

Water Portfolio Investigation

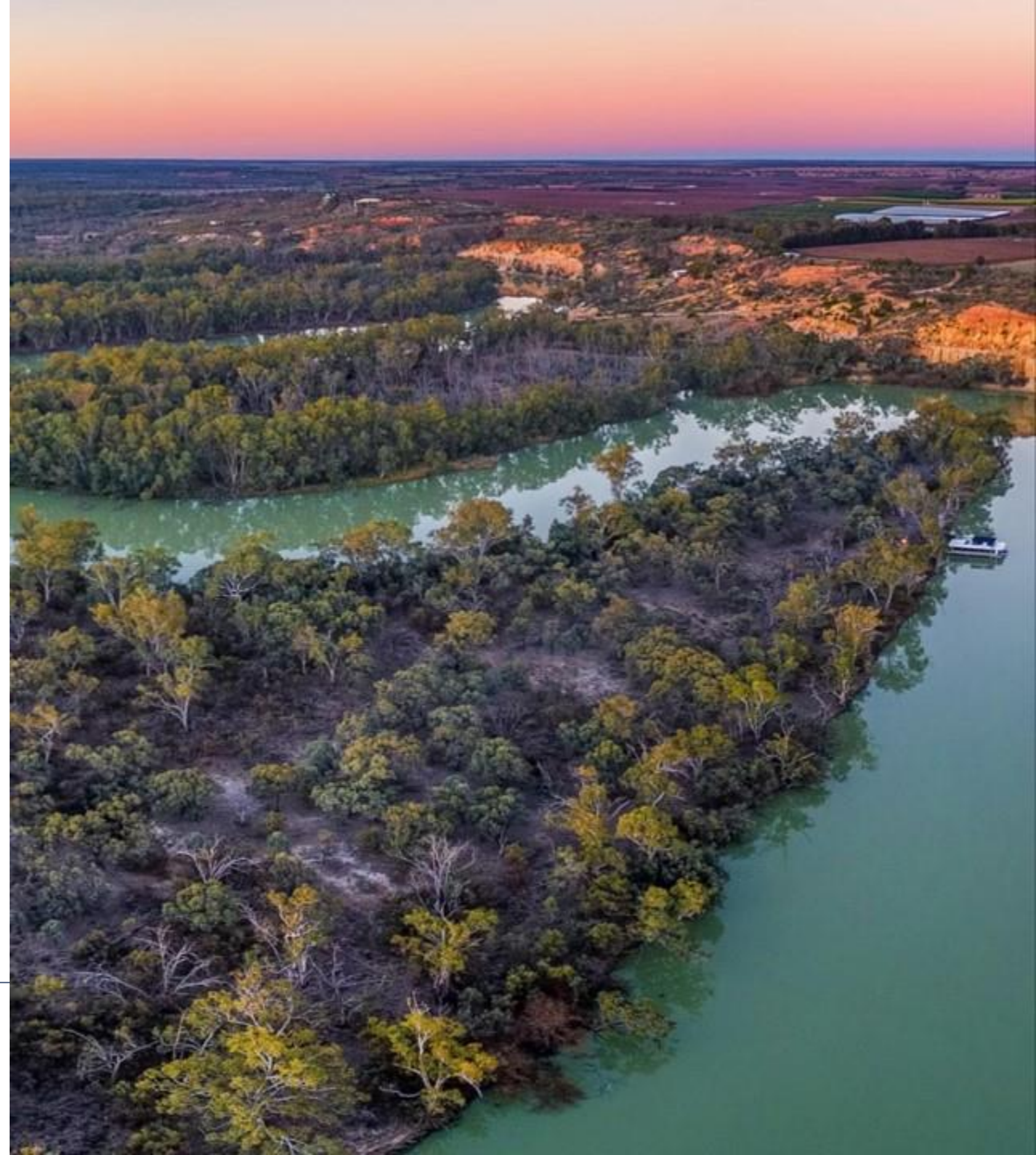
Prepared for MLDRIN

24 February 2023

Presented by Aither

COMMERCIAL IN CONFIDENCE

A I T H E R



Acknowledgement of Country

Aither acknowledge Aboriginal and Torres Strait Islander people as the First Peoples of Australia and the Traditional Custodians of its lands and waters. We pay respect to the deep connection Aboriginal and Torres Strait Islander people hold with Country, and celebrate the continuing effect of cultural knowledge and practices on Country and communities across Australia.

We pay our respect to Elders past and present, whose knowledge and leadership has protected Country and allowed Aboriginal spirituality, culture and kinship to endure through the ages.

We recognise the injustices and hardship faced by Aboriginal communities and reflect on opportunities for all Australians to play a part in reconciliation and the development of mutual understanding and respect across cultures.

A I T H E R

Disclaimer

© 2023 Aither Pty Ltd. All rights reserved

Aither makes no warranties or guarantees, expressed or implied, in relation to any information provided in this document. Aither's Water Market Services do not constitute: financial product advice (as that term is defined in section 766B of the Corporations Act (Cth) 2001); a warranty or guarantee in respect to the performance of an investment or as to the solvency of a person, entity or any debt; or legal advice, and should not be relied upon as such.

This document has been prepared on the basis of information available to Aither at the date of publication. Aither relies on data obtained from multiple third-party sources. Consequently, any information presented herein shall be subject to the accuracy and limitations of data obtained from third-party sources.

Aither's Water Markets Services should not be considered advice or a guarantee with respect to future profit returns on any real property or business. To the full extent permitted by law, Aither

excludes all liability for any loss or damage howsoever arising suffered by the Client or any third party, whether as a result of the Client or third party's reliance on the accuracy or otherwise of the information presented herein.

Any individual or entity relying on the information presented in this document should be aware that water market prices can be volatile and can be affected by factors not considered in the analysis such as government policy, regulation, climate, commodity prices, and any other unforeseen events which may impact water market prices. Individuals and entities should exercise their own skill and judgement in applying the information presented herein to decision-making.

Table of Contents

1. Background & Purpose
2. Aither methodology
3. Base Case portfolio
 1. Portfolio weighting
 2. Capital growth analysis
 3. Acquisition volume analysis
 4. Allocation sale analysis
4. High Security portfolio
 1. Portfolio weighting
 2. Capital growth analysis
 3. Acquisition volume analysis
 4. Allocation sale analysis
5. Summary
6. Key conclusions

COMMERCIAL IN CONFIDENCE

A I T H E R



Background & Purpose

Aither has been requested to investigate forgone returns given to Traditional Owners given the committed funding to acquire water entitlements has not been spent.

- + In May 2018, the Australian Government committed \$40 million to acquire access entitlements for Indigenous people in the Murray–Darling Basin (MDB): \$20 million each for northern Basin and southern Basin Indigenous communities.
- + As at February 2023, none of the committed funding had been deployed to facilitate acquisitions.
- + As a result, Traditional Owners have forgone opportunities for capital gains and returns from water allocation sales during this period.
- + Aither has been appointed by MLDRIN to quantify the value of these missed opportunities in the southern MDB drawing on Aither's water market expertise and data and a notional water entitlement portfolio.

Our method

The method underlying our calculations is outlined below.

- 1. Select a representative portfolio of possible sMDB entitlements**
 - + Base case scenario based on representative weighting
 - + High security focused on High Security/High Reliability entitlements
- 2. Estimate total foregone capital growth of notional water portfolio's**
 - + Estimate changes in Aither's Fair Market Unit Values of Entitlements from July 2018 to January 2023
 - + Calculate the difference in total portfolio values based on specified weightings
- 3. Calculate additional funding required at current market prices to be able to secure the same volume as a July 2018 acquisition**
- 4. Estimate quantum of missed opportunities for allocation sales**
 - + Obtain data on allocations to entitlements each year (from 2019 to 2022)
 - + Assume all available allocations are sold within each zone for the respective annual Volume Weighted Average Price (VWAP)
 - + Adjust allocation sales for inflation to estimate total value foregone in today's dollars

Portfolio Weighting (Base Case)

Notional portfolio of sMDB entitlements

Our Base Case portfolio is based upon the weightings that reflect the volume and reliability of entitlements on issue.

However, for this assessment, our weightings also take into consideration:

- + Total entitlements on issue and how often entitlements are traded
- + An adjustment for MLDRIN-specific requirements

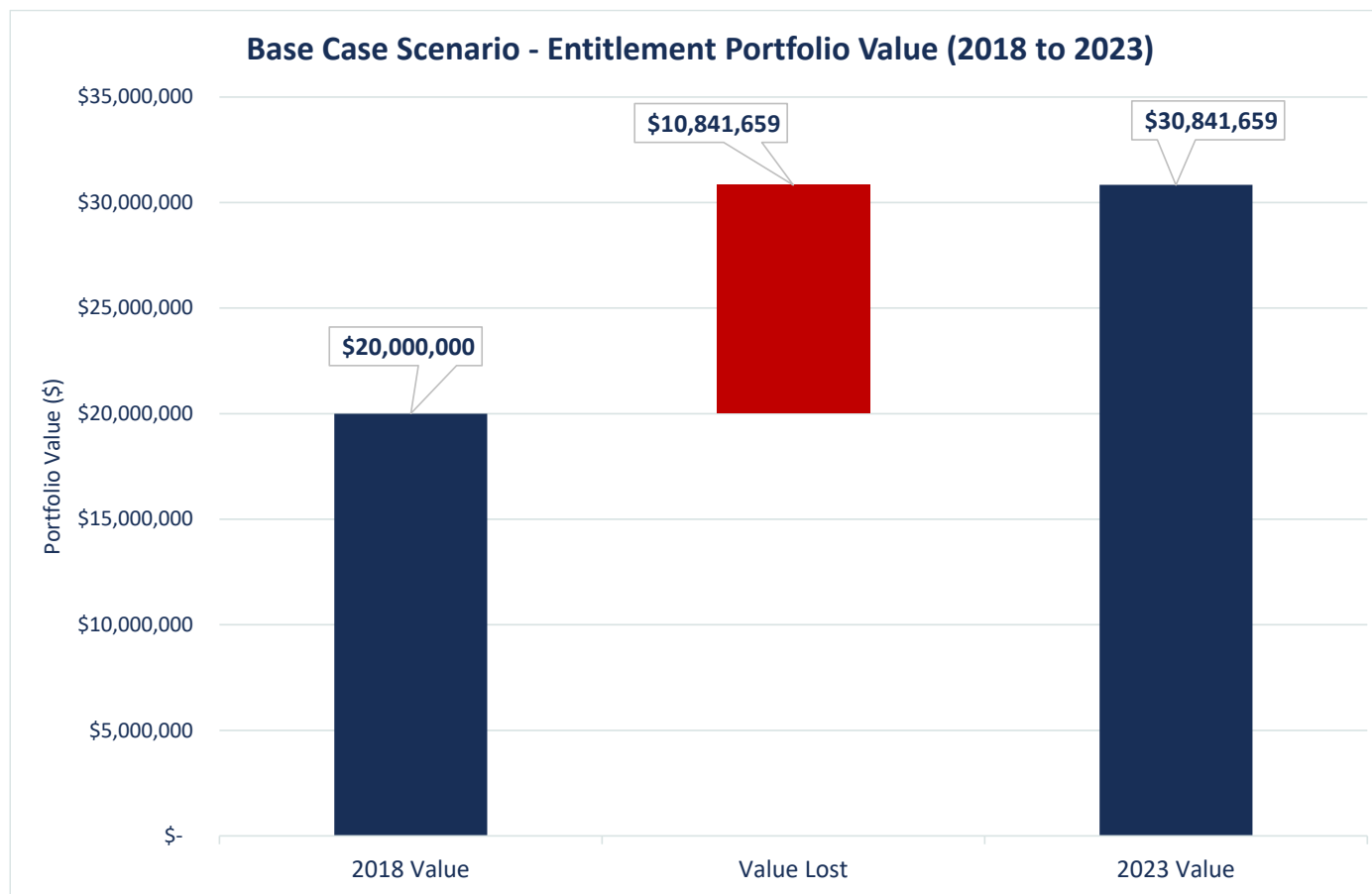
Entitlement Type	Portfolio Weighting
NSW Murray (above Barmah) GS	5.0%
NSW Murray (below Barmah) GS	8.5%
NSW Murray (below Barmah) HS	3.0%
NSW Murrumbidgee GS	22.0%
NSW Murrumbidgee HS	6.0%
SA Murray HS	6.0%
Vic 1A Greater Goulburn HRWS	14.0%
Vic 1A Greater Goulburn LRWS	1.0%
Vic 6 Murray (Dart to Barmah) HRWS	7.0%
Vic 6 Murray (Dart to Barmah) LRWS	0.5%
Vic 7 Murray (Barmah to SA) HRWS	15.0%
Vic 7 Murray (Barmah to SA) LRWS	1.0%
NSW Lachlan HS	5.0%
NSW Lachlan GS	6.0%
TOTALS	100.0%

Source: Aither

Entitlement Value Growth (Base Case)

Capital growth opportunity missed

- + sMDB entitlements have recorded strong growth over the past five years based on Aither's market valuations
- + Traditional Owners have lost access to **\$10,841,659** in water portfolio capital growth between July 2018 and January 2023, based on the base case portfolio
- + This equates to circa **54%** of the initial funding commitment

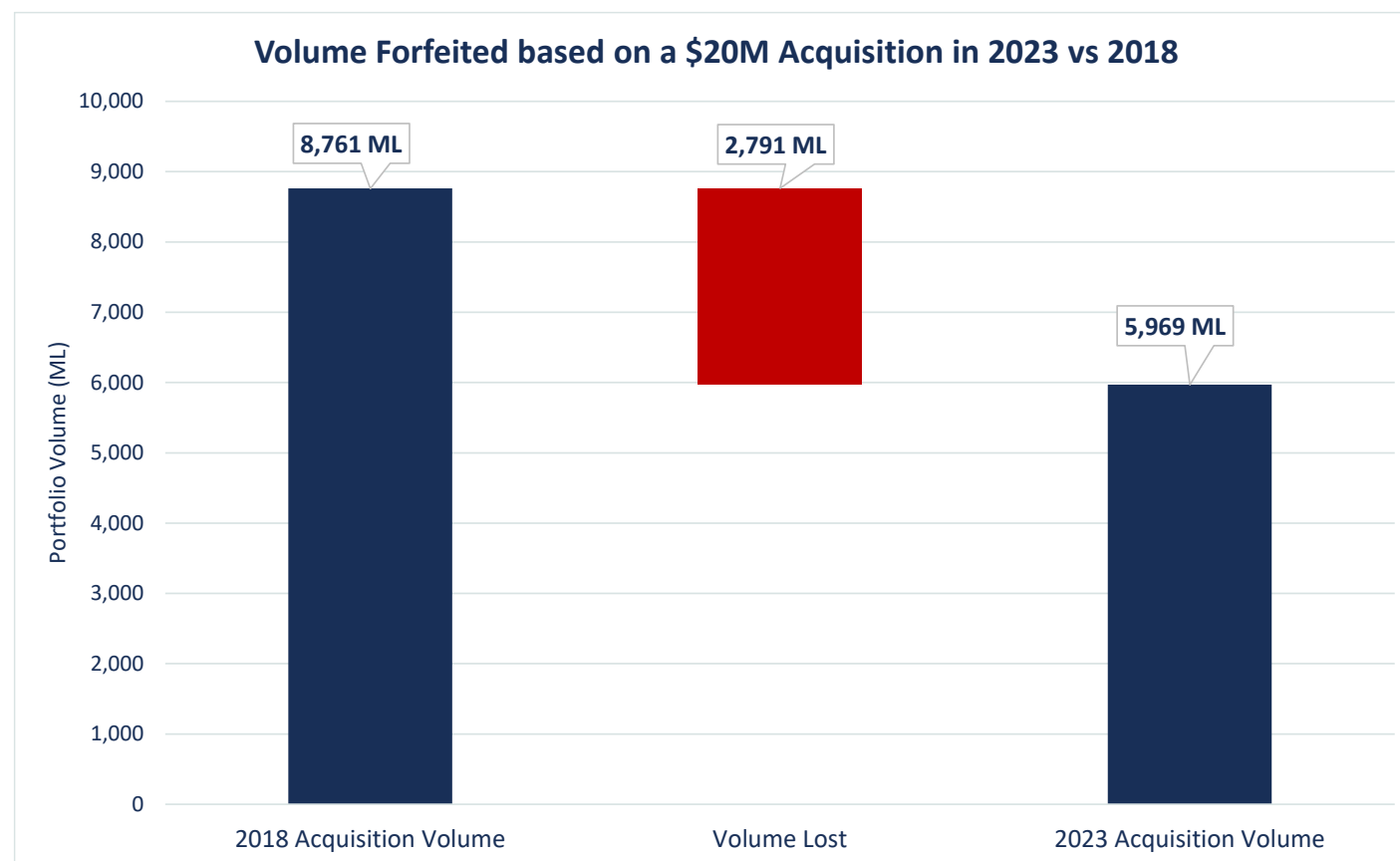


Source: Aither Trade Database (SA, VIC and NSW water register data)

Entitlement Volume (Base Case)

Portfolio volume lost based on fixed committed funding

- + Acquiring a portfolio in January 2023 with the same funding (\$20M) would result in a materially smaller portfolio volume than would have been possible in 2019.
- + Aither has calculated this loss of entitlement volume to be **2,791ML**
- + An additional funding commitment of approximately **\$11M** would be needed to acquire the same volume portfolio in 2023



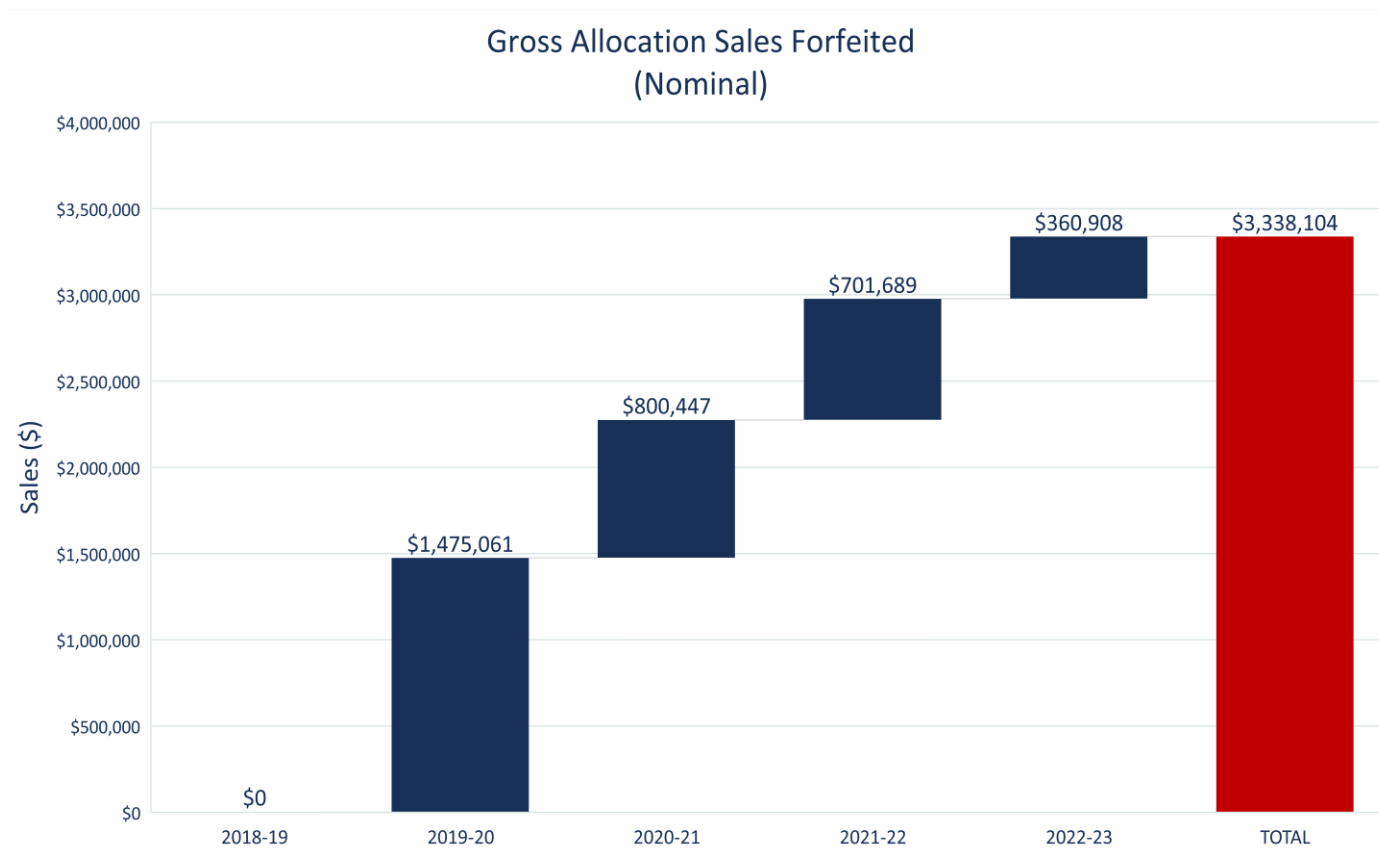
Source: Aither Trade Database (SA, VIC and NSW water register data)

Gross Allocation Sales Forfeited (Base Case)

Allocation sales forfeited between July 2018 and December 2022

The value of the forfeited allocations has been calculated as the volume allocated to each entitlement by the annual volume weighted average allocation price in each trading zone.

- + The cumulative total (before inflation) of these sales equates to **\$3,338,104**
- + Adjusted for inflation the cumulative total equates to **\$3,653,658**



NB: No sales are recorded for 2018-19 as Aither has assumed the portfolio would have been acquired through this period. Adopted prices are based on historical annual VWAP's

Portfolio Weighting (High Security Scenario)

Notional portfolio of high security/high reliability entitlements

- + Our High Security scenario is selected as an indication only and is not reflective of any target portfolio
- + It is only useful as a scenario to put relative performance of the base case into perspective

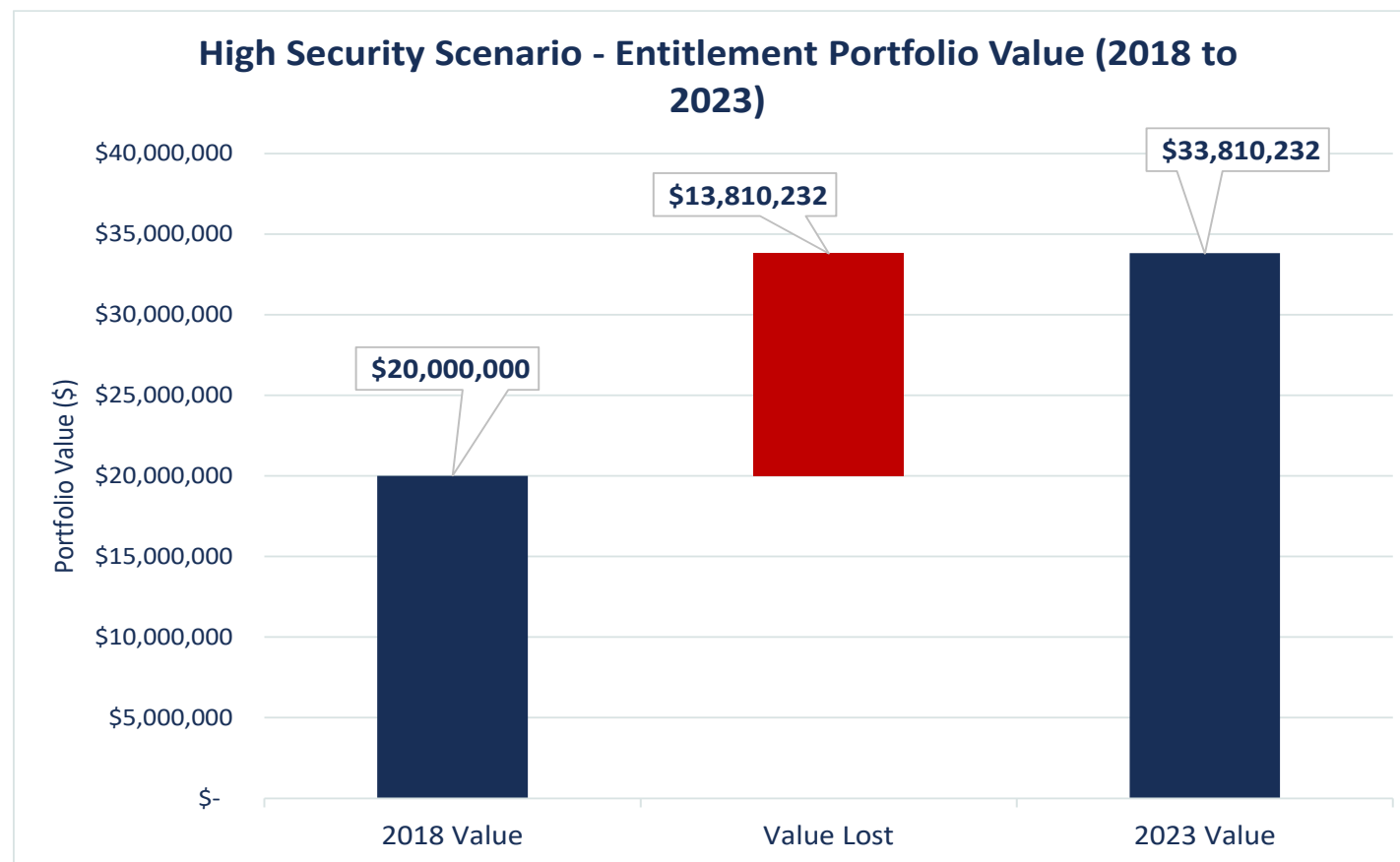
Entitlement Type	Portfolio Weighting
NSW Murray (below Barmah) HS	11.0%
NSW Murrumbidgee HS	15.0%
SA Murray HS	8.0%
Vic 1A Greater Goulburn HRWS	25.0%
Vic 6 Murray (Dart to Barmah) HRWS	10.0%
Vic 7 Murray (Barmah to SA) HRWS	25.0%
NSW Lachlan HS	6.0%
TOTALS	100.0%

Source: Aither

Entitlement Value Growth (High Security Scenario)

Greater capital gains missed due to higher growth in HS/HRWS entitlements

- + HS/HRWS entitlements have experienced stronger capital growth relative to their lower security alternatives
- + Traditional Owners have foregone the opportunity for **\$13,810,232** in water portfolio capital growth in this scenario
- + This equates to circa **69%** of the initial funding commitment

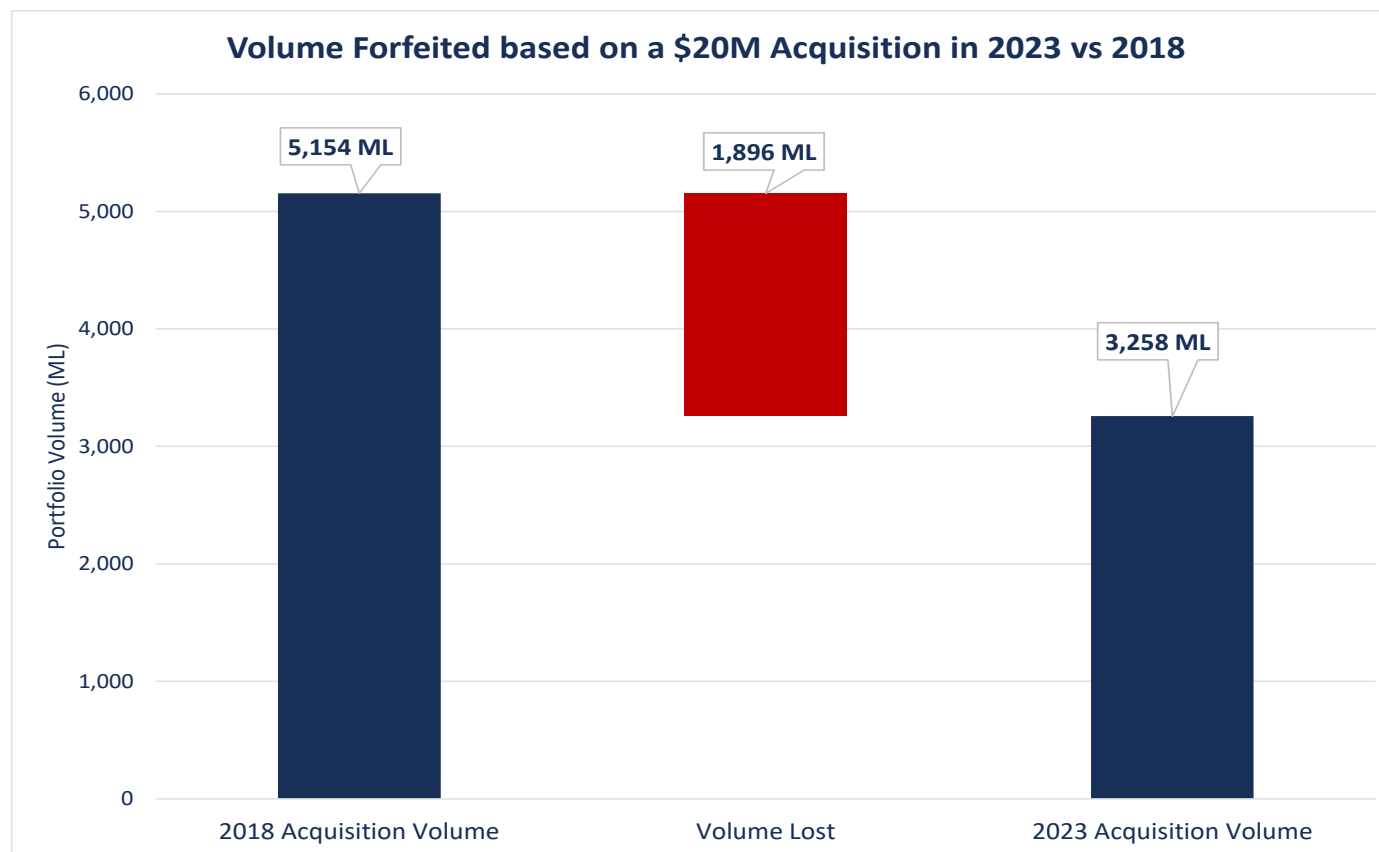


Source: Aither Trade Database (SA, VIC and NSW water register data)

Entitlement Volume (High Security Scenario)

Portfolio volume down based on a 2023 acquisition

- + Similar to the base case scenario, acquiring entitlements in 2023 leaves Traditional Owners with a substantially smaller portfolio
- + Aither has calculated this loss of entitlement volume to be **1,896ML**
- + This is a loss of approximately **37%**

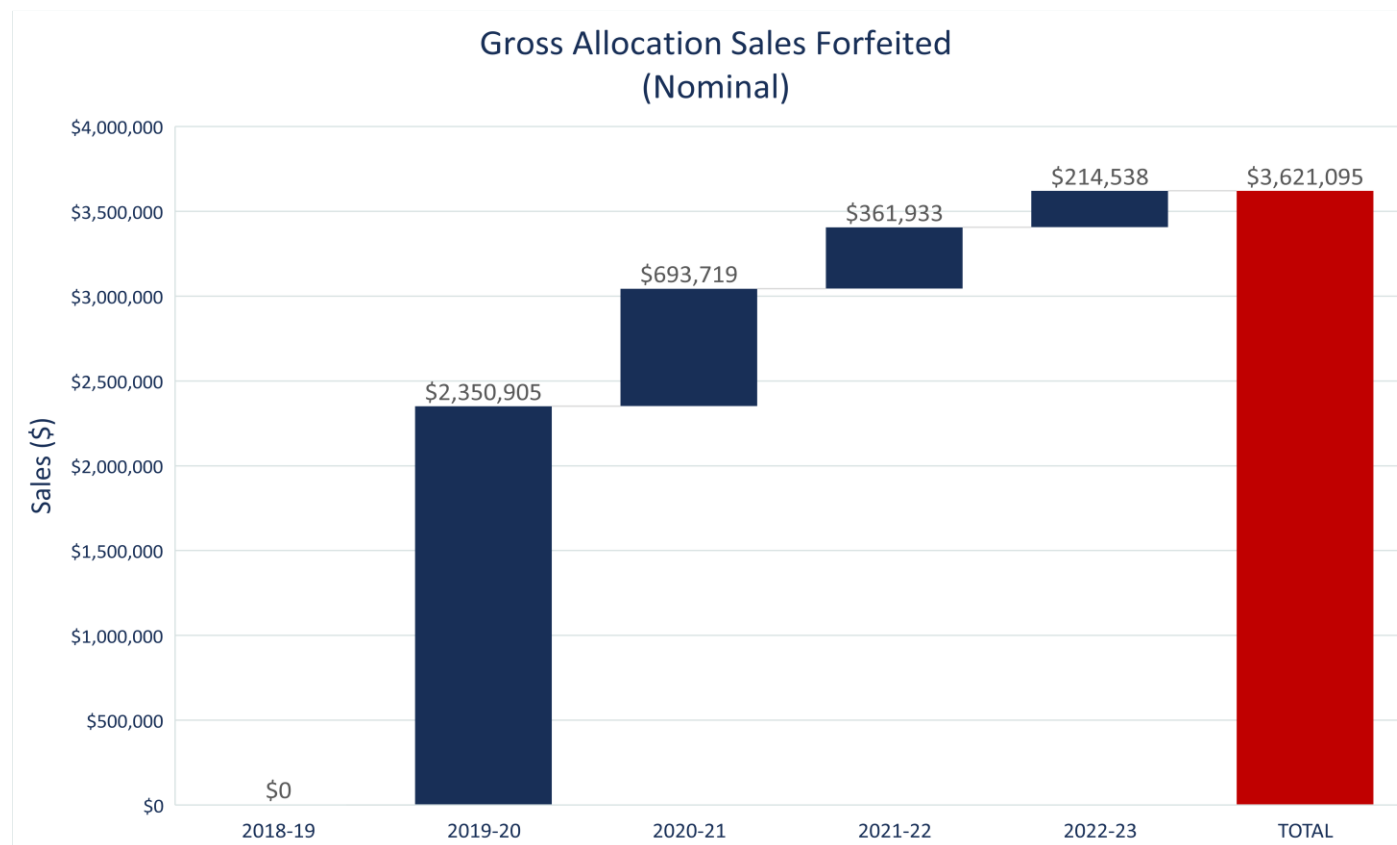


Source: Aither Trade Database (SA, VIC and NSW water register data)

Gross Allocation Sales Forfeited (High Security Scenario)

Allocation sales forfeited between July 2018 and December 2022

- + The value of the forfeited allocations has been calculated based on prevailing allocations and allocation prices
- + The cumulative total (before inflation) of these sales equates to **\$3,621,095**
- + Adjusted for inflation the cumulative total equates to approximately **\$4,007,933**



NB: No sales are recorded for 2018-19 as Aither has assumed the portfolio would have been acquired through this period. Adopted prices are based on historical annual VWAP's

Traditional Owners Water Portfolio Analysis

Summary

- + **Base Case:** Total Nominal Value Forfeited = **\$14.1M to \$14.2M**
- + **Base Case:** Total Inflation Adjusted Value Forfeited = **\$14.45M to \$14.55M**
- + **High Security Scenario:** Total Nominal Value Forfeited = **\$17.4M to \$17.5M**
- + **High Security Scenario:** Total Inflation Adjusted Value Forfeited = **\$17.8M to \$17.9M**

	Base Case Scenario			High Security Portfolio Scenario		
	2018	2023	Difference	2018	2023	Difference
Notional Portfolio Value (\$)						
Portfolio Value Growth Forfeited	\$20,000,000	\$30,841,659	-\$10,841,659	\$20,000,000	\$33,810,232	-\$13,810,232
Allocation Sales Value Forfeited (Nominal)	Refer Allocation Slides		-\$3,338,104	Refer Allocation Slides		-\$3,621,095
Total Value Forfeited (Nominal)			-\$14,179,763			-\$17,431,327
Total Value Forfeited (Inflation Adjusted)			-\$14,495,318			-\$17,818,165
Notional Portfolio Volume (Megalitres)						
Portfolio Volume Lost (\$20M acq in 2018 vs 2023)	8,761 ML	5,969 ML	-2,791 ML (-32%)	5,154 ML	3,258 ML	-1,896 ML (-37%)

Traditional Owners Water Portfolio Investigation

Key Messages

1.	Traditional Owners in the southern MDB have forgone financial opportunities due to the lack of deployment of committed funding.
2.	In the Base Case scenario, Traditional Owners have forgone approximately \$11M of water entitlement capital growth and approximately \$3M of allocation sales (unadjusted), totalling approximately \$14M. This is increased in the High Security portfolio scenario where the total forgone was approximately \$17.4M.
3.	As at January 2023, approximately \$11M of additional funding would be needed to build a base case portfolio with a comparable volume (ML) to a portfolio purchased in 2018, or \$14M for a high security portfolio.

A I T H E R

Our Water Market Services

We are a team of award-winning, independent water markets, policy, and infrastructure advisors.

Every day we help businesses and governments make better decisions about scarce water resources.

We do this by providing high-quality information, insights, and analysis that help our clients design and implement strategies for successfully participating in Australia's water markets. Our team also provides policy and regulatory insights and infrastructure advisory services.

Whether you need custom-designed water strategies or assessments of your exposure to water-related risks and opportunities, we'll help you make clear, informed and confident water decisions.



For further information



Chris Olszak
Director

Phone

+61 425 707 170

Email

Chris.Olszak@aither.com.au



Ben Williams
Principal | Water Markets Lead

Phone

+61 415 597 237

Email

Benjamin.Williams@aither.com.au

Citation

Do not cite, distribute or reproduce content from this document without the express permission of Aither Pty Ltd. Unless otherwise stated, this document remains strictly confidential and not for circulation or publication. © 2023 Aither Pty Ltd. All rights reserved.

COMMERCIAL
IN CONFIDENCE

A I T H E R