



Australian Government



Murray-
Darling
Basin
Authority

River Operations and Shortfall Risks

Tyson Milne

01 May 2024

Outline of presentation



- 2023-24 Operations
- Looking ahead
- Delivery risks





Australian Government

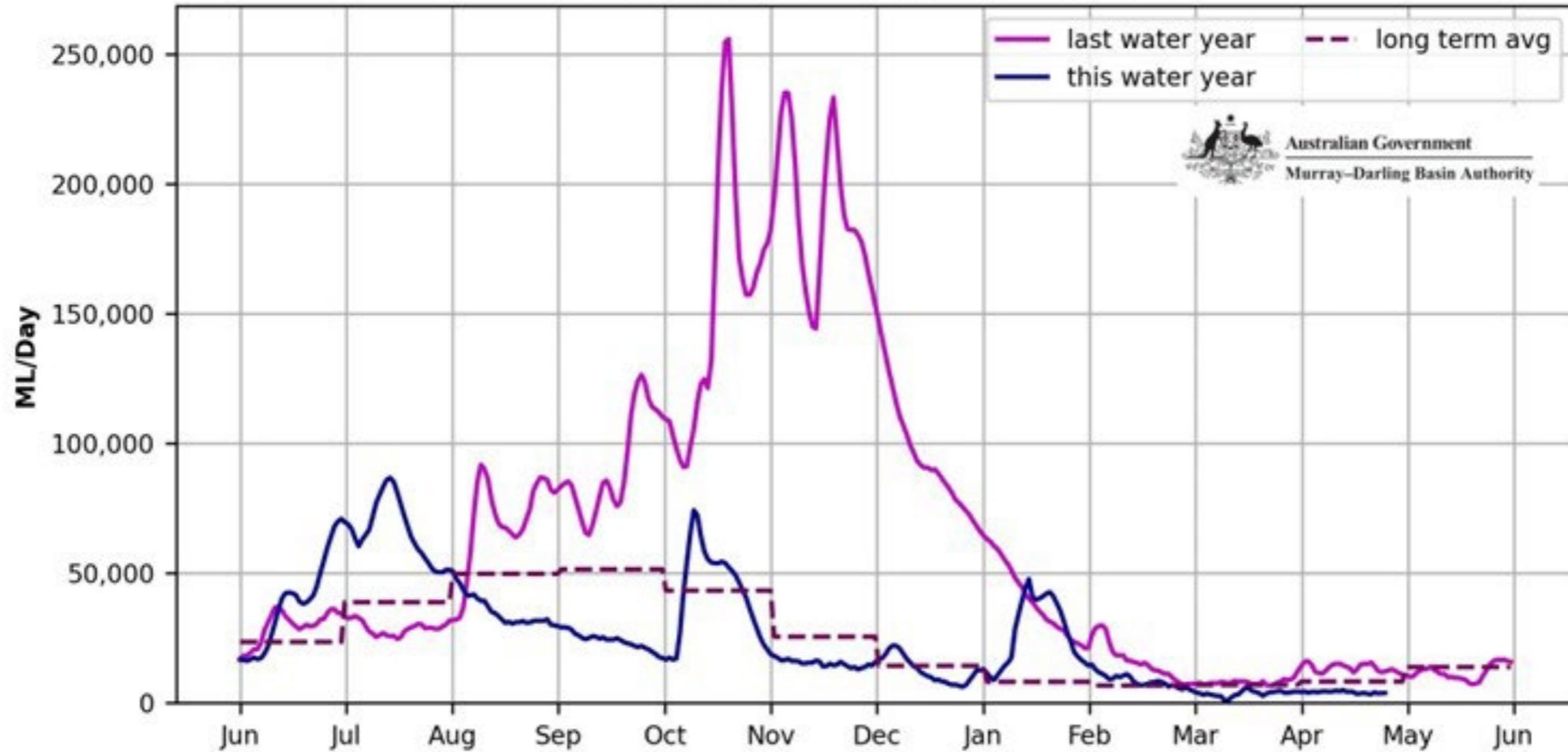


Murray-
Darling
Basin
Authority

2023-24 River Operations

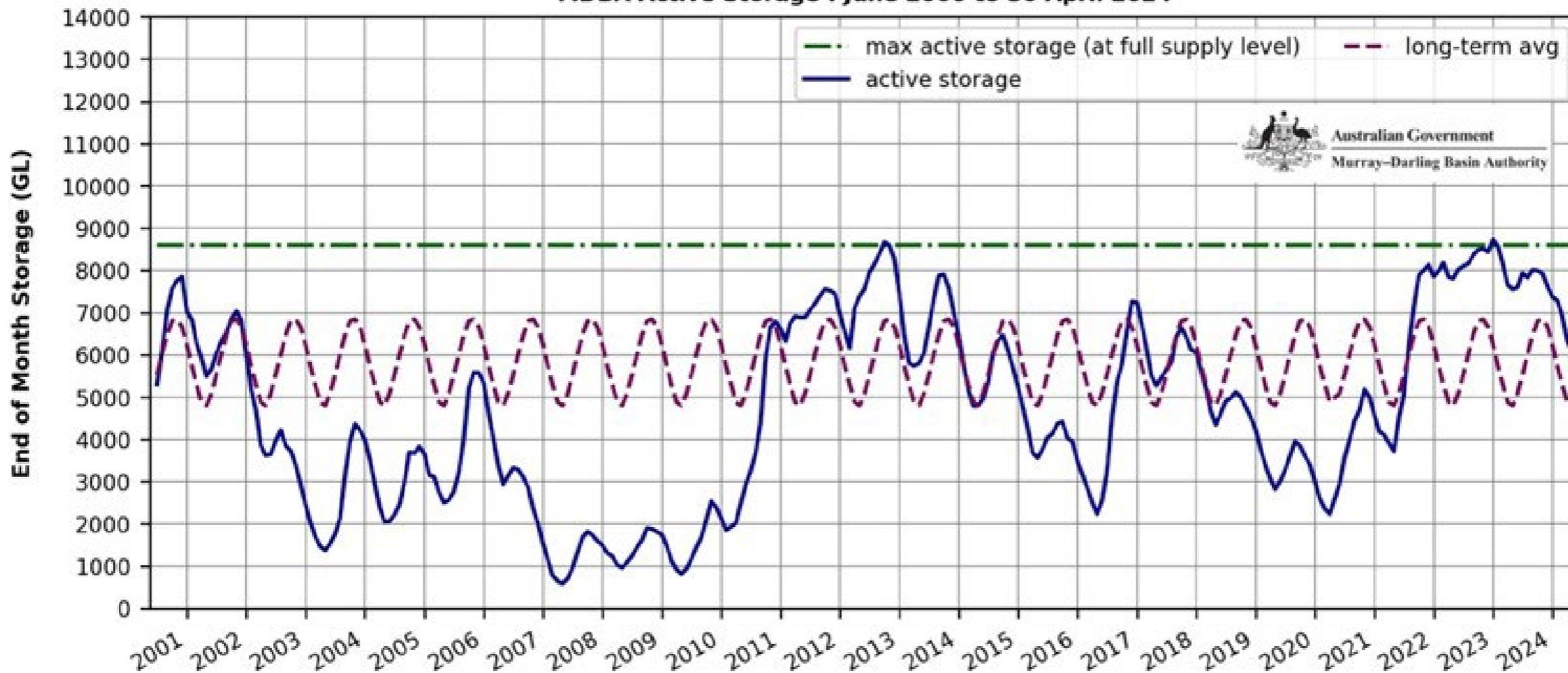
Inflows were variable

Murray System Daily Inflows (excl. Snowy, Darling, inter-valley trade and environmental inflows) - 5 day rolling average

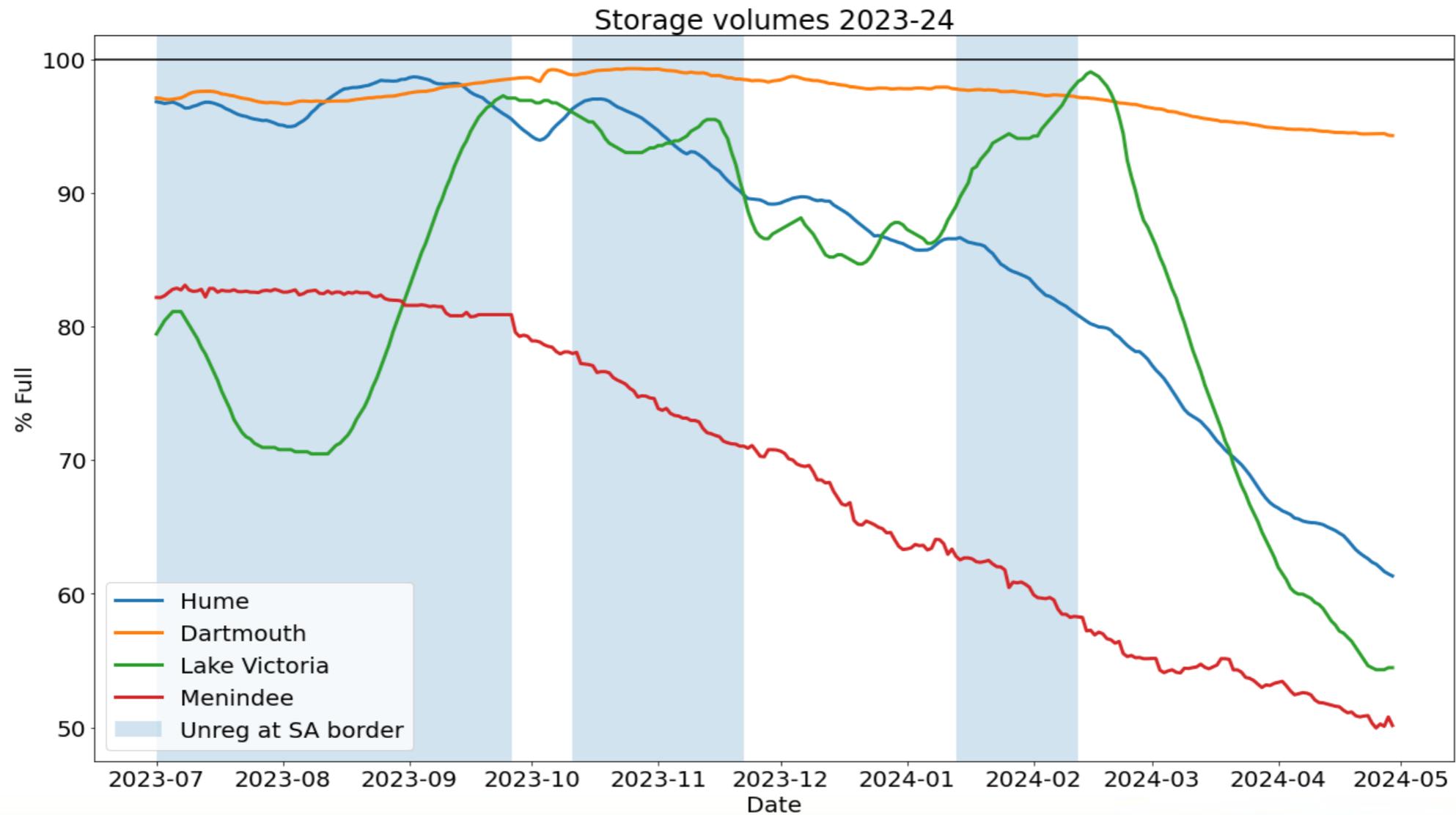


But storage levels remained high

MDBA Active Storage : June 2000 to 30 April 2024

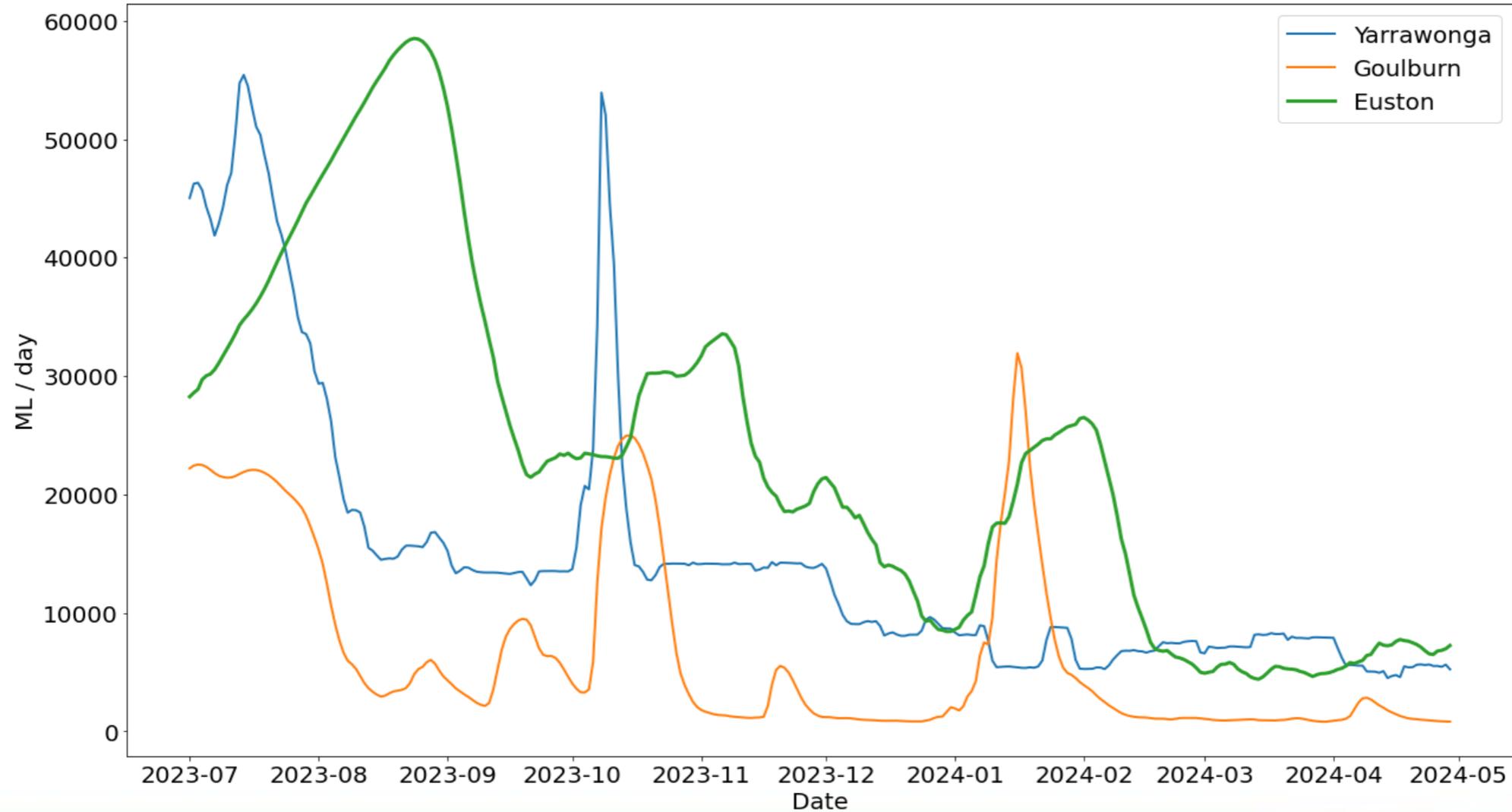


More detail on storages



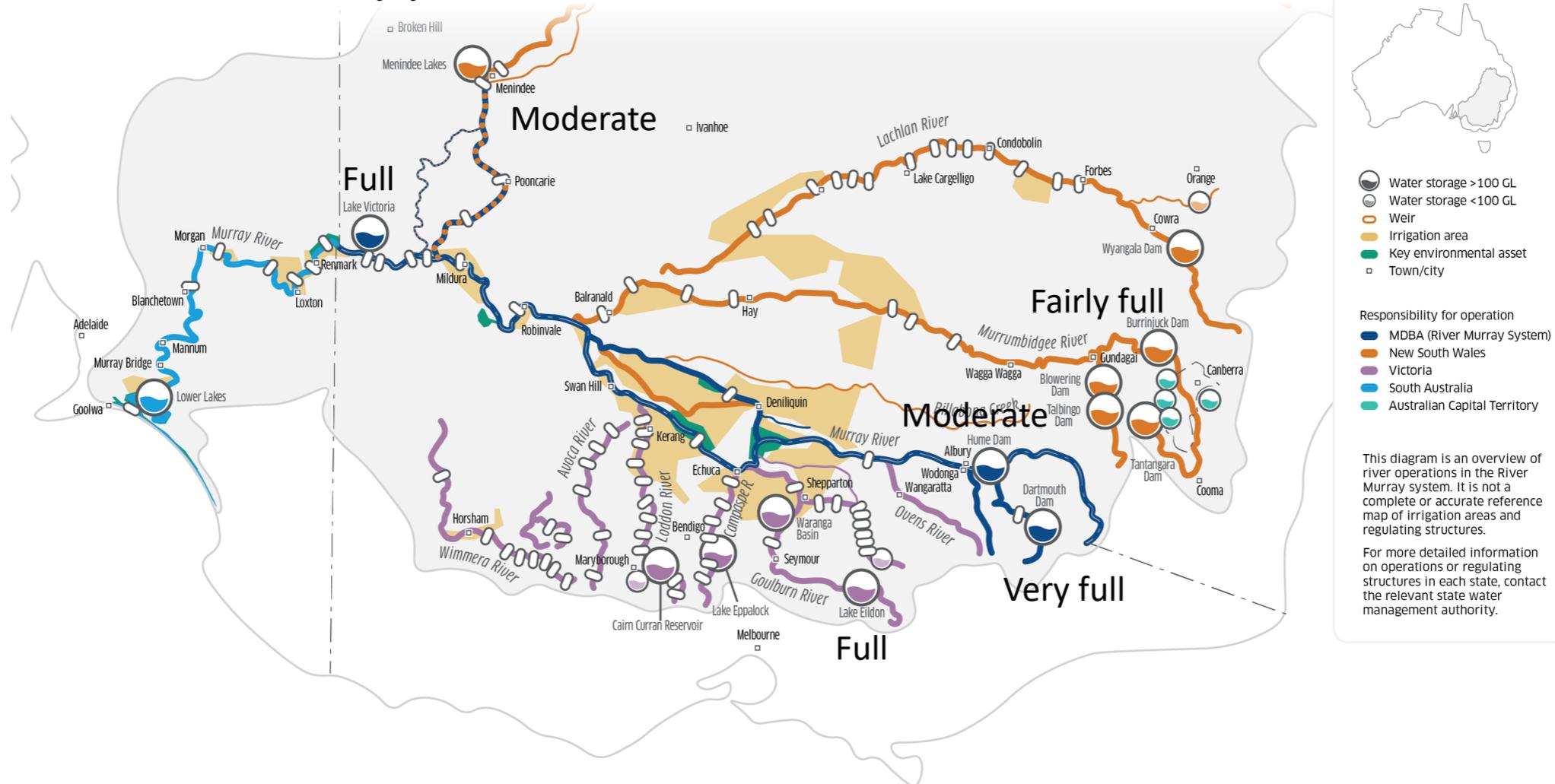
Flows in our region

Flows 2023-24



System Status

Overview of River Murray system and tributaries



Recent Strategy

- Conserve Water in Hume – not guaranteed to fill
 - Preferentially call from storages with highest spill risk first
 - Aim to minimise surplus flow past Wentworth as limited ability to recapture in Lake Victoria
-



Australian Government



Murray-
Darling
Basin
Authority

Looking ahead to 2024-25

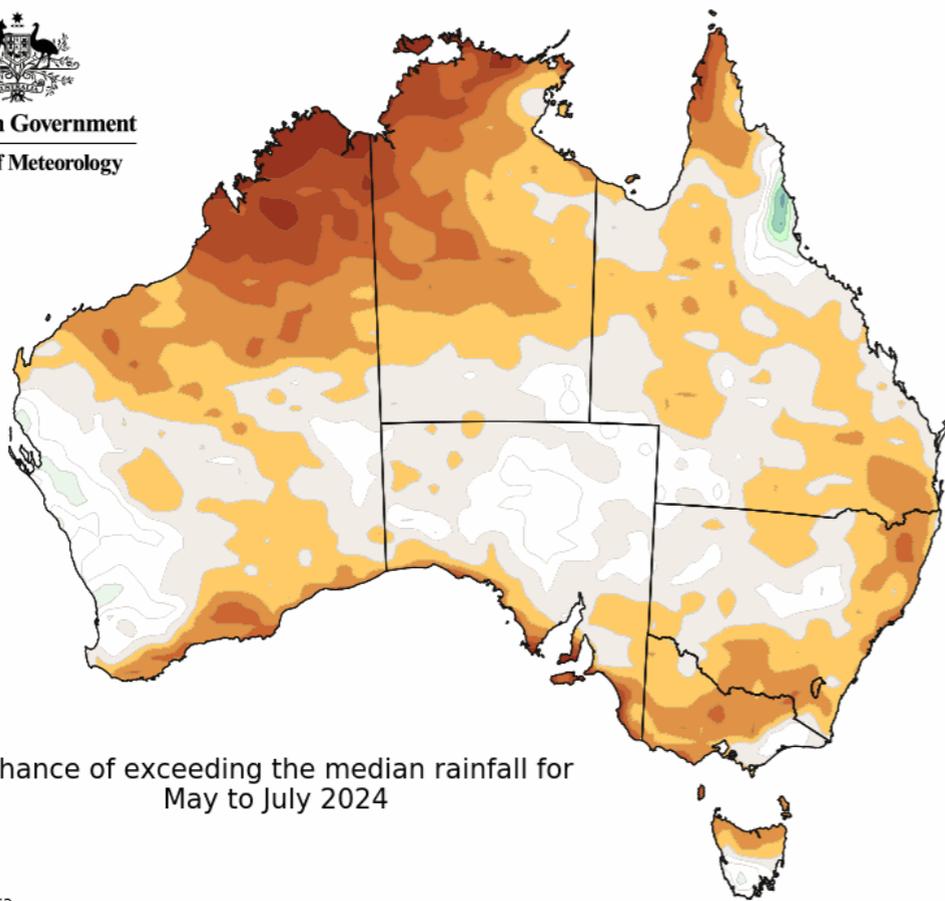
Climate Drivers

- 3/7 models have La Niña by August
 - All models indicate positive IOD until at least August
 - Confidence in IOD & ENSO forecasts beyond autumn is low
-

Rainfall Outlook



Australian Government
Bureau of Meteorology

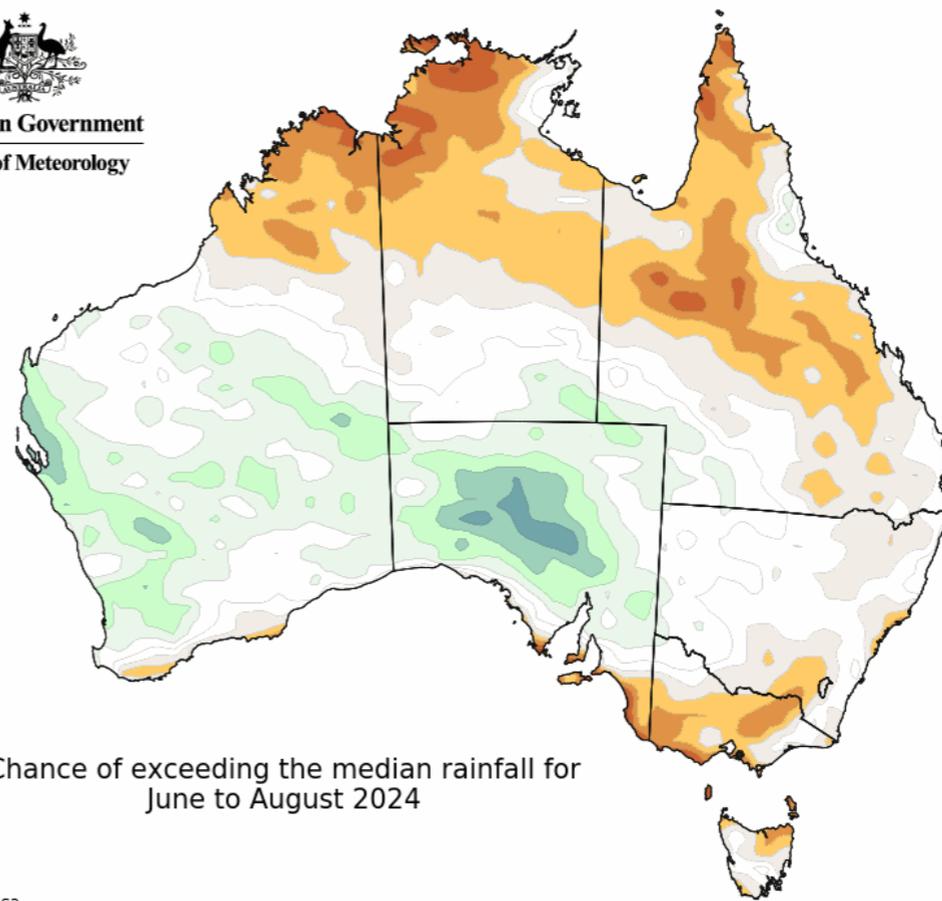


Chance of exceeding the median rainfall for
May to July 2024

Model: ACCESS-S2
Base period: 1981-2018

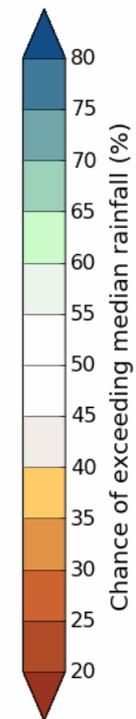


Australian Government
Bureau of Meteorology



Chance of exceeding the median rainfall for
June to August 2024

Model: ACCESS-S2
Base period: 1981-2018

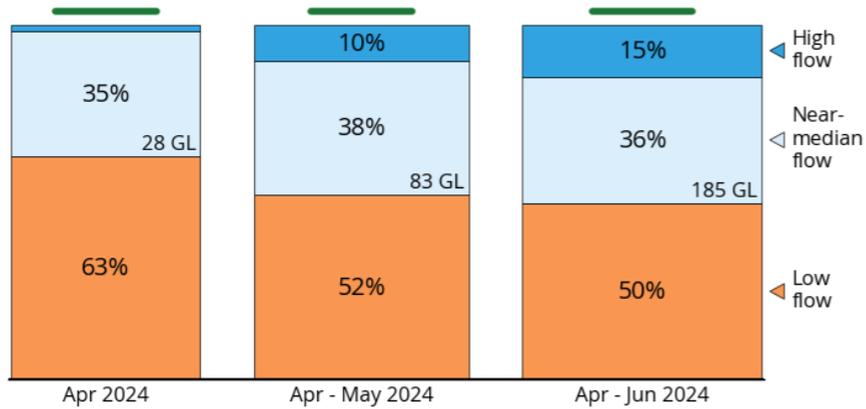


Model run: 21/04/2024
Issued: 26/04/2024

Streamflow Outlook

Unregulated inflow to Hume Dam

Forecast terciles for Apr 2024 – Jun 2024

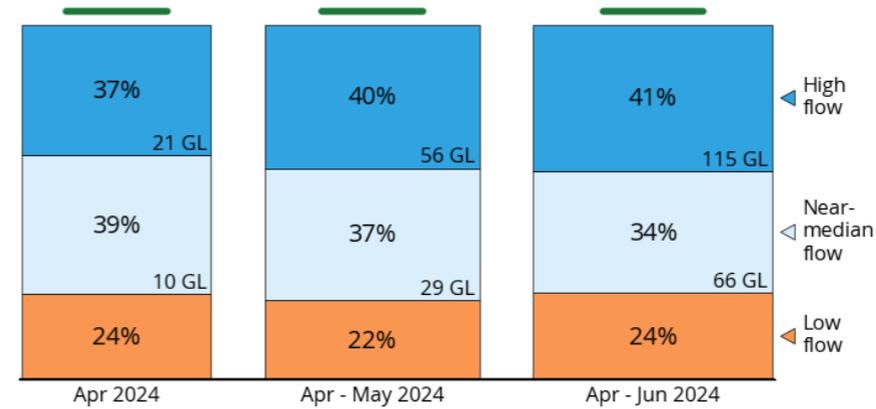


Generated: 00:01 07/04/2024 (ver. 2.9.0)

©Commonwealth of Australia 2024, Bureau of Meteorology

Total inflow to Lake Dartmouth

Forecast terciles for Apr 2024 – Jun 2024

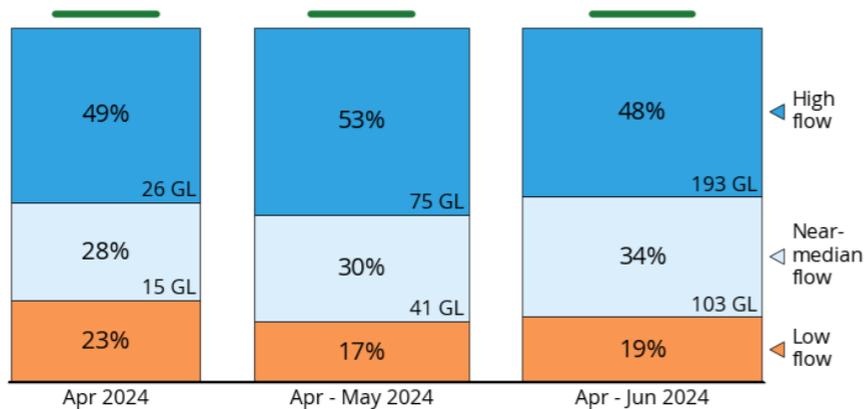


Generated: 00:03 07/04/2024 (ver. 2.9.0)

©Commonwealth of Australia 2024, Bureau of Meteorology

Total inflow to Lake Eildon

Forecast terciles for Apr 2024 – Jun 2024

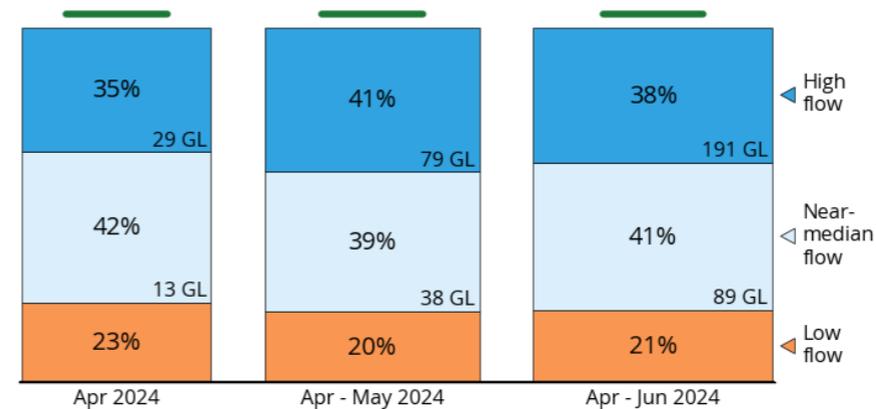


Generated: 23:00 06/04/2024 (ver. 2.9.0)

©Commonwealth of Australia 2024, Bureau of Meteorology

Total flow of Ovens River to Murray River

Forecast terciles for Apr 2024 – Jun 2024



Generated: 00:14 07/04/2024 (ver. 2.9.0)

©Commonwealth of Australia 2024, Bureau of Meteorology

Outlook Summary

- Even with modest rainfall likely to start the season with storages fairly high
 - With high forecast opening allocations & carryover demands likely to be high
 - Will increase Delivery Risk, however Menindee will be available at least early in the season to assist
-

Annual Operating Outlook

- How we anticipate operating the system under a range on inflow conditions
 - Development currently underway
 - Released in early August, updated end of October
 - Considers risks, including Delivery Risk
-



Australian Government



Murray–
Darling
Basin
Authority

Delivery Risks in the Murray

What is a shortfall?

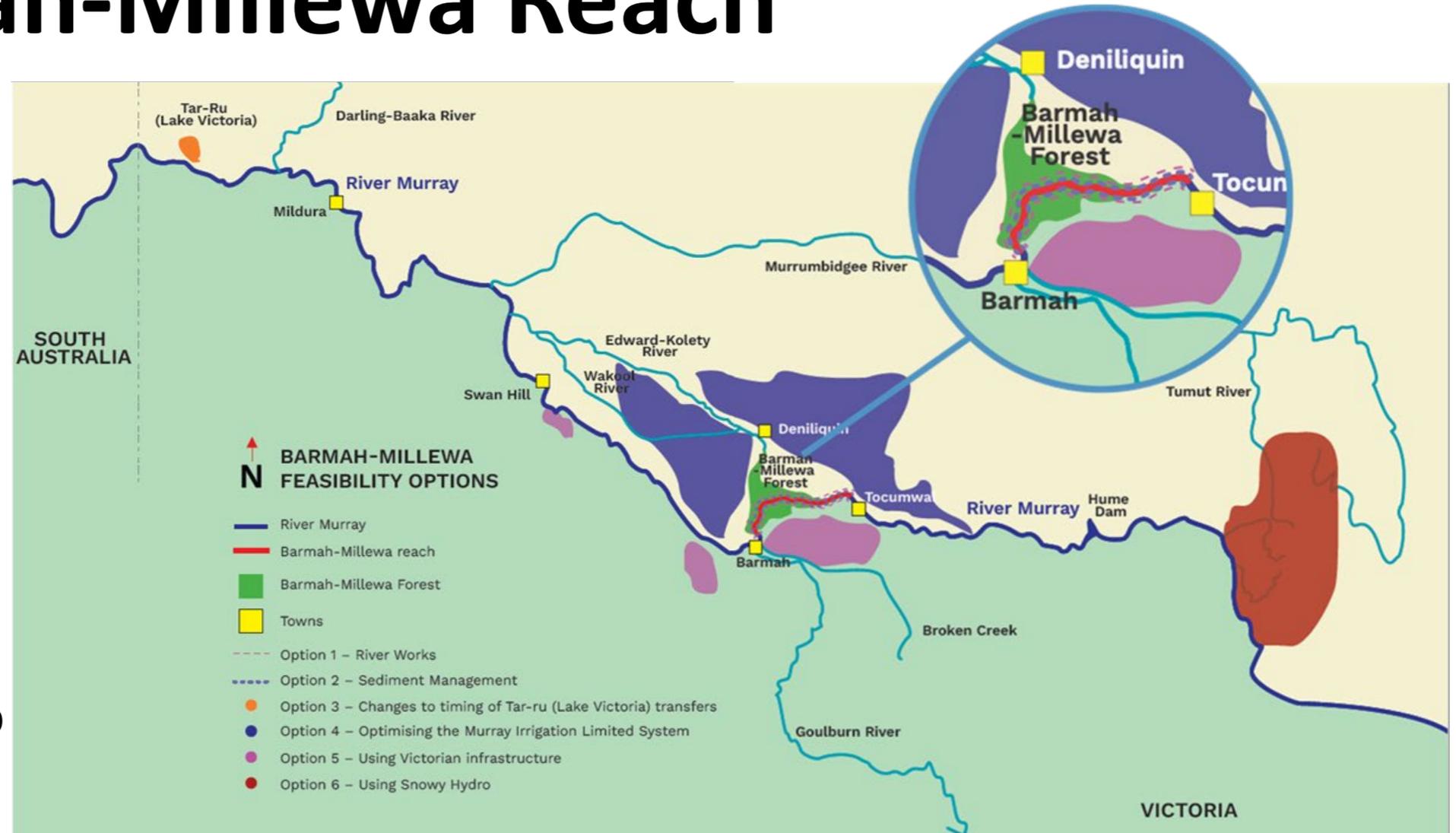
Shortfall - not being able to deliver water allocations to users when they need them.

These come about in two ways:

- **Delivery shortfalls** occur when actual water use is higher than was forecast when water was released from storages weeks earlier.
 - **System shortfalls** occur when the combined capacity of the system is unable to supply all downstream requirements over the full season.
-

The Barmah-Millewa Reach

The reach is a naturally occurring narrow section of the River Murray where it flows through the Barmah-Millewa Forest, from Tocumwal in NSW to Barmah in Victoria



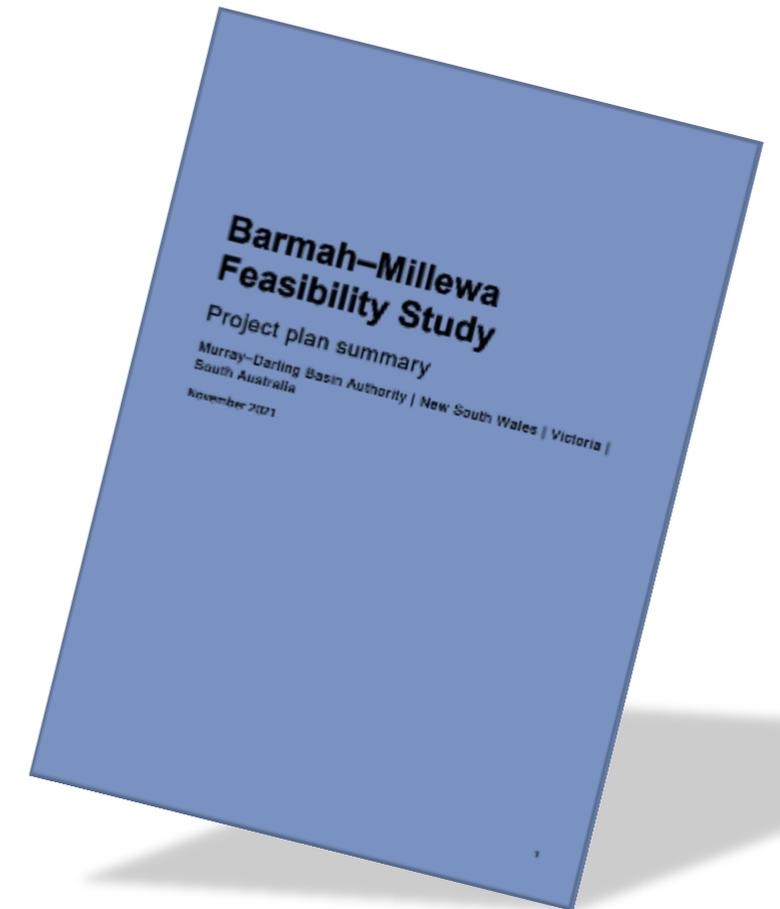
What is the problem?

- The volume of summer flows that can get through the Barmah-Millewa Reach is declining significantly
- This is due to the accumulation of a large volume of heavy coarse sand in the reach, in excess of 20 million cubic metres
- The sand was mobilised during gold mining and land clearing practices about 150 years ago, with desnagging and river regulation also contributing factors
- The sand will not flush through as it's heavy and the Barmah-Millewa Reach has the lowest flow capacity of any stretch of the river
- Volume of flows through the Barmah-Millewa Reach is estimated to decline by about 10% over the next 10 years
- Increased risk of not being able to deliver water to communities where and when they need it



Current Situation

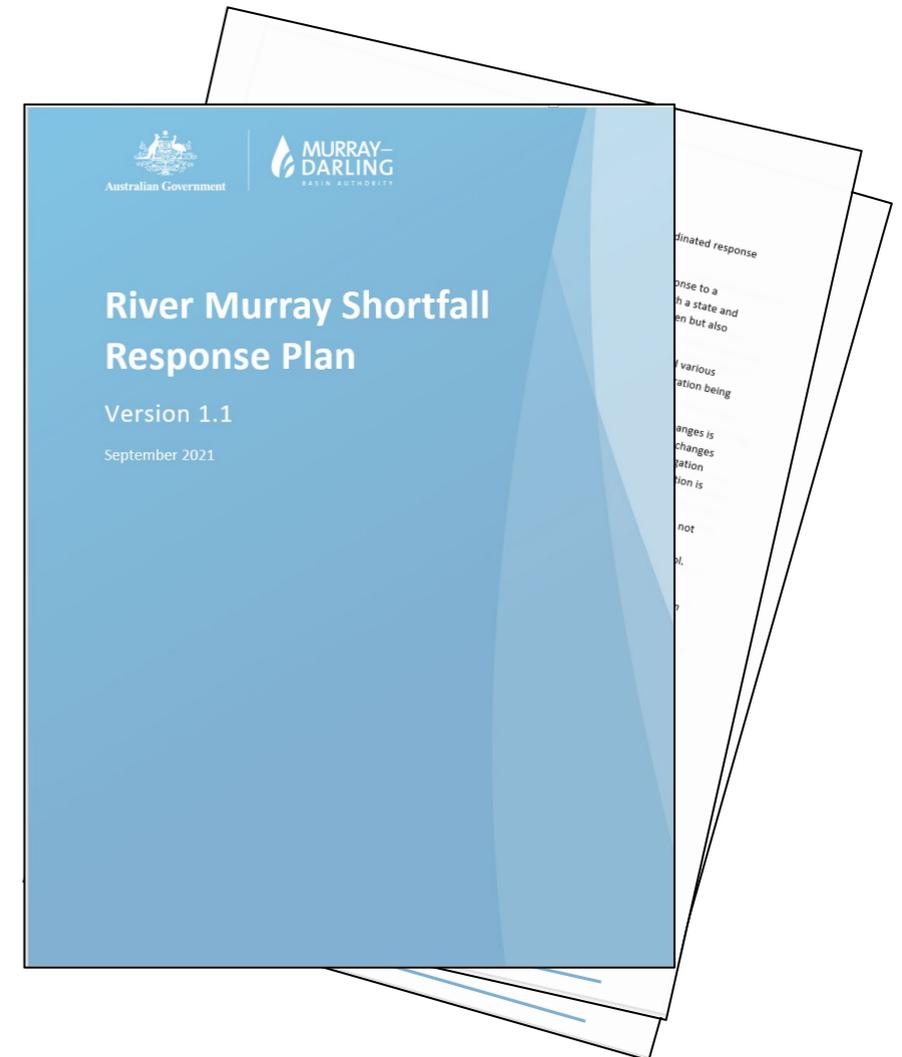
- The Barmah-Millewa Feasibility Study was presented to the Murray–Darling Basin Ministerial Council in February 2023
- Basin Ministers agreed to further progress the following options to the next stage:
 - River Works
 - Sediment Management
 - Increased use of Murray Irrigation Limited infrastructure (existing and upgraded outlets)
 - Improving timing of transfers to Ta-Ru
 - Enhanced use of Victorian mid-Murray storages (excl Ghow Swamp)
 - Enhanced use of Murrumbidgee Weirs
- BOC & Ministerial Council will review options after each stage so there is a steady, considered approach to addressing this problem
- Engagement and consultation with First Nations and communities will continue throughout each stage of each option



Shortfall Response Plan (SRP)

- Co-ordinated response plan between MDBA & the states to identify and manage a shortfall. It includes:
 - A process to monitor risk
 - A process to follow when risk heightens
 - Defined mitigation measures
 - Methods for ensuring consistent messaging

Current version of the SRP deals with delivery shortfalls when the Menindee Lakes *are* and *are not* available as a shared resource



Delivery Risks this coming season?

- Early days, but:
 - Opening allocations likely to be high
 - Menindee Lakes available at least at start of season
 - Lake Victoria currently in good position
 - AOO will provide detailed update
-



Australian Government



Murray-Darling
Basin
Authority

Thank you.

 mdba.gov.au

 1800 630 114

 engagement@mdba.gov.au

Office locations – *First Nations Country*

Adelaide – *Kaurna Country*

Canberra – *Ngunnawal Country*

Goondiwindi – *Bigambul Country*

Griffith – *Wiradjuri Country*

Mildura – *Latji Latji Country*

Murray Bridge – *Ngarrindjeri Country*

Wodonga – *Dhudhuroa Country*