Water Portfolio Investigation
Prepared for MLDRIN
24 February 2023

Presented by Aither

COMMERCIAL IN CONFIDENCE
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.

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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

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

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

<table>
<thead>
<tr>
<th>Entitlement Type</th>
<th>Portfolio Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW Murray (below Barmah) HS</td>
<td>11.0%</td>
</tr>
<tr>
<td>NSW Murrumbidgee HS</td>
<td>15.0%</td>
</tr>
<tr>
<td>SA Murray HS</td>
<td>8.0%</td>
</tr>
<tr>
<td>Vic 1A Greater Goulburn HRWS</td>
<td>25.0%</td>
</tr>
<tr>
<td>Vic 6 Murray (Dart to Barmah) HRWS</td>
<td>10.0%</td>
</tr>
<tr>
<td>Vic 7 Murray (Barmah to SA) HRWS</td>
<td>25.0%</td>
</tr>
<tr>
<td>NSW Lachlan HS</td>
<td>6.0%</td>
</tr>
<tr>
<td>TOTALS</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

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%**

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**Volume Forfeited based on a $20M Acquisition in 2023 vs 2018**

<table>
<thead>
<tr>
<th>Year</th>
<th>Portfolio Volume (ML)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 Acquisition Volume</td>
<td>5,154 ML</td>
</tr>
<tr>
<td>Volume Lost</td>
<td>1,896 ML</td>
</tr>
<tr>
<td>2023 Acquisition Volume</td>
<td>3,258 ML</td>
</tr>
</tbody>
</table>

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

1. **Base Case**: Total Nominal Value Forfeited = **$14.1M to $14.2M**
2. **Base Case**: Total Inflation Adjusted Value Forfeited = **$14.45M to $14.55M**
3. **High Security Scenario**: Total Nominal Value Forfeited = **$17.4M to $17.5M**
4. **High Security Scenario**: Total Inflation Adjusted Value Forfeited = **$17.8M to $17.9M**

<table>
<thead>
<tr>
<th>Notional Portfolio Value ($)</th>
<th>Base Case Scenario</th>
<th>High Security Portfolio Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
<td>2023</td>
</tr>
<tr>
<td>Portfolio Value Growth Forfeited</td>
<td>$20,000,000</td>
<td>$30,841,659</td>
</tr>
<tr>
<td>Allocation Sales Value Forfeited (Nominal)</td>
<td>Refer Allocation Slides</td>
<td>-$3,338,104</td>
</tr>
<tr>
<td>Total Value Forfeited (Nominal)</td>
<td>-$14,179,763</td>
<td>-$17,431,327</td>
</tr>
<tr>
<td>Total Value Forfeited (Inflation Adjusted)</td>
<td>-$14,495,318</td>
<td>-$17,818,165</td>
</tr>
<tr>
<td>Notional Portfolio Volume (Megalitres)</td>
<td>Portfolio Volume Lost ($20M acq in 2018 vs 2023)</td>
<td>8,761 ML</td>
</tr>
</tbody>
</table>
### Traditional Owners Water Portfolio Investigation

#### Key Messages

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Traditional Owners in the southern MDB have forgone financial opportunities due to the lack of deployment of committed funding.</td>
</tr>
<tr>
<td>2.</td>
<td>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.</td>
</tr>
<tr>
<td>3.</td>
<td>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.</td>
</tr>
</tbody>
</table>
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