

The proposed costs for this activity are 109% above the previous determination allowance. The proposal was presented in three discrete sections, two for DCCEEW and one for WaterNSW. The first item covers the operational costs for the river works and SIS, the second for works that relate specifically to the regulators at Gayini, Anabranch and Poon Boon, as well as the water license access costs. For the third item, WaterNSW has proposed spend in the future period for the unregulated weirs.

Upper bound

River works and salt interception schemes

For the river works and SIS operations, the proposed costs average $2.09 million per year. This is consistent with the actual average spend from FY23 and FY24 (for this component as presented in the interviews[157]. DCCEEW explained their initial preferred scenario had a total of over $4 million per year, which they prioritised down to the amount presented in the proposal. The explanation provided for the prioritisation included:

- Trialling of the indigenous river keepers program deferred to next determination period
- Decrease in Tumut river works on-ground works noting that strategic management frameworks are currently being finalised
- Buronga SIS (minor reduction) to reflect expenditure as per the approved Joint Venture 25FY workplan and budget

[156] PowerPoint 'W07-01 WAMC Management Team OPEX and CAPEX', Slide 52.

[157] PowerPoint 'W07-01 RW SIS IPART interview presentation – 04122024 v3', Slide 28 and 32.

- Base level operational and maintenance costs only for Billabong SIS – no ability to implement additional efficiency measures
- Commencement of the Upper Murrumbidgee river works deferred to the last two years of the future period, and delivery of on-ground works deferred to the next determination period
- Edward/Wakool and Lower Murrumbidgee river works reduced to minimal on-ground works over the future period.

The efficiencies proposed by DCCEEW noted that the river works program will progress to maintenance by the end of the future period, reducing on ground works; finalising the strategic planning will provide further insights and evidence for future funding arrangements; implementing responsive operations for the salt interception schemes will reduce power costs and maintenance requirements and the completion of current renewal projects is anticipated to reduce future maintenance (e.g. switchboard replacements).

Based on the information provided, we have no adjustments for the upper bound for this component of the proposal in order to meet the output measures.

Regulators, asset management and water access licenses

Operational and maintenance activities are proposed across three regulator sites, being Gayini, Regulator 183 and Poon Boon. For Gayini, the allowance includes three instances of operating the regulator, undertaking maintenance, telecommunications and overheads for meetings and management. The comparison of the current and future periods is provided in the Table 7-90[158]. Gayini was built in 2019, and a condition assessment for valuation purposes was conducted in 2024. The outcome of this assessment indicated 35% (by value) of the assets at Gayini were in poor or very poor condition. Given these are long life assets, to experience this level of deterioration is concerning and indicates either there were issues in construction of the assets, emerging issues in the operation of the assets or the evaluation process for the condition assessment was not aligned with this asset type. We were not provided with the condition assessment and so are unable to comment on the impacts or the resulting required works. This makes it difficult to evaluate the future spend requirements.

The two items of future expenditure we have concerns over are the maintenance program, which has increased ten-fold compared to the current allowance, and the inclusion of the line item for overheads to attend meetings for consultation and governance. For the latter, we believe this cost is not efficient and seems high for the scope of tasks noted in the WAMC AMP (DCCEEW)[159]. No explicit plan was presented for these tasks. We have reduced the overheads by 20% ($11,000 reduction per year) for the upper bound as an efficiency change.

For the former (the maintenance program), the amount of maintenance needs to be informed by condition and the asset management strategy. DCCEEW did comment that the previous funding was insufficient to undertake the required activities, and that an asset management plan had recently been completed. In the asset management plan, various scenarios were outlined from fully funded to essential; however, figures were only provided at a high level. As noted above, we have not been provided the condition assessment report, and we have not been provided details of the specific maintenance tasks. We are of the view that this increase is not justified to the extent requested, but we understand additional works are required to ensure that outcomes are met for this system and associated assets. We propose an efficiency reduction of 20% ($68,000 reduction per year) for this line item for the upper bound, based on the scenarios presented in the asset management plan.

[158] PowerPoint 'W07-01 WAMC Management Team OPEX and CAPEX', Slide 39.

[159] As supplied in RFI 7.

Table 7-90: Operational costs for Gayini ($ 2024/25)

Deliverable	Current Allowance	Future proposal
Operations of Regulator (2 events in current, 3 events in future)	30,000	46,000
Maintenance Program	35,000	342,000
Telecommunications (incl SCADA, on-call support)	62,000	100,000
Overheads to attend meetings, financial management and report on activity	0	54,000
Total	127,000	496,000

For the other regulators presented, the following operational costs are proposed:

- Regulator 183 at $67,000 per year
- Poon Boon regulator at $22,500 per year.

We are of the view these costs are appropriate, and we accept the proposal for the upper bound.

The costs for the water access licenses are $760,000 per year and based on the reasons discussed in 7.15.1.4, we accept these costs as the upper bound for this component.

We note that DCCEEW has included some costs that are not being included in the submission as funding will be sort elsewhere. These include $252,000 for engineering and assessment works post flood events at Gayini, $276,000 for asset management maturity, $10,500 for WAMC management team strategic asset management, stakeholder engagement and governance for Poon Boon and $66,000 for management of the water access licenses. We have not assessed these costs as they are out of scope of the proposal.

The total of the two DCCEEW components based on the information provided as described above, matches the totals in the NRR model provided[160], at an average of $3.35 million per year over the future period. However, the proposal had proposed expenditure for DCCEEW at an average of $4.02 million per year over the future period. No information was provided on this discrepancy, so we have adjusted the upper bound to remove this amount from each year (see Table 7-91) on the basis that inadequate information was provided. This results in a 17% decrease over the five years as a scope adjustment.

Table 7-91: Comparison of proposed DCCEEW future costs for W07-01 (Water management works) ($'000 2024/25)

Comparison of DCCEEW future costs	2025/26	2026/27	2027/28	2028/29	2029/30
As per NRR model '2.1 DCCEEW Costs - $24-25', Row 116	3,544	3,302	3,033	3,432	3,423
Amount in Proposal	4,534	3,902	3,632	4,022	4,021
Difference	-990	-600	-599	-590	-598

[160] RFI 77 – '20241213 (Final - sent to Stantec) NRR model input - DCCEEW WAMC costs.xlxs', tab '2. DCCEEW Cost – Aug24($23-24)', Row 116.

Unregulated weirs

WaterNSW has nominated a total of $5.8 million over the five-year future period for works on the unregulated weirs, consisting of inspections, surveys and minor renewals. However, there was minimal information provided in the proposal or the interviews to justify the requested expenditure. Given the profiling of the expenditure, starting low in the first year at $372,000, peaking in the third year at $1.9 million, and reducing by the fifth year to $713,000, we assume there is some detail behind these costs; however, we have been unable to assess it.

In the document provided by WaterNSW for the capital project[161], WaterNSW noted that funding was previously provided for unregulated weirs through a customer service obligation from the NSW Government. This has now been discontinued, and funding is being sought through WAMC for the unregulated weirs. Given an objective of WAMC is to manage the delivery of water, maintaining flow/level control structures such as weirs aligns with this objective, so we accept they should be in scope.

We recognise the importance of maintaining assets, so we have nominated the upper bound of this component to be the same as that previously funded by the NSW Government at a cost of $500,000 per year. This allowed for one inspection per year across the 54 weirs, giving a resulting cost per site of $9,259 (excluding overheads). The overall total over the five years is a 60% reduction on the proposed amount.

Lower bound

The only area we would consider for lower bound adjustments are the salt interception schemes to align with a change in the key performance indicator regarding the percentage of assets in good condition or better. If this metric is adjusted, we suggest there can be a $50,000 per year reduction in the salt interception scheme costs for efficiency on the lower bound. Based on advice from DCCEEW, we note that this KPI may not be adjusted until the next appropriate review process for the Joint Venture with the MDBA.

We do not have any other recommendations for lower bound adjustments that would not impact on meeting the desired outcomes for this activity.

Potential reform opportunities and other observations

In the WAMC context, generally DCCEEW sets policy and undertakes planning and management activities, while WaterNSW implements the policy as the operational agency. For this activity, DCCEEW have responsibility to undertake the operational tasks for the river works and SIS. We enquired as to the rationale for this arrangement and were informed that it was to keep consistency with other similar programs delivered by the Joint Venture with the MDBA and arrangements under the Murray-Darling Basin Agreement where DCCEEW is nominated as the State Constructing Authority. While there is merit in remaining consistent and getting alignment in the types of work undertaken, we question if this is the most efficient model for WAMC. The fact DCCEEW has spent a large amount of time and cost on setting up asset management systems to implement these works indicates it is not a core function of the broader agency and so additional effort is required to meet the requirement. At a minimum we recommend DCCEEW and WAMC collaborate to leverage existing asset management systems frameworks to gain efficiencies in the delivery of this activity; and more broadly it may be prudent to review the roles and responsibilities for which agency is best placed to undertake the core tasks of this activity.

[161] RFI 11 – 'WNSW-W898-I-WAMC-W07-Unregulated Weirs'.

7.15.1.6 Conclusions and recommendations

Overall, the information presented for review for this activity from DCCEEW did not have the same level of clarity as other activities and on occasion we found discrepancies in the total amounts provided when compared to the elements that made up that total. We have based our recommendations on the available information and the outcome of our assessment is presented is Table 7-92.

We recommend reviewing the specific level of service, that all assets are in condition grade 3 or better, as this metric will limit the range of asset management strategies that are considered and potentially result in renewals being undertaken sooner than otherwise may be required. Based on advice from DCCEEW, we note this relates specifically to the Joint Venture with the MDBA and its agreements and would have to be approached through the appropriate review process.

Table 7-92: Recommended range of efficient operating expenditure – W07-01 (Water management works) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Total proposed operating expenditure	**4,906**	**5,393**	**5,540**	**5,415**	**4,734**
Proposed operating expenditure (DCCEEW)	4,534	3,902	3,632	4,022	4,021
Scope adjustments (DCCEEW)	-990	-600	-599	-590	-598
Efficiency adjustments (DCCEEW)	-79	-79	-79	-79	-79
*Recommended upper bound efficient operating expenditure (*DCCEEW*)*	*3,465*	*3,223*	*2,954*	*3,353*	*3,344*
Proposed operating expenditure (WaterNSW)	372	1,491	1,908	1,393	713
Scope adjustments (WaterNSW)	0	-991	-1,408	-893	-213
Efficiency adjustments (WaterNSW)	0	0	0	0	0
Recommended upper bound efficient operating expenditure (WaterNSW)	372	500	500	500	500
Total recommended upper bound efficient operating expenditure	**3,837**	**3,723**	**3,454**	**3,853**	**3,844**
Scope adjustments (DCCEEW)	0	0	0	0	0
Efficiency adjustments (DCCEEW)	-58	-56	-52	-58	-58
*Recommended lower bound efficient operating expenditure (*DCCEEW*)*	*3,407*	*3,167*	*2,902*	*3,295*	*3,286*
Scope adjustments (WaterNSW)	0	0	0	0	0
Efficiency adjustments (WaterNSW)	0	0	0	0	0
Recommended lower bound efficient expenditure (WaterNSW)	*372*	*500*	*500*	*500*	*500*
Total recommended lower bound efficient operating expenditure	**3,779**	**3,667**	**3,402**	**3,795**	**3,786**

7.15.2 Capital expenditure

7.15.2.1 Background

The scope of this activity is to undertake water management works to reduce the impacts arising from water use or remediate water courses. A description of background information can be found in Section 7.15.1.1.

This item covers the capital expenditure for replacement and upgrading of assets. The activity is undertaken by both DCCEEW and WaterNSW.

Figure 7-27 shows the capital expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

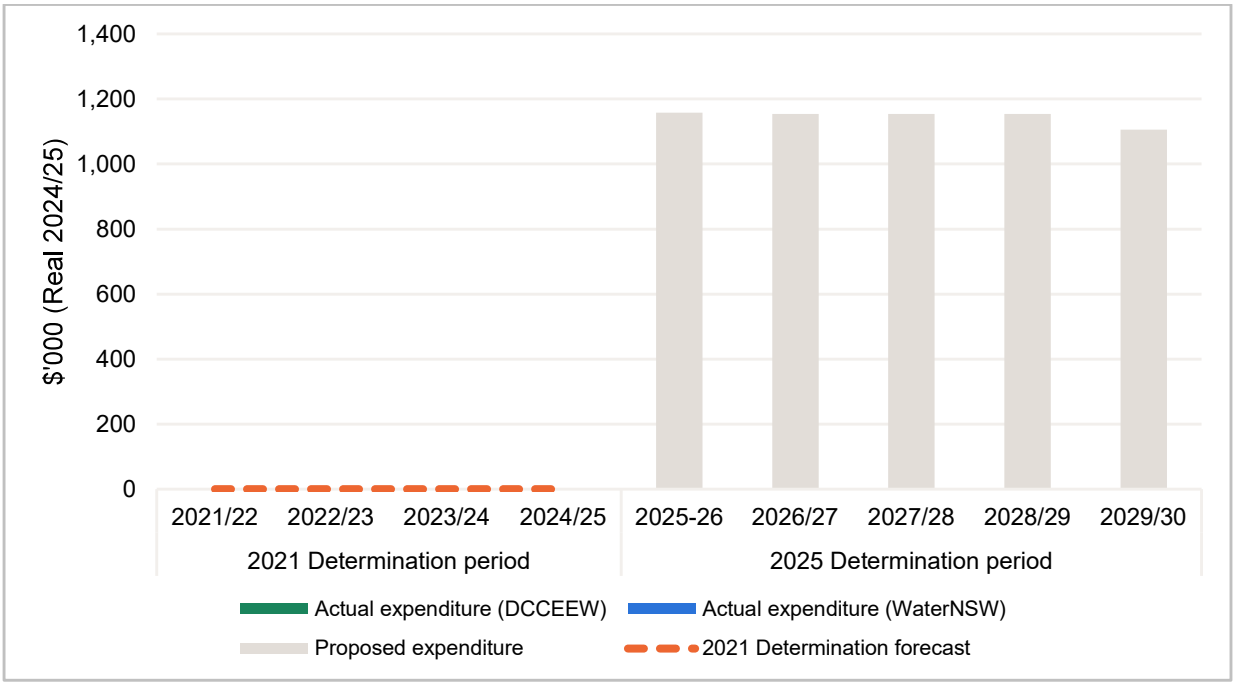

Figure 7-27: Current and future period capital expenditure for W07-01 (Water management works)

Table 7-93 presents the current period expenditure for this activity, including the average annual expenditure across all years and, the variance between the 2021 Determination forecast and actual expenditure.

Table 7-93: Current period capital expenditure for W07-01 (Water management works) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (DCCEEW)	0	0	0	0	0	0
2021 Determination forecast (WaterNSW)	0	0	0	0	0	0
2021 Determination forecast	0	0	0	0	**0**	**0**
Actual expenditure (DCCEEW)	0	0	0	0	0	0
Actual expenditure (WaterNSW)	0	0	0	0	0	0
Actual expenditure	0	0	0	0	**0**	**0**
Variance	0	0	0	0	**0**	**0**

Table 7-94 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-94: Future period capital expenditure for W07-01 (Water management works) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	1,030	1,030	1,030	1,030	1,030	**5,150**	**1,030**
Proposed expenditure (WaterNSW)	128	124	124	124	76	**576**	**115**
Proposed expenditure	1,158	1,154	1,154	1,154	1,106	**5,726**	**1,145**

There was no actual capital expenditure or allowance for this activity in the 2021 Determination period.

The proposed expenditure for the 2025 Determination period averages $1,145,000 per year.

7.15.2.2 Drivers for expenditure

Please refer to Section 7.15.1.2 for a description of the drivers for this activity.

7.15.2.3 Performance in the current period

Please refer to Section 7.15.1.3 for a description of the performance for this activity.

7.15.2.4 Review of current period expenditure

There was no expenditure in the current period.

7.15.2.5 Review of future period expenditure

Upper bound

Gayini regulator

DCCEEW have proposed two capital expenditure projects for the future period, described in the response to RFI 11[162]. The first is for the Gayini regulator which is currently in poor condition. The project will address a backlog of major repairs, improve the mechanism and address design issues that impact on the environmental water flows. The proposal is for $250,000 to prepare an options assessment and business case and $4.65 million to deliver the works. We agree this is a prudent project, however, as the business case has not yet been completed, we have removed the cost for the delivery of this project from the upper bound.

Regulator 183

The second project is for Regulator 183 to undertake renewal works. The project delivery is currently estimated at $12.67 million, which is not included in the proposal. The proposed spend in the future period is for $250,000 to prepare an options assessment and the business case, which we have included in the upper bound.

Unregulated weirs

WaterNSW have proposed one capital project to improve the safety of publicly accessible unregulated weirs as described in the capital project summary provided[163]. This project is justified based on a previous fatality at Penrith Weir in 2022 and the need to ensure all weirs meet the appropriate safety standards, which includes providing handrails, safety barriers, warning signs and safety buoys. We have included this project in the upper bound.

Lower bound

We have not identified any changes for the lower bound.

7.15.2.6 Conclusions and recommendations

Our recommended capital expenditure for activity W07-01 (Water management works) is presented in Table 7-95.

[162] RFI 11 – 'RFI-11 response'.

[163] RFI 11 – 'WNSW-W898-I-WAMC-W07-Unregulated Weirs'.

Table 7-95: Recommended range of efficient capital expenditure – W07-01 (Water management works) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Total proposed capital expenditure	**1,158**	**1,154**	**1,154**	**1,154**	**1,106**
Proposed capital expenditure (DCCEEW)	1,030	1,030	1,030	1,030	1,030
Scope adjustments (DCCEEW)	-780	-780	-1,030	-1,030	-1,030
Efficiency adjustments (DCCEEW)	0	0	0	0	0
Recommended upper bound efficient capital expenditure (DCCEEW)	*250*	*250*	*0*	*0*	*0*
Proposed capital expenditure (WaterNSW)	128	124	124	124	76
Scope adjustments (WaterNSW)	0	0	0	0	0
Efficiency adjustments (WaterNSW)	0	0	0	0	0
Recommended upper bound efficient capital expenditure (WaterNSW)	128	124	124	124	76
Total recommended upper bound efficient capital expenditure	**378**	**374**	**124**	**124**	**76**
Scope adjustments (DCCEEW)	0	0	0	0	0
Efficiency adjustments (DCCEEW)	0	0	0	0	0
Recommended lower bound efficient capital expenditure (DCCEEW)	*250*	*250*	*0*	*0*	*0*
Scope adjustments (WaterNSW)	0	0	0	0	0
Efficiency adjustments (WaterNSW)	0	0	0	0	0
Recommended lower bound efficient capital expenditure (WaterNSW)	*128*	*124*	*124*	*124*	*76*
Total recommended lower bound efficient capital expenditure	**378**	**374**	**124**	**124**	**76**

7.16 W08-01 (Regulation systems management)

7.16.1 Background

Figure 7-28 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

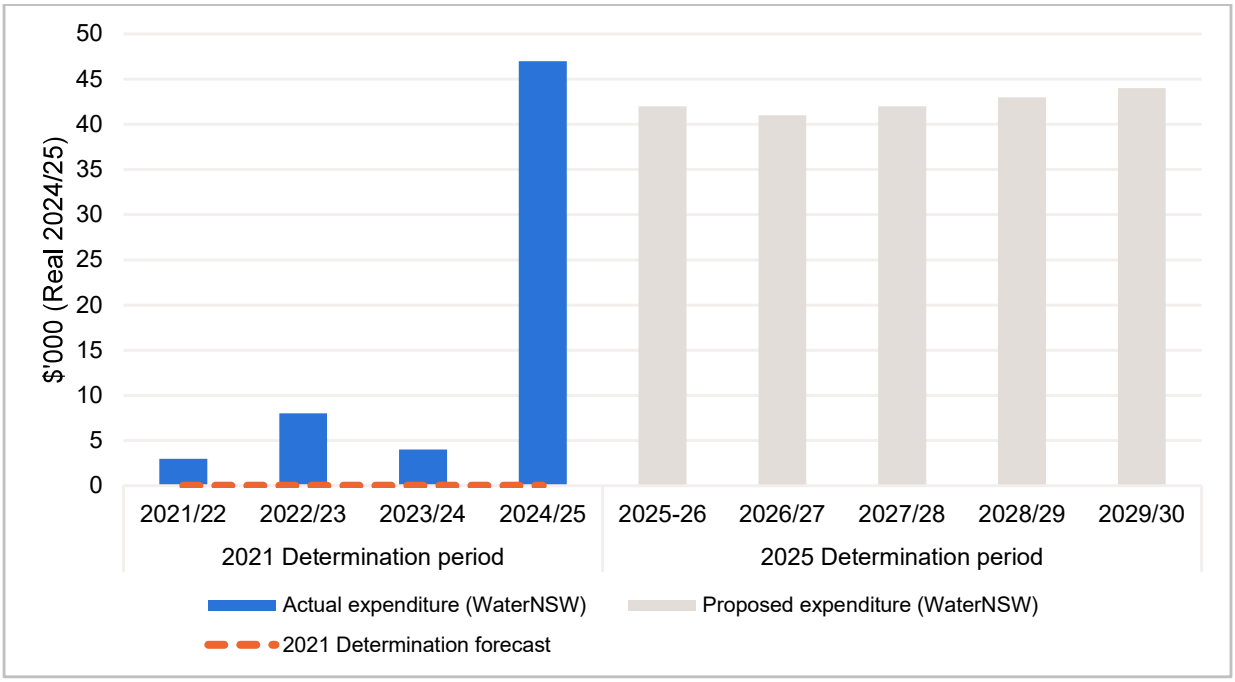

Figure 7-28: Current and future period expenditure for W08-01 regulation systems management

Table 7-96 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination and actual expenditure.

Table 7-96: Current period expenditure for W08-01 regulation systems management ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	0	0	0	0	**0**	**0**
Actual expenditure (WaterNSW)	3	8	4	47	**62**	**16**
Variance	3	8	4	47	**62**	**16**

Table 7-97 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-97: Future period expenditure for W08-01 regulation systems management

Expenditure ($'000)	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	42	41	42	43	44	**212**	**42**

The actual expenditure in the current determination period averages $16,000 per year. There was no allowance made for this activity in the 2021 Determination.

The proposed expenditure for the 2025 Determination period averages $42,000 per year. This is $27,000 per year (174%) higher than the actual annual expenditure incurred in the current period.

7.16.2 Appropriateness of activity code

During our interview with WaterNSW, we sought to understand the rationale for maintaining an activity code with a relatively low amount of actual and proposed expenditure. In response, WaterNSW proposed that this activity code (W08-01) be retired. We agree with this proposal.

7.16.3 Conclusions and recommendations

We recommend that this activity code is retired.

7.17 W08-02 (Consents management and licence conversion)

7.17.1 Background

The scope of this activity is to transcribe water sharing provisions into mandatory conditions imposed on water access licences and approvals, and to convert licences under the *Water Act 1912* to water access licences and approvals under the *Water Management Act 2000*. This activity is undertaken by both DCCEEW and WaterNSW.

We understand that most expenditure for this activity is for the transcription and notification of mandatory conditions, rather than the conversion of licences made under the *Water Act 1912*. In our 2021 review report, we noted that 'the work for converting licences under the *Water Act 1912* had substantially declined'. During our interview with WaterNSW in December 2024, WaterNSW stated in its PowerPoint presentation[164] that all of NSW is now covered by a water sharing plan made under the *Water Management Act 2000*, resulting in conversion volumes currently being 'quite low'. As such, we have predominantly focussed on the transcription and notification of mandatory conditions in our report.

The process for the transcription and notification of mandatory conditions (Figure 7-29) begins with a 'condition notification event', such as the replacement or amendment of a water sharing plan or floodplain management plan, or the amendment of the legislative framework for water management in NSW. DCCEEW's role is to prepare mandatory conditions to give effect to these replacements or amendments, and to develop notification materials for issue to the impacted licensees or approval holders. WaterNSW's role is to provide input into the mandatory conditions and notification materials, and to undertake mass notification.

There are two types of conditions imposed on water access licences and approvals – mandatory conditions and discretionary conditions. While mandatory conditions are imposed under this activity (W08-02), discretionary conditions are optional and applied on a case-by-case basis as part of the application process for a licence or approval. Licensees and approval holders are notified of discretionary conditions at the time of their application being granted. Therefore, while the costs of imposing mandatory conditions are funded under W08-02 as part of the water management charge, the costs of applying and notifying discretionary conditions are funded through fee-for-service consent transaction charges (W09-01).

WAMC has classified all expenditure for this activity as operating expenditure in its pricing proposal.

[164] Slide 4 of the W08-02 PowerPoint presentation presented by WaterNSW to Stantec on 3 December 2024. A copy of the PowerPoint presentation was provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

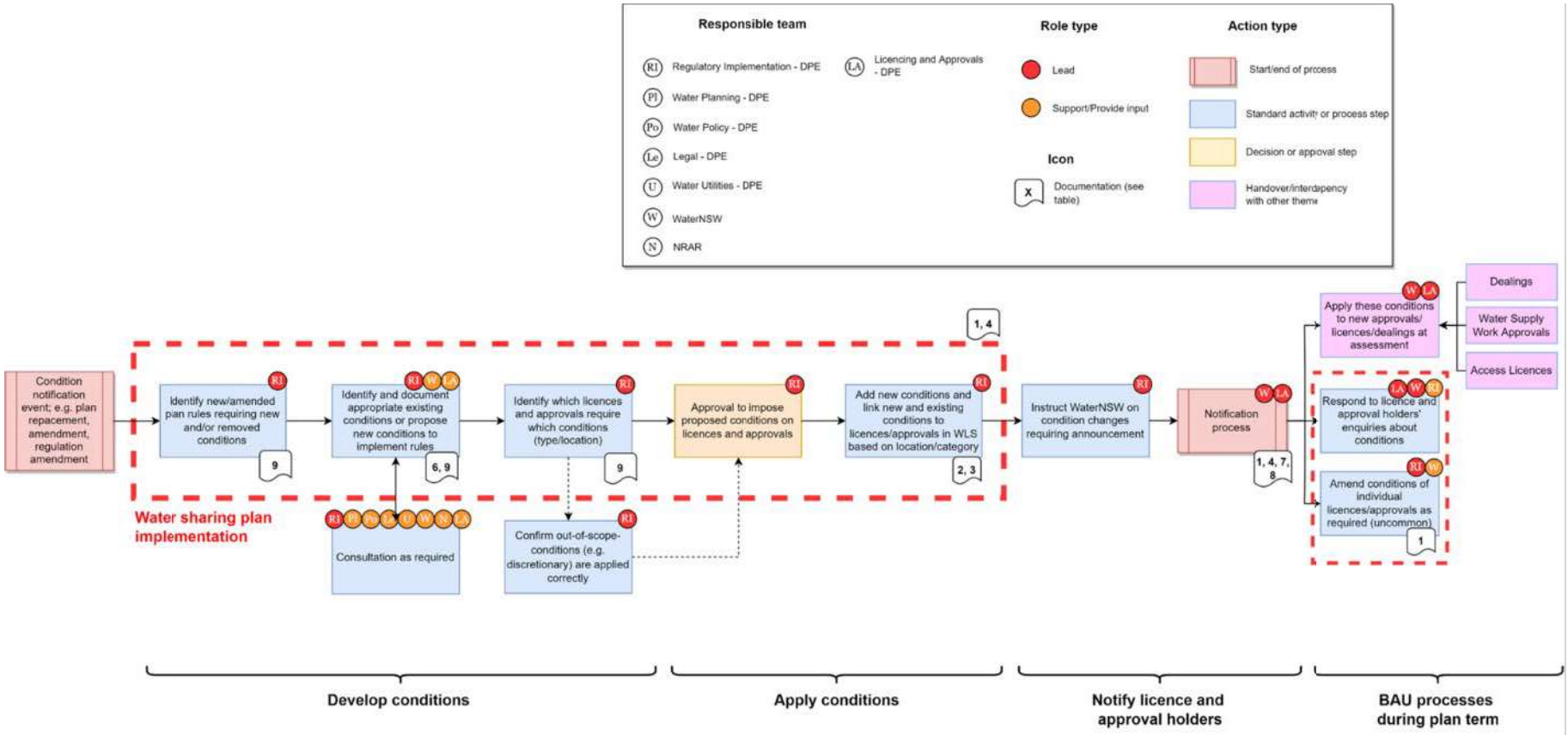

Figure 7-29: Process map for imposing of mandatory conditions on water access licences and approvals[165]

[165] Slide 7 of the W08-02 PowerPoint presentation presented by DCCEEW to Stantec on 3 December 2024. A copy of the PowerPoint presentation was provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

Figure 7-30 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

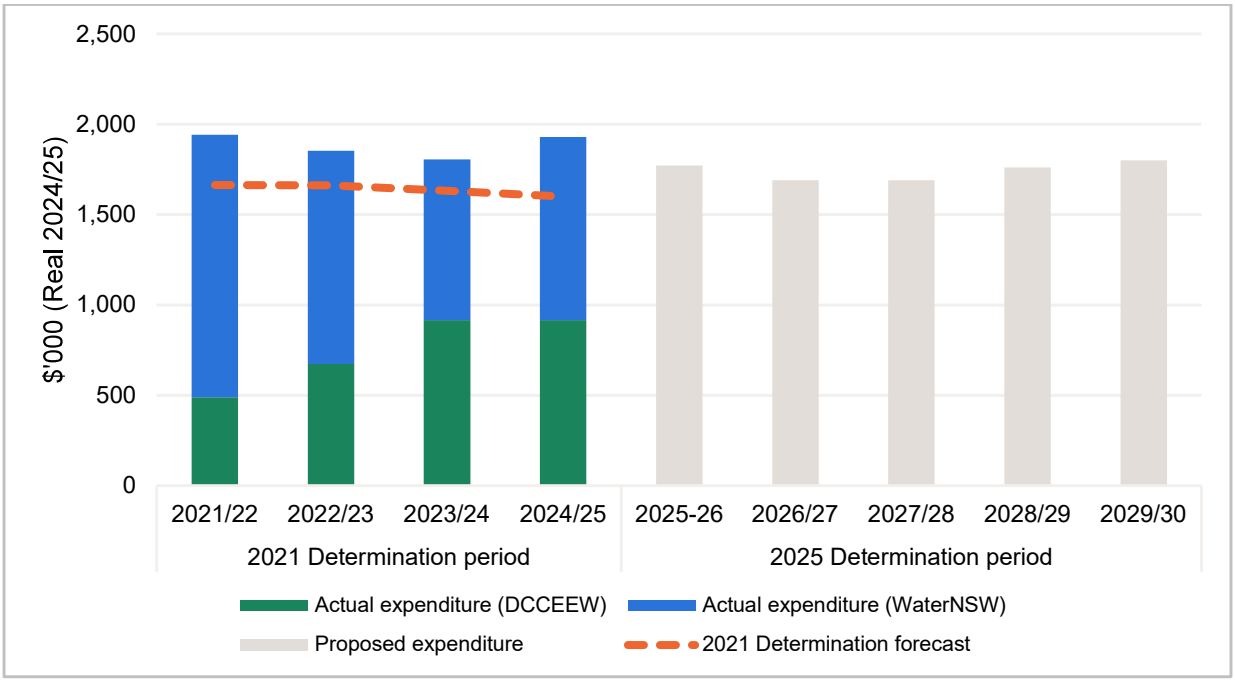

Figure 7-30: Current and future period expenditure for W08-02 consents management and licence conversion

Table 7-98 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination and actual expenditure.

Table 7-98: Current period expenditure for W08-02 consents management and licence conversion

Expenditure ($'000)	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (DCCEEW)	759	745	730	716	2,950	738
2021 Determination forecast (WaterNSW)	905	917	902	884	3,608	902
2021 Determination forecast	1,664	1,662	1,632	1,600	**6,558**	**1,640**
Actual expenditure (DCCEEW)	489	673	917	917	2,996	749
Actual expenditure (WaterNSW)	1,453	1,180	888	1,013	4,534	1,134
Actual expenditure	1,942	1,853	1,805	1,930	**7,530**	**1,883**
Variance	278	191	173	330	**972**	**243**

Table 7-99 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-99: Future period expenditure for W08-02 consents management and licence conversion

Expenditure ($'000)	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	819	767	805	794	804	**3,989**	**798**
Proposed expenditure (WaterNSW)	953	924	886	967	997	**4,727**	**945**
Proposed expenditure	1,772	1,691	1,691	1,761	1,801	**8,716**	**1,743**

The actual expenditure in the current determination period averages $1,883,000 per year. This is $243,000 per year (15%) more than allowed for in the 2021 Determination, which averaged $1,640,000 per year.

The proposed expenditure for the 2025 Determination period averages $1,743,000 per year. This is $104,000 per year (6%) higher than the average annual expenditure allowed for in the 2021 Determination, and $139,000 per year (7%) lower than the actual annual expenditure incurred in the current period.

7.17.2 Drivers for expenditure

The driver for this activity is to implement and enable the enforcement of water sharing provisions made under the legislative framework for water management in NSW. Without imposing mandatory conditions on water access licences and approvals, instruments such as water sharing plans cannot be enforced. The scope and timing of expenditure for this activity is, therefore, significantly dependent on the timing and complexity of replacements and amendments of water sharing plans and floodplain management plans. Policy developments and reforms, such as the non-urban metering reforms, can also drive expenditure, where mandatory conditions are required to give effect to those policies.

7.17.3 Performance in the current period

One output measure is in place for this activity in the current period. The output measure is that water sharing plan rules are enforceable because mandatory conditions are reflected in licences. There are two associated performance indicators:

1. 100% of rule changes are reviewed, within three months of the event requiring notification, to identify whether changes in conditions are necessary
2. 100% of necessary changes to conditions are notified to the licence or approval holder within six months of the event requiring notification.

The output measure and the first performance indicator were reported by WAMC as being met in the current period. However, WAMC reported that it has not achieved the second performance indicator and that it anticipates meeting this indicator for high-priority mandatory conditioning work only. WAMC considers[166] that it is not possible for all mandatory conditioning work to be completed within six months of the event requiring notification, given the batched nature of water sharing plan remakes and amendments and the need for targeted notification material that is written in plain English. Given the historical underperformance against the existing performance indicators, DCCEEW has proposed[167] to extend the timeframe for the notification of mandatory conditions from six months to eight months and to reduce the compliance rate from 100% to 80%.

7.17.4 Review of current period expenditure

At an aggregate level across both agencies, WAMC has overspent its allocation in the current period and not met one of its two performance indicators. Both WaterNSW and DCCEEW have overspent their allocations at an agency level too. However, DCCEEW has underspent its 'core' allocation (i.e., its allocation exclusive of corporate overheads), averaging $552,000 per year in actual expenditure compared with an average annual allocation of $616,000. Table 7-100 presents the breakdown of 'core' expenditure and corporate overheads for this activity for DCCEEW only.

Table 7-100: Current period expenditure for W08-02 consents management and licence conversion – DCCEEW only[167]

Expenditure ($'000)		2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination	Core	627	614	612	612	**2,465**	**616**
	Overheads	132	131	118	104	**485**	**121**
Actual expenditure	Core	417	522	635	635	**2,209**	**552**
	Overheads	72	151	283	283	**789**	**197**

Note: The difference of $2,000 between the total actual expenditure in this table and the total actual expenditure in Table 7-98 is due to rounding.

7.17.5 Review of future period expenditure

7.17.5.1 Upper bound assessment

Scope adjustments

WAMC has determined a scope of work for the future period that reflects the statutory timeframes for the replacement and amendment of water sharing plans and floodplain management plans. We are satisfied with this scope for determining the upper bound of efficient expenditure. We have considered a lesser scope when setting our recommended lower bound, which we discuss in Section 7.17.5.2.

[166] P. 144, WAMC pricing proposal.

[167] Disclosed in a written response to an interview questionnaire issued by Stantec to WAMC on 19 November 2024. The written response was provided to Stantec on 20 December 2024 as an accompaniment to the PowerPoint presentation presented by DCCEEW to Stantec at the interview on 3 December 2024.

Efficiency adjustments

WAMC has determined a larger scope of work for the future period when compared with the current period. This is based on 40 water sharing plans and floodplain management plans expiring in the future period, compared with the 27 plans that expired in the current period. Although the scope of work is expected to increase, WAMC's proposed expenditure is 7% less than its actual expenditure in the current period. That is, WAMC is seeking to deliver more outputs at lower cost. We note that DCCEEW's proposed 'core' expenditure (exclusive of corporate overheads), which averages $601,000 per year, is 2% less than its average annual 'core' expenditure allocation in the current period[168].

WAMC also noted several policy and regulatory trends that are likely to increase mandatory conditioning workloads in the future period, such as ongoing connectivity reforms and increasingly granular water sharing plans. WAMC advised that it is 'proposing an operating expenditure profile that seeks to manage this regulatory risk and uncertainty without passing that risk on to customers'[169]. That is, we understand that these uncertain additional workloads are not included in WAMC's proposed expenditure. This is consistent with IPART's definition of the upper bound of efficient expenditure, where the costs of uncertain activities, and activities that are dependent on government decisions, are excluded.

WAMC has identified several specific system and process improvements that it considers will result in efficiencies in the future period. These include the creation and maintenance of a 'library' of mandatory conditions and fact sheets, and system enhancements available through the new Water Market System which is incrementally replacing the Water Licensing System.

WAMC advised that it prioritises mandatory conditioning work based on factors such as water source risk, whether the change in conditions is substantive or administrative, and the number of water users affected. We consider that this demonstrates a risk-based approach to achieving the desired outcomes and objectives of this activity.

Based on the above, we are satisfied that WAMC's proposed expenditure for the future period represents the upper bound of efficient expenditure.

7.17.5.2 Lower bound assessment

Scope adjustments

In our targeted review of WAMC monopoly services in Section 4, we recommended that W06-03 ('Floodplain management plan development') be removed from the scope of the WAMC determination. As W08-02 includes the transcription of floodplain management plans into mandatory conditions, we have included a scope adjustment in our recommended lower bound to enable IPART to consider the 'downstream' impacts of removing W06-03 from the WAMC determination.

[168] Disclosed in a written response to an interview questionnaire issued by Stantec to WAMC on 19 November 2024. The written response was provided to Stantec on 20 December 2024 as an accompaniment to the PowerPoint presentation presented by DCCEEW to Stantec at the interview on 3 December 2024.

[169] P. 145, WAMC pricing proposal.

To set our lower bound, we have applied a 15% reduction to the annual expenditure proposed by WAMC. This reduction represents our estimate of the reduction in effort that would eventuate if mandatory conditioning for floodplain management plans is not funded through the WAMC determination. Our estimate is based on the approximate proportion of plan replacements and amendments forecasted in the future period that are for floodplain management plans. We observed that, of the 40 replacements and 39 amendments forecasted in the future period[170], 23% are for floodplain management plans.

To account for the potential difference in complexity in undertaking mandatory conditioning for floodplain management plans compared with water sharing plans, we calculated a second ratio based on the cost, rather than number, of plan replacements and amendments in the future period. We based our calculation on the unit costs of water sharing plan replacement and amendment[171], analysis showing that 'floodplain management plans require over 30% more resourcing than water sharing plans'[172], and the forecasted numbers of plan replacements and amendments in the future period. We found that around 26% of the cost of plan replacement and amendment can likely be attributed to floodplain management plans.

Our application of a 15% reduction to set our lower bound, rather than a 23% or 26% reduction, makes an allowance for costs that cannot be directly attributed to either water sharing plans or floodplain management plans, such as costs for mandatory conditioning work resulting from broader reforms.

Efficiency adjustments

We have not identified any adjustments needed for efficiency in setting a lower bound.

Potential reform opportunities and other observations

We note that our legislative observations made under W06-01 ('Water plan development – coastal'), W06-02 ('Water plan development – inland') and W06-03 ('Floodplain management plan development') also apply to W08-02, in that the magnitude and timing of mandatory conditioning work is directly linked to the statutory timing of plan replacements and amendments.

[170] Refer to the plan replacement and amendment forecasts summarised in Table 7-63, Table 7-64 and Table 7-72.

[171] Refer to Section 7.10.5.1.

[172] Refer to Section 7.11.5.1.

7.17.6 Conclusions and recommendations

Our recommended range of efficient expenditure for this activity in the future period is set out in Table 7-101.

Table 7-101: Recommended range of efficient expenditure – W08-02

	($'000 2024/25)				
Item	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**
Total proposed operating expenditure	1,772	1,691	1,691	1,761	1,801
DCCEEW	*819*	*767*	*805*	*794*	*804*
WaterNSW	*953*	*924*	*886*	*967*	*997*
Total scope adjustments	0	0	0	0	0
DCCEEW	*0*	*0*	*0*	*0*	*0*
WaterNSW	*0*	*0*	*0*	*0*	*0*
Total efficiency adjustments	0	0	0	0	0
DCCEEW	*0*	*0*	*0*	*0*	*0*
WaterNSW	*0*	*0*	*0*	*0*	*0*
Recommended total upper bound efficient operating expenditure	**1,772**	**1,691**	**1,691**	**1,761**	**1,801**
DCCEEW	***819***	***767***	***805***	***794***	***804***
WaterNSW	***953***	***924***	***886***	***967***	***997***
Total scope adjustments	-266	-254	-254	-264	-270
DCCEEW	*-123*	*-115*	*-121*	*-119*	*-121*
WaterNSW	*-143*	*-139*	*-133*	*-145*	*-150*
Total efficiency adjustments	0	0	0	0	0
DCCEEW	*0*	*0*	*0*	*0*	*0*
WaterNSW	*0*	*0*	*0*	*0*	*0*
Recommended total lower bound efficient operating expenditure	**1,506**	**1,437**	**1,437**	**1,497**	**1,531**
DCCEEW	***696***	***652***	***684***	***675***	***683***
WaterNSW	***810***	***785***	***753***	***822***	***847***

7.18 W08-03 (Compliance management)

7.18.1 Background

This activity involves the on-ground and remote monitoring activities (including investigations and taking statutory actions) to ensure compliance with legislation, including licence and approval conditions

This activity is performed by NRAR, with a small contribution from WaterNSW. It comprises operational expenditure.

Figure 7-31 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

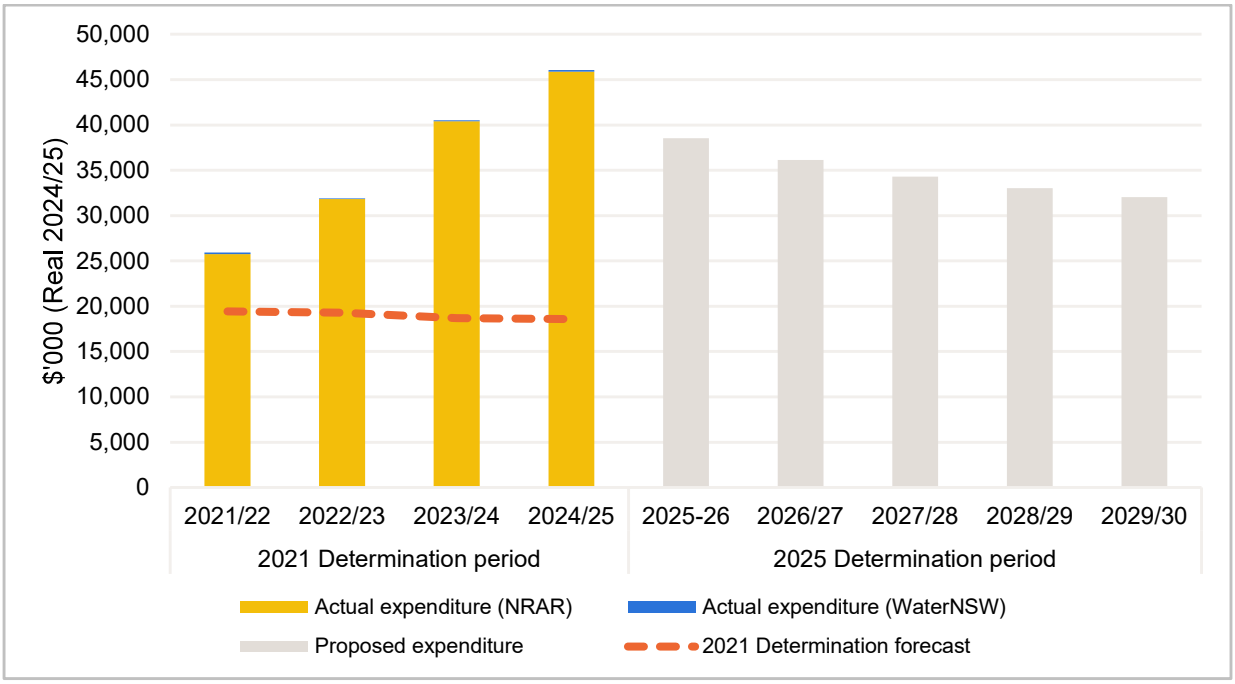

Figure 7-31: Current and future period expenditure for W08-03 (Compliance management)

Table 7-102 presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-102: Current period expenditure for W08-03 (Compliance management) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (NRAR)	19,206	19,092	18,467	18,360	75,125	18,781
2021 Determination forecast (WaterNSW)	206	208	207	202	823	206
2021 Determination forecast	19,412	19,300	18,674	18,562	**75,948**	**18,987**
Actual expenditure (NRAR)	25,762	31,815	40,421	45,900	143,898	35,975
Actual expenditure (WaterNSW)	165	87	105	183	540	135
Actual expenditure	25,927	31,902	40,526	46,083	**144,438**	**36,110**
Variance	6,515	12,602	21,852	27,521	**68,490**	**17,123**

Table 7-103 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-103: Future period expenditure for W08-03 (Compliance management) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (NRAR)	38,374	35,966	34,130	32,842	31,853	173,165	34,633
Proposed expenditure (WaterNSW)	178	174	176	182	187	897	179
Proposed expenditure	38,552	36,140	34,306	33,024	32,040	**174,062**	**34,812**

The actual expenditure in the current determination period averages $36,110,000 per year. This is $17,123,000 per year (90%) more than allowed for in the 2021 Determination forecast, which averaged $18,987,000 per year.

The proposed expenditure for the 2025 Determination period averages $34,812,000 per year. This is $15,825,000 per year (83%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $1,297,000 per year (4%) lower than the actual annual expenditure incurred in the current period.

7.18.2 Drivers for expenditure

The Natural Resources Access Regulator Act 2017 sets out NRAR's functions and principal objectives to be an efficient, effective, transparent and accountable regulator that maintains community confidence in the enforcement of water laws.

The Water Management Act 2000 establishes the offences and penalties and sets out investigation and enforcement powers used by NRAR.

The scope and intensity of activity and expenditure is driven by matters including:

- A ministerial directive to maintain constructive relationships with other government bodies, and an expectation for stakeholder engagement and embedding ethics into NRAR practices
- The Murray-Darling Basin Compliance Contract, which sets obligations for NRAR such as accountability by publishing its approach to compliance, audits for meter installations and high-impact stock and domestic rights, and ensuring compliance activities remain consistent with the National Framework for Compliance and Enforcement Systems for Water Resource Management
- The NSW Government's Quality Regulatory Services Initiative, which requires all regulators to implement a risk-based, outcomes-focussed approach to compliance and enforcement.

7.18.3 Performance in the current period

NRAR met its output measures and performance indicators across a range of areas, including for measures relating to publishing compliance activity and annual progress reports, undertaking community benchmarking, contacting public informants and responding to emails.

NRAR exceeded its target for the number of inspections or audits of water licence holders, which it attributed in part to adopting a more proactive education campaign and intelligence-led inspection programs.

NRAR did not achieve its target for assessing incoming public reports within five working days. NRAR also received less customer[173] enquiries than the target, partly due to the development of online resources and tools to increase self-service. In response to our draft report, NRAR commented this reflects a strategic shift toward an intelligence-led approach rather than operational inefficiencies. NRAR went on to comment that it had adopted a more efficient triage process by detecting and analysing larger batches of Suspicious Activity Reports simultaneously through spatial and data analysis rather than processes individual reports as they are reported by the public, ultimately resulting in a more effective and resource-efficient compliance process.

7.18.4 Review of current period expenditure

NRAR attributed the increase in actual expenditure[174] above the 2021 Determination forecast to a range of factors including:

- Additional resources to undertake education and outreach to assist licence holders to understand their obligations and voluntarily comply
- Growth in legal costs due to NRAR having to fund prosecutions instead of the Crown Solicitor's Office
- Replacement of NRAR's case management system to address cyber security and vendor continuity risks
- Additional compliance load arising from the implementation of non-urban metering reforms and floodplain harvesting.

7.18.5 Review of future period expenditure

7.18.5.1 Upper bound assessment

Scope adjustments

NRAR's compliance approach has both reactive and pro-active components:

- Pro-active measures such as outreach and education to assist license holders understand their compliance obligations, and detecting non-compliance through intelligence, remote monitoring and data analytics
- Reactive enforcement following the detection of non-compliance.

NRAR has demonstrated community and water user support for this scope, for example:

- 84% of the community expect more to be done to address illegal water take, including a higher frequency of on-ground inspections by NRAR
- 59% of water users find the water rules complex to understand
- 57% of water users considered property inspections by uniformed officers to be effective or extremely effective and 60% had the same opinion for education programs.

[173] We note that NRAR does not regard water users as "customers", and in commenting on our draft report NRAR stated such terminology is at odds with its statutory objective and the broader definition in the Water Management Act 2000.

[174] WAMC / DCCEEW confirmed that expenditure (both actual and proposed) relating to compliance with floodplain works as part of W06-03 is not included in W08-03 - refer to responses to Refer to RFIs 158 – 160.

The key elements of activity scope for the next regulatory period are[175]:

- $18.5 million per annum for ongoing compliance services. This level of expenditure is consistent with the forecast established in the 2021 Determination for the current determination period.
- $7.5 million per annum for education and outreach
- $4.5 million per annum for compliance activity required by the non-urban metering framework implementation
- $0.774 million per annum (average) to add functionality to the case management system to capture efficiencies. NRAR has included cost savings expected from this investment in its expenditure forecast for the future determination period.

NRAR has excluded the costs of compliance for controlled activity approvals and unlicensed activity.

We accept the need for the ongoing compliance services as this is core business for NRAR.

We also accept the need for education and outreach in terms of recommending an upper bound of efficient expenditure, particularly given more than half water users report finding the water rules complex to understand and valued on-site property inspections. We discuss this further in our lower bound assessment.

The non-urban metering program is clearly necessary to monitor water use and determine whether extractions are within entitlement limits. The presence of a meter will assist the compliance task of assessing illegal use. However, under the non-urban metering program licensees have ongoing obligations in relation to their meters, including for their installation, repair and replacement and reporting of water use[176]. Hence while metering will vastly improve the efficacy of managing compliance with volumetric extraction limits, the benefits rely on licensees maintaining accurate and fully functional meters. NRAR's compliance task has therefore grown to ensure licensees meet these obligations.

NRAR suggested the scope of additional compliance work for meter compliance included:

- Normalising the need for water users to operate, maintain and validate the meters as an ongoing requirement, and making compliance interventions to ensure meters are installed as required (including use of duly qualified persons for validation)
- Monitoring and responding to telemetry alarms that may indicate meters are faulty, and managing compliance for sites with conditional approvals (i.e. special conditions) in relation to alternative telemetry set ups
- Enforcing replacement of failed meters
- Monitoring the performance of duly qualified persons in carrying out their validation task
- Reviewing water users' annual reports of water use where no telemetry is in place, as the compliance system relies on those users accurately reporting their water use from taking their own, manual readings.

While some of this activity already exists, NRAR has projected an increase in activity as more meters and telemetry are installed. For example, NRAR received 2,400 suspicious activity reports from telemetered sites in 2024, and based on current alarm rates, expected this will increase to 8,800 reports/annum for a projected fleet of 15,000 meters.

[175] The NRAR proposal also called out additional expenditure for legal costs which is examined below. This is a necessary part of compliance scope in our view.

[176] Where telemetry is not in place.

Compliance issues relating to the ongoing operation of a meter will grow as the meter fleet ages, requiring users to undertake repairs or replacements. Hence, we accept the scope of compliance will grow over the next regulatory period to maintain the integrity of the meter fleet and realise long-term benefits of the metering program. Once the metering program is completed, there will be a significant business-as-usual compliance task for NRAR.

At the same time, the extent of the increase in scope is uncertain, and is subject to both the timely implementation of the non-urban metering program, the timing for floodplain harvesting licensing and metering, and the type and level of non-compliance experienced.

NRAR's proposal partially recognises this uncertainty, with its proposed additional $4.5 million (or 18 FTEs) based on resourcing a subset of the above increase in scope. For example, NRAR noted that the increase in case work from enforcing replacement of failed meters alone was likely to require this level of resourcing, and it expected that a portion of the increase in scope elsewhere would be absorbed by existing resources.

In the 2021 Determination there was scepticism over the rate of rollout of metering reform and whether expenditure for NRAR would be needed over the period[177]. Since that time the non-urban metering reform program has been refreshed and a target set to achieve 95% of licensed water take by December 2026. We note the most recent implementation report (September 2024) for non-urban metering indicated that progress was largely on track[178]. However, this is early in the new implementation program, announced in mid-2024.

On balance we agree with the proposed activity growth for metering in recommending the upper bound of efficient expenditure.

NRAR's proposal included $3.7 million, or $0.744 million per annum, over five years for the extension of its new case management system to generate efficiencies is accepted as within scope as it is a positive (spend to save) measure to drive efficiency.

Efficiency adjustments

NRAR's proposal is for a similar or slighted greater scope for the future determination period but with a reduction in expenditure, compared to actuals over the current determination period.

NRAR's costs are based on a bottom-up assessment of resourcing (FTEs), for a total of 181 FTEs comprising:

- 77 FTEs: Responding to harm, investigations and enforcement, proactive compliance
- 52 FTEs: Preventing harm: education, engagement, outreach and communication
- 52 FTEs: Enabling functions

This resourcing includes an additional 22 FTEs, the majority of which is for metering compliance as set out above (18 FTE). NRAR's proposal provides for a reduction of five FTEs in 2028/29 in anticipation efficiencies arising from spend to save initiative to expand functionality of its case management system.

NRAR has applied continuing efficiency of 3% per annum (compounding) over the next regulatory period.

[177] IPART (2021). Review of prices for the Water Administration Ministerial Corporation from 1 October 2021 to 30 June 2025. P45.

[178] Refer: https://water.dpie.nsw.gov.au/__data/assets/pdf_file/0007/622627/num-review-implementation-quarterly-report-july-september-2024.pdf.

Benchmarking

In its submission to IPART, NRAR referred to the benchmarking undertaken for the 2021 review which compared NRAR to Victoria for water regulation and compliance. That benchmarking found that compliance in Victoria was significantly more efficient using several metrics. The 2021 benchmarking used data sourced from the 2017 Murray-Darling Basin Water Compliance Review, which indicated there were 12 compliance officers in Victoria, compared to 64 proposed for NRAR[179].

NRAR did not agree with the outcomes from this benchmarking in 2021 and re-raised these concerns in the submission for this 2025 Determination. NRAR subsequently referred us to the recently released Murray-Darling Basin Compliance Performance Report 2022/23 as a source of information for benchmarking across jurisdictions.

This report describes the total number of statutory officers (officers with full or partial compliance powers under legislation) across each basin state. This 2022/23 report listed 124 compliance officers in Victoria, compared to the 12 compliance officers referenced from the 2017 compliance review described above. The 124 compliance officers in the Victorian part of the Murray-Darling Basin comprises:

- 36 authorised persons, and
- 88 authorised water officers in water corporations[180].

This compares to 115 statutory officers reported for NRAR with full or partial powers who operate in the NSW part of the Murray-Darling Basin.

We have compared the compliance officer resourcing in the Murray-Darling Basin between states, based on this 2022/23 performance report[181]. We have compared jurisdictions using two measures: compliance officer per licence and comparing the proportion of compliance officers to the proportion of water take in each basin state.

Table 7-104: Benchmarking compliance across the Murray-Darling Basin (2022/23)

Jurisdiction	Compliance officers (number)	Licences (number)	Licences per officer	% of compliance officers	% of water diversion
NSW	115	22,616	197	**34.7**	**60.0**
Qld	86	5,597	66	**25.7**	**10.5**
South Australia	4	5,318	1,330	**1.2**	**6.4**
Victoria	124	60,974	492	**37.5**	**23.0**
ACT	3	180	60	**0.9**	**0.1**

The table above shows that NRAR performs poorly compared to peers using the compliance officer per licence measure. Using number of licenses as a measure implies the intensity of compliance effort should be the same for each license, regardless of the size and risk those licences pose to the water resource. However, a small licence of say 5 ML will pose a far lower risk than a 500 ML licence.

[179] Cardno, 2021. Expenditure Review of Water Administration Ministerial Corporation Final Report. P148.

[180] We have examined a sample position description for a water officer in Lower Murray Water, which confirms this role is predominately about compliance and enforcement and therefore equivalent to NRAR statutory officers. Refer to Position-Description-Compliance-and-Enforcement-Officer-Operating-Model-2024.pdf.

[181] Inspector General of Water Compliance (2024). Murray-Darling Basin Compliance Performance Report 2022-23.

We prefer to compare the level of compliance resourcing against the level of water use to benchmark the compliance function. We would expect the intensity of compliance activity to be related to the level of risk for resource use. Risk will be far higher where consumption is higher, given the scarcity of water resources. Hence, we would expect compliance activity to be highest where water use is highest.

We also note the updated non-urban metering program has taken a risk-based approach to metering, with greater requirements for high water users (e.g. a meter and telemetry) compared to small water users (e.g. a meter and self-reporting). This is consistent with the notion that compliance effort generally would be directed where water use was highest.

We are satisfied that, based on benchmarking comparing the proportion of compliance resourcing to the proportion of water diversions in the Murray-Darling Basin, NRAR compares favourably as it has 34.7% of compliance officers to manage 60.0% of diversions. This compares to Victoria that has 37.5% of compliance officers for 23% of diversions.

Operational expenses

NRAR applies a 25% uplift to labour cost for 'operational expenses' related to the non-salary costs of its workforce to carry out their functions. This operational expense is around $6 million per annum.

These operational expenses include motor vehicles / fleet, domestic travel, training, uniforms and personal protective equipment. NRAR set this cost at 25% of labour cost based on historic rates. NRAR advised its 2024 actual operational expenses were higher at 40%, and in its 2025 budget it had allowed 35%. NRAR advised it decided to make its proposal based on 25% regardless and stated it will need to achieve further efficiencies to achieve this rate.

We have examined benchmarking data from the Australian Taxation Office (ATO) for motor vehicle expanse claims for small businesses, to gain a sense of whether 25% of salary cost is a reasonable allowance. We examined various benchmarks for road transport businesses (given NRAR's compliance activity requires significant vehicle travel) and found benchmark rates between 5% and 20% of turnover[182].

We have also considered the costs for travel allowances, as these costs are mostly related to field work. The NSW public service total daily allowance is in the order of $450/day (including accommodation). If we assume a NRAR field-based workforce of 129 (including investigations and enforcement and engagement and outreach functions), at an average overnight travel of 20% of workdays (one night per week), the total allowance payable is in the order of $3 million per annum. This excludes transport costs such as for fleet, fuel and airfares.

In conclusion, we find that NRAR's proposed 25% operational expense allowance is reasonable. We also acknowledge NRAR's restraint in setting the allowance at the low end of historic actuals.

Legal costs

NRAR has advised that demand for legal services has increased, and it proposes to fund an additional 2.4 FTE for legal services (a total of 7 FTE). NRAR noted that legal resources in other regulators were far higher – and compared its resourcing to that of the NSW Environmental Protection Agency (88 legal and corporate FTE).

We are comfortable with this growth in resources as it is proportional to the legal and prosecutorial work NRAR undertakes.

[182] This range refers to a small business involved in delivery services. Refer to www.ato.gov.au/businesses-and-organisations/income-deductions-and-concessions/small-business-benchmarks/in-detail/delivery-services.

NRAR has advised it now funds services from the Crown Solicitors Office, which have averaged around $2 million per annum, rather than the Crown Solicitor absorbing those costs. This is appropriate as it better reflects the actual cost of the compliance activity.

Information and communications technology expenditure – 'spend to save' initiative

NRAR proposes to invest in improvements to its case management system that will enable labour cost savings into the future. The total operating expenditure forecast for these enhancements is $3.7 million, compared to the savings of five FTEs per annum, which translates in the labour cost forecast from NRAR of some $0.8 million per annum from 2029/30. This suggests a payback period of around five years.

We also note that NRAR bears the cost outturn risk of this system enhancement, as it also bears the risk of the savings being achieved.

We are satisfied this proposed expenditure is efficient based on the payback period and allocation of risk to NRAR.

7.18.5.2 Lower bound assessment

Scope adjustments

We do not recommend any scope adjustments to set a lower bound. We did not find any opportunities to reduce the forecast expenditure further based on scope matters such as service levels, non-essential expenditure or change in assumptions.

Efficiency adjustments

We do not recommend any efficiency-related adjustments to establish a lower bound.

Potential reform opportunities and other observations

We have observed a range of issues that are making NRAR's compliance task higher than it should be under a mature, well-functioning water resource management environment. In particular:

- First, a lack of a strong compliance culture among water users, which NRAR inherited at the time of its formation and which continues today. For example, survey information provided in NRAR's submission found 70% of the community believe water theft is continuing, and 84% of the community expects more to be done to address unlawful water take.
- Secondly, license conditions can be complex, making it difficult for water users to understand their obligations and comply. NRAR's submission[183] referenced survey results that found 59% of respondents find water regulations and laws too complicated, 47% of respondents report difficulties complying with all water laws and 49% of respondents believe that a lack of adequate knowledge about water regulations is prevalent. In all cases the level of understanding among water users in NSW was less than other Australian states.

[183] Refer to Attachment F, p154.

Upon our request, NRAR provided us with a sample of license conditions which we agree were either complex to understand or difficult to enforce[184].

NRAR also pointed to difficulties in linking the physical taking of water to the water entitlement authorisations, due to the underlying licensing and regulatory arrangements. NRAR advised that this structure increased the resourcing needed to investigate potential illegal water take and then take enforcement actions.

We are of the view that there is a level of embedded inefficiency in the overall system that translates to a more difficult environment and higher cost for NRAR.

NRAR has pointed to its proactive compliance measures in responding to this problem and notes that the cost of outreach and education interactions were ten times lower than having to react to a breach or potential breach through investigation and enforcement.

NRAR's surveys found broad support for increasing its on-site visits, with 81% support for property visits for large water users every four to six years, and 57% support for visits to smaller water users every six years.[185] This has translated to around 3,700 on-site visits per annum by NRAR. These engagement and outreach visits serve two purposes as they also allow NRAR to undertake compliance monitoring at the same time.

The total increase in cost since 2022 has been $2 million per annum for education and $5.5 million per annum in engagement and outreach. NRAR proposes to maintain this level of activity and expenditure into the next regulatory period.

We would expect that a significant proportion of this cost would not be required in a well-functioning and mature water management environment, where licence conditions were easy for users to understand and for NRAR to enforce. In a mature environment we would expect good information to be available to users about compliance obligations, and for those users to feel responsible for seeking out that information to ensure they can comply. We would also expect a strong compliance culture among licence holders and the community.

We have therefore recommended a lower bound range that approximates this more mature environment, which can be quantified by reducing the resources assigned to education and outreach ($7.5 million per annum). We recommend setting the lower bound at 20% of the education and outreach proposed expenditure, in recognition of the need to make available a base level of information to water licence holders about the overall compliance system, and that some of the outreach resources also contribute to inspections and audit work which would be ongoing.

In response to our draft report, NRAR commented that education and outreach activities were not temporary and that:

- Water regulations are widely acknowledged to be complex across all states, and this inherent complexity is the primary driver for education and engagement rather than as a result of past inattention
- Proactive compliance measures, such as education and engagement, remain essential in a dynamic regulatory environment
- Stakeholders now expect higher levels of in-person engagement, detailed guidance materials and real time updates from regulators
- Modern regulatory best practice emphasises the necessity for a proactive stance on compliance to minimise harm from occurring.

[184] Refer to RFI 63.

[185] Response to RFI 55.

We agree with NRAR and have estimated the level of ongoing effort by continuing to include 20% of the education and outreach expenditure in the lower bound.

Adopting this lower bound has significant risks in terms of effective compliance.

Setting the NRAR expenditure forecast for the future determination period at the lower bound will significantly constrain NRAR's ability to build compliance among water users and is also counter to customer[186] and community feedback that these activities were of value.

Non-compliance (e.g. through taking more water than authorised) has consequences for the environment and other water licence holders, given the scarcity of water.

In response to our draft report, NRAR commented that the recommended lower bound was a false choice, as the activity relating to this expenditure was required regardless given the reality of the current circumstances, and that 'the hypothetical future state of a 'Mature Compliance Environment' cannot be achieved without the very functions that may be considered for removal'.

We agree with this comment, but note the purpose of establishing a lower bound on this basis was to provide IPART with options to consider, and in particular if IPART was concerned that the level of expenditure might be higher than it could have been under different historic (legacy) conditions, and whether it was reasonable for water user charges to reflect the current state of maturity – particularly in relation to the costs associated with the legacy problem of complex license conditions.

NRAR also commented that there would be significant implications for water management in NSW by such a reduction, particularly with regard to ongoing compliance, with significant downside to the NSW community. Other implications from the lower bound level of expenditure and corresponding reduction to compliance and/or reducing the education and outreach program raised by NRAR include:

- A disproportionate harm to small water users
- A contradiction to the stated preferences of stakeholders for greater education and engagement activities
- Education costs are an investment that reduces costly enforcement action
- Regression from best practice
- Undermine community confidence.

7.18.6 Conclusions and recommendations

We found that NRAR made a clearly articulated and well justified proposal for expenditure in the future determination period. NRAR has challenged itself to improve efficiency through measures including applying a 3% per annum compounding efficiency factor and spend-to-save ICT initiatives.

We accepted NRAR's justification for why actual expenditure exceeded the forecast from the 2021 Determination. One reason was growth in the compliance scope (e.g. through metering reforms) over the current determination period. A second reason for the increase in expenditure over the current period was the need to take more proactive measures to assist users understand their obligations and comply. We accept the reality of the situation NRAR finds itself in, however we would not expect this level of expenditure to be necessary in a mature environment characterised by easy-to-understand and easily enforced rules, within an established compliance culture among licence holders.

[186] We note that NRAR does not regard water users as "customers", and in commenting on our draft report NRAR stated such terminology is at odds with its statutory objective and the broader definition in the Water Management Act 2000.

We used benchmarking to compare NRAR to other compliance agencies in the Murray-Darling Basin, and the results gave us confidence that NRAR is operating efficiently compared to its peers.

We accepted NRAR's proposed expenditure in recommending an upper bound.

We recommend a lower bound of efficient expenditure that removes our estimate of the additional cost associated with 'legacy' matters that exist given NSW is not at the mature environment described above.

We have also accepted WaterNSW's proposed expenditure.

Table 7-105: Recommended range of efficient expenditure – W08-03 (Compliance management) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Total proposed operating expenditure	**38,552**	**36,140**	**34,306**	**33,024**	**32,040**
Proposed operating expenditure (NRAR)	38,374	35,966	34,130	32,842	31,853
Scope adjustments (NRAR)	0	0	0	0	0
Efficiency adjustments (NRAR)	0	0	0	0	0
Recommended upper bound efficient operating expenditure (NRAR)	*38,374*	*35,966*	*34,130*	*32,842*	*31,853*
Proposed operating expenditure (WaterNSW)	178	174	176	182	187
Scope adjustments (WaterNSW)	0	0	0	0	0
Efficiency adjustments (WaterNSW)	0	0	0	0	0
Recommended upper bound efficient operating expenditure (WaterNSW)	178	174	176	182	187
Total recommended upper bound efficient operating expenditure	**38,552**	**36,140**	**34,306**	**33,024**	**32,040**
Scope adjustments (NRAR)	0	0	0	0	0
Efficiency adjustments (NRAR)	-6,000	-6,000	-6,000	-6,000	-6,000
Recommended lower bound efficient operating expenditure (NRAR)	*32,374*	*29,966*	*28,130*	*26,842*	*25,853*
Scope adjustments (WaterNSW)	0	0	0	0	0
Efficiency adjustments (WaterNSW)	0	0	0	0	0
Recommended lower bound efficient expenditure (WaterNSW)	*178*	*174*	*176*	*182*	*187*
Total Recommended lower bound efficient operating expenditure	**32,552**	**30,140**	**28,306**	**27,024**	**26,040**

7.19 W10-01 (Customer management)

7.19.1 Background

This activity covers customer management activities relating to the granting and management of water licenses and approvals in WaterNSW. It includes the management of general enquiries from the public seeking information and providing feedback on approvals and licences, and water management policy and legislation.

These activities entail the provision of all customer liaison activities, including call responses to licensing and compliance information lines, as well as undertaking tasks to produce communication and educational materials (such as website content and participation in customer forums).

WAMC customer management also includes the provision of condition re-notification to customers whose licence conditions change following NSW Government policy decisions. Customer management activities include supplying licencing services to all customers, supporting customer with fee for service transaction services such as dealing (trading of a Water Access Licence (WAL) or water allocation).

For the current period, all WAMC agencies undertook customer management activities. For the future period, DCCEEW and WaterNSW will share responsibility for the provision of customer management activities with licencing and approvals functions transferring from NRAR to DCCEEW within the current period.

It comprises operational expenditure only.

Figure 7-32 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

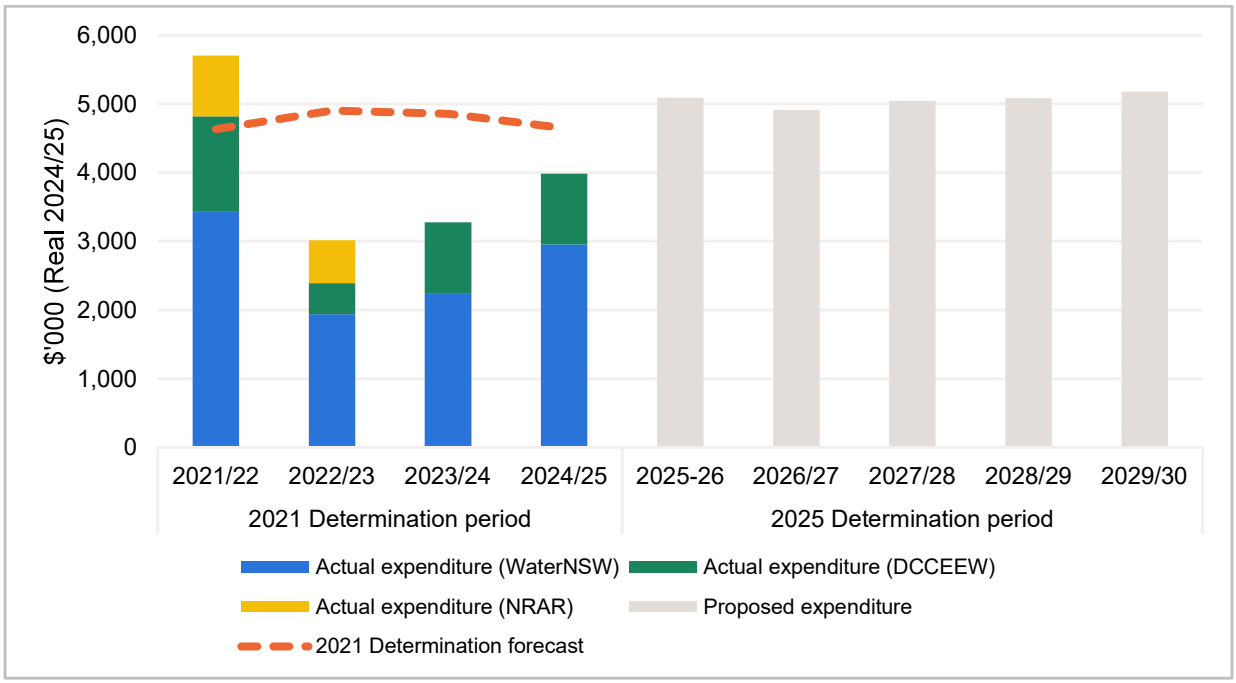

Figure 7-32: Current and future period expenditure for W10-01 (Customer management)

7.19.2 Drivers for expenditure

Statutory requirements for activities under the specific legislation for water access licences and approvals, and the supportive function of customer service, are stipulated under:

- Water Management Act 2000, Water Act 1912, Water Management (General) Regulations 2018, Water sharing plans
- Access Licence Dealings Principles Order 2004
- NSW State Groundwater strategy
- National Water Initiative pricing principles.

Alignment to WAMC activities and expenditure

In our assessment of customer management activities and expenditure, and our interactions with WAMC agencies, it is our view that customer management activities cannot be delivered (or assessed) in isolation of other activities and outcomes.

Specifically, we see critical alignment and integration of these activities and costs with:

- W08-02 (Consents management and licence conversion)
- W09-01 (Water consent transactions)
- W10-03 (Billing management).

7.19.3 Performance in the current period

The department met 50% of their customer management outputs and performance measures for this activity. Output measure OM77 will not be met in this period due to extremely large metric set and forecast (originally set by NRAR) was based on drought conditions.

Performance indicators for the department are expected to be met by June 2025. Additionally, DCCEEW has several published standard assessment targets. The Licensing and Approvals (LA) team have struggled to meet these targets due to:

- Under resourcing (from both a capability and capacity perspective)
- Total volume of applications received
- Backlog of assessments
- Backlog of critical licensing administrative tasks.

WaterNSW met expectations against OM78 and performance indicators with all enquiries and complaints responded and resolved in a timely manner.

7.19.4 Review of current period expenditure

As set out below, actual expenditure has been on average, 16% lower than the allowance from the 2021 Determination. The expenditure by NRAR and DCCEEW collectively, exceeded NRAR's 2021 IPART allowance for this activity. DCCEEW provided the following context:

- The need to rebuild DCCEEW capability and capacity following transition of function from NRAR in the current period, including addressing the backlog of approvals

- 2021 IPART allowance only accounted for NRAR's call centre related activities. DCCEEW related customer management expenditure over the current period includes activity and cost to deal with the enquiries to resolution.
- Several improvements to consolidate customer management activities, functions and capabilities across DCCEEW to drive improvements in customer experiences and outcomes.

WaterNSW consistently underspent against their allocated 2021 IPART allowance for customer management activities under W10-01 (Customer management) over the period. WaterNSW indicated that has been largely influenced by complex and conflicting water regulations, rapidly evolving new policy implementation and additional internal factors.

The allocation of WaterNSW customer activities, functions expenditure across this activity and W10-03 (billing management) is challenging as actual cost is determined by timesheet allocation, as well as the fact that WaterNSW utilise the same resources across W10-01 (Customer management), W10-03 (Billing management) and similar customer services and activities. WaterNSW advised that the 2024/25 actuals are a true representation of the cost to provide these services.

Despite the variability of individual WAMC agency expenditure over the period, there is a general acceptance that there are further opportunities for refining, streamlining and improving customer management and service activities.

Table 7-106: Current period expenditure for W10-01 (Customer management) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast (DCCEEW)	0	0	0	0	0	0
2021 Determination forecast (NRAR)	341	341	341	341	1,364	341
2021 Determination forecast (WaterNSW)	4,294	4,563	4,517	4,306	17,680	4,420
2021 Determination forecast	4,635	4,904	4,858	4,647	**19,044**	**4,761**
Actual expenditure (DCCEEW)	1,382	450	1,029	1,029	3,890	973
Actual expenditure (NRAR)	887	628	0	0	1,515	379
Actual expenditure (WaterNSW)	3,438	1,940	2,246	2,955	10,579	2,645
Actual expenditure	5,707	3,018	3,275	3,984	**15,984**	**3,996**
Variance	1,072	-1,886	-1,583	-663	**-3,060**	**-765**

7.19.5 Review of future period expenditure

Total proposed WAMC expenditure for customer management over the future period is estimated to increase by 32% from the 2021 IPART determination allowance.

DCCEEW's proposed increase from 2024/25 to 2025/26 (an approximate 118% increase) represents several key priority areas for expenditure:

- Managing and resourcing general and complex customer enquiries relating to licencing and CAAs with a continued focus on alignment of customer management activities between DCCEEW's Licensing and Approvals and Water Enquiries Functions. General and complex CAA enquiry management accounts for
- Continued implementation and deliver of the Water Enquiries and Licencing and Approvals Customer Service Project – aimed at expanding on the pilot project to centralise all LA enquiries through DCCEEW's Water Enquiries function and systems.

WaterNSW is proposing future customer management expenditure that is on average, 5% lower than the final year operating expenditure in the current period, despite the relatively high cost to serve based on identified key issues and challenges[187] whilst continuing to meet customer management needs and demands.

Our assessment has identified that WaterNSW has utilised the current determination costs for 2024/25 activities as the base for the proposed expenditure in the future determination period. Figure 7-33, provided by WaterNSW, provides an indication of their total proposed customer service spend for the next determination period (referring to the Assessments & Approvals and Customer Operations data).

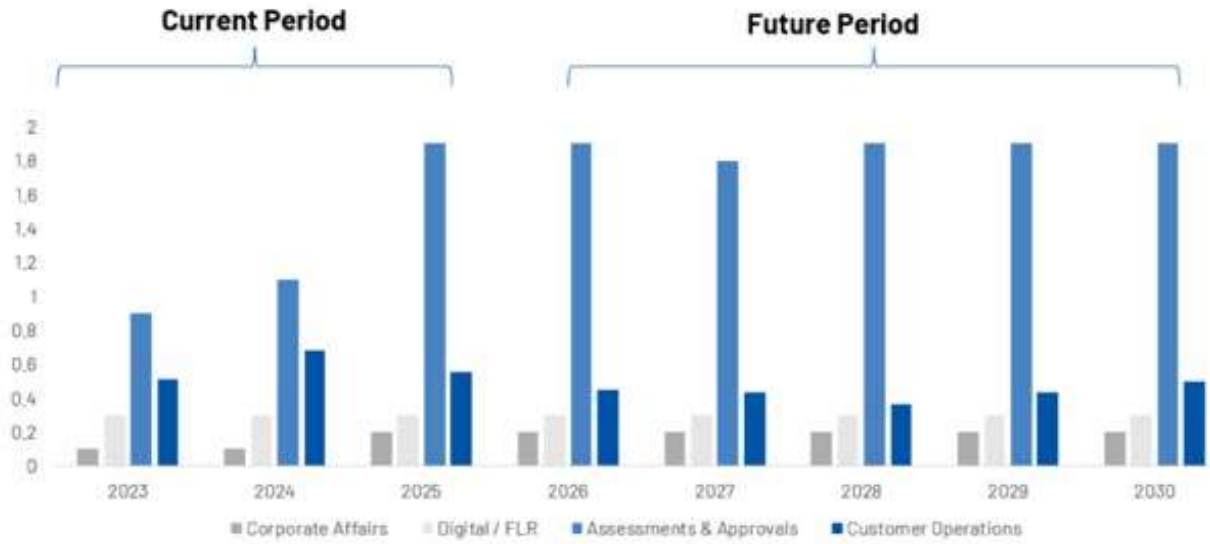

Figure 7-33: Total proposed customer service expenditure – WaterNSW[182]

Increases in WaterNSW's proposed expenditure in this activity over the next determination period have also largely been driven by increases in related FTE expenditure from current vacancies in the final year of the current period. This is based on known and unknown regulatory changes, with known impacts including:

- Non-urban metering reforms
- Water Management General Regulation changes
- Transition of test bores and drillers licensing moving from Water Act 1912 to the Water Management Act
- Floodplain harvesting
- Anticipation of drier weather over the future determination period bringing typically increases in customer management activities and applications[188].

[187] WaterNSW Expenditure Review Interview W10-01 Customer Service – slide 12

[188] ID 166 W-53 WAMC RFI 118 10-01 Customer Management W Codes

Table 7-107 presents the future period expenditure for this activity, including the average annual expenditure across all years.

Table 7-107: Future period expenditure for W10-01 (Customer management) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (DCCEEW)	2,244	2,174	2,283	2,251	2,278	11,230	2,246
Proposed expenditure (NRAR)	0	0	0	0	0	0	0
Proposed expenditure (WaterNSW)	2,848	2,738	2,766	2,836	2,898	14,086	2,817
Proposed expenditure	5,092	4,912	5,049	5,087	5,176	**25,316**	**5,063**

7.19.6 Conclusions and recommendations

For future pricing proposal submissions, we would encourage WAMC to consider allocation of end-to-end customer resourcing and expenditure for customer service functions and activities as a single WAMC activity. This may provide greater visibility of all WAMC customer activities. Additionally, apportioning customer service / customer management expenditure across relevant WAMC activities (by actual activity, cost and resource effort), will also provide greater certainty and clarity of costs from an efficiency and prudency perspective.

7.19.6.1 Upper bound assessment

Scope adjustments

DCCEEW has included cost estimates for managing general and complex technical enquiries as part of the scope of this activity. We propose a scope adjustment for the forecasted DCCEEW costs of General and Complex CAA Technical Enquiries in the next period to align with our broader position and recommendation that managing CAAs are not within the scope of WAMC services.

In determining the total cost of our proposed scope adjustment, we faced challenges in the delineating between the proposed 'project operating expenditure' and the 'forecast of indicative FTE' costs within DCCEEW's cost build up model for this activity[189].

Our assumption is that the modelling undertaken by DCCEEW to determine the estimated cost of managing LA customer enquiries (both general and complex) was for proposed FTE allocation to these activities. However, our further analysis of the cost build-up and inputs[190] identify these as additional costs to that of proposed activity related FTE costs.

Our experience tells us that for customer management related functions and activities, the cost of managing enquiries accounts for the FTE hours and effort to manage a customer enquiry from receipt to resolution.

[189] W10-01 cost build up – indirect costs (RFI 47)

[190] W10-01 cost build up – calculations for service, customer interactions (general), customer interactions (complex) (RFI47)

DCCEEW has indicated that general and complex CAA enquiries account for approximately 63% of the enquiries, while LA enquiries (general and complex) account for approximately 37% of enquiries managed through the Water Enquiries and Licensing and Approvals functions[191] .

On that basis, we recommend an upper bound adjustment for the removal of all CAA related 'project operating expenditure' for the next period and an additional 40% scope adjustment to 'indicative FTE costs' for the next period.

We have relied on the estimated split of enquiry types by DCCEEW as a guide only when recommending FTE cost reduction as part of the overall proposed scope adjustments. While 60% of customer enquiry types may be for proposed out of scope CEE enquiries, we have made a 20% allowance for general enquiry types (relating to WAMC activities) managed by DCCEEW.

Additionally, we have assumed that proposed FTE costs are allocated across customer management improvement activities, in addition to customer enquiry management. Although, we have assumed that the proportion of FTE costs to be relative to the intended benefit and outcome (improve LA and CAA enquiry processes, systems and capability across DCCEEW). It is on this basis make our recommendation for the proposed 40% scope adjustment to all proposed FTE costs by DCCEEW for the next period.

We have not identified any adjustments needed for scope to WaterNSW activities in setting an upper bound.

Efficiency adjustments

We have not identified any adjustments needed for efficiency in setting an upper bound.

7.19.6.2 Lower bound assessment

Scope adjustments

We have not identified any adjustments needed for scope in setting a lower bound.

Efficiency adjustments

We acknowledge that WaterNSW's proposed customer management costs are, on average, 5% lower across the next determination period from that of the last year in the current period (2024/25). However, we do feel that there is a degree of uncertainty relating to proposed expenditure when factoring in all the 'unknown changes' (regulatory and weather patterns over the next period). To that end, we have assumed a 10% cost uncertainty rate to be applied as a proposed efficiency adjustment to WaterNSW's overall customer management proposed expenditure for the next period. Given the user pays model for allocation of WAMC costs between users and government, it is our view that proposed expenditure should be based on known risks and impacts as much as possible.

[191] W10-01 WAMC Narrative – Water consent transaction – customer service and enquiries (RFI 47)

Table 7-108: Recommended range of efficient expenditure – W10-01 (Customer Management) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Total proposed operating expenditure	**5,092**	**4,912**	**5,049**	**5,087**	**5,176**
Proposed operating expenditure (DCCEEW)	2,244	2,174	2,283	2,251	2,278
Scope adjustments (DCCEEW)	-913	-886	-929	-916	-927
Efficiency adjustments (DCCEEW)	0	0	0	0	0
Recommended upper bound efficient operating expenditure (DCCEEW)	1,331	1,288	1,354	1,335	1,351
Proposed operating expenditure (WaterNSW)	2,848	2,738	2,766	2,836	2,898
Scope adjustments (WaterNSW)	0	0	0	0	0
Efficiency adjustments (WaterNSW)	0	0	0	0	0
Recommended upper bound efficient operating expenditure (WaterNSW)	2,848	2,738	2,766	2,836	2,898
Total recommended upper bound efficient operating expenditure	**4,179**	**4,026**	**4,120**	**4,171**	**4,249**
Scope adjustments (DCCEEW)	0	0	0	0	0
Efficiency adjustments (DCCEEW)	0	0	0	0	0
Recommended lower bound efficient operating expenditure (DCCEEW)	1,331	1,288	1,354	1,335	1,351
Scope adjustments (WaterNSW)	0	0	0	0	0
Efficiency adjustments (WaterNSW)	*-285*	*-274*	*-277*	*-284*	*-290*
Recommended lower bound efficient expenditure (WaterNSW)	2,563	2,464	2,489	2,552	2,608
Total Recommended lower bound efficient operating expenditure	**3,894**	**3,752**	**3,843**	**3,887**	**3,959**

7.20 W10-02 (Business governance and support)

7.20.1 Background

Business governance and support refers to the business systems and processes that facilitate activities across the organisation, including asset management, annual reporting, and pricing submissions to IPART. These activities entail the provision of overhead costs incurred in support of WAMC services and activities:

- The corporate RAB for WAMC
- WaterNSW overhead pool which is allocated to charge categories.

WaterNSW is the only WAMC agency to utilise this WAMC activity code for expenditure for WAMC related WaterNSW business governance and support activities, and there are operational, and capital expenditures associated with this activity.

For WaterNSW, the scope and overview of W10-02 (Business governance and support) activities 'relates primarily to work or expenses to the business systems and processes that support organisation-wide activities including asset management, land tax, digital capability, annual reporting and pricing submissions to IPART.'

7.20.2 Drivers for expenditure

Alignment to WAMC activities and expenditure

It should be noted that in the 2021 IPART determination, continued use of this activity code was not recommended as various WAMC agencies utilised alternate components of the pricing submission to account for their expenditure relating to business governance and support functions. The current allocation of these activities across the WAMC pricing proposal includes:

- DCCEEW allocation of overheads and business support activities – Corporate Overheads (Section 5.4)
- NRAR allocation of overheads and business support activities – W08-03 (Compliance management) (Section 7.18)
- WaterNSW allocation of overheads and business support activities – W10-02 (Business governance and support)
- Digital Improvement Strategies (Section 5.3) also aligns with the proposed WaterNSW expenditure contributions to the Joint Technology Roadmap identified within the scope of W10-02 (Business governance and support) activities.
- Non-urban Metering Charges
- Floodplain Harvesting Charges.

Figure 7-34 shows the expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

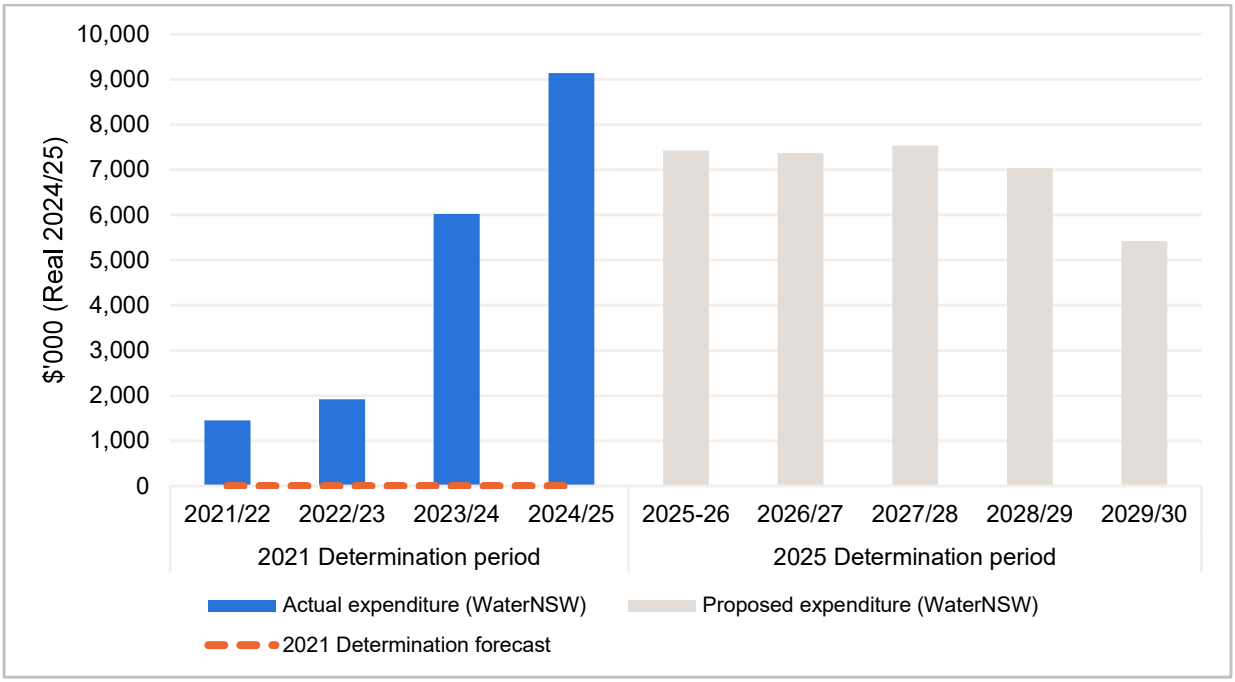

Figure 7-34: Current and future period expenditure for W10-02 (Business governance and support)

The average actual expenditure in the current determination period averages $4,633,000 per year. There was no allowance made for this activity in the 2021 Determination forecast.

The proposed expenditure for the 2025 Determination period averages $6,957,000 per year. This is $2,324,000 per year (50%) higher than the actual annual expenditure incurred in the current period.

7.20.3 Performance in the current period

Output or performance measures were not set for this activity for the current period due to IPART recommendation for WAMC to not utilise this activity code for future pricing proposals. WaterNSW has continued to use this activity code for business governance, corporate and support activities and expenditure for practical reasons.

7.20.4 Operating expenditure

7.20.4.1 Review of current period expenditure

With W10-02 (Business governance and support) operating expenses being allocated across the various WAMC activity codes and no IPART allowance being set for W10-02 (Business governance and support), it has been difficult to determine the extent to which current period expenditure by WaterNSW is prudent of efficient for this activity.

Table 7-109: Current period expenditure for W10-02 (Business governance and support) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	0	0	0	0	**0**	**0**
Actual expenditure (WaterNSW)	1,450	1,922	6,021	9,137	**18,530**	**4,633**
Variance	1,450	1,922	6,021	9,137	**18,530**	**4,633**

This may be a symptom of broader WAMC pricing proposal structure and alignment across the WAMC agencies. In aggregate, WaterNSW have estimated that their total spend across all WAMC activity codes (against IPART allowances) will be overspent by 1.4%[192] for the current period.

Expenditure in the current period for WaterNSW has been driven by several factors, including:

- Introduction of Land Tax costs and obligations driven by land parcels being transferred to WaterNSW for WAMC assets and activities ($1.3 million)
- WaterNSW vacancy rates were high, which was corrected through intervention commencing in 2023/24. These employee costs have started to flow through in the later part of the current period, resulting in higher costs
- Digital increases of $4.7 million, mainly from ICT personnel and contractor costs
- Increasing real insurances across the board, particularly driven by increases in public liability, property and heritage asset insurance costs.

WaterNSW also outlines drivers for higher-than-expected digital costs during the current period, primarily driven by:

- Shift from bespoke build and host solutions to transition and hosting of systems (such as WAVE) in the cloud, has resulted in the shift between one-off capital expenditure to higher, recurrent business-as-usual operating expenditure.

7.20.4.2 Review of future period expenditure

WaterNSW's proposed future period expenditure for this activity is expected to reduce from final year expenditure levels in the current period as WaterNSW's 1% compounding efficiency target comes into effect.

Table 7-110: Future period expenditure for W10-02 (Business governance and support) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	7,423	7,371	7,536	7,033	5,420	**34,783**	**6,957**

Irrespective, we consider that WaterNSW's proposed operating expenditure over the next determination period remains high. Our assessment of proposed operating expenditure by WaterNSW for the next period ($34.7 million) provided greater clarity on the major areas of proposed expenditure:

- WAMC Land Tax Assessment & Lodging activities account for $11 million of total proposed expenditure over the next period. We consider this an unavoidable corporate cost for WaterNSW resulting directly from a NSW State Government policy decision.

[192] 2024.12.05 D4 W10-02 – business governance and support interview

- Proposed operational expenditure relating to digital activities and initiatives for the future period for WaterNSW is approximately $22.3 million over the next determination. Our discussions with WaterNSW on this proposed expenditure indicated that WaterNSW may have understated capitalisation of operating labour costs for digital up to the value of approximately $1.5 million per annum[193]. We would consider this as potential scope adjustment for proposed operating expenditure.

- We have also identified the inclusion of a compounding efficiency dividend across the next determination period for WaterNSW proposed operating expenditure for this activity, with an estimated $7.7 million of efficiency related reductions factored into total operating expenditure forecasts for the future period.

Table 7-111: Future period operating expenditure forecasts for W10-02 (Business governance and support)[194] ($, million 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
WAMC Land Tax Assessment & Lodging	1.9	2.0	2.1	2.4	2.6
Determination Preparation Costs	0.2	0.2	0.4	0.5	0.2
Procurement and Facilities management	0.3	0.3	0.3	0.2	0.2
Insurance	0.1	0.1	0.1	0.1	0.1
WAVE / Water Market Systems	0.2	0.1	0.1	0.1	0.1
Digital Expenditure	5.0	5.4	4.4	4.7	2.8
Efficiency Initiatives	-0.9	-1.4	-1.8	-1.9	-1.7
Other	0.7	0.7	0.8	1.0	1.1
Total	**7.4**	**7.4**	**7.5**	**7.0**	**5.4**

7.20.4.3 Conclusions and recommendations

In assessing WaterNSW's proposed operating expenditure for business governance and support, we do not consider any proposed activity or expenditure to be outside of the scope of WAMC services. In assessing recommended upper and lower bound expenditure levels for the future period, with the exception of proposed digital expenditure, we would consider the majority of proposed to be efficient corporate expenditure.

Digital costs for WaterNSW contributions to the Joint Technology Roadmap are assessed in detail within section 5 of this report, with proposed analysis and justification for proposed adjustments to WaterNSW digital expenditure detailed in that section. Our review of non-roadmap related digital expenditure proposed by WaterNSW has identified relatively high levels of proposed digital operating costs for the next determination period. In our interview with WaterNSW, it was identified that there was a potential error in the digital operating expenditure due to capitalisation of digital FTE costs. WaterNSW attributes the driver of these costs to be related to digital contractor and consulting costs over the next determination period. We have been unable to validate the extent of these costs and their allocation in the supplementary information provided by WaterNSW.

[193] 2024.12.05 D4 – W10-02 – business governance and support interview notes.

[194] W-56 (WAMC RFI 122) W10-02 Dataset.

7.20.4.4 Upper bound assessment

Scope adjustments

We propose an annual $1.5 million scope adjustment to WaterNSW's proposed digital operating expenditure for the future period to account for understated capitalisation of digital labour costs as per our interview with WaterNSW.

Efficiency adjustments

We have not identified any adjustments needed for efficiency in setting an upper bound.

7.20.4.5 Lower bound assessment

Scope adjustments

We have not identified any adjustments needed for scope in setting a lower bound.

Efficiency adjustments

We have not identified any adjustments needed for scope in setting a lower bound.

Table 7-112: Recommended range of efficient operating expenditure – W10-02 (Business governance and support) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Total proposed operating expenditure	**7,423**	**7,371**	**7,536**	**7,033**	**5,420**
Scope adjustments	-1,500	-1,500	-1,500	-1,500	-1,500
Efficiency adjustments	0	0	0	0	0
Total recommended upper bound efficient operating expenditure	**5,923**	**5,871**	**6,036**	**5,533**	**3,920**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Total Recommended lower bound efficient operating expenditure	**5,923**	**5,871**	**6,036**	**5,533**	**3,920**

7.20.5 Capital expenditure

Figure 7-35 below provides an overview of the WaterNSW capital expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

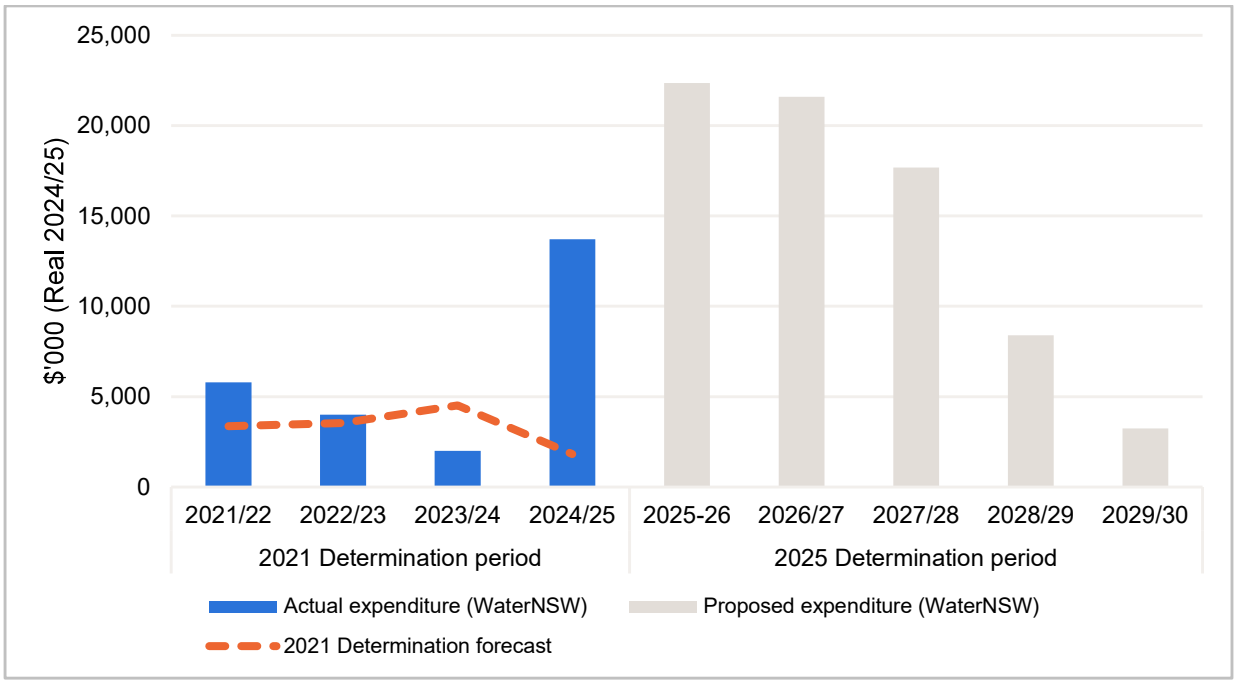

Figure 7-35: Current and future period capital expenditure for W10-02 (Business governance and support)

7.20.5.1 Review of current period expenditure

The actual expenditure in the current determination period averages $6,373,000 per year. This is $3,066,000 per year (93%) higher than allowed for in the 2021 Determination forecast, which averaged $3,307,000 per year.

Our assessment of WaterNSW capital expenditure for business governance and support activities over the current period has identified that a significant contributing factor to this overspend was due to WAVE Programs expenditure ($6 million for Water Market Systems)[195] and higher than expected digital costs, including:

- Cloud adoption – transition to building and hosting digital solutions in the cloud has resulted in a shift in expenditure, with one-off system development and implementation costs materialising as lower on-off capital expenditure and higher, recurrent business-as-usual digital operating expenditure
- Licensing cost increases
- Introduction of new ways of working, resulting in increased people related costs to provide DevSecOps activities through an Agile delivery model to balance the need for digital development and deployment with managing cybersecurity integration throughout the digital solutions development cycle.

[195] Attachment F – Summary of expenditure and services by WAMC activity p214

Table *7-113* presents the current period expenditure for this activity, including the average annual expenditure across all years and the variance between the 2021 Determination forecast and actual expenditure.

Table 7-113: Current period capital expenditure for W10-02 (Business governance and support) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	3,356	3,542	4,512	1,818	**13,228**	**3,307**
Actual expenditure (WaterNSW)	5,798	3,995	1,994	13,704	**25,491**	**6,373**
Variance	2,442	453	-2,518	11,886	**12,263**	**3,066**

We have reviewed WaterNSW's digital capital expenditure in the current period and recommend an adjustment to the final year expenditure. We consider that there is some scope for efficiency in the final year (estimated) expenditure – primarily driven around the Water Systems expenditure. We have proposed a 20% efficiency on 2024/25 expenditure to account for this.

7.20.5.2 Review of future period expenditure

The proposed expenditure for the 2025 Determination period averages $14,656,000 per year. This is $11,349,000 per year (343%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $8,283,000 per year (130%) higher than the actual annual expenditure incurred in the current period.

We have assessed that the forward capital program proposed by WaterNSW is dominated by proposed digital expenditure to support the realisation of the WAMC Joint Technology Roadmap and some minor digital capital expenditure for hardware, system and software replacement by WaterNSW over the future period.

Proposed digital expenditure is split across proposed operational and capital expenditure for WaterNSW for business support and governance activities, with the majority of WaterNSW digital costs identified as capital expenditure. Of the total proposed capital expenditure for the future period proposed by WaterNSW, approximately 92% of costs are proposed digital expenditure,

We have provided an overview of technology roadmap activities, WAMC agency proposed expenditure and our proposed adjustments to technology roadmap expenditure for the future period in section 5 of this report.

We see the remaining 8% of proposed capital expenditure (facilities management, lease asset capitalization and minor capital corporate costs) as appropriate costs for WaterNSW expenditure for monopoly WAMC services and activities.

Table 7-114: Future period capital expenditure for W10-02 (Business governance and support) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	22,363	21,598	17,682	8,393	3,244	**73,280**	**14,656**

7.20.5.3 Conclusions and recommendations

Acknowledging that the majority of proposed WaterNSW capital expenditure are digital costs, predominantly to support the delivery of technology roadmap projects, initiatives and outcomes, we will refer to our assessment of these activities in Section 5 of this report.

We are not proposing any further adjustments to proposed WaterNSW capital expenditure, other than those recommended within Section 5 of this report.

We would recommend that for future periods, that WAMC agency digital, corporate, and business support costs are consolidated under a single WAMC activity code (or similar) to provide greater transparency and traceability of similar cost inputs across the pricing proposal.

7.20.5.4 Upper bound assessment

Scope adjustments

We propose an annual $1.5 million scope adjustment to WaterNSW's proposed digital capital expenditure for the future period to account for understated capitalisation of digital labour costs as per our interview with WaterNSW (with a corresponding operating expenditure scope adjustment).

Efficiency adjustments

We have not identified any adjustments needed for efficiency in setting an upper bound.

7.20.5.5 Lower bound assessment

Scope adjustments

We have not identified any adjustments needed for scope in setting a lower bound.

Efficiency adjustments

As per our analysis of technology roadmap initiatives in Section 5 of this report, we are recommending a 14% efficiency adjustment for WaterNSW capital costs relating to the Shared Data Ecosystem Management & Governance project due to the activity, costs and benefits not being sufficiently justified.

We are also proposing an 8.5% efficiency adjustment to WaterNSW proposed expenditure relating to the delivery of the Water Market Systems project for the future period due to the activity, costs and benefits not being sufficiently justified.

Both recommended efficiency adjustments have accounted for the internal prioritisation and efficiency reduction processes undertaken by WAMC to reduce overall technology roadmap costs for the future period. Refer to our detailed assessment in Section 5 of this report for more detail.

Table 7-115: Recommended range of efficient capital expenditure – W10-02 (Business governance and support) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Total proposed operating expenditure	**22,363**	**21,598**	**17,682**	**8,393**	**3,244**
Scope adjustments	1,500	1,500	1,500	1,500	1,500
Efficiency adjustments	0	0	0	0	0
Total recommended upper bound efficient operating expenditure	**23,863**	**23,098**	**19,182**	**9,893**	**4,744**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-1,000	-1,200	-1,200	-500	0
Total Recommended lower bound efficient operating expenditure	**22,863**	**21,898**	**17,982**	**9,393**	**4,744**

7.21 W10-03 (Billing management)

7.21.1 Background

This activity involves the management of billing requirements and subcontracted billing, revenue collection and debtor management service delivery, and responding to customer enquiries relating to enquiries on billing activities.

WaterNSW is responsible for undertaking billing for all WAMC service charges (whether provided by WaterNSW, the department, or NRAR), and expenditure related to this activity are all operational. Billing management costs are recovered directly from customers through WaterNSW Charges (see Section 9.3 and 10.3 for further analysis of proposed Non-Urban Metering and Floodplain Harvesting charges).

WaterNSW end-to-end customer management costs are split between this activity code and W10-01 (Customer management)

Figure 7-36 shows the operating expenditure for this activity in the current and future periods. For the current period, both the 2021 Determination and actual expenditure are shown.

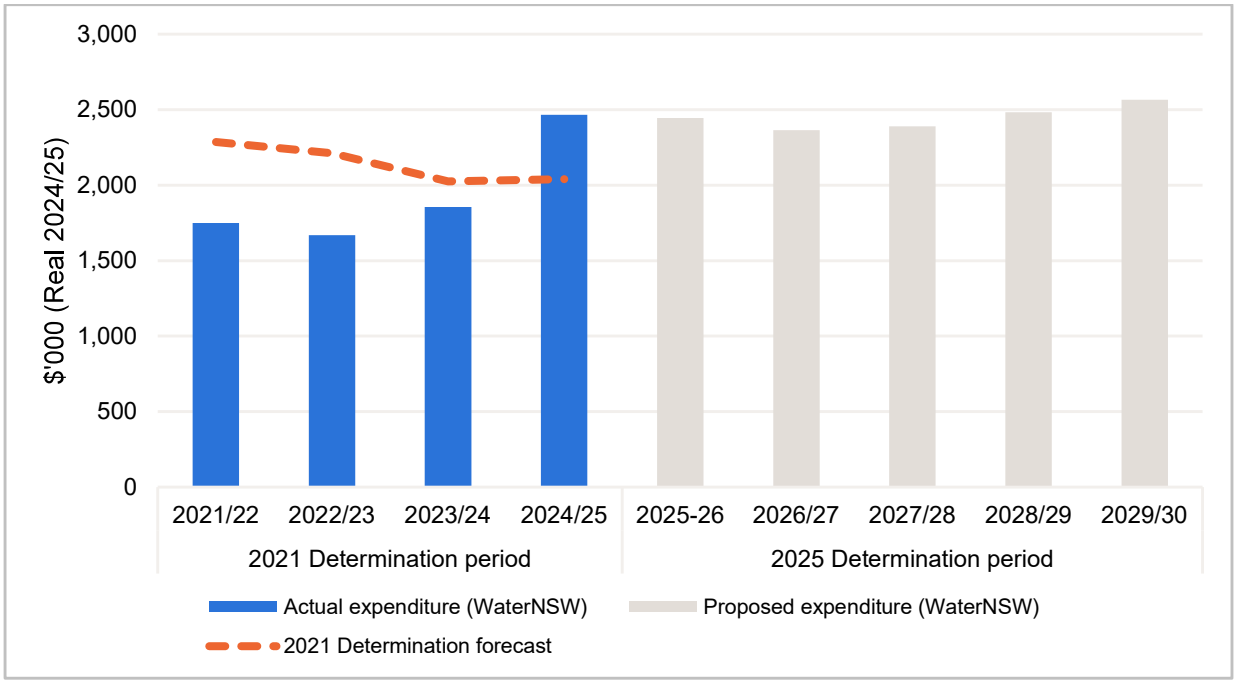

Figure 7-36: Current and future period expenditure for W10-03 (Billing management)

The actual expenditure in the current determination period averages $1,935,000 per year. This is $205,000 per year (10%) lower than allowed for in the 2021 Determination forecast, which averaged $2,140,000 per year.

The proposed expenditure for the 2025 Determination period averages $2,449,000 per year. This is $309,000 per year (14%) higher than the average annual expenditure allowed for in the 2021 Determination period, and $514,000 per year (27%) higher than the actual annual expenditure incurred in the current period.

7.21.2 Drivers for expenditure

Billing management is required so that all agencies collect revenue for delivering the WAMC monopoly services as reflected in charges. The drivers collectively contributing to billing services expenditure for WaterNSW include:

- Ensuring continued and reliable billing services for WAMC services and charges
- Adjusting to complex and conflicting Water Regulations
- Rapidly evolving policy and implementation landscape
- Overly prescriptive / hands on policy environment
- Adjustments to metering reforms and floodplain harvesting
- Continuing to meet Operating Licence obligations, specifically:
    - Section 13(2) and 22(1) – customer supply agreements for direct water services
    - Section 25 – customer service charter
    - Section 27 – code of practice on payment difficulties
    - Section 28 – family violence policy
    - Section 29 – internal complaints handling.
- Water Trade and Markets (e.g. ACCC) and cross-jurisdictional matters.

7.21.3 Performance in the current period

There is one output measure (OM79) in place for billing services that identifies the expected number of accounts billed annually and has been forecasted at 38,915 yearly in the current period. The performance indicator for this activity is related to percentage of accounts billed in the year and is identified at 95%.

In the current regulatory period, the required volume of accounts to be billed for all services provided by WaterNSW, the department, or NRAR was fully met by WaterNSW.

We have also been able to witness WaterNSW's well-developed and mature internal KPI and performance metrics (first call resolution, net promotor score, complaints, inbound customer interactions, and billing and credit) which provides insights driven performance review and a solid base for future year cost and resource estimation[196].

7.21.4 Review of current period expenditure

Our assessment of WaterNSW actual expenditure for billing management activities in the current period identified that expenditure, on average, was 10% lower than allowed for by IPART. This has been attributed to the adoption of several process improvements, including leveraging the delivery of WAVE outcomes over the course of the current period, to keep costs for billing services below the IPART determination allowance.

[196] WaterNSW Expenditure Review Interview W10-03 presentation – slides 27-31.

Table 7-116: Current period expenditure for W10-03 (Billing management) ($'000 2024/25)

Expenditure	2021/22	2022/23	2023/24	2024/25	Total	Average
2021 Determination forecast	2,285	2,212	2,024	2,039	**8,560**	**2,140**
Actual expenditure (WaterNSW)	1,750	1,669	1,855	2,466	**7,740**	**1,935**
Variance	-535	-543	-169	427	**-820**	**-205**

Our assessment of increases to current financial year forecasted expenditure by WaterNSW has identified significant increases in expenditure from previous years over the current determination period. WaterNSW has identified the determining factors to increased costs over the final year in the current determination to be reduced vacancies across the call centre team (increase in FTEs) and proportional cost allocation of WaterNSW call centre project costs to WAMC[197].

Figure 7-37 provides an overview of proposed billing management expenditure over the future period compared to current period expenditure.

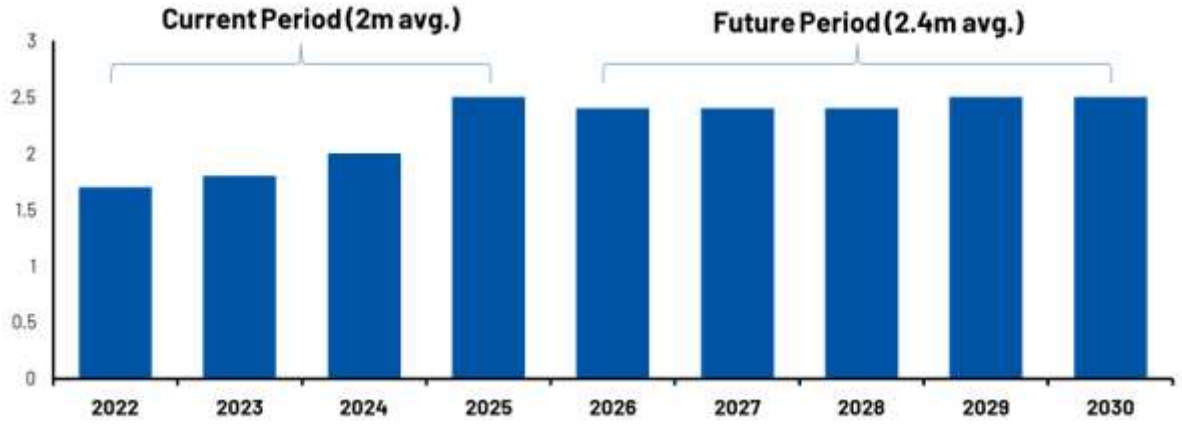

Figure 7-37: Overview of proposed billing management expenditure[197]

We consider the current period expenditure for billing management by WaterNSW to be within the scope of WAMC monopoly service and efficient, given the complex changes to billing and customer services being driven by changes to policy and regulatory environments over the period (and into the next period).

7.21.5 Review of future period expenditure

The proposed WaterNSW expenditure for billing services in the future period is 25% (on average) higher than the actual expenditure incurred during the current period or on average, 1% lower than current financial year forecasted expenditure[198].

We accept WaterNSW's view that the adjustments to existing policies will most likely arise in the next determination period. We would expect that there would be material impacts of ongoing change and transition driven by activities such as non-urban metering, issuing of floodplain harvesting licences and proposed attestation activities will create downstream challenges and cost impacts from a billing management perspective.

[197] WaterNSW Expenditure Review Interview W10-02 – slide 18.

[198] Summary of expenditure and services by WAMC activity (Attachment F) – p217.

The ACCC Murray Darling Basin Water Markets Inquiry sought to examine markets for tradeable water in the Murray-Darling Basin. The inquiry has resulted in multiple recommendations to be implemented to improve the integrity of the water market. As the ultimate approver of many of these trades[199], WaterNSW will be required to progressively implement supporting system and process changes which will include and impact on billing management activities[200]

Additionally, we note that WaterNSW will face real labour rate increases (EBA driven) and has made allowances for a level of uncertainty in the policy and regulatory environment over the next determination period, seeking to manage this regulatory and risk uncertainty through proposed operating expenditure.

We generally accept the proposed future expenditure by WaterNSW for billing management. The risk of not ensuring an appropriate and efficient allocation of expenditure for billing management and related activities is significant in terms of WAMC's cost recovery and revenue generation priorities and outcomes. We also consider the proposed future period to be relatively stable, given the extent of changes in the broader operating regulatory and policy environments.

Table 7-117: Future period expenditure for W10-03 (Billing management) ($'000 2024/25)

Expenditure	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Proposed expenditure (WaterNSW)	2,445	2,364	2,389	2,482	2,566	**12,246**	**2,449**

7.21.6 Conclusions and recommendations

We view billing management activities undertaken by WaterNSW as mission critical to ensure that WAMC cost recovery and revenue outcomes can be achieved. Despite the proposed increase in expenditure over the future period from actual expenditure in the current period, we accept the drivers for these proposed cost increases by WaterNSW to be acceptable. To that end, we are not recommending any upper bound adjustments to metering management expenditure.

Lower-bound efficiency adjustments

We acknowledge that WaterNSW's proposed billing management costs are, on average, only 1% lower across the next determination period from that of the last year in the current period (2024/25). However, we do feel that there is a degree of uncertainty relating to proposed expenditure over the next determination period.

To that end, we are recommending a 10% cost uncertainty rate to be applied as a proposed efficiency adjustment to WaterNSW's overall proposed billing management expenditure for the next period.

[199] ACCC Murray-Darling Basin water markets inquiry – final report p290.

[200] WaterNSW expenditure review interview W10-03 presentation – slide 10.

Table 7-118: Proposed efficient range of expenditure – W10-03 (Meter management) ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Total proposed operating expenditure	2,445	2,364	2,389	2,482	2,566
Total scope adjustments	0	0	0	0	0
Total efficiency adjustments	0	0	0	0	0
Recommended total upper bound efficient operating expenditure	2,445	2,364	2,389	2,482	2,566
Total scope adjustments	0	0	0	0	0
Total efficiency adjustments	-245	-236	-238	-248	-256
Recommended total lower bound efficient operating expenditure	2,200	2,128	2,151	2,234	2,310

8 Analysis of consent transaction charges

8.1 Background

Consent transaction charges are fee-for-service charges that seek to recover the costs of issuing or amending water access licences, water allocation assignments, water supply work approvals, and water supply use approvals ('consent transaction activities') in response to an application made by a customer. These charges are separate to the water management charge and are one-off charges recovered at the point of application.

Each consent transaction activity can be categorised into one of the following three categories:

- **Water access licences (including dealings in licences):** Transactions include issuing new water access licences, amending existing licences, and undertaking dealings in licences. Dealings in licences include assigning share components, and consolidating, subdividing and surrendering licences.
- **Water allocation assignments:** Transactions include assigning water from one water access licensee account to another licensee account (also referred to as a temporary trade)
- **Water supply work and use approvals:** Transactions include:
  - » Assessing and approving the construction and use of a water supply work – such as a pump, dam or bore – at a specified location
  - » Authorising the use of water for a particular purpose – such as irrigation – at a particular location.

Responsibilities for undertaking consent transaction activities are split between WaterNSW and DCCEEW, with the former responsible for applications from smaller customers including individuals and businesses. Conversely, DCCEEW is responsible for applications from larger customers, such as major utilities, local water utilities, water supply authorities, irrigation corporations, state-owned corporations, mining companies and Aboriginal organisations. DCCEEW also undertakes application-specific groundwater impact assessments to inform the decisions made by WaterNSW and DCCEEW.

The charges for DCCEEW's consent transaction activities are referred to as 'Type A' charges, while the charges for WaterNSW's consent transaction activities are referred to as 'Type B' charges. Although the licences managed by DCCEEW comprise around 5% of all licences, they account for around 40% of the total regulated water share, according to the information set out in the WAMC pricing proposal (p. 171).

Figure 8-1 shows the expenditure for consent transactions in the current and future periods, including the current period revenue and forecast revenue. For the current period, both the 2021 Determination and actual expenditure are shown.

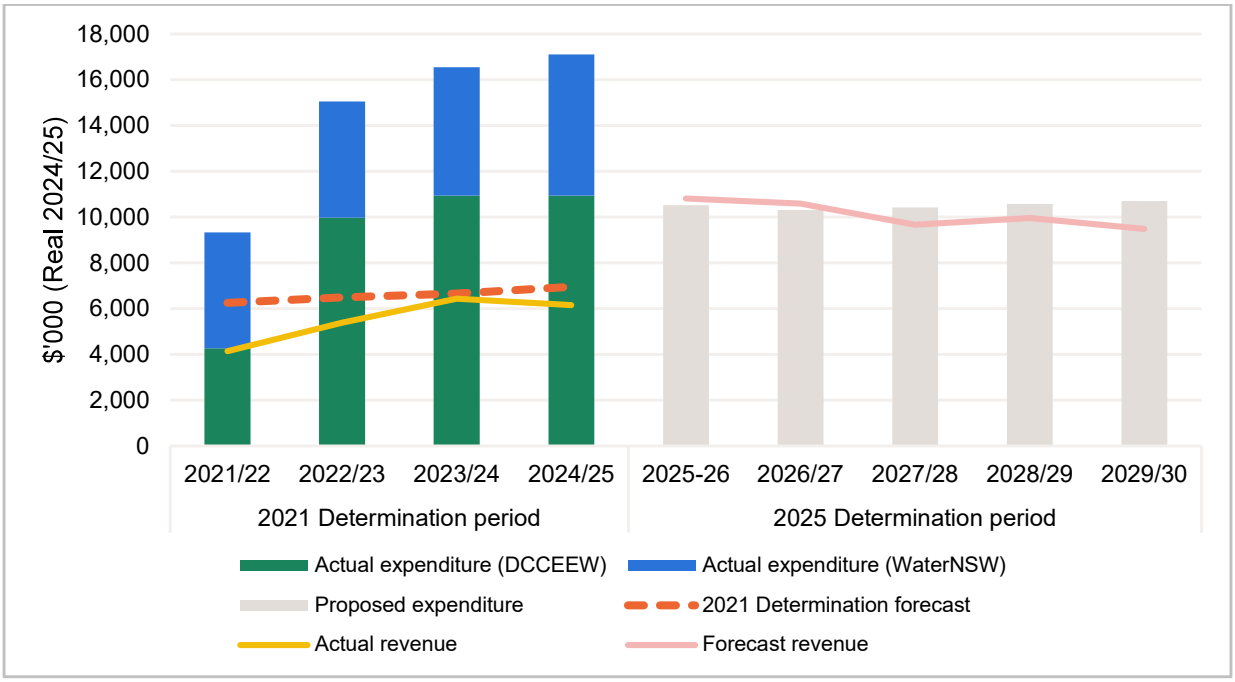

Figure 8-1: Current and future period expenditure and revenue for W09-01 consent transactions

Table 8-1 presents the current period expenditure and revenue for consent transactions, including the average annual expenditure across all years, and the variance between the 2021 Determination and actual expenditure.

Table 8-1: Current period expenditure and revenue for W09-01 consent transactions

Expenditure ($'000)	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**Total**	**Average**
2021 Determination forecast (DCCEEW)	1,340	1,340	1,307	1,340	5,327	1,332
2021 Determination forecast (WaterNSW)	4,915	5,152	5,361	5,618	21,046	5,262
2021 Determination forecast	6,255	6,492	6,668	6,958	**26,373**	**6,593**
Actual expenditure (DCCEEW)	4,275	9,972	10,943	10,943	36,133	9,033
Actual expenditure (WaterNSW)	5,055	5,072	5,599	6,161	21,887	5,472
Actual expenditure	9,330	15,044	16,542	17,104	**58,020**	**14,505**
Variance	3,075	8,552	9,874	10,146	**31,647**	**7,912**
Actual revenue (DCCEEW)	980	863	1,101	1,200	4,144	1,036
Actual revenue (WaterNSW)	3,166	4,523	5,331	4,963	17,983	4,496
Actual revenue	4,146	5,386	6,432	6,163	**22,127**	**5,532**

Table 8-2 presents the future period expenditure and forecast revenue for consent transactions, including the average annual expenditure across all years.

Table 8-2: Future period expenditure and forecast revenue for W09-01 consent transactions

Expenditure ($'000 2024/25)	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Forecast revenue (DCCEEW)	5,516	5,516	5,516	5,516	5,516	27,580	5,516
Forecast revenue (WaterNSW)	5,300	5,069	4,149	4,447	3,970	22,935	4,587
Forecast revenue	10,816	10,585	9,665	9,963	9,486	**50,515**	**10,103**
Proposed expenditure (DCCEEW)	5,516	5,516	5,516	5,516	5,516	27,580	5,516
Proposed expenditure (WaterNSW)	5,004	4,794	4,904	5,059	5,187	24,948	4,990
Proposed expenditure	10,520	10,310	10,420	10,575	10,703	**52,528**	**10,506**

The actual expenditure in the current period averages $14,505,000 per year. This is $7,912,000 per year (120%) higher than allowed for in the 2021 Determination, which averaged $6,593,000 per year. The majority of the overspend is by DCCEEW, where the average actual expenditure of $9,033,000 per year is $7,701,000 (578%) per year higher than allowed for in the 2021 Determination, which averaged $1,332,000 per year.

The proposed expenditure for the 2025 Determination period averages $10,506,000 per year. This is $3,912,000 per year (59%) higher than the average annual expenditure allowed for in the 2021 Determination, and $3,999,000 per year (28%) lower than the actual annual expenditure incurred in the current period.

The forecast revenue for the 2025 Determination period averages $10,103,000 per year. This is $4,571,000 per year (83%) higher than the actual revenue in the current period, which averaged $5,532,000 per year. In its pricing proposal (p. 173), WAMC considered that it had 'generally under-recovered [its] costs of delivering consent transaction services' in the current period.

8.2 Drivers for expenditure

Requirements relating to water access licences, water allocation assignments (temporary trades), and water supply work and use approvals are established under the *Water Management Act 2000*. There are also some remaining provisions in effect under the *Water Act 1912*. Together, these requirements enable the implementation of water management rules, as set out in water sharing plans, such that users are granted access to water consistent with the regulatory framework for water planning and management.

Responsibilities for undertaking consent transaction activities have shifted over the past decade. At the time of the 2016 Determination, WAMC services, including consent transaction activities, were wholly delivered by the former Department of Primary Industries. Subsequent to the 2016 Determination, some WAMC functions were transferred to WaterNSW in 2016/17, and to NRAR following its establishment in 2018. The functions transferred to WaterNSW included, but were not limited to, most licensing and approvals (consent transaction) activities. The functions transferred to NRAR included, but were not limited to, the remaining licensing and approvals activities, which were for larger customers.

On 30 June 2021, a Roles and Responsibilities Agreement came into effect between DCCEEW, WaterNSW and NRAR, with the purpose of 'set[ting] out in detail each agency's role in relation to key water management functions and provid[ing] frameworks for resolving any interagency issues and monitoring the performance of agencies against their responsibilities'. Among other matters, the Roles and Responsibilities Agreement clarified that the primary responsibilities for licensing and approval functions were held by WaterNSW and DCCEEW, rather than by WaterNSW and NRAR. Consequently, in 2022, the consent transaction activities that had been undertaken by NRAR at the time of the 2021 Determination were subsequently returned to DCCEEW.

The licensing and approval functions conferred to WaterNSW, including exceptions, are set out in Schedules A.1 and A.2 of its Operating Licence 2024 – 2028. Exceptions to WaterNSW's licensing and approval functions are those undertaken by DCCEEW. The licences and approvals for which WaterNSW and DCCEEW are, respectively, responsible for are summarised in Table 8-3.

Table 8-3: Consent transaction responsibilities of WaterNSW and DCCEEW

WaterNSW	DCCEEW
• Rural landholders • Rural industries • Developments which are not state-significant development or significant state infrastructure	• Councils • State or Commonwealth government agencies or authorities • Major water utilities, water supply authorities or irrigation corporations • Aboriginal commercial, Aboriginal community development, Aboriginal cultural or Aboriginal environmental subcategories of access licence • Licensed network operators under the *Water Industry Competition Act 2006* • Entities carrying out activities under the *Mining Act 1992*, *Offshore Minerals Act 1999*, *Petroleum (Onshore) Act 1991* or *Petroleum (Offshore) Act 1982* • State significant development of state significant infrastructure.

8.3 Performance in the current period

Three output measures are in place for consent transaction charges in the current period. These are the number of water access licence applications, the number of applications for water supply work and use approvals, and the number of approval extension applications. That is, the output measures for consent transaction activities measure the *volume* of applications processed. At an aggregate level across both Type A and Type B consent transactions, all output measures were reported by WAMC as being met in 2023/24.

Each output measure has a corresponding performance indicator for the percentage of applications determined within a certain timeframe. That is, the performance indicators measure the *time* to process consent applications. WAMC reported that it had achieved one of its three performance indicators in 2023/24. That is, while WAMC met its output measures for application *volumes*, it did not meet its performance measures for application determination *timeframes*.

WAMC also provided to us[201] data on its performance in the current period for Type A consent transactions and Type B consent transactions separately. Table 8-4 and Table 8-5 set out the current period performance for Type A consent transactions and Type B consent transactions, respectively.

Table 8-4: Current period performance for Type A consent transactions (excluding controlled activity approvals)

Performance indicator	2021/22	2022/23	2023/24	2024/25
Water access licence – applications determined within 45 days = 80%	49%	54%	50%	75%
Water supply work and/or use approvals – applications determined within 65 days = 80%	43%	56%	58%	39%
Approval extensions – applications determined within 25 days = 80%	94%	89%	92%	87%

Table 8-5: Current period performance for Type B consent transactions

Performance indicator	2021/22	2022/23	2023/24	2024/25
Water access licence applications – 80% in 40 days	94%	96%	94%	94%
Dealings – 90% in 20 days	94%	95%	92%	92%
Water supply, use and combined approvals – 80% in 60 days	86%	85%	85%	85%
Extensions – 90% in 20 days	94%	98%	99%	95%

Legend:

On track to be met
Met
At risk of not being met
Not met

[201] Actual performance in the current period for Type A consent transactions was presented to Stantec on 6 December 2024, with the corresponding PowerPoint presentation provided to Stantec on 7 February 2025 in response to a follow-up request for information (RFI 76, 174). Actual performance in the current period for Type B consent transactions was presented to Stantec on 3 December 2024, with the corresponding PowerPoint presentation provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

For Type A consent transactions (excluding controlled activity approvals) in the future period, DCCEEW has proposed two improved service level targets, one reduced service level target, and one new service level target (Table 8-6). Conversely, for Type B consent transactions, WaterNSW is not proposing any changes to performance indicators in the future period.

Table 8-6: Proposed future period performance indicators for Type A consent transactions (excluding controlled activity approvals)

Output	Current period performance indicator	Proposed future period performance indicator
Water access licences – zero share	80% determined within 45 days	80% determined within 40 days
Water access licences – controlled allocation orders	80% determined within 45 days	80% determined within 40 days
Water access licences – specific purpose	80% determined within 45 days	80% determined within 65 days
Water supply work and/or use approvals	80% determined within 65 days	80% determined within 65 days
Flood work approvals	None	80% determined within 65 days
Approval extensions	80% determined within 25 days	80% determined within 25 days

8.4 Consent transactions (Type A) undertaken by the Department

8.4.1 Overview of proposed charges

Type A consent transaction activities are undertaken by DCCEEW's Licensing & Approvals team. The charges proposed by DCCEEW for these transactions are set out in Table 8-7. Of the 31 charges included in Table 8-7, DCCEEW has proposed to introduce 7 new charges as well as bring 13 existing controlled activity approval charges into the scope of the WAMC determination. DCCEEW has not consulted with customers regarding its proposed charges.

Table 8-7: Proposed Type A consent transaction charges

No.	Charge name	Status	2024/25 charge determined by IPART (real 2024/25 $)	Proposed future period charge (real 2024/25 $)	% change
New water access licences					
1	Application for new water access licence – zero share (WAL – Zero Share)	Existing charge	1,349.96	2,013.52	49%
2	Application for new controlled allocation (WAL – CAO)	Existing charge	1,761.83	2,485.46	40%
3	Application for new specific purpose – groundwater assessment may be required (WAL – SPAL)	Existing charge	3,021.98	4,091.75	35%
Works and supply approvals					

No.	Charge name	Status	2024/25 charge determined by IPART (real 2024/25 $)	Proposed future period charge (real 2024/25 $)	% change
4	Application to inactivate a water supply work and/or water use approval (WSWA – Amend inactive)	New charge	N/A	2,026.77	N/A
5	New application for water supply work approval to take groundwater under a domestic and stock right (WSWA – Basic rights)	Existing charge	1,208.38	2,236.60	85%
6	New application for a flood work approval – technical referral (FW approvals)	Existing charge	3,903.88	8,728.62	124%
7	New application for a water supply work approval – town water supply – groundwater assessment charge not included (WSWA – GW for TWS)	Existing charge	5,646.14	8,098.09	43%
8	New application for water supply work approval – groundwater (WSWA – GW for other)	Existing charge	2,275.19	5,775.90	154%
9	New application for water supply work approval – pump (WSWA – SW pumps)	Existing charge	2,815.76	8,130.65	189%
10	Application for a new water supply work approval regarding a dam or storage (WSWA – SW storages)	Existing charge	2,786.21	8,191.12	194%
11	Application to extend a water supply work and/or use approval – before expiry (WSWA – Extensions)	Existing charge	412.78	2,568.35	522%
12	Application to extend a water supply work and/or use approval – after expiry (WSWA – Extensions)	Existing charge	762.88	3,340.18	338%
13	Application to amend a water supply work and/or use approval – irrigation corporations (IC inclusion/exclusion)	New charge	N/A	2,345.16	N/A
14	Application for new Water Act 1912 approval – monitoring bore (Monitoring Bore)	New charge	151 (administration)	3,376.47	N/A

No.	Charge name	Status	2024/25 charge determined by IPART (real 2024/25 $)	Proposed future period charge (real 2024/25 $)	% change
15	Application for new Water Act 1912 approval – injection bore (Part 5 Injection)	New charge	151 (administration)	3,397.46	N/A
16	New application to surrender a water supply work and/or use approval (WSWA – surrender)	New charge	N/A	1,930.62	N/A
17	Application for new water supply work approval (Miscellaneous Works)	New charge	N/A	2,609.39	N/A
18	New fee for assessment of State Significant Developments (SSD response)	New charge	N/A	4,062.10	N/A
Controlled activity approvals (CAA)					
19	Controlled activity approval (CAA) – general application fee	New charge (currently funded from outside of the WAMC determination)	N/A	2,726.78	N/A
20	CAA – high risk (additional fee)		N/A	4,855,35	N/A
21	CAA – high security (additional fee)		N/A	5,604.69	N/A
22	CAA Part 5 medium		N/A	3,054.21	N/A
23	CAA Part 5 high		N/A	4,813.70	N/A
24	CAA Part 5 high security		N/A	5,968.34	N/A
25	CAA amendment – general fee		N/A	2,281.55	N/A
26	CAA – high risk – amendment		N/A	3,636.63	N/A
27	CAA amend security		N/A	4,978.40	N/A
28	CAA extension – before expiry		N/A	2,291.82	N/A
29	CAA extension – after expiry		N/A	2,829.12	N/A
30	CAA extractive extension		N/A	5,639.59	N/A
31	CAA security release		N/A	4,359.43	N/A

8.4.2 Cost components and calculation methodology

8.4.2.1 Overview

DCCEEW has developed a bottom-up cost model for calculating each of its proposed consent transaction charges. The cost components comprising each charge are depicted in Figure 8-2, along with the definition adopted by DCCEEW for each component. Table 8-8 lists the spreadsheets used by DCCEEW to calculate each component.

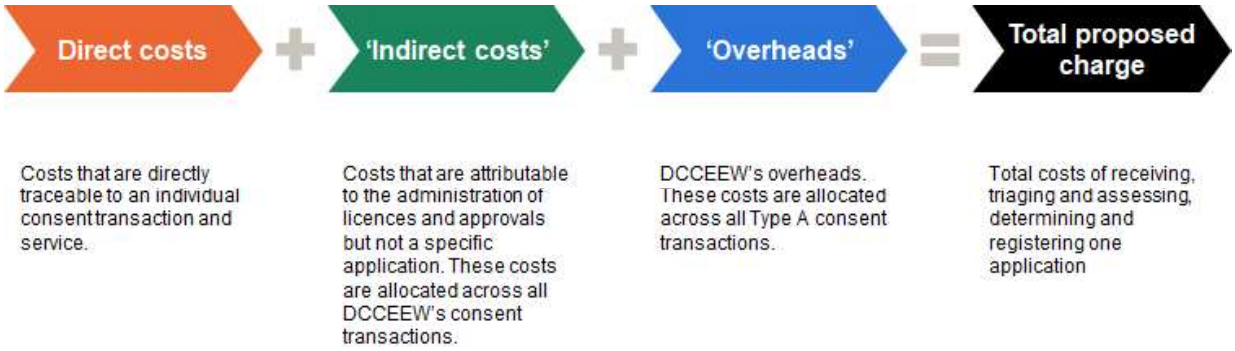

Figure 8-2: Calculation of proposed Type A consent transaction charges

Table 8-8: Key information sources for calculation of proposed Type A consent transaction charges

Cost component	Spreadsheet where this is calculated
Direct costs	'02. WAMC and other transaction processing time estimates - Tech roadmap Efficiencies Included - 17 Sept 2024 - Post QA.xlsx' provided to Stantec on 16 December 2024
'Indirect costs'	'01. W09.01 and W10.01 Indirect costs for consent transaction charges - Tech roadmap efficiencies FY26-30 - 17 Sept 2024 2024 – P.xlsx' provided to Stantec on 16 December 2024
'Overheads'	
Total proposed charge	'03. WAMC L and A transactions and forecasts - With Tech Roadmap Efficiencies - 17 Sept 2024 - Post QA.xlsx' provided to Stantec on 16 December 2024

8.4.2.2 Direct costs, resourcing profile and salary on-costs

The direct costs for each consent transaction type[202] are calculated through a bottom-up estimate of the number of minutes required for each stage of transaction (application receipt, triage and assessment, determination, and registration). For each transaction stage, estimates are generally made for both 'easy' and 'complex' transactions, and a range of time estimates ('minimum', 'average' and 'maximum') are provided for each complexity of transaction. The average of the 'average' and 'maximum' time estimates for each transaction stage is then multiplied by the salary rate (including on-costs) for an assumed position grade to calculate the cost of that transaction stage. The cost of each transaction stage is summed to calculate the total direct cost for that transaction type.

The position grade assumed for each transaction stage is generally consistent across all transaction types. As a summary of its estimated resourcing requirements, DCCEEW provided to us[203] its current actual number of FTEs for consent transaction activities by position grade (Table 8-9). We understand that DCCEEW does not propose additional FTEs for the future period.

[202] Throughout this chapter (Section 8), a reference to a 'consent transaction type' is a reference to an individual consent transaction name. For example, the 'WAL – Zero Share', 'WAL – CAO' and 'WAL – SPAL' consent transactions are separate 'consent transaction types'. DCCEEW has proposed 31 consent transaction types.

[203] Provided to Stantec on 13 December 2024 in response to a request for information (RFI 105).

Table 8-9: Current actual FTEs for Type A consent transaction charges – direct costs

Role title (and position grade where available)	Current actual FTEs
Exclusive of controlled activity approvals	
Manager (Grade 11/12)	2.5
Team Leader (Grade 9/10)	0.0
Senior Water Regulation Officer (Grade 9/10)	8.0
Water Regulation Officer (Grade 7/8)	10.0
Administrative Officer (Grade 6/7)	1.0
Water Regulation Assistant (Grade 5/6)	3.0
Systems Support Officer (Grade 5/6)	1.0
Assistant Project Officer (Grade 5/6)	1.0
Project Support Officer (Grade 3/4)	4.0
Total FTEs excluding controlled activity approvals	**30.5**
Controlled activity approvals only	
Manager (Grade 11/12)	1.0
Team Leader (Grade 9/10)	0.0
Senior Water Regulation Officer (Grade 9/10)	1.0
Water Regulation Officer (Grade 7/8)	7.0
Water Regulation Assistant (Grade 5/6)	1.0
Project Support Officer (Grade 3/4)	1.0
Total FTEs for controlled activity approvals only	**11.0**
Total FTEs including controlled activity approvals	**41.5**

We note that most resources assigned to consent transaction activities are technical officers, technical assistants or project support officers – that is, most resources are junior to intermediate staff. Given the nature of consent transaction tasks, we consider that this is an appropriate balance, with junior to intermediate staff generally undertaking routine tasks and with senior staff generally undertaking complex tasks and providing review and oversight. Therefore, we consider that the overall 'shape' of the proposed resourcing profile (i.e., the relative magnitude of resourcing requirements for each position grade) is reasonable. We discuss the efficiency of the resourcing estimates in further detail in Section 8.4.5.

As noted earlier, an allowance for on-costs has been included in the salary rates applied. For consent transaction charges, DCCEEW has applied a mark-up of 22.66% to account for salary on-costs. This represents a slight decrease from the mark-up proposed by the former Department of Planning, Industry and Environment for the 2021 Determination across all its WAMC activities (22.72%). We consider that the proposed on-cost mark-up of 22.66% is reasonable.

8.4.2.3 'Indirect costs'

We note that, throughout this section (Section 8.4), references to 'indirect costs' and 'overheads' are references to the definitions adopted by DCCEEW for each of these terms in the context of consent transactions. 'Indirect costs' and 'overheads' are calculated as separate average annual allocations that are apportioned to each consent transaction type based on the projected annual revenue in the future period for that transaction type. The projected annual revenue for each transaction type is constant over the future period. The 'indirect costs' and 'overheads' apportioned to a transaction type are then divided by the projected annual number of applications for that transaction type to estimate the 'indirect costs' and 'overheads' to be included in the corresponding consent transaction charge. This process results in consistent 'indirect' and 'overhead' charges of $1,233.60/transaction and $424.70/transaction, respectively, being included in all consent transaction charges.

The allocation of 'indirect costs' in each year of the future period is calculated through a bottom-up estimate of the time requirement for each role listed in Table 8-10. As stated in Section 8.4.2.1, DCCEEW considers 'indirect costs' to be costs that are attributable to the administration of licences and approvals but not a specific application.

Table 8-10: Proposed annual FTEs for Type A consent transaction charges – 'indirect costs'

Role	Position grade	Proposed annual FTEs
Project Support Officer (3 x .20%)	Clerk 3/4	0.6
System Support Officer (2 x .50)	Clerk 5/6	1
Water Regulation Assistant (4 x .20%)	Clerk 5/6	0.8
Water Regulation Officer (16 x .20%)	Clerk 7/8	2.3
Senior Water Regulation Officer Controlled Activity Approvals (2 x .50%)	Clerk 9/10	1
Senior Water Regulation Officer (2 x .50%)	Clerk 9/10	1
Team Leader Licensing (2 x .50%)	Clerk 9/10	1
Manager Licensing & Approvals (2 x .80%)	Clerk 11/12	1.6
Executive Assistant	Clerk 7/8	0.2
Executive Officer	Clerk 11/12	0.1
Director Licensing & Approvals	Sen Off G2	0.5
Chief Operating Officer	SES B2	0.1
Total		**10.2**

The allocation of 'overheads' in each year of the future period is calculated through a bottom-up estimate of 'project' operating expenditure. 'Project' operating expenditure generally refers to non-labour operating expenditure, such as expenses for travel or software licences. Except for the line item for workplace health and safety expenses, which are forecast to reduce from $80,000 in 2025/26 to $20,000 in each successive year of the future period, the annual allocation of 'overheads' is proposed to remain constant over the future period. Table 8-11 provides a breakdown of the proposed 'overheads' for the future period. We note that, to maintain transparency of the 'rounded' estimates for each item, we have retained the original price base (a real 2023/24 price base) in which the estimates were made.

Table 8-11: Proposed annual 'overheads' for Type A consent transaction charges (real 2023/24 price base)

	Real 2023/24 price base				
Item (***Italic text:*** **Verbatim item description from DCCEEW Type A consent transaction charge model)**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**
Licensing and approval - exemption from an approval (Clause 39A WM(G)	$10,000	$10,000	$10,000	$10,000	$10,000
Consultants	$20,000	$20,000	$20,000	$20,000	$20,000
Learning and Development	$120,000	$120,000	$120,000	$120,000	$120,000
Customer engagement and education to increase efficiencies	$40,000	$40,000	$40,000	$40,000	$40,000
Licensing & Approvals team meeting travel expenses	$60,000	$60,000	$60,000	$60,000	$60,000
CAA Customer site inspections - travel expenses	$175,000	$175,000	$175,000	$175,000	$175,000
Licensing customer site inspections - travel expenses	$65,000	$65,000	$65,000	$65,000	$65,000
Other (e.g. software licenses)	$40,000	$40,000	$40,000	$40,000	$40,000
WHS requirements (PPE, Breon, etc.)	$80,000	$20,000	$20,000	$20,000	$20,000
Total	**$610,000**	**$550,000**	**$550,000**	**$550,000**	**$550,000**

We note that the definitions of 'indirect costs' and 'overheads' adopted by DCCEEW in the context of consent transactions differ from what we would typically expect to be included in indirect costs or corporate overheads. For example, we would typically expect to see central functions, such as financial and legal functions, included in corporate overheads. We comment further on 'indirect costs' and 'overheads' in Section 8.4.4.

For each consent transaction charge, we calculated the percentage of the charge attributed to either 'indirect costs' or 'overheads'. We observed that the aggregate of 'indirect costs' and 'overheads' ranged from 19% to 86% of the total charges. Of particular note were the following charges:

- **'Application to extend a water supply work and/or use approval – before expiry' ('WSWA – Extensions' charge):** This charge is forecasted to account for 7% of the total projected revenue from consent transaction charges (12% if controlled activity approvals are excluded). 'Indirect costs' or 'overheads' comprise 65% of the charge.
- **'New fee for assessment of State Significant Developments' ('SSD response' charge):** This charge is forecasted to account for 21% of the total projected revenue from consent transaction charges (35% if controlled activity approvals are excluded). 'Indirect costs' or 'overheads' comprise 41% of the charge.

We discuss the efficiency of 'indirect costs' and 'overheads' in Section 8.4.4.

8.4.3 Scope of Water Administration Ministerial Corporation services

8.4.3.1 Controlled activity approval charges

DCCEEW has proposed to bring 13 existing controlled activity approval charges into the scope of the WAMC determination. Controlled activities are works or actions performed on waterfront land, where 'waterfront land' is defined in the *Water Management Act 2000* ('the Act'). Under the Act, 'controlled activities' are defined as:

> *(a) the erection of a building or the carrying out of a work (within the meaning of the Environmental Planning and Assessment Act 1979), or*
>
> *(b) the removal of material (whether or not extractive material) or vegetation from land, whether by way of excavation or otherwise, or*
>
> *(c) the deposition of material (whether or not extractive material) on land, whether by way of landfill operations or otherwise, or*
>
> (d) *the carrying out of any other activity that affects the quantity or flow of water in a water source.*

DCCEEW administers the Act and is required to assess the impact of any proposed controlled activity to ensure that no more than minimal harm will be done to waterfront land. As such, a controlled activity approval is required before any work or development can be undertaken on waterfront land, unless there is an applicable exemption for the activity. Examples of controlled activities include erecting a building, carrying out works such as the construction of bridges or sea walls, removing material from waterfront land, depositing material on waterfront land, and any activity which affects the quantity or flow of water in a water source[204].

In regard to the scope of activities for which costs can be recovered under the WAMC determination, we note that paragraph 5 of the National Water Initiative Pricing Principles states the following:

> *In the context of the NWI and for the purpose of cost recovery, water planning and management are those activities undertaken by, or on behalf of governments as a result of water use (or potential water use e.g. where a water access entitlement holder/licence holder is not using water) only. Water planning and management does not include activities undertaken to manage land-based impacts such as those associated with land clearing for example.*

Paragraph 8 further defines water planning and management activities as those activities that meet one or more stated objectives. However, all such activities are 'to promote the long-term sustainability of the resource and to maintain the health of natural ecosystems by minimising impacts associated with water extraction'. It is clear from the pricing principles that water planning and management activities, for which costs should be recovered, seek to minimise the impacts of 'water use … only' and 'do… not include activities undertaken to manage land-based impacts'.

We consider that controlled activity approvals ultimately seek to mitigate the impacts of land use on water sources. That is, we do not consider that controlled activity approvals have the primary objective of mitigating the impacts of water use and extraction. Therefore, we do not consider that controlled activity approvals are water planning and management activities under the National Water Initiative pricing principles, and we do not consider that they fall within the scope of WAMC services. As such, we recommend that the 13 controlled activity approval charges are excluded from the WAMC determination.

[204] Department of Climate Change, Energy, the Environment and Water: Water Group n.d., *Controlled activity approvals*, Controlled activity approvals | NSW Government Water, viewed on 4 February 2025.

8.4.3.2 Flood work approval charges

Under the *Water Management Act 2000*, a flood work refers to a work:

> *(a) that is situated—*
>
> *(i) in or in the vicinity of a river, estuary or lake, or*
>
> *(ii) within a floodplain, and*
>
> *(b) that is of such a size or configuration that, regardless of the purpose for which it is constructed or used, it is likely to have an effect on—*
>
> *(i) the flow of water to or from a river, estuary or lake, or*
>
> *(ii) the distribution or flow of floodwater in times of flood,*
>
> *and includes all associated pipes, valves, metering equipment and other equipment, but does not include any work declared by the regulations not to be a flood work.*

Flood work approvals are issued by either DCCEEW or WaterNSW depending on the category of the applicant (e.g., private rural landholder, government agency). The issuing authority is required to ensure that the proposed construction or use of a flood work does not negatively affect water sources, their dependent ecosystems or other water users, and that the existing and future risk to human life and property is minimised. As such, a flood work approval is required before a flood work can be constructed and used, unless there is an applicable exemption. Examples of flood works include barrages, causeways, cuttings, embankments, building pads and below-ground channels.

In our targeted review of WAMC monopoly services in Section 4, we recommended that W06-03 be removed from the scope of the WAMC determination. Our recommendation was made on the basis of the activity involving the management of flood risk externalities by setting out a framework for approving the construction and use of flood works. That is, the activity relates to land-based impacts which, as articulated earlier, are not water planning and management activities under the National Water Initiative pricing principles.

For similar rationale, we do not consider that flood work approvals are water planning and management activities under the National Water Initiative pricing principles, and we do not consider that they fall within the scope of WAMC services. As such, we recommend that the 'New application for a Flood work approval – technical referral' charge (the flood work approval charge) is excluded from the WAMC determination.

8.4.4 Efficiency of 'indirect costs'

For brevity, we will use 'indirect costs' in this section to refer to the aggregate of 'indirect costs' and 'overheads' proposed by DCCEEW for its consent transaction charges. Overall, we consider that DCCEEW's bottom-up estimation methodology for indirect costs overestimates the quantum of indirect costs that should be reasonably allocated to consent transaction charges. We also consider that there are opportunities for DCCEEW to improve its recording of direct costs. Our opinion is formed based on the observations and findings detailed in Table 8-12.

Table 8-12: Observations and findings regarding efficiency of indirect costs for Type A consent transaction charges

Theme	Observations and findings
Overall proportion of charges attributable to indirect costs	As noted in Section 9.4.2.3, indirect costs range from 19% to 86% of the total proposed consent transaction charges. Consent transaction charges seek to pass through the efficient level of operating expenditure required to deliver consent transaction activities. When considered in aggregate, the proportion of the total charges attributable to indirect costs is significantly above what we would consider to be efficient. This has the effect of weakening the link between the user paying for the charge and the costs incurred as a result of their application to access, or vary their access, to the state's water resources.
Bottom-up estimation of indirect FTEs	The allocation of indirect FTEs (10.2 FTEs) represents around one quarter of the total direct FTEs (41.5 FTEs) proposed by DCCEEW for consent transaction activities. Of these 10.2 FTEs: • 1 FTE is explicitly for controlled activity approvals which, as surmised in Section 8.4.3.1, we do not consider to be within the scope of WAMC services • 6.7 FTEs are for technical officer, technical assistant and support officer roles (Senior Water Regulation Officers, Water Regulation Officers, Water Regulation Assistants, Project Support Officers and System Support Officers). We consider that such roles should be included in the direct cost build-up for each applicable consent transaction charge. Therefore, when considering the direct and indirect resourcing estimates in totality, we consider that there is likely over-estimation of the time inputs required from technical 'doer' roles. • 0.4 FTEs are for the Chief Operating Officer (0.2 FTE), an executive officer (0.1 FTE) and an executive assistant (0.1 FTE). We consider that this is likely an overestimate of the indirect time that can be efficiently allocated for executive staff to consent transaction activities. For example, we consider it unlikely that 10% of the Chief Operating Officer's time can be efficiently allocated to consent transaction activities.
Bottom-up estimation of indirect 'project' costs	The total indirect 'project' (non-labour) operating expenditure averages $562,000 per annum in a real 2023/24 price base. Of this: • $332,500 is explicitly for controlled activity approvals, including $175,000 for site inspections. We do not consider controlled activity approvals to be within the scope of WAMC services. • $300,000 is for travel expenses, of which $240,000 is for site inspections (including the aforementioned $175,000 for controlled activity approvals). We consider that the costs of undertaking site inspections should be directly coded to the applicable consent transaction charges (e.g., the water supply work approval charge for surface water pumps). Under the 'impactor pays' principle, we do not consider it appropriate for site inspection costs for a sub-set of transactions to be borne by all consent transaction customers. • The remaining travel expense of $60,000 is for team meetings for the Licensing and Approvals team. We consider that there is an opportunity for this expense to be reduced through holding internal team meetings via videoconference rather than in person.
Approach to incorporating efficiencies	During our interview with DCCEEW on 6 December 2024, DCCEEW advised that '20% of staff time is proposed to be spent on projects that will improve service standards'. With the Roles and Responsibilities Agreement between the WAMC agencies coming into effect in 2021, we consider that, in an efficient business, the business processes for receiving, triaging and assessing, and determining consent applications will have reached an established 'steady state' by the time of the 2025 Determination, with future process improvements being of an incremental nature only to implement a continual improvement approach. Therefore, we do not consider this time allowance to reflect the business process maturity of an efficient business.

We provide our recommended efficient range of charges in Section 8.4.6.

8.4.5 Efficiency of direct costs

Overall, like our findings for indirect costs, we consider that DCCEEW's bottom-up estimation methodology for direct costs overestimates the actual cost of consent transaction activities. We also note that DCCEEW has adopted a higher-than-average scenario for its time estimates. Our opinion is formed based on the observations and findings detailed in Table 8-13.

Table 8-13: Observations and findings regarding efficiency of direct costs for Type A consent transaction charges

Theme	Observations and findings
Bottom-up estimation of time requirements	There is a propensity for bottom-up time estimates to overestimate risk and underestimate the synergies inherent in a given staff member (e.g., an assessing officer) undertaking multiple related tasks in close succession. In reviewing the time estimate for water supply work approvals for surface water pumps, where a 189% increase in the charge has been proposed, we observed the following example opportunities for efficiency: • Increased automation of completeness checks of application documentation. DCCEEW has estimated that 112.5 minutes are required to receive and triage each application. • Increased automation of template generation. DCCEEW has estimated that 95 minutes are required for creating, publishing and removing an advertisement for each application. • Reduced double handling of application records between the receiving, triaging, assessing, determining and notifying officers. DCCEEW has estimated that 67.5 minutes are required for the entry of application records.
Adoption of a higher-than-average scenario for time estimates	The direct costs are calculated based on the average of the average and maximum time estimates for each transaction stage. When combined with the propensity for bottom-up time estimates to over-estimate risk, we consider that adopting average time estimates would be a more appropriate methodology for calculating direct costs. In addition, we observed multiple 'if required' or 'if it occurred' tasks (e.g., 'Pre application meeting/discussion (if it occurred)'), implying that the estimate is, in part, based on the worst-case time requirements for the transaction.
Approach to incorporating efficiencies	It is not evident how efficiencies have been incorporated into the bottom-up time estimates. For example, the WAMC pricing proposal (p. 172) states that an efficiency improvement implemented in the current period was 'Implementing WMS for Basic Landholder Rights (BLR) bores, increasing online applications and reducing the data input and manual collection of application fees'. However, in reviewing the time estimate for water supply work approvals for basic landholder rights, we did not observe any efficiencies that had been incorporated into the application triage stage, when compared with the corresponding time estimates for other water supply work approvals. Application triage includes, but is not limited to, the initial creation of application records and 'miscellaneous financial tasks'. That is, it is in the application triage stage that we would expect to see efficiencies realised from reduced manual data entry and reduced manual collection of fees.

We provide our recommended efficient range of charges in Section 8.4.6.

8.4.6 Recommended efficient range of charges

Overall, we acknowledge the effort invested by DCCEEW in the current period to develop detailed bottom-up estimates of the direct and indirect costs of delivering its consent transaction activities. However, as noted in Sections 8.4.4 and 8.4.6, we consider that the bottom-up estimation methodologies employed by DCCEEW for both direct and indirect costs overestimate risk and underestimate the synergies inherent in undertaking routine, process-based tasks. We recommend that DCCEEW transition away from a bottom-up calculation of fixed charges for 'indirect costs' and 'overheads', to a single percentage allowance for an efficient level of corporate overheads.

Further, we note that DCCEEW has not consulted with customers on its proposed consent transaction charges. Given the magnitude of the proposed increases, which range from 35% to 522%, customer consultation would have been critical to understanding their willingness to pay for such increases, and if they would have accepted reduced service levels (via increased application response times) for a lower cost. Ultimately, DCCEEW has not tested this balance between cost and service performance with its consent transaction customers.

Based on our conclusions above, as well as our findings and observations in Sections 8.4.3 to 8.4.5, we recommend the charges set out in Table 8-14. The basis of our recommended upper bound and lower bound charges, as well as the risks of adopting each bound, are presented in Table 8-15.

Table 8-14: Recommended efficient range of charges for Type A consent transaction charges

No.	Charge name	2024/25 charge determined by IPART (real 2024/25 $)	Charge proposed by DCCEEW for the future period (real 2024/25 $)	Our recommended upper bound charge (real 2024/25 $)	Our recommended lower bound charge (real 2024/25 $)
1	Application for new water access licence – zero share (WAL – Zero Share)	1,349.96	2,013.52	1,441.12	1,349.96
2	Application for new controlled allocation (WAL – CAO)	1,761.83	2,485.46	1,839.49	1,761.83
3	Application for new specific purpose – groundwater assessment may be required (WAL – SPAL)	3,021.98	4,091.75	3,172.95	3,021.98
4	Application to inactivate a water supply work and/or water use approval (WSWA – Amend inactive)	N/A	2,026.77	1,476.92	982.90*
5	New application for water supply work approval to take groundwater under a domestic and stock right (WSWA – Basic rights)	1,208.38	2,236.60	1,541.16	1,208.38
6	New application for a Flood work approval – technical referral (FW approvals)	3,903.88	8,728.62	N/A – recommend exclusion from WAMC determination	N/A – recommend exclusion from WAMC determination
7	New application for a water supply work approval – town water supply – groundwater assessment charge not included (WSWA – GW for TWS)	5,646.14	8,098.09	5,646.14^	5,336.65^
8	New application for water supply work approval – groundwater (WSWA – GW for other)	2,275.19	5,775.90	4,410.42	2,275.19

* For new charges, our approach to calculating our recommended lower bound charges is to calculate the factor between our recommended upper and lower bound charges for existing charges, and then to apply this factor to our calculated upper bound charge for each new charge.

No.	Charge name	2024/25 charge determined by IPART (real 2024/25 $)	Charge proposed by DCCEEW for the future period (real 2024/25 $)	Our recommended upper bound charge (real 2024/25 $)	Our recommended lower bound charge (real 2024/25 $)
9	New application for water supply work approval – pump (WSWA – SW pumps)	2,815.76	8,130.65	5,359.03	2,815.76
10	Application for a new water supply work approval regarding a dam or storage (WSWA – SW storages)	2,786.21	8,191.12	5,419.49	2,786.21
11	Application to extend a water supply work and/or use approval – before expiry (WSWA – Extensions)	412.78	2,568.35	1,887.33	412.78
12	Application to extend a water supply work and/or use approval – after expiry (WSWA – Extensions)	762.88	3,340.18	2,503.50	762.88
13	Application to amend a water supply work and/or use approval – irrigation corporations (IC inclusion/exclusion)	N/A	2,345.16	1,759.31	1,170.83*
14	Application for new Water Act 1912 approval – monitoring bore (Monitoring Bore)	151 (administration)	3,376.47	2,587.68	151 (administration)
15	Application for new Water Act 1912 approval – injection bore (Part 5 Injection)	151 (administration)	3,397.46	2,566.58	151 (administration)
16	New application to surrender a water supply work and/or use approval (WSWA – surrender)	N/A	1,930.62	1,390.57	925.43*
17	Application for new water supply work approval (Miscellaneous Works)	N/A	2,609.39	1,932.57	1,286.13*
18	New fee for assessment of State Significant Developments (SSD response)	N/A	4,062.10	2,560.65	1,704.12*
19	Controlled activity approval (CAA) – general application fee	N/A	2,726.78		
20	CAA – high risk (additional fee)	N/A	4,855.35		

No.	Charge name	2024/25 charge determined by IPART (real 2024/25 $)	Charge proposed by DCCEEW for the future period (real 2024/25 $)	Our recommended upper bound charge (real 2024/25 $)	Our recommended lower bound charge (real 2024/25 $)
21	CAA – high security (additional fee)	N/A	5,604.69	N/A – recommend exclusion from WAMC determination	N/A – recommend exclusion from WAMC determination
22	CAA Part 5 medium	N/A	3,054.21		
23	CAA Part 5 high	N/A	4,813.70		
24	CAA Part 5 high security	N/A	5,968.34		
25	CAA amendment – general fee	N/A	2,281.55		
26	CAA – high risk – amendment	N/A	3,636.63		
27	CAA amend security	N/A	4,978.40		
28	CAA extension – before expiry	N/A	2,291.82		
29	CAA extension – after expiry	N/A	2,829.12		
30	CAA extractive extension	N/A	5,639.59		
31	CAA security release	N/A	4,359.43		

Table 8-15: Basis and risks of recommended upper and lower bound charges for Type A consent transactions

	Upper bound	Lower bound
Basis	• **<u>Direct costs:</u> Adoption of an average scenario for the time estimated to be required for each transaction stage** • **<u>Indirect costs:</u> Application of a 30% reduction to indirect costs** (the aggregate of 'indirect costs' and 'overheads' as adopted by DCCEEW for consent transaction charges). This is based on: o The removal of 'CAA Customer site inspections - travel expenses' from indirect 'project' costs o The removal of technical 'doer' roles from indirect time allocations o A reduction of 50% to the indirect time allocated for executive staff to consent transaction activities.	• **Adoption of the existing charges.** This is based on DCCEEW: o Having established processes in place for receiving, triaging and assessing, and determining consent applications o Identifying in the WAMC pricing proposal multiple efficiency improvements that it has implemented in the current period o Largely retaining existing service level targets o Not consulting with customers on the proposed charges.
Risks	• Over-recovery of actual direct costs • Customer affordability not tested • Reduced customer trust and credibility in not being provided with an opportunity to provide feedback on the proposed charges and their rationale. We note that the charge increases proposed by DCCEEW (excluding controlled activity approvals) range from 35% to 522%.	• Under-recovery of actual direct costs • Limited flexibility to respond to variable workloads in a cost-effective manner. In response to a request for information[205], DCCEEW advised that its indirect costs are '100% fixed' and that it has not undertaken a sensitivity analysis of its forecast application volumes. As such, if actual application volumes are lower than forecast, and if the lower bound is adopted and held constant (in real terms) over the future period, there is a risk that indirect costs will not be fully recovered. • Underperformance against existing service level targets. We note that, at current levels of expenditure, two of three performance indicators in the current period have not been met for Type A consent transactions.

[205] Provided to Stantec on 7 February 2025 in response to a request for information (RFI 183).

8.5 Consent transactions (Type B) undertaken by WaterNSW

8.5.1 Overview of proposed charges

Type B consent transaction activities are undertaken by WaterNSW's Assessment & Approvals team, with some support from the Enablement & Assurance team (for service improvement and quality assurance functions) and the Customer Experience team (for service centre and trade processing functions). The charges proposed by WaterNSW for these transactions are set out in Table 8-16. Of the 27 charges included in Table 8-16, WaterNSW has proposed to introduce 9 new charges.

During our interview with WaterNSW on 3 December 2024, WaterNSW described flood work applications as a 'non-WAMC' activity in its PowerPoint presentation[206]. Conversely, DCCEEW has included a flood work approval charge in the Type A consent transaction charges. As concluded in Section 8.4, we do not consider flood work approvals to be within the scope of the WAMC determination.

Table 8-16: Proposed Type B consent transaction charges

No.	Charge name	Status	2024/25 charge determined by IPART (real 2024/25 $)	Proposed future period charge (real 2024/25 $)	% change
	Water access licences				
1	Application for new water access licence – zero share	Existing charge	834.57	866.26	3.8%
2	Application for new controlled allocation	Existing charge	811.95	843.19	3.9%
3	New application for specific purpose (SPAL) – no groundwater assessment required	Existing charge	845.83	877.75	3.8%
4	Surrender WAL (non-complex)	New charge	N/A	373.05	N/A
5	Surrender WAL (complex and zero share)	New charge	N/A	510.10	N/A
	Water access licence dealings				
6	WAL dealings – regulated rivers	Existing charge	883.28	900.95	2.0%
7	WAL dealings – unregulated rivers	Existing charge	2,822.15	2,878.59	2.0%
8	WAL dealings – groundwater (excludes GW referral fee)	Existing charge	2,822.15	2,878.59	2.0%
9	Dealings low risk	Existing charge	1,278.83	1,304.41	2.0%
10	Dealings administrative	Existing charge	564.89	576.19	2.0%
	Approvals				
11	Water allocation assignment (temporary trade) – regulated rivers	Existing charge	58.16	62.62	7.7%

[206] Slide 5 of the PowerPoint presentation presented to Stantec on 3 December 2024 for consent transactions. A copy of the PowerPoint presentation was provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

No.	Charge name	Status	2024/25 charge determined by IPART (real 2024/25 $)	Proposed future period charge (real 2024/25 $)	% change
12	Water allocation assignment (temporary trade) – unregulated rivers and groundwater	Existing charge	58.89	62.62	6.3%
13	Application to inactivate/activate a work/works on a water supply work approval	Existing charge	624.95	105.00	-83.0%
14	Application for BLR bore (water supply work approval to take groundwater under a domestic and stock right) (excludes GW referral fee)	Existing charge	1,040.66	1,076.47	3.4%
15	Application for water supply work approval or use approval (excludes GW referral fee)	Existing charge	5,240.96	5,360.78	2.3%
16	Application for combined approval (excludes GW referral fee)	New charge (combined approval)	5,240.96	8,016.48	53.0%
17	Application for water supply work approval or use approval (low risk) (excludes GW referral fee)	Existing charge	2,839.71	2,911.50	2.5%
18	Application for combined approval (low risk) (GW referral not required)	New charge (combined approval)	2,839.71	4,350.29	53.0%
19	Amend approval (WSWA, combined or use) (administrative) (excludes GW referral fee)	Existing charge	624.95	637.45	2.0%
20	Application for WSWA for firefighting purposes (excludes GW referral fee)	New charge	5,240.96	1,076.47	-79.0%
21	Application to extend a water supply work and/or use approval – before expiry	Existing charge	601.11	613.13	2.0%
22	Application to extend a water supply work and/or use approval – after expiry (< 60 days)	Existing charge	1,110.97	613.13	-45.0%
23	Application to extend a water supply work and/or use approval – after expiry (>= 60 days)	Existing charge	1,110.97	1,133.19	2.0 %
24	Surrender a water supply work or use approval (non-complex)	New charge	N/A	120.28	N/A
25	Surrender a water supply work or use approval (complex) or combined approval	New charge	N/A	267.03	N/A

No.	Charge name	Status	2024/25 charge determined by IPART (real 2024/25 $)	Proposed future period charge (real 2024/25 $)	% change
26	Specialised assessment fee for WSWA, FW or use approval (i.e. noise assessment, water quality)	New charge	N/A	1,523.08	N/A
27	Change application for WSWA, use, FW or combined (after assessment commenced)	New charge	N/A	1,250.50	N/A

8.5.2 Cost components and calculation methodology

8.5.2.1 'Existing' charges

For its 18 existing[207] charges, WaterNSW has generally proposed either decreases in the charges or increases ranging between 2% and 3.9%. For two existing charges (which relate to water allocation assignments), WaterNSW has proposed increases of between 6.3% and 7.7%. However, the absolute magnitude of these latter two charges is low, with $62.62 proposed for both charges. As such, in calculating its proposed charges for existing charges, WaterNSW has largely relied on its approach to calculating its proposed charges for the 2021 Determination, minus the 20% efficiency that was subsequently applied by IPART.

In our 2021 review, we noted the following regarding WaterNSW's calculation methodology for consent transaction charges:

> *WaterNSW's proposed consent transaction charges have been set based on the outturn costs for FY19. That is, the costs for activities have been adjusted upward until it was found that the calculated revenue from the demand seen in that year was equal to the total costs recorded. It was found that an overall increase in prices of 175% was required to achieve break-even between costs and calculated revenue. This top-down approach maintains the same relative price for each activity as set at the time of the 2016 Determination with one exception – water allocation assignments for unregulated rivers and groundwater are proposed to be reduced to $50 from its existing level of $337.36 (online) as WaterNSW considered that there was clearly less resource effort required than reflected in the price.*

For existing charges, WaterNSW has continued with a similar approach for the 2025 Determination, in that it has forecasted consent transaction volumes for most activities and then derived cost forecasts 'and hence its proposed Type B consent transaction charges' (p. 179, WAMC pricing proposal), with the aim of achieving full cost recovery in the 2025 Determination period. WaterNSW has based its forecast of consent transaction volumes on an average year, although it has undertaken scenario testing for drought years and wet years too. Where WaterNSW has proposed to increase its existing charges, those increases seek to achieve cost reflectivity based on WaterNSW's forecasted costs and volumes.

[207] Throughout this section (Section 8.5), a reference to an 'existing' charge is a reference to a type of transaction that is in place in the current period and that has an existing fee. For example, an application for a new zero-share water access licence is an existing charge that has an existing fee of $834.57/transaction as determined by IPART.

A 'new' charge is a reference to a type of transaction for which there is no existing fee. For example, WaterNSW does not currently recover the costs of amended applications. Therefore, it has proposed a new 'Change application' charge.

Where WaterNSW has proposed to decrease its existing charges, it has done so 'to reflect efficiencies achieved during this determination'[208], while seeking to maintain cost reflectivity. It also noted that customer complaints, including via the Minister, were received regarding the current fees for these charges[209].

8.5.2.2 'New' charges

For new charges, WaterNSW has adopted the approaches detailed in Table 8-17 for calculating its proposed charges.

Table 8-17: Calculation of proposed new Type B consent transaction charges

Charge(s)	Calculation methodology
• Surrender WAL (non-complex) • Surrender WAL (complex and zero share)	WaterNSW has developed a bottom-up cost model for these charges. The cost model comprises the following components: • The direct cost of undertaking each transaction activity (e.g., application assessment, application determination). The direct cost is calculated as the product of the number of hours required to complete the activity, and the salary rate for an assumed position grade. • A pass-through fee from Land Registry Services ($85.50/transaction). WaterNSW has allocated 50% of the typical fee ($171) to the charge per transaction to allow for potential bulk discounts. • A nominal allowance of $1/transaction for quality assurance. This has been made as a nominal allocation, rather than a bottom-up time or cost estimate, to minimise cost over-recovery for lower-risk transactions. In response to our draft report, WaterNSW noted that a percentage allowance could also have been made to recover these costs, but that it adopted a specific '$' amount for transparency. We do not have any concerns that this approach recovers inefficient costs. • A nominal allocation of $2/transaction for ongoing service improvement activities (e.g., review of forms, website content or work instructions). In response to our draft report, WaterNSW noted that a percentage allowance could also have been made to recover these costs, but that it adopted a specific '$' amount for transparency. We do not have any concerns that this approach recovers inefficient costs. • A line item for 'Oncosts and overheads', which equates to around 15% of the total direct cost. The charges proposed by WaterNSW are $373.05/transaction for the 'Surrender WAL (non-complex)' charge and $510.10/transaction for the 'Surrender WAL (complex and zero share)' charge.

[208] Slide 26 of the PowerPoint presentation presented to Stantec on 3 December 2024. A copy of the PowerPoint presentation was subsequently provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

[209] Slide 31 of the PowerPoint presentation presented to Stantec on 3 December 2024. A copy of the PowerPoint presentation was subsequently provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

Charge(s)	Calculation methodology
Application for combined approval (excludes GW referral)	WaterNSW has proposed that customers who make separate applications for a water supply work approval and a water supply use approval are subjected to the same charge twice due to two assessments being required. WaterNSW proposes to increase the 'Application for a water supply work approval or use approval (excludes GW referral fee)' charge to $5,360.78/transaction in the future period. Therefore, in the future period under the charges proposed by WaterNSW, a customer who submits a water supply work approval application and a separate water supply use approval application will be required to pay $10,481.92. To reflect the efficiencies inherent in assessing water supply work and use approval applications at the same time, WaterNSW has proposed a new 'Application for combined approval (excludes GW referral)' charge that applies around a 25% efficiency to the aggregate fee of $10,481.92. The estimated 25% efficiency is based on WaterNSW: • Holding a single pre-application meeting • Accepting, inputting and receipting one application • Conducting most searches once on average • Advertising the application once • Dealing with objections for one application • Undertaking a single site inspection • Undertaking the determination once • Providing notification once. The resulting charge proposed by WaterNSW is $8,016.48/transaction.
Application for combined approval (low risk) (GW referral not required)	WaterNSW has adopted a similar approach for this charge to that adopted for the 'Application for combined approval (excludes GW referral)' charge. That is, WaterNSW has applied around a 25% efficiency to its proposed aggregate fee ($5,823.00) for a customer who submits a low-risk water supply work approval application and a separate low-risk water supply use approval application. The resulting charge proposed by WaterNSW is $4,350.29/transaction.
• Surrender a water supply work or use approval (non-complex) • Surrender a water supply work or use approval (complex) or combined approval	WaterNSW has developed a bottom-up cost model for these charges. The cost model comprises similar components to that for the 'Surrender WAL (non-complex)' and 'Surrender WAL (complex and zero share)' charges, with the exception that costs associated with Land Registry Services are not required. The charges proposed by WaterNSW are $120.28/transaction for the 'Surrender a water supply work or use approval (non-complex)' charge and $267.03/transaction for the 'Surrender a water supply work or use approval (complex) or combined approval' charge.

Charge(s)	Calculation methodology
Specialised assessment fee	This charge is for WaterNSW to engage an external specialist to review a specialist assessment, such as a noise assessment for a production bore. In the cost narrative that WaterNSW provided to us[210] for its proposed new charges, it advised that this expertise is not within its typical remit. WaterNSW has calculated its proposed charge of $1,523.08/transaction as the average of recently incurred expenses to engage external specialists as part of its consent transaction activities. WaterNSW advised[210] that recent actual expenses have ranged from less than $1,000 to more than $5,000 depending on the advice sought.
Change application after assessment has commenced	This charge is for WaterNSW to recover the costs of recommencing an assessment due to the application being amended after initial submission. WaterNSW advised[5] that it has estimated the actual costs of additional assessment or reassessment as around 20% to 50% of the initial charge. WaterNSW has applied a 23% factor to the 'Application for a water supply work approval or use approval (excludes GW referral fee)' charge ($5,360.78/transaction) to calculate its proposed fee for this charge. The 23% factor allows for the following activities to be reimplemented: • Reassessing against water sharing plan rules • Reconducting paid searches • Advising existing objectors of the change in application • Readvertising the application • Dealing with new objections • Conducting another site inspection • Undertaking additional liaison and referral activities (e.g., with DCCEEW's Groundwater Science and Management team). The resulting charge proposed by WaterNSW is $1,250.50/transaction.

8.5.2.3 Resourcing profile

Most staff who undertake consent transaction activities are part of the Assessment & Approvals team. The Assessment & Approvals team underwent a significant restructure between December 2021 and December 2024, transitioning from 81 FTEs to 68.46 FTEs (which includes some staff from the Service Improvement team). WaterNSW advised[211] that the restructure resulted in fewer EA6 roles and more EA4 roles. The 68.4 FTEs currently in the Assessment & Approvals team also include staff who undertake activities in addition to consent transactions – for example, customer management (W10-01), consents management and licence conversion (W08-02), and non-WAMC functions (e.g., flood work applications). That is, the 68.46 FTEs are not allocated to consent transaction activities alone.

Where WaterNSW has used a bottom-up cost model to calculate proposed new charges, an EA4 position grade has been assumed for most activities involved in non-complex transactions. Conversely, for complex transactions, the average of EA6 and EA7 position grades has been assumed for most activities. We consider that this is an appropriate balance, with junior staff undertaking most non-complex transaction activities, intermediate staff providing quality assurance and undertaking most complex transaction activities, and with senior staff undertaking final determinations.

[210] Provided to Stantec on 18 December 2024 in response to a request for information (RFI 82).

[211] Slide 21 of the PowerPoint presentation presented to Stantec on 3 December 2024.

8.5.3 Efficiency of 'existing' charges

We consider that WaterNSW has adopted a reasonable approach to calculating its proposed charges for existing[212] charges. We also consider it appropriate that WaterNSW has adopted an average scenario for its forecasted consent transaction volumes, which underpin its top-down calculation of charges. We note that, in the current period, WaterNSW has optimised the mix of resources that it uses to deliver transaction and customer management activities. It is also notable that WaterNSW has proposed to reduce several of its charges based on an improved understanding of the actual costs of undertaking consent transaction activities.

8.5.4 Efficiency of 'new' charges

Given the low magnitude of the time estimates, we consider it appropriate that WaterNSW has used bottom-up cost models to calculate the proposed charges for most of its insourced transactions[213]. We note that WaterNSW has sought to avoid adopting a worst-case scenario for time estimates, with an example being its adoption of a small nominal allowance for quality assurance that seeks to minimise cost over-recovery for lower-risk transactions. We also note that WaterNSW has sought to identify and pass through 'external' efficiencies by adopting an estimated discounted bulk cost for Land Registry Services fees rather than a typical individual fee. We consider the time estimates to be appropriate and, as concluded in Section 8.5.2.3, we consider the proposed resourcing profiles to be appropriately balanced.

However, we note that the line item for 'Oncosts and overheads', at around 15% of the total direct cost of each charge, appears to be low. We reviewed the salary rates in the cost models against the WaterNSW Enterprise Agreement 2023 – 2026 and do not consider that they include salary on-costs in addition to what is included in the 'Oncosts and overheads' line item. We recommend that WaterNSW review its cost models for new charges at the next determination to ensure they account for both salary on-costs and corporate overheads.

We consider it appropriate that WaterNSW has taken the average of recent actual expenses for its outsourced transactions (specialised assessments). WaterNSW's remaining new charges (combined approval applications and amended applications) are each based on the application of a factor to an existing charge. For these latter charges, we recommend that WaterNSW develops supporting calculations demonstrating how the proposed factor has been calculated, how that factor may vary under different scenarios (e.g., different types of applications being amended at different stages of application), and the extent to which the proposed factor is weighted by the expected transaction volume for each scenario. That is, we recommend that WaterNSW quantitatively articulates how its proposed factor minimises the risk of costs being over-recovered or under-recovered from a given customer.

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[212] Throughout this section (Section 8.5), a reference to an 'existing' charge is a reference to a type of transaction that is in place in the current period and that has an existing fee. For example, an application for a new zero-share water access licence is an existing charge that has an existing fee of $834.57/transaction as determined by IPART.

A 'new' charge is a reference to a type of transaction for which there is no existing fee. For example, WaterNSW does not currently recover the costs of amended applications. Therefore, it has proposed a new 'Change application' charge. We have reviewed 'existing' and 'new' charges separately.

[213] For each type of transaction, WaterNSW has assumed in its cost models that a small number of activities and roles are required. In conjunction with the small time estimates to undertake these activities, we consider that there is little potential for overestimation of risk or inefficiencies due to double handling of a single application by multiple staff.

We note that WaterNSW has also proposed to pass-on costs to relevant customers incurred from the Lands Registry Service. These costs are levied onto WaterNSW to suspend a water access licence due to non-payment and then again to lift the suspension once payment has been received. WaterNSW proposes to pass the Lands Registry Service dealing fees for suspension and lifting the suspension, at cost, to relevant customers who have had their water access licences suspended due to non-payment of debt. A suspension of a water access licence will only be processed at the end of the debt management procedure, at a minimum of 90 days after the first collection notice has been issued. We consider that the pass-through of Lands Registry Services dealing fees, at cost, to relevant customers is efficient.

8.5.5 Recommended efficient range of charges

Based on our findings and observations in Sections 8.5.3 and 8.5.4, we recommend the charges set out in Table 8-18. The basis of our recommended upper bound and lower bound charges, as well as the risks of adopting each bound, are presented in Table 8-19.

Table 8-18: Recommended efficient range of charges for Type B consent transaction charges

No.	Charge name	2024/25 charge determined by IPART (real 2024/25 $)	Charge proposed by WaterNSW for the future period (real 2024/25 $)	Our recommended upper bound charge (real 2024/25 $)	Our recommended lower bound charge (real 2024/25 $)
1	Application for new water access licence – zero share	834.57	866.26	866.26	834.57
2	Application for new controlled allocation	811.95	843.19	843.19	811.95
3	New application for specific purpose (SPAL) – no groundwater assessment required	845.83	877.75	877.75	845.83
4	Surrender WAL (non-complex)	N/A	373.05	373.05	373.05
5	Surrender WAL (complex and zero share)	N/A	510.10	510.10	510.10
6	WAL dealings – regulated rivers	883.28	900.95	900.95	883.28
7	WAL dealings – unregulated rivers	2,822.15	2,878.59	2,878.59	2,822.15
8	WAL dealings – groundwater (excludes GW referral fee)	2,822.15	2,878.59	2,878.59	2,822.15
9	Dealings low risk	1,278.83	1,304.41	1,304.41	1,278.83
10	Dealings administrative	564.89	576.19	576.19	564.89
11	Water allocation assignment (temporary trade) – regulated rivers	58.16	62.62	62.62	58.16
12	Water allocation assignment (temporary trade) – unregulated rivers and groundwater	58.89	62.62	62.62	58.89
13	Application to inactivate/activate a work/works on a water supply work approval	624.95	105.00	105.00	105.00
14	Application for BLR bore (water supply work approval to take groundwater under a domestic and stock right) (excludes GW referral fee)	1,040.66	1,076.47	1,076.47	1,040.66
15	Application for water supply work approval or use approval (excludes GW referral fee)	5,240.96	5,360.78	5,360.78	5,240.96
16	Application for combined approval (excludes GW referral fee)	5,240.96	8,016.48	8,016.48	6,413.18
17	Application for water supply work approval or use approval (low risk)	2,839.71	2,911.50	2,911.50	2,839.71

No.	Charge name	2024/25 charge determined by IPART (real 2024/25 $)	Charge proposed by WaterNSW for the future period (real 2024/25 $)	Our recommended upper bound charge (real 2024/25 $)	Our recommended lower bound charge (real 2024/25 $)
	(excludes GW referral fee)				
18	Application for combined approval (low risk) (GW referral not required)	2,839.71	4,350.29	4,350.29	3,480.23
19	Amend approval (WSWA, combined or use) (administrative) (excludes GW referral fee)	624.95	637.45	637.45	624.95
20	Application for WSWA for firefighting purposes (excludes GW referral fee)	5,240.96	1,076.47	1,076.47	1,076.47
21	Application to extend a water supply work and/or use approval – before expiry	601.11	613.13	613.13	613.13
22	Application to extend a water supply work and/or use approval – after expiry (< 60 days)	1,110.97	613.13	613.13	613.13
23	Application to extend a water supply work and/or use approval – after expiry (>= 60 days)	1,110.97	1,133.19	1,133.19	1,110.97
24	Surrender a water supply work or use approval (non-complex)	N/A	120.28	120.28	120.28
25	Surrender a water supply work or use approval (complex) or combined approval	N/A	267.03	267.03	267.03
26	Specialised assessment fee for WSWA, FW or use approval (i.e. noise assessment, water quality)	N/A	1,523.08	1,523.08	1,523.08
27	Change application for WSWA, use, FW or combined (after assessment commenced)	N/A	1,250.50	1,250.50	1,000.40

Table 8-19: Basis and risks of recommended upper and lower bound charges for Type B consent transactions

	Charge(s)	Upper bound	Lower bound
Basis	Existing charges except for: • Application to inactivate/activate a work/works on a water supply work approval • Application for WSWA for firefighting purposes (excludes GW referral fee) • Application to extend a water supply work and/or use approval – after expiry (< 60 days)	**Adoption of the charges proposed by WaterNSW.** This is based on WaterNSW: • Optimising its resource mix in the current period • Adopting an average, rather than worst-case, scenario for forecasted consent transaction volumes • Generally maintaining real cost increases below 4%.	**Adoption of the existing charges.** This is based on WaterNSW: • Achieving and retaining existing service level targets • Having established processes in place for receiving, assessing and determining consent applications • Identifying in the WAMC pricing proposal multiple efficiency improvements that it has implemented in the current period.
	• Application to inactivate/activate a work/works on a water supply work approval • Application for WSWA for firefighting purposes (excludes GW referral fee) • Application to extend a water supply work and/or use approval – after expiry (< 60 days)	**Adoption of the charges proposed by WaterNSW.** This is based on WaterNSW: • Proposing reductions that 'reflect efficiencies achieved during this determination'[214] • Taking on board customer complaints regarding the existing level of these charges • Seeking to maintain cost reflectivity in making the above reductions.	

	• Surrender WAL (non-complex)
	• Surrender WAL (complex and zero share)
	• Surrender a water supply work or use approval (non-complex)
		Adoption of the charges proposed by WaterNSW. This is based on WaterNSW:
		• Developing bottom-up cost models that minimise the potential for:
		  ○ Overestimation of risk
		  ○ Inefficiencies due to double handling of consent applications by multiple staff.
		• Proposing appropriately balanced resourcing profiles.	

[214] Slide 26 of the PowerPoint presentation presented to Stantec on 3 December 2024. A copy of the PowerPoint presentation was subsequently provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

	Charge(s)	Upper bound	Lower bound
	• Surrender a water supply work or use approval (complex) or combined approval		
	Specialised assessment fee for WSWA, FW or use approval (i.e. noise assessment, water quality)	**Adoption of the charges proposed by WaterNSW.** This is based on WaterNSW: • Identifying the requirement for outsourcing based on consideration of its core internal capabilities • Using recent actual expense data to calculate its proposed charge.	
	• Application for combined approval (excludes GW referral fee) • Application for combined approval (low risk) (GW referral not required) • Change application for WSWA, use, FW or combined (after assessment commenced)	**Adoption of the charges proposed by WaterNSW.** This is based on WaterNSW making a bottom-up identification of the activities that do not require duplication (in the case of combined approval applications) or the activities that require rework (in the case of amended applications).	**Application of a 20% efficiency.** This is based on the underpinning calculations not being made available for the factors applied by WaterNSW to calculate its proposed charges.
Risks	All Type B consent transaction charges	Reduced customer credibility resulting from charges being increased in real terms (for some existing charges) or a lack of transparency in charge calculation (for some new charges)	Under-recovery of actual costs. In particular, there is a risk that fixed costs are not fully recovered if actual consent transaction volumes are lower than forecast.

8.6 Groundwater assessment component of consent transaction charges

8.6.1 Overview of proposed charges

For some consent transaction types, DCCEEW undertakes an assessment of the potential groundwater impacts of the consent application. These assessments are undertaken by DCCEEW's Groundwater Science and Management team and incur charges in addition to the Type A and Type B consent transaction charges reviewed in Sections 8.4 and 8.5. The charges proposed by DCCEEW for groundwater assessments are set out in Table 8-20.

DCCEEW has qualitatively considered customer complaints as an indicator of customer sentiment regarding the timeliness of its consent transaction activities where groundwater assessments are required (i.e., as an indicator of service performance). Additionally, DCCEEW has implemented a triaging process to reduce the need for low-risk applications to be referred for groundwater assessment, with the aim of reducing processing times and costs for low-risk applications. However, for the customers that do incur groundwater assessment charges, DCCEEW has not consulted with customers directly and specifically regarding its proposed charges.

Table 8-20: Proposed groundwater assessment charges

No.	Charge name	2024/25 charge determined by IPART (real 2024/25 $)	Proposed future period charge (real 2024/25 $)	% change
1	New or amended works and/or use approvals	2,965.85	5,467.20	84%
2	Bore extraction limit reviews	2,965.85	5,467.20	84%
3	Water access licence dealings – unregulated rivers and groundwater	2,965.85	5,467.20	84%
4	New basic landholder right bore	167.72	411.50	145%
5	Temporary trade	N/A	441.92	N/A

8.6.2 Cost components and calculation methodology

8.6.2.1 Overview

DCCEEW has developed a bottom-up cost model for calculating each of its proposed groundwater assessment charges. This model is detailed in the 'Activity Based Costing - Groundwater Team Consent Transactions - 17 Sept 2024 Post QA' spreadsheet provided by DCCEEW to Stantec on 16 December 2024. The cost components comprising three of the charges are depicted in Figure 8-3, along with the definition adopted by DCCEEW for each component. For the remaining two charges (the 'New basic landholder right bore' and 'Temporary trade' charges), which have direct time allocations of 4 – 4.25 hours, only direct costs are included in the proposed charges.

We consider that the inclusion of direct costs only for the latter two charges is appropriate, as the time input from the Groundwater Science and Management team forms a relatively small component of the total time required by WAMC to process those applications. Therefore, the undertaking of a groundwater assessment has negligible marginal impact on the total indirect costs that should be allocated to the combined charge.

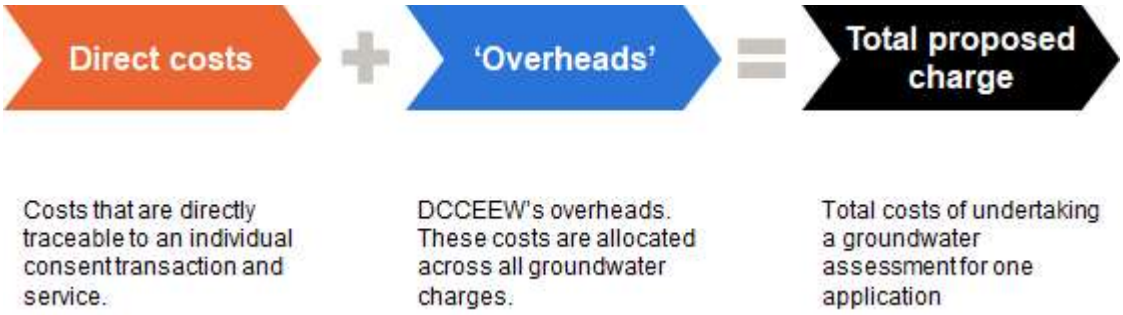

Figure 8-3: Calculation of proposed groundwater assessment charges for 'New or amended works and/or use approvals', 'Bore extraction limit reviews', and 'Water access licence dealings – unregulated rivers and groundwater'

Note: Only direct costs are included in the 'New basic landholder right bore' and 'Temporary trade' charges.

8.6.2.2 Direct costs, resourcing profile and salary on-costs

The direct costs for each groundwater assessment type[215] are calculated through a bottom-up estimate of the number of hours required for each assessment task (e.g., 'Initial assessment of supplied information and site identification'). Each time estimate is then multiplied by the salary rate (including on-costs) for an assumed position grade to calculate the total cost of the task. The cost of each task is summed to calculate the total direct cost for that assessment type. The on-cost allowance is consistent with that adopted for the Type A consent transaction charges.

A DPO III position grade is assumed for most tasks. For example, for the 'New or amended works and/or use approvals' charge, more than 85% of the total time estimate is assigned to a DPO III position grade, and the remaining time is split between the position grades of DPO VI (for peer review), Clerk 9/10 (for correspondence with referring agencies), and Clerk 11/12 (for oversight and approval). We generally consider this proposed resourcing profile to be reasonable. However, we consider that there is an opportunity for DCCEEW to reduce costs through training a more junior staff member (DPO II or lower) to undertake data extraction, data preparation, and geographical information system (GIS) figure preparation tasks. We have considered this opportunity for efficiency in our recommended charges in Section 8.6.5.

[215] Throughout this chapter (Section 8), a reference to a 'groundwater assessment type' is a reference to the groundwater assessment component of an individual consent transaction type. For example, 'New or amended works and/or use approvals' and 'Bore extraction limit reviews' are separate groundwater assessment types. DCCEEW has proposed five groundwater assessment types.

8.6.2.3 'Indirect costs'

We note that, throughout this section (Section 8.5), references to 'indirect costs' and 'overheads' are references to the definitions adopted by DCCEEW for each of these terms in the context of consent transactions. 'Overheads' are calculated as a separate annual allocation that is equally distributed across all transactions for 'New or amended works and/or use approvals', 'Bore extraction limit reviews', and 'Water access licence dealings – unregulated rivers and groundwater'. The total 'overhead' allocation is calculated through a bottom-up estimate of operating expenditure that is not directly traceable to an individual transaction. During our interview with DCCEEW on 6 December 2024, DCCEEW stated in its PowerPoint presentation[216] (slide 8) that overheads were not included in its pricing proposal for the current (2021) Determination. Table 8-21 provides a breakdown of the total 'overheads' allocation proposed by DCCEEW for the 2025 Determination.

Table 8-21: Proposed 'overheads' for groundwater assessment charges

Item (***Italic text:*** **Verbatim item description from DCCEEW groundwater assessment charge model)**	**Unit**	**Cost per unit**	**Comments**
Training	Per year	$20,000	*Training related to upskilling in specific hydrogeological programs and training in trade related procedural works.*
Conferences and travel expenses (incl vehicles)	Per year	$20,000	*2 senior people attend 2 conference per year related to trades, resource management and modelling.*
Software development (Algowater, WAMS and template)	Per determination period	$40,000	*Continued improvement program to improve the AlgoWater and related tools and templates to increase automation and reduce trade times. Continual improvement program.*
Software program (ArcGIS)	Per year	$10,000	*Partial recovery of ArcGIS corporate fees*
Scoping - mathematical model review	Per determination period	$20,000	*Funding to scope the grants program, including internal scoping, procurement etc.*
Research - mathematical model review	Per determination period	$80,000	*Program of grants to explore the feasibility of the automation of perm trades and dealings grant to be retained over 2 years*
Laptops	Per determination period	$7,000	*10 laptops across the IPART period for staff undertaking trades*
Data management	N/A (see comments)	$0	*Captured in another narrative*
Total	**Per year**	**$79,400**	

The total annual allocation is then divided by the average annual total number of transactions over the past five years to calculate the allocation per transaction. This equates to $724.26 per transaction or around 15% of the direct cost of each charge. We consider the 'overhead' allocation to groundwater assessment charges, as a proportion of direct labour costs, to be reasonable.

[216] Presented to Stantec on 6 December 2024, with the corresponding PowerPoint presentation provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

8.6.3 Efficiency of 'indirect costs'

As concluded in Section 8.6.2.3, we consider the 'overhead' allocation to groundwater assessment charges, as a proportion of direct labour costs, to be reasonable. We note that DCCEEW has removed 'Data management' from the costs included in its 'overhead' allocation for groundwater assessment charges. We consider this to be an example of DCCEEW proactively identifying and removing potential duplication of costs between the consent transaction charges and the water management charge.

8.6.4 Efficiency of direct costs

Table 8-22 details our observations and findings regarding the direct costs included in the groundwater assessment charges.

Table 8-22: Observations and findings regarding efficiency of direct costs for groundwater assessment charges

Theme	Observations and findings
Approach to resource optimisation	In Section 8.6.2.2, we noted an opportunity for DCCEEW to reduce costs through training a more junior staff member (DPO II or lower) to undertake data extraction, data preparation, and geographical information system (GIS) figure preparation tasks. DCCEEW has assigned these tasks to a DPO III position grade.
Validation of bottom-up time estimates	We note an opportunity for improved granularity in the recording of actual direct costs to validate bottom-up time estimates. While DCCEEW has recorded actual direct costs to support its proposed charges, 'times were only recorded in days [and] not hours'[217]. At the scale of these charges, the inclusion of a single additional hour in the bottom-up time estimates can result in an increase of 2% to the charge.
Scenario adopted for time estimates	We observed two tasks where the task comments included in the cost model imply that the corresponding time allowances do not fully reflect an average scenario: • 'Allowance for pumping test analysis' task: The task comments state, 'In the event a pumping test assessment is required'. This implies that the task is not required for all transactions. • 'Algowater or Cooper Jacob assessment' task: The task comments state, 'Assessment may require multiple runs to understand the limits of extraction allowable'. The use of 'may' suggests that the multiple runs allowed for in the time estimate are not required for all transactions. In our draft report, we removed the time allowance for the 'Allowance for pumping test analysis' task for our recommended upper bound for the 'New or amended works and/or use approvals', 'Bore extraction limit reviews', and 'Water access licence dealings – unregulated rivers and groundwater' charges. We also applied a 50% reduction to the time allowance for the 'Algowater or Cooper Jacob assessment' task for our recommended upper bound for these charges. In response to our draft report, DCCEEW provided the following clarification regarding the 'Allowance for pumping test analysis' task: *This item is almost always required to support a bore extraction limit (BEL) review (with a few exceptions as when the applicant decides to change the location of a proposed bore and a BEL has already been set – very rare). Pump testing field data is a requirement to support the application of a BEL review. Creating a separate charge for undertaking a pump test to ensure it is only charged as required would be an unwarranted administrative burden given the % of time*

[217] Slide 7 of the PowerPoint presentation presented to Stantec on 6 December 2024 for consent transactions. A copy of the PowerPoint presentation was provided to Stantec on 20 December 2024 in response to a request for information (RFI 76).

Theme	Observations and findings
	compared to the overall assessment. Similarly, capturing time spent just on a pump test is another administrative inefficiency. A solution could be to only add this cost to Bore Extraction Limit reviews. In response to our draft report, DCCEEW provided the following clarification regarding the 'Algowater or Cooper Jacob assessment' task: *This item is mandatory to finish the assessment. Once the model is built, it needs to be run. The number of scenarios will depend on the first few scenarios runs. The applicant may request a number of scenarios to be run to optimise their outcomes. In addition, when the impact criteria is not met, DCCEEW will run additional scenarios to test if changes in pumping volumes will meet the impact criteria and enable the applicant to proceed with an outcome. General practice is to advise the applicant when the criteria is not met for a new bore or volume requested for permanent trade. It is up to the applicant to come back (within a certain timeframe) and seek amendment especially when multiple sites are involved or there are changes to the schedule for pumping.* We accept DCCEEW's clarification that the 'Allowance for pumping test analysis' task is 'almost always required to support a bore extraction limit (BEL) review'. We also accept DCCEEW's clarification that multiple model scenario runs are typically conducted for the 'Algowater or Cooper Jacob assessment' task. As such, in our revised draft report, we have made the following changes to our recommended upper bound charges: • 'Allowance for pumping test analysis' task: We have reinstated DCCEEW's estimated time allowance for the 'Bore extraction limit reviews' charge • 'Algowater or Cooper Jacob assessment' task: We have reinstated DCCEEW's estimated time allowance for the 'New or amended works and/or use approvals', 'Bore extraction limit reviews', and 'Water access licence dealings – unregulated rivers and groundwater' charges.

We provide our recommended efficient range of charges in Section 8.6.5.

8.6.5 Recommended efficient range of charges

Overall, we acknowledge the effort invested by DCCEEW in the current period to develop bottom-up estimates of the direct and indirect costs of undertaking groundwater assessments as part of consent transaction activities. We also acknowledge the diligence it has demonstrated in identifying and removing potential duplication of costs between charges.

However, while DCCEEW has qualitatively considered customer complaints as an indicator of customer sentiment, it has not provided customers with the opportunity to directly consider the proposed increases in the charges and, critically, the trade-off between affordability and service levels. The proposed increases vary from 84% to 154%.

Based on our conclusions above, as well as our findings and observations in Sections 8.6.3 and 8.6.4, we recommend the charges set out in Table 8-23. The basis of our recommended upper bound and lower bound charges, as well as the risks of adopting each bound, are presented in Table 8-24.

Table 8-23: Recommended efficient range of charges for groundwater assessment charges

No.	Charge name	2024/25 charge determined by IPART (real 2024/25 $)	Charge proposed by DCCEEW for the future period (real 2024/25 $)	Our recommended upper bound charge (real 2024/25 $)	Our recommended lower bound charge (real 2024/25 $)
1	New or amended works and/or use approvals	2,965.85	5,467.20	4,955.92	3,410.73
2	Bore extraction limit reviews	2,965.85	5,467.20	5,367.42	3,410.73
3	Water access licence dealings – unregulated rivers and groundwater	2,965.85	5,467.20	4,955.92	3,410.73
4	New basic landholder right bore	167.72	411.50	411.50	329.20
5	Temporary trade	N/A	441.92	441.92	353.54

Table 8-24: Basis and risks of recommended upper and lower bound charges for groundwater assessment charges

	Charge(s)	Upper bound	Lower bound
Basis	• New basic landholder right bore • Temporary trade	**Adoption of the charges proposed by DCCEEW.** We consider that these smaller charges (relative to the three other groundwater assessment charges) are appropriate for the tasks involved and the outcomes delivered.	**Application of a 20% efficiency.** This is based on: • An opportunity for improved granularity in the recording of actual direct costs to validate bottom-up time estimates • DCCEEW not consulting with customers directly on the proposed charges.
	• New or amended works and/or use approvals • Water access licence dealings – unregulated rivers and groundwater	• **Removal of the direct time allowance** for the 'Allowance for pumping test analysis' task • **Adjustment of some assumed position grades** for the 'Site and receptor identification and data extraction' and 'Data preparation including authentication and rationalisation of data points, figure generation and dataset preparation for model' tasks from DPO III to DPO II	**Application of a 15% mark-up to the existing charges** to allow for 'overheads'. DCCEEW advised that overheads were not included in its pricing proposal for the previous (2021) Determination.
	Bore extraction limit reviews	**Adjustment of some assumed position grades** for the 'Site and receptor identification and data extraction' and 'Data preparation including authentication and rationalisation of data points, figure generation and dataset preparation for model' tasks from DPO III to DPO II	**Application of a 15% mark-up to the existing charges** to allow for 'overheads'. DCCEEW advised that overheads were not included in its pricing proposal for the previous (2021) Determination.
Risks	All groundwater assessment charges	• Over-recovery of actual costs • Customer affordability not tested • Reduced customer trust and credibility in not being provided with an opportunity to provide direct feedback on the proposed charges and their rationale	• Under-recovery of actual costs • Insufficient technical assurance and defensibility of application outcomes • Underperformance against existing service level targets. We note that, at current levels of expenditure, two of three performance indicators in the current period have not been met for Type A consent transactions. Groundwater assessments support some Type A consent transaction activities.

9 Analysis of metering charges

Our analysis of WAMC metering charges refers to activity code W03 (Water take monitoring) and Section 9 (Analysis of metering charges) of the WAMC pricing proposal.

9.1 Overview of the non-urban metering reform

The NSW non-urban metering reform, introduced in 2018, is aimed at ensuring accurate, auditable, and tamper-evident measurement of water across the state[218]. The reform's primary objectives are to measure, record and report 95% of licensed water users entitlements by December 2026, improve the standard of coverage of non-urban meters, and enhance compliance with water licence obligations.

Key components include metering requirements for surface water pumps of 500 mm or larger, works with total entitlements of 100 ML or more, and works with entitlements between 15 ML and 100 ML. For smaller pumps and bores, mandatory take reporting is required, though meters are not mandated unless trading water allocations.

The reform has faced challenges in implementation, with approximately 40% of the licensed water take still not measured in compliance with the metering reforms – primarily due driven by COVID-19, extreme weather events, supply chain impacts, stakeholder engagement challenges (including the need for additional support for water users to comply with the new requirements), and availability of DQPs[219]. These implementation delays have led to concerns regarding the efficiency and effectiveness of the reform.

Around 9,000 works associated with entitlements of 100 ML or greater lack accurate, reliable, and tamper-evident meters. To address this shortfall, the 2022-2023 review into non-urban water metering recommended several options to accelerate the roll-out and implementation of non-urban water metering across NSW.

Our analysis of metering charges in this section is not intended to interrogate or question the validity of the non-urban metering reform outcomes or benefits but to assess the prudency and efficiency of associated non-urban metering reform costs as being prudent and efficient in the context of WAMC's overall pricing proposal – including assessment of proposed customer metering charges.

9.1.1 Non-urban metering framework

The non-urban water metering framework in Australia is a national initiative agreed upon by all states and territories to ensure consistent and accurate measurement of water usage. This framework is part of the National Water Initiative (NWI) and aims to provide confidence in meter accuracy, easy methods to ensure meter accuracy, and consistent regulation of water metering across the country.

The Metrological Assurance Framework 2 (MAF2), which replaced the original 2009 framework, sets out the requirements for non-urban metering, including the use of pattern-approved meters that conform to the Australian Standard AS4747. The AS4747 covers all aspects from meter design to the correct maintenance of metering systems. The framework also emphasises the importance of providing useful compliance data for water users, regulators, meter installers, and manufacturers.

[218] Water Administrative Ministerial Corporation 2025-30 pricing proposal – Section 9 Metering Charges.

[219] Water Administrative Ministerial Corporation 2025-30 pricing proposal – Section 9 Metering Charges.

The ongoing revision of AS4747, expected to be finalised by the end of 2025, aims to reflect the latest technology and methods, reduce duplication with MAF2, and make it easier for water users to comply with metering requirements. Figure 9-1 summarises the changes under the revised non-urban metering framework.

Works	Measurement standard	By when*	Change from current requirements
All surface water pumps ≥500 mm	AS4747 compliant meter DQP validation LID and telemetry	Immediately	No change to measurement standard or timing.
All works nominated by total entitlement ≥100 ML, unless otherwise exempt	AS4747 compliant meter DQP validation LID and telemetry	Inland – Immediately Coastal – 1 December 2026	Groundwater works and surface water pumps in this category with a diameter of less than 199 mm will now need to be telemetry enabled (previously, local intelligence devices did not need to have telemetry capacity). There is no change to timing for inland works. Coastal works have a 2-year deadline extension.
All works nominated by total entitlements of >15 and <100 ML, unless otherwise exempt	Pattern approved meter Mandatory take reporting *DQP validation and LID/ telemetry optional*	Later of 1 December 2027 or renewal of work approval	These works still require a meter, but no longer required to have meters installed and validated by a DQP or be fitted with a local intelligence device. This provides an extension to both inland works (which were overdue) and coastal works (which otherwise would have been required to be metered by 1 December 2024).
Pumps and bores below the size-based thresholds **Works nominated by total entitlement ≤15 ML (except surface water pumps ≥500 mm)**	No meter mandated (exempt), but meter required if trading water Mandatory take reporting *Application to at-risk water sources to be considered further*	Not applicable	There is no change for pumps and bores below the size-based thresholds. Works nominated by a low volume share component will no longer be required to be fitted with a DQP installed AS 4747 compliant meter.
Works not taking licensed water (unintended, inactive) **Works not nominated by licensed water entitlements**	No meter mandated (exempt)	Not applicable	It will be easier for unintended and inactive works to access this metering exemption. There is no change for works not nominated by licensed water entitlements.

* NRAR may direct installation of a meter in specified timeframe if take or reporting related non-compliance is detected

Figure 9-1: Non-urban metering framework

9.1.2 2024 review recommendations

The 2024 review of the NSW non-urban metering framework identified several key improvements to accelerate compliance and enhance water management. The review found that approximately 40% of licensed water take in NSW is still not measured in compliance with the metering reforms, with around 9,000 works associated with entitlements of 100 ML or greater lacking accurate, reliable, and tamper-evident meters. To address these issues, the review recommended several specific improvements:

- **Increase Meter Installation and Validation Rate** – the review emphasised the need to accelerate the installation and validation of compliant meters. This includes prioritising high-risk areas and providing additional resources to ensure timely compliance.
- **Support for Water Users** – recognising the financial and technical challenges faced by water users, the review recommended providing targeted support. This includes financial assistance, technical guidance, and streamlined processes to help users comply with the metering requirements.
- **Alternative Measurement Options** – for certain types of water take where traditional metering is not feasible, the review suggested implementing alternative measurement options. This could include remote sensing technologies or other innovative solutions to ensure accurate measurement.
- **Enhanced Compliance and Enforcement** – the review called for stronger compliance and enforcement measures to ensure that all water users adhere to the metering requirements. This includes regular audits, penalties for non-compliance, and clear communication of the obligations and consequences.
- **Improved Communication and Engagement** – to build trust and ensure widespread understanding of the metering reforms, the review recommended enhancing communication and engagement with water users. This involves clear and consistent messaging, regular updates, and opportunities for feedback and consultation.

The implications of these recommendations on the WAMC pricing proposal to 2030 are significant. The WAMC pricing proposal for 2025-2030 includes considerable increases to cover the costs associated with the metering reform.

WAMC consider the changes to the framework as critical and implementation of these changes (largely driven by the CIE Economics Analysis into the NSW Metering Framework changes) to ensure that 95% of the licenced water take is measured, recorded and reported by December 2026 (or sooner)[220].

We are of the view that with WAMC accepting the review outcomes and looking to implement changes to metering practices (including charging and billing), that there is a significant transition required from the current metering approach to the new metering approach (driven by non-urban metering reform objectives and specifications).

[220] WAMC Proposal – p187.

9.2 Current period metering charges and costs

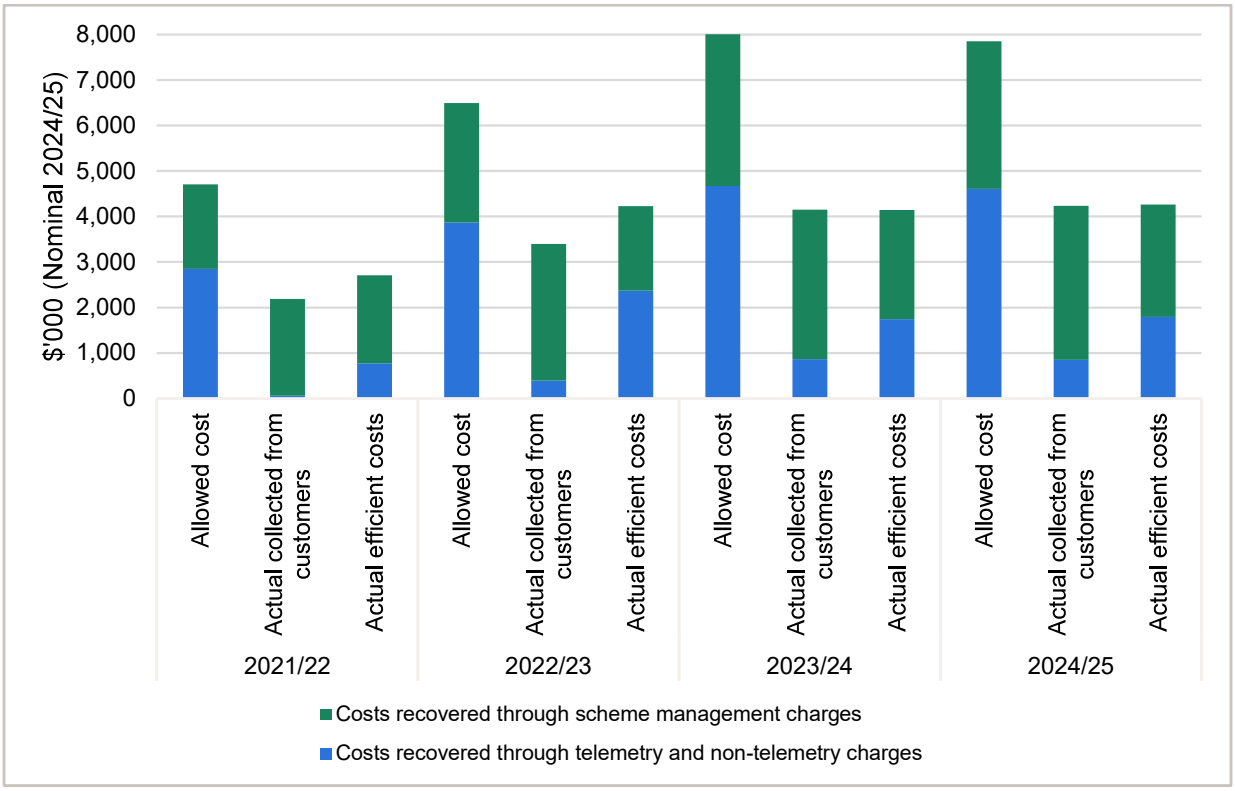

Figure 9-2: Non-urban metering allowed and actual expenditure over the 2021 Determination period – excluding government owned meter costs

While significant effort has been made by WAMC over the 2021 Determination period to prepare for (and commence) transition and readiness activities to support the implementation of non-urban metering reform outcomes, WAMC estimated cost-recovery has not been realised at forecasted levels due to significant delays in deployment and update of new metering requirements.

For the current period, WAMC agencies have been implementing the new metering framework for non-urban water take. Over the current period, WAMC agencies under recovered the expected levels of revenues due to lower take-up by customers of metering changes has been much slower than anticipated[221].

WaterNSW's costs for the current period exceeded forecasts as costs of integrating new systems and data to carry out both existing and new metering functions exceeded levels expected by WaterNSW at the time of setting charges and estimating costs for enabling metering outcomes and service.

DCCEEW did not allocate costs to metering charges in the current determination as it was expected that funding would be provided by the NSW Government to support and enable the implementation of non-urban metering reforms across NSW.

Our assessment of current period expenditure, charges, and cost recovery performance by WAMC indicates that several factors contributed to this outcome:

[221] Water Administrative Ministerial Corporation 2025-30 pricing proposal – Section 9 Metering Charges – p190.

- Regulatory uncertainty as it relates to compliance requirements and timeframes for water users to align to new metering requirements, effectively nullifying WAMC's modelling on new metering costs and projected revenue recovery activities
- Challenges with quality of work undertaken and associated data outputs by DQPs over the period, requiring additional investment of cost and resources by WaterNSW to rectify
- Over-estimation of metering and telemetry take-up by licence holders over the current determination period, which resulted in significant costs still being incurred – regardless of the total number of compliant meters.

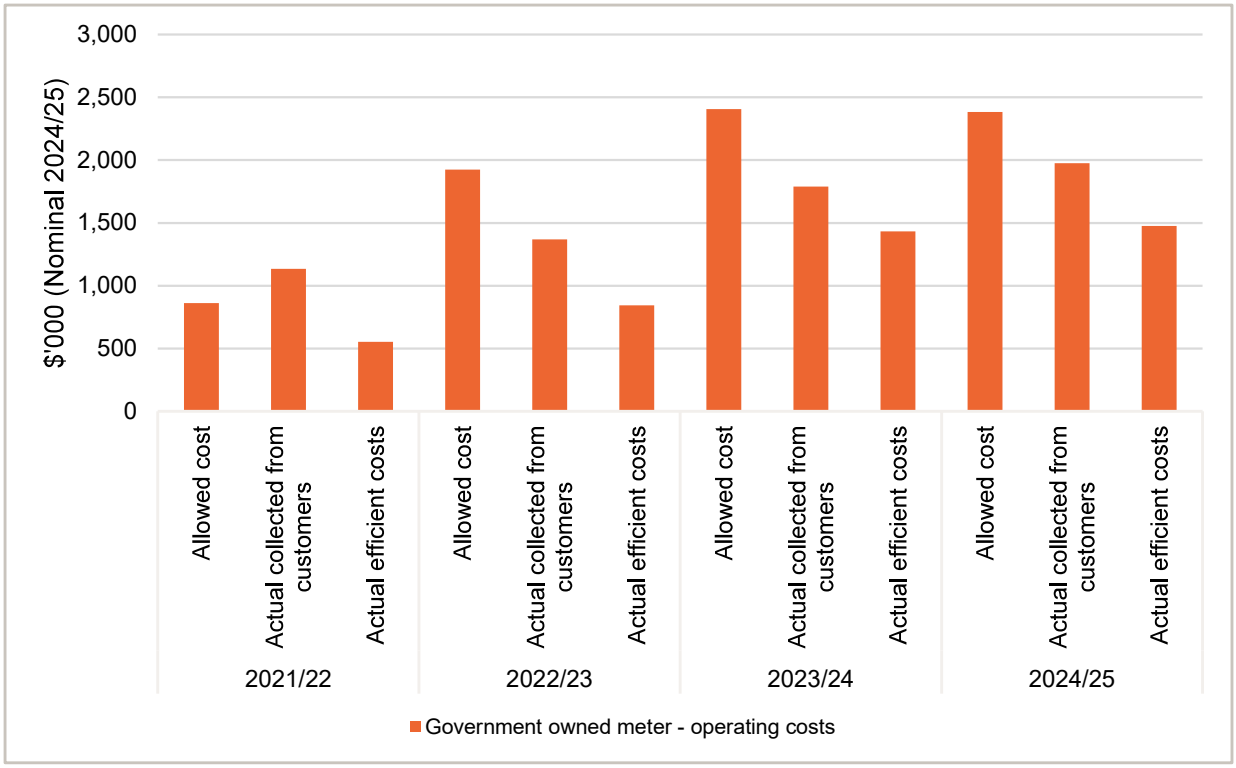

Figure 9-3: Government owned meter – operating costs – allowed and actual expenditure over 2021 Determination period

9.3 Review of proposed non-urban metering charges

The WAMC proposed metering charges are intended as a direct reflection of the proposed costs that WAMC agencies (predominantly WaterNSW) will incur over the 2025 Determination period in implementing and operationalising the NSW Government's non-urban metering reforms. Our review of the proposed metering charges seeks to assess the prudency and efficiency of the underlying costs, inputs and assumptions.

WAMC has, in most part, chosen to maintain its existing metering charges structure from the current period, with some adjustments to the scope of individual charges (and associated costs within), to reflect the changes resulting from the non-urban metering reform. WaterNSW is also proposing as well as the introduction of two new metering related charges. An overview of these charges is shown in

Table 9-1.

Table 9-1: Non-urban metering charges (summary) ($ 2024/25)

Charge	2024/25 (current)	Charge for 2025-26 to 2029-30	% Change current to 2025-30
Scheme management charge ($/licence)	85.35	114.93	34.7%
Telemetry charge ($/meter)	263.86	270.36	2.5%
LID download/validation charge (replaces former non-telemetry charges) ($/meter)	263.86	524.24	98.7%
Meter service charge – operating costs, government-owned meters ($/meter)	1047.16	991.76	-5.3%
Alternative assessment charge, as needed ($/transaction)	-	665.19	-
Attestation charge (from 2026-27 if required) ($/licence)	-	81.64	-

WAMC's proposed metering charges, driven by broader metering reforms, are estimated to be 1.4% higher than the IPART allowed costs in 2023-24[222]. The shift from the 'no meter, no pump' to the 'no measurement, no pump' philosophy under the new metering framework has resulted in an adjustment to WaterNSW's activities, processes, assumptions and costs under the existing charging structure which has formed the basis for WAMC's proposed metering charges for the 2025 Determination period.

Table 9-2: Forecast efficient metering costs (excluding non-compliant government-owned meters) ($'000 2024/25)

Cost	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Scheme management costs recovered through scheme management charges	3,456	3,246	5,917	4,240	4,237	4,074	4,071
Scheme management costs recovered through telemetry and non-telemetry charges	4,812	4,604	3,773	3,611	3,457	4,392	3,167
Total metering costs excluding government owned meters	**8,268**	**7,850**	**9,690**	**7,850**	**7,694**	**8,466**	**7,239**

Table 9-3: Forecast efficient metering costs – non-compliant government-owned meters and fee-for-service costs ($'000 2024/25)

Cost	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Government-owned meter operating cost	2,479	2,384	2,717	2,720	2,723	2,726	2,730
Alternative assessment costs	-	-	228	201	195	189	183
Annual attestation costs	-	-	-	3,934	4,638	2,437	1,799

In our assessment of proposed WAMC metering charges and costs, we have identified that there are two key components to the WAMC metering charges and costs for the next determination period:

[222] Water Administration Ministerial Corporation 2025-30 pricing proposal p197.

- **Cost Recovery** – the proposed charges are intended to fully recover the WAMC costs associated with implementation of the non-urban metering reform and metering activities.
- **Impact on Users** – the proposal outlines how the proposed charges will be distributed among different categories of water users.

In reviewing the proposed charges and costs for the 2025 Determination period, we have observed that there is an acknowledged level of uncertainty in the WAMC proposal, WaterNSW supplied cost model to support metering costs and charges, and through the interviews and RFI process. This price and cost uncertainty is predominantly driven by the timing of metering framework and reform announcements and the submission of the WAMC pricing proposal to IPART.

Notwithstanding the extent that uncertainty and We see that this price and cost uncertainty (forecasted costs for the basis of setting charges were built up with best available data and information at the time) should be further addressed by WAMC. The extent to which the proposed charges for metering are not cost reflective is unknown at the time of writing report as our assessment was undertaken on information and data provided. Cost uncertainty in enabling metering costs has the potential to result in WaterNSW under-recovery (particularly as it relates to total number of fixed assessment metering charges) or WAMC metering charges and costs not being reflective of the actual effort and cost to deliver activities and services at efficient levels.

9.3.1 Cost components and calculation methodology

WaterNSW has developed a bottom-up cost model for calculating each of its proposed non-urban metering charges. The cost components comprising each proposed charge are depicted in Figure 9-4, along with an overview of each cost component. Table 9-4 lists the spreadsheets used by WaterNSW to calculate each component.

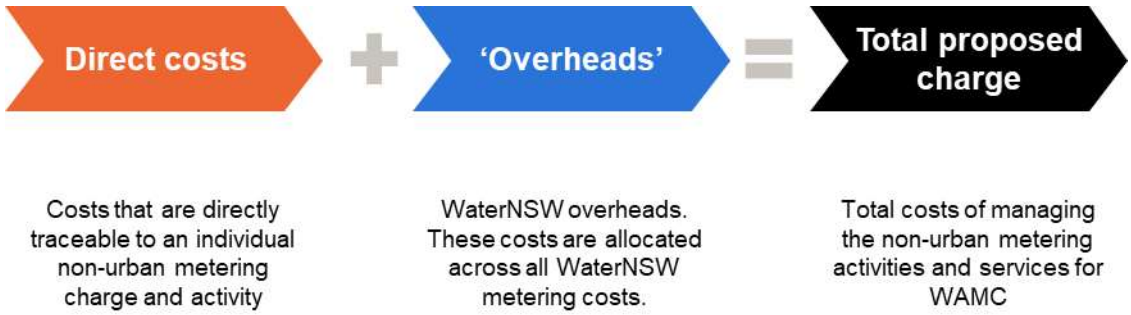

Figure 9-4: WAMC metering charge components

Table 9-4: WaterNSW metering charge calculation data source

Cost component	Spreadsheet where this is calculated
Direct costs Overheads Total proposed metering charges	'WaterNSW Proposal non-urban metering – D24 24462 Final Metering Cost Model Model FY26-30 – 9 October 2024.xlsx'

In the following sections, we provide a more detailed assessment and review of WAMC proposed metering charges and underlying costs and assumptions.

9.3.2 Scheme management charge

The scheme management charge is applied as an annual fee to all licenced customers to recover the costs for WAMC (WaterNSW) to manage and administer the metering program and associated activities to ensure the effective and accurate measurement of water take across licenced customers.

For the 2025 Determination period, a 34.7% increase in the annual fee is proposed to account for new, additional activities being undertaken by WAMC predominantly to support transition and adjustment to organisational systems and practices to enable metering reform outcomes.

WAMC's proposal identifies several new activities to be undertaken in the 2025 Determination period including operationalising new metering rules, increasing communication to customers, accelerating the rollout of meters by December 2026, introducing the DQP concierge service and management enabling systems, and introducing portals to improve the ability for DQPs and licence holders to meet water take measurement requirements.

Table 9-5: Non-urban metering charges (scheme management charge) ($ 2024/25)

Charge	2024/25 (current)	Charge for 2025/26 to 2029/30	% change current to 2025-30
Scheme management charge ($/licence)	85.35	114.93	34.7%

The scheme management charge seeks to recover the specific metering related communications, service centre and systems, and call centre costs of WaterNSW over the next period, which have been developed using a bottom-up resource build up approach. This approach relies on assumptions of total activities being undertaken across each year within the determination period and estimated FTE allocations, salary costs and ancillary costs against each activity – driven by assessment and understanding of estimated effort for each activity based on current activity cost understanding.

The proposed increase in charge to $114.93 per licence per year represents a total proposed expenditure of $22,539,000 over the 2025 Determination period, with a total of 196,115 collective and accumulated licences subjected to the annual charge over that same period. The breakdown of costs by in-scope activities has been highlighted in Table 9-6.

Table 9-6: Scheme Management Charge proposed WaterNSW activity costs for 2025 Determination ($ 2024/25)

In Scope Activity	FY26	FY27	FY28	FY29	FY30
Call centre costs	522,611	481,834	363,375	363,375	363,375
Communications costs	578,951	605,422	659,175	653,872	653,872
Service centre & systems costs	4,816,013	3,152,408	3,214,213	3,056,639	3,054,005

Some of our key observations into the underlying proposed costs which contribute to the increase in Scheme Management Charges for the next period include:

Call centre

Call centre costs are representative of transitional metering activities and reduced demand on call centre operations under the new metering arrangements, with FY26 costs peaking at $418,129 (representative of the proposed increased demand for support services to assist licence holders with transitioning to the new metering arrangements, and estimated reduction in costs to $290,700 per annum from FY28 – FY30.

Our assessment of the WaterNSW Metering Cost Model (metering cost model) attributes this to the transition from traditional call centre operations under the current metering framework, to the establishment of the DQP concierge service from FY27 onwards, with direct call related salary costs zeroing off from FY28 onwards.

Our view is that while the cost build ups for call centre activities demonstrates estimated FTE effort and costs over the determination period, we are conscious of the level of uncertainty in WAMC costs, largely due to the extent that real demand for these activities and service levels under the new metering arrangements, are largely unknown at this stage[223].

Communications

Communications costs over the next determination period deal with external customer and internal / intergovernmental communications activities to support and enable metering activities and outcomes across WAMC metering activities. We have observed that overall proposed costs for communications moderately increases over the period of FY26 ($578,951) to FY28 ($659,175 – peak) before plateauing for FY29 – FY30.

Our analysis of the metering cost model provides detailed cost build ups for communications activities and demonstrates estimated FTE effort and costs and direct input costs (e.g. cost of email, letters and SMS communications – including a forecast of expected volume of communications over the period).

Upon detailed analysis of these activity costs, we observed some outlying costs for undertaking 'formatting updates' (e.g. website, letterheads and factsheet updates). Our assessment is that the total estimated FTE allocation (and effort) and subsequent cost of 1.3 FTE and $227,260 (less overheads) year on year over the next determination period. With the metering cost model referencing that this activity needs to occur six times per annum, we feel that there may be opportunity for efficiency in cost (and subsequent efficiency within the Scheme Management Charge) through reviewing the frequency of updates required in any given year.

Service centre and systems

Service centre and systems costs are attributed to WaterNSW activities such as processing certificates (including reviewing initial registration forms and revalidation forms), supporting revalidation of failed meters, maintenance, reporting and recording, data validation, onboarding new DQPs, routine inspections and establishing licence and meter reform conditions.

Our analysis of the service centre and system cost model inputs identifies detailed cost build ups for related activities, including estimated FTE effort and direct activity related costs (e.g. vehicle costs) has been undertaken to best efforts by WaterNSW based on available information and underlying model assumptions at a point in time.

We observe peak estimated costs for this activity in FY26 ($4,816,013 including overheads) before reducing and remaining relatively stable across the remaining financial years within the 2025 Determination period (approximately $3 million for FY27 – FY30). This peak in FY26 is driven by approximately $1,985,024 (excluding overheads) in processing certificates costs (reviewing initial registration forms and validation certificate audits) to support initial site inspections.

From information provided within the WAMC Proposal, interview presentation and metering cost model, our assessment is that elevated year one costs are driven by the aggressive non-urban metering deployment timeframe (based on chosen modelling metering rollout scenario – 80% in FY26 and the remaining 20% in FY27 prior to transitioning to operating and maintaining in FY28 onwards)[224].

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[223] Water Administration Ministerial Corporation 2025-30 pricing proposal p198.

[224] WaterNSW Proposal Non-Urban Metering Final Metering Cost Model – Meter_Type_A tab.

The extent to which we have observed error rates, and associated costs mitigating errors by WaterNSW, have been factored into the proposed scheme management costs is significant. WaterNSW did not account for the type or level of errors experiences relating to data quality (particularly with initial LID registration and validation checks) over 2021 Determination period[225].

WAMC has introduced (or is continuing to introduce) 'change[s] to the LID registration process, including additional data verification steps and upgrade the DQP metering portal to minimise these issues'. Additionally, WaterNSW is looking to minimise these error rates through the broadening of DQP required competencies and experience. Despite this support, WaterNSW maintain that data errors in submissions will continue[226].

Our subsequent review of the metering cost model has identified that WaterNSW has utilised a failure rate of 42% for DQP submissions. In response to RFI113, WaterNSW provided historical data on the average rejection rates over the first three months of the new DQP Portal going live (average of 47.35% of DQP submissions rejected). WaterNSW has used this data, along with the assumptions that DQP numbers are forecast to increase and expect high turnover rates, to establish the 42% error rate as a 'conservative estimate'[227].

Our assessment of data provided by WaterNSW did indicate a declining trend in actual DQP error rate over the first three months of the DQP Portal going live which would indicate some level of improvement in DQP submissions over that time (DQP Portal went live in 2023), and our assumption is that further improvements in DQP submission quality would be expected, based on the existing and available trends (see information below provided by WaterNSW in response to RFI 113 relating to DQP error rates), as displayed in Table 9-7.

Table 9-7: DQP error rates

Month	September	October	November
Rejected (%)	50.68	48.17	43.19
Average (%)			**47.35**

Source: WaterNSW Response to RFI113

While we acknowledge that DQP submission errors will continue to occur, and that the cost to WaterNSW of addressing these errors will continue to occur, we would expect that error rates would reduce over time with improved DQP capability. We also do not agree entirely with WaterNSW's assumptions that expansion of the number of DQPs necessarily corresponds with increased error rates. We would expect to see improvements in DQP submissions, with the ongoing efforts to improve DQP competency and capability. While there may be some higher error rates as part of the 'learning curve' of new DQP onboarding, we would expect these to be relatively short in terms of overall impact. On that basis, we are recommending a reduction to the DQP failure rate for the next determination period.

9.3.3 Telemetry charge

The telemetry charge is a standard charge that WAMC applies to customers as a fee-for-service when their site is connected, compliant and communicating with the telemetry system. All customers that require an LID must be connected to telemetry under the expected changes and adjustments to the metering framework and rules.

[225] Water Administration Ministerial Corporation 2025-30 pricing proposal p199.

[226] Water Administration Ministerial Corporation 2025-30 pricing proposal p199.

[227] RFI RA-113 WaterNSW Response.

For the 2025 Determination period, a slight increase of 2.5% is being proposed by WAMC for this charge from prices set in the 2021 Determination period. Telemetry charge increases are predominantly driven by delays in the expected ramp up of telemetered sites from the previous period due to compliance date extensions, availability of DQP resources, and customer compliance rates assumptions from the previous period pricing proposal not being realised.

Table 9-8: Non-urban metering charges (telemetry charge) ($ 2024/25)

Charge	2024/25 (current)	Charge for 2025/26 to 2029/30	% change current to 2025-30
Telemetry charge ($/meter)	263.86	270.36	2.5%

In our assessment of proposed activity cost inputs and assumptions used by WaterNSW in the buildup of telemetry charges, we have identified several transitional and system related costs (primarily driven by changes in the metering framework and approach) that have been factored into the WAMC costs for recovery – with a view that the final transition from DAS to Azure will occur in FY29[228].

This includes proposed additional resourcing costs to support the transition from the current telemetry data acquisition service (DAS) to an Azure IoT solution. While these transition costs are assumed in the WaterNSW metering cost model as part of determining proposed charges, they are still subject to review and approval through the business case for customer metering, which has not yet been approved (subject to IPART determination).

Table 9-9: Telemetry charge proposed WaterNSW activity costs for 2025 Determination ($ 2024/25)

In Scope Activity	FY26	FY27	FY28	FY29	FY30	Total
Digital Costs	3,606,739	3,483,785	3,349,848	4,284,728	3,040,268	17,785,432

The observable cost impact of transitioning between DAS and Azure platforms. WaterNSW modelling indicates proposed total direct data and licencing support costs (excluding overheads and based on assumed phasing between DAS and Azure in FY29) to range from $1,378,217 in FY26 to $1,954,260 in FY29 (peak cost), before reducing significantly to $771,850 in FY30 (61% decrease in costs in FY30).

We have also identified additional resourcing cost within the metering cost model for up to five additional FTE at a cost of $819,604 per year (excluding overheads) that have been identified as ‘transition costs’. We have assumed that these additional resources and associated costs are to support the transition from DAS to Azure and support the customer metering project (as part of the broader technology roadmap proposed costs for WAMC), pending IPART determination.

The metering cost model provided by WaterNSW identifies FY29 as the proposed financial year of transfer between DAS and Azure, yet our assessment has identified continued DAS licencing and support costs in FY30 of $1,409,682 (excluding overheads) in addition to $771,850 (excluding overheads) for Azure data and licencing support costs. WaterNSW has confirmed that they intend to run both systems for the first year as a risk mitigation. We would consider that after transition from the existing /legacy DAS platform to Azure services in FY29, that only the Azure data and licencing costs should be applicable as recoverable costs through the telemetry charge in FY30 and beyond.

[228] WaterNSW Proposal Non-Urban Metering Final Metering Cost Model – Activities A tab.

We would argue that these initial system implementation and transition resourcing costs associated with changes to government policy and internal WaterNSW operating efficiencies are not considered as recoverable costs through the proposed telemetry charge. We consider that these proposed costs be either funded through WAMC / WaterNSW efficiencies or instead be considered as corporate / administrative costs by WaterNSW in that, customers are already contributing to the costs of data and licencing support. We would consider that customer charges would reflect Azure licencing and data support costs at the time of transition from the existing DAS platform. Our position may be subject to change if WAMC / WaterNSW can demonstrate direct customer benefit of running dual systems for the same activity and outcome over the next determination period.

In our assessment of WaterNSW's proposed non-urban metering charges and floodplain harvesting charges for the future determination period, we have identified almost identical alignment between the proposed telemetry charge inputs relating to DAS / Azure licencing support input costs. We recommend that the proposed floodplain harvesting, and non-urban metering telemetry data charges are merged. We are also recommending that these charges cost inputs are removed from the floodplain harvesting charges.

9.3.4 LID download / validation charge

Driven by recommended changes and amendments to the Water Management (General) Regulation 2018, proposed to take place in early 2025, connection to telemetry will become mandatory for all high-risk and large water users. WAMC is proposing to repurpose the non-telemetry charge to an LID download / validation charge for the 2025 Determination period, and beyond.

This proposed charge is to apply to surface water and groundwater works that are required to connect to telemetry but are located within a telemetry black spot where meter data and information is still collected by the LID but not able to be transmitted. Additionally, this proposed charge would also be payable if WaterNSW is required to undertake a site visit to validate the information on a meter in the case of meter data discrepancy.

Table 9-10: Non-urban metering charges (LID download / validation charge) ($ 2024/25)

Charge	2024/25 (current)	Charge for 2025/26 to 2029/30	% change current to 2025-30
LID download / validation charge (replaces former non-telemetry charges) ($/meter)	263.86	524.24	98.70

The proposed 98.7% increase to this repurposed charge for the 2025 Determination period is reflective of a more specialised and 'expensive' service for a relatively small number of customers. Our assessment of the WaterNSW metering cost model for directly attributed activity costs (categorised as field costs in the WaterNSW metering cost model) of $614,597 (including overheads) over the next determination period is summarised in Table 9-11.

Table 9-11: LID download / validation charge proposed WaterNSW activity costs for 2025 Determination ($ 2024/25)

In Scope Activity	FY26	FY27	FY28	FY29	FY30	Total
Field	166,032	126,924	107,214	107,214	107,214	614,597

Overall, our assessment of the WaterNSW direct input cost build-up (FTE / salary costs, vehicle OPEX and CAPEX costs, volume and frequency of initial site visits and LID download activities) and underlying assumptions within the metering cost model have resulted in a justifiable build-up of direct costs.

We consider the proposed vehicle CAPEX costs of $54,475 in FY26 within the metering cost model as a relevant direct cost to be incurred by WaterNSW to deliver this activity however, we have observed that in the buildup in the metering cost model[229], that overheads have been applied to this proposed CAPEX cost. Aligned to general Australian Accounting Standards[230], we do not consider that general administrative overheads should be applied to CAPEX costs, given that overheads will be applied to the related vehicle OPEX operating and maintenance costs over the life of the next determination period.

When considering the intent and driver for this proposed charge, we would challenge WAMC to consider the point at which telemetry network coverage (or lack thereof) becomes a customer issue to resolve or pay for through such charges when the changes in metering requirements are as a direct result of changes to government policy. Our view is that when a water user is required to install and be connected to LID and telemetry services (and is fully compliant with those requirements), they should not be financially penalised for broader telemetry network coverage across NSW.

While we are not recommending an adjustment to the costs or charge for this activity, we would recommend that WaterNSW undertake an assessment of telemetry topography across its service area to identify any cost-benefit to addressing these known telemetry blackspots in potentially reduce the impact to customers who are compliant with the new metering rules and framework, but unable to transmit meter data as a result of these network coverage gaps.

We have been unable to provide specific analysis into the split of total field costs that are attributed to telemetry blackspot issues versus data discrepancy issues in our analysis of the metering cost model inputs, activities and assumptions.

We concur with the scope and application of the proposed charge in the instances where WaterNSW must visit a site to validate meter and telemetry data and information in order to recover efficient cost.

9.3.5 Meter service charge (metering framework compliant government-owned meters)

Meter service charges are fee-for-service charges that intend to recover the costs of operating and maintaining WaterNSW-owned meters in groundwater and unregulated river systems. Two sets of meter service charges are in effect in the current period, with one set of charges applicable to telemetered meters and the second set of charges applicable to non-telemetered meters.

WaterNSW is proposing a single charge for the future determination period to align with the requirements of the new metering framework and rules, namely that meters be connected to telemetry. This will nullify the need for the current two-charge system for both telemetered and un-telemetered meters.

Table 9-12: Non-urban metering charges (meter service charge – operating costs, government-owned meters) ($ 2024/25)

Charge	2024/25 (current)	Charge for 2025/26 to 2029/30	% change current to 2025-30
Meter service charge – operating costs, government-owned meters ($/meter)	1047.16	991.76	-5.3%

[229] WaterNSW Proposal Non-Urban Metering Final Metering Cost Model – Activity A tab.

[230] Compiled AASB Standard AAST 116 – Property Plant & Equipment Compiled AASB 116 (Jun 2009).

The proposed costs of the meter service charge for government owned-meters for the 2025 Determination period are based on resource effort and activity required to support and maintain government-owned meters that are compliant with the requirements of the new metering rules and framework.

WaterNSW is proposing a 5.3% reduction in their costs over the future period that are largely driven by a forecasted lower number of meters that will result in less activity and cost, maintenance costs are currently below projected levels in the current period due to recent compliance work undertaken by WaterNSW to improve maintenance inspection processes (reduction of time and cost), and increased efficiencies in the validation process by NSW[231].

9.3.6 Alternative assessment charge

WAMC is proposing the introduction of a new Alternative Assessment Charge for the 2025 Determination period that seeks to recover WaterNSW costs of calibrating onsite equipment to allow and support small and low-risk water users to determine water take in the absence of a water meter, where a site inspection is required to gather relevant information not provided by the water user to determine overall water take.

Table 9-13: Non-urban metering charges (alternative assessment charge) ($ 2024/25)

Charge	2024/25 (current)	Charge for 2025/26 to 2029/30	% change current to 2025-30
Alternative assessment charge, as needed ($/transaction)	-	665.19	-

Driven by recommended changes to the non-urban metering regulations and introduction of new categories of water users (low-risk water users and smaller volume users), here are two scenarios through which the proposed alternative assessment charge would be applied:

- Where a low-risk water user has chosen to opt for using an alternative assessment method (as opposed to install their own meter), WaterNSW employees will be required to and from the site to undertake initial equipment configuration and additionally return every five years to undertake recalibration activities to ensure accuracy of water extraction
- Where smaller volume users are required to installed a pattern approved meter and is compliant by 1 December 2027 or on the renewal date of the work approval (whichever comes first – which may by up to 10 years from the date the new regulation comes into effect), the alternative assessment charge is proposed by WaterNSW for assessments until the date they become compliant with non-urban metering requirements and install a pattern approved meter.

Table 9-14: Alternative Assessment Charge proposed WaterNSW activity costs for 2025 Determination ($ 2024/25)

In Scope Activity	FY26	FY27	FY28	FY29	FY30	Total
Alternative Assessment Costs	227,576	200,922	194,653	188,580	182,697	994,428

[231] WAMC Metering Combined Slides – Meter Service Charge – GOMs – slide 34.

Our assessment of the WaterNSW metering cost model for directly attributed activity costs (cost build up calculations and assumptions within field costs in the WaterNSW metering cost model) of $994,428 (including overheads) over the next determination period is summarised below:

- We note that WaterNSW would only incur these costs in the instances where a customer / water user makes the conscious decision to be subject to an alternate water assessment method, rather than installing a compliant meter (either voluntarily or not sooner than is required under the renewal date of a water works approval)
- We observed that for the purposes of setting costs and charges for the next determination period, has assumed a rate and overall estimate of the number of small water users and regulated and non-regulated sites with no meters. We acknowledge that this forecasted demand for services is driven entirely by individual customer and water user decision-making. We have not however, been able to determine the extent to which the total number of alternative assessments impacts WaterNSW's efficient cost or charge for delivering this same fee-for-service activity.

We consider the cost inputs and assumptions (FTE allocation, FTE hours and effort of related alternative assessment activities) appropriate for alternative assessment activities.

9.3.7 Attestation charge

The economic analysis of the NSW metering regulation undertaken by the Centre for International Economics (CIE) for DCCEEW in 2024[232] proposed annual attestation for all water users to:

> *Introduce a comprehensive requirement for all licensed entitlement holders to annually attest to the volume of licensed water taken against their access licence, and how it has been measured. This would require a combination of licensed entitlement holders and approval holders with data loggers and telemetry to confirm the accuracy of the transmitted water take data annually and reconciling the annual volume of licensed water taken.*

DCCEEW and WaterNSW are currently undertaking a two-year trial during FY25 and FY26 to validate the accuracy and currency of administrative and contact details for licences with water licence holders participating by attesting to the volume of water taken against each licence.

Table 9-15: Non-urban metering charges (attestation charge) ($ 2024/25)

Charge	2024/25 (current)	Charge for 2025/26 to 2029/30	% change current to 2025-30
Attestation charge (from 2026-27 if required) ($/licence)	-	81.64	-

We acknowledge that proposed annual attestation could result in potential impact and benefit to WAMC from a resourcing and overall compliance perspective as it relates to administering and managing compliance based on attestations. However, the extent to which we can assess the validity, prudency of efficiency of the proposed attestation activity costs (and subsequently the proposed charge) is severely limited due to the absence of quantifiable and validated evidence of cost impacts for undertaking this activity.

[232] The CIE Draft Final Report – Economic Analysis of NSW Metering Regulation – Cost Estimates - November 2024

Table 9-16: Annual Attestation Charge proposed WaterNSW activity costs for 2025 Determination ($ 2024/25)

In Scope Activity	FY26	FY27	FY28	FY29	FY30	Total
Attestation Costs	0	3,924	4,638	2,437	1,799	12,808

In its pricing proposal, WAMC identifies that the current attestation trial (being funded by DCCEEW) is to determine several key parameters and inputs that are critical to the ultimate design and cost-establishment of such an activity. The CEI report also highlights cost input estimates that have been relied upon by WAMC for the purposes of setting proposed attestation charges for the next determination period (such as upfront capital costs and ongoing operational costs for WaterNSW to establish a new WMS).

The CIE report provides broad range WMS cost estimates of $2 million to $5 million (capital costs) and high-level annual cost of $100,000 WMS system related costs (including an additional $1 million every 5 years for proposed updates). The CIE report also states, '*The costs for WaterNSW are high level and depend on precise design for this option (i.e. what is required in the attestation and data access requirements)*[233]*'.*

We acknowledge WAMC's proposal that IPART allow the proposed annual attestation charges to apply at a point when WAMC's current attestation charges trial is completed, and customers (and IPART) are informed that attestation is being implemented (as the trigger to apply the charge)[234].

We do not agree that the proposed attestation charge or costs are either prudent of efficient, without sufficient evidence-based justification. We do not consider that the full scope, impact or costs of any future proposed attestation activity on WAMC operations, services or water users is sufficiently matured or justified for consideration by IPART as part of the 2025 Determination for WAMC. We would recommend that WAMC complete detailed assessment of cost / impact / benefit drivers for an attestation charge, including detailed customer engagement activities and willingness / ability to pay assessments relating to the overall impact of adding another charge to water users, for inclusion and consideration by IPART in the 2030 Determination period.

9.3.8 Transitional charges for government-owned meters

As the non-urban metering reforms continue to be implemented by WAMC over the future period, there will be several government-owned meters that will not meet the requirements of the new metering framework. To account for the time that it will take to transition all government-owned meters to the new metering requirements, WaterNSW is proposing to retain the existing annual meter service charge for the next determination period in real terms.

This charge will only apply to government-owned meters until such time as they are compliant with new metering requirements. From that point onwards, water users with government-owned meters will be subjected to the new meter service charge.

[233] The CIE Draft Final Report – Economic Analysis of NSW Metering Regulation – Cost Estimates - November 2024.

[234] Water Administrative Ministerial Corporation 2025-30 pricing proposal – Section 9 Metering Charges.

Table 9-17: WAMC's proposed annual meter service charge for government owned meters

Meter size	$ per transaction ($ 2024/25)		% change current to 2025-30
	2024/25 charge (current)	Charge for 2025/26 to 2029/30	
Telemetered			
50 - 300	605.77	605.77	0%
350 - 700	629.44	629.44	0%
750 - 1,000	684.27	684.27	0%
Non-telemetered			
50 - 300	475.22	475.22	0%
350 - 700	493.79	493.79	0%
750 - 1,000	536.81	536.81	0%

WaterNSW is proposing to maintain existing meter services charges for government-owned meters yet to transition to new metering arrangements in real terms and in line with 2021 IPART determination outcomes. We accept that WaterNSW's proposed transitional mater service charge for government-owned meters is appropriate and propose no specific adjustments.

9.3.9 Water take assessment charge

Water take assessment charges are fee-for-service charges that intend to recover the costs of physically reading user-owned meters and meter equivalents in groundwater and unregulated river systems. The reading of meters and meter equivalents is undertaken to assist WaterNSW in performing its account management, billing and reporting functions in line with clause 6.3.1 of its operating licence.

Water take assessment charges are developed based on the estimated total costs and the assumed number of assessments to be undertaken per year. WaterNSW has relied on key resource (FTE) inputs, estimated time and effort to undertake the activity, and forecasts relating to the number of water take assessments to be undertaken over the next period as the basis for confirming its costs and charges. We note that in the 2021 expenditure review, IPART's consultants references a declining number of water take assessments to be undertaken by WaterNSW as the take up of telemetered meters across groundwater and unregulated river systems occurred[235].

Table 9-18: WAMC's proposed water take assessment charge

Consent transaction	$ per transaction ($ 2024/25)		% change current to 2025-30
	2024/25 charge (current)	Charge for 2025/26 to 2029/30	
Water take charge	243.90	243.90	0%

WaterNSW has proposed to maintain these charges in real terms over the next determination period, largely driven by the transition of many groundwater and unregulated river takes to telemetered metering and reporting aligned to the new metering rules and framework. We assume that these charges, like the transitional annual meter service charge for government owned meters, will only to those groundwater and unregulated river meter connections until they are compliant with the new metering rules.

[235] 360844-REPT-OF-00 WAMC Expenditure Review – Final Report March 2021 (p.184).

On that basis and relying on the 2021 expenditure review and subsequent IPART determination[236], we consider WaterNSW's proposed water take assessment charge is appropriate and propose no specific adjustments.

9.3.10 Ancillary charges

Ancillary charges are fee-for-service charges that intend to recover costs for the following ancillary charge categories:

- Meter accuracy deposit – bond payable by licence holder to undertake meter accuracy verification, refunded if meter found to be inaccurate
- Meter laboratory verification – involves the testing of a meter to confirm accuracy
- Meter in-situ validation – involves the validation of a meter that has been relocated or disturbed by non-government agency staff
- Meter reset – involves technical work to reactivate a suspended water meter.

Table 9-19: Ancillary charge

Meter accuracy testing charges ($/meter) WAMC government owned meters	$ per transaction ($ 2024/25)		% change current to 2025-30
	2024/25 charge (current)	Charge for 2025/26 to 2029/30	
Refundable meter accuracy deposit	2,061.18	2,061.18	0
Meter laboratory verification at request of customer	8,153.87	8,153.87	0
Meter in-situ validation charge – where a meter is relocated or disturbed	5,449.03	5,449.03	0
Meter reset fee after suspension of maintenance for a year or more, at customer request	302.10	302.10	0

IPART has previously determined that the adoption of a two-part tariff:

> … *balanced the need to avoid deterring customers from questioning the accuracy of the meter where they have a genuine concern about its accuracy, with the need to ensure WaterNSW is not significantly under-recovering costs for testing meters that are found to be within accuracy standards*[237].

Further, IPART accepted the total actual costs of meter testing put forward by WaterNSW.

On the basis that proposed WaterNSW ancillary charges reflect previous IPART determination outcomes and are proposed to be maintained, in real terms, we conclude that this rationale is efficient and therefore accept the ancillary charges as appropriate and propose no specific adjustments.

[236] IPART review of prices for the Water Administration Ministerial Corporation from 1 October 2021 to 30 June 2025 – Final Report.

[237] 360844-REPT-OF-00 WAMC Expenditure Review – Final Report March 2021 (p.184).

9.4 Conclusions and recommendations

Overall, our assessment and analysis broadly supports the drivers presented by WaterNSW in terms of the effort, complexity and transitional nature of metering over the next determination period as continued implementation of the non-urban metering reform takes place. There are several observations that we have made in relation to the broader metering context and impacts on proposed metering costs and charges by WaterNSW:

- The extent to which the proposed metering rollout scenario chosen by WaterNSW (80% rollout in FY26 and 20% in FY27) is achievable, reliable or realistic. Our concern is that WaterNSW runs the risk (similar to the current determination period) of lagging and delayed rollout and take up by licence holders, which will have a snowball effect on WaterNSW's ability to recover costs over the determination period (and potentially increase costs).
- The key assumptions underpinning the WAMC (WaterNSW) costs rely on several key transition activities occurring as planned within the next 5-year determination period – allowing for the transition of current service delivery and activity costs to new ways of working and revised costs under the new metering arrangements. One challenge to the basis of these assumptions and cost estimates is the potential of continued delay, and low levels of licence holder take-up and alignment to the metering framework.
- Alternatively, the extent to which this risk can be mitigated is difficult to quantify and validate without first establishing an understanding of baseline WAMC costs to manage activities under the new metering approach (noting the extent to which uncertainty has influenced the current pricing proposal). With many of the proposed costs dealing with both transition to and operation of the new metering framework, we would expect to see that total costs metering to reduce over this period as operations and activities are stabilised. It is our view that this could lead to reduced cost to serve as non-urban metering reform outcomes and new ways of working become standard practice.
- We are of the opinion that there is room for additional efficiency in WaterNSW's delivery of metering related services and costs and have recommended a continuing efficiency to proposed costs over the next determination period
- It is our view that the changes to metering requirements from changes in government policy, result in the customer (licence holder) ultimately baring the financial burden and cost impact of the non-urban metering reform both directly (installation of new compliant meters with telemetered capability and LID) and indirectly (through WaterNSW proposed metering charges – to account for the additional effort and cost to re-align organisational systems, processes and practices to align with the new metering framework and requirements)
- We consider the assumptions and inputs utilised by WaterNSW in their modelling to be mostly appropriate, with some adjustments proposed.

For transparency, we have provided our recommendations for adjustments to proposed WaterNSW metering costs (and subsequently charges) by individual non-urban metering charge.

Given the level of transitional uncertainty surrounding the full cost impact of non-urban metering (and an absence of established and validated baseline cost data), we are using the proposed WaterNSW charges as the upper bound of efficient metering costs. All proposed adjustments to metering costs are recommended as lower bound adjustments to costs and charges for the next determination period.

We are not recommending any adjustments to the proposed or transitional meter service costs or charges for government-owned meters, water take assessment charges or ancillary charges.

Scheme management costs

For proposed WaterNSW costs that contribute to the scheme management charge we are recommending:

- A reduction in the estimated DQP error rate from 42% to 39%. This adjustment acknowledges the reality that data errors will occur from DQP submissions but also allows for a corresponding uplift in DQP submission quality over time.
- A reduction in the total number of formatting updates required to websites, letterheads and factsheets every year by 50% (from six to three times per annum)
- An overall adjustment on overheads from 25% to 23% to align with our assessment of WaterNSW OPEX overhead from our NRR calculations
- We consider that WaterNSW have opportunities to achieve efficiencies as new metering practices and processes become more stable. We are recommending a continuing efficiency for the next determination period, ramping up from 1% in FY26, 2% in FY27 and 3% for FY28 to FY30.

Table 9-20: Recommended efficient range of costs - scheme management charges ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	5,918	4.240	4,237	4,074	4,071
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**5,918**	**4.240**	**4,237**	**4,074**	**4,071**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-430	-339	-354	-346	-345
Recommended lower bound efficient operating expenditure	**5,488**	**3,901**	**3,883**	**3,728**	**3,726**

Telemetry costs

For proposed WaterNSW costs that contribute to the proposed telemetry charge we are recommending:

- Inclusion of 1,189 additional Floodplain Harvesting meters to the proposed DAS data and licencing support costs, increasing the total number of meters subject to licencing and support costs from 13,458 to 14,647 for the next determination period
- Reduction of proposed Licencing and Support costs for FY26 – FY29 to only include DAS licencing and support costs, with proposed Azure licencing and support costs to only apply as an applicable input cost to metering charges from the estimated transition from DAS to Azure by WaterNSW in FY29. We do not agree that licence holders should be paying licencing and support costs for two concurrent systems.
- An overall adjustment on overheads from 25% to 23% to align with our assessment of WaterNSW OPEX overhead from our NRR calculations
- We recommend a continuing efficiency rate of 1% for telemetry costs. Although a significant proportion are proposed telemetry costs are fixed costs (guided by vendor contract rates), we are of the view that additional efficiencies should be pursued across non-fixed cost input factors (such as labour and FTE costs).

Our proposed efficiency adjustments are offset by the proposed inclusion of floodplain harvesting meters within the scope of non-urban metering costs for WaterNSW (for telemetry licencing and support), reducing overall telemetry costs marginally from $17.78 million to $17.21 million over the next determination period.

Table 9-21: Recommended efficient range of costs for telemetry charges ($'000 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	3,607	3,484	3,350	4,285	3,060
Scope adjustments	3,751	3,606	3,460	4,475	3,340
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**3,751**	**3,606**	**3,460**	**4,475**	**3,340**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-97	-93	-90	-1,105	-28
Recommended lower bound efficient operating expenditure	**3,654**	**3,513**	**3,370**	**3,370**	**3,312**

LID download / validation costs

We are recommending adjustment on overheads from 25% to 23% to align with our assessment of WaterNSW OPEX overhead from our NRR calculations. We are not recommending a continuing efficiency rate application to the LID download / validation expenditure proposed by WaterNSW.

Table 9-22: Recommended efficient range of costs for LID download / validation charge ($ 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	166,032	126,924	107,214	107,215	107,214
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**166,032**	**126,924**	**107,214**	**107,215**	**107,214**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-2,657	-2,030	-1,716	-1,717	-1,716
Recommended lower bound efficient operating expenditure	**163,375**	**124,894**	**105,498**	**105,498**	**105,498**

Alternative assessment costs

We are recommending adjustment on overheads from 25% to 23% to align with our assessment of WaterNSW OPEX overhead from our NRR calculations. We have also recommended a 1% continuing efficiency rate year on year for the future determination period.

Table 9-23: Recommended efficient range of costs for alternative assessment charge ($ 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	227,576	200,922	194,653	188,580	182,697
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**227,576**	**200,922**	**194,653**	**188,580**	**182,697**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	-6,038	-5,344	-5,177	-5,015	-4,860
Recommended lower bound efficient operating expenditure	**221,538**	**195,578**	**189,476**	**183,565**	**177,837**

Attestation costs

As per our analysis in Section 9.3.7, and on the basis that we found insufficient justification for the proposed attestation costs and subsequent proposed charge, we do not support the addition of an attestation charge by WaterNSW as part of the WAMC metering charges for the next determination period.

Table 9-24: Recommended efficient range of charges for annual attestation costs ($ 2024/25)

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	0	3,934	4,638	2,437	1,799
Scope adjustments	0	-3,934	-4,638	-2,437	-1,799
Efficiency adjustments	0	0	0	0	0
Recommended upper bound efficient operating expenditure	**0**	**0**	**0**	**0**	**0**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**0**	**0**	**0**	**0**	**0**

Impact of our proposed recommendations on WAMC metering charges

We have provided a summary of the impacts on proposed WAMC metering charges as a result of our recommended adjustments and efficiencies below.

Table 9-25: Recommended efficient WAMC metering charges ($ 2024/25)

Charge	WAMC Proposed Charge (FY25-30)	Proposed Efficient Charge (FY25-30)
Scheme management charge ($/licence)	114.93	108.15
Telemetry charge ($/meter)	270.36	243.29
LID download/validation charge (replaces former non-telemetry charges) ($/meter)	524.24	515.85
Meter service charge – operating costs, government-owned meters ($/meter)	991.76	991.76
Alternative assessment charge, as needed ($/transaction)	665.19	$647.51
Attestation charge (from 2026/27 if required) ($/licence)	81.64	Stantec proposing that this charge is out of scope for this review.

10 Analysis of floodplain harvesting charges

10.1 Background

Floodplain harvesting was included within the scope of the review towards the end of the expenditure review process. Floodplain harvesting is defined in the *NSW Floodplain Harvesting Policy*. Under the policy, floodplain harvesting is the collection, extraction or impoundment of any water flowing across a designated floodplain. This includes both overbank flow and rainfall runoff. Historically, floodplain harvesting diversions have been unlicensed and unmonitored in NSW. Most of the growth in floodplain harvesting in the northern basin is historic, with more than 80% of the growth in on-farm storage since 1994 occurring prior to 2008[238].

The NSW Government is reforming the management of water on the floodplains of inland NSW with the aim of ensuring a fair share of water for all users and the environment. The reform brings floodwater take into the water licensing framework aimed at reducing floodplain harvesting to within legal limits.

Section 57A of the *Water Management Act 2000*, which was inserted into that Act in 2014, enables the making of transitional licensing arrangements for floodplain harvesting. The intent and the effect of these transitional provisions is to convert volumes of water taken as floodplain harvesting into licenced entitlements which limit take to within the legal limits established by NSW water sharing plans, the *Water Act 2007 (Commonwealth)* and the *Basin Plan 2012*.

To ensure high-quality data informs compliance with state and federal legal limits, the NSW Government requires landholders receiving a floodplain harvesting access licence to contract a duly qualified person to install telemetry-enabled storage meters that meet the Minister's minimum specifications outlined in the policy. The move to automated storage meters for floodplain harvesting measurement aligns with other water reforms such as the NSW Non-urban Water Metering Framework. Two methods of measurement are permitted, storage volume measurement or point of intake measurement[239]. To date, approximately 90% of landholders have elected to adopted storage water measurement for measuring FPH volumes.

Landholders intending to floodplain harvest are required to have primary measurement equipment installed within 12 months after commencement of the licensing framework within the valley. The licencing framework commenced in the Gwydir and Border Rivers valleys on the 15 August 2022, followed by the Macquarie valley on the 1 March 2023 and the Barwon-Darling on the 1 April 2023. The FPH regulation has now been enacted for all FPH water sources except for Namoi regulated and unregulated rivers. WaterNSW estimates that the licences for the Namoi valley will be issued by March 2025.

Floodplain harvesting volumes and costs are being applied to the following valleys listed in Table 10-1. Proposed volumes are an average, as opportunities for floodplain harvesting may only occur every few years, depending on the weather cycle.

[238] NSW Government, 2025*, Frequently asked questions about floodplain management*, Frequently asked questions about floodplain management | NSW Government Water, viewed on 27 February 2025.

[239] NSW Government, 2025, *Floodplain harvesting measurement*, Floodplain harvesting measurement | NSW Government Water, viewed on 27 February 2025.

Table 10-1: Valleys where FPH volumes are being applied (ML/year)

Valley	Regulated rivers		Unregulated rivers	
	Maximum FPH entitlement volumes	Proposed FPH volumes	Maximum FPH entitlement volumes	Proposed FPH volumes
Barwon-Darling	-	-	51,322	15,397
Border Rivers	51,742	15,500	-	-
Gwydir	104,633	31,399	13,125	3,937
Macquarie	48,911	14,673	-	-
Namoi	50,454	15,305	50,645	15,514

Source: Maximum FPH entitlements – FPH Cost Model FY26-FY30 proposed

Each licence may cover multiple storages. Table 10-2 lists WaterNSW's estimate of properties with single and multiple storages, classified as simple, moderate and complex.

Table 10-2: Number of properties with single and multiple storages

Number of storages	Number of properties
1	145
2-3	223
>=4	93

Source: FPH Cost Model FY26-FY30 proposed FPH volumes

Table 10-3 provides information on FPH access licences issued (as at 4 Feb 2025) and storages in each of the valleys. The total number of properties which have or will have FPH licences is 461.

Table 10-3: FPH licences issued and number of storages

Valley	Number of licences issued[1]	Number of storages[2]
Barwon-Darling	27	97
Border Rivers	36	124
Gwydir	98	359
Macquarie	69	144
Namoi	0	465
Total	230	1189

1. As at 4 Feb 2025
2. Water NSW FPH Cost Model FY26-FY30

WaterNSW advised that there were approximately 717 licences to be issued, 230 had been issued, 100 were under assessment with applications for the remainder yet to be received. Based on progress to date, WaterNSW considered themselves to be a long way from achieving a steady state. Table 10-4: summarises the status of FPH regulatory compliance (primary measuring device installed), as at 5 February 2025.

Table 10-4: FPH compliance status

Valley	Primary meters installed, operational and compliant
Barwon-Darling	2%
Border Rivers	56%
Gwydir	32%
Macquarie	19%
Namoi	0%

WaterNSW explained that the processes involved in achieving FPH volume measurement compliance were relatively more complex than for a typical non-urban metering site. This complexity necessitated WaterNSW to apply significantly more subject matter expert support resources for licence holders to achieve FPH compliance. WaterNSW indicated that it was currently addressing 50 complex issues relating to specific licence applications. Legislative amendments are underway, an example being allowing water withdrawal from the storage while inflows occur. The DQPs require support during the compliance process. The FPH DQP is different from a non-urban meter DQP, as a licenced surveyor is required to install survey benchmarks and to provide input into the development of a registered storage curve. Some licence holders have multiple storages, each one of which needs to be compliant before a licence is issued.

10.2 Current period expenditure

In previous reviews, IPART presented 'with' and 'without' FPH water take prices in its determinations for regulated and unregulated rivers. This was due to uncertainty around the timing of the implementation of the FPH regulation. No FPH entitlement charge was levied. WAMC did not propose any variation to costs when moving from 'without' FPH prices to 'with' FPH prices in both the 2016 and 2021 reviews.

WaterNSW was of the view that there has been a significant under recovery based on the effort and infrastructure required to operationalise the FPH legislation. They indicated that FPH activity commenced in FY22 across customer services with the teams working closely with DCCEEW in preparation of the release of FPH licences. At that time, it was unknown as to the impact of FPH on resources as the level of complexity and customer confusion was unknown. Cost monitoring through a dedicated cost code commenced in September 2023. Based on available cost estimates and recorded costs, WaterNSW estimated that expenditure had risen from $358,000 in FY22 to $517,000 in FY24. FPH income for the corresponding period was $128,000. With the current pricing arrangements, WaterNSW can incur costs without any revenue during non-flood periods where there are no opportunities for FPH by customers.

10.3 Proposed future period floodplain harvesting tariffs

We were advised by WaterNSW that, for this pricing proposal, the WAMC CEO Group had decided that although the number of FPH access licences was relatively small, it would be inequitable to spread costs across all users.

We agree that a separate FPH take charge (similar to the river take charge) should be applied since there is now greater certainty regarding the FPH legislation and is consistent with the user-pays principle.

WaterNSW has proposed additional FPH charges for the future period. The proposed FPH two-part tariff structure consists of:

- Telemetry charge (per meter) - $270.36
- Water NSW two-part tariff FPH entitlement charge - $2.48/ML
- WAMC take charge/ML – varies across valleys
- MDBA take charge/ML- varies across valleys
- BRC take charge/ML where applicable – varies across valleys
- WaterNSW FPH take charge/ML - $1.06/ML.

The WAMC, MDBA and BRC FPH take charge is the same as the river water access take charge for each valley. The WaterNSW entitlement and take charges proposed in the future period are aimed at reducing the under-recovery of costs identified over the last three years, as discussed earlier in this section.

Table 109 in the WAMC Pricing Proposal provides an indicative bill for floodplain customers with 1200 ML water and 30% usage. This table is replicated in Table 10-5*:* which shows that the proposed tariff has a substantial impact on customer prices. Expenditure increase has a high impact on price per ML for floodplain harvesting as the volumes are relatively low. For instance, the total FPH entitlement is only 3% of the total surface water entitlements across the state, although this percentage will be higher in the five valleys where FPH prices will apply. The WAMC, MDBA and BRA water take costs are shared across all allocations within a valley, while the proposed WaterNSW charges will be shared across a much lower volume allocation.

Table 10-5: Indicative bills for floodplain harvesting customers: 1200 ML water entitlement and 30% usage ($'000 2024/25)

Water sources	2024/25 (current)	2025/26	2026/27	2027/28	2028/29	2029/30	% change current to 2029/30
Regulated							
Border	1,004	4,451	4,559	4,692	4,843	5,012	399%
Gwydir	742	4,332	4,429	4,544	4,674	4,829	551%
Namoi	806	4,422	4,537	4,667	4,822	4,994	519%
Macquarie	868	4,523	4,652	4,800	4,976	5,174	496%
Unregulated							
Gwydir	1,721	5,441	5,729	6,060	6,438	6,877	300%
Namoi	1,721	5,441	5,729	6,060	6,438	6,877	300%
Barwon-Darling	1,289	4,746	4,908	5,095	5,308	5,556	331%

Source: WAMC Pricing Proposal Table 109

The Pricing Proposal states that specific consultation was not undertaken on the proposed WaterNSW FPH charges due to timing and uncertainty of likely changes to WaterNSW's operating licence and activities to support regulations.

We accessed the October Customer Advisory Group meeting minutes for five relevant valleys from the WaterNSW website. While there was some discussion on FPH regulatory amendments, we noted that all the minutes stated the following:

> *Due to time constraints, some WAMC items were not able to be discussed as part of the broader consultation process (metering, floodplain harvesting and consent transactions). WaterNSW will brief customers on these three functions once IPART begins the review process and prior to the public hearings via state-wide online sessions with CAG members and customers.*

During our meeting on 4 February 2025, WaterNSW advised that consultation on FPH charges had occurred in November 2024 and provided a summary record of two short (30-minute) meetings held on 12 November 2024. At both meetings a slide pack was presented with background information, new prices and the reasons for the changes. No record was made of any customer response on the proposed FPH charges, apart from 'customer sentiment was not negative' for the first meeting. There was no indication as to whether any of the representatives undertook FPH or represented FPH customers. In their response to the draft report, WaterNSW advised that the meetings were attended by a number of customers impacted by FPH including the chairman of NSW irrigators, a large irrigator in the Border Rivers, and the executive officer of a prominent water user group in the north of the state.

We acknowledge that WaterNSW has undertaken significant customer engagement in relation to the WAMC pricing proposal. WaterNSW in their response to the draft report noted that FPH impacts only a small number of customers in five valleys, so consultation in the broader customer engagement would not have been relevant or provided any real insights. This statement contradicts the reason given in the minutes to the Customer Advisory Group meetings for the five valleys that there was insufficient time to discuss matters such as FPH. WaterNSW became aware of the under-recovery of costs in September 2023 and would have had sufficient time to engage with customers, particularly as a significant increase in charges was likely. Customers are one of the components of the 3Cs framework as adopted in the IPART Water Regulation Handbook. Consequently, we would expect timely consultation, even if it only impacts on a relatively small number of customers.

10.3.1 Review of future period expenditure

This section only considers additional WaterNSW expenditure as the WAMC, MDBA and BRC take charges are identical to the base river water access charges and are derived from the expenditure reviews of the various activity codes.

Forecast Water NSW expenditure is listed in Table 10-6.

Table 10-6: Future period Water NSW expenditure for floodplain harvesting ($'000 2024/25)

Expenditure	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Average
Current expenditure	1,023	1,054	-	-	-	-	-	-	-
Proposed expenditure	-	-	1,270	1,242	1,223	1,566	1,268	6,569	1,314

Source: Pricing Proposal Table 83

Of a total of $6.569 million of expenditure over the period, 99.9% is operating expenditure with only $5,400 classified as capex.

WaterNSW provided a copy of their FPH Cost Model FY26-FY30 which is derived from their Metering Cost Model FY26-FY30 and applies similar input types, where relevant, under field, comms, service centre and systems, call centre and digital categories. The components of the metering cost model are discussed in more detail in Section 9.

WaterNSW indicated that the model was developed, and outputs finalised, in September 2024 and was built based on information known at the time. They had assumed that all FPH approvals (properties and storages) would be compliant by 30 June 2025. Based on the current level of progress in achieving full compliance, and a better understanding of the support work required, WaterNSW anticipated a significant amount of activity in the next period to support customers in achieving full compliance, particularly over the next two years following the issue of the Namoi licences in March 2025.

We reviewed the FPH cost model inputs and compared them against the NUM cost model inputs to assess whether these inputs were reasonable, given that the number of non-urban meters is significantly greater than FPH measuring devices. We also checked whether any double costing could be occurring. Overall, we considered that the assumptions in the model were realistic. However, we did identify areas where WaterNSW did not fully take into consideration activities where economies of scale from the NUM process could lead to efficiencies.

We noted an error in the calculation of variable charges which assumed that charges would be levied annually. The price model assumes a more realistic assumption that the water will be available every three years.

We have listed scope and efficiency adjustments in Table 10-7 with explanatory notes following.

Table 10-7: Recommended efficient range of operating expenditure

Item	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed operating expenditure	1,270	1,242	1,223	1,567	1,268
Scope adjustment					
Transfer DAS data and licensing support costs to NUM [1]	-28	-28	-28	-43	-3
Efficiency adjustments					
Overhead reduction [2]	-20	-20	-20	-25	-20
Resource adjustment [3]	-229	-229	-229	-229	-229
Digital salary adjustment to be consistent with NUM model [4]	-142	-142	-142	-142	-142
Apply continuing efficiency [5]	-9	-25	-48	-81	-104
Recommended upper bound efficient operating expenditure [6]	**842**	**799**	**757**	**1,048**	**770**
Scope adjustments	0	0	0	0	0
Efficiency adjustments	0	0	0	0	0
Recommended lower bound efficient operating expenditure	**842**	**799**	**757**	**1,048**	**770**

Notes:
1 - The sim purchase, SIM management and telemetry data charge (row 336 to 338) should be transferred into the NUM calculations to derive a telemetry charge which will be adopted for the FPH and NUM,
2 - We have calculated from the NRR that WaterNSW's operating expenditure overhead is 23% rather than the 25% and have reduced the overheads to 23%
3 - The resource estimate for system/user administration DAS (row 381) and system administration DQP portal (row 389) are of similar magnitude to the NUM, we have reduced this by 80%. We have also reduced governance (line 388) and contract management by 50%. We also removed the roundup in the calculation of FTE
4 - The digital salary cost (line 326) has been reduced to the same figure as used in the NUM price model
5 - We consider that WaterNSW have opportunities to achieve efficiencies as they develop their experience and processes in addressing FPH issues. For instance, resolving current complex matters will set precedents that can guide future resolutions. We have adopted a continuing efficiency, ramping up from 1% in FY26, 2% in FY27 and 3% for the future years. NRAR have adopted a 3% continuing efficiency target, which we consider to be realistic.

As a check on our analysis, we compared the results with the information provided by WaterNSW on 7 February 2025[240] in which they quoted historical FPH expenditure, acknowledging that it may be an underestimate. Our analysis is summarised in Table 10-8 where we projected the FY24 historical expenditure by similar increases as proposed in the FPH model. We then compared the results with our recommended upper bound efficient operating expenditure. The difference is within 4% for the period, which is considered reasonable, given the claimed underestimate of historical costs.

Table 10-8: Validation of our upper bound efficient operating expenditure ($'000 2024/25)

Expenditure	2021/22	2022/03	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Proposed expenditure (as per proposal)	-	-	1,023	1054	1,270	1,242	1,223	1,566	1,268
Annual increase	-	-	-	-	247	219	200	543	245
Advice provided by Water NSW then projected from FY26	*358*	*358*	*517*	-	764	736	717	1,060	762
Recommended upper bound efficiency operating expenditure	-	-	-	-	842	799	756	1,047	770
Difference	-	-	-	-	79	62	39	-13	7

The risk of adopting the upper bound expenditure is:

- There may be an over-recovery of costs. We have made an overall expenditure reduction of 36% from that proposed by Water NSW which is considered reasonable when compared to other information provided by WaterNSW.
- Reduced customer trust and credibility in not being provided with an opportunity to provide direct feedback on the proposed floodplain harvesting charges.

In relation to the lower bound efficient expenditure, our initial view was that the WaterNSW tariffs should be excluded as we consider that the level of customer engagement on floodplain harvesting charges by WaterNSW has been minimal, for the reasons given in this section. However, there would be significant risks associated with this action as WaterNSW is unlikely to meet its statutory and regulatory obligations in providing the required support resources to facilitate compliance which could lead to delays in implementation of FPH reform. It could also result in increased customer frustration and financial impacts, as they will be unable to access floodplain water until they are compliant with FPH regulatory requirements, or conversely, be exposed to NRAR action in the event of non-compliance. As a result, no further adjustments are proposed for the lower bound efficient operating expenditure.

10.4 Conclusions and recommendations

We agree that there should be a separate FPH water take charge now that there is greater certainty regarding the FPH legislation and is consistent with the user-pays principle.

We accept that the FPH metering program is more complex than the non-urban metering program and that WaterNSW requires additional resources.

We have reviewed the proposed WaterNSW expenditure and identified some scope and efficiency adjustments resulting in a 36% reduction in expenditure over the future period.

[240] IPART ref W-72, (WAMC ref RFI#181).

The proposed FPH tariff should include:

- A revised telemetry charge adjusted for the transfer of some telemetry charges from the FPH to the NUM
- The efficient WAMC, MDBA and BRC river water take charges calculated for the relevant FPH valley
- The efficient WaterNSW operating expenditure recovered through an entitlement and take charge.

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Appendices

Appendix A Scope of works

Objectives

The objectives of this consultancy are:

- a high-level review of each business's proposal in terms of the expenditure it is planning, and how that expenditure is justified
- a more detailed review of key elements of each business's proposed operating expenditures and capital expenditures for efficiency and deliverability
- an overall assessment of whether the level of risk each business is taking (both financially and operationally) is appropriate.

Description of services

Tasks in a complete expenditure review

Assuming IPART chooses to conduct a complete expenditure review (see quoting section below), there are 2 main tasks:

- Review of historical and forecast operating expenditure (OPEX)
- Review of historical and forecast capital expenditure (CAPEX)

Task 1 Detailed review of operating expenditure

As part of the price review, IPART will make a decision on the efficient operating expenditure in each year of the next determination period.

To assist IPART in this task, the consultant is required to assess the adequacy, appropriateness and efficiency of the business's levels of operating expenditure. The consultant must assess and report on the business's operating expenditure: for the period from 1 July 2025 to 30 June 2030.

1. Historical operating expenditure: for the period 1 July 2020 to 30 June 2025.

   In undertaking this task, the consultant should:

   a. Review the variations in operating expenditure from what was allowed in the 2020 price determination for the business and, where assessed as material, comment on the reasons for this variation

   b. Comment on the extent to which the operating expenditure incurred since the last determination has delivered the service standards on which the expenditure allowance was based

2. Proposed operating expenditure: for the period 1 July 2025 to 30 June 2030.

The consultant must assess, report and provide recommendations on the efficient level of proposed operating expenditure. Under the 3Cs framework, businesses will use a 'base-step-trend' approach to calculating operating expenditure. That is, expenditure will be made up of:

a. Base – the efficient recurring expenditure required each year (reflecting genuine recurring expenditure and taking into account an efficient business's costs on average over the range of likely conditions over the period.)
b. Step – changes that are typically the result of new requirements or new ways of doing things, so past expenditure or trends cannot predict this change in expenditure.
c. Trend – the predictable change in recurring expenditure over time due to input price changes, population/demand growth and improvements in productivity.

The consultant will need to review all 3 components, assessing whether assumptions are reasonable, and costs are efficient. In particular, it will be essential to interrogate the 'base' component of costs, because costs in this base feed into financial incentive mechanisms.

In making its recommendations, the consultant should consider how a reasonably efficient business in a reasonably competitive market might respond to the challenges of those market forces over time. This may include considering how a business in that environment would:

- have sought to optimise its mix of operating cost inputs
- invest in business efficiency initiatives and systems
- seek to engage with third-party providers, or in this case the private sector.

Task 2 Detailed review of capital expenditure

The consultant will be required to undertake a detailed review of the business's planned capital expenditure from 2024-25 to 2029-30. This should include an assessment of the reasonableness of the business's capital program as a whole, within the context of its long-term plans and the assumptions underlying them.

In undertaking this task, the consultant must for each year from 2024-25 to 2029-30 make recommendations on the efficient level of capital expenditure in each service, namely:

- Water
- Wastewater
- Stormwater.

In making its recommendations, the consultant should have reference to the maturity and effectiveness of WaterNSW-Rural's and WAMC's key business systems and processes, including their:

- Asset Management System
- Risk Management System
- Procurement processes
- Cost estimation,

In making its recommendations, the consultant should consider the deliverability of the proposed capital programs.

While not a prominent feature of the 3Cs framework, we may also require the consultant to review the efficiency of capital expenditure in certain circumstances, or as required. IPART will agree with the consultant up-front (once the business proposals are in) if this is required.

Providing a range of efficient expenditure

In assessing expenditure, the consultant should provide a range of efficient expenditure (not a point estimate). The consultant should also provide clear advice to IPART on the factors that would inform how it should reach a decision within that range. This is in recognition that businesses' proposals are multi-dimensional – a balance of cost, performance, and risk, and so a degree of uncertainty in project scope and costs is inevitable.

The range should cover 2 scenarios:

- Low case: the minimum expenditure that the business needs to conduct its essential operations (i.e. any projects that could be deferred, are deferred)
- High case: the efficient expenditure that the business needs in order to continue to grow and set up for success into the future.

Task 3 Review of MDBA and BRC costs

Both the Murray Darling Basin Authority (MDBA) and the Border Rivers Commission (BRC) recover costs from WaterNSW-Rural and WAMC for the respective services they deliver to licence holders. IPART does not regulate these inter-jurisdictional organisations directly. However, the prices we set need to cover the efficient costs that they deliver, as their respective costs are recovered from prices that WaterNSW-Rural and WAMC charge their respective customers.

For each of WaterNSW-Rural and WAMC the consultant must review the proposed MDBA and BRC costs, including advice on appropriate user share and allocation between WAMC and WaterNSW-Rural.

Task 4 Additional tasks for the review of WaterNSW-Rural

The consultant must undertake:

1. A targeted review of WaterNSW user shares
2. A review of WaterNSW's consent transaction and miscellaneous charges
3. A review of WaterNSW's performance against past output measures and to propose new output measures for the next determination period (in line with operating and capital expenditure recommendations).

Task 5 Additional tasks for the review of WAMC

1. A strategic review of WAMC's expenditure including a review of the scope of WAMC's proposed activities and how these fit with definitions of WAMC's monopoly services
2. A targeted review of WAMC user shares
3. A review of WAMC's performance against its output measures and performance indicators
4. A review of WAMC's consent transaction and miscellaneous charges

5. A comprehensive review of WAMC's proposed metering program and associated costs across the three WAMC agencies
6. Interjurisdictional comparison of water management activities and costs.

Considerations in conducting the expenditure review

In reviewing both capital and operating expenditure, consultants should have regard to a range of broader issues including:

1. Investment planning and asset management practices and processes

The consultant should review long-term capital planning so that the medium term (i.e., proposals for the 5 years of the determination period) can be considered in the context of its longer-term plans.

The consultant should consider:

a. Whether the longer-term capital investment strategy is the most efficient, and whether processes supporting this including procurement processes, whole of life cycle planning and assessment of capital and operating expenditure trade-offs are best-practice and therefore likely to result in prudent and efficient investment decisions
b. The key assumptions that are driving expenditure (e.g., asset replacements, demand forecasts, growth assessments, environmental requirements, licensing standards), including comment on the reasonableness of these assumptions and how they have been considered and tested by the business
c. The consistency of the business's proposed medium term capital expenditure program with its longer-term program of capital expenditure
d. The robustness of systems for linking asset management decisions with current and future levels of service and performance requirements

In 2023, IPART commissioned a FTI Consulting to review and make recommendations to IPART on WaterNSW's key systems and processes. Consultants should consider that report, and rely on its findings as necessary, in any capacity they deem appropriate. FTI's Final Report to IPART will be made available to consultants.

2. Attitude to risk

Rural bulk water suppliers are monopoly service providers, and so may not face strong market forces that govern their attitude to risk. The consultant should look at WaterNSW-Rural and WAMC's approach to risk wholistically, and comment on:

a. Whether the rural water businesses are optimising trade-offs between prices and service levels efficiently (that is, in a way that a competitive business might)
b. Employing an appropriate level of risk when planning for asset renewals and service growth. This may include whether:
   - *risk appetite* is appropriate
   - actual and/or forecast *risk position* is in line with the efficient risk appetite.
c. The sophistication of any risk systems the businesses use to inform decision-making.

3. Ambition in cost efficiency strategy

Under the 3Cs model, businesses are required to propose and justify a cost efficiency strategy which includes an annual efficiency factor for both CAPEX and OPEX. The consultant should review this efficiency strategy and assess whether it is justified/appropriate.

Stantec

Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.