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Review of MDBA and BRC costs associated with Water NSW and WAMC's activities

Final Report

IPART

03 March 2021

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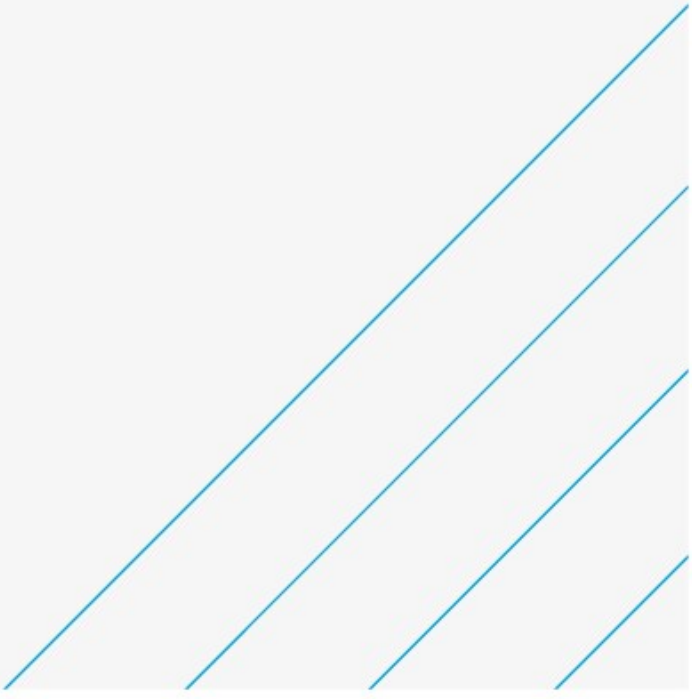

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Glossary

Term	Definition
ACCC	Australian Competition and Consumer Commission
BOC	Basin Officials Committee
BOM	Bureau of Meteorology
BRC or DBBRC	Dumaresq-Barwon Border Rivers Commission
BSM2030	Basin Salinity Management 2030
Capex	Capital Expenditure
CEWO	Commonwealth Environmental Water Office
COVID-19	Coronavirus Disease of 2019
CPI	Consumer Price Index
DPI	NSW Department of Primary Industries
DPIE	NSW Department of Planning, Industry and Environment
I&C	Investigation & Construction
IPART	Independent Pricing and Regulatory Tribunal
JVBPC	Joint Venture Budget And Performance Committee
MDBA	Murray Darling Basin Authority
MFP	Multi-Factor Productivity
MinCo	Ministerial Committee
Ml/d	Megalitres per Day
NFMRS	National Fish Management and Recovery Strategy
non-RMO	Non River Murray Operations
NRAR	Natural Resources Access Regulator
NSW	New South Wales
O&M	Operations and Maintenance
Ofwat	Water Services Regulatory Authority, England and Wales
Opex	Operational Expenditure
p.a.	Per annum
PGPA Act	Public Governance, Performance and Accountability Act 2013
PRA	Portfolio Risk Assessment
RAB	Regulated Asset Base
RFP	Request for Proposals
RMO	River Murray Operations
RMOC	River Murray Operations Committee
R&E	Renewals and Enhancements
SARFIIP	South Australian Riverland Floodplain Integrated Infrastructure Projects
SCA	State Constructing Authority
SIS	Salt Interception Schemes
WAMC	Water Administration Ministerial Corporation

Term	Definition
WaterNSW	WaterNSW

Executive Summary

Introduction

This report presents the findings of our review of the Murray Darling Basin Authority (MDBA) and the Dumaresq-Barwon Border Rivers Commission (DBBRC/BRC or the Commission) costs associated with WaterNSW's and WAMC's activities. The purpose of this review is to inform IPART's Determination on prices for the next price control period for WaterNSW rural bulk water and Water Management (WAMC) prices from 2021.

We have based our findings on the NSW Department of Planning, Industry and Environment (DPIE) submission to IPART dated June 2020, DPIE's cost allocation model dated August 2020, four days of semi-structured interviews with the agency managers and staff, information provided by the State Constructing Authorities (SCAs), MDBA, BRC and responses to subsequent written questions and request for information. Our findings are also informed by our review of the long-term investment and asset management processes that we have reviewed in parallel for WaterNSW.

In arriving at the recommendations in this report, we have applied a three-stage approach to reviewing the efficiency and prudence of expenditure. This methodology is consistent with that applied for other regulatory reviews across Australia. The three stages are summarised as follows:

i. Review of changes in activities and costs;

ii. Review of business-processes relative to the frontier; and

iii. Review available data on frontier shift,

The continuing improvement element of efficiency, termed 'Frontier Shift', relates to the increased productivity derived from process innovation and new systems and technology that all well-performing businesses should achieve. We have applied the results from the Australian Productivity Commission Multi-Factor Productivity (MFP) analysis, proposed efficiencies from other water utilities in New South Wales and recent analysis for Ofwat, the water regulator in England and Wales, which has been applied to frontier water companies. We have applied a Frontier Shift of 0.7% per annum cumulating over the Determination period to both the MDBA and BRC Determinations.

The findings of this report form an important component of the overall price review process as set out in IPART's two Issues Papers on Water Management Prices[1] and Rural Bulk Water Prices[2] . The conclusions relating to efficient expenditure in the 2021 Determination period are to assist the Tribunal's assessment of what are justified costs to be included in the 'building block' model for determining future prices across both the WAMC and WaterNSW rural bulk water services determinations.

[1] IPART Issues Paper, Sept 20 - Review of water management prices from 1 July 2021
[2] IPART Issues Paper, Sept 20 - Water NSW's rural bulk water prices from 1 July 2021

Murray Darling Basin Authority

The Murray–Darling Basin is managed through a partnership between the Australian Government and the governments of New South Wales, Queensland, South Australia, Victoria and the Australian Capital Territory (the Basin states). The Murray–Darling Basin Authority reports to the Australian Government minister responsible for water.

Cost allocation and budgeting process

MDBA's budgeting and cost sharing follows the high-level process summarised as follows. Firstly, SCAs generate expenditure proposals and forecasts. The proposals are a result of the SCA's own internal asset planning processes which include condition, risk, cost, deliverability, criticality and prioritisation assessments and consideration of whole of life cost optimisation for the assets. The SCA's and MDBA then jointly moderate, refine and prioritise the expenditure proposals across the system. . Budgets are set and approved under the joint venture governance arrangements and contributions to fund the Workplan is shared amongst the Commonwealth and the states.. State governments allocate their share of the MDBA costs within their state according to their own cost-sharing arrangements, with the SCAs responsible for carrying out the works and activities that are approved as part of the process.

Within NSW, DPIE allocates costs between the WaterNSW rural bulk water and WAMC determinations. In general, costs identified as River Murray Operations are allocated to WaterNSW (in the Murray and Murrumbidgee valleys) and costs associated with non-RMO activities (Natural Resource Management) are allocated to the WAMC determination.

Scope adjustments

We have made two scope adjustments to the base costs that were proposed by DPIE:

i. Allocated the Salt Interception Scheme costs from WaterNSW rural bulk water to WAMC; and
ii. Removed corporate overhead costs from WaterNSW rural bulk water 'cost pass through'.

These adjustments are summarised below.

In current determination period, costs of operating and maintaining Salt Interception Schemes have been borne by users in the WAMC determination. DPIE, in its June 2020 proposal to IPART, proposed to reallocate these costs to the WaterNSW bulk water services determination.

We have considered the functions of the Salt Interception Schemes, the causes of salt intrusion and have opined on which determination we consider these costs should be allocated to, as follows.

From the documents reviewed it is clear that:

(i) Salinity issues are not just caused by regulated river licence holders. Salinity is the result of basin-wide land use, drainage and water abstraction effects. The "impactor pays" principle therefore suggests it is not appropriate for the regulated river licence holders alone to bear the cost of the salt interception schemes.

(ii) Further to this, the benefits of salt interception do not simply flow to regulated river licence holders as any action which has a significant effect on salinity, irrespective of where it is in the basin and what type of water user it relates to, creates a net credit or debit affecting actions which can be taken in the rest of the basin.

On this basis, we consider that it is more appropriate to maintain the current situation whereby the costs of salt interception schemes are recovered from all licence holders via the WAMC charges, rather than transfer these costs to regulated river licence holders alone through the WaterNSW charges.

MDBA corporate overheads and secretariat line items are removed from the WAMC determination prior to allocation. The same approach has not been applied to the WaterNSW determination. We recommend that the proposed WaterNSW bulk water pass-through costs are adjusted to make up for this inconsistency.

Catch up efficiency

We consider that MDBA has a number of potential areas of efficiency improvement. These are summarised as follows:

Table 0-1 Areas of MDBA's potential improvement in efficiency

Area	Observation	Potential improvements
Decision-making	MDBA has strengthened prioritisation of investments. However, the justification framework, including urgency, remains weak.	Hardwire justification and timing challenge into requests to SCAs and MDBA decision-making.
Inputs	Understanding of the activities and expenditure delivered as part of the joint program is high level only. This does not allow MDBA, stakeholders or regulators to understand, interrogate and challenge activities and hence expenditure.	Enhance reporting of activities and expenditure from SCAs.
Outputs and outcomes	Benefits realisation definition and management are weak, meaning that it is hard to establish whether the objectives of expenditure are met, thereby potentially reducing the focus on these objectives.	Put in place benefits realisation process from definition to tracking.
Efficiency and incentives	Efficiency is not a key focus of the organisation. There is limited incentive for efficiencies with ownership/accountability thinly spread.	Ensure efficiency a key metric for MDBA management. Consider measures such as delegated management contracts with SCAs to formalise requirements and put in place performance incentives if permissible.
Multi-year planning	SCAs tells us that sometimes approvals to spend arrive too late to mobilise and deliver effectively and efficiently	Create more detailed budget projections and formalise multi-year budget agreements, with firmer commitments for some elements where this will aid efficiency and effectiveness

Source: Atkins assessment

We have considered the additional costs associated with intergovernmental processes. However, we have not recommended a specific adjustment related to these costs due to the lack of a clear and more efficient counterfactual scenario. MDBA corporate overhead costs are funded via State Government contributions. However, we understand they are excluded from the user shares and paid for by State Government directly. This mitigates the burden of any intergovernmental inefficiencies on customer charges.

We propose to set a catch-up efficiency challenge of 1.1% p.a. cumulating within the Determination period. This is consistent with our findings of our expenditure review of WaterNSW rural valleys and concurrent expenditure review of WAMC.

Recommended expenditure

We summarise below our recommended expenditure.

Table 0-2 Atkins recommended efficient MDBA opex and capex by determination

($2020/21)	FY21	FY22	FY23	FY24	FY25	Total FY22 to FY25
Total MDBA NSW costs proposed by DPIE		$ 30,088,607	$ 32,242,319	$ 32,242,319	$ 32,242,319	$ 126,815,563
WaterNSW Bulk Water (RM costs) proposed by DPIE	$ -	$ 24,420,869	$ 26,515,131	$ 26,515,131	$ 26,515,131	$ 103,966,263
WAMC (non-RM) costs proposed by DPIE	$ -	$ 5,667,738	$ 5,727,188	$ 5,727,188	$ 5,727,188	$ 22,849,300
Atkins scope adjustments						
Salt Interception Schemes from WaterNSW to WAMC (total costs)	-$ 306,059	-$ 3,201,612	-$ 3,300,598	-$ 3,300,598	-$ 3,300,598	-$ 13,103,407
MDBA Corporate overhead allocated costs removed from WaterNSW bulk water (total costs)	$ 44,567	-$ 917,783	-$ 933,255	-$ 933,255	-$ 933,255	-$ 3,717,548
Total pre-efficiency MDBA costs recommended by Atkins						
WaterNSW bulk water		$ 20,301,473	$ 22,281,278	$ 22,281,278	$ 22,281,278	$ 87,145,308
WAMC	$ -	$ 8,869,350	$ 9,027,786	$ 9,027,786	$ 9,027,786	$ 35,952,707
Total MDBA NSW costs		$ 29,170,823	$ 31,309,064	$ 31,309,064	$ 31,309,064	$ 123,098,015
Atkins recommended efficiency adjustments						
Catch-up efficiency %		1.1%	2.2%	3.3%	4.3%	
Catch-up efficiency $		$ 320,879	$ 685,011	$ 1,021,876	$ 1,355,035	$ 3,382,800
Continuing efficiency %		0.7%	1.4%	2.1%	2.8%	
Continuing efficiency $		$ 204,196	$ 436,793	$ 652,899	$ 867,492	$ 2,161,379
Total NSW efficiencies recommended by Atkins		$ 525,075	$ 1,121,804	$ 1,674,774	$ 2,222,526	$ 5,544,179
Total post-efficiency MDBA costs recommended by Atkins						
WaterNSW bulk water		$ 19,936,047	$ 21,482,940	$ 21,089,415	$ 20,699,604	$ 83,208,007
WAMC		$ 8,709,702	$ 8,704,320	$ 8,544,874	$ 8,386,933	$ 34,345,829
Total MDBA NSW costs		$ 28,645,748	$ 30,187,260	$ 29,634,290	$ 29,086,537	$ 117,553,836
Atkins recommended capex and opex by						
WaterNSW bulk water - capex		$ 4,809,922	$ 5,183,137	$ 5,088,192	$ 4,994,143	$ 20,075,394
WaterNSW bulk water - opex	$ -	$ 15,126,125	$ 16,299,803	$ 16,001,223	$ 15,705,461	$ 63,132,612
WAMC - capex		$ -	$ -	$ -	$ -	$ -
WAMC- opex		$ 8,709,702	$ 8,704,320	$ 8,544,874	$ 8,386,933	$ 34,345,829

Dumaresq-Barwon Border Rivers Commission

The BRC was established by the governments of Queensland and New South Wales under an agreement made in November 1946 called the New South Wales-Queensland Border Rivers Agreement. The BRC is responsible for controlling, on behalf of the two states, the operation and maintenance of Glenlyon Dam, Boggabilla Weir and a number of other small weirs and regulators in the border catchments and arranging for certain river flows and groundwater levels in the border catchments to be monitored.

It is also responsible for implementing the agreements made between the two states in relation to sharing the waters of the Border Rivers and providing advice in relation to water infrastructure and water sharing in the border catchments.

Cost allocation and budgeting process

The BRC is funded jointly by the state governments of Queensland and New South Wales on a 50:50 basis. Under the BRC Agreement the two States are required to pay the Commission's "Call-up" under this legislation. The call-up costs are passed through 50/50 to Queensland and NSW. Within NSW, costs are allocated to WaterNSW and WAMC users within the Border valley. The agencies responsible for discharging BRC's functions are Sunwater in Queensland, and WaterNSW in New South Wales.

Operating costs and funding for asset renewals and enhancements (R&E) (capital expenditure) are separated out within the annual budgeting process. R&E is not generally passed directly through to the WaterNSW or WAMC determinations within NSW. R&E expenditure is generally recovered from the state-call ups via a separate 'Annuity Fund'.

Scope adjustments

DPIE has used the FY20 BRC budget as the basis for allocating costs between the WAMC and WaterNSW determinations. We have reviewed this approach and recommend the following scope adjustments to the operating costs.

Table 0-3 Atkins recommended BRC scope adjustments to operating costs

Adjustment	Description
Water Infrastructure adjustment	Currently there is no defined O&M contract with Sunwater, as the Commission is not registered as a legal entity. Sunwater have been operating the assets for the Commission since the early 2000s when they became a Government Owned Corporation. Before then these assets were operated as part of the greater Department. During FY20, supported by the Commission, Qld DNRME has commenced negotiations with Sunwater Ltd, formalising contractual arrangements. Sunwater undertakes facility management activities (dams and weirs) on behalf of the two States, through the Commission. DNRME was legislatively recognised as the sole Qld State Controlling Authority in May 2020. There has been an increase in *Water Infrastructure* costs which have been attributed to Sunwater for the last two years and are as a direct result of not having a formalised contractual agreement in place for their O&M works for the BRC. We therefore recommend an adjustment to the future determination period costs for *Water Infrastructure.* This will align comparatively with historical costs prior to Sunwater applying significant risk premiums to their costs to BRC. This approach ensures that only efficient costs are being passed through to users in NSW.
Resource management adjustment	The BRC has experienced a significant problem with accruals and late invoicing from a supplier (WaterNSW) in recent years, this combined with the recording of cash has led to an appearance of underspending against the budget. As the most recent years of cash costs have been used for budgeting purposes there is a perceived decrease in costs. We consider that using actual costs including accruals is more appropriate basis for budgeting.
Annuity Fund Contribution adjustment	For the proposed operating expenditure, we recommend netting off the annual annuity fund contribution as this is linked more closely to capital expenditure which is reflected in our proposed capital expenditure allowance.

These scope adjustments yield a different pro-rata allocation of the costs between the WAMC and WaterNSW determinations.

Table 0-4 Atkins recommended pro-rata allocation of costs between the WAMC and WaterNSW bulk water determinations

Determination	DPIE proposed allocation based on BRC proposed budget	Atkins recommended 20-21 based on Atkins recommended budget
WaterNSW Bulk Water determination	57.84%	43.64%
WAMC determination	42.16%	56.36%

R&E (capital expenditure)

In its February 2020 budget submission to DPIE, BRC proposed expenditure of $3m on R&E (capital expenditure) over the next determination period.

The BRC budgeted R&E costs are provided within the DPIE model for information and are not allocated directly to either WAMC or WaterNSW determinations. These costs fluctuate over time and are based on a detailed bottom-up assessment of when works are planned to occur and do not allow for any changes in timing to expenditure within the period. Furthermore, they do not include an assessment of any efficiency savings that may be made over time. We have included this within our application of catch-up efficiency.

Catch up efficiency

We consider that BRC has a number of potential areas of efficiency improvement. These are summarised in Table 0-5 below.

Table 0-5 Areas of BRC's potential improvement in efficiency

Area	Observation	Potential improvements
Decision-making	BRC has undertaken an asset management review. We understand that detailed plans for investment decision-making are underway.	Hardwire justification and timing challenge into governance, asset management decision-making and requests to SCAs.
Inputs	Understanding of the activities and expenditure delivered as part of the joint program is high level only. This does not allow BRC, stakeholders or regulators to understand, interrogate and challenge activities and hence expenditure.	Enhance reporting of activities and expenditure from SCAs.
Outputs and outcomes	Benefits realisation definition and management are weak, meaning that it is hard to establish whether the objectives of expenditure are met, thereby potentially reducing the focus on these objectives.	Put in place benefits realisation process from definition to tracking.
Efficiency and incentives	Prior to the recent change in management, efficiency has not been a key focus of the organisation. This is now changing.	Ensure BRC's management drive permeates governance processes. Consider measures such as delegated management contracts with SCAs to formalise requirements and put in place

Area	Observation	Potential improvements
	However, we note that there remains limited incentive for efficiencies with ownership/accountability thinly spread.	performance incentives if permissible.
Multi-year planning	Budgets are not detailed beyond one year, providing limited confidence for multi-year planning and delivery.	Create more detailed budget projections and formalise multi-year budget agreements, with firmer commitments for some elements where this will aid efficiency and effectiveness.

Recommended expenditure

We summarise below our recommended expenditure.

Table 0-6 Atkins recommended efficient BRC operating expenditure by determination

	FY21	FY22	FY23	FY24	FY25	Total FY22 to FY25
Total NSW costs proposed by DPIE	$ 1,801,906	$ 1,801,906	$ 1,801,906	$ 1,801,906	$ 1,801,906	$ 7,207,624
Bulk Water % proposed by DPIE	58%	58%	58%	58%	58%	58%
WAMC % proposed by DPIE	42%	42%	42%	42%	42%	42%
Bulk Water proposed by DPIE	$ 1,042,323	$ 1,042,323	$ 1,042,323	$ 1,042,323	$ 1,042,323	$ 4,169,290
WAMC proposed by DPIE	$ 759,583	$ 759,583	$ 759,583	$ 759,583	$ 759,583	$ 3,038,333
Atkins scope adjustments						
Water Infrastructure adjustment	-$ 306,059	-$ 306,059	-$ 306,059	-$ 306,059	-$ 306,059	
Resource management adjustment	$ 44,567	$ 44,567	$ 44,567	$ 44,567	$ 44,567	
Annuity Fund Contribution adjustment	-$ 145,436	-$ 145,436	-$ 145,436	-$ 145,436	-$ 145,436	
Total NSW pre-efficiency costs recommended	$ 1,467,696	$ 1,467,696	$ 1,467,696	$ 1,467,696	$ 1,467,696	$ 5,870,784
Atkins efficiency adjustments						
Continuing efficiency %		0.7%	1.4%	2.1%	2.8%	
Continuing efficiency $		-$ 10,274	-$ 20,476	-$ 30,606	-$ 40,666	-$ 102,022
Catch-up efficiency %		1.1%	2.2%	3.3%	4.3%	
Catch-up efficiency $		-$ 16,032	-$ 31,664	-$ 46,904	-$ 61,761	-$ 156,360
Total NSW post-efficiency costs recommended by Atkins		$ 1,441,391	$ 1,415,557	$ 1,390,186	$ 1,365,269	$ 5,612,402
Atkins determination allocation adjustments						
Bulk Water % recommended by Atkins	44%	44%	44%	44%	44%	44%
WAMC % recommended by Atkins	56%	56%	56%	56%	56%	56%
Bulk Water recommended by Atkins	$ 640,510	$ 629,030	$ 617,756	$ 606,684	$ 595,810	$ 2,449,279
WAMC recommended by Atkins	$ 827,187	$ 812,361	$ 797,801	$ 783,502	$ 769,459	$ 3,163,123

Table 0-7 Atkins recommended efficient BRC capital expenditure by determination

BRC budget	FY22	FY23	FY24	FY25	Total FY22 to FY25
Average withdrawal on the annuity fund (FY17 to FY19) for comparative purposes	918,908	918,908	918,908	918,908	3,675,632
Planned maintenance of works (Renewals) as per BRC budget (= Total Annuity Funded Budget)	668,932	526,739	1,307,889	460,565	2,964,125
Cardno estimate direct costs	596,222	469,485	1,165,727	410,503	2,641,938
Deduced uplift %	12.20%	12.20%	12.20%	12.20%	12.20%
Uplift $	72,710	57,254	142,162	50,062	322,188
Atkins recommended efficiency adjustments					
Continuing efficiency %	0.7%	1.4%	2.1%	2.8%	
Continuing efficiency $	-$ 4,683	-$ 7,349	-$ 27,274	-$ 12,761	- 52,066
Catch-up efficiency %	1.1%	2.2%	3.3%	4.3%	
Catch-up efficiency $	-$ 7,307	-$ 11,364	-$ 41,797	-$ 19,381	- 79,848
Total NSW post-efficiency R&E costs recommended by Atkins	$ 656,943	$ 508,027	$ 1,238,818	$ 428,423	2,832,211
Efficient NSW Capex (50% of total)	$ 328,471	$ 254,013	$ 619,409	$ 214,212	1,416,105
Atkins determination allocation adjustments					
Bulk Water % recommended by Atkins	44%	44%	44%	44%	44%
WAMC % recommended by Atkins	56%	56%	56%	56%	56%
Bulk Water recommended by Atkins	143,346	110,853	270,313	93,483	617,995
WAMC recommended by Atkins	185,125	143,161	349,096	120,729	798,110

1. Introduction

1.1. Overview

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

In August 2020 the Independent Pricing Tribunal of New South Wales (IPART) appointed Atkins to carry out a detailed review of the Murray Darling Basin Authority (MDBA) and the Dumaresq-Barwon Border Rivers Commission (DBBRC or BRC) costs associated with WaterNSW's and WAMC's activities. The purpose of this review is to inform the Tribunal's Determination on prices for the next price control period for WaterNSW rural bulk water and Water Management (WAMC) prices from 2021.

The findings of this report form an important component of the overall price review process as set out in IPART's two Issues Papers on Water Management Prices[3] and Rural Bulk Water Prices[4] . The conclusions relating to efficient pass-through costs in the 2021 Determination period are to assist the Tribunal's assessment of what are justified costs to be included in the 'building block' model for determining future prices across both the WAMC and WaterNSW rural bulk water services determinations.

The Terms of Reference state that the future determination period for review is up to four years, 2021-22 to 2024-25.

1.2. Review objectives and scope

The objective for the cost review is to provide an opinion to IPART on the efficient level of allocated costs to NSW (between the determinations of WaterNSW rural bulk water services and WAMC) of the total MDBA and BRC expenditure between 2021-22 and 2024-25.

The scope of work required to be undertaken comprises of the following three tasks:

(i) Task 1 - a review of the MDBA's and BRC's overall expenditure and activities in bulk water delivery and water resource management in NSW for efficiency.

(ii) Task 2 - a detailed review of how the MDBA's and BRC's expenditure and activities relate to WaterNSW's and WAMC's monopoly services.

(iii) Task 3 - a detailed review of the MDBA's and BRC's operating and capital expenditure for efficiency in delivering WaterNSW's and WAMC's monopoly services.

1.3. Terms of reference

This report has been prepared in accordance with the Terms of Reference set out in the contract between Atkins and IPART which commenced on 20 August 2020. These are reproduced in Appendix A.

1.4. Price base and cost data

The financial information used for this review is based on the DPIE model for allocating MDBA and BRC costs to the WaterNSW and WAMC determinations provided in August 2020.

Within the budgeted submissions, historical costs are recorded on a nominal basis. IPART has requested that agencies provide forecasts costs in a real price base of 2020/21. For our analysis and within this report, we have sought to present all historical and forecast costs in a consistent, real price base of 2020/21. This allows for better comparison of the underlying drivers of costs over time. To achieve a consistent price base, inflation

[3] IPART Issues Paper, Sept 20 - Review of water management prices from 1 July 2021
[4] IPART Issues Paper, Sept 20 - Water NSW's rural bulk water prices from 1 July 2021

indices supplied by IPART were applied to historical costs. The indices applied to convert all costs to a real 2020/21 price base are summarised as follows.

Table 1-1 - Indices used to convert costs to real 2020/21 price base

Period	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Inflation Factor (CPI)	1.90%	2.10%	1.60%	2.10%	2.50%
Factor to apply to convert to $2020/21 prices	1.086	1.063	1.047	1.025	1.000

Unless otherwise noted, all prices within this report are presented in a real price base of 2020/21.

1.5. Terminology in this report

WaterNSW has four separately determined price controls:

(i) WaterNSW's Greater Sydney bulk water services;

(ii) WaterNSW regional and rural water bulk water services;

(iii) WaterNSW supplies to Essential Energy near Broken Hill; and

(iv) Water Administration Ministerial Corporation (WAMC) shared services

Within this report we refer to WaterNSW's rural bulk water services determination as WaterNSW and the Water Administration Ministerial Corporation (WAMC) shared services determination administered by DPIE as WAMC unless otherwise stated.

1.6. Report Structure

- Section 2 outlines our overall expenditure review methodology.
- Section 3 examines the WaterNSW and WAMC proposed pass-through costs.
- Section 4 reviews the Murray Darling Basin activities and costs allocated to WaterNSW rural bulk water and WAMC determinations.
- Section 5 reviews the Border Rivers Commission activities and costs allocated to WaterNSW rural bulk water and WAMC determinations.

2. Review Methodology

2.1. WaterNSW, WAMC and DPIE submission's to IPART

IPART required WaterNSW and WAMC to provide submissions outlining and substantiating the proposed prices for the next Determination period and report on actual and forecast expenditure for the 2017 Determination period from 2017 to 2021. One of the building blocks contained within the submissions were the "pass-through costs" for MDBA and BRC which were allocated to each of the WaterNSW and WAMC determinations by DPIE.

"Pass-through costs" in the context of this review and report refer to the user share component of the MDBA and BRC costs that are allocated to each of the WAMC and WaterNSW bulk water determinations.

The following versions of this information have been used in the preparation of this report:

1. WaterNSW submission to IPART dated June 2020;
2. Attachment 3 letter from NSW Government to WaterNSW on MDBA and BRC costs dated 13 March 2020;
3. NSW Government Submission to IPART for prices from 1 July 2021 for water management services provided by DPIE on behalf of WAMC Detailed paper F – Murray-Darling Basin Authority and Dumaresq-Barwon Border Rivers Commission;
4. MDBA DBBRC Contribution Analysis, August 2020 provided to Atkins;
5. BRC actual costs against budget by activity for the years 2015/16 to 2019/20 provided to Atkins in response to request for information (no.29).

While we have endeavoured to satisfy ourselves as to the provenance and robustness of the data provided, a detailed end-to-end audit of the completeness and accuracy of the submission lies outside the scope of this project.

2.2. Review Process

We commenced our review on 20 August 2020. We submitted an Inception Report to IPART on 3 September 2020. Following initial review of available data, we submitted an Information Request to DPIE, MDBA and BRC on 3 September. Documents were provided by DPIE from 4 September. Our review team undertook a number of interviews with DPIE, MDBA and BRC between 16 September and 29 September.

Over the period we have requested additional supporting documentation relating to a range of issues. DPIE, BRC and MDBA provided us with this information to the best of its ability. We then requested further information and queries over the subsequent weeks to which the agencies were able to respond.

Atkins would like to take the opportunity to thank DPIE, MDBA and BRC for making its staff available for the interview days and for the professional manner in which the organisation responded to our challenges and requests for further detail.

This Draft Report presents our findings as of 26 October 2020 and the agencies are invited to comment on this so we can take into account for our Final Report planned for submission in December 2020.

2.3. Methodology

In arriving at the recommendations in this report, we apply a three-stage approach to reviewing the efficiency and prudence of expenditure, as summarised in Figure 2-1. This methodology is consistent with that applied for other regulatory reviews across Australia.

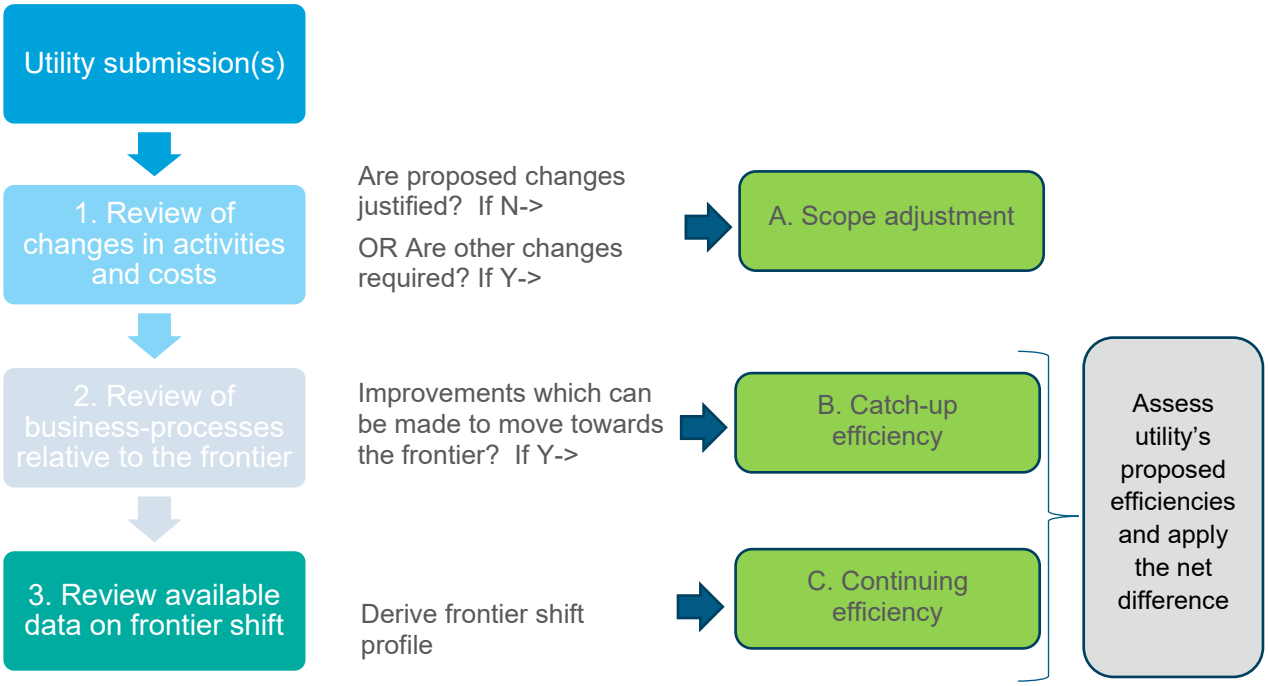


Figure 2-1 - Approach to assessing efficiency

1. Review of changes in activities and costs

This step involves identifying inefficiencies within proposed changes to a utility's specific programs and does not apply to base expenditure to avoid double counting with Step 2. These adjustments are clearly distinct from the types of efficiencies identified in Step 2 in that they correct for an imprudent or inefficient proposed change to a utility's activities (and associated costs) rather than the business processes employed by the utility to deliver the utility's services. If the utility's proposed changes in activities (and associated costs) are not efficient, a **scope adjustment** is made.

2. Review of business-processes relative to the frontier

This step identifies the effectiveness of business processes (e.g., decision-making and procurement processes) relative to a benchmark frontier company. Where we identify improvements that can be made relative to the benchmark, a **catch-up adjustment** is made. This encourages the utility to move to the efficiency frontier.

We then recommend a profile or pathway of catch-up efficiency we consider the utility will realistically be able to achieve each year within the next determination period. This is based on experience of how other utilities in a similar position have been able to achieve efficiencies with new business processes, management focus and appropriate incentives. It does not mean that the utility will have arrived at the frontier at the end of the determination period.

3. Review available data on frontier shift

We consider a number of data points such as the efficiency gains of well-performing utilities and broader productivity trends (e.g., multi-factor or total factor productivity). This recognises that in competitive markets firms must innovate to achieve continuing efficiency gains over time.

We compare the total efficiency challenge we derive from steps (2) and (3) with the efficiencies applied by the utility in its own submission. We then apply the net difference as an adjustment to the utility's submission.

We summarise below how these steps have been applied to MDBA and BRC.

Table 2-1 - Overview of approach for MDBA and BRC

Adjustment	MDBA	BRC
Scope adjustment	We have made two changes to reflect the treatment of Salt Interception Schemes and corporate overheads. MDBA corporate overheads are no longer allocated to the user share component of both WAMC and WaterNSW bulk water users	We have recommended adjustments: -to SunWater expenditure to remove the proposed increase in expenditure which does not appear to link to increased activity. -take account of recent accruals for WaterNSW expenditure
Catch-up efficiency	Applied at a rate of 1.1% p.a. cumulating over the period.	Applied at a rate of 1.1% p.a. cumulating over the period.
Continuing efficiency	Applied at 0.7% p.a. to all expenditure.	Applied at 0.7% p.a. to all expenditure.
Efficiencies already included in the pricing proposal?	MDBA don't appear to have applied any efficiencies.	For the 2020-21 budget BRC applied an 11% efficiency on Sunwater costs to support no increase in state call-up

2.3.1. Review of catch-up efficiency potential of SCAs

As discussed later in this report, we consider that both MDBA and BRC are at an early stage of maturity in the efficiency journey, with significant scope for improvements.

We recognise that there are differences between utility operating models and it is not always straightforward to directly compare organisations operating in different jurisdictions and serving different purposes. However, we consider that core business processes that impact on costs, particularly operating costs should be continually challenged to improve and deliver efficiencies to move towards the efficiency frontier. We use our prior assessments of other utilities to compare how relatively close MDBA and BRC are to the efficiency frontier and how quickly they may be able to move towards it.

To get a sense of the scale of efficiency which should be achievable, we have reviewed the operating efficiencies achieved by Hunter Water and Sydney Water, when they were at a similarly early stage of efficiency maturity, i.e., in their 2009 and 2012 Determination periods respectively.

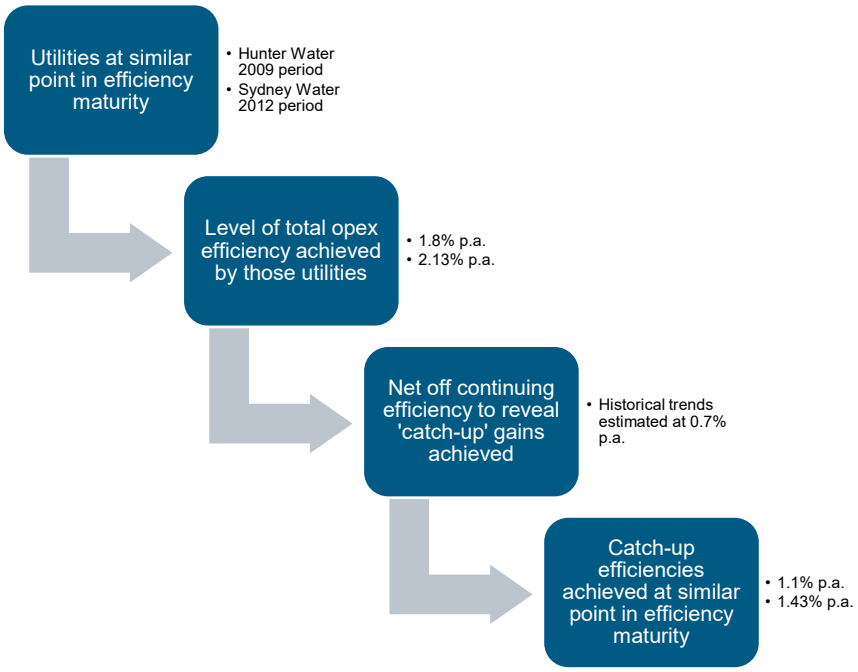
Table 2-2 - Examples of operating expenditure efficiencies achieved by utilities

Determination	Start year	In-year catch-up opex efficiency applied in				Continuing efficiency assumed (% p.a.)	Total opex efficiency challenge p.a. (catch-up + continuing)	Conclusion of Ex-Post Review at next Determination
		Year 1	Year 2	Year 3	Year 4			
Hunter Water	2009	1%	1%	1%	1%	0.80%	1.80%	Achieved
Sydney Water	2012	1.50%	2%	2%	2%	0.25%	2.13%	Overachieved

Source: Atkins reports for IPART 2016 and 2013

This suggests that total efficiency gains of 1.80% and 2.13% p.a. or greater are achievable with appropriate management focus. This process and the efficiency gains made are summarised below.

Figure 2-2 Approach to evaluating scale of catch-up efficiency achievable



In the expenditure review for the WaterNSW's Greater Sydney 2020 determination period we recommended an opex catch-up efficiency of 0.9% p.a. A continuing efficiency of 0.8% p.a. was also applied. This equates to a combined (continuing and catch-up) efficiency challenge of 1.7% p.a. on operating expenditure.

For capital expenditure we recommended applying four catch-up efficiency levers across the determination period where we concluded that WaterNSW could move towards the efficiency frontier:

- Capital Program Development, Optimisation and Prioritisation
- Value engineering
- Cost estimation
- Procurement

This resulted in a more significant catch-up efficiency challenge for capex, rising to 9.8% by 2025.

We have been engaged by IPART to undertake a review of WaterNSW expenditure for its 2021 Rural Bulk Water services determination. We are providing our conclusions on efficient levels of expenditure for that determination in a separate report.

For MDBA, we have inferred operational and capital expenditure based on the MDBA activity agreement classifications. For BRC, we have assumed all renewals and enhancement expenditure is capital expenditure and the remainder is operating expenditure. We discuss these approaches in detail in the following respective sections of the report.

However, for the purposes of applying catch-up efficiencies we consider that the majority of BRC and MDBA activities and expenditure aligns most closely with operating expenditure, not least because the utilities have limited control over the overall shape, prioritisation and optimisation of capital works due to the short-term budget approaches of the MDBA and BRC. We have therefore recommended applying a catch-up efficiency challenge of 1.1% p.a. cumulating over the Determination period, similar to that achieved by Hunter Water in the 2009 Determination period and less than achieved by Sydney Water in the 2012 Determination period.

2.3.2. Review of frontier shift

The continuing improvement element of efficiency, termed 'Frontier Shift', relates to the increased productivity derived from process innovation and new systems and technology that all well-performing businesses should achieve. We have applied the results from the Australian Productivity Commission Multi-Factor Productivity (MFP) analysis, proposed efficiencies from other water utilities in New South Wales and recent analysis for

Ofwat, the water regulator in England and Wales, which has been applied to frontier water companies. We have applied a Frontier Shift of 0.7% per annum cumulating over the Determination period.

In line with the recommendations of the WaterNSW GS and Sydney Water 2020 Determinations, we have not assumed continuing efficiency will reduce expenditure in FY21 because of the COVID-19 response.

3. WaterNSW and WAMC proposed pass-through costs

MDBA and BRC natural resource management program costs are assigned to the WAMC pricing determination in reflection of the WAMC's bulk water management functions and IPART's impactor pays principle. MDBA and DBBRC river operations costs are assigned to WaterNSW's Rural Valley's Bulk Water Determination in reflection of the functions performed and IPART's impactor pays principle. The IPART cost sharing framework[5] determines who should pay by taking the efficient and prudent capital and operating costs, excluding 'legacy costs', and then applies the 'impactor pays' principle to determine who should pay for the costs of each of WaterNSW and WAMC's activities. The customer or user share of the MDBA and BRC costs are passed through to each of the WAMC and WaterNSW bulk water determinations.

Figure 3-1 and Figure 3-2 show the changes in the proposed MDBA and BRC pass-through costs between WaterNSW rural bulk water and the WAMC determinations between FY17 and FY26. We have escalated the budgeted pass-through costs from the prior 2016 DPIE allocation models to compare all costs in real $20/21 terms.

In its cost allocation model DPIE proposes to increase the MDBA pass-through costs to WaterNSW rural bulk water users by an average of 34% in real terms over the next four years from $19.3m in FY20, to $26.5m p.a. from FY23 onwards. In parallel DPIE proposes to decrease MDBA pass-through costs to WAMC users by an average of 63% in real terms from $12.9m in FY20, to $5.7m p.a. from FY23 onwards.

The key driver for the proposed increase in WaterNSW rural bulk water costs is the reallocation of the Salt Interception Schemes (SIS) within the MDBA costs from WAMC to WaterNSW. DPIE proposes that this would be a more transparent approach with the WaterNSW RV pass-through to cover operating and infrastructure costs where WAMC user charges would cover natural resource management costs. We discuss this proposed change in further detail in Section 4.6.4.

BRC pass-through costs to NSW are proposed to increase by 51% from $1.2m in FY20 to $1.8m in FY22. DPIE have reflected this by allocating a 34% cost increase for WaterNSW rural bulk water users and a 51% increase for WAMC users between the current and future determination periods.

The increase in BRC pass-through costs proposed between the current and future determination periods is driven by:

i. an increase in costs for services provided by Sunwater;
ii. new corporate functions within BRC including a new CEO and governance committees; and
iii. contributions to the annuity fund.

[5] IPART rural water cost shares, February 2019

Figure 3-1 - DPIE proposed WaterNSW rural bulk water's MDBA and BRC cost pass-throughs

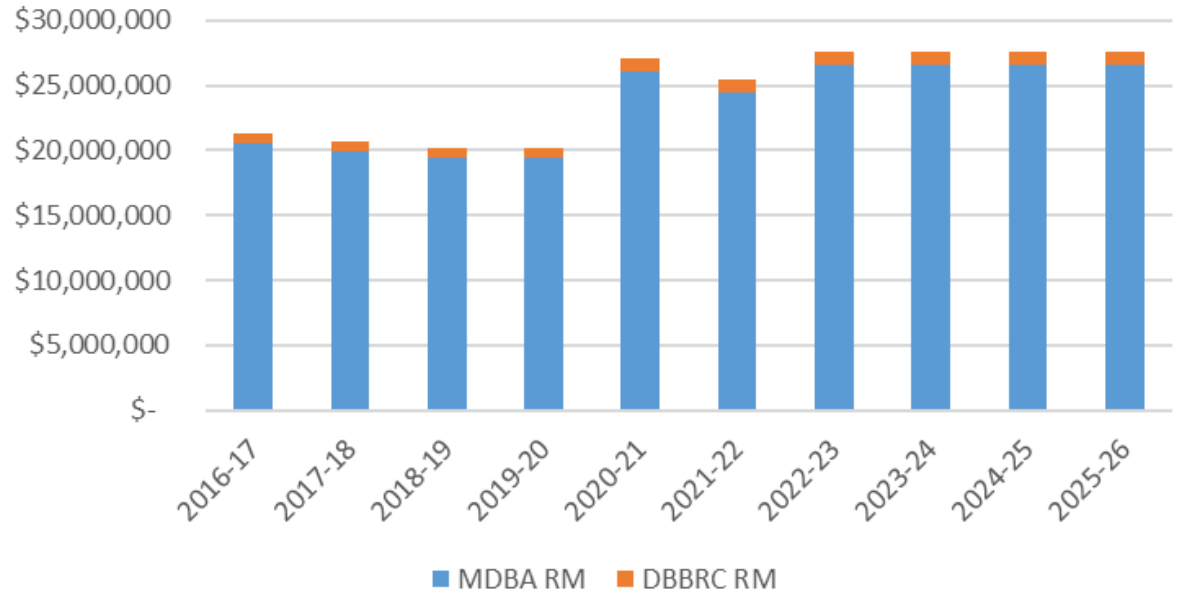


Figure 3-2 - DPIE proposed WAMC's MDBA and BRC Non-RM cost pass-throughs

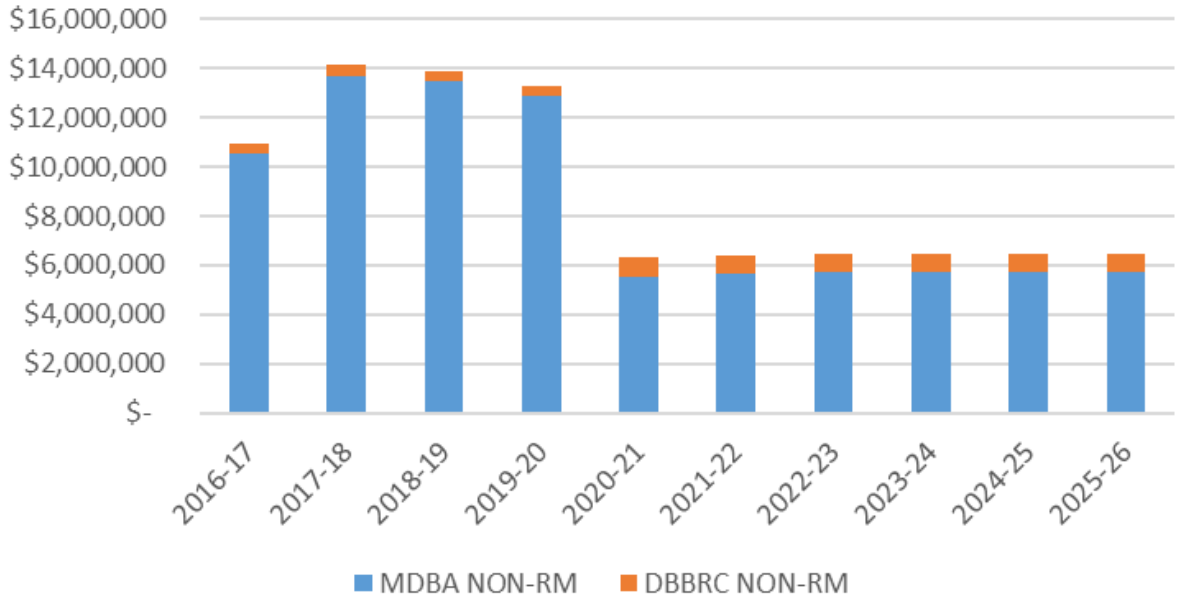
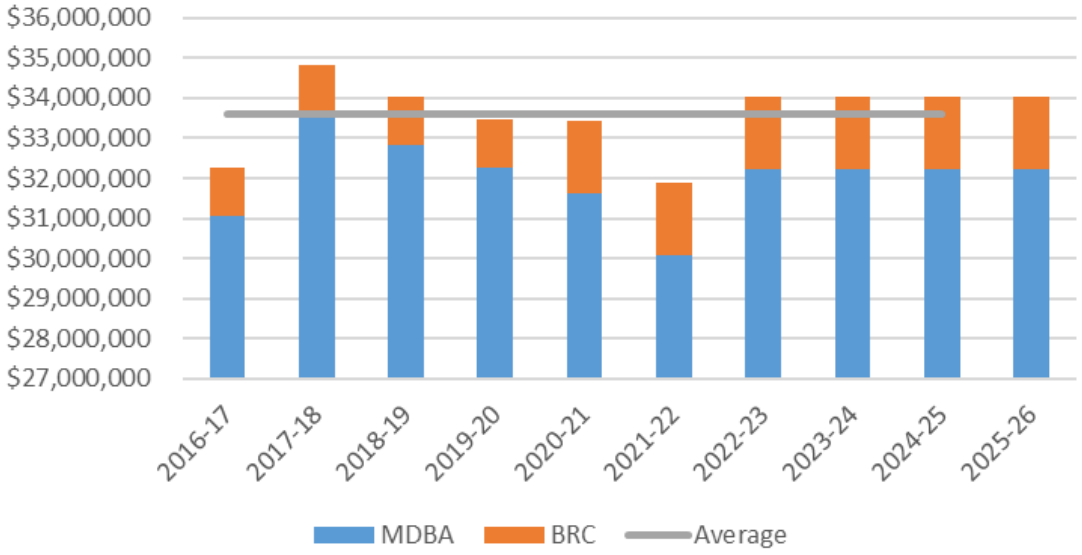


Figure 3-3 - DPIE proposed WAMC's MDBA and BRC total cost pass-throughs



In the following sections we review each of the proposed costs and expenditure for the MDBA and BRC in detail and provide recommendations on the efficient level of expenditure for the future determination period.

4. The Murray Darling Basin Authority activities and expenditure

4.1. Operating environment

The Murray-Darling Basin Authority (MDBA, the Authority) is a Commonwealth statutory agency empowered by the Water Act 2007 (C'wlth) (the Act). The Authority also has functions under the Murray-Darling Basin Agreement 2008 (MDB Agreement) which is Schedule 1 to the Act.

The MDB Agreement outlines arrangements for managing MDB water resources between the Commonwealth Government and the Contracting governments. Under the Act and the MDB Agreement, the MDBA is responsible for coordinating and managing cross-jurisdictional (shared) water resource management activities, water storages and delivery related activities in the southern MDB system. These activities related to running the River Murray System are collectively referred to as the River Murray Operations (RMO). [6]

The governments of the Commonwealth, NSW, Victoria and South Australia State Constructing Authorities (SCAs) have responsibility for the high-level decision-making in relation to the MDB via the Ministerial Council and the Basin Officials Committee (BOC). The MDBA is then responsible for coordinating the delivery of decisions made by these bodies, and delivery against the broader objectives and outcomes of the MDB Agreement.

MDBA categorises its key roles and responsibilities into the following areas[7]:

i. River Murray Operations (RMO); and

ii. Non-River Murray Operations (non-RMO) comprising:

- Sustainable diversion limit adjustment mechanism;
- Water resource plans;
- Water for the environment;
- Recovering water;
- Compliance;
- Monitoring and evaluation;
- Water markets and trade.

Figure 4-1 - Murray-Darling Basin

Source: MDBA joint programs 101

[6] Figure shows Murray-Darling Basin snapshot from MDBA Annual Report 2018-19
[7] Source: Figure 1.4 MDBA Annual Report 2018-19

Within NSW, broadly costs for activities currently defined as RMO are passed through/allocated to WaterNSW (in the Murray and Murrumbidgee valleys) and other non-RMO activities and costs are passed through/allocated to WAMC.

4.1.1. Legislation

The majority of MDBA operations are governed by:

i. the Water Act 2007 (Cwlth), including the Murray–Darling Basin Agreement
ii. the Basin Plan 2012.

The Water Act sets out the MDBA's role in developing a Basin Plan and performing functions under the 2008 Intergovernmental Agreement on Murray–Darling Basin Reform—in particular, managing River Murray operations. The MDBA delivers its functions under the Murray–Darling Basin Agreement in conjunction with, and on behalf of, the Basin governments. The Basin Plan is premised on the MDBA and Basin governments working together to manage the Basin as a whole. The MDBA has a role in developing, reviewing and ensuring compliance with the Plan through the MDBA's Office of Compliance. Agencies from the Basin state governments and the Australian Government are involved in implementing the Plan and the associated water recovery programs.

4.1.2. Funding arrangements

The MDBA is a corporate Commonwealth entity under the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). MDBA's funding is derived from the following sources:

1. Australian Government funding for its activities as required by *the Water Act 2007* (Basin Planning) and funding for the South Australian Riverland Floodplain Integrated Infrastructure Projects (SARFIIP);
2. jurisdictional contributions from Basin states and the Australian Government to fund the delivery of the Murray–Darling Basin Agreement functions and agreed joint programs;
3. interest earned on the balance of the MDBA special account; and
4. other revenue including sale of assets, cottage rents, revenues, hydrogeneration and recovery of salinity mitigation and operation costs.

Funding is also drawn from the MDBA special account. Committed or contracted funds that are not spent during the financial year are carried over to the next financial year. Sub program budgets are adjusted to reflect these changes after the completion of the audit of the MDBA Financial Statements each year.

Jurisdictional (SCA) contributions are calculated based on:

iii. a rolling four-year planning basis;
iv. the cost share principles agreed by Ministerial Council in October 2014; and
v. updated capped entitlements and five-year average diversions from the River Murray system in order to calculate the shares attributable to the costs of the joint assets.

The focus of this review is on the jurisdictional contributions from the basin states, specifically NSW with reference to the interfaces with the other funding streams. With NSW the costs are allocated between WaterNSW rural bulk water and WAMC price determinations.

4.1.3. Water sector relationships

The MDBA works with the Basin governments under a range of governance arrangements to coordinate work programs and oversee the implementation of the Basin Plan and the Murray–Darling Basin Agreement. Other Australian Government agencies—such as the Commonwealth Environmental Water Office (CEWO), the Australian Competition and Consumer Commission (ACCC) and the Bureau of Meteorology (BoM)—also have important roles under the Water Act. Basin governments and the Australian Government are all signatories to the Murray–Darling Basin Agreement and contribute funding to the joint management of the River Murray. The MDBA also works with the SCAs appointed by Basin governments to investigate, design, construct, operate, maintain and renew River Murray operations assets. Basin communities are involved in managing the Basin through mechanisms such as advisory committees, which help guide Basin Plan work. Basin governments also have their own arrangements for community consultation, such as the New South Wales environmental watering advisory group.

4.1.4. Organisation governance, structure and functions

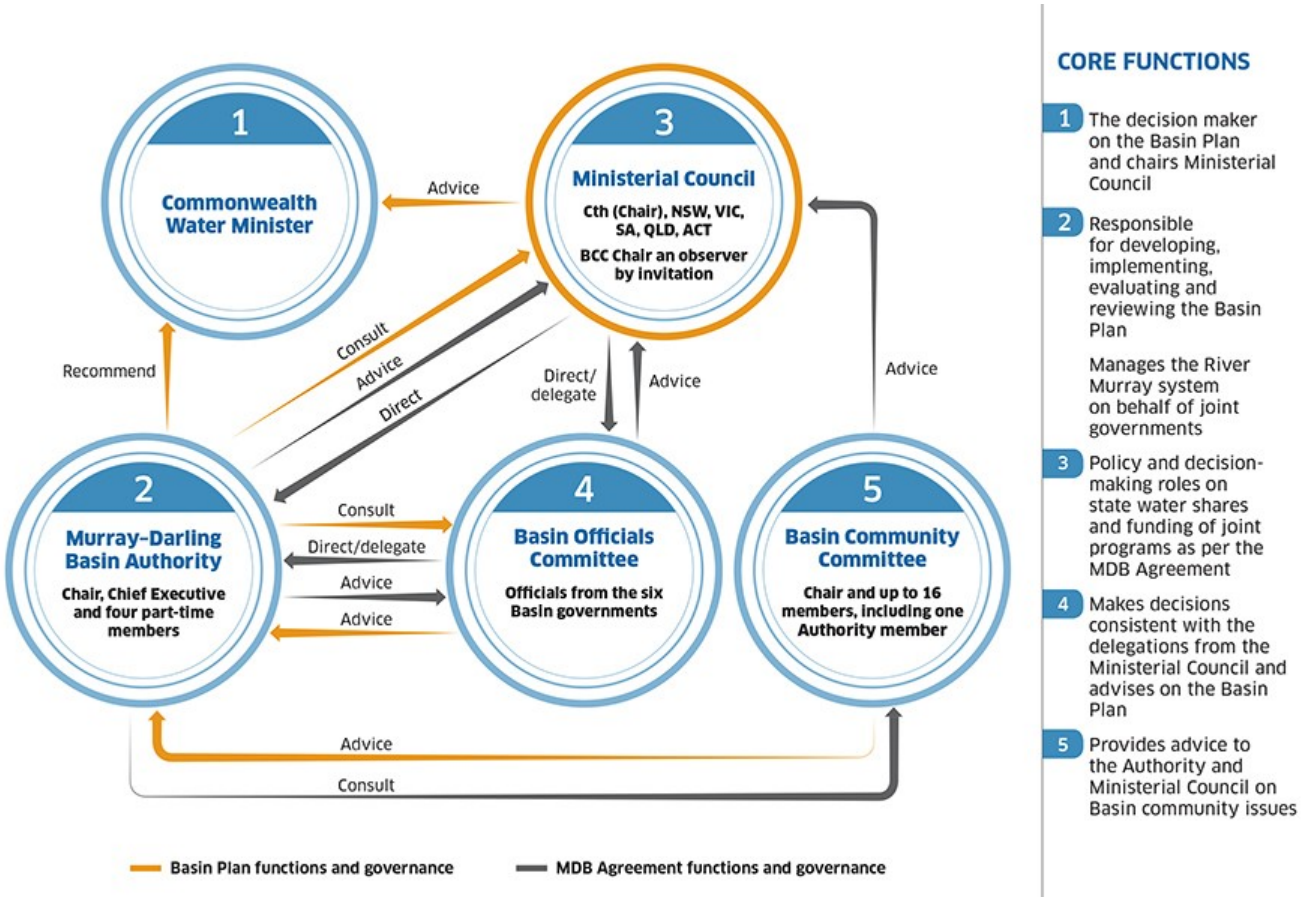
The Murray–Darling Basin is managed through a partnership between the Australian Government and the governments of New South Wales, Queensland, South Australia, Victoria and the Australian Capital Territory (the Basin states). The Murray–Darling Basin Authority reports to the Australian Government minister responsible for water. The MDBA's governance comprises the:

- Australian Government minister responsible for water;
- Murray–Darling Basin Authority;
- Ministerial Council (Basin government water ministers);
- Basin Officials Committee (officials from six Basin governments);
- Basin Community Committee (members of the Basin community);
- Advisory Committee of Social, Economic and Environmental Sciences; and
- Basin Plan Implementation Committee.

The Murray–Darling Basin Authority is made up of the six-member Authority, including the Chief Executive, and Authority staff located in Adelaide, Albury-Wodonga, Canberra, Goondiwindi, Toowoomba Murray Bridge, Mildura and Griffith. The current governance arrangements of the MDBA are set out in the Water Act 2007[8], which establishes a cooperative arrangement for the management of water resources in the Basin. The MDBA governance arrangements are summarised in Figure 4-2 below.

[8] Water Act 2007, Commonwealth Government of Australia

Figure 4-2 - MDBA governance arrangements



Source: MDBA

The MDBA carries out its work through four portfolios led by the MDBA Chief Executive:

i) Basin Plan Regulation Portfolio

Undertakes a variety of regulatory functions, which range from the assessment of water resource plans to management of the system of accounts that keeps track of how much water is taken each year from the Basin's rivers, valleys and groundwater systems. The Basin Plan Regulation Portfolio is also the home of the Office of Compliance.

ii) River Management Portfolio

Works with state partners to lead and coordinate the management of the River Murray system under the Murray-Darling Basin Agreement; including infrastructure management, River Murray operations and environmental management.

iii) Basin Strategy and Knowledge Portfolio

The portfolio drives and facilitates science and decision support information that guides river management and Basin Plan implementation. The portfolio also aims to strengthen communications and build stakeholder confidence in water management in the Basin.

iv) Business Services

Runs the business of the MDBA providing strategic and support services including financial management; procurement and planning; advice on people and culture; legal, parliamentary and secretariat services; governance, risk and audit advice; management of data and remote sensing; and information and technology.

4.1.5. River Murray System and River Murray Operations

The River Murray System extends through New South Wales, Victoria and South Australia (Figure 4-3 below). These three state governments, along with the Australian Government, form a Joint Venture for the control of the River Murray Operations assets. Each state government's control is exercised through the Ministerial Council and the Basin Officials Committee. The MDBA manages the River Murray Operations assets on behalf of the Joint Venture governments and in accordance with the functions, powers and duties set out in the Agreement.

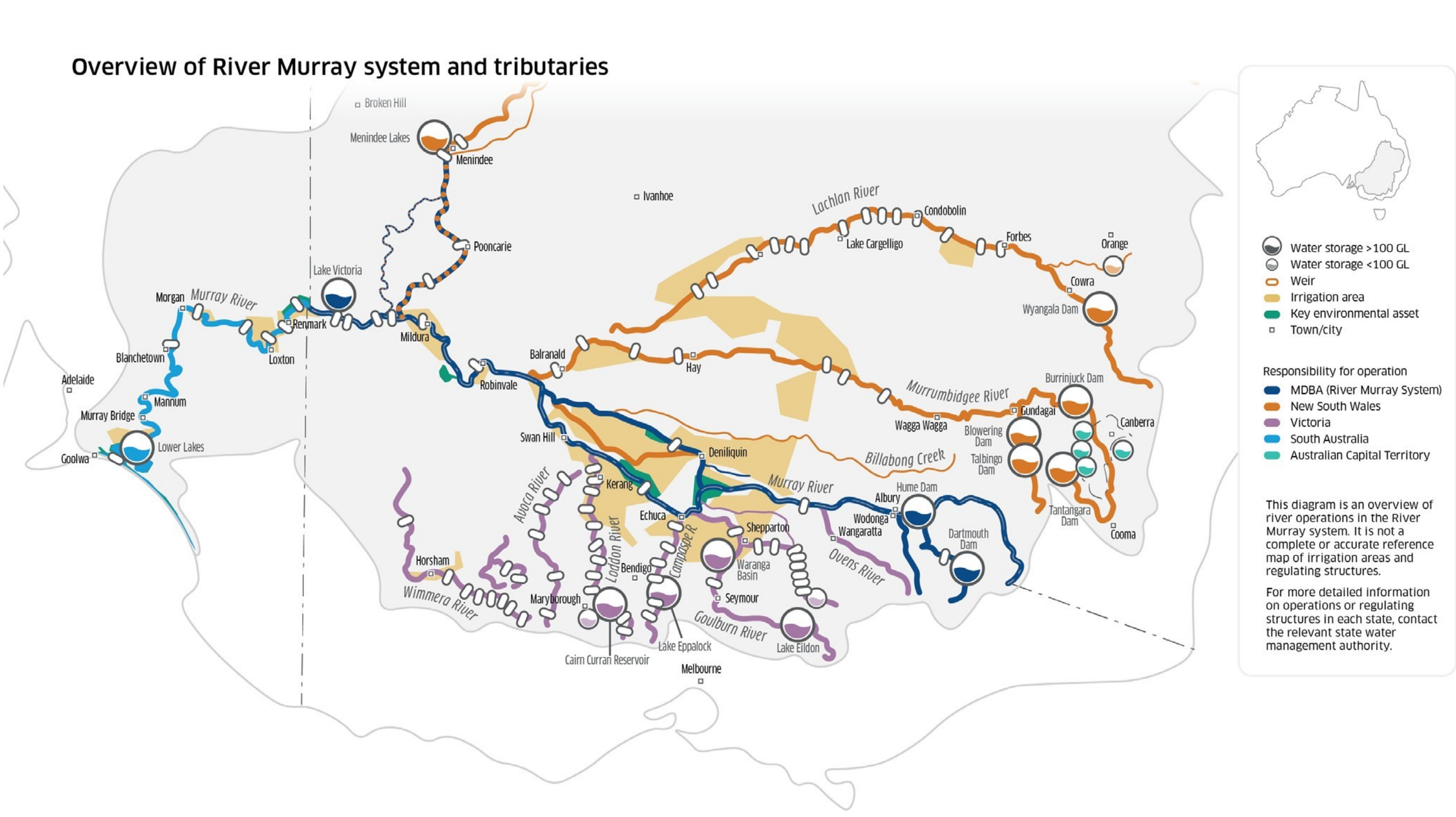


Figure 4-3 - Schematic of River Murray Operations

Source: MDBA 2019

The functions of the River Murray Operations assets include:

- Delivery of water from storages along the system to end users, including agriculture and industry, and for critical human water needs;
- Achievement of water needs of the environment (via targeted releases of water for the environment); and

Provision of a system of constraints to control the levels of the river in order to reduce erosion and flooding. The infrastructure assets that underpin River Murray Operations to deliver these functions comprise:

- Hume and Dartmouth Dams;
- Lake Victoria;
- 14 weirs (with 13 locks);
- Barrages at the Lower Lakes;
- 18 salt interception schemes;
- A range of minor water regulating structures;
- River bank protection and restoration works;
- An extensive hydrometric network;
- Large-scale environmental works constructed under The Living Murray Program; and
- Ancillary assets such as offices, accommodation, and plant and equipment.

In addition to infrastructure assets, the River Murray Operations asset base also includes plant and equipment, land, and easements. These assets support and enable the Joint Venture governments, through the appointed State Constructing Authorities (SCA), to deliver the River Murray Operations Joint Program.

4.2. MDBA Joint Programs

The MDBA joint programs are broadly split between River Management and Natural Resource Management. River Management consists of the programs:

- Asset Management; and
- Run the River.

Natural Resource Management consists of the programs:

- The Living Murray;
- Water Quality and Salinity; and
- Native Fish.

Within NSW, River Management activities are broadly funded through WaterNSW bulk water charges and Natural Resource Management is funded through WAMC charges. Figure 4-4 below shows how the River Murray system and programs map to outcomes and performance measures.

Figure 4-4 - River Murray System programs, outcomes and performance measures

	Goal : Efficiently & Effectively operate the River Murray System for partner governments				
Function	River Management		Natural Resource Management		
KPI	Operate the River Murray System in accordance with the Murray-Darling Basin Agreement		Maintain and improve the health of the River Murray System (& the Basin where relevant) in accordance with Murray-Darling Basin Agreement and associated agreements		
Program	Asset Management	Run the River	The Living Murray	Water Quality & Salinity	Native Fish
Outcome(s)	That RMO assets allow management and delivery of water that is fit for the purpose for which it is to be used; efficiently, effectively and safely	The waters of the River Murray System are: • shared between the states of NSW, VIC and SA as per the Murray Darling Basin Agreement, and • managed to meet multiple outcomes and objectives set by partner governments	Improved environmental outcomes in the southern connected system, consistent with the Basin Plan. Delivery of all water for the environment in the southern basin is coordinated, including the jointly held water portfolio. Water management, monitoring and First Nations engagement at the River Murray Icon sites supports adaptive management.	Partner governments jointly manage salinity to deliver the Basin Salinity Management Strategy 2030, consistent with schedule B of the MDB Agreement. The water quality of the River Murray System is monitored consistent with the MDB Agreement and informs improved management	Recovery and Persistence of native fish Threats to native fish are identified and mitigated Communities are actively involved in native fish recovery Recovery actions are informed by best available knowledge
Measures/ Indicators	MDBA has coordinated and overseen the Asset activities, consistent with the MDB Agreement, and as agreed and approved by Ministerial Council in the Annual Work Plan – Target to be agreed by BOC Number of adverse rulings from jurisdictional dam safety regulators – Target Zero. Number of unscheduled major outages of assets – Target zero.	MDBA has fulfilled its obligations under the Objectives & Outcomes as assessed by the Independent River Operations Review Group (IRORG) – Target Compliant.	Percentage of Report Cards with maintained or improved environmental health (condition) for six key sites of the River Murray System (taking account of natural climate variability) – Target 70% Evidence that site report cards were used in the annual planning for the coordinated delivery of water for the environment to maintain and improve the health of the River Murray System – Target qualitative assessment.	Percentage of Basin Salinity Management (BSM) 2030 Strategy Salinity target in Schedule B of the Murray–Darling Basin Agreement achieved – Target 100%. Percentage of BSM 2030 biennial audit findings that are progressed – Target 100%. Monitor, and report on, water quality in the River Murray System to aid in decision making – Target 100% reports delivered and improvements in river management qualitatively assessed.	Subject to on-going implementation, stabilise and recover fish populations over 10 years – Target increase from baseline (to be established in 2020). Community participation in native fish recovery actions increases – Target increase from 2019-20 levels.
	Enabling Programs				
	Water Resources Core Modelling Water Markets Secretariat Data Management Basin Science Platform Environmental Monitoring and Evaluation				
	Corporate Overheads				

The MDBA Joint Programs are categorised into the following assets and activities for cost sharing purposes[9]:

- Category 1 (major water supply) assets & Other RMO support functions – O&M and Investigation & Construction (I&C).
- Category 2a assets (Locks 10 and 11) – O&M and I&C;
- Category 2b assets (Locks 1 -8) – O&M and I&C;
- Salt Interception Schemes – O&M and I&C;
- Murray mouth connectivity (Dredging) – O&M and I&C;
- Environmental Works and Measures – O&M and I&C;
- River Murray Operations Management – O&M; and
- Non RMO Programs – O&M.

The MDBA joint programs cost sharing principles are the basis by which the costs are allocated to each state and are provided in Appendix B.

4.3. MDBA Budgeting process

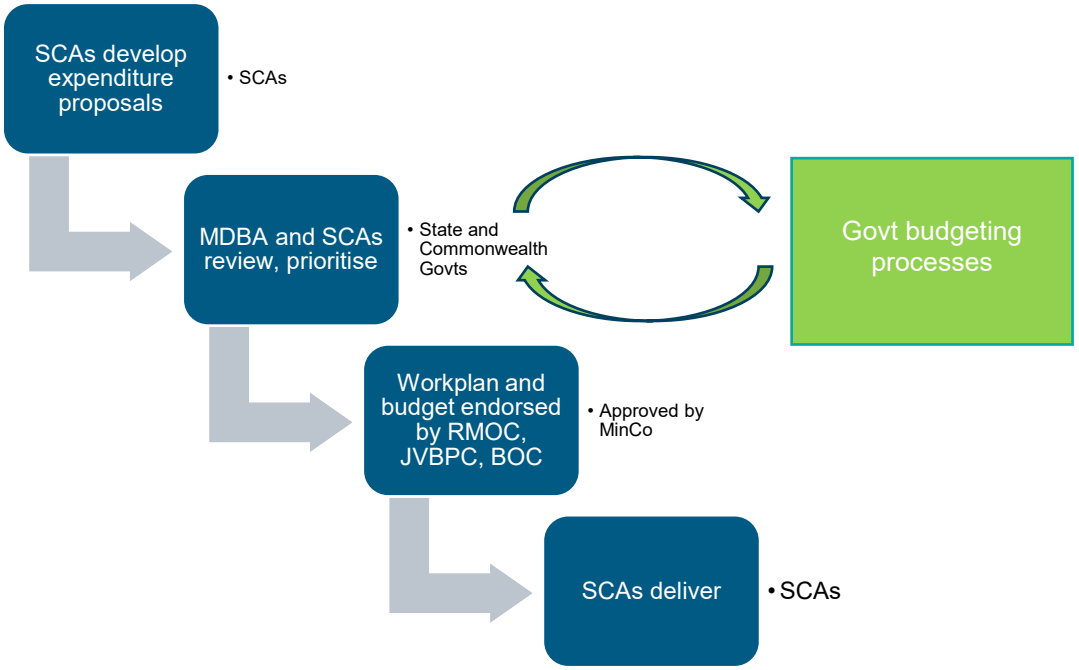
The SCAs generate expenditure proposals and forecasts. The proposals are a result of the SCA's own internal asset planning processes which include condition, risk, cost, deliverability, criticality and prioritisation assessments and consideration of whole of life cost optimisation for the assets. The SCA's and MDBA then jointly moderate, refine and prioritise the expenditure proposals across the system and budgets are set and approved under the joint venture RMO governance arrangements, total costs are shared amongst the states and the Commonwealth based on the MDB Agreement, then state governments share their share of the MDBA

[9] MDBA Cost Shares Principles Report, July 2019

costs within their state according to their own cost-sharing arrangements, with the SCAs responsible for carrying out the works and activities that are approved as part of the process.

This is summarised graphically as in :

Figure 4-5 - Joint venture RMO budget process



Source: Atkins

4.3.1. Expenditure and approvals for the joint programs

An overarching view of the process of developing and approving expenditure for the MDB joint programs is, starting with the proposed expenditure items from the SCAs, as follows:

- SCAs develop expenditure proposals for the assets in their direct control, following their own internal asset management processes.
- Through an annual budgeting process coordinated by the MDBA, these proposals are assessed, prioritised, and refined, in collaboration with the SCAs (noting proposals are made by all three states). Forward projections for four years are only included for the outer years if they continue beyond the first year and only one year in advance is budgeted annually.
- MDBA undertakes a combined MDBA level risk assessment which is based on the risk assessments provided for each of the projects at SCA level. The MDBA risk assessment reviews primary and residual risks across categories of: Reputational; Compliance; Financial; Safety; Service Delivery and Environmental likelihood and consequences. A risk score based on the primary risk is then used to prioritise expenditure and forms the basis of the budget.
- MDBA coordinate and advise Joint Venture committees; e.g., Joint Venture Budget And Performance Committee (JVBPC) comprised of representatives from state governments and SCAs to further refine the proposed expenditure, which may also be subject to business cases for large expenditure.
- This expenditure builds up the annual budget, which goes into the MDBA Workplan, which is ultimately approved by the MDB Ministerial Council.

- The Workplan advises the states (DPIE Water in the NSW Government case) of their share of total MDBA costs, which are calculated based on detailed cost sharing rules established under the MDB Agreement (provided in Appendix A).
- The NSW Government (DPIE Water in this case) then undertakes a process to allocate the total NSW share of MDBA costs amongst the NSW government and users in NSW, based on existing cost sharing frameworks, and direction from NSW Treasury.
- WaterNSW proposes pass-through of costs to customers based on direction from DPI Water, and also delivers the works that are approved in the MDBA budget for NSW.

We discuss how under- and over-spend is managed in Section 4.6.

4.3.2. Cost and service categorisation

The Murray-Darling Basin Agreement defines different cost categories for the delivery and management of the River Murray Operations assets. The cost categories and the codes used in the River Murray Operations Joint Program budget are summarised in Table 4-1 .

Table 4-1 - Definitions of agreement classifications

Code	Classification	Description
I	Investigations	Investigating the need for new assets, asset renewal or asset upgrade. This includes, but is not limited to, feasibility assessments and options assessments.
C	Construction	Design, approvals, and construction of any work
O	Operations	Activities to operate the assets to deliver the intended service
MP	Maintenance – Planned	Maintenance is work necessary to keep an existing work in the state of utility in which it was upon its original completion or upon the completion of any improvement or replacement of the work. Planned maintenance (also called major or cyclic maintenance) typically comprises substantial maintenance activities that occur irregularly or at cycles greater than annually.
MR	Maintenance – Routine	Maintenance is work necessary to keep an existing work in the state of utility in which it was upon its original completion or upon the completion of any improvement or replacement of the work. Routine maintenance comprises maintenance activities that typically recur annually.

For the purposes of discerning capital and operating expenditure the classifications can broadly be identified as:

Capital expenditure - I & C;

Operating expenditure – O, MP and MR.

The River Murray Operations Joint Program budget categorises all budget activities in terms of:

- Responsible Agency;
- Asset Site;
- Service Description;
- Cost Sharing Class Description;
- Service Type Description; and
- Sub Function Description.

These categories are complete for all activities. This provides a comprehensive view of expenditure from these different perspectives. To provide insight into the services and service types used within the budget, Table 4-2 provides a mapping of the services that occur under each service type.

Table 4-2 - MDBA RMO service type and service mapping

Service Type	Service
Environmental Management	Capital Works
	Insurance
	Investigation
	Maintenance – Planned
	Maintenance – Routine
	Operations
	Water Quality
Forest Water Management	Capital Works
	Insurance
	Maintenance – Planned
	Maintenance – Routine
	Operations
Navigation	Asset Management
	Capital Works
	Dam Safety
	Investigation
	Maintenance – Planned
	Maintenance – Routine
	Operations
	Support Services
Not Applicable	Maintenance – Planned
	Not Applicable
Real Estate	Administration/Mgt
	Capital Works
	Maintenance – Planned
	Maintenance – Routine
	Plant, Vehicles and Equipment
Recreation and Tourism	Capital Works
	Maintenance – Planned
	Maintenance – Routine
	Public Relations
River Channel Management	Capital Works
	Investigation
	Maintenance – Planned
	Maintenance – Routine
	Plant, Vehicles and Equipment
	Support Services

Service Type	Service
RMW Office	Administration/Mgt
	Asset Management
	Capital Works
	Maintenance – Planned
	Maintenance – Routine
	Operations
	Support Services
Salinity Mitigation	Capital Works
	Insurance
	Investigation
	Maintenance – Planned
	Maintenance – Routine
	Operations
Support Services	Administration/Mgt
	Asset Management
	Capital Works
	Dam Safety
	Insurance
	Investigation
	Maintenance – Planned
	Maintenance – Routine
	Plant, Vehicles and Equipment
	Support Services
	Training
Water Storage & Supply	Asset Management
	Capital Works
	Dam Safety
	Investigation
	Maintenance – Planned
	Maintenance – Routine
	Operations
	Plant, Vehicles and Equipment
	Stream Gauging
	Support Services
	Water Quality

4.4. Activities in NSW

Assets with WaterNSW management involvement

The direct operation of the shared assets is generally assigned to the state that built the asset, with that state's designated SCA operating the asset (in NSW this is WaterNSW). Of the total shared assets, the following are managed by WaterNSW:

(i) Hume Dam (Victoria also has responsibility for some land adjacent to the dam);
(ii) Euston weir;
(iii) Wentworth weir;
(iv) Menindee lakes (various infrastructure; spillway, weirs, regulators); and
(v) Koondrook-Perricoota.

WaterNSW also manage the Hydrometric assets and the Millewa Forest Regulator assets.

MDBA related activities undertaken on behalf of WAMC are outlined in Table 4-3 below:

Table 4-3 - MDBA WAMC activity codes and description

Activity Code	Description
W06-07	Sub Function: Water Markets
	Water Trading Project - Jnt
W05-03	Sub Function: TLM Planning and Delivery
	TLM Planning and Delivery – Barmah-Millewa Forest
	TLM Planning and Delivery – Gunbower/Koondrook-Pericoota
	TLM Planning and Delivery - Hattah Lakes
	TLM Environmental Delivery
	Icon Site Program Management
	TLM Planning and Delivery - Mouth Coorong Lower Lakes
	Ongoing Costs of TLM Water
	TLM Planning and Delivery - Chowilla Lindsay Walpolla
W04-01	Sub Function: TLM Modelling
	TLM Modelling
W01-03	Sub Function: River Health
	River Murray Water Quality
	Fish Demonstration Reach
W01-05	Sub Function: TLM Monitoring
	TLM Environmental Monitoring Office/Coordination
	TLM River Murray System Scale Monitoring (Type 1)
	TLM Intervention Monitoring (Type 3)
	TLM Condition Monitoring – Barmah
	TLM Condition Monitoring – Millewa
	TLM Condition Monitoring – Gunbower
	TLM Condition Monitoring – Koondrook-Perricoota
	TLM Condition Monitoring – Hattah

Activity Code	Description
	TLM Condition Monitoring – Lower Lakes
	TLM Condition Monitoring – Chowilla
	TLM Condition Monitoring – Lindsay Wallpolla
W05-03	Sub Function: Environmental Monitoring and Evaluation
	Environmental Monitoring and Evaluation - Jnt
W07-01	Sub Function: Basin Salinity Management 2030
	BSM 2030 Modelling
	BSM 2030 Coordination
	BSM 2030 Audit/Reporting
	Salinity Registers Governance
	BSM 2030 Operational Procedures
	BSM 2030 Knowledge Priorities
Non-WAMC	Sub Function: Secretariat - Joint Committees
	Committees - HLC - MinCo, BOC & RMOC
	Joint Programs Outcome Based Budgeting Project
W06-07	Sub Function: TLM Indigenous Partnerships
	Indigenous - TLM
W04-01	Sub Function: Core Modelling
	Daily Model Development (NRM funded)
	Core Modelling (NRM Funded)
	Sub Function: Basin Science Strategy
	Basin Science Strategy
	Sub Function: Compliance Compact
	Compliant non-urban water metering in Australia
	Sub Function: National Fish Management and Recovery Strategy
	National Fish Management and Recovery Strategy (NFMRS)
	Sub Function: Aboriginal Participation and Engagement in Water
	Aboriginal Participation and Engagement in Water

We queried MDBA on how activities and outturn costs tracked over time and within period. MDBA responded that

"This is coordinated via the MDBA and done at several levels. Operationally, State Constructing Authorities (SCA's) provide monthly expenditure claims to the MDBA along with updates of activities. Quarterly reporting is also is also provided to the MDBA by SCA's. Activity progress and costs are presented to various Governance Committee's quarterly including; Asset Management Advisory Panel, River Murray Operations Committee, Joint Programs Budget Committee, Basin Officials Committee and the Ministerial Council. This is done via formal

presentations and/or meeting Agenda Item papers. Activity progress and costs are also captured in quarterly reports which are provided Out of Session to the Basin Officials Committee and the Ministerial Council[10].”

[10] *MDBA JP 2019-20 Q4 Performance Report*

4.5. Cost allocation

Within the WaterNSW rural bulk water determination for customers within the Murray and Murrumbidgee valleys, MDBA costs are allocated between users and the NSW government according to IPART's cost sharing principles. For WaterNSW activities related to the MDBA pass-through costs these user shares are shown in Table 4-4 below.

Table 4-4 – WaterNSW MDBA activities and percentage of user charges

Activity	% user charge
Water Delivery & operations	95%
Hydrometric Monitoring	90%
Routine Maintenance	95%
Environmental Planning & Protection	80%

Within the WAMC determination activity costs relevant to the MDBA programs are allocated separately between users and the NSW government as per Table 4-5 below.

Table 4-5 - WAMC activity costs mapped to MDBA programs and % user shares

Activity code	Description	MDBA Program	User share
W01-03	Surface water quality monitoring	Sub Function: River Health	60%
W01-05	Surface water ecological condition monitoring	Sub Function: TLM Monitoring	50%
W04-01	Surface water modelling	Sub Function: TLM Modelling	80%
		Sub Function: Core Modelling	80%
W05-01	Systems operation and water availability management	Sub Function: Water Markets	100%
W05-03	Environmental water management	Sub Function: TLM Planning and Delivery	80%
		Sub Function: Environmental Monitoring and Evaluation	80%
		Sub Function: TLM Indigenous Partnerships	80%
W06-07	Cross border and national commitments	Sub Function: Secretariat - Joint Committees	50%
W07-01	Water management works	Sub Function: Basin Salinity Management 2030	80%

4.6. Current determination period 2016-17 to 2020-21

At the previous 2017 IPART expenditure and cost review there were a number of issues identified which included:

- Historical underspending against planned expenditure;
- Lack of a line of sight between expenditure and levels of service and outcomes;
- Inconsistencies and deficiencies in capital planning processes for WaterNSW non-RMO assets and MDBA shared assets;
- Inconsistencies and discrepancies between the expenditure totals and aggregation between DPI Water/WAMC and MDBA. This may be due to the model misalignment and no clear audit trails to source data;
- Lack of transparency by NSW Government in its cost sharing arrangements and processes; and
- Lack of incentives for the SCAs to seek (operational) efficiencies for activities over short and long term.

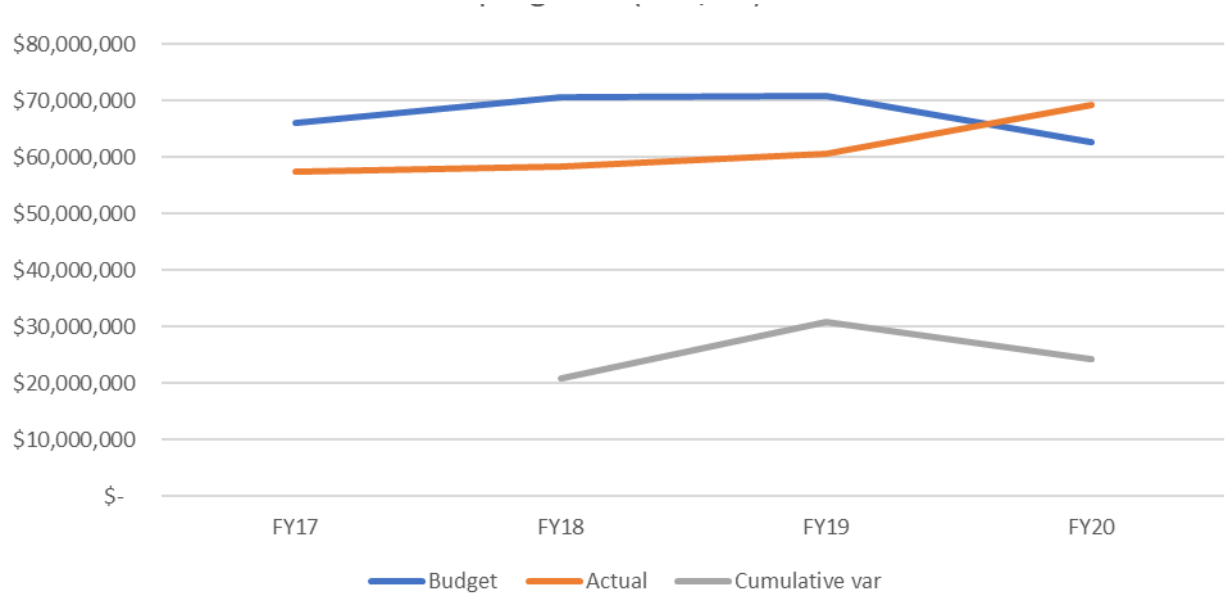
We discuss many of these items in the following sections.

For the 2016 review, DPI was seeking to recover a share of the costs of the water management activities funded through the MDBA Joint Programs from water users over the 2016 determination period. These costs were referred to as MDBA costs or contributions. The 2016 Determination the DPI proposed $9.28m for total MDBA contributions per year and that 55% of this cost would be recovered from customers through water user charges in the regulated and unregulated river catchments. While the previous efficiency review consultant recommended no adjustment to these proposed costs, IPART applied a 5% per year reduction to the contribution. This took into account shareholder concerns with the efficiency of MDBA contributions and reflected a 5% reduction to two of the MDBA programs – the Living Murray Initiative and salinity management activities. The Final Determination also commented on the lack of transparency of MDBA costs.

4.6.1. Underspending against budgeted expenditure

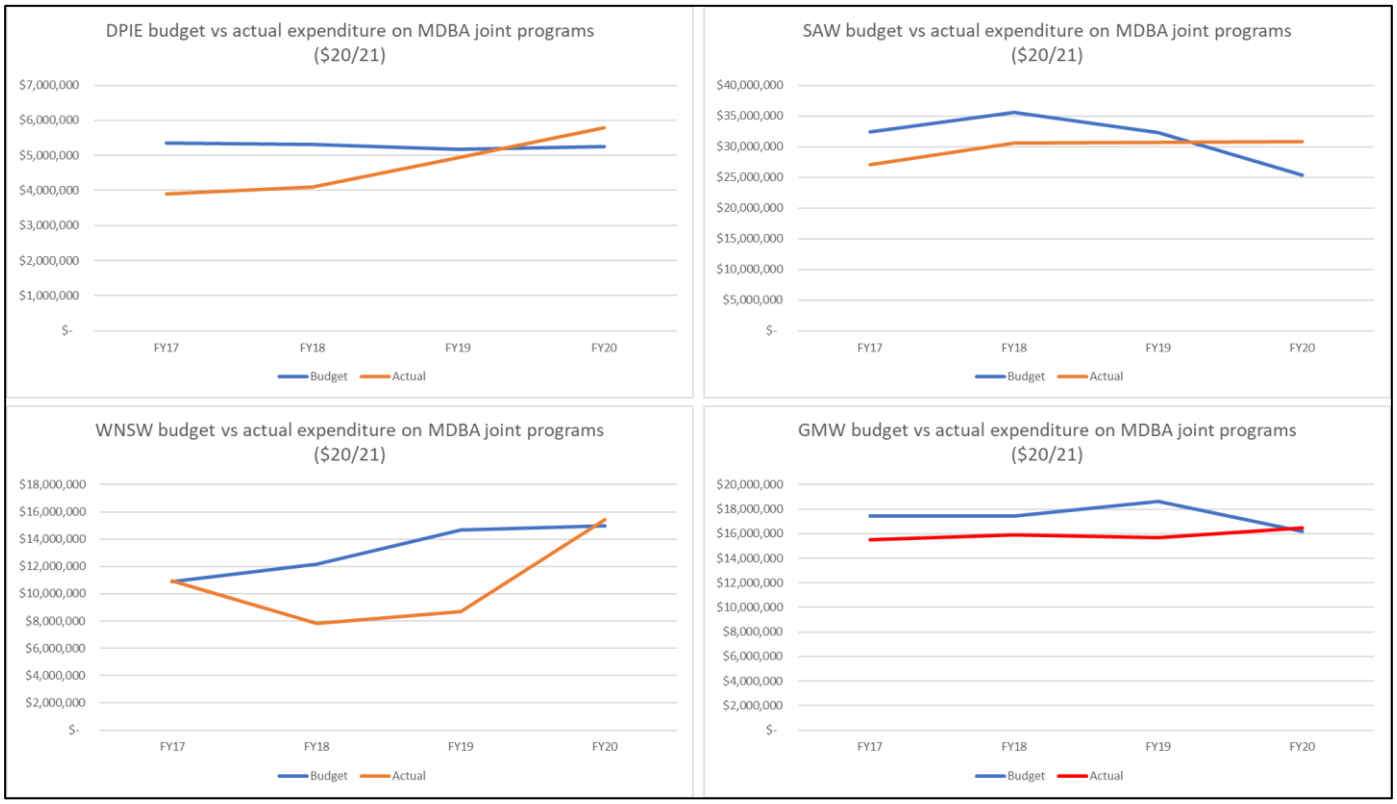
We have been provided budgeted SCA expenditure against SCA actual expenditure for 2017 to 2020 for works on MDBA joint programs. In recent years it can be seen that across the total SCA budget there is a cumulative underspending of $24.3m against a total budget of $270.1m. Figure 4-6 below shows that in FY20 there appears to have been an offset or carryover between budgeted contributions compared to actual expenditure due to the accumulated underspending over the preceding years.

Figure 4-6 - Total SCA MDBA budget against actual expenditure on MDBA joint programs ($20/21)



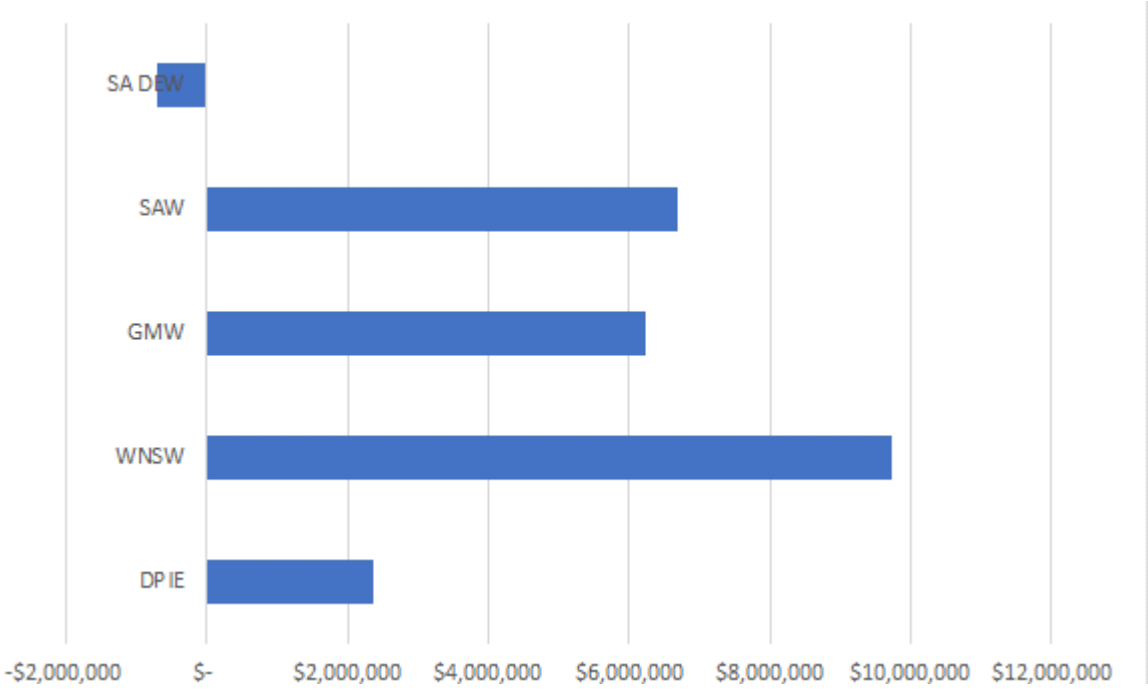
In can be seen in Figure 4-7 below that between FY17 and FY19 there was consistent underspending against the SCA budget for all of the agencies: DPIE (WAMC), WaterNSW, SA Water and Goulbourn-Murray Water (GMW), VIC.

Figure 4-7 - SCA agencies MDBA budget against actual expenditure on MDBA joint programs ($20/21)



The SCA with the largest underspend in both absolute and percentage terms is WaterNSW with a total underspend of $9.7M or 18% of its budget.

Figure 4-8 - Underspend FY17 to FY20 by SCA ($20/21)



We note that until FY20 there has been a consistent underspending against the budgeted expenditure. As part of our review, we have sought to understand:

- How underspending/carryovers are treated within the MDBA;
- The causes of the underspend; and
- How MDBA ensures that all required activities are being undertaken satisfactorily given the consistent underspending.

The MDBA have furnished us with the following responses

(i) How is underspending treated?

Response: Underspends in the Joint Programs are made up of either "Genuine" underspends or "Committed" underspends. Genuine underspends are created because of genuine savings in the activities undertaken in the Joint Programs and are returned to the contributing Governments using the agreed cost share ratios. Under the conditions of the Water Act, the excess funds are not distributed back to the [State] Governments but retained within the MDBA on behalf of the contributing Governments to be utilised to off-set future contributions or projects that are supported by all contributing parties.

These underspends sit on the MDBA's balance sheet however they belong to the contributing Governments who are regularly advised of their share of funds sitting with the MDBA. Any decision to spend money out of the underspend pool is made jointly by the Ministerial Council.

(ii) Causes of variance and consistent underspending

Response:
Genuine underspend
A range of issues contribute towards the creation of genuine underspends. These include, but are not limited to:

- *the ability to deliver certain works under budget through engagement of more competitive suppliers;*
- *reduced scope of works following outcomes of investigation works;*

- *changing environmental conditions preventing the ability to undertake certain works; contingencies on large infrastructure projects not required.*

Committed underspend
A range of issues contribute towards the creation of underspends that require funds to be carried over to future financial years to complete projects. These include, but are not limited to:

- *changes to scheduling of works where flexibility is required, such as approvals, procurement delays and immediate emerging issues;*
- *increased scope of works following outcomes of investigation works, particularly for works located under water;*
- *changing environmental conditions preventing the ability to undertake certain works.*

(iii) How does MDBA ensure all activities are being undertaken satisfactorily given the consistent underspending?

Response: The MDBA works closely with the State Constructing Authorities to ensure all works that were budgeted are undertaken effectively. This is monitored through the monthly claims process, quarterly updates of key projects and regular correspondence and site visits (currently not possible due to COVID 19 restrictions) when possible. Any variances to the original planned expenditure are investigated and the reasons behind variances are collected and presented to the Contributing Governments through quarterly reports. MDBA also undertakes external audits periodically to ensure the program is undertaking due diligence and manages the RMO funds efficiently and effectively.

MDBA in its Annual Report 2018-19[11] further explain its treatment of variance against budget:

> *The Authority experiences significant fluctuations in its spending against budget due to the complex nature of the joint programs, which reflects a high level of inherent risk associated with capital construction and environmental projects. There are two major reasons impacting the delivery of programs: a number of large programs that are scalable depending on seasonal conditions, river and storage levels, and the associated lengthy and complex approval processes.*
>
> *Some infrastructure is only accessible when water levels are low or may only be taken out of service at times of the year when the risk to water supply is low. The infrastructure require investigation to determine the condition of these assets and the extent of maintenance required. Budget is generally allocated to progress works, however, depending on assets' conditions, it may require less maintenance/replacement than anticipated. As such, the Authority budgeted for a significant increase in expenditure in relation to these infrastructure projects.*
>
> *Despite the higher budgeted costs, the ability of the Authority to undertake these projects to the extent budgeted was delayed as a result of challenges in procurement processes, including: local councils permits and statutory approvals taking longer than anticipated, industry resource capacity limitations has resulted in major projects tenders not awarded in the first attempt, and specific assets are no longer manufactured in Australia and must be sourced overseas resulting in longer delays in timing.*
>
> *During 2018–19 the above resulted in reduced expenditure on Water Infrastructure Assets in Victoria, New South Wales and South Australia which include Hume Dam, Dartmouth Dam, Floating plant, and Lock 6. Reduced water storage levels have resulted in less water entitlement usage for The Living Murray program. Similarly, there was a decrease in the related cash out flows (including GST)*

Genuine underspending can be summarised to be scope reduction, release of unused contingency and efficiency savings, these are returned to the underspend pool. *Committed* underspending can be summarised as deferrals or rescoping, are carried over to subsequent years. There does not appear to be any disaggregation of *Genuine* underspends and *Committed* underspends within the documentation we have been provided. As a result, it has not been possible for us to see how any genuine efficiency levers are being applied throughout business planning processes and how any efficiency savings are being realised year on year.

4.6.2. Operating Expenditure

We have used the MDBA cost classification (discussed in Section 4.3.2) to derive the operating expenditure for each SCA. Although each SCA has its own capitalisation policy using the MDBA classification provides a consistent basis by which to compare the SCAs expenditure against each activity and asset. In the case of

[11] MDBA Annual Report 2018-19

WaterNSW it only recognises MDBA costs passed through to its customers as operating expenditure for its regulatory accounting purposes, so it is necessary to review the MDBA records against each asset to determine the relative split between operating expenditure and capital expenditure.

Actual operating expenditure across all SCAs in the current period remains relatively constant compared to the budget in the future period (Figure 4-9). There is also consistent operating expenditure year on year on each RMO asset type (Figure 4-10)

The graphs below do not include RMO MDBA office expenditure which can also be attributed to operating expenditure. As RMO office expenditure is spent directly by the MDBA and does not pass through the SCAs we have excluded these costs from our review.

Figure 4-9 - RMO operating expenditure by SCA FY17 to FY24 ($20/21)

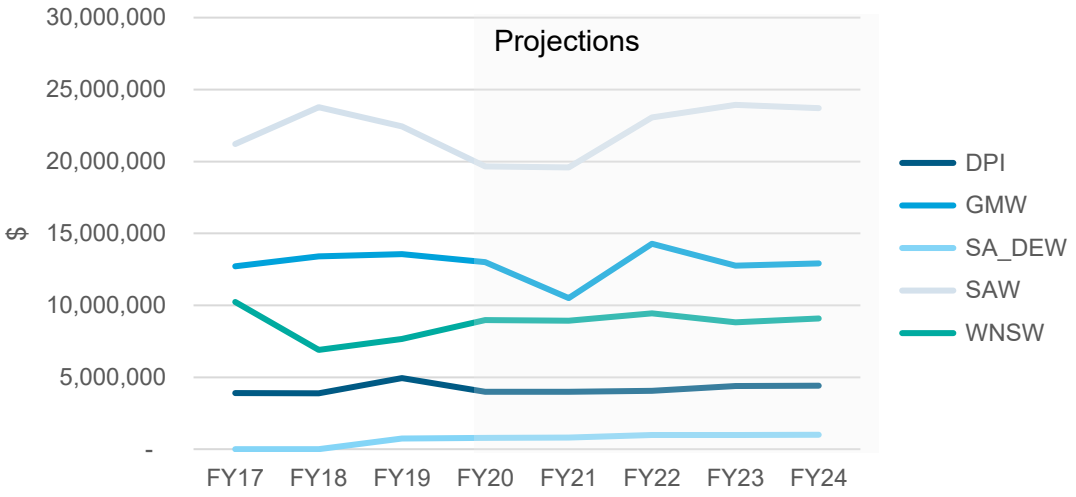
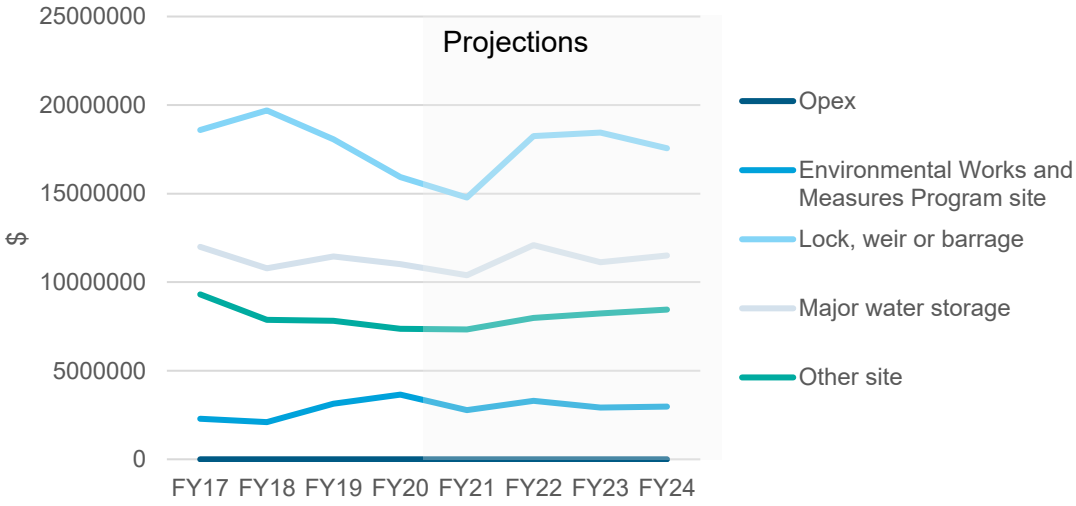
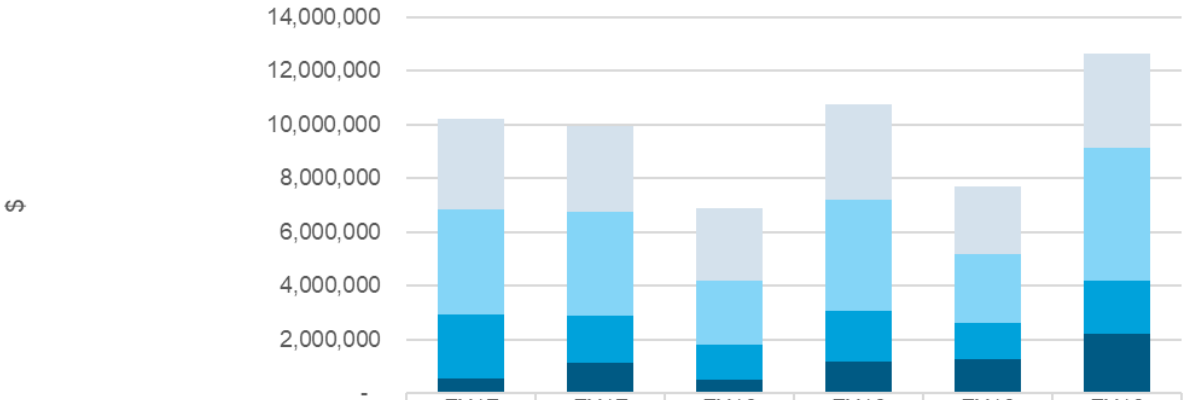


Figure 4-10 - RMO capital expenditure by asset type FY17 to FY24 ($20/21)



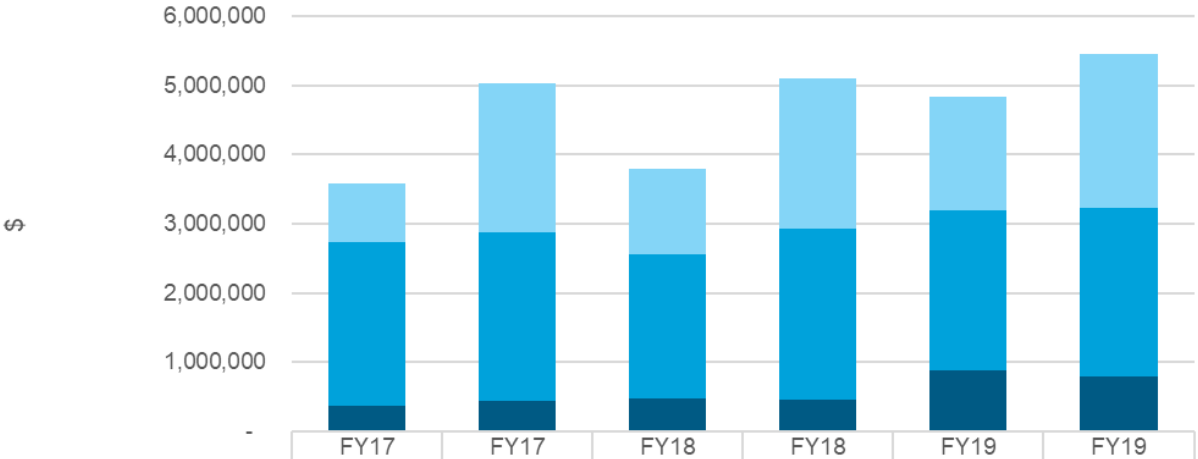
For Activity in NSW, WaterNSW and DPI both underspent against all MDBA RMO asset types operating expenditure budgets in FY18 and FY19 (Figure 4-11 and Figure 4-12). We do not have the final year figures for FY20 to make the same comparison.

Figure 4-11 - WaterNSW RMO operating expenditure by asset type actual against budget FY17 to FY19 ($20/21)



	FY17 Actual	FY17 Budget	FY18 Actual	FY18 Budget	FY19 Actual	FY19 Budget
Other site	3,374,940	3,184,937	2,700,511	3,527,926	2,498,353	3,512,065
Major water storage	3,919,410	3,893,497	2,409,574	4,134,098	2,582,782	4,931,474
Lock, weir or barrage	2,406,939	1,718,871	1,307,896	1,906,081	1,311,898	1,999,324
Environmental Works and Measures Program site	531,120	1,143,705	482,389	1,160,048	1,278,339	2,199,883

Figure 4-12 - DPI RMO operating expenditure by asset type actual against budget FY17 to FY19 ($20/21)



	FY17 Actual	FY17 Budget	FY18 Actual	FY18 Budget	FY19 Actual	FY19 Budget
Salt interception scheme	847,332	2,156,965	1,228,842	2,173,160	1,637,558	2,222,402
Other site	2,366,352	2,431,848	2,084,848	2,479,158	2,316,421	2,447,556
Major water storage	373,682	438,690	474,954	447,105	885,751	788,387

4.6.3. Capital Expenditure

Actual capital expenditure across all SCAs and asset types in the current period varies significantly both year on year and in comparison to the budget in the future period (Figure 4-13 and Figure 4-14). This can be attributed to a number of factors including contribution limitations ensuring improved asset planning and work prioritisation, the condition of the assets, regulatory requirements and due to underspending on capex in recent years as discussed in Section 4.6.1 above.

Figure 4-13 - RMO capital expenditure by SCA FY17 to FY24 ($20/21)

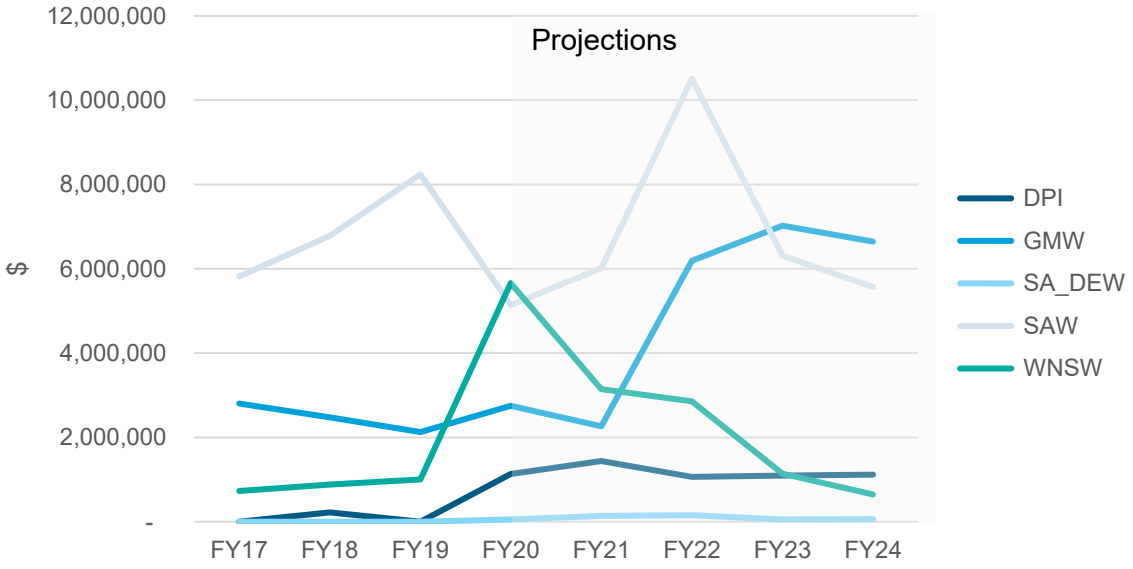
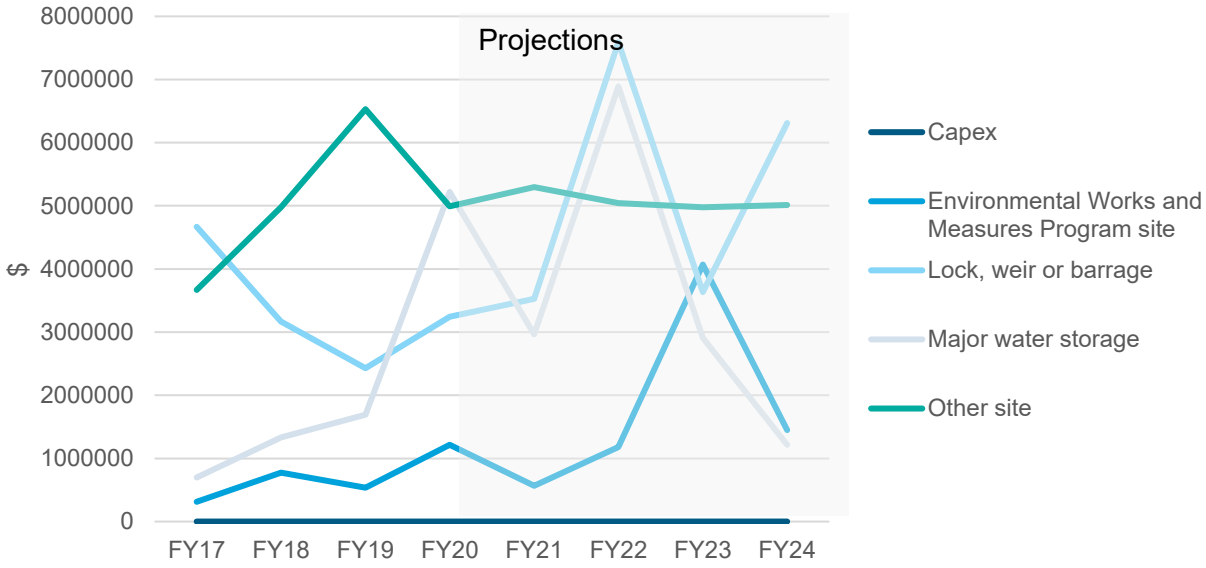
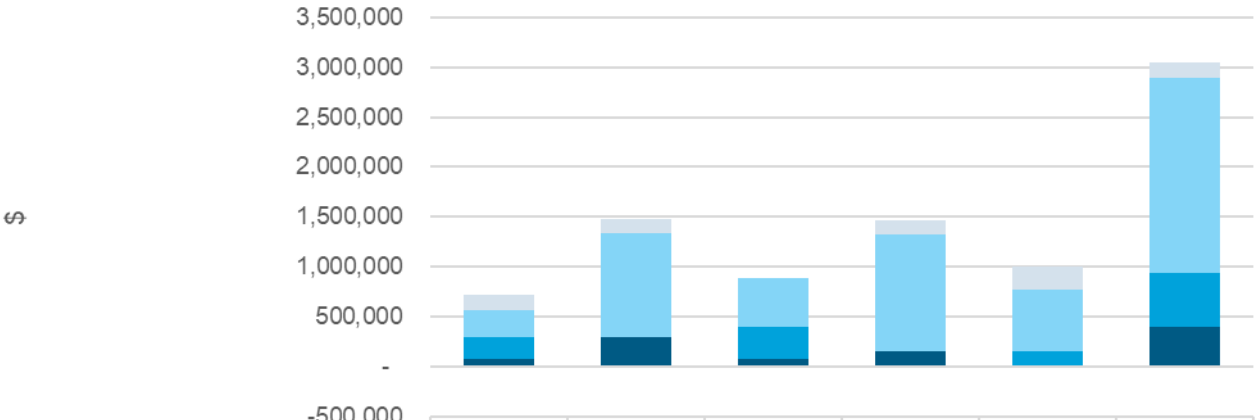


Figure 4-14 - RMO capital expenditure by asset type FY17 to FY24 ($20/21)



Within NSW, WaterNSW has underspent against its budget in recent year across most asset types (Figure 4-15). There has been no significant capital expenditure on RMO assets spent by DPI.

Figure 4-15 - WaterNSW RMO capital expenditure by asset type actual against budget FY17 to FY19 ($20/21)



	FY17 Actual	FY17 Budget	FY18 Actual	FY18 Budget	FY19 Actual	FY19 Budget
Other site	153,464	149,921	-2,432	152,898	230,678	156,510
Major water storage	271,721	1,031,318	488,507	1,166,485	613,896	1,949,750
Lock, weir or barrage	219,225	-	323,192	-	158,502	534,447
Environmental Works and Measures Program site - actual	81,409	300,116	75,308	152,545	-	405,244

4.6.4. Changes in the allocation of costs between WAMC and WaterNSW

Within the DPI Water submission to IPART in support of its proposed WAMC determination pass-through costs it is explained that

> *"In its 2016 final report, IPART accepted that the MDBA Joint Programs activities were water management services that were government monopoly services as defined in the IPART (Water Services) Order 2004 and therefore allowed DPI Water to recover a share of the costs of the water management activities funded through the MDBA Joint Programs from water users. IPART decided that the efficient annual average costs of DPI Water's MDBA contributions during the 2016 regulatory period were $8.8 million in $2015-16 (equivalent to $9.7 million in $2020-21) and that the user share of that was $4.9 million in $2015-16 (or $5.4 million in $2020-21.) IPART stated this was "after taking into account stakeholder, concerns with the efficiency of MDBA contributions" and after scrutinising the expenditures and applying an efficiency dividend. We [DPIE] propose expenditures of $5.7 million per annum during the 2021 regulatory period, a reduction from the average annual actual costs during the 2016 regulatory period of $10.9 million and the $9.7 million annually that IPART had decided was efficient for that period. [12]*
>
> *This reduction is not due to a reduction in the total MDBA expense. Rather it reflects the outcomes of applying the MDBA's categorisation of RM and Non-RM activities between the WAMC and Bulk Water (WaterNSW) regulated prices. We have assigned MDBA's river management activity costs to WAMC prices and non-river management costs to Bulk Water (WaterNSW) regulated prices. This results in a reduction in the WAMC proportion as the MDBA characterise the salt interception scheme (SIS), which are included in WAMC prices in the 2016 regulatory period, as RM costs. As such we propose that SIS costs be recovered in the bulk water submission"*

DPIE provided the following rationale for the proposed change of approach to the cost allocation for Salt Interception Schemes from WaterNSW bulk water to the WAMC determination in the future period:

> *"Note that the total SIS costs proposed to be passed to users are the same whether they are included in WaterNSW RV pass-through charges or WAMC water management charges (80% user share in*

[12] Detailed paper F – Murray-Darling Basin Authority and Dumaresq-Barwon Border Rivers Commission - NSW Department of Planning, Industry and Environment | PUB20/524

both). The rationale for moving the SIS costs is that the WAMC and WaterNSW RV reviews are happening concurrently so there is an opportunity to review the split of MDBA and BRC contributions in total and test what provides the most transparent approach for water licence holders. Splitting the contributions along the lines of River Operations and Non-river Operations (natural resource management) provides users with a clear delineation of the MDBA and BRC functions the charges are paying for. That is the WaterNSW RV pass-through would cover operational and infrastructure costs where WAMC users' charges would cover natural resource management costs."

4.6.4.1. Salt Interception Schemes

Salt is a natural part of Murray-Darling Basin landscapes and rivers. The groundwater systems close to the River Murray hold more than 100,000 million tonnes of salt. The salts come from the weathering of rocks, from ancient oceans and from salts deposited by rainfall (cyclic salt) over millions of years. All of this salt must necessarily find its way into the river before reaching the sea; typically, the river delivers around two million tonnes of salt per year to the sea. The Basin's flat terrain, low rainfall and high evaporation rates contribute to increased salt concentration across the landscape. Land clearing and irrigation has increasingly mobilised salt (into the landscape and river systems). Compounding this has been the increasing proportion of river flows being diverted for irrigation, industrial and urban uses. There is now less flow in the river to dilute inflows of saline groundwater.

Methods to reduce and manage the amount of salt in the River Murray include:

- reduce saline drainage by improved irrigation efficiency and better delivery systems;
- re-use drainage waters on-farm irrigation;
- river flow management – timed water releases to provide salinity dilution;
- reduce the groundwater recharge and flow by planting deep rooted perennials;
- zoning to direct new irrigation to areas of low salinity impact; and
- divert saline groundwater before it enters the River Murray through salt interception and drainage diversion schemes.

Salt interception schemes are large-scale pumping schemes that divert saline groundwater and drainage water before entering rivers. In most cases, a bore and pump system, extracts the groundwater and pumps it to a salt management basin some distance from the river. Since 1988 the States of New South Wales, Victoria and South Australia, together with the Australian Government, have funded the construction of salt interception schemes. These schemes prevent approximately half a million tonnes of salt per year from reaching the River Murray. Salt interception schemes, together with other actions such as improved irrigation practices and river dilution flows, have reduced the salinity in the River Murray by approximately 200 EC* per year at Morgan in South Australia.

There are currently 18 salt interception schemes which divert approximately half a million tonnes of salt away from the river and adjacent landscapes each year. These schemes are implemented in conjunction with the Basin Salinity Management 2030 strategy (BSM2030). The objectives of the BSM2030 are to ensure:

- Salinity levels are appropriate;
- Shared responsibility;
- Monitor and assess salt loads;
- Identify risks;
- Continuous improvement; and
- Optimise benefits

4.6.4.2. What causes salt intrusion?

The BSM2030 Knowledge Priorities review highlighted, as a strategic knowledge priority, the significant uncertainties of estimated salt loads to the River Murray that result from past actions (dryland clearing and pre-1988 irrigation) and underpin a projected increase in River salinity, unless they are offset by compensatory actions. As a result, two reviews were undertaken in 2017 on:

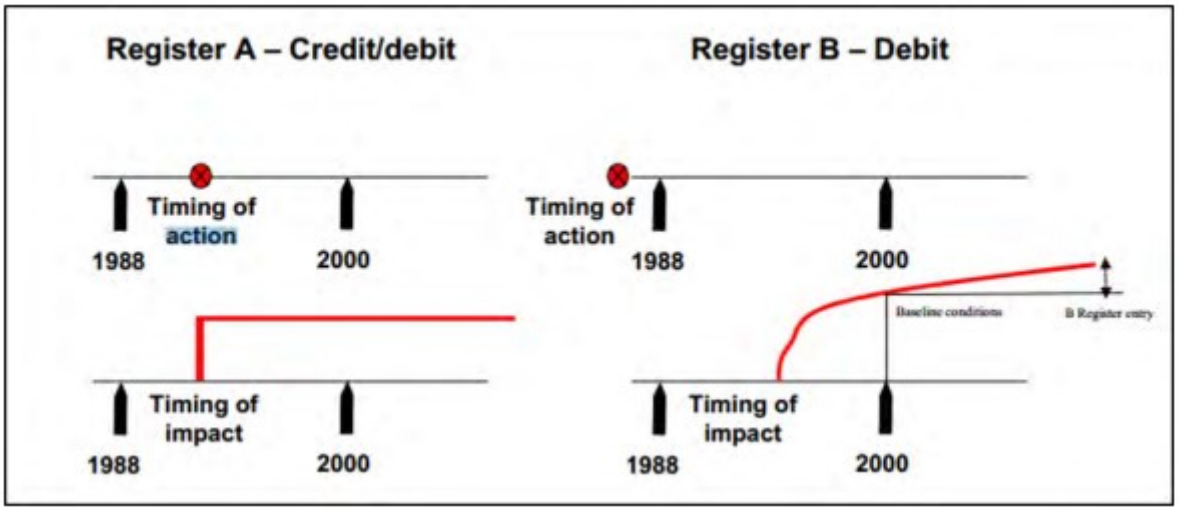
i. Salinity Impacts from Pre-1988 Irrigation[13]; and
ii. Salinity Impacts from Pre-1988 Dryland Vegetation Clearance[14]

Both reports provide a background on the MDB salinity strategy:

> *The 1988 Salinity and Drainage Strategy (S&DS) inter-jurisdictional agreement (Murray–Darling Basin Ministerial Council (MDBMC), 1999) was a no regrets approach that allowed for new irrigation development activities, provided their salinity impacts were offset. Simply put, irrigation districts were permitted to acquire the right to dispose of saline drainage water, provided they undertook to build and operate salinity mitigation works and measures and/or collaborate financially to do so. The subsequent Basin Salinity Management Strategy (BSMS) 2001-2015 (MDBMC, 2001) expanded this strategy, and established end-of-valley and Basin water quality targets under an integrated catchment management philosophy. Essentially these Basin-scale partnership strategies have at their core a salinity impact trading scheme, whereby if participants wished to implement works or measures that involved salinity impacts (debits), they need also to implement works or measures to reduce or offset salinity impacts (credits), provided the salinity of the River Murray did not exceed an agreed value (<800 EC for 95% of the time as modelled) and the credits exceeded the debits.*
>
> *The 1988-2000 S&DS invoked the no regrets principle by acknowledging that past actions had driven the current river salinity regime, and that unpicking this was counter-productive to future management of the system. Rather, a baseline date (1 Jan. 1988) was agreed that ruled off on past actions, and that all future actions would be held accountable in terms of their salinity impacts, evaluating them against benchmark conditions (1975–85 for the S&DS and 1975–2000 for BSMS. Despite reductions in salinity arising from the Strategy, it became apparent that the baseline as agreed was not constant. Some actions taken prior to the 1988 agreement were still able to have a salinity impact after 1988.*
>
> *Under the 2001-2015 BSMS, the salinity impacts of pre-1988 actions were termed Legacy of History (LoH) impacts and parties to the agreement were held jointly responsible. The salinity impact effects were assessed using models and an agreed climatic/hydrologic sequence, the 'benchmark period' 1975-2000, and baseline conditions were defined as the agreed suite of conditions that contribute to the transport of salt in place within the catchments and rivers on 1 January 2000 (MDBA, 2015).*
>
> *To implement this approach, a new salinity Register (Register B) was instituted within the BSMS framework as the vehicle to explicitly acknowledge the LoH impacts and these were specifically defined as a salinity impact which occurs after 1 January 2000 but is attributable to an action taken or decision made before 1 January 1988. The part of the impact that occurs after 1 January 2000 is entered in Register B and the part which occurs before 1 January 2000 becomes part of the baseline conditions. The Register B entry is calculated as the incremental change in salinity compared to 2000 (Figure 2 after MDBC (2005), Chart 3.2).*

[13] https://www.mdba.gov.au/sites/default/files/pubs/report-mallee-legacy-salinity-impacts-irrigation.pdf
[14] https://www.mdba.gov.au/sites/default/files/pubs/report-mallee-legacy-salinity-impacts-dryland-veg.pdf

Figure 4-16 - Timing considerations for salinity register entry calculations (source: Salinity Impacts from Pre-1988 Irrigation, hydrogeologic 2017)



The LoH actions were effectively of two types: dryland actions and irrigation area actions. By their very nature, the salinity impacts of these actions were difficult to quantify, and large uncertainty was attached to the impact estimates. Nevertheless, the impacts were derived and incorporated into the BSMS registers.

As indicated above there is significant uncertainty around data, modelling and impacts. Both the reports commissioned conclude that more significant projects using larger data sets which look at whole of system approaches would be required to develop a more meaningful understanding of the impacts of both irrigation and dryland vegetation clearance.

4.6.4.3. Which Determination should Salt Interception Schemes fall into?

In this section we consider whether salt interception schemes are better aligned to the prices that water customers pay for water planning, management and regulation services carried out on behalf of WAMC or to WaterNSW's bulk water services.

Functions of WAMC and WaterNSW

Under the Independent Pricing and Regulatory Tribunal (Water Services) Order 2004, IPART regulates the prices of WAMC's activities in relation to making available water, making available water supply facilities and the supply of water.

WAMC's functions are defined in the Water Management Act 2000 as:

(a) to construct, maintain and operate water management works,

(a1) to construct, maintain and operate gauging stations and other monitoring equipment,

(b) to conduct research, collect information and develop technology in relation to water management,

(c) to acquire rights to water, whether within or beyond New South Wales,

(d) to do anything for the purpose of enabling the objects of this Act to be attained.

WaterNSW's listed functions are defined in the Water NSW Act 2017 as:

(a) to capture and store water and to release water:

(i) to persons entitled to take the water, including release to regional towns, and

(ii) for any other lawful purpose, including the release of environmental water,

(b) to supply water to the Sydney Water Corporation,

(c) to supply water to water supply authorities and to local councils or county councils prescribed by the regulations,

(d) to supply water to licensed network operators or licensed retail suppliers within the meaning of the Water Industry Competition Act 2006,

(e) to supply water to other persons and bodies, but under terms and conditions that prevent the person or body concerned from supplying the water for consumption by others within the State unless the person or body is authorised to do so by or under an Act,

(f) to construct, maintain and operate water management works (including providing or constructing systems or services for supplying water),

(g) to protect and enhance the quality and quantity of water in declared catchment areas,

(h) to manage and protect declared catchment areas and water management works vested in or under the control of Water NSW that are used within or for the purposes of such areas,

(i) to undertake flood mitigation and management,

(j) to undertake research on catchments generally, and in particular on the health of declared catchment areas,

(k) to undertake an educative role within the community.

Based on their functions, it is clear that both WAMC and WaterNSW have a role in construction and operation of "water management works" as well as responsibilities for water management more generally.

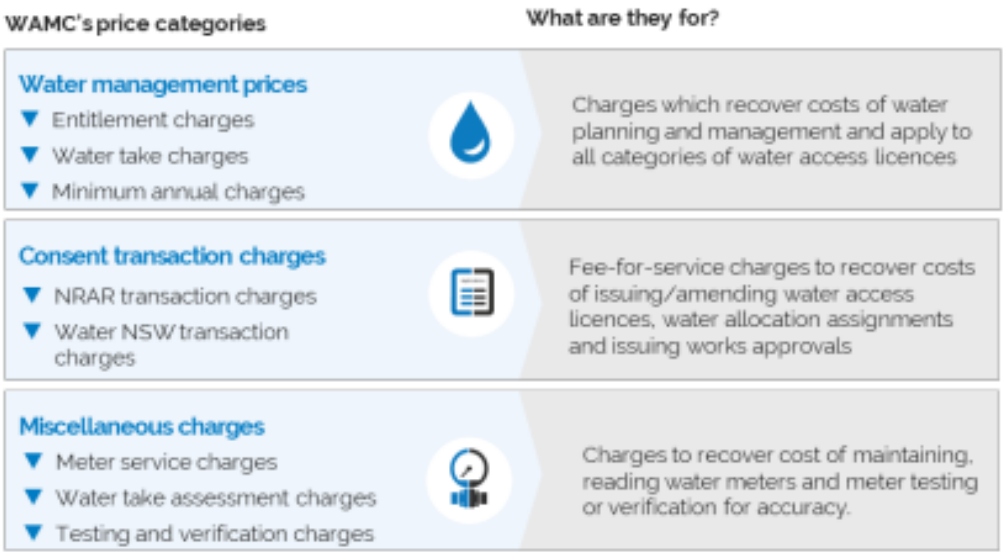
Differences between the Determinations

We therefore need to consider what the prices being set in each Determination relate to. In its Issues Paper[15], IPART states that its review of WAMC covers three pricing categories:

- water management charges,
- consent transaction charges, and
- miscellaneous charges (which include meter service, water take assessment and ancillary charges)

These price categories are summarised below:

Figure 4-17 - WAMC Price Categories



Source: IPART Issues Paper, September 2020

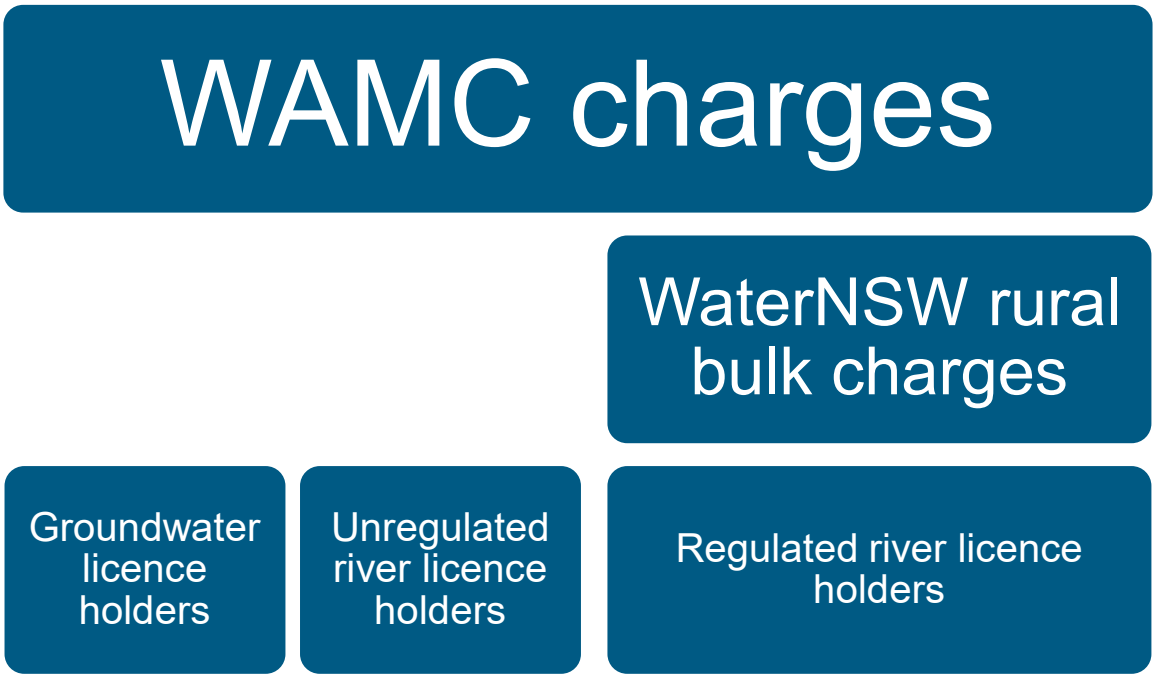
These charges are paid by consumptive users who are water access licence (WAL) holders that are subject to WAMC's regulated prices. This includes licence holders on regulated rivers, unregulated rivers and groundwater.

[15] Review of Water Management Prices From 1 July 2021: Issues Paper, September 2020

For WaterNSW, IPART's rural bulk water prices Determination will cover the charges for bulk water. These charges are paid by water access licence holders on regulated rivers only.

One of the key distinctions between these Determinations is therefore the breadth of customer base they are borne by, as summarised below.

Figure 4-18 - WAMC user charges summary



Causes of salinity and who benefits from salt interception

High levels of salinity can lead to damage to irrigated crops and make the water unsuitable for potable consumption. The MDBA's website[16] summarises the causes of the salinity challenges in the MDB as follows:

> *Land clearing and water intensive farming methods have resulted in underground water tables (groundwater) rising closer to the surface. This has brought more salt into the river system.*
>
> *Increased water use, by communities and industry (including farming) has reduced river flows, leaving less water to dilute salt in rivers or flush it out to sea.*

The Basin Salinity Management 2030 (BSM2030)[17] for the MDB, published in 2015, commits each state to ensure that "actions that increase river salinity are offset by investing in actions to reduce salinity" and to maintain a "net credit balance".

From these documents it is clear that:

- Salinity issues are not just caused by regulated river licence holders. Salinity is the result of basin-wide land use, drainage and water abstraction effects. The "impactor pays" principle therefore suggests it is not appropriate for the regulated river licence holders alone to bear the cost of the salt interception schemes.
- Further to this, the benefits of salt interception do not simply flow to regulated river licence holders as any action which has a significant effect on salinity, irrespective of where it is in the basin and what type of water user it relates to, creates a net credit or debit affecting actions which can be taken in the rest of the basin.

[16] https://www.mdba.gov.au/managing-water/salinity
[17] Basin Salinity Management 2030 (BSM2030), Murray–Darling Basin Ministerial Council, November 2015

On this basis, we consider that it is more appropriate to maintain the current situation whereby the costs of salt interception schemes are recovered from all licence holders via the WAMC charges, rather than transfer these costs to regulated river licence holders alone through the WaterNSW charges.

This does not affect the cost allocation between users and the NSW government. According to the current cost allocation shares, SIS scheme-related costs are funded 80% by users and 20% by the Government whether they are allocated to WAMC's "Basin Salinity Management 2030" program or WaterNSW's "Environmental Planning & Protection" activity.

4.6.5. Renewal of major assets in NSW

Under WaterNSW Maintain Capability Program (Rural - Tranche 2 Asset Upgrades Preliminary Business Case 2018) amongst its other expenditure items for the wider rural valleys WaterNSW identified $5.6m of direct costs for renewal and replacement between FY18 and FY21 across its MDBA operated assets: Hume Dam, Wentworth Weir, Euston Weir, Koondrook Perricoota.

The Maintain Capability Program (MCP) was initiated in 2017 as part of an overall business renewals program to address critical operability, reliability, compliance and safety issues across facilities in the rural valleys, which are affecting safe and reliable water storage and delivery to end users, whilst addressing operation, maintenance, asset management, environmental and heritage requirements The objective of the project is the safe and reliable operation of the rural water supply systems to maintain a service level of safety, operability and maintainability in providing a reliable water supply to customers. Initial high level cost estimates for the recommended solution for each identified project were prepared by Aurecon as part of its validation studies. These cost estimates were based on external contractor costs only and the estimates did not include internal WaterNSW costs for staff, equipment, overheads etc.

The Final Business Case estimate was based on six packages of similar types of work. The packages were costed separately. A risk workshop attended by design, management, construction and planning specialists was held on 12 March 2019 and focused on profiling the risks for each work package individually and quantifying them. As a result of this process, the risks associated with each type of work was identified and costed and the level of accuracy of the estimate increased. Contingent risk was calculated in accordance with WaterNSW's Estimating Framework (D2017/89290). The risk estimates for the Final Business Case packages were prepared using @risk software. The risk inputs were set up so the P50 of the packages included the risks quantified by the risk workshop.

Project Delivery is managed in compliance with WaterNSW's Project Delivery Framework (PDF) and in consultation with the Program Management Office (PMO). The Final Business Case included that a delivery date of capital works completed by March 2020. WaterNSW has experienced some delays in the last few months, due in part to COVID-19 impacts and sub-contractors based in Victoria not being able to cross into NSW to work. However, WaterNSW is forecasting that it expects to finish by the end of FY21.

4.6.6. Allocation of MDBA corporate costs (i.e., non-SCA expenditure (e.g., MDBA employees)

Based on the DPI Water Submission to IPART for prices from 1 July 2016 – on behalf of the Water Administration Ministerial Corporation Appendix J, the WAMC allocated corporate overheads were distributed across the MDBA natural resource management programs and assigned to a WAMC activity code to determine the user share and government share of the total program cost. The method of distributing overheads across the MDBA joint programs is not included.

Within the DPIE 2016 cost allocation model we note that MDBA corporate overheads were factored into the user share of MDBA contribution amounts to be included in the WaterNSW bulk water pass-through charge for FY17 and FY18 and excluded in FY19 and FY20. The reasons for the exclusion in the latter years is unclear; it does appear to be an error within the excel spreadsheet [18].

[18] appears to be $2.2m (nominal) in under 'water delivery and operations' that has not been factored into each year of 18/19 and 19/20 WaterNSW determination model in 2016. This includes corporate overhead costs as well as other items

4.7. Future determination period (2021-22 to 2024-25)

At the time of our review and interviews in relation to the 2021-2022 financial year, the State Constructing Authority (SCA) initial budget bids were due to the MDBA on 8 September 2020 with workshops scheduled before December 2020. As per the budgeting process discussed in section 4.3 the MDBA will present its risk-based scenarios first to the RMOC then JVBPC thereafter for endorsement in advance of the final budget being agreed.

Table 4-6 shows the building block components of the jurisdictional SCA contributions and the estimate of the resource costs for FY20 as outlined in the MDBA Annual Work Plan 2019-20 to 2022-23. The actual costs that are used within the DPIE allocation model for the WaterNSW and WAMC allocations have since been updated to reflect FY20.

We noted a discrepancy in Non-RM costs between those presented below and those presented within the proposed WAMC costs ($6,374 v $5,668). This is due to the removal of MDBA corporate overheads and secretariat line items from the WAMC determination prior to allocation. Corporate overheads have not been removed from RM (WaterNSW bulk water costs). This is due to a timing issue: WaterNSW was advised in February 2020 of RM amount to be included in Bulk Water. Subsequent to QA of the model in June 2020 for amounts to be included in WAMC, DPIE decided to remove the corporate overheads line item from the WAMC amount. We recommend that the proposed WaterNSW bulk water pass-through costs are adjusted to make up for this inconsistency, discussed in more detail in section 4.7.5.

Table 4-6 - MDBA Estimate of resource position for joint programs for 2019/20 and out years ($k)

Murray-Darling Basin Authority Estimate of Resource Position for Joint Programs for 2019-2020 and out-years				
Joint funded activities	**FY20**	**FY21**	**FY22**	**FY23**
Total Planned Expenditure	**113,766**	**109,658**	**102,971**	**104,204**
Planned Expenditure - River Management				
River Management Operations	72,804	69,399	60,173	64,685
Salt Interception Schemes	9,623	9,866	9,384	9,674
Environmental Works and Measures (construction)	1,195	1,200	3,620	250
RM share of Corporate overhead	2,900	3,225	3,277	3,341
Total planned expenditure - River Management	**86,522**	**83,690**	**76,454**	**77,950**
Planned Expenditure - Non-RM activities				
TLM	15,215	16,499	16,930	16,684
Other NRM	9,624	6,795	6,870	6,798
Non-RM share of Corporate overhead	2,405	2,674	2,717	2,771
Total planned expenditure - Non - River Management	**27,244**	**25,968**	**26,517**	**26,254**
Allocated from previous underspend and carryover				
2017-18 committed underspend carried over to forward years	387	2,890	317	-
Allocation from underspend for continuation of the non-RM Indigenous Partnership Program (MinCo21)	540	556	573	-
Allocation from underspend to fund ACT & QLD's contribution for Community of Practice supporting Aboriginal Engagement & Compliant non-urban water metering in Australia	128	-	-	-

Murray-Darling Basin Authority Estimate of Resource Position for Joint Programs for 2019-2020 and out-years				
EWMP budget	546	1,200	3,620	250
2018-19 committed underspend for EWMP	649			
2018-19 committed underspend for delayed projects (excluding EWMP)	13,082	-	-	-
Total funds allocated from underspend and carryover	**15,333**	**4,646**	**4,510**	**250**
Other Income Joint				
Hydropower generation	850	850	850	850
	899	1,049	1,030	1,064
	624	624	624	624
	610	610	610	610
	2,983	**3,133**	**3,114**	**3,148**
Joint funded activities	**2019/2020**	**2020/2021**	**2021/2022**	**2022/2023**
Contributions from Joint parties				
Commonwealth				
Non-RM	7,620	6,243	6,374	6,449
RM	6,162	6,838	5,608	5,087
Commonwealth Contribution	**13,782**	**13,081**	**11,983**	**11,537**
NSW				
Non-RM	6,003	6,243	6,374	6,449
RM	23,905	26,082	23,825	25,868
NSW Contribution	**29,908**	**32,326**	**30,199**	**32,318**
VIC				
Non-RM	6,003	6,243	6,374	6,449
RM	23,002	25,317	22,932	24,871
Vic Contribution	**29,005**	**31,560**	**29,306**	**31,321**
SA				
Non-RM	6,003	6,243	6,374	6,449
RM	16,322	18,230	17,037	18,725
SA Contribution	**22,325**	**24,473**	**23,411**	**25,175**
Qld Contribution	**108**	**110**	**112**	**115**
ACT Contribution	**322**	**328**	**335**	**342**
Total Contributions from Jurisdiction	**95,450**	**101,878**	**95,346**	**100,807**
Total available resources	**113,766**	**109,657**	**102,970**	**104,205**

Source: MDBA Annual Work Plan 2019-20 to 2022-23 (Amended 17 December 2019) page 17.1 A4

4.7.1. Budget 2020/21

We have been provided a breakdown of the FY21 MDBA annual budget which projects budget for the following four years. We have inferred the capital and operating expenditure items using the MDBA activity classification between each of the SCAs. Although each SCA has its own capitalisation policy using the MDBA classification

provides a consistent basis by which to compare the SCAs budgeted expenditure against each activity and asset.

Figure 4-19 – MDBA RMO capital expenditure by SCA budget FY21 to FY24 ($20/21)

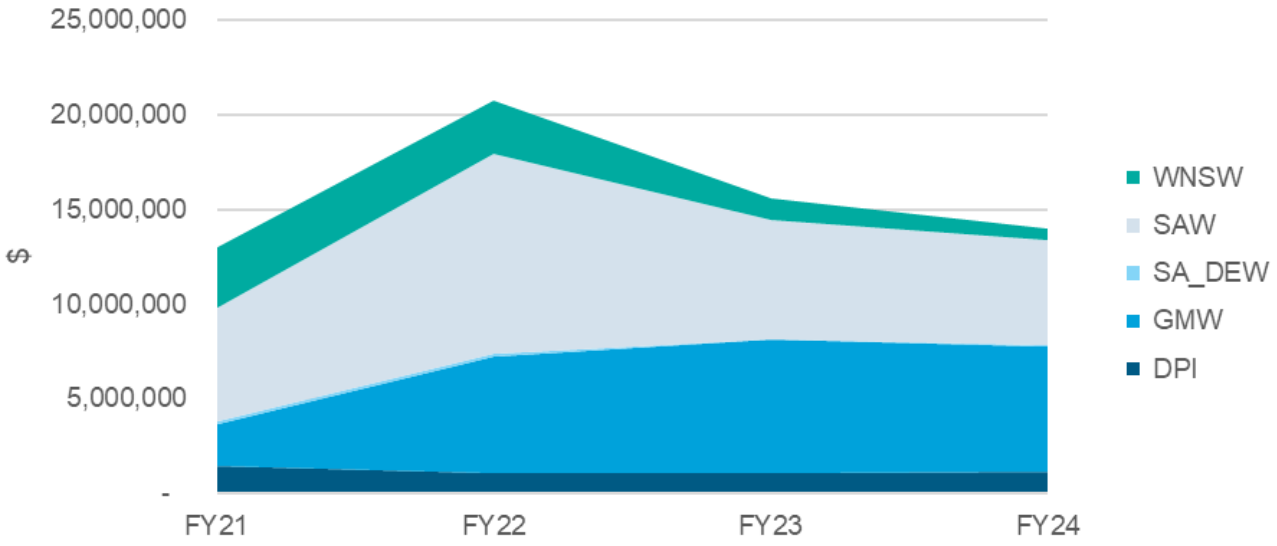
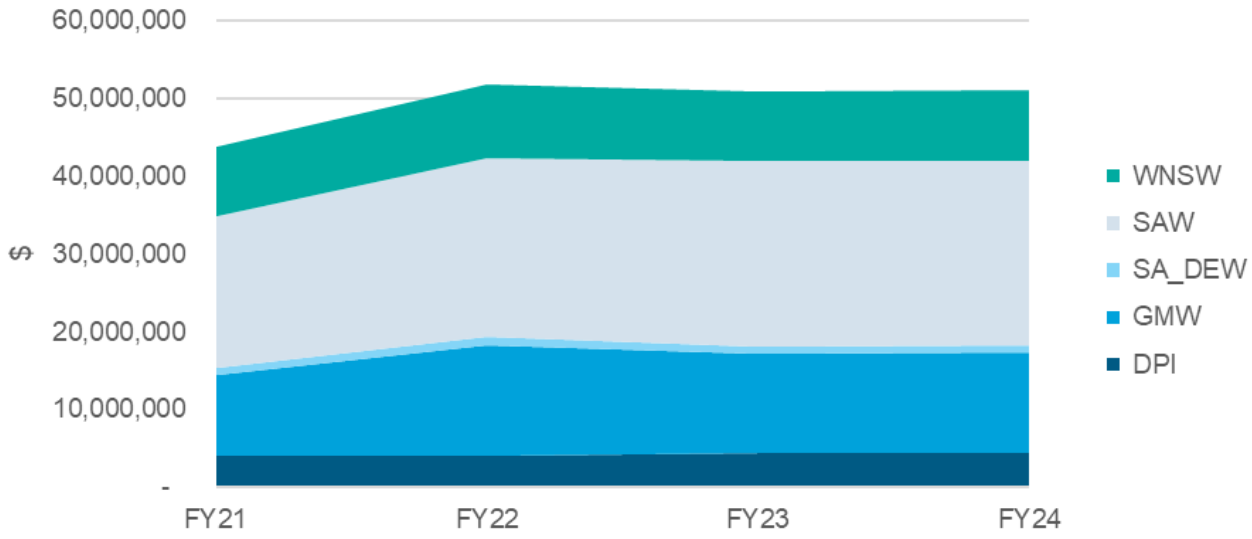


Figure 4-20 – MDBA RMO operating expenditure by SCA budget FY21 to FY24 ($20/21)



4.7.2. Scope for efficiency

We are asked to provide a recommendation for each year between 2021-22 and 2024-25 of reasoned estimates of the level of expenditure that we consider to be efficient.

We consider there to be scope for achieving efficiencies over the future determination period. This is based on our observations about potential areas for improvement (summarised below) and that within MDBA's budgeted costs there is no year-on-year efficiency challenge applied. Given this we consider that there is scope to apply efficiencies on the proposed costs over the future multi-year determination period that are to be passed through to WaterNSW bulk water and WAMC users.

4.7.2.1. Scope adjustments

We have made two adjustments to the base costs that were proposed by DPIE:

- Allocated the Salt Interception Scheme costs from WaterNSW rural bulk water to WAMC; and
- Removed corporate overhead costs from WaterNSW rural bulk water cost pass through

4.7.2.2. Catch-up efficiency

We consider that MDBA has a number of potential areas of efficiency improvement. These are summarised as follows:

Table 4-7 - Areas of MDBA's potential improvement in efficiency

Area	Observation	Potential improvements
Decision-making	MDBA has strengthened prioritisation of investments. However, the justification framework, including urgency, remains weak.	Hardwire justification and timing challenge into requests to SCAs and MDBA decision-making
Inputs	Understanding of the activities and expenditure delivered as part of the joint program is high level only. This does not allow MDBA, stakeholders or regulators to understand, interrogate and challenge activities and hence expenditure.	Enhance reporting of activities and expenditure from SCAs
Outputs and outcomes	Benefits realisation definition and management are weak, meaning that it is hard to establish whether the objectives of expenditure are met, thereby potentially reducing the focus on these objectives.	Put in place benefits realisation process from definition to tracking.
Efficiency and incentives	Efficiency is not a key focus of the organisation. There is limited incentive for efficiencies with ownership/accountability thinly spread.	Ensure efficiency a key metric for MDBA management. Consider measures such as delegated management contracts with SCAs to formalise requirements and put in place performance incentives if permissible.
Multi-year planning	SCAs tells us that sometimes approvals to spend arrive too late to mobilise and deliver effectively and efficiently	Create more detailed budget projections and formalise multi-year budget agreements, with firmer commitments for some

		elements where this will aid efficiency and effectiveness

Source: Atkins assessment

We have considered the additional costs associated with intergovernmental processes. However, we have not recommended a specific adjustment related to these costs due to the lack of a clear and more efficient counterfactual scenario.

MDBA corporate overhead costs are funded via State Government contributions. However, we understand they are excluded from the user shares and paid for by State Government directly. This mitigates the burden of any intergovernmental inefficiencies on customer charges.

As discussed in Section 2.3 we proposed to set a catch-up efficiency challenge of 1.1% p.a. cumulating over the Determination period.

4.7.2.3. Continuing efficiency

We have applied a continuing efficiency adjustment of 0.7% per annum as outlined in Section 2.3.

4.7.3. Allocation of MDBA corporate costs (non-SCA expenditure)

As discussed in Section 4.6.6 MDBA corporate overhead costs were included within the WAMC determination across all years and within the WaterNSW rural bulk water determination for FY17 and FY18 but not included within FY19 and FY20. Within the proposed cost allocation model provided by DPIE we noted that MDBA corporate overheads costs had been excluded from the user share component of the WAMC determination but were included within the WaterNSW rural bulk water determination.

DPIE inform us that MDBA corporate overhead costs should be recovered through the part of government share of total annual NSW contribution to MDBA Joint Programs and not through either the WAMC or WaterNSW determinations and not passed through to users.

Within the non-RM (WAMC) cost allocation, MDBA corporate overheads average a total $2.6m p.a. with $0.66m (25%) allocated to NSW=. These costs had been removed prior to allocating to the WAMC determination. We noted that this approach was not applied consistently for the WaterNSW determination allocation. Total MDBA corporate overheads related to RM average $3.3m p.a. of which $0.90mDPIE had originally allocated directly onto the WaterNSW determination. We propose an adjustment for this to ensure consistency of approach and principles between each of the WAMC and WaterNSW determinations. This adjustment is shown in Section 4.7.5.

4.7.4. DPIE allocation of NSW MDBA costs

DPIE has proposed to allocate NSW MDBA contributions totalling $31.2m p.a. (average over the next three years) with 18% to non-RM and 82% to RM activities as per the cost allocation approach outlined in Table **4-8** below.

Table **4-8** - DPIE proposed cost allocation between Non-RM and RM MDBA joint funded activities ($20/21)

MDBA Joint funded activities	2019/2020	2020/2021	2021/2022	2022/2023	Average
NSW					
Non-RM	$ 5,487,935	$ 5,547,556	$ 5,667,738	$ 5,727,188	$ 5,697,463
RM	$ 24,502,988	$ 26,734,352	$ 24,420,869	$ 26,515,131	$ 25,468,000
NSW Contribution	$ 29,990,922	$ 32,281,909	$ 30,088,607	$ 32,242,319	$ 31,165,463

WAMC activity codes have been mapped to MDBA programs with government and agreed user cost share percentages attributed to each activity as per Table 4-5.

Costs for the Basin Salinity Management 2030 program has historically consisted of the following activities:

- BSM 2030 Modelling;
- BSM 2030 Coordination;

- BSM 2030 Audit/Reporting;
- Salinity Registers Governance;
- BSM 2030 Operational Procedures;
- BSM 2030 Knowledge Priorities; and
- Operations and Maintenance of the Salt Interception Schemes (SIS).

In the current determination period, the costs for SIS were attributed to WAMC activities (W07-01 Water Management Works). As discussed in Section 4.6.4, DPIE propose to now allocate these costs to WaterNSW. The total annual average NSW costs that DPIE are required to allocate for the operation and maintenance of the SIS is $3.3m p.a. FY22 to FY23. 80% of these costs are proposed to be funded via WaterNSW Environmental Planning & Protection activities user charges as pass-through costs as per Table 4-9 below.

Table 4-9 - Salt Interception schemes costs and DPIE proposed WaterNSW user share ($20/21)

Salt Interception Schemes	2019/2020	2020/2021	2021/2022	2022/2023	Average
NSW					
Total costs	$ 2,998,238	$ 3,318,101	$ 3,201,612	$ 3,300,598	$ 3,251,105
WaterNSW User share (80%)	$ 2,398,590	$ 2,654,481	$ 2,561,290	$ 2,640,478	$ 2,600,884

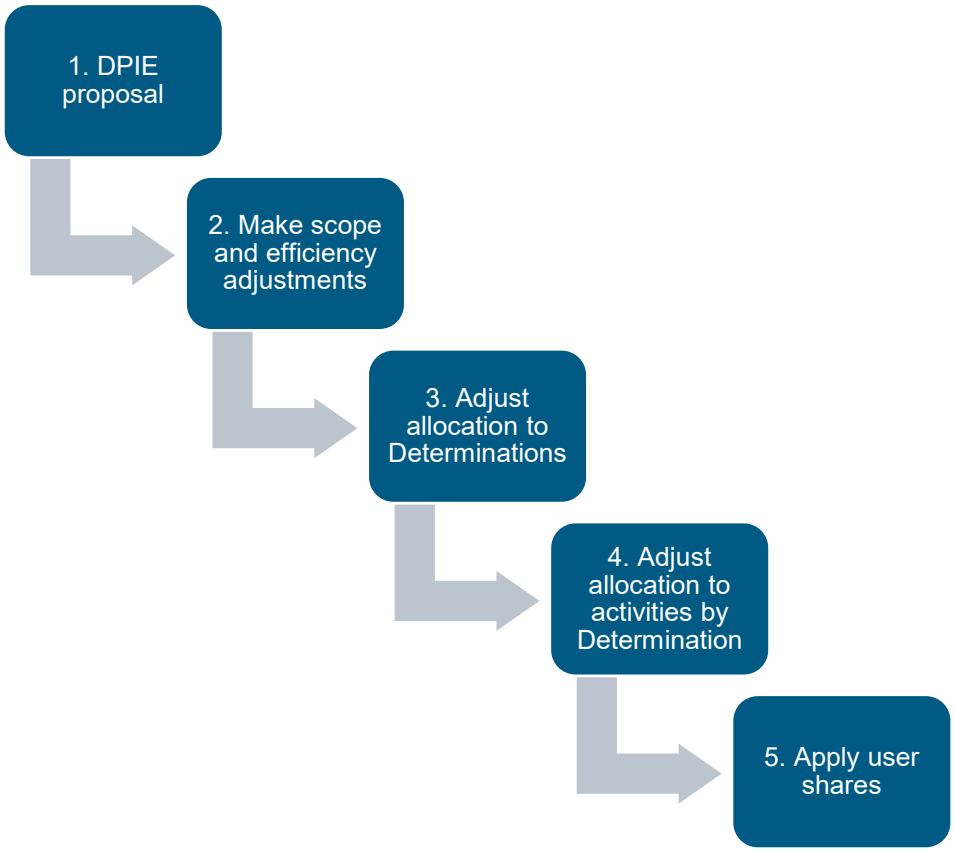
Further to our discussion in Section 4.6.4.3 on the appropriate cost allocation for the salt interception schemes we consider that these costs should remain as pass-through to WAMC users. The impact of this is both in total cost terms and in the net percentage allocated to user shares.

4.7.5. Recommended MDBA cost pass-through

As discussed above, we recommend that costs for the SIS schemes are reallocated from the WaterNSW bulk water determination back to the WAMC determination. Additionally, removing the MDBA corporate overheads allocation from user charges further reduces the total costs passed through to Murray valley and Murrumbidgee valley users. We have then applied a recommended efficiency adjustment to derive the total NSW efficient costs.

The approach we have taken is summarised as follows:

Figure 4-21 - Approach to applying adjustments for MDBA



Steps 1 to 3 are covered in Table 4-10 . Steps 4 and 5 are addressed in the tables which follow.

Table 4-10 - Recommended MDBA capital and operating expenditure by Determination

($2020/21)	FY21	FY22	FY23	FY24	FY25	Total FY22 to FY25
Total MDBA NSW costs proposed by DPIE		$ 30,088,607	$ 32,242,319	$ 32,242,319	$ 32,242,319	$ 126,815,563
WaterNSW Bulk Water (RM costs) proposed by DPIE	$ -	$ 24,420,869	$ 26,515,131	$ 26,515,131	$ 26,515,131	$ 103,966,263
WAMC (non-RM) costs proposed by DPIE	$ -	$ 5,667,738	$ 5,727,188	$ 5,727,188	$ 5,727,188	$ 22,849,300
Atkins scope adjustments						
Salt Interception Schemes from WaterNSW to WAMC (total costs)	-$ 306,059	-$ 3,201,612	-$ 3,300,598	-$ 3,300,598	-$ 3,300,598	-$ 13,103,407
MDBA Corporate overhead allocated costs removed from WaterNSW bulk water (total costs)	$ 44,567	-$ 917,783	-$ 933,255	-$ 933,255	-$ 933,255	-$ 3,717,548
Total pre-efficiency MDBA costs recommended by Atkins						
WaterNSW bulk water		$ 20,301,473	$ 22,281,278	$ 22,281,278	$ 22,281,278	$ 87,145,308
WAMC	$ -	$ 8,869,350	$ 9,027,786	$ 9,027,786	$ 9,027,786	$ 35,952,707
Total MDBA NSW costs		$ 29,170,823	$ 31,309,064	$ 31,309,064	$ 31,309,064	$ 123,098,015
Atkins recommended efficiency adjustments						
Catch-up efficiency %		1.1%	2.2%	3.3%	4.3%	
Catch-up efficiency $		$ 320,879	$ 685,011	$ 1,021,876	$ 1,355,035	$ 3,382,800
Continuing efficiency %		0.7%	1.4%	2.1%	2.8%	
Continuing efficiency $		$ 204,196	$ 436,793	$ 652,899	$ 867,492	$ 2,161,379
Total NSW efficiencies recommended by Atkins		$ 525,075	$ 1,121,804	$ 1,674,774	$ 2,222,526	$ 5,544,179
Total post-efficiency MDBA costs recommended by Atkins						
WaterNSW bulk water		$ 19,936,047	$ 21,482,940	$ 21,089,415	$ 20,699,604	$ 83,208,007
WAMC		$ 8,709,702	$ 8,704,320	$ 8,544,874	$ 8,386,933	$ 34,345,829
Total MDBA NSW costs		$ 28,645,748	$ 30,187,260	$ 29,634,290	$ 29,086,537	$ 117,553,836
Atkins recommended capex and opex by						
WaterNSW bulk water - capex		$ 4,809,922	$ 5,183,137	$ 5,088,192	$ 4,994,143	$ 20,075,394
WaterNSW bulk water - opex	$ -	$ 15,126,125	$ 16,299,803	$ 16,001,223	$ 15,705,461	$ 63,132,612
WAMC - capex		$ -	$ -	$ -	$ -	$ -
WAMC- opex		$ 8,709,702	$ 8,704,320	$ 8,544,874	$ 8,386,933	$ 34,345,829

Source: DPIE MDBA DBBBR Contribution Analysis revised August 20202 and Atkins analysis

WAMC's MDBA costs are then apportioned into their activities based on the relative nominal proportion of costs as identified in the MDBA budget provided (FY20 to FY23) adjusted for SIS and Corporate overhead adjustments as outlined above.

For the WAMC determination we have assumed that all of this expenditure is operating expenditure as it relates to non-river Murray operations. This includes expenditure on SIS which our analysis indicated that only between 0.4% and 2% of total expenditure is identified as capex across the whole MDBA, there was no identifiable capital expenditure identified on SIS in NSW.

For the WaterNSW bulk water determination we have prorated capital expenditure and operating expenditure based on the average split over the period for the forward looking budget and plan between FY20 to FY24. This provides a split of 24% capex to 76% opex which we have used as the basis of the expenditure allocation.

Table 4-11 - Recommended total MDBA costs allocated to WAMC activities (user and government shares combined)

WAMC Activity	nominal % of costs to activity	FY22	FY23	FY24	FY25	Total FY22 to FY25
Surface water quality monitoring-W01-03	3%	$ 245,847	$ 245,695	$ 241,195	$ 236,736	$ 969,474
Surface water ecological condition monitoring-W01-05	15%	$ 1,340,985	$ 1,340,156	$ 1,315,607	$ 1,291,290	$ 5,288,038
Surface water modelling -W04-01	5%	$ 460,599	$ 460,315	$ 451,882	$ 443,530	$ 1,816,326
Systems operation and water availability management-W05-01	0%	$ -	$ -	$ -	$ -	$ -
Environmental water management-W05-03	33%	$ 2,838,418	$ 2,836,664	$ 2,784,702	$ 2,733,230	$ 11,193,014
Cross border and national commitments-W06-07	3%	$ 223,497	$ 223,359	$ 219,268	$ 215,215	$ 881,340
Water management works-W07-01*	41%	$ 3,600,355	$ 3,598,130	$ 3,532,220	$ 3,466,931	$ 14,197,637
Total	100%	$ 8,709,702	$ 8,704,320	$ 8,544,874	$ 8,386,933	$ 34,345,829

Source: "% of costs to activity" is based on the average of FY20 to FY23 from the MDBA budget adjusted for SIS and Corporate overhead adjustments. Total expenditure is from Atkins analysis presented above.

User share percentages are then applied to each WAMC activity as follows:

Table 4-12 - Recommended MDBA costs allocated to WAMC users (user share only)

WAMC Activity	% user share	FY22	FY23	FY24	FY25	Total FY22 to FY25
Surface water quality monitoring-W01-03	60%	$ 147,508	$ 147,417	$ 144,717	$ 142,042	$ 581,684
Surface water ecological condition monitoring-W01-05	50%	$ 670,492	$ 670,078	$ 657,804	$ 645,645	$ 2,644,019
Surface water modelling -W04-01	80%	$ 368,479	$ 368,252	$ 361,506	$ 354,824	$ 1,453,061
Systems operation and water availability management-W05-01	100%	$ -	$ -	$ -	$ -	$ -
Environmental water management-W05-03	80%	$ 2,270,734	$ 2,269,331	$ 2,227,762	$ 2,186,584	$ 8,954,412
Cross border and national commitments-W06-07	50%	$ 111,749	$ 111,680	$ 109,634	$ 107,607	$ 440,670
Water management works-W07-01*	80%	$ 2,880,284	$ 2,878,504	$ 2,825,776	$ 2,773,545	$ 11,358,109
Total		$ 6,449,247	$ 6,445,262	$ 6,327,198	$ 6,210,248	$ 25,431,955

MDBA costs allocated to the WaterNSW bulk water Determination are then allocated across each activity with a respective average user share percentage then applied. This is then applied between the two respective valleys within WaterNSW of Murray and Murrumbidgee based on the historical split of these allocated costs between each.

Table 4-13 - Recommended MDBA costs (opex and capex) allocated to WaterNSW bulk water users

WaterNSW Activity	nominal % of costs to activity	% user share	FY22	FY23	FY24	FY25	Total FY22 to FY25
Water Delivery & operations	90%	95%	$ 17,133,454	$ 18,462,886	$ 18,124,683	$ 17,789,671	$ 71,510,694
Hydrometric Monitoring	8%	90%	$ 1,355,108	$ 1,460,254	$ 1,433,505	$ 1,407,009	$ 5,655,877
Routine Maintenance	2%	95%	$ 375,399	$ 404,527	$ 397,117	$ 389,777	$ 1,566,820
Total Water NSW bulk water user share of MDBA			$ 18,863,961	$ 20,327,668	$ 19,955,305	$ 19,586,457	$ 78,733,391
Murray Valley bulk water user share MDBA*		82%	$ 15,438,831	$ 16,636,772	$ 16,332,020	$ 16,030,143	$ 64,437,766
Murrumbidgee bulk water user share MDBA*		18%	$ 3,425,130	$ 3,690,895	$ 3,623,286	$ 3,556,314	$ 14,295,625
Murray Valley bulk water user share MDBA - capex			$ 3,724,889	$ 4,013,914	$ 3,940,387	$ 3,867,554	$ 15,546,744
Murrumbidgee bulk water user share MDBA - capex			$ 826,373	$ 890,493	$ 874,181	$ 858,023	$ 3,449,071
Murray Valley bulk water user share MDBA - opex			$ 11,713,941	$ 12,622,859	$ 12,391,633	$ 12,162,589	$ 48,891,022
Murrumbidgee bulk water user share MDBA -opex			$ 2,598,757	$ 2,800,402	$ 2,749,104	$ 2,698,291	$ 10,846,554

Source: "% of activity" is based on the average of FY20 to FY23 from the MDBA budget. Total expenditure is from Atkins analysis presented above.

4.7.6. Recommended asset lives

For the purposes of setting a RAB there is a requirement to use a weighted average asset life for new capital expenditure items. We have reviewed the data provided by MDBA with respect to the to the budgeted capital expenditure items and have made an assessment on the asset life on capex activities (consistent with the recommended asset lives used for the WaterNSW Greater Sydney in 2019):

- At whole of MDBA level (all SCAs) we reviewed 75% of total capex activities and assigned an asset life to each this provided the weighted average asset life of 45.5 years for new capex only.
- At WaterNSW level we reviewed all lines items which gave a weighted average asset life of 38.6 years for new capex only. We do not have any further data to breakdown the asset lives by each valley any differently so suggest applying the same for both valleys.

The difference between the two is some significantly more expenditure by GMW on long life civils assets compared to WaterNSW whose focus in the current budgeting period appears to be on shorter life M&E, plant & machinery, and investigations.

5. Border Rivers Commission activities and expenditure

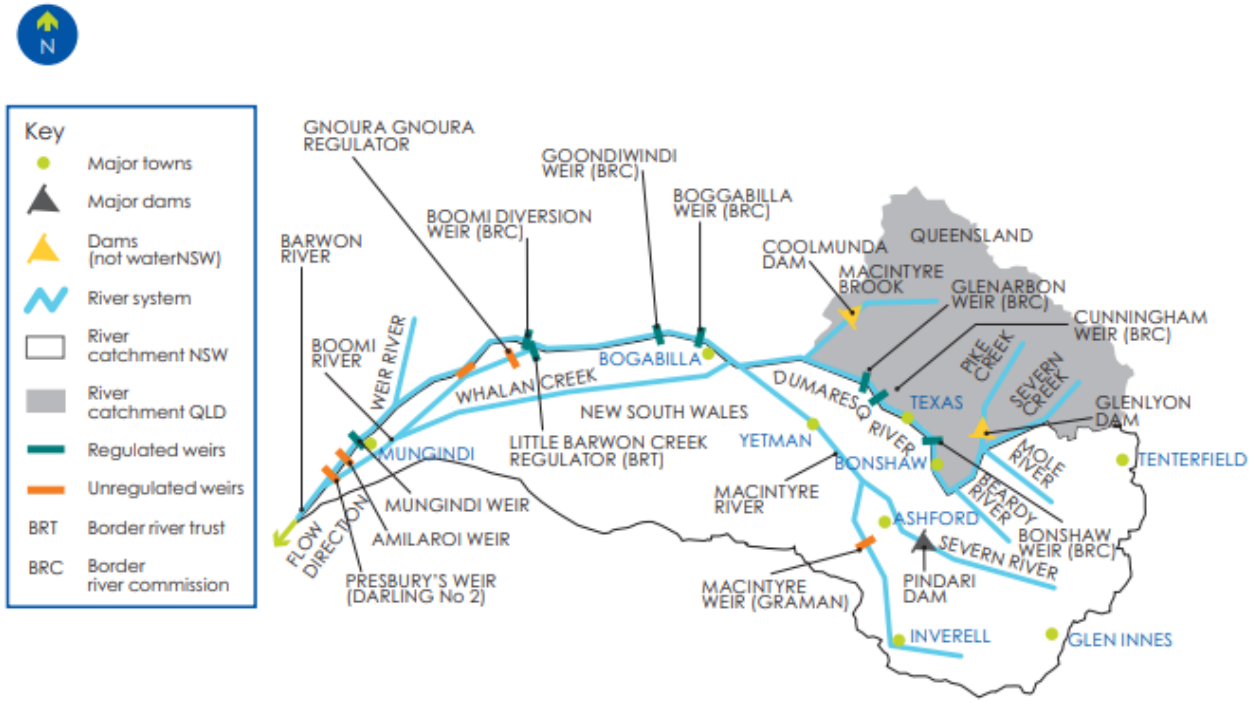
5.1. Operating environment

The Dumaresq-Barwon Border Rivers Commission (BRC) was established by the governments of Queensland and New South Wales under an agreement made in November 1946 called the New South Wales-Queensland Border Rivers Agreement. That agreement was subsequently ratified by legislation in both states. The Commission is responsible for controlling, on behalf of the two states, the operation and maintenance of Glenlyon Dam, Boggabilla Weir and a number of other small weirs and regulators in the border catchments and arranging for certain river flows and groundwater levels in the border catchments to

It is also responsible for implementing the agreements made between the two states in relation to sharing the waters of the Border Rivers and providing advice in relation to water infrastructure and water sharing in the border catchments.[19] As the "owner" of a referable dam in Queensland, the Commission is also a registered water service provider under the Queensland Water Supply (Safety and Reliability) Act 2008. The Commission is funded jointly by the state governments of Queensland and New South Wales on a 50:50 basis. Under Agreement clauses 27-28 of the Acts the States are required to pay the Commission's "Call-up" under this legislation. The call-up costs are passed through 50/50 to QLD and NSW. Within NSW these costs are allocated to WAMC and WaterNSW bulk water users within the Border valley.

[19] Source: BRC 2018-19 Annual Report

Figure 5-1 - BRC area of operations



Source: WaterNSW annual operations plan: Border Rivers 2019-20

5.1.1. Glenlyon Dam

Glenlyon Dam, located in Queensland on Pike Creek approximately 7 kilometres upstream of its junction with the Dumaresq River, was constructed by the BRC during the period 1972-1976. The storage capacity of Glenlyon Dam is 254,000 megalitres. It is an earth and rockfill dam, 62 metres high, with a spillway located on the right abutment with a discharge capacity at dam crest level of 527,000 megalitres/day.

Water from Glenlyon Dam is released downstream along the Dumaresq, Macintyre and Barwon Rivers (to Mungindi). The dam provides water supplies for both Queensland and New South Wales irrigators, commercial water users, riparian landholders and a number of towns.

5.1.2. Bogabilla Weir

Boggabilla Weir is located on the Macintyre River near the New South Wales township of Boggabilla, approximately nine kilometres upstream of Goondiwindi. The weir, which has a storage capacity of 5,850 megalitres, was constructed by the BRC between 1990 and 1991 to re-regulate releases from Glenlyon Dam and to conserve unregulated inflows.

Boggabilla Weir is a reinforced concrete structure with five vertical lift steel gates. It was constructed in the 'dry' in a bend in the river. Following completion of the weir, an earth block dam was placed across the old river channel to divert water through the new structure. Boggabilla Weir incorporates a vertical slot fishway to allow upstream fish migration to continue.

5.1.3. Other structures

The BRC also controls a number of small fixed-crest weirs and regulators along the Border Rivers as well as eight regulators on the Intersecting Streams which were constructed in 1974 to ensure a better distribution of stock and domestic supplies for riparian landholders on the Culgoa-Balonne Minor distributary system downstream of St George.

5.2. Legislation

The BRC was constituted by an agreement made in 1946 between the New South Wales and Queensland Governments. The agreement was ratified in New South Wales by the New South Wales-Queensland Border Rivers Act 1947[20] and in Queensland by the New South Wales-Queensland Border Rivers Act 1946[21].

The 1946 Agreement, known as the New South Wales-Queensland Border Rivers Agreement, is contained in the schedule to each state's Border Rivers Act. The agreement was amended in 1968, 1993 and 2001.

The function of the BRC is to implement the agreement between Queensland and New South Wales regarding sharing the waters of the Border rivers. To control of the construction, operation and maintenance of works taken over by it or constructed under the agreement.

5.2.1. Regulatory requirements

The statutory functions and duties of the BRC are, in summary, to:

- determine the anticipated quantity of water available each year from the border rivers and from the dams and weirs controlled by the BRC and notify the states of the portion of that water they may divert and use;
- control the construction, operation and maintenance of works taken over or constructed by the BRC under the Agreement, i.e., Glenlyon Dam and Boggabilla Weir as well as other weirs and regulators on the border rivers and intersecting streams;
- undertake investigations considered necessary by the BRC to enable it to exercise the powers and discharge the duties conferred upon it by the Agreement;
- report and make recommendations from time to time to the governments of New South Wales and Queensland regarding the sharing of the waters of the intersecting streams, the sharing of groundwater and other matters set out in the agreement;
- investigate the practicability of constructing, maintaining and operating additional storages;
- arrange for the construction, operation and maintenance of gauging stations to record the flow in the Dumaresq River at Mingoola and at such other places as deemed necessary by the Commission; and
- arrange for the construction, maintenance, operation and control of an effective system of monitoring groundwater.

In addition to its statutory functions the BRC carries on a coordinated program to monitor water quality in the border rivers and the intersecting streams.

5.3. Water sector relationships

The Commission's shareholders are the States of Queensland and New South Wales. State Commissioner appointments from Queensland Department of Natural Resources, Mines and Energy (DNRME)[22] and the New South Wales Department of Planning, Industry and Environment (DPIE) represent their respective States. The Commission is responsible for controlling the operation and maintenance of Glenlyon Dam, Boggabilla Weir and a number of other small weirs and regulators which it either took over or were constructed jointly by the two States under the Agreement. Sunwater in Queensland, and WaterNSW in New South Wales are contracted to undertake work on behalf of the BRC

Sunwater

The Commission has arrangements with the Queensland Government owned corporation and bulk water service provider, Sunwater Limited. Sunwater operates in a commercial environment. Sunwater's remit includes asset management, operation and maintaining of the Commission's water infrastructure assets:

[20] https://legacy.legislation.nsw.gov.au/~/pdf/view/act/1947/10/whole
[21] https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-1946-016
[22] We understand that DNRME is to become the (Department of Regional Development, Manufacturing and Water) DRDMW after the October 2021 Election and Queensland's Machinery of Government Change

- Provides Asset Manager services for the operation and maintenance of Glenlyon Dam, Boggabilla Weir, Bonshaw, Goondiwindi, Glenarbon and Cunningham Weirs, along with other minor weirs and structures on the border rivers and intersecting streams;
- Undertake R&E work;
- Undertake 5 yearly and yearly inspection reports on major assets such as Glenlyon Dam and Boggabilla Weir;
- Undertake 5 yearly reviews on all other assets such as border rivers and intersecting stream weirs and other structures;
- Act as the Commission's Dam Safety Manager and undertake Emergency Management Activities; and
- They also attend to miscellaneous services such as, recreational management, town water services and land matters that may occur on Commission controlled land, especially in relation to Flood Margin Leases at Glenlyon Dam.

WaterNSW

The Commission is accountable for overseeing the implementation of the agreed water sharing arrangements of the Border Rivers Catchment between the States as prescribed in the Agreement. WaterNSW is a New South Wales Government-owned statutory corporation and bulk water service provider. WaterNSW role:

- Performs the role of River Manager, including undertaking Resources Assessments, and determining the daily water operations into the Carrier Rivers on the Commission's behalf. Sunwater makes the bulk water releases for the Carrier Rivers under WaterNSW's direction;
- Operates and maintain 17 gauging stations on the Border Streams and 13 gauging stations on the Intersecting Streams in New South Wales;
- Provides Water Quality services across the Border Rivers.

The Queensland Department of Natural Resources, Mines and Energy (DNRME)

In addition, the Commission is responsible for ensuring effective and uniform systems are in place to monitor and record rivers heights and flows into, along and out of the Carrier Rivers, of the Intersecting Streams and groundwater levels in the alluvial aquifers associated with the Border Rivers Alluvium. The Queensland Department of Natural Resources, Mines and Energy (DNRME) and Water NSW undertakes surface water and groundwater monitoring and maintenance services on behalf of the Commission. DNRME:

- operates and maintain 10 gauging stations on the Border Streams and 9 gauging stations on the Intersecting Streams in Queensland;
- looks after approximately 75 monitoring bores along the Border Streams;
- Provides the Business and Governance Officer role (previously known as the Secretary) on behalf of the Commission.
- DNRME also provides Commissioners and members of the Commission's Service Delivery & Asset Committee and members of the Finance, Risk and Audit Committee.

New South Wales Department of Planning, Industry and Environment (DPIE)

DPIE provides the BRC with:

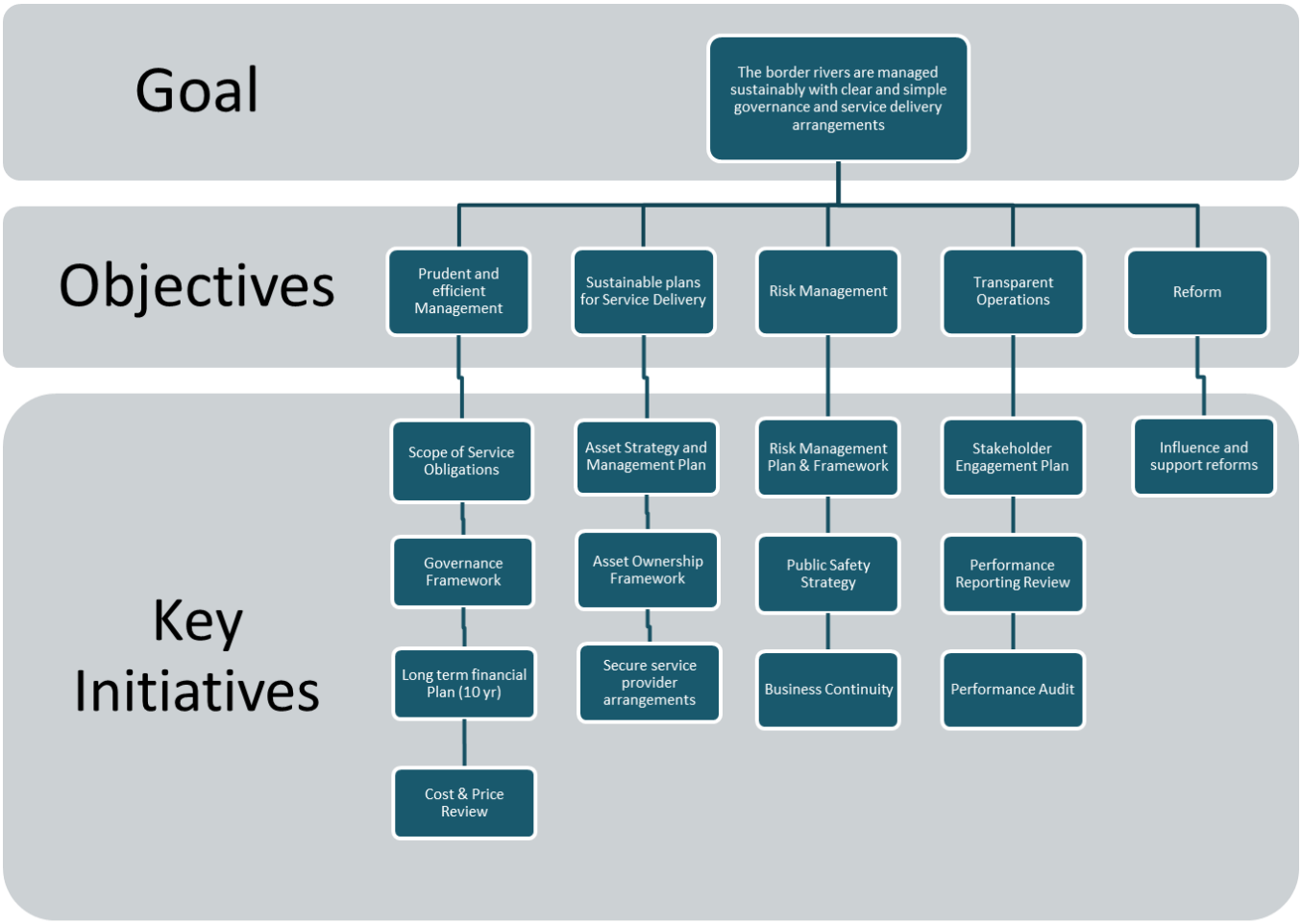
- the CEO role under its employment conditions on behalf of the Commission; and
- Commissioners and members of the Service Delivery & Asset Committee and members of the Finance, Risk and Audit Committee.

5.4. BRC Business Plan

In 2018 BRC installed a new chairman of the Commission who has undertaken a high-level review of the Commission's business planning processes. The outcome of this review was the development of a business plan with a number of key initiatives to be developed over the coming years. The plan provides a strategic direction for business improvements that will support the Commission in meeting its governance and risk requirements. To assist the Commission with these activities, a Chief Executive Officer has been appointed and three new sub-committees have been established. A Service Delivery and Asset Committee, which includes

representatives from service providers, a Finance Risk and Audit Committee and a Remuneration and Nominations Committee have been established. The new organisation and governance structures are detailed in Figure 5-3 below. In May 2020 consultants Cardno undertook a review and development of an Asset Management Strategy and Plan. The remaining key initiatives listed in the business plan (Figure 5-2) remain to be completed. BRC are aiming to have completed the Cost and Price review and Secure Service Provider arrangements within FY21.

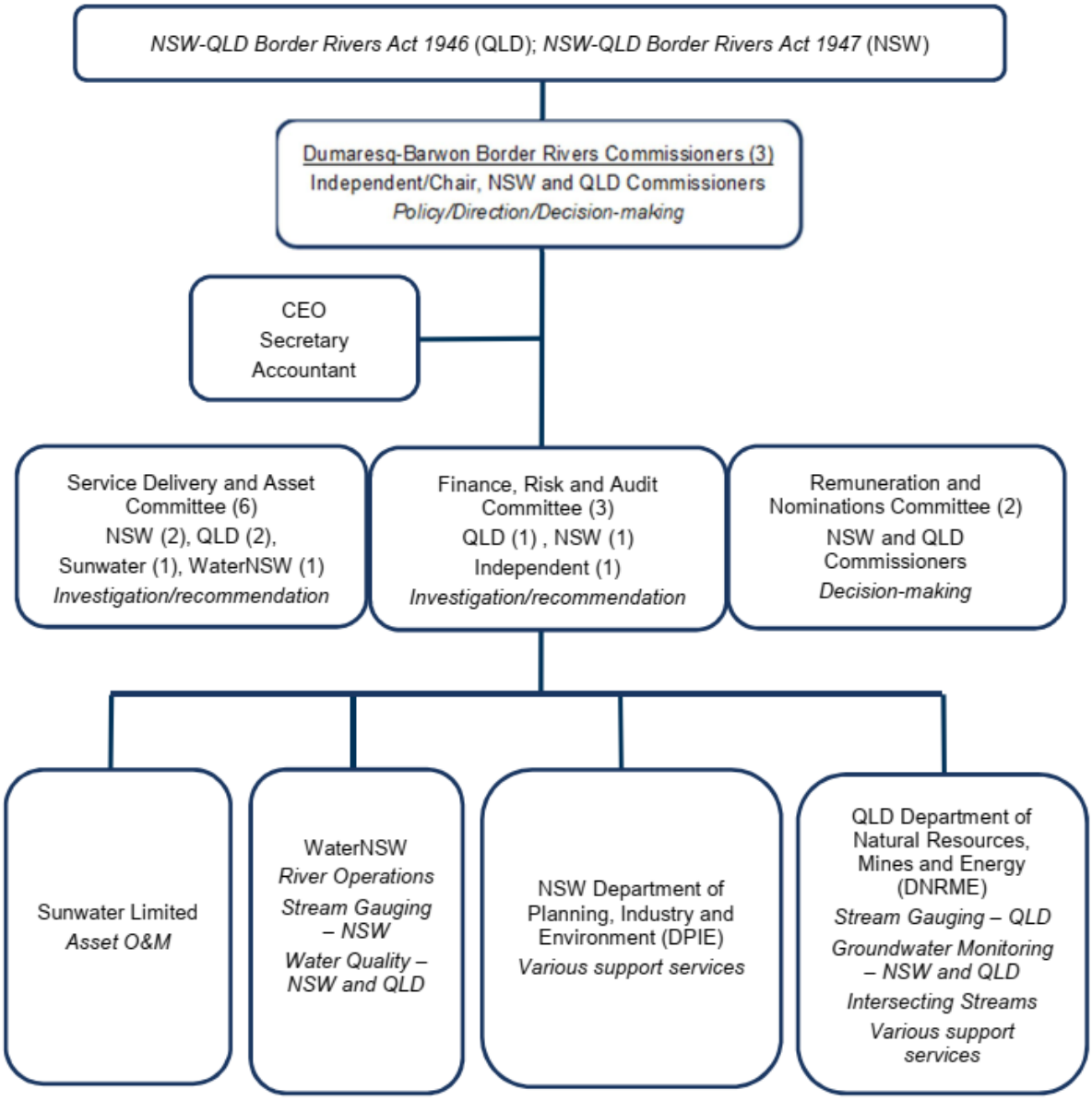
Figure 5-2 - BRC business plan objectives and key initiatives



5.5. Organisation, structure and functions

The BRC manages a “business” responsible for securing and providing bulk water services to two customers, the State of Queensland and the State of New South Wales. the Commission engages both Sunwater Ltd (in QLD) and WaterNSW (in NSW) to provide commercial services to operate and maintain its works on its behalf. The two state departments responsible for water management, the New South Wales Department of Planning, Industry and Environment and the Queensland Department of Natural Resources, Mines and Energy, continue to undertake resource-monitoring activities on behalf of the Commission and to assist in administrative management. The BRC corporate organisational structure, committees and functions are outlined in Figure 5-3 below.

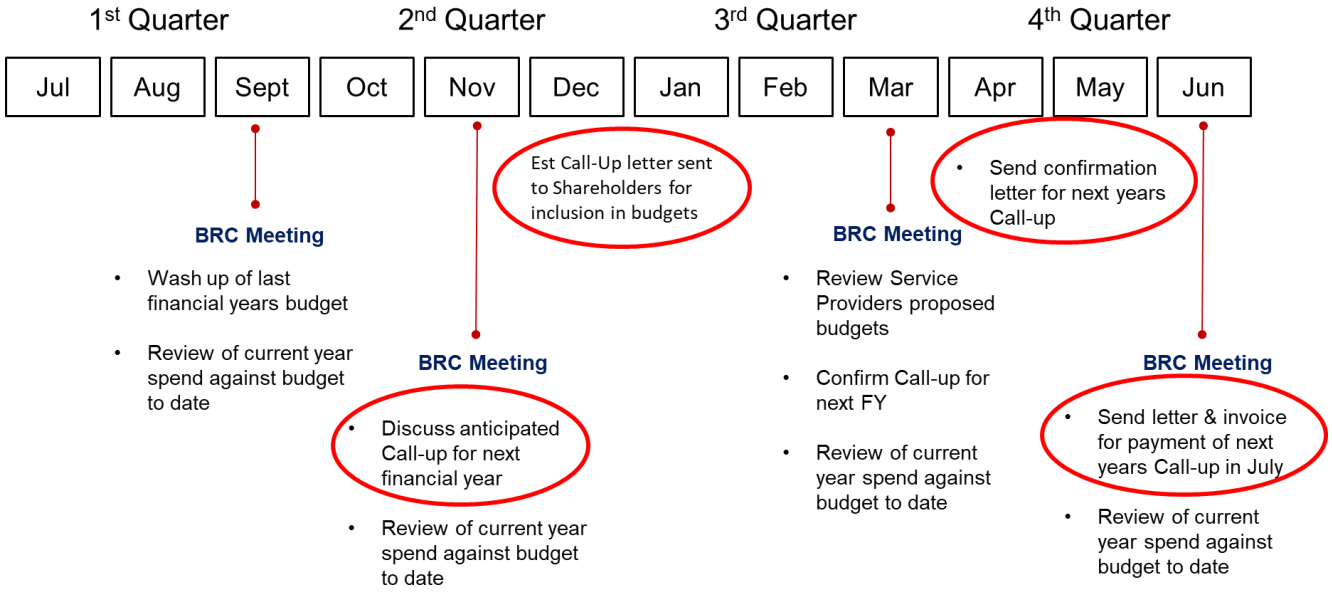
Figure 5-3 - BRC organisational structure



5.6. Budgeting process

BRC's budgeting process is undertaken annually with a new budgeting process having been established in 2019.

Figure 5-4 - BRC budgeting process timeline



Funding for the agreed budget is received by way of this yearly "Call-up" from each state via the issue of an invoice in June by the Commission. The Commission does not receive any significant income to offset costs. Water charges are kept by the respective State Governments and the Commission relies solely on the Call-up to fund its day-to-day operations.

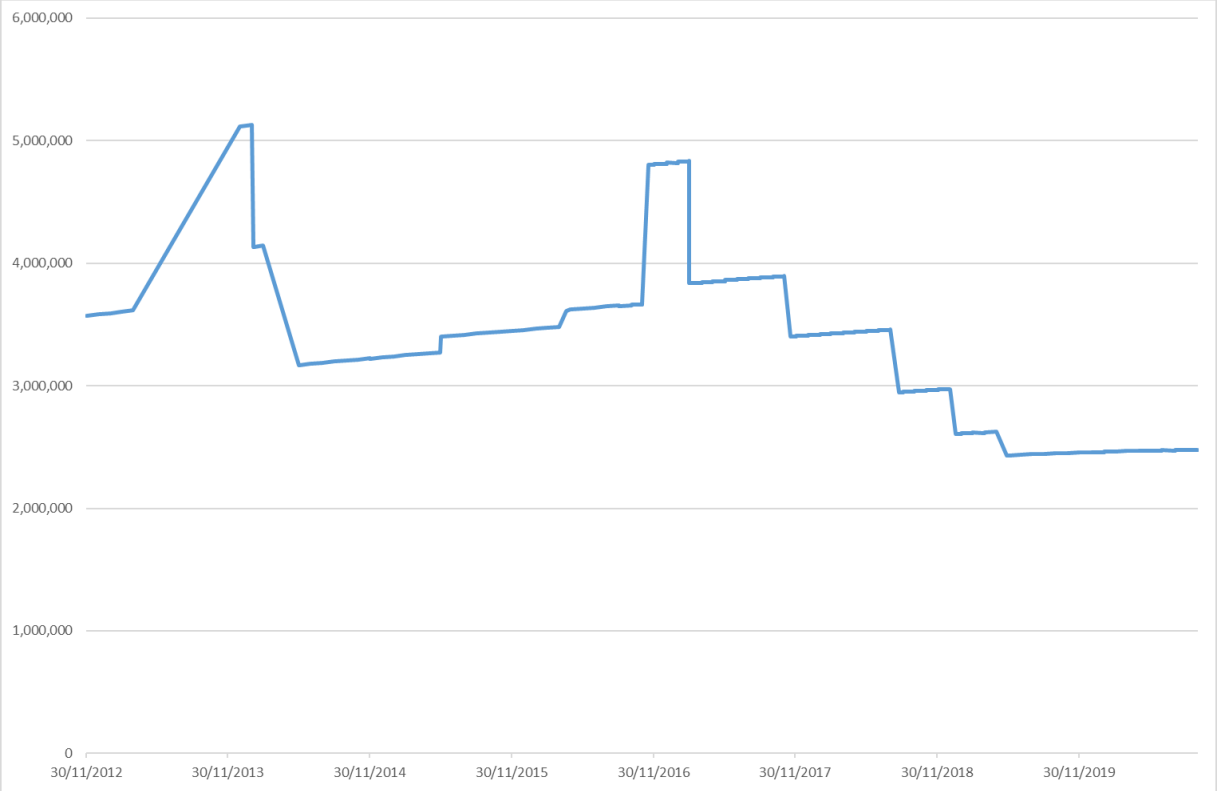
Operating costs and funding for asset renewals and enhancements (R&E) are separated out within the annual budgeting process and R&E are not passed through directly to the WaterNSW or WAMC determinations within NSW. These R&E costs are recovered from the state call ups via a separate 'Annuity Fund'.

5.6.1. Annuity Fund

Since 2001 the BRC has had an annuity fund account set up for the sole purpose of funding Renewals and Enhancement (R&E) costs and to to help manage any large variations in R&E work. This account sits outside of the main operating account for Commission costs and deposits. Annual deposits into the annuity fund until 2015 were approximately $350k p.a. In 2015 Queensland Treasury Commission (QTC) undertook a review of the Renewal Annuity[23]. At the time of the review there was a balance of $3.26m in the Annuity with an assumption of accumulated interest at a rate of 4.75% over a 20-year period with the fund assumed to remain in positive balance throughout the period. Based on these assumptions it was recommended an annuity deposit figure of $128,000, to be escalated annually from its FY16 base year by a published inflation rate such as Consumer Price Index (CPI). In the report QTC recommended that "*the DNRM undertake a review of the R&E forecasts and renewals annuity calculation every three years; a subsequent review may result in either an increase or decrease to the renewals annuity income stream*". Since this time no further reviews of the annuity accounts have been undertaken and the total balance within the annuity fund has steadily decreased to $2.48m in October 2020 as shown in Figure 5-5.

[23] Border Rivers Commission Renewals Annuity, Queensland Treasury Corporation, 6 May 2015

Figure 5-5 - BRC Annuity Fund Balance 2012 to 2020 (nominal price base)



Actual annual R&E expenditure is based on the Commission's Asset Management Plan (updated every 5 years) and annual advice from its Asset Managers, Sunwater Ltd. The Commission draws from this fund to cover these annual R&E costs.

The Commission has noted that there may be a requirement for more significant expenditure on asset renewals in the coming years. The annuity fund has also had its interest rate cut in recent years from 4.75% to 1.7%. There is therefore a potential need to increase in deposits in order to fund R&E via the Annuity Fund in coming years. This was noted during budget preparation for the 2021 financial year. The Commission will be undertaking a new review on funding arrangements for the Annuity Fund within the next financial year and any recommendations and impacts on future Call-Up amounts will be advised to the States on the completion of the review.

Currently the Commission does not include R&E costs in the States Call-up. Within its FY20 budget BRC included a *Yearly Annuity Fund Deposit* amount of $141k. This has been proposed to be rolled forward to the Organisational budget for 2020-21, and ongoing on an annual basis (inflated each year based on CPI) throughout the future determination period. Variability of the year-to-year call-up amounts would result if the R&E was included; especially where large weir or dam infrastructure replacements are involved in a particular financial year.

5.7. Asset Management

In May 2020 Cardno undertook a review of BRC's asset management processes and developed an Asset Management Plan. This report looked in detail at the future refurbishment program projected annual expenditure on renewals over a 30-year horizon.

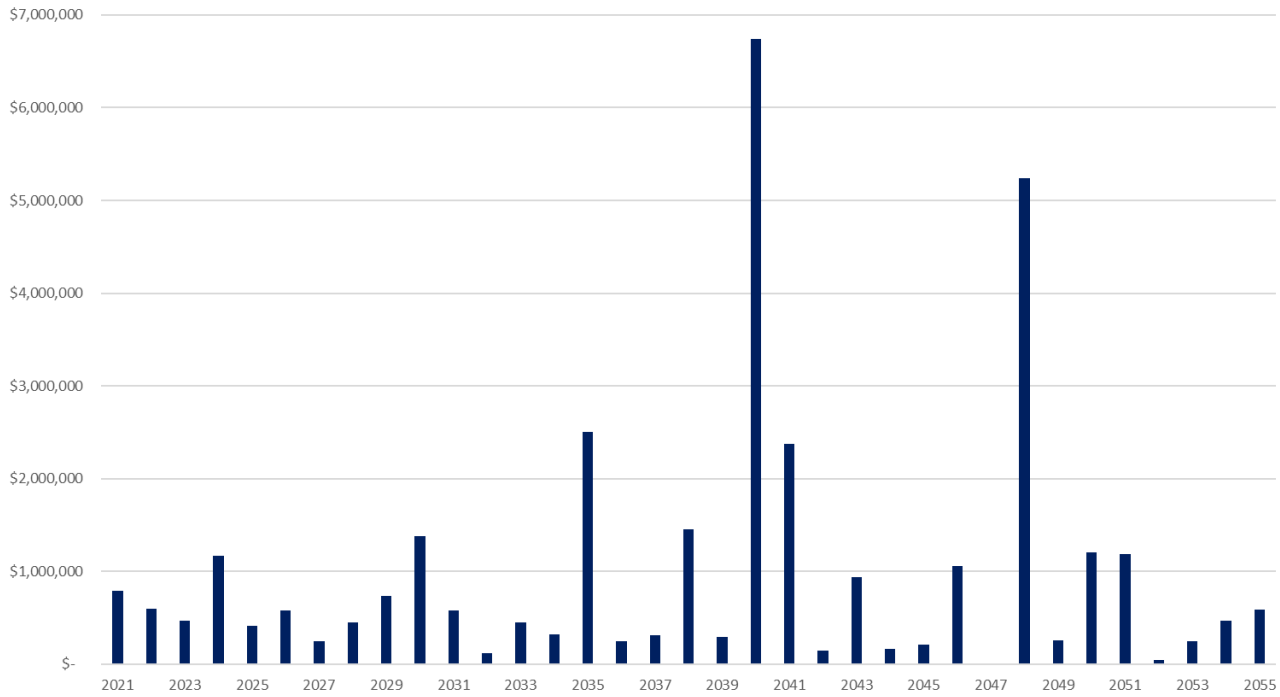
In accordance with the requirements of Sunwater's service contract for the operations and maintenance of the Commission assets, Sunwater is required to make an assessment each year of the following aspects of the assets:

- Asset condition;
- Civil maintenance;

- Mechanical and electrical maintenance;
- Dam safety;
- Workplace Health and Safety; and
- Environmental Management.

On the basis of the above assessments and inspections, operational experience, and internal discussions with Sunwater, Cardno provided recommendations to the Commission on the following year's refurbishment requirements and associated expenditure reproduced in Figure 5-6 below.

Figure 5-6 - Estimated BRC R&E expenditure 2021 to 2055



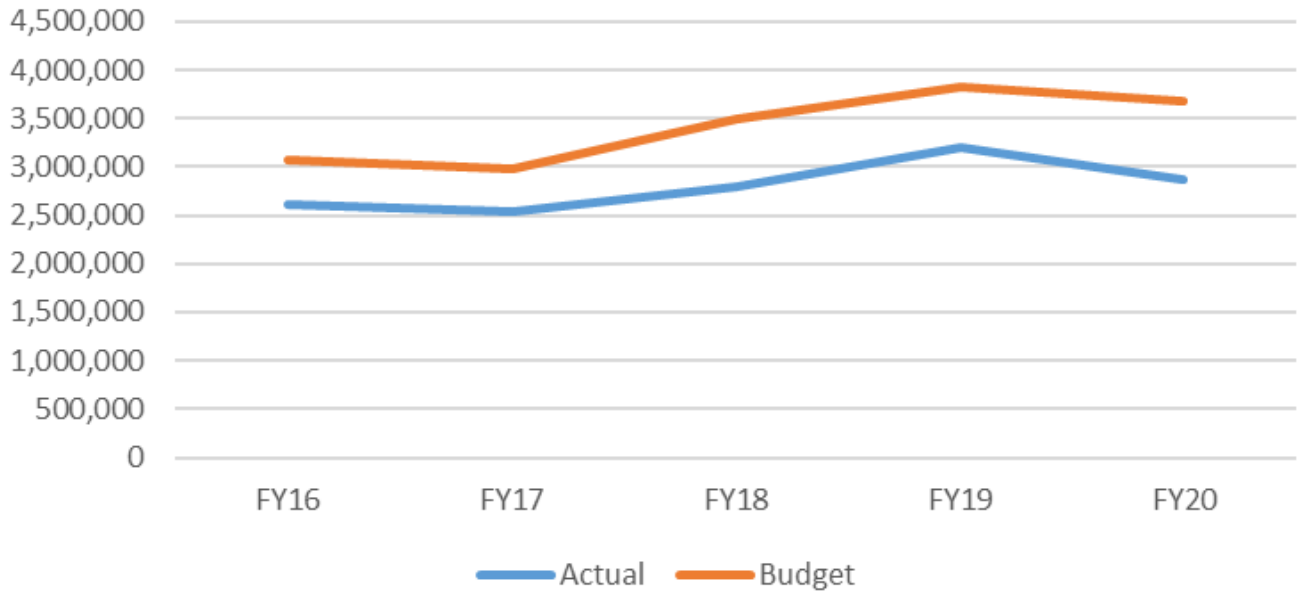
Source: Border Rivers Commission Asset Management Plan 2020, Cardno

Costs identified above have not been adjusted for inflation and do not include commercial margins that can apply at a cost element level this is discussed in section 5.9.4. We consider that the costs identified within this asset management plan going forward can be reasonably assumed all to be capital expenditure with the remaining expenditure deemed to be operating expenditure.

5.8. Current determination period (2016-17 to 2019-20)

In the 2016 Determination, IPART allowed $1.47m per year expenditure with no adjustments made. Actual costs incurred in year are recorded as cash and not accruals within the financial reporting process which informs the annual budgeting process. BRC have experienced a significant problem with accruals and late invoicing from suppliers in recent years, this combined with the recording of cash has led to an appearance of underspending against the budget as shown in Figure 5-7. Where underspending does occur, this is transferred into the annuity fund. Figure 5-7 shows the actual costs incurred excluding R&E in year by supplier between FY16 and FY20. R&E expenditure is excluded due to its historic funding via the Annuity Fund.

Figure 5-7 - BRC actual costs incurred (cash) excluding R&E in year against budget FY16 to FY20 ($20/21)



Actual costs incurred by BRC from Sunwater excluding R&E have increased 55% from $851k to $1,323k from FY16 to FY20. This is due to a lack of a formal agreement between Sunwater and BRC. This is thought to be due to that fact that the Border Rivers Commission is not recognised as a legal entity. As a result, Sunwater could not enter into a formal arrangement with the BRC and has charged commercial uplift and risk premiums on its costed activities. This has meant an increase in costs to the BRC of between 5% and 35% for some activities.

Actual costs incurred by BRC from WaterNSW have decreased 41% from $929k to $551k from FY16 to FY20 this is thought to be due to a number of accruals and late invoices incoming from WaterNSW.

Actual costs incurred by BRC from DNMRE have remained relatively constant between FY16 and FY20.

Actual costs incurred by BRC from DPIE have increased nearly 500% from $42k to $252k from FY16 to FY20 this is because since FY18 DPIE are funding the new Chief Executive Officer position.

Actual costs incurred by BRC due to other internal BRC costs have remained relatively constant between FY16 and FY20.

Figure 5-8 - BRC actual costs incurred in year by supplier FY16 to FY20 ($20/21)

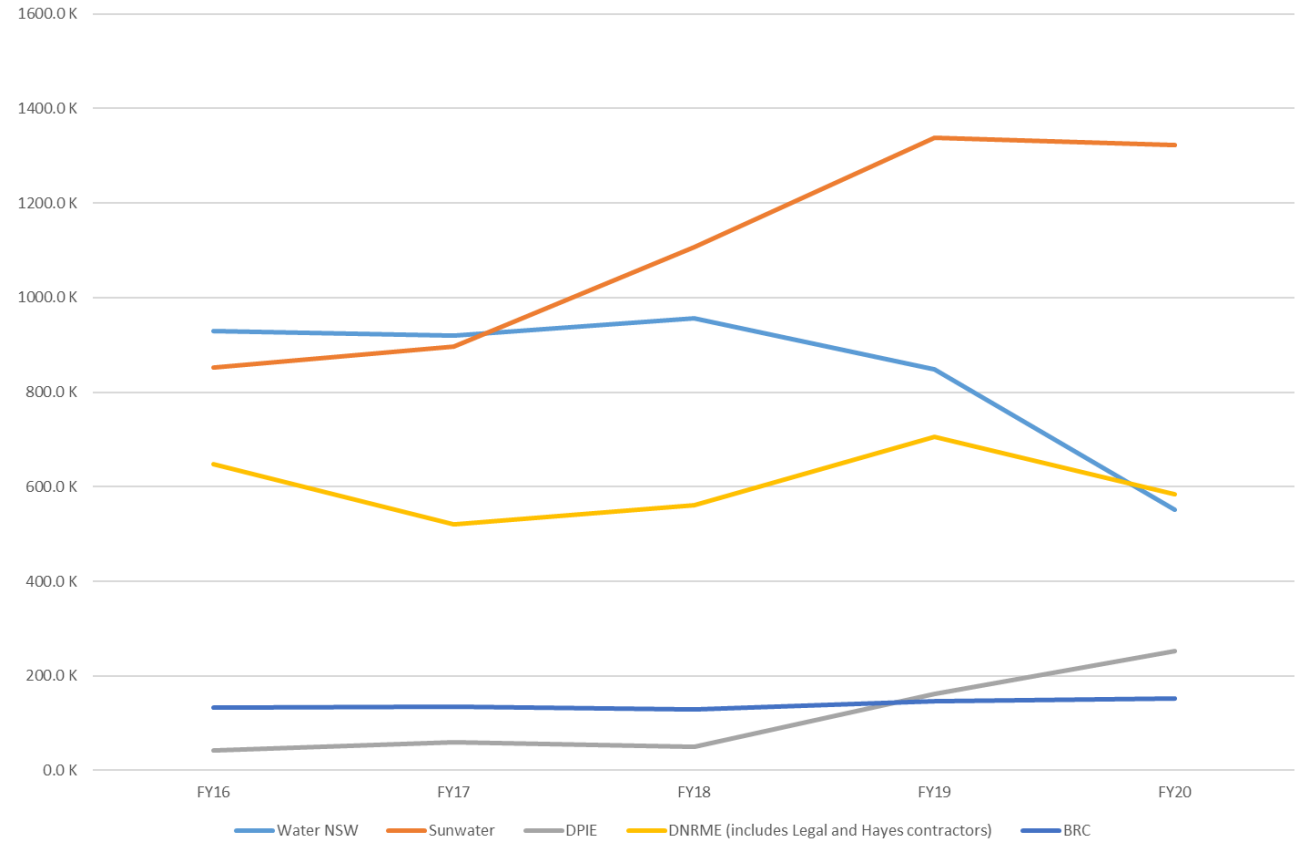
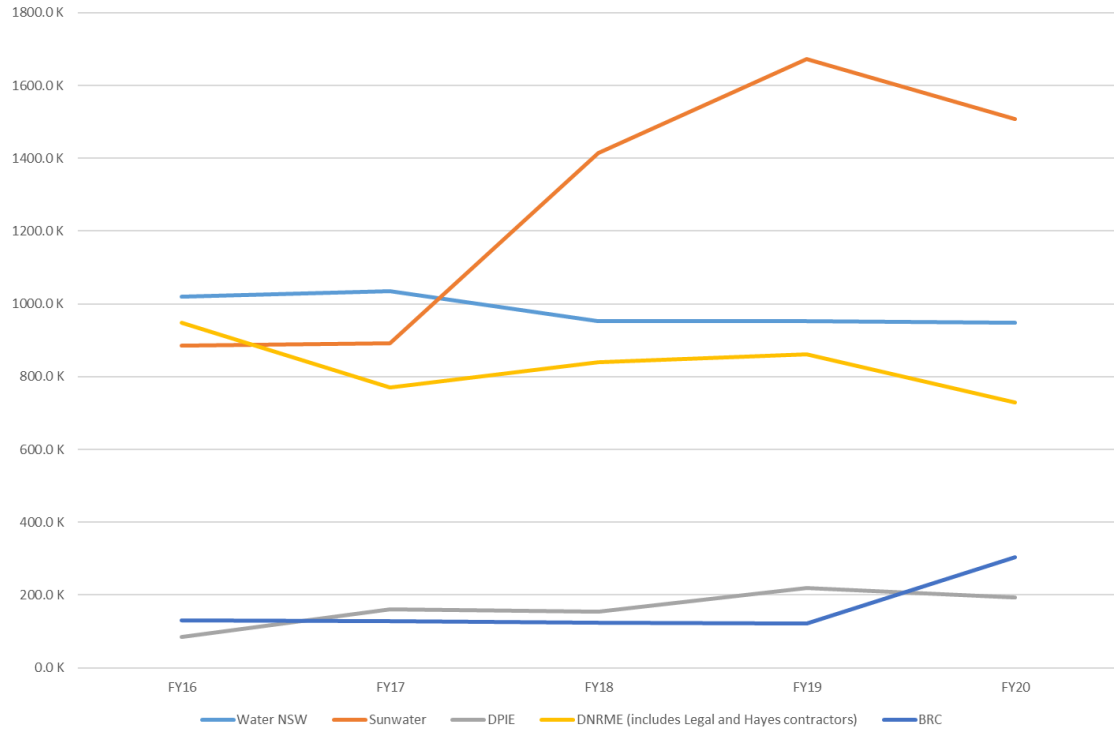


Figure 5-9 - BRC annual budgeted costs in year by supplier FY16 to FY20 ($20/21)



Activities undertaken in recent years:

Dam Safety

To meet the required dam safety provisions for Glenlyon Dam, the annual periodic inspections and also the annual reviews of the Data Book, Emergency Action Plan, Standard Operating Procedures and Operations and Maintenance Manual were completed. Regular and routine dam surveillance activities were performed at all other works in accordance with industry standards and best practice. There were no major issues arising from such surveillance.

Planned Maintenance and renewals

The Commission continued its program of planned maintenance and renewals to maintain the infrastructure under its control in good order, as advised by its service provider, Sunwater Ltd.

Asset Management

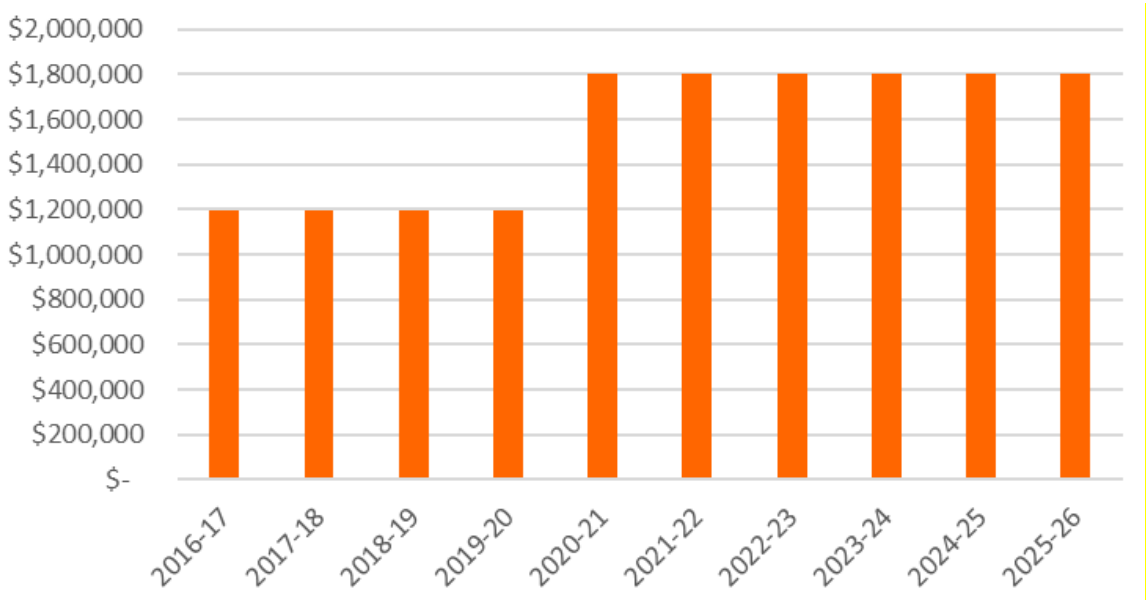
The Commission undertook its annual scheduled maintenance program with the majority of work being performed at Glenlyon Dam and Boggabilla Weir by Sunwater Ltd.

5.9. Future determination period (2021-22 to 2024-25)

Within the future determination period the BRC budget proposes a significant 34% increase in total costs to NSW from $1.3m p.a. in the current period to $1.8m p.a. in the future determination period. The FY21 year is used as a base year within the BRC budgeting process. BRC within its proposed budget had inflated prices annually. DPIE within its cost allocation model provided to us have kept all costs in $20/21 prices and used FY21 as the base year. As such the proposed total BRC costs to NSW provided to us by DPIE remain constant over the future determination period.

Due to the timing requirements for the pricing review BRC base year costs as used by DPIE in its allocation model were estimated in February 2020 with the FY20 budget used as a basis to project the forward-looking budget. BRC commented that "*The [BRC base figures in the budget] presented were developed primarily from the previous year's [FY20] budget. As at February the Commission's budget had not been developed as service providers had not sent their proposed budgets to the commission. So, the Commissions budget was not finalised or approved. Although it did include the preliminary figures received from Sunwater for the year.*".

Figure 5-10 - BRC costs allocated to NSW FY17 to FY26 ($20/21)



Budgeted line-item costs provided by BRC which feed into the DPIE cost allocation model have generally been inflated by 3% each year p.a. from 2019/20 to 24/25, there are some exceptions where some more timely information has been used as a basis as shown in Table 5-1.

Table 5-1 - BRC percentage change in budgeted costs by item from FY20 to FY21

Activity/cost type	Change in costs 2019/20 to 20/21
Routine Operations	-7%
Routine Maintenance	-10%
Recreation facilities management	-3%
Management Committee Expenses	155%
Financial, Risk & Audit Committee Expenses	1%
Secretariat	-42%
CEO/Project Officer	17%
Business Plan Costs (details separate sheet)	0%

Source: BRC budget and Atkins analysis

DPIE's proposed allocation of the BRC costs between WaterNSW bulk water (57.8%) and WAMC (42.2%) determinations is driven by the budgeted 2020/21 costs, and the proposed expenditure split between three cost types of:

- Total Water Infrastructure - 43.38%;
- Total Resource Management - 31.62%; and
- Total Organisation - 25.00%.

The premise is that All *Water Infrastructure* costs are directly allocated to WaterNSW bulk water and all *Resource Management* costs are directly allocated to WAMC, the *Organisation* costs are then split proportionally between the two determinations based on the budget allocated between *Water Infrastructure* and *Resource Management* costs types (identified above) by BRC.

5.9.1.1. Scope for efficiency

We are asked to provide a recommendation for each year between 2021-22 and 2024-25 of reasoned estimates of the level of expenditure that we consider to be efficient.

We consider there to be scope for achieving efficiencies over the future determination period. This is based on the range of key initiatives identified with the BRC business plan (Figure 5-2) and that within BRCs budgeted costs there is no year-on-year efficiency challenge applied. Given this we consider that there is scope to apply efficiencies on the proposed costs over the future multi-year determination period that are to be passed through to WaterNSW bulk water and WAMC users.

5.9.1.1.1. Scope adjustments

We recommend making three scope adjustments to the proposed (operating) costs.

Table 5-2 – Recommended scope adjustments to BRC proposed (operating) costs

Adjustment	Description
Water Infrastructure adjustment	Currently there is no defined O&M contract with Sunwater, as the Commission is not registered as a legal entity. Sunwater have been operating the assets for the Commission since the early 2000s when they became a Government Owned Corporation. Before then these assets were operated as part of the greater Department. During FY20, supported by the Commission, Qld DNRME has commenced negotiations with Sunwater Ltd, formalising contractual arrangements. Sunwater undertakes facility management activities (dams and weirs) on behalf of the two States, through the Commission. DNRME was legislatively recognised as the sole Qld State Controlling Authority in May 2020. There has been an increase in *Water Infrastructure* costs which have been attributed to Sunwater for the last two years and are as a direct result of not having a formalised contractual agreement in place for their O&M works for the BRC. We therefore recommend an adjustment to the future determination period costs for *Water Infrastructure.* This will align comparatively with historical costs prior to Sunwater applying significant risk premiums to their costs to BRC. This approach ensures that only efficient costs are being passed through to users in NSW.
Resource management adjustment	As discussed in section 5.8, the BRC have experienced a significant problem with accruals and late invoicing from a supplier (WaterNSW) in recent years, this combined with the recording of cash has led to an appearance of underspending against the budget. As the most recent years of cash costs have been used for budgeting purposes there is a perceived decrease in costs. We consider that using actual costs including accruals is more appropriate basis for budgeting.
Annuity Fund Contribution adjustment	For the proposed operating expenditure, we recommend netting off the annual annuity fund contribution as this is linked more closely to capital expenditure which is reflected in our proposed capital expenditure allowance.

5.9.1.1.2. Catch-up efficiency

We consider that BRC has a number of areas in which efficiency could be improved. These are very similar to those faced by MDBA and are summarised as follows:

Table 5-3 - Areas of BRC's potential improvement in efficiency

Area	Observation	Potential improvements
Decision-making	BRC has undertaken an asset management review. We understand that detailed plans for investment decision-making are underway.	Hardwire justification and timing challenge into governance, asset management decision-making and requests to SCAs.
Inputs	Understanding of the activities and expenditure delivered as part of the joint program is high level only. This does not allow BRC, stakeholders or regulators to understand, interrogate and challenge activities and hence expenditure.	Enhance reporting of activities and expenditure from SCAs.
Outputs and outcomes	Benefits realisation definition and management are weak, meaning that it is hard to establish whether the objectives of expenditure are met, thereby potentially reducing the focus on these objectives.	Put in place benefits realisation process from definition to tracking.

Area	Observation	Potential improvements
Efficiency and incentives	Prior to the recent change in management, efficiency has not been a key focus of the organisation. This is now changing. However, we note that there remains limited incentive for efficiencies with ownership/accountability thinly spread.	Ensure BRC's management drive permeates governance processes. Consider measures such as delegated management contracts with SCAs to formalise requirements and put in place performance incentives if permissible.
Multi-year planning	Budgets are not detailed beyond one year, providing limited confidence for multi-year planning and delivery.	Create more detailed budget projections and formalise multi-year budget agreements, with firmer commitments for some elements where this will aid efficiency and effectiveness

Atkins assessment

We have considered the additional costs associated with intergovernmental processes. However, we have not recommended a specific adjustment related to these costs due to the lack of a clearly more efficient counterfactual.

As discussed in Section 2.3 we proposed to set a catch-up efficiency challenge of 1.1% p.a. cumulating over the Determination period.

5.9.1.1.3. Continuing efficiency

We have applied a continuing efficiency adjustment of 0.7% per annum as outlined in Section 2.3.

5.9.2. Recommended BRC cost pass-through to NSW

In Table 5-4 below we provide the budgeted BRC costs and our recommended BRC costs to be applied to NSW. We have taken a high-level view of the budgeted costs for each of the significant cost types of Water Infrastructure; Resource Management and BRC Organisational costs. We explain the reasons for each of the adjustments by type. We have not undertaken a forensic line by line adjustment for each sub-activity as this would require a detailed breakdown of direct and allocated costs from both Sunwater and WaterNSW which were not made available for this review.

Table 5-4 - BRC proposed budget and Atkins recommended BRC budget for 2020-21 ($20/21)

Cost type	BRC Proposed Budget (2020-21)	Atkins recommended budget (2020-21)	Reason for difference
2. Total Water Infrastructure	1,563,504	951,386	We recommend using the average of the three years prior to Sunwater applying significant risk premiums to its costs in FY19 and FY20.
3. Total Resource Management	1,139,463	1,228,598	We recommend using the average of the four years prior to FY20 when there were significant accruals experienced from supplier late invoicing
4. Total Organisation	900,845	900,845	This has remained the same as per the budget

Cost type	BRC Proposed Budget (2020-21)	Atkins recommended budget (2020-21)	Reason for difference
TOTAL BRC BUDGET (excludes annuity funded R& E)	3,603,812	3,080,828	SUM of 1/2/3 above
Planned maintenance of works (Renewals)	791,675	791,675	We recommend netting this off as included with capital expenditure
Other one-off projects	0	0	This has remained the same as per the budget
TOTAL ANNUITY FUNDED BUDGET	791,675	791,675	We recommend netting this off as included with capital expenditure
($2020-21) operating expenditure	1,801,906	1,467,696	50/50 split of the total budget between NSW and QLD

5.9.3. BRC costs passed through to WaterNSW and WAMC determinations

The approach DPIE have taken to allocate BRC budgeted costs (using FY21 as the base year) between the WaterNSW bulk water and WAMC determinations for FY21 to FY25 is as follows:

1. Water Infrastructure costs have 100% been allocated to WaterNSW bulk water determination;
2. Resource Management costs have 100% been allocated to the WAMC determination;
3. BRC Organisation costs are then apportioned based on the relative costs allocated above to WaterNSW bulk water and WAMC determinations; and
4. The budgeted costs and allocations are rolled forward annually from FY21 to FY25.

We consider that this approach was appropriate until FY18, after this time Sunwater's costs to BRC for Water Infrastructure O&M increased significantly. WaterNSW costs to BRC reduced significantly in FY20. We do not consider the approach to allocation works equitably or consistently when this is based on the budgeted costs provided by BRC using FY20 as a base year. This is because of the recent increase in Sunwater costs and decrease in WaterNSW costs to BRC the drivers for this which we discussed in Section 5.8 above.

Table 5-5 below outlines the proposed DPIE allocation percentage which is driven by the budgeted costs provided by BRC using FY20 as the base year. When using a different budget build-up of cost types as per our recommendations in Table 5-4 using the same approach yields a different allocation of costs to WaterNSW bulk water and WAMC users.

Table 5-5 - DPIE proposed and Atkins recommended % allocations of BRC budget to WaterNSW bulk water and WAMC determinations

Breakdowns without R&E	20-21 based on BRC proposed budget	20-21 based on Atkins recommended budget
Total Water Infrastructure	43.38%	30.88%
Total Resource Management	31.62%	39.88%
Total Organisation	25.00%	29.24%
	100.00%	100.00%
WaterNSW Bulk Water determination	57.84%	43.64%
WAMC determination	42.16%	56.36%

Costs are then allocated to users or the NSW government based on the IPART cost sharing principles and proportional allocation of costs against sub-total of costs for each relevant activity type. For WaterNSW and WAMC these are shown in Table 5-6 and Table 5-7 below. We consider that

Table 5-6 - WaterNSW user share of costs based on activities relevant to the BRC

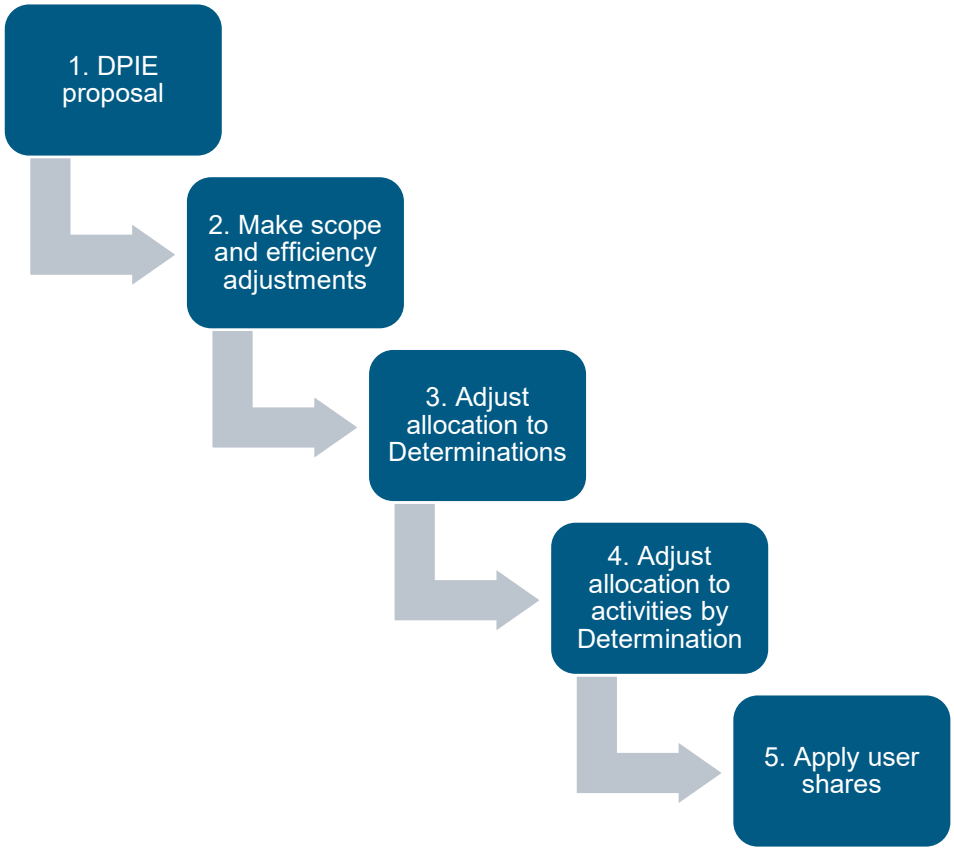
WaterNSW activity type	User share
Water Deliver & operations	95%
Routine Maintenance	95%
Asset Management Planning	95%
Corrective Maintenance	95%
Average	95%

Table 5-7 - WAMC user share of costs based on activities relevant to the BRC

WAMC activity type	Activity code	User share
surface water monitoring	W01-01	100%
surface water reporting	W01-03	60%
groundwater monitoring	W02-01	100%

The approach we have taken is summarised as follows:

Figure 5-11 - Approach to applying adjustments for BRC



Steps 1 to 3 are covered in Table 5-8. Steps 4 and 5 are addressed in the tables which follow.

Table 5-8 - Recommended BRC operating costs by Determination

	FY21	FY22	FY23	FY24	FY25	Total FY22 to FY25
Total NSW costs proposed by DPIE	$ 1,801,906	$ 1,801,906	$ 1,801,906	$ 1,801,906	$ 1,801,906	$ 7,207,624
Bulk Water % proposed by DPIE	58%	58%	58%	58%	58%	58%
WAMC % proposed by DPIE	42%	42%	42%	42%	42%	42%
Bulk Water proposed by DPIE	$ 1,042,323	$ 1,042,323	$ 1,042,323	$ 1,042,323	$ 1,042,323	$ 4,169,290
WAMC proposed by DPIE	$ 759,583	$ 759,583	$ 759,583	$ 759,583	$ 759,583	$ 3,038,333
Atkins scope adjustments						
Water Infrastructure adjustment	-$ 306,059	-$ 306,059	-$ 306,059	-$ 306,059	-$ 306,059	
Resource management adjustment	$ 44,567	$ 44,567	$ 44,567	$ 44,567	$ 44,567	
Annuity Fund Contribution adjustment	-$ 72,718	-$ 72,718	-$ 72,718	-$ 72,718	-$ 72,718	
Total NSW pre-efficiency costs recommended	$ 1,467,696	$ 1,467,696	$ 1,467,696	$ 1,467,696	$ 1,467,696	$ 5,870,784
Atkins efficiency adjustments						
Continuing efficiency %		0.7%	1.4%	2.1%	2.8%	
Continuing efficiency $		-$ 10,274	-$ 20,476	-$ 30,606	-$ 40,666	-$ 102,022
Catch-up efficiency %		1.1%	2.2%	3.3%	4.3%	
Catch-up efficiency $		-$ 16,032	-$ 31,664	-$ 46,904	-$ 61,761	-$ 156,360
Total NSW post-efficiency costs recommended by Atkins		$ 1,441,391	$ 1,415,557	$ 1,390,186	$ 1,365,269	$ 5,612,402
Atkins determination allocation adjustments						
Bulk Water % recommended by Atkins	44%	44%	44%	44%	44%	44%
WAMC % recommended by Atkins	56%	56%	56%	56%	56%	56%
Bulk Water recommended by Atkins	$ 640,510	$ 629,030	$ 617,756	$ 606,684	$ 595,810	$ 2,449,279
WAMC recommended by Atkins	$ 827,187	$ 812,361	$ 797,801	$ 783,502	$ 769,459	$ 3,163,123

Note 1: Bulk Water/WAMC %s recommended differ from those proposed by DPIE because of the impacts of the scope adjustments.

Note 2: the recommendations in this section apply to FY22 to FY25 only as FY21 forms part of the current Determination period.

WAMC's BRC (operating) costs are then apportioned into their activities based on the relative proportion of costs.

Table 5-9 - Recommended total BRC (operating) costs allocated to WAMC activities (user and government shares combined)

WAMC Activity	% of costs to activity	FY21	FY22	FY23	FY24	FY25	Total FY22 to FY25
Surface water monitoring - W01-01	**85%**	$ 706,953	$ 694,282	$ 681,838	$ 669,618	$ 657,616	$ 2,703,355
Surface water reporting - W01-03	**14%**	$ 113,504	$ 111,470	$ 109,472	$ 107,510	$ 105,583	$ 434,035
Groundwater monitoring - W02-01	**1%**	$ 6,730	$ 6,609	$ 6,490	$ 6,374	$ 6,260	$ 25,733
Gross WAMC costs	**100%**	$ 827,187	$ 812,361	$ 797,801	$ 783,502	$ 769,459	$ 3,163,123

Source: "% of costs to activity" is based on the average of FY22 to FY25 spend from the BRC budget. Total expenditure is from Atkins analysis presented above.

User share percentages are then applied to each WAMC activity as follows:

Table 5-10 - Recommended BRC (operating) costs allocated to WAMC users (user share only)

WAMC Activity	% of user share	FY21	FY22	FY23	FY24	FY25	Total FY22 to FY25
Surface water monitoring - W01-01	**100%**	$ 706,953	$ 694,282	$ 681,838	$ 669,618	$ 657,616	$ 2,703,355
Surface water reporting - W01-03	**60%**	$ 68,103	$ 66,882	$ 65,683	$ 64,506	$ 63,350	$ 260,421
Groundwater monitoring - W02-01	**100%**	$ 6,730	$ 6,609	$ 6,490	$ 6,374	$ 6,260	$ 25,733
Net WAMC costs to users		$ 781,785	$ 767,773	$ 754,012	$ 740,498	$ 727,226	$ 2,989,509

BRC costs allocated to the WaterNSW bulk water Determination are then allocated across each activity with a respective average user share percentage then applied.

Table 5-11 - Atkins recommended BRC costs allocated to WaterNSW bulk water users share

WaterNSW Activity	% of activity	% of user share	FY21	FY22	FY23	FY24	FY25	Total FY22 to FY25
Water Delivery & operations	**72%**	**95%**	$ 436,317	$ 428,497	$ 420,817	$ 413,274	$ 405,867	$ 1,668,455
Routine Maintenance	**23%**	**95%**	$ 137,707	$ 135,239	$ 132,815	$ 130,435	$ 128,097	$ 526,585
Asset Mgmt Planning	**0%**	**95%**	$ -	$ -	$ -	$ -	$ -	$ -
Corrective Maintenance	**6%**	**95%**	$ 34,460	$ 33,843	$ 33,236	$ 32,640	$ 32,055	$ 131,775
User Share of total			$ 608,484	$ 597,578	$ 586,868	$ 576,349	$ 566,019	$ 2,326,815

Source: "% of activity" is based on the average of FY22 to FY25 spend from the BRC budget. Total expenditure is from Atkins analysis presented above.

We have recommended a higher percentage cost pass-through to WAMC users than proposed by DPIE and a lower percentage cost pass-through to WaterNSW bulk water users over the future Determination period.

5.9.4. Renewal and Enhancement (capital) expenditure

In its February 2020 budget submission to DPIE, BRC propose costs of $3m on R&E (capital expenditure) over the next determination period. In its May 2020 BRC Asset Management review, Cardno provided estimated direct costs for R&E excluding commercial margins of $2.6m. An uplift of 12.2% has been applied annually before costs go into the budget from FY22 onwards.

The BRC budgeted R&E costs are provided within the DPIE model for information and are not allocated directly to either WAMC or WaterNSW determinations. These costs fluctuate over time and are based on a detailed bottom-up assessment of when works are planned to occur and do not allow for any changes in timing to expenditure within the period. Furthermore, they do not include an assessment of any efficiency savings that may be made over time.

We considered whether a review of recent historical actual expenditure would provide a more appropriate and consistent basis by which to recommend future R&E expenditure. The average expenditure on R&E over the last three years (FY17 to FY19) of available data, which equates to $0.92m in $20/21 prices, deduced using the recent withdrawal amounts on the Annuity Fund. This can be used as a proxy for R&E expenditure. We consider that this does not necessarily provide a complete view of forward expenditure and consider that the detailed bottom-up process undertaken for the Asset Management review may provide a more accurate basis for future period capital expenditure. We have then applied a catch-up and continuing efficiency. Our recommendation for R&E expenditure, are provided in Table 5-12 below.

Table 5-12 - R&E (capital) costs against BRC budgeted costs and Atkins recommendations FY22 to FY25 ($20/21)

BRC budget	FY22	FY23	FY24	FY25	Total FY22 to FY25
Average withdrawal on the annuity fund (FY17 to FY19) for comparative purposes	918,908	918,908	918,908	918,908	3,675,632
Planned maintenance of works (Renewals) as per BRC budget (= Total Annuity Funded Budget)	668,932	526,739	1,307,889	460,565	2,964,125
Cardno estimate direct costs	596,222	469,485	1,165,727	410,503	2,641,938
Deduced uplift %	12.20%	12.20%	12.20%	12.20%	12.20%
Uplift $	72,710	57,254	142,162	50,062	322,188
Atkins recommended efficiency adjustments					
Continuing efficiency %	0.7%	1.4%	2.1%	2.8%	
Continuing efficiency $	-$ 4,683	-$ 7,349	-$ 27,274	-$ 12,761	- 52,066
Catch-up efficiency %	1.1%	2.2%	3.3%	4.3%	
Catch-up efficiency $	-$ 7,307	-$ 11,364	-$ 41,797	-$ 19,381	- 79,848
Total NSW post-efficiency R&E costs recommended by Atkins	$ 656,943	$ 508,027	$ 1,238,818	$ 428,423	2,832,211
Efficient NSW Capex (50% of total)	$ 328,471	$ 254,013	$ 619,409	$ 214,212	1,416,105
Atkins determination allocation adjustments					
Bulk Water % recommended by Atkins	44%	44%	44%	44%	44%
WAMC % recommended by Atkins	56%	56%	56%	56%	56%
Bulk Water recommended by Atkins	143,346	110,853	270,313	93,483	617,995
WAMC recommended by Atkins	185,125	143,161	349,096	120,729	798,110

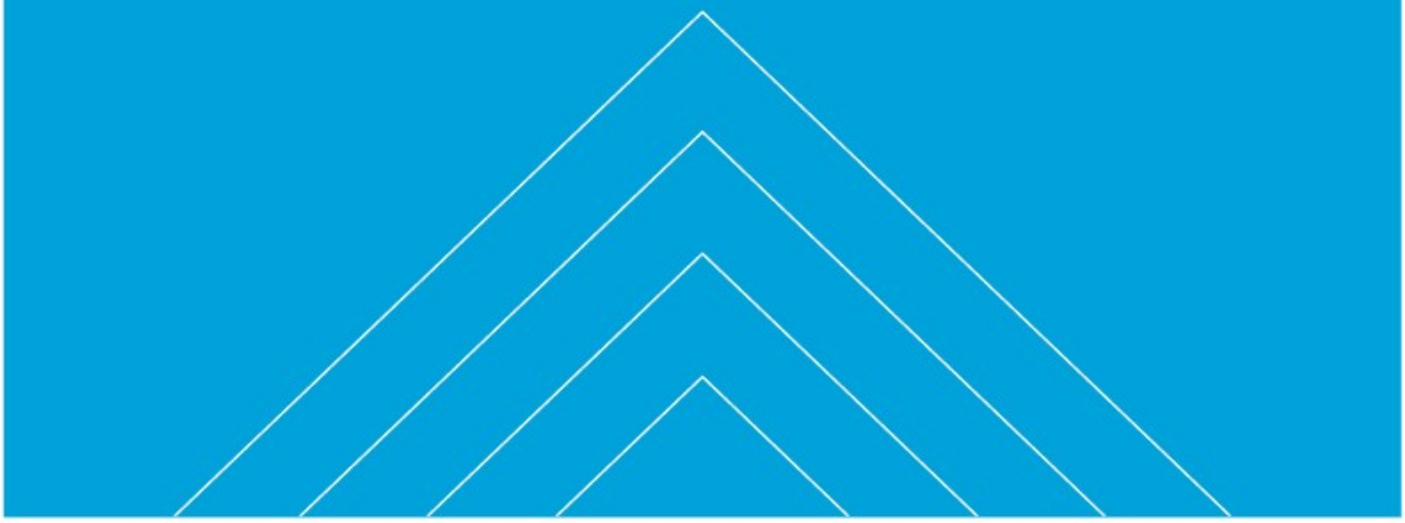
Source: BRC budget, DPIE model, Annuity Fund balance and Atkins analysis

Our recommendations are based on the actual expenditure requirements in the future years and do not reflect an assessment of how this expenditure is expected to be funded. The *contributions* to the Annuity Fund are discussed in Section 5.6.1.

5.9.5. Recommended asset lives

For the purposes of setting a RAB there is a requirement to use a weighted average asset life for new capital expenditure items. We have reviewed the BRC asset management plan which refers to new capital expenditure items proposed in future years and made an assessment of the asset life of each item. This provides a weighted average asset life of 49.6 years for new capex between FY22 and FY25.

Appendices



pendix A. Terms of Reference

Project D – Review of MDBA and BRC costs associated with WaterNSW's and WAMC's activities

For the review of the MDBA and BRC costs associated with WaterNSW's and WAMC's monopoly services, IPART requires the consultant to undertake the following three tasks:

- Task 1 - a review of the MDBA's and BRC's overall expenditure and activities in bulk water delivery and water resource management in NSW for efficiency
- Task 2 - a detailed review of how the MDBA's and BRC's expenditure and activities relate to WaterNSW's and WAMC's monopoly services
- Task 3 - a detailed review of the MDBA's and BRC's operating and capital expenditure for efficiency in delivering WaterNSW's and WAMC's monopoly services.

Task 1: Review of MDBA and BRC overall activities and expenditure in NSW

The consultant must undertake a review of the MDBA's and BRC's activities and expenditure in NSW, including:

(a) Identifying and reporting on the MDBA's and BRC's overall planning framework and processes in NSW

(b) Commenting on the MDBA's and BRC's overall activities in NSW, including their goals and objectives between 2021-22 and 2024-25.

(c) Reviewing and commenting on the MDBA's and BRC's strategic planning and the corporate structures, systems and processes they have in place.

(d) Drawing on the consultant's investigations and other available material, assess and report on the efficiency of proposed expenditure by program in NSW by year, from 2021-22 to 2024-25, including those associated with River Murray Operations (RMO).

(e) Providing a recommendation for each year between 2021-22 and 2024-25 of reasoned estimates of the level of expenditure that the consultant considers efficient for MDBA and BRC programs in NSW, by valley.

Task 2: Review of MDBA and BRC activities relating to WaterNSW's and WAMC's monopoly services

This task involves the consultant assessing and reporting on the scope for ring-fencing of MDBA and BRC costs in NSW, in alignment with WaterNSW's and WAMC's monopoly services.

The consultant must:

(a) Identify and report on, where possible, the activities undertaken by the MDBA and BRC that relate directly to WaterNSW's bulk water monopoly services and

WAMC's water management monopoly services.

(b) Report on the quality and availability of data and information, and any issues that would hinder a detailed assessment of the efficient value of assets, operating expenditure and capital expenditure required to deliver WaterNSW's and WAMC's monopoly services for each year between 2021-22 and 2024-25, by valley.

(c) Make comment on any improvements, if any, IPART and/or the MDBA can make to increase the level of transparency, on how the MDBA and BRC plan and implement investment and activities associated with WaterNSW's and WAMC's monopoly services.

Task 3: Review of the efficient costs of WaterNSW's and WAMC's monopoly services

– MDBA and BRC activities

Task 3 will be informed by the outcomes and recommendations of tasks 1 and 2 above. This task will be undertaken following discussions between IPART and the consultant as deemed necessary.

The consultant must:

(a) Make recommendations on the efficient level of MDBA and BRC operating

expenditure required to deliver WAMC's monopoly water management services in each valley, for each year between 2021-22 and 2025-26, including the allocation of any efficient corporate and overhead costs

(b) Make recommendations on the efficient level of MDBA and BRC operating

expenditure required to deliver WaterNSW's monopoly bulk water services in each valley, for each year between 2021-22 and 2024-25, including but not limited to the RMO, including the allocation of any efficient corporate and overhead costs

(c) Make recommendations, where possible, on the value of efficient assets used to

deliver WAMC's monopoly water management services by valley at 30 June 2020.

(d) Make recommendations, where possible, on the value of efficient assets used to

deliver WaterNSW's monopoly rural bulk water services by valley at 30 June 2020. This should include, but not be limited to, the RMO.

(e) Make recommendations on the efficient level of MDBA and BRC capital

expenditure required to deliver WAMC's monopoly water management services in each valley, for each year between 2020-21 and 2025-26

(f) Make recommendations on the efficient level of MDBA and BRC capital

expenditure required to deliver WaterNSW's monopoly bulk water services in each valley, for each year between 2020-21 and 2024-25, including but not limited to the RMO.

(g) Make recommendations, if possible, on the remaining lives of any MDBA and BRC existing assets, and lives of any new efficient assets required to deliver WaterNSW's and WAMC monopoly services.

Appendix B. MDBA Joint Program Cost Sharing Principles

Source: MDBA Cost Share Principles - A summary of the cost sharing basis of the Joint Programs budget, July 2019

Category 1 (major water supply) assets & Other RMO support functions:

Cost type	Cloth	NSW	Vic	SA
Operations & Maintenance (O&M)	0%	· 70% of costs shared on basis of each state's percentage shares of total capped Murray system entitlements. · 30% of costs shared on basis of each state's percentage shares of 5 year average Murray system diversions.		
Investigation & Construction (I&C)	25%	Balance of I&C cost shared between states on same basis as O&M		

Category 2a assets (Locks 10 and 11):

Category 2 assets have a NSW and Victorian local beneficiary component.

Cost type	C'wlth	NSW	Vic	SA
Operations & Maintenance (O&M)	0%	· 50% of costs shared on basis of each state's percentage shares of total capped Murray system entitlement (reflecting general public benefits). · 50% of costs shared equally by NSW and Vic (reflecting local/specific benefits)		
Investigation & Construction (I&C)	25%	Balance of I&C cost shared between states on same basis as O&M		

Category 2b assets (Locks 1 -8):

Category 2b assets have a South Australian local beneficiary component.

Cost type	C'wlth	NSW	Vic	SA

Operations & Maintenance (O&M)	0%	· 50% of costs shared on basis of each state's percentage shares of total capped Murray system entitlement (reflecting general public benefits). · 50% of costs met by SA (reflecting local/specific benefits)
Investigation & Construction (I&C)	25%	Balance of I&C cost shared between states on same basis as O&M

Salt Interception Schemes:

For schemes with a shared salinity impact benefit the relevant state meets a share of all costs in proportion to the salinity benefit accruing to the state. The remaining costs are shared as follows:

Cost type	C'wlth	NSW	Vic	SA
Operations & Maintenance (O&M)	0%	Costs shared equally between all states		
Investigation & Construction (I&C)	25%	Balance of I&C cost shared between states on same basis as O&M		

Murray mouth connectivity (Dredging):

Cost type	C'wlth	NSW	Vic	SA
Operations & Maintenance (O&M)	All costs shared equally between the States and the Commonwealth			
Investigation & Construction (I&C)	All costs shared equally between the States and the Commonwealth			

Environmental Works and Measures:

Cost type	C'wlth	NSW	Vic	SA
Operations & Maintenance (O&M)	0%	Costs shared equally between all states		
Investigation & Construction (I&C)	Investigations and constructions shared as per a special agreement under Inter-Governmental Agreements (IGAs). (Commonwealth funded construction of assets created under The Living Murray program)			

River Murray Operations Management:

Cost type	C'wlth	NSW	Vic	SA
Operations & Maintenance (O&M)	25%	The balance of costs shared between states based on the same overall percentage shares of the remainder of the program		

Non RMO Programs:

Cost type	C'wlth	NSW	Vic	SA
Operations & Maintenance (O&M)	After allowing for the fixed amount contributions by the Queensland and ACT governments, the balance is shared equally between other three states and Commonwealth			

Appendix C. Schedule of meetings

Agency	Meeting location	Meeting date	Meeting topic(s)	Agency attendees and positions
DPIE	Videoconference (Microsoft Teams)	02/09/20	Overview and allocation of costs	Duncan Turner, DPIE Donna Hodgson, BRC
MDBA	Videoconference (Microsoft Teams)	16/09/20	Capital planning processes/Asset management . Business case development i. Forecasting and budgeting (cost estimation) v. Maintenance scheduling . Underspends - Activity reduction vs Efficiency	Angus Paton, MDBA General Manager Assets Leigh Pike, DPIE Duncan Turner, DPIE
BRC	Videoconference (Microsoft Teams)	29/09/20	• BRC budgeting • Business plan • AM plan • Annuity Fund • Suppliers	Donna Hodgson, BRC CEO

Graydon Jeal
WS Atkins International Limited
Woodcote Grove
Ashley Road
Epsom
KT18 5BW

Tel: +44 (0)1372 726140

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