



Australian Government



MURRAY-DARLING  
BASIN AUTHORITY

# River Murray system annual operating plan End October 2014 update



2014–15 Water Year  
1 June 2014–31 May 2015

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Cover image: A broad-shelled turtle at Safes Lagoon, Gunbower Forest Perricoota Forest (photo by David Kleinert)

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## Introduction

The River Murray system annual operating plan (Operating Plan) for the 2014–15 water year (1 June 2014 to 31 May 2015) was released in July 2014. The Operating Plan provided the context and descriptions of how the River Murray system (the System) may have been operated under a number of assumed scenarios.

This document provides an update, as at end October 2014, of the six scenarios that were presented in the Operating Plan and should be used in conjunction with the original plan. The scenarios have been prepared by the Murray–Darling Basin Authority with input from the Australian Government and the States of New South Wales, Victoria and South Australia through MDBA's Water Liaison Working Group (WLWG).

River Murray system inflows in the first five months of this water year have reduced markedly (Table 1, Figure 1). June and July inflows were wetter than average however inflows thereafter have receded considerably, and by October, inflows had fallen to levels that have been exceeded in 9 out of 10 years in the historical record. These inflow patterns follow the dramatic turnaround in rainfall in the southern Murray–Darling Basin that occurred from July 2014 onwards (Figure 2).

**Table 1: Monthly inflows (GL) and annual exceedance probabilities (AEP) to the River Murray system from June to October 2014.**

Month	Hume unregulated inflow	Murray system inflow* (excluding Darling)	Murray system inflow* (including Darling)
June	227 GL (23% AEP)	594 GL (40% AEP)	594 GL (46% AEP)
July	422 GL (26% AEP)	1280 GL (39% AEP)	1280 GL (45% AEP)
August	195 GL (74% AEP)	714 GL (74% AEP)	714 GL (79% AEP)
September	172 GL (89% AEP)	475 GL (91% AEP)	475 GL (91% AEP)
October	114 GL (90% AEP)	337 GL (90% AEP)	337 GL (91% AEP)

\*excluding Snowy inflows, environmental inflows from tributaries and inter-valley trade.

Conditions for the remainder of the 2014–15 water year will inevitably be different to the scenarios in this updated plan, and therefore river operations will also be different to any projection presented. Nevertheless, these scenarios should provide a useful indication of potential river operations for the remainder of the 2014–15 water year. If the current dry conditions persist, flows and storage volumes are most likely to follow the trends of the dry and extreme dry scenarios.

This updated Operating Plan assumes there will be significant environmental flows (170–500 GL) across the South Australian border from November onwards in all scenarios. These high flows to South Australia will be facilitated by delivery of large volumes of IVT from the Murrumbidgee River (about 150 GL available at end October) and the Goulburn system (about 200 GL available at end October), as well as environmental water delivery from the Goulburn system. Environmental water delivery to South Australia in summer and autumn 2015 may be increased if operationally feasible.

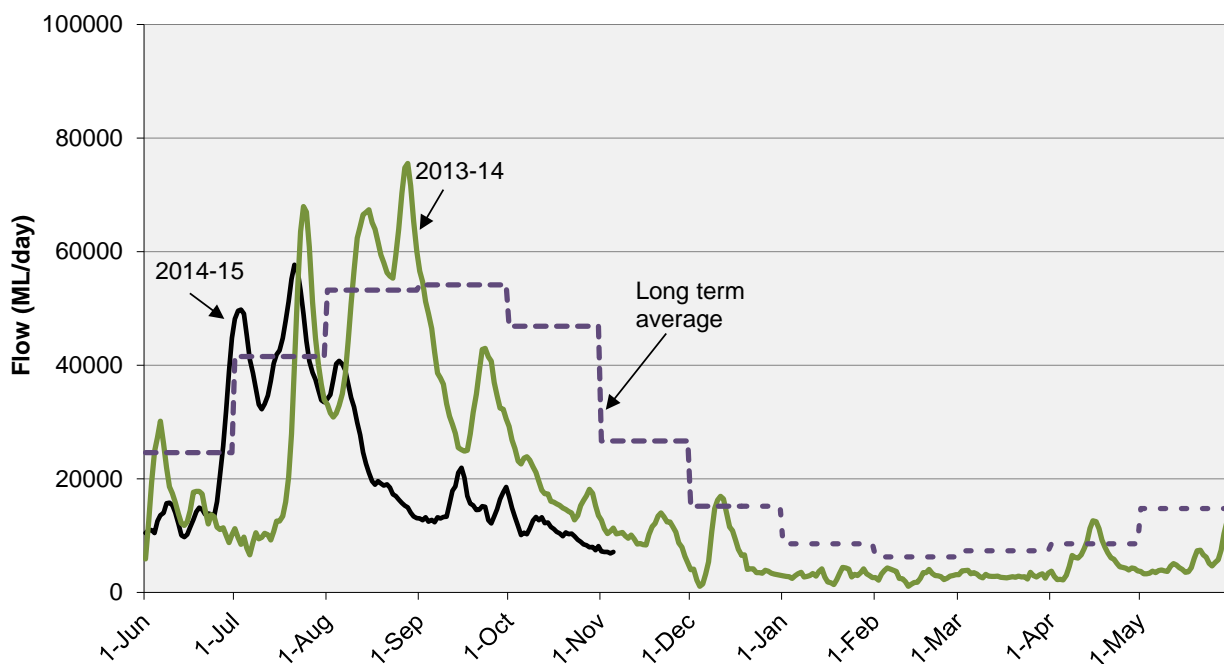


Figure 1: Murray system daily inflows (excluding Snowy, Darling, inter-valley trade and environmental inflows).

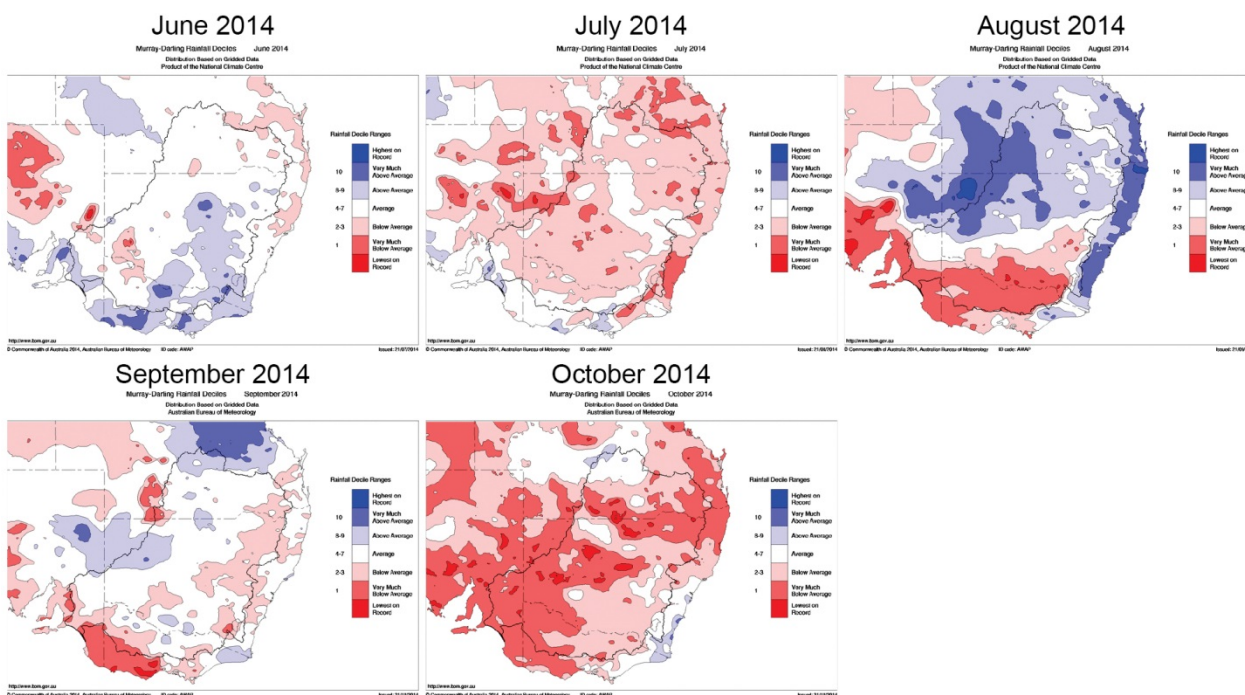


Figure 2: Monthly rainfall deciles in the Murray–Darling Basin for June to October 2014 (Source: Bureau of Meteorology).

Lower releases from the Menindee Lakes have also been assumed in this revision. Since early September, the flow at Weir 32 has occasionally been reduced below the normal minimum flow, by NSW Office of Water, to conserve water in the lakes. Consequently, inflow to the River Murray from the Lower Darling River has been assumed to be negligible in all the dry scenarios of this revised plan.

This Operation Plan may be updated again later this water year if significant changes are required. The States will also receive regular updates through the WLWG as the season progresses.

The dot points below provide updates on operations/actions which were proposed in the original Operating Plan:

1. The pool level at Euston Weir (Lock 15) was raised to around 48.0 m AHD, which is 40 cm above full supply level (FSL) from late July to mid-August, while there were unregulated flows at the SA border. As at 31 October, the level was 47.8 m AHD (20 cm above FSL) and the pool level is expected to vary between this level and FSL throughout summer and early autumn. The weir pool level may possibly be lowered to 30 cm below FSL in autumn and, if so, further information will be provided in a media release.
2. The pool levels at Lock 8 and Lock 9 were raised to 85 cm above FSL and 15 cm above FSL (respectively) in October as part of a NSW Office of Water weir pool variability trial to introduce variations in the weir pool levels to achieve a more natural wetting and drying cycle for the riverine environment.
3. Overbank flow into the Barmah-Millewa Forest occurred from end of June to early August, due to high inflows from the Ovens River. There was no use of water from environmental accounts to supplement these flows.
4. Environmental water reaching the River Murray from the Goulburn system is now expected to be up to 400 GL, but volumes may be lower if large amounts of IVT are required.
5. The annual volume of environmental water to boost the flow to South Australia is now expected to be of the order of 400 GL in most scenarios. In the very wet scenario, higher volumes are possible.
6. Delivery of water for commissioning of the Gunbower Forest environmental works commenced in late May. Inflow to the forest peaked during August at around 780 ML/day. As at 31 October:
  - a. the forest has received around 105 GL of water;
  - b. around 50 GL has returned to the River Murray;
  - c. inflows to the forest have been reduced and regulators on the River Murray are open to encourage fish to exit the flood plain; and
  - d. the fish lock at Hipwell Road has also been operating and has provided access for many thousands of small-bodied fish.
7. Commissioning of the Koondrook-Perricoota environmental works commenced in mid-August. Inflow to the forest peaked during September at around 1,000 ML/day. The commissioning used about 27 GL of environmental water and no water returned to the Wakool River.
8. Hattah Lakes is expected to receive around 105 GL of environmental water during spring and early summer 2014. Releases—which commenced in mid-September—were interrupted by essential works to repair erosion in the return channels. Around 20–40 GL is expected to be returned to the River Murray. This returned water is contributing to the environmental flow to South Australia.
9. Delivery of water for the commissioning of works and environmental watering at Mulcra Island commenced in mid-August and is being managed in co-ordination with the weir pool raising at Lock 8.

10. Unregulated flow occurred at the SA border from mid-July until early September 2014. Due to this unregulated flow, 6.6 GL of SA's deferred entitlement flow held under South Australia's storage right spilled from Lake Victoria. However, approximately 43 GL remains in Dartmouth Reservoir. MDBA is currently planning for the possibility of South Australia deferring an additional 40–50 GL in 2014–15. However, no decision has yet been made by South Australia and any additional deferral will need to be considered against water level management and ecological objectives for the Coorong, Lower Lakes and Murray Mouth.
11. Testing of the Chowilla floodplain works commenced in early September. By 31 October, around 140 GL of environmental water had been delivered to South Australia to facilitate the testing of the Chowilla floodplain works, and for barrage outflows. A further 150 GL of environmental water is expected to be delivered across the South Australian border by the time this testing is complete in early December.
12. Releases through the Barrages are continuing as at 31 October. Dredging of the Murray Mouth is expected to commence in late December.

This update contains two sets of figures for each structure/site.

- The first set contains the same information as forecast in the original Operating Plan and illustrates how river flows and storage levels have tracked against the original outlooks, for example Figure 3.
- The second set show an updated operating plan as of 31 October 2014 and illustrate what the river flow and storage levels are now forecast to be over the remainder of the 2014–15 water year under the same range of scenarios, for example Figure 4.

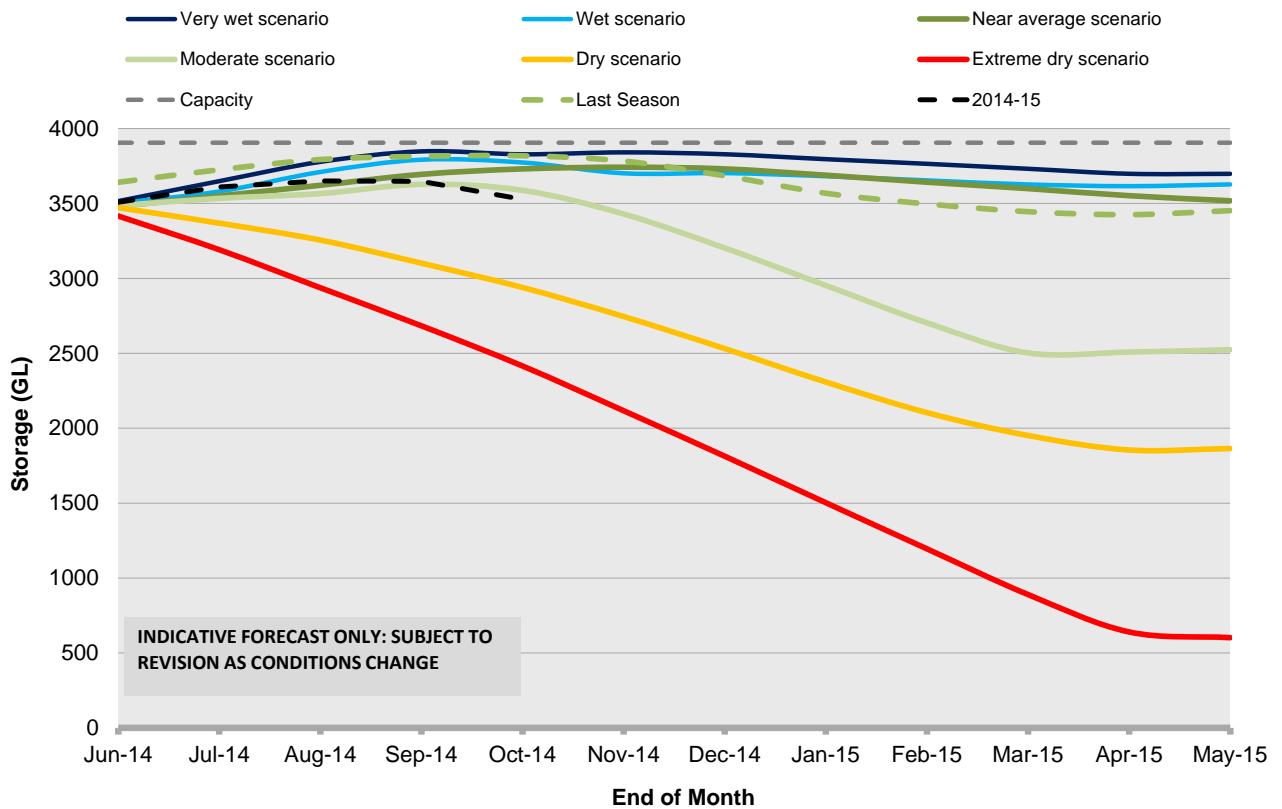


Figure 3: Original Dartmouth Reservoir storage outlook.

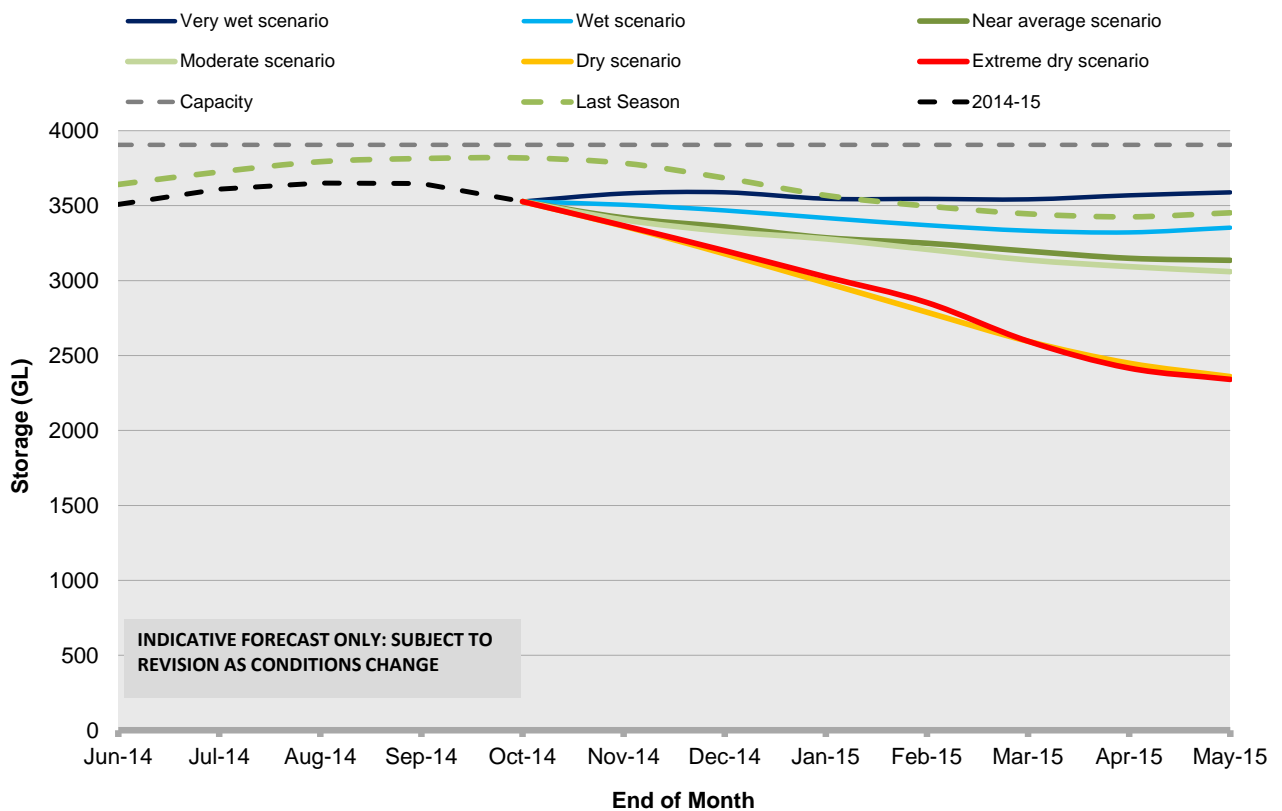


Figure 4: End October Dartmouth Reservoir storage outlook.

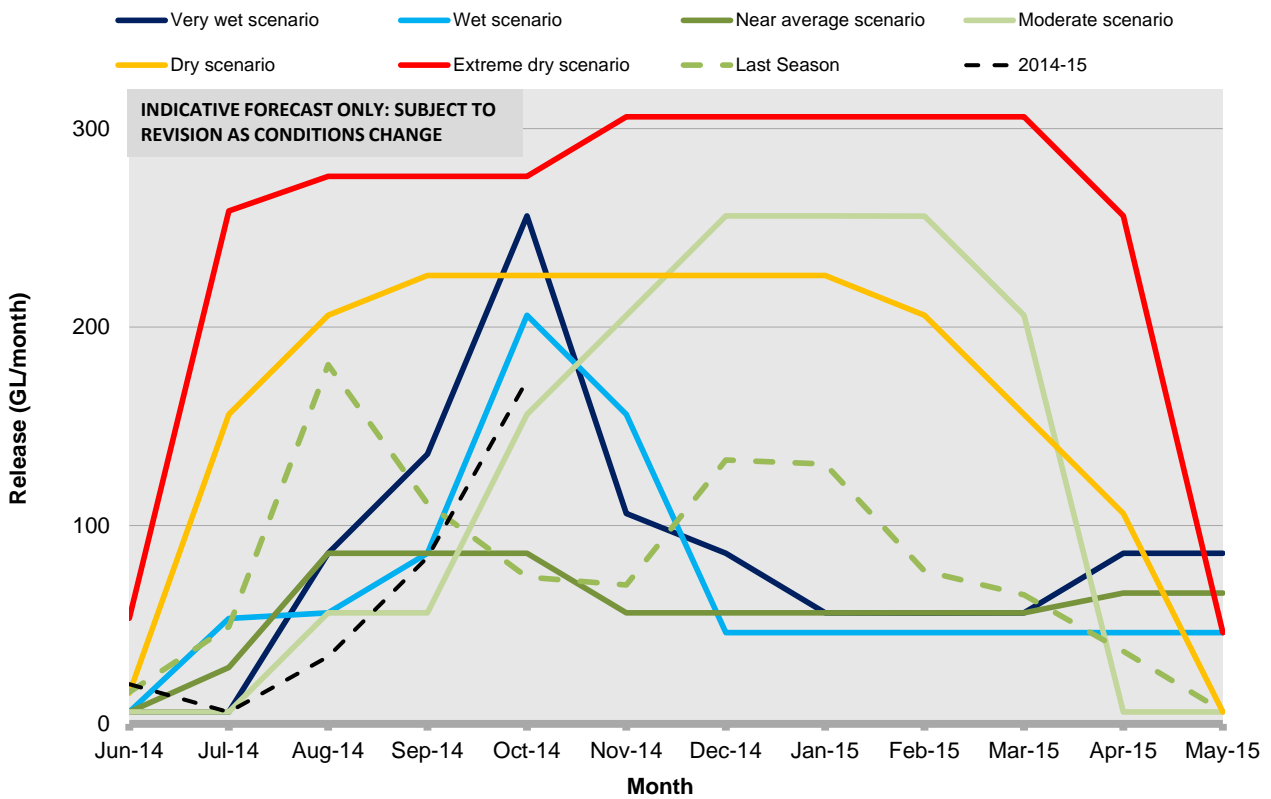


Figure 5: Original Dartmouth Reservoir release outlook.

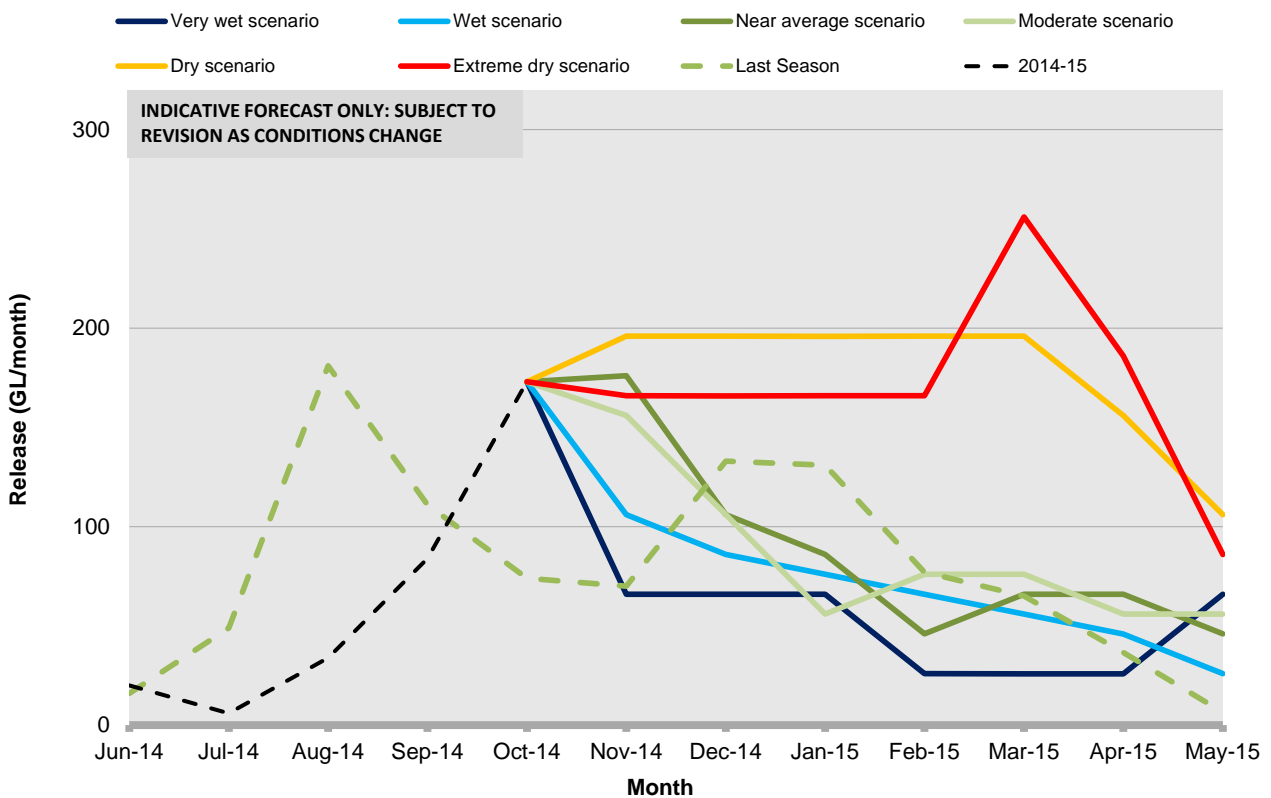


Figure 6: End October Dartmouth Reservoir release outlook.



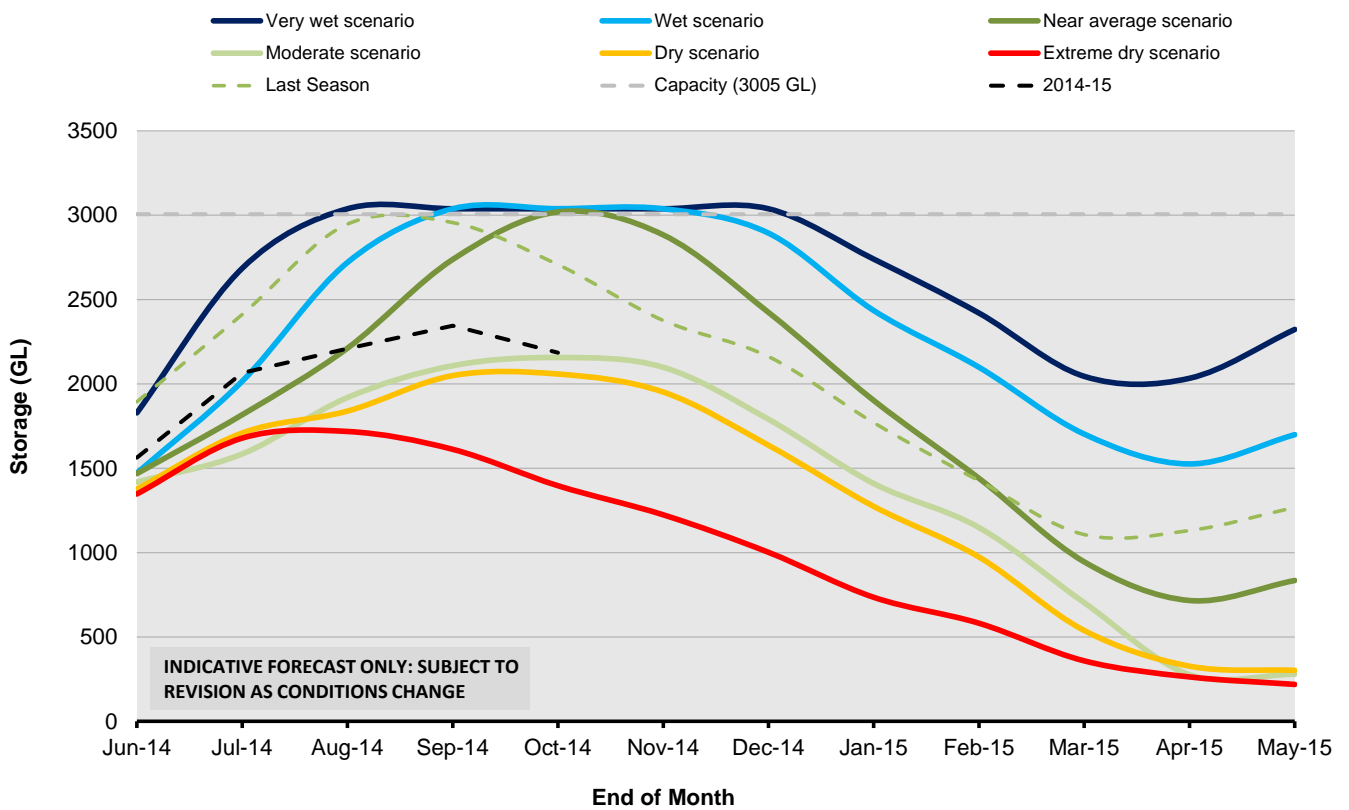


Figure 7: Original Hume Reservoir storage outlook.

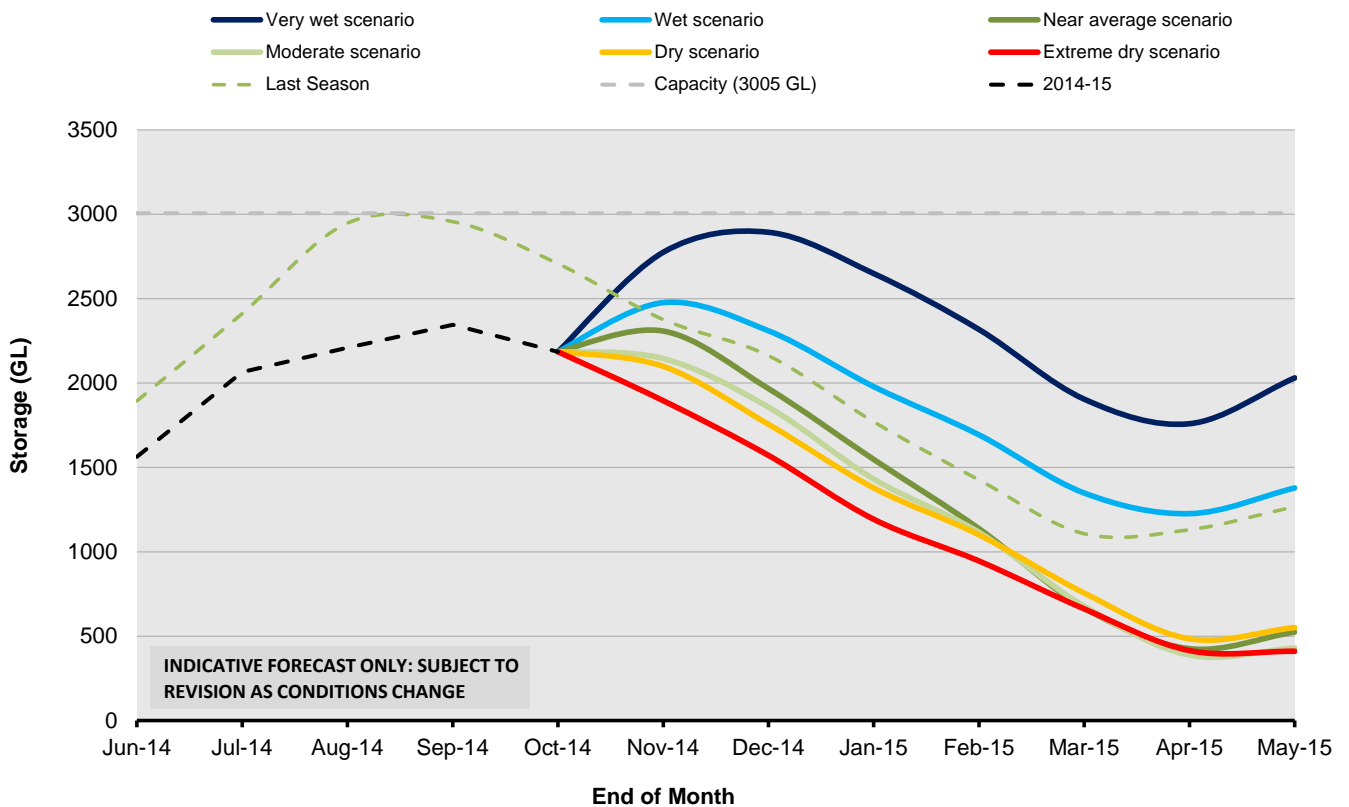


Figure 8: End October Hume Reservoir storage outlook.

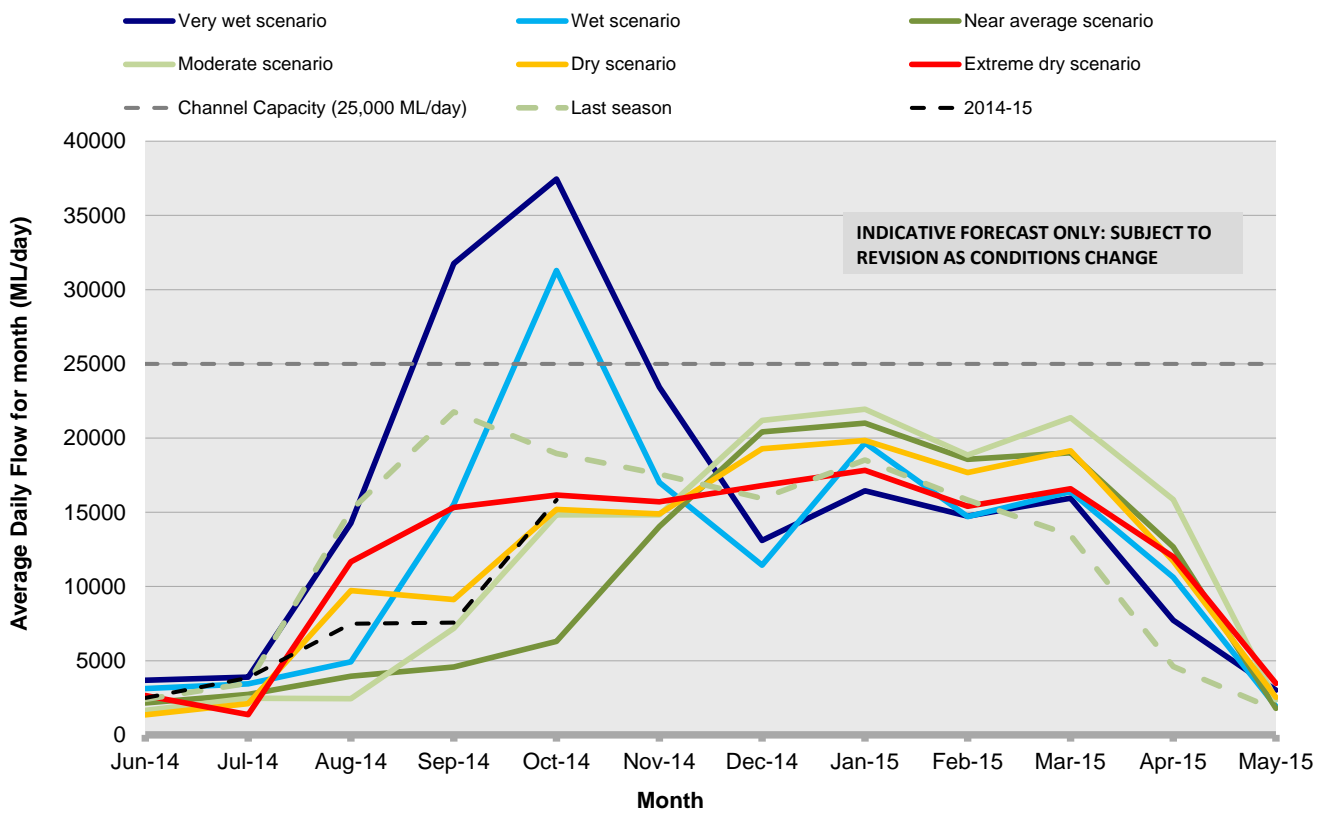


Figure 9: Original Hume Reservoir release outlook — flow at Doctors Point.

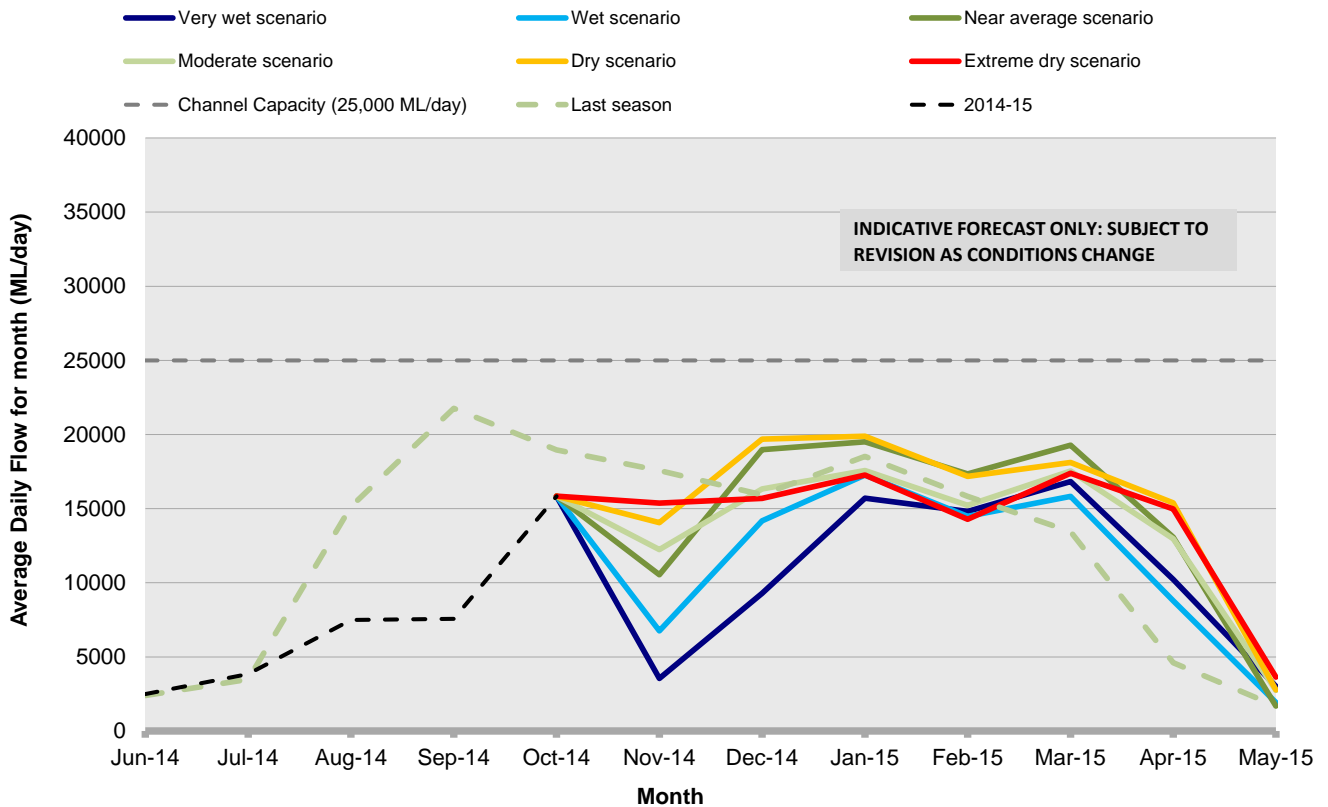


Figure 10: End October Hume Reservoir release outlook — flow at Doctors Point.

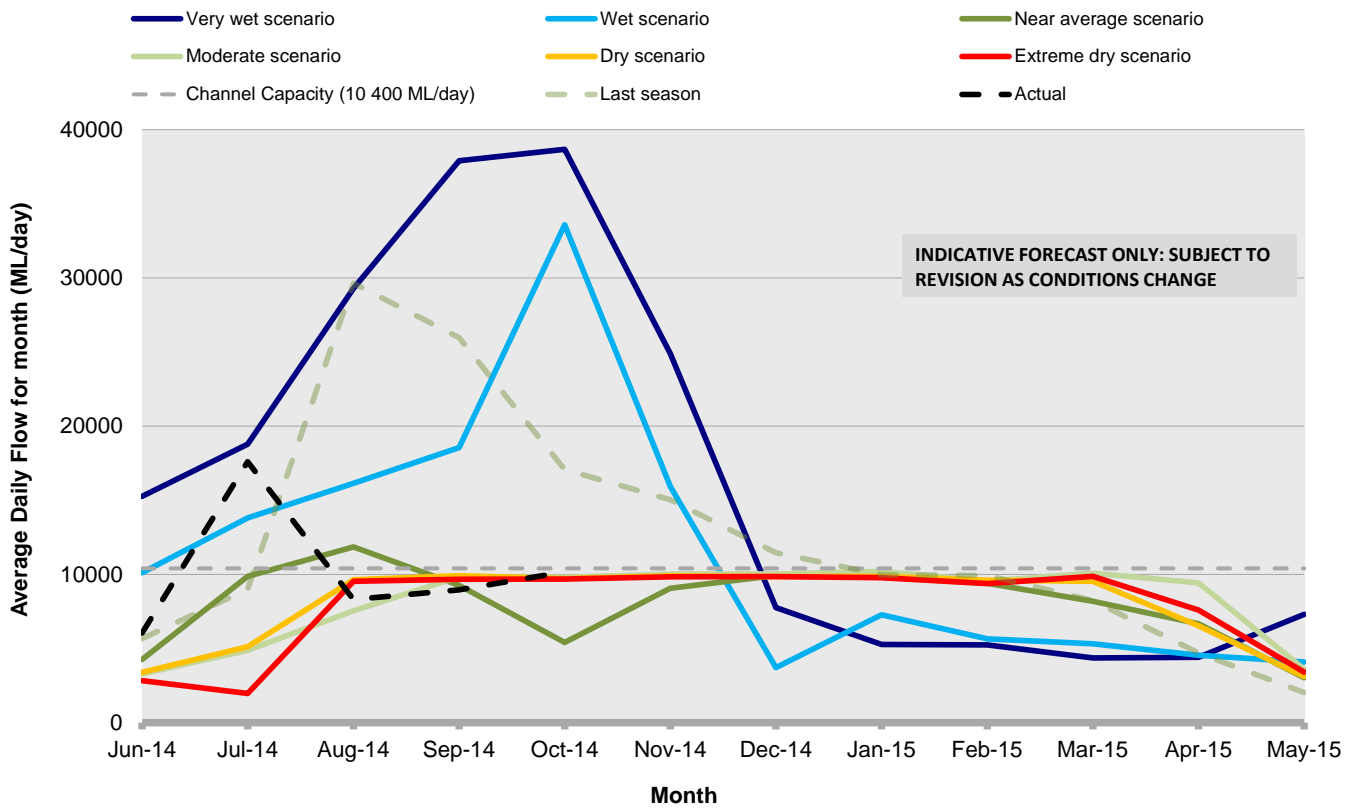


Figure 11: Original Yarrowonga Weir release outlook.

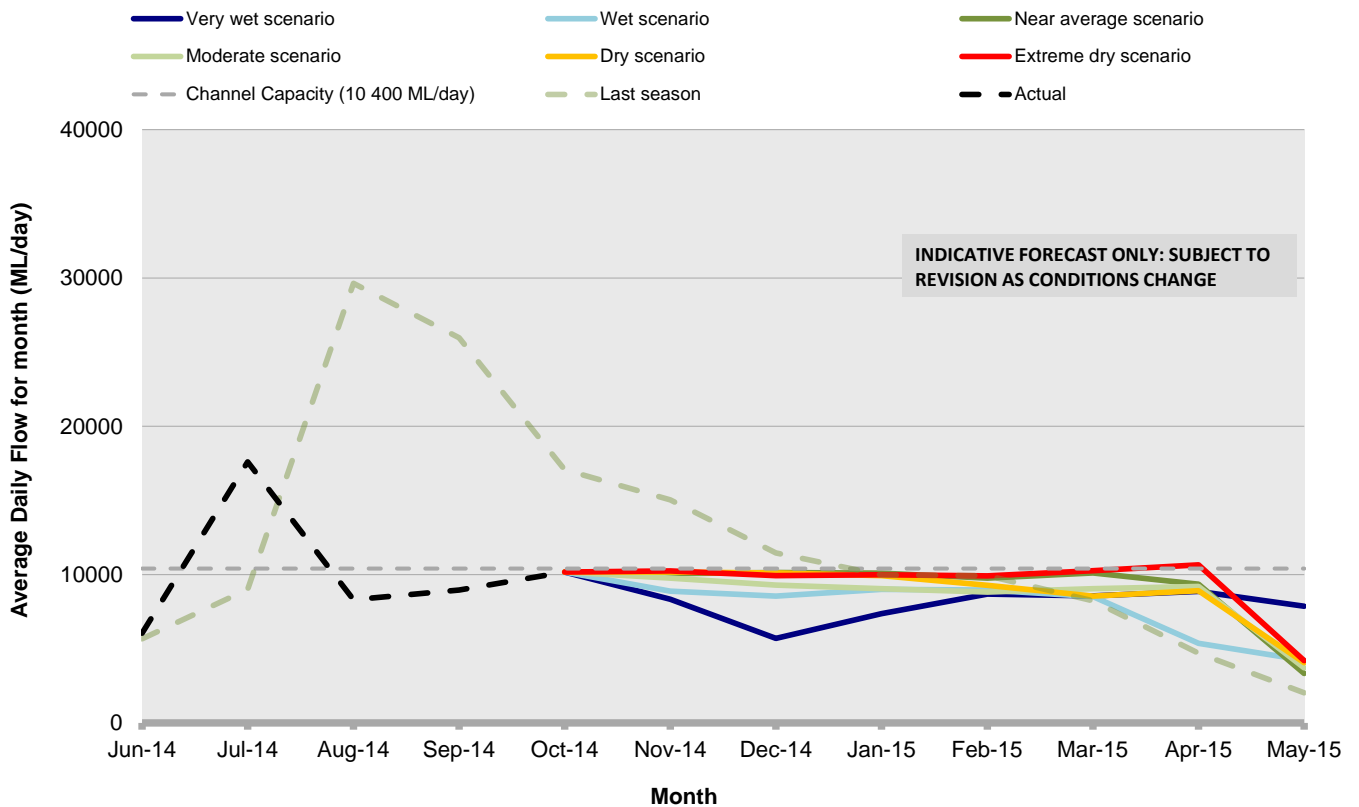


Figure 12: End October Yarrowonga Weir release outlook.

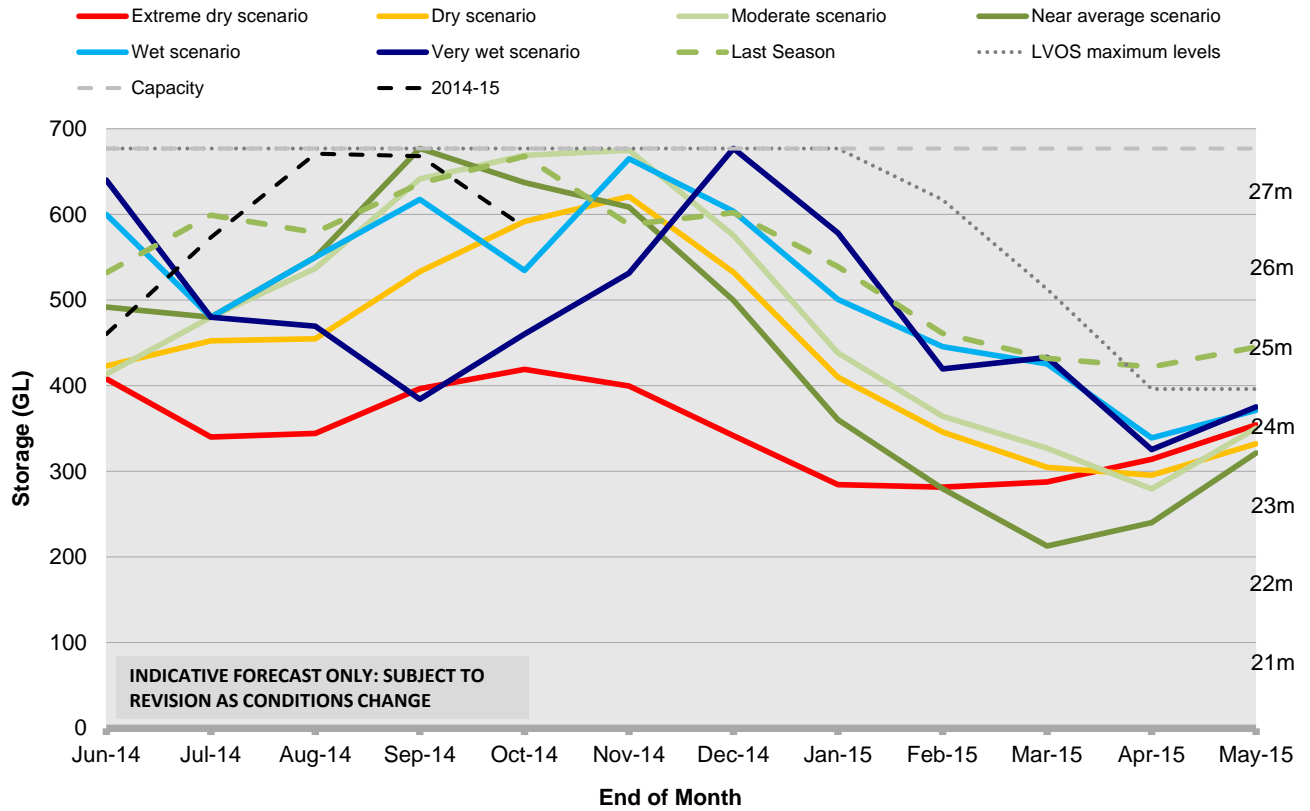


Figure 13: Original Lake Victoria storage outlook.

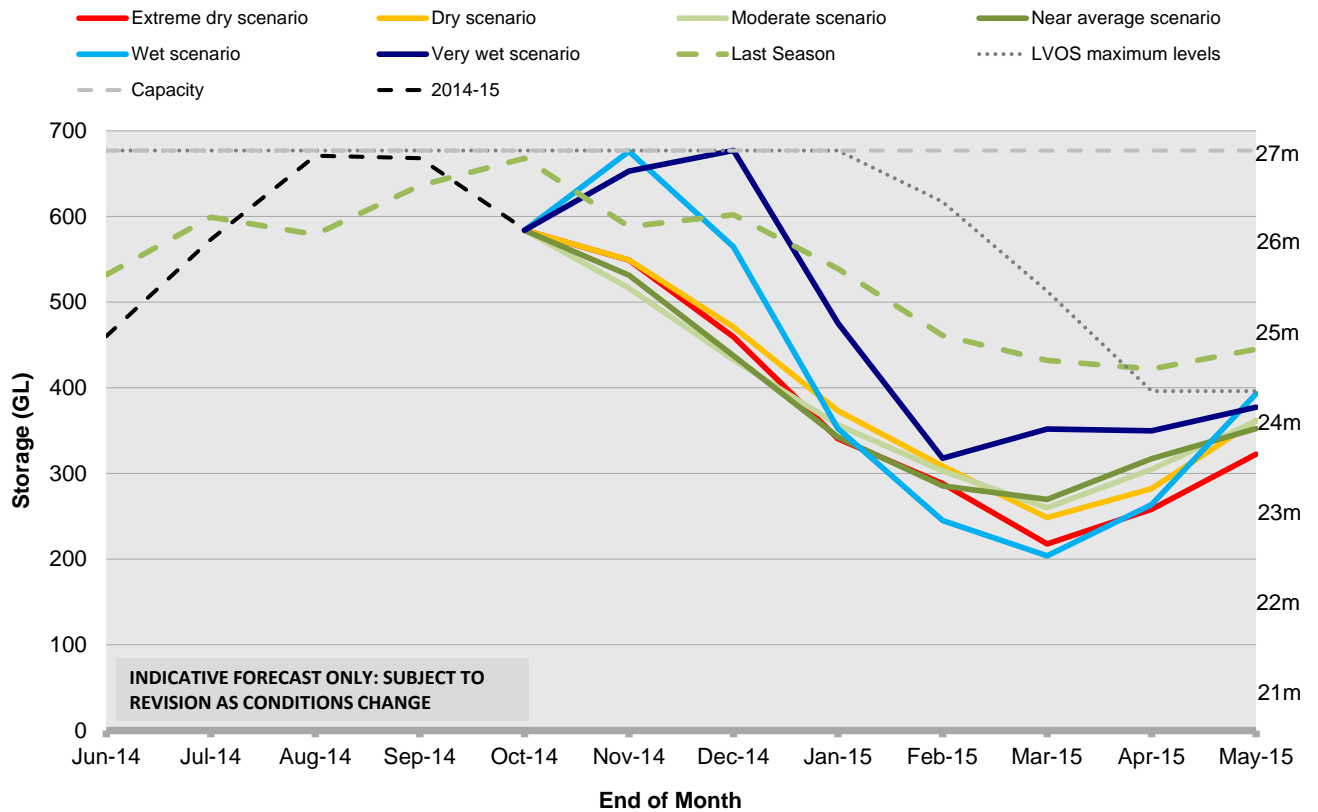


Figure 14: End October Lake Victoria storage outlook.

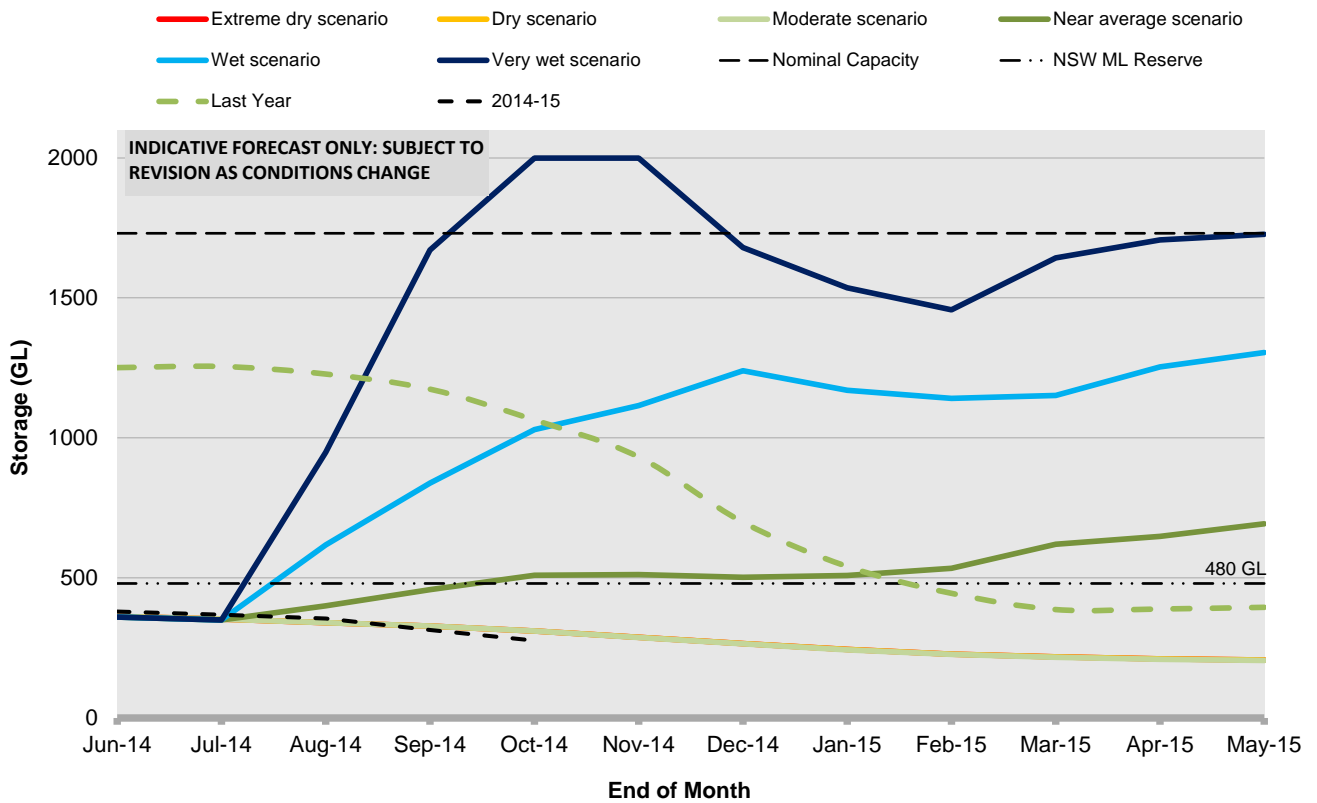


Figure 15: Original Menindee Lakes storage outlook.

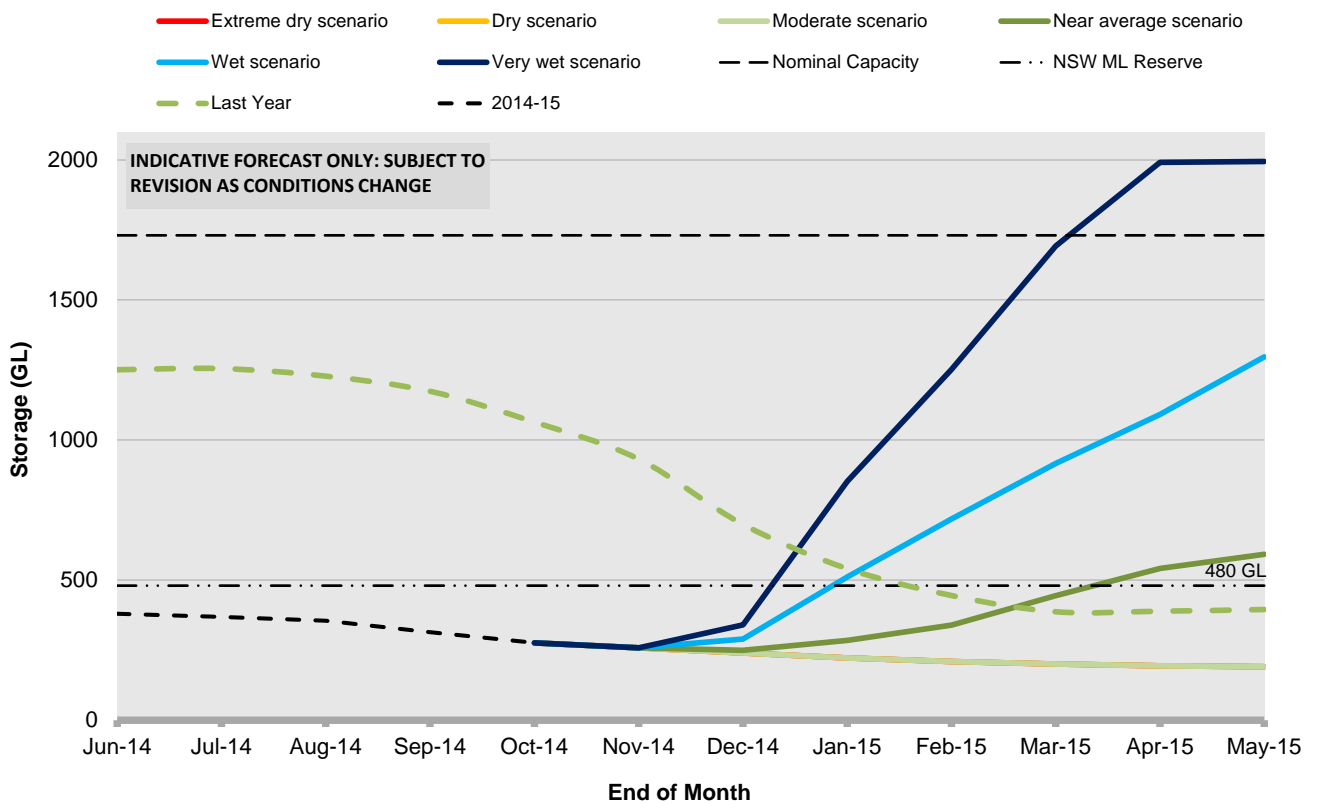


Figure 16: End October Menindee Lakes storage outlook.

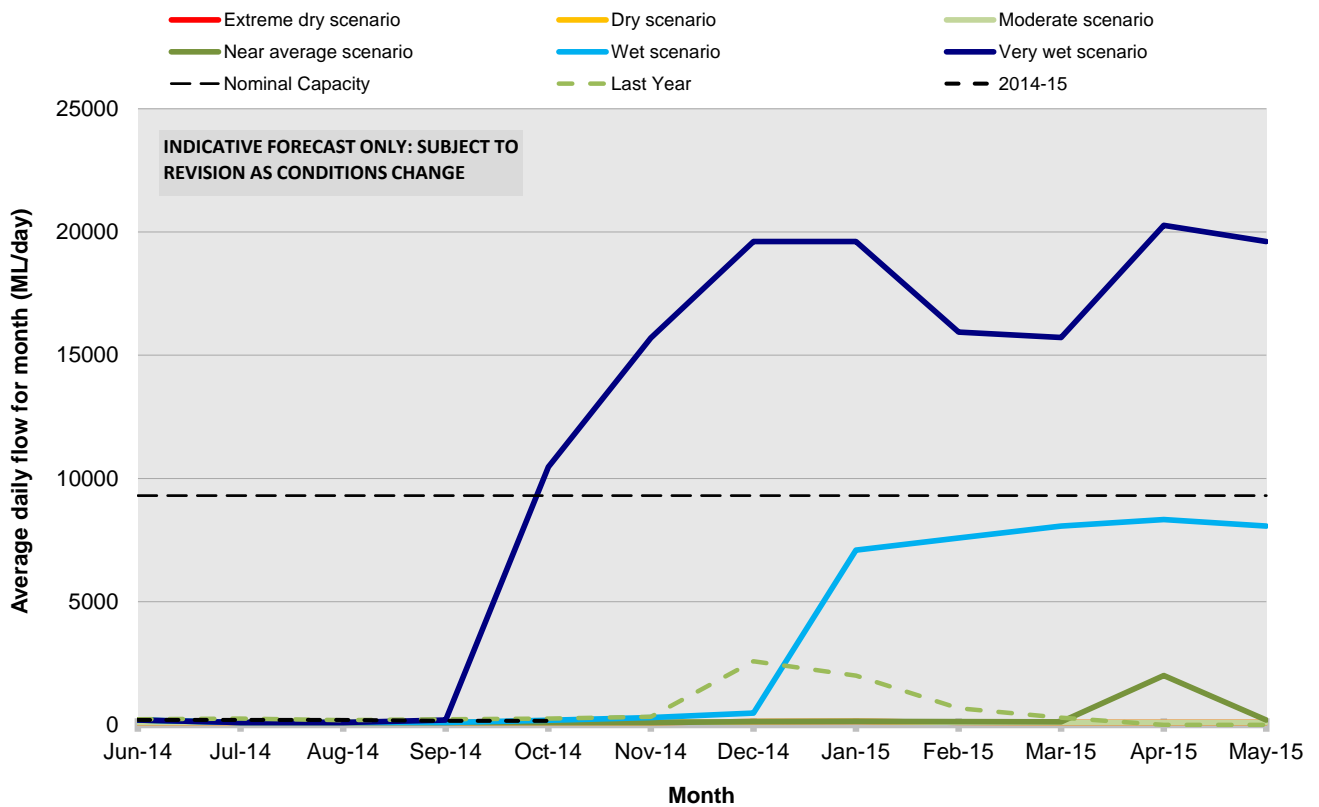


Figure 17: Original Menindee Lakes release outlook.

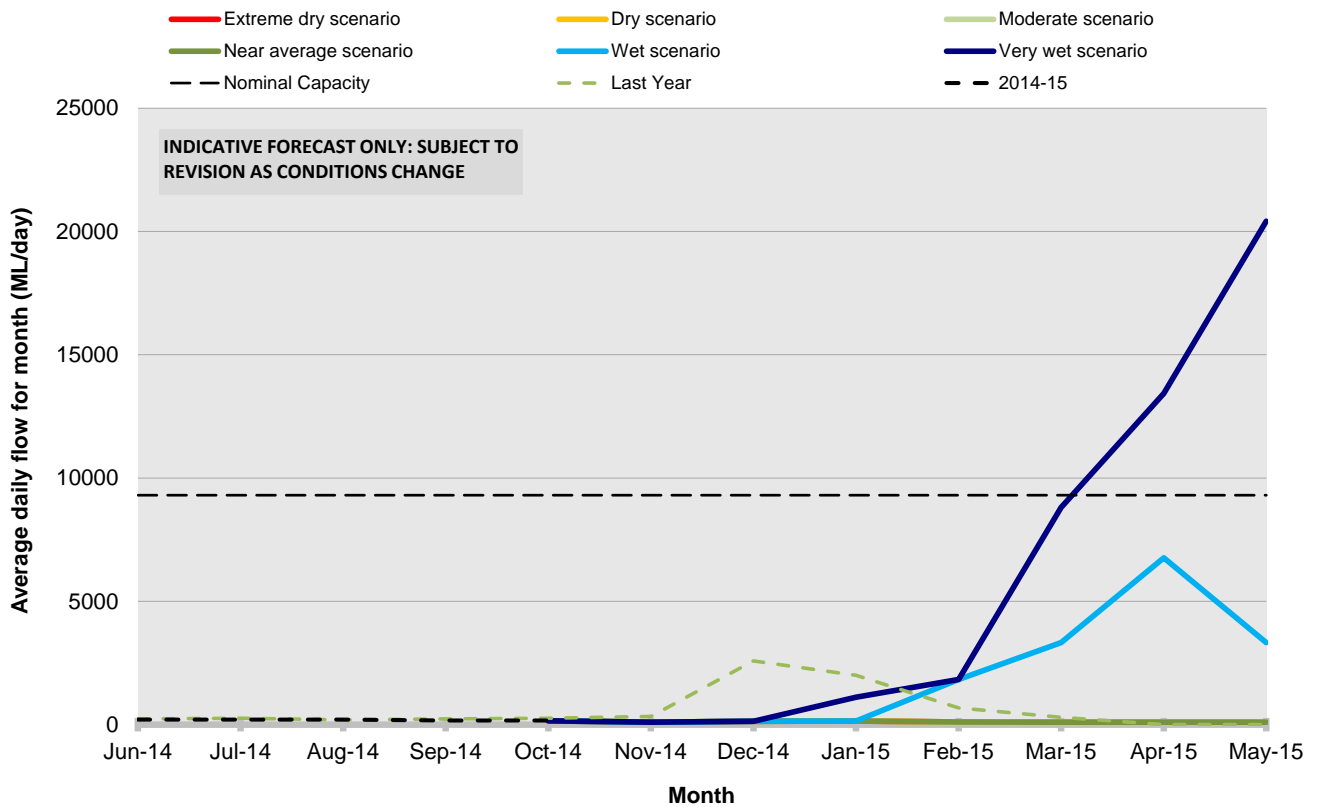


Figure 18: End October Menindee Lakes release outlook.

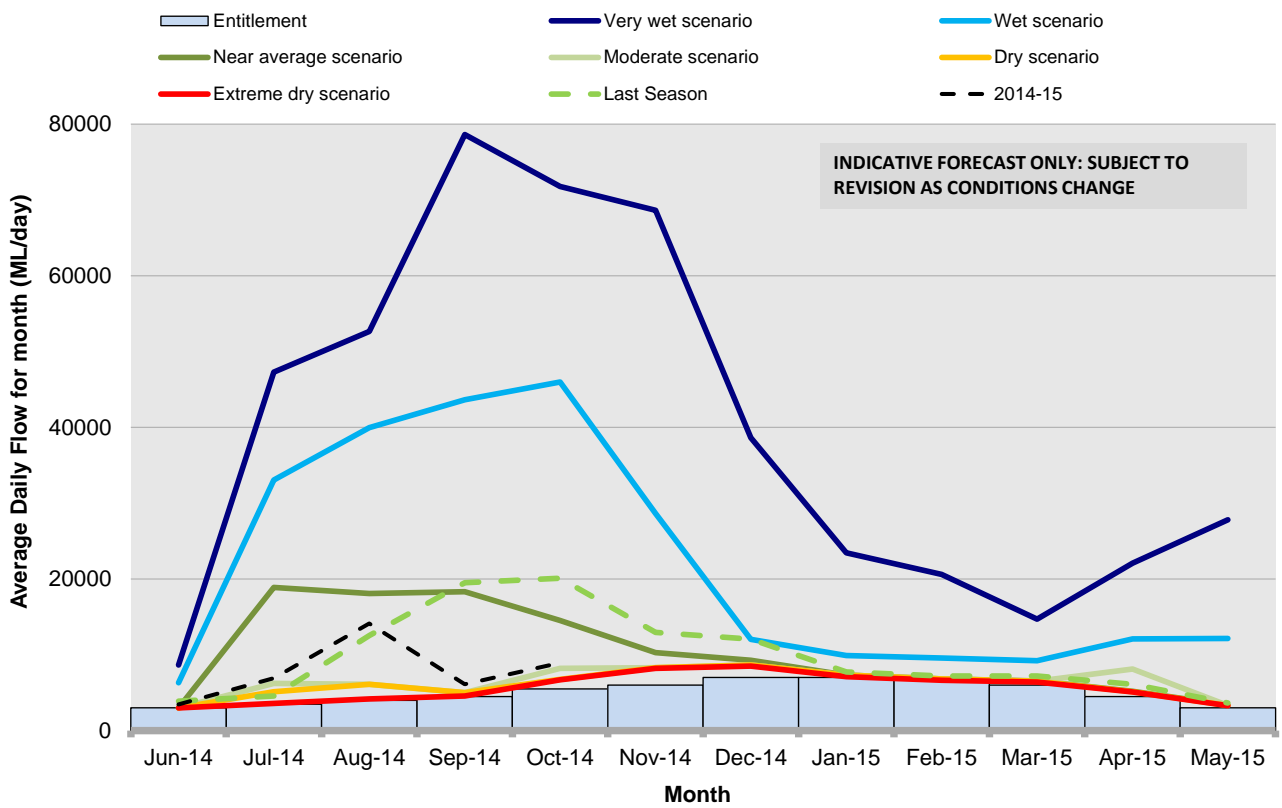


Figure 19: Original flow to South Australia outlook.

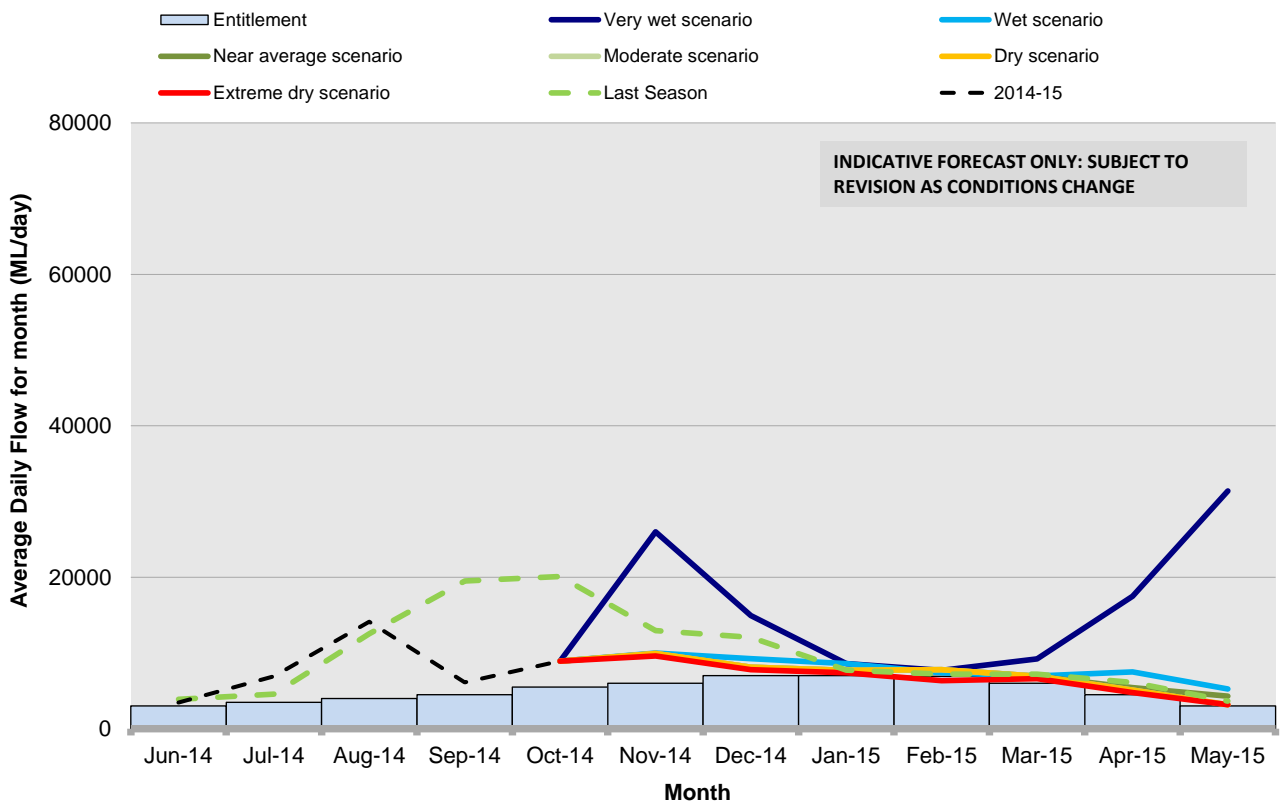


Figure 20: End October flow to South Australia outlook.