



# RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 17 FEBRUARY 2016

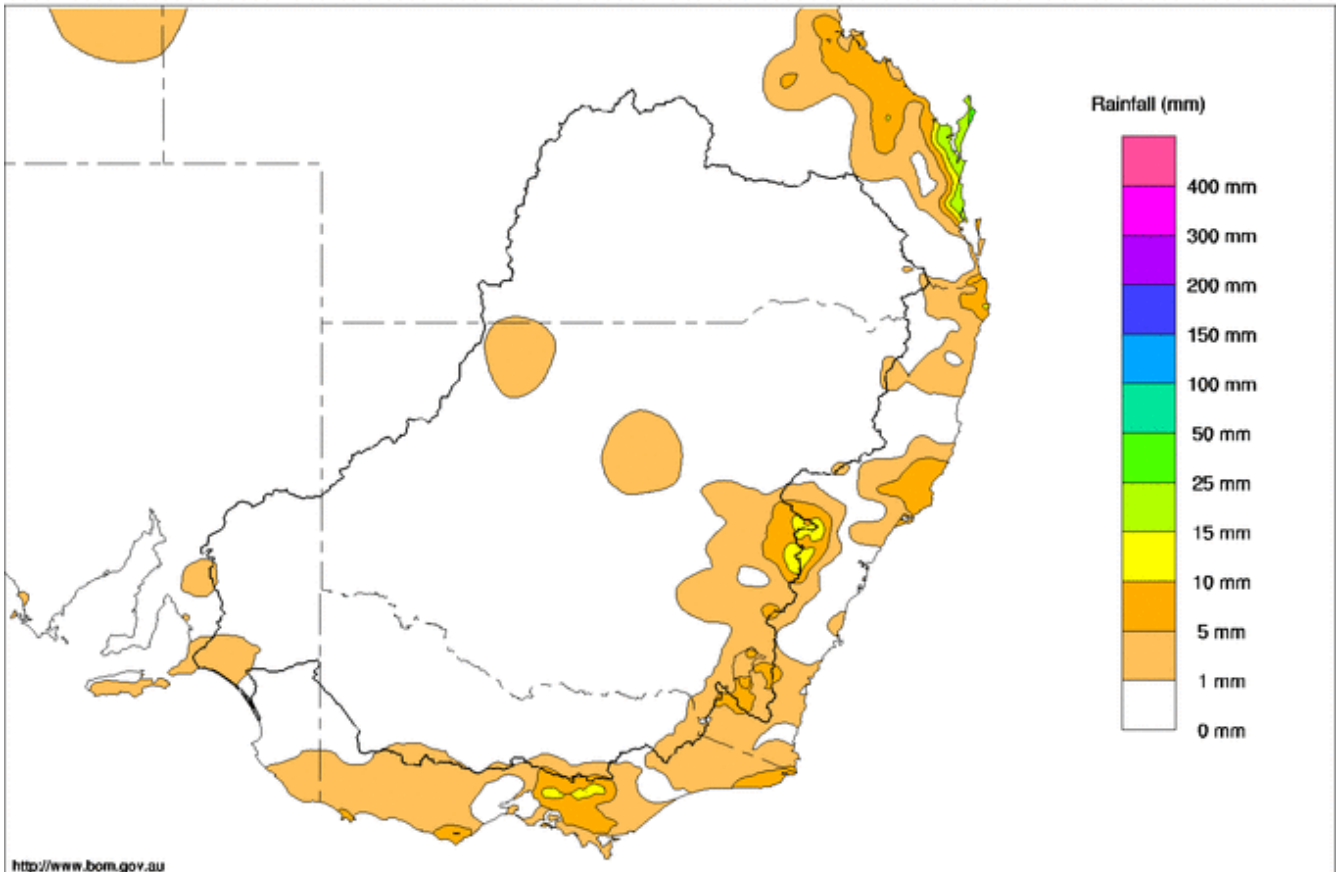
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## Rainfall and inflows

It was a very dry week across the Murray-Darling Basin, with the only rainfall resulting from isolated storm activity in the east and a relatively weak cool change that moved through the southern Basin toward week's end. Rainfall totals in these areas were generally less than 10 mm apart from some small areas over the NSW Central Tablelands where totals up to 15 mm were reported (Map 1).

Whilst conditions are expected to remain relatively dry during the coming days (see Bureau of Meteorology's (BoM) [8 day outlook](#)), BoM's current [3 month outlook](#) suggests rainfall for February to April is more likely to be above average across much of the southern half of Australia with the strongest probabilities in the southeast.

Murray-Darling Rainfall Totals (mm) Week Ending 17th February 2016  
Australian Bureau of Meteorology



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Map 1 - Murray-Darling Basin rainfall week ending 17th February 2016 (Source: Bureau of Meteorology)

The mostly dry conditions across upper Murray catchments have resulted in a further recession to flows along the major tributaries with most gauges falling to base flow levels. For example on the upper Mitta Mitta River at Hinnomunjie bridge, the flow decreased from 300 to 250 ML/day and has remained steady over the last three days. On the Ovens River, the flow at Wangaratta receded from 300 to 200 ML/day.



## River Operations

- Murray, Murrumbidgee and Goulburn water allocations increase;
- NSW Department of Primary Industries and Victoria’s Goulburn-Murray Water provide initial outlooks for water availability in 2016-17;
- Lock 7 weir pool level to be lowered further and Mullaroo Creek flows temporarily decreased.

On 15 February, NSW [Department of Primary Industries](#) and Victoria’s [Goulburn-Murray Water](#) provided updates on water availability and allocations. In NSW the Murray general security water allocation increased by 4 % to 23% and the Murrumbidgee general security allocation increased by 1% to 36%. In Victoria, Murray high reliability water share increased by 2% to 100% and Goulburn high reliability water share increased by 3% to 90%.

Also this week, NSW [Department of Primary Industries](#) and Victoria’s [Goulburn-Murray Water](#) provided initial outlooks for water availability in 2016-17. These highlight that storage levels are likely to be quite low at the end of June 2016, and that improvements to water availability in 2016-17 will be highly reliant on inflows to headwater storages observed in the coming winter and spring. For more information, visit the agencies websites.

MDBA storage decreased by 79 GL this week, with active storage now 3,004 GL (36% capacity). This is around 2,500 GL below the long-term average active storage volume for this time of year (Figure 1).

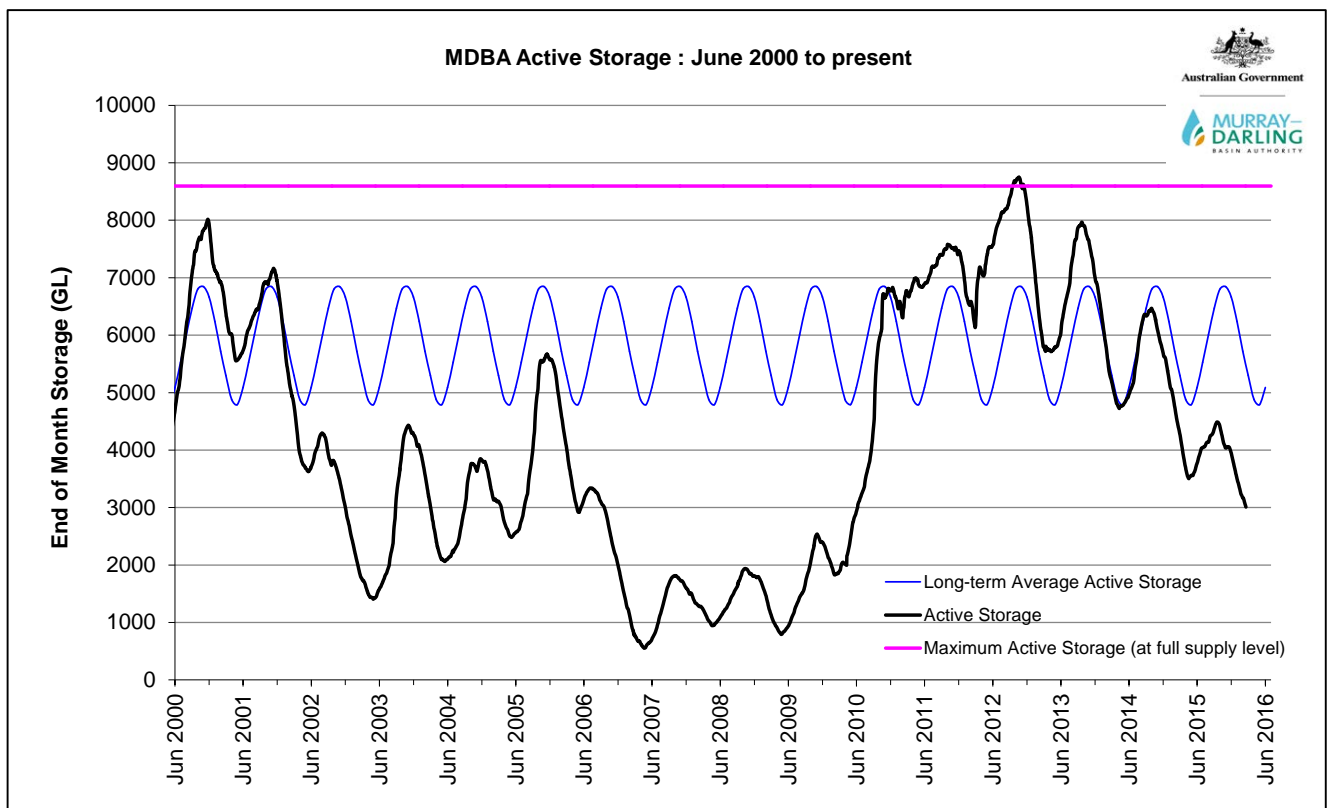


Figure 1 – MDBA active storage – June 2000 to present.

At **Dartmouth Reservoir**, the storage volume decreased by 23 GL to 1,730 GL (45% capacity). The release from Dartmouth, measured at Colemans, continues to be decreased (Figure 2). The current release is 3,300 ML/day and a flow of about 2,000 ML/day is planned for one week’s time. This reduction is in response to reduced downstream demand meaning less water is required for transfer from Dartmouth Reservoir over the remainder of this water year.



**Figure 2 – Mitta Mitta River near Noorongong, downstream of Dartmouth Dam, at a release rate of around 3,500 ML/day. The level of the green grass indicates the relative height of the sustained high flows experienced on the lower Mitta Mitta River over recent months. Some rock beaching and revegetation can be seen in the background. This was implemented as part of a river works program that is undertaken in recognition that sustained high flows contributes to erosion. (Photo: Hugo Bowman, MDBA).**

The storage volume at **Hume Reservoir** decreased by 30 GL to 1,068 GL (36% capacity). Releases averaged around 12,400 ML/day this week. The current release is targeting a flow of 14,000 ML/day at Doctors Point (downstream of the Kiewa River junction). A slight reduction to the release is likely during the coming days.



**Figure 3 – Dairy cattle on a Mitta Mitta Valley farm near Bullhead Creek (Photo: Kyra Evanochko, MDBA).**



At **Lake Mulwala**, the diversion through Yarrawonga Main Channel and Mulwala Canal averaged 1,000 ML/day and 2,300 ML/day respectively; with approximately 1,100 ML/day of the water diverted at Mulwala Canal bypassing the Barmah Choke via the Edward Escape for use further downstream. Releases from **Yarrawonga Weir** eased from 9,600 to 9,100 ML/day. Over the coming week, the release is expected to reduce to around 8,700 ML/day.

In the **Edward-Wakool** system, the flow through the Edward and Gulpa offtakes is around 1,550 ML/day and 350 ML/day respectively. Diversions to Wakool Main Canal averaged only 170 ML/day. Downstream at **Stevens Weir**, the release has eased back to 2,300 ML/day and is expected to be further reduced over the coming weeks.

Inflows to the Murray via Rice's Weir on the **Broken Creek** averaged around 300 ML/day. At McCoys Bridge on the **Goulburn River**, the flow continued to slowly recede and is currently 620 ML/day. Flows around 700 ML/day are expected during the coming week. This flow rate is above the normal summer minimum of around 350 ML/day due to the continuing delivery of inter valley trade (IVT) water. To-date around 44 GL of IVT water has been delivered from the Goulburn system mainly via the Goulburn River, and to a lesser extent via the lower Broken Creek and Campaspe River. Delivery of IVT is expected to continue during the remainder of February and into March. Updated information about Goulburn system IVT transfers is available on the [Goulburn-Murray Water](#) website.

At **Torrumbarry** weir, diversions to National Channel increased to around 1,900 ML/day late in the week following the warm and dry conditions. The flow downstream of Torrumbarry reduced to around 6,500 ML/day in response to the increased diversion at National Channel.

On the **Murrumbidgee** River at Balranald, flows receded from a peak of 3,000 ML/day to 1,500 ML/day. The flow is expected to recede further to around 400 ML/day by the end of February. This flow rate is above the February end of system target of 180 ML/day due to the continuing delivery of IVT. To-date around 170 GL of IVT water has been delivered. Delivery of IVT is expected to continue during the remainder of February and into March. During the week trade out of the Murrumbidgee Valley was reopened. Updated information about the [Murrumbidgee IVT account status](#) is available at the WaterNSW website.

At **Euston** weir, the flow averaged 11,500 ML/day. Flows are expected to fall away over the coming week to around 8,000 ML/day due to reduced inflows from the Murrumbidgee River upstream and increasing demands as dry weather and warm conditions continue.

On the **Darling River** system, rain in the northern Basin during late January and early February generated small flow pulses along several tributaries. These flows are continuing at Bourke on the Darling River (currently 640 ML/day) and have now reached Louth (currently 410 ML/day). However, high transmission losses resulting from hot summer temperatures and a mostly dry river channel mean that very little, if any, of this water is expected to reach the Menindee Lakes. Storage at the **Menindee Lakes** continues to fall away slowly, with the volume now down to 57 GL (3% capacity). Releases from Weir 32 were effectively ceased by Water NSW in December 2015.

Downstream at the junction of the Darling and the Murray, the weir pool at **Wentworth** weir remains above Full Supply Level (FSL) to assist water users on the lower Darling arm of the weir pool. The downstream flow rate is currently peaking at around 9,000 ML/day.

The weir pools at **Locks, 9, 8 and 7** continue to be held below FSL as part of an on-going weir pool variability trial. More information is available at the [MDBA website](#).

At **Mullaroo Creek**, the commissioning process continues at the recently completed off-take regulator. As part of this process, the level in the Lock 7 weir pool is being further reduced to help test the minimum pool level required to maintain the normal operating minimum flow rate into Mullaroo Creek (400 ML/day). Currently, with the lock 7 pool level 67 cm below the FSL and all regulator gates lowered (see Figure 4), around 550 ML/day is being diverted to Mullaroo Creek. It was originally anticipated that a Lock 7 pool level of around 65 to 70cm below FSL would divert around 400 ML/day to Mullaroo Creek, however this testing is suggesting it is now more likely to be a level of around 80 cm below FSL. The Lock 7 weir pool will continue to be lowered over the coming week. Once this test is completed, the pool level is expected to be gradually raised to 25 cm below FSL by late February.



**Figure 4 – Mullaroo Creek regulator with all gates lowered. (Photo: SA Water)**

The storage volume at **Lake Victoria** decreased by 23 GL to a total storage volume of 400 GL (59% capacity). The flow to **South Australia** has been increased to a target of 9,700 ML/day. This increase is providing for the delivery of additional environmental water into the lower Murray system.

At the **Lower Lakes**, the 5-day average level of Lake Alexandrina remained relatively steady and is currently 0.60 m AHD. Releases through the barrages recommenced this week, with a total flow of around 500 ML/day now flowing into the Coorong.

**For media inquiries contact the Media Officer on 02 6279 0141**

DAVID DREVERMAN  
Executive Director, River Management



**Water in Storage**

**Week ending Wednesday 17 Feb 2016**

MDBA Storages	Full Supply Level	Full Supply Volume (GL)	Current Storage Level	Current Storage		Dead Storage (GL)	Active Storage (GL)	Change in Total Storage for the Week (GL)
	(m AHD)		(m AHD)	(GL)	%			
Dartmouth Reservoir	486.00	3 856	445.57	1 730	45%	71	1 659	-23
Hume Reservoir	192.00	3 005	179.43	1 068	36%	23	1 045	-30
Lake Victoria	27.00	677	24.55	400	59%	100	300	-23
Menindee Lakes		1 731*		57	3%	(- -) #	0	-3
<b>Total</b>		<b>9 269</b>		<b>3 255</b>	<b>35%</b>	<b>--</b>	<b>3 004</b>	<b>-79</b>
Total Active MDBA Storage							36% ^	

**Major State Storages**

Burrinjuck Reservoir	1 026	532	52%	3	529	-14
Blowering Reservoir	1 631	474	29%	24	450	+2
Eildon Reservoir	3 334	1 403	42%	100	1 303	-27

\* Menindee surcharge capacity – 2050 GL

\*\* All Data is rounded to nearest GL \*\*

# NSW takes control of Menindee Lakes when storage falls below 480 GL, and control reverts to MDBA when storage next reaches 640 GL

^ % of total active MDBA storage

**Snowy Mountains Scheme**

Snowy diversions for week ending 16 Feb 2016

Storage	Active Storage (GL)	Weekly Change (GL)	Diversion (GL)	This Week	From 1 May 2015
Lake Eucumbene - Total	1 962	-47	Snowy-Murray	+29	458
Snowy-Murray Component	1 006	-25	Tooma-Tumut	+0	144
Target Storage	1 460		Net Diversion	29	314
			Murray 1 Release	+29	649

**Major Diversions from Murray and Lower Darling (GL) \***

New South Wales	This Week	From 1 July 2015	Victoria	This Week	From 1 July 2015
Murray Irrig. Ltd (Net)	7.5	283	Yarrowonga Main Channel (net)	5.2	164
Wakool Sys Allowance	0.9	50	Torrumbarry System + Nyah (net)	7.1	340
Western Murray Irrigation	0.8	14	Sunraysia Pumped Districts	3	82
Licensed Pumps	3.5	133	Licensed pumps - GMW (Nyah+u/s)	1.4	26
Lower Darling	0.2	8	Licensed pumps - LMW	11.2	240
<b>TOTAL</b>	<b>12.9</b>	<b>488</b>	<b>TOTAL</b>	<b>27.9</b>	<b>852</b>

\* Figures derived from estimates and monthly data. Please note that not all data may have been available at the time of creating this report.

\*\* All data above is rounded to nearest 100 ML for weekly data and nearest GL for cumulative data\*\*

**Flow to South Australia (GL)**

\* Flow to SA will be greater than normal entitlement for this month due to the delivery of additional environmental water.

Entitlement this month	194.0 *
Flow this week	67.9
Flow so far this month	150.0
Flow last month	218.8

(9 700 ML/day)

**Salinity (EC) (microSiemens/cm at 25° C)**

	Current	Average over the last week	Average since 1 August 2015
Swan Hill	70	80	80
Euston	80	80	-
Red Cliffs	100	100	130
Merbein	100	100	130
Burtundy (Darling)	1 500	1 470	1 130
Lock 9	100	110	130
Lake Victoria	210	200	210
Berri	190	200	220
Waikerie	250	250	270
Morgan	270	270	280
Mannum	310	320	320
Murray Bridge	360	380	340
Milang (Lake Alex.)	850	830	780
Poltalloch (Lake Alex.)	830	810	640
Meningie (Lake Alb.)	2 130	2 110	2 070
Goolwa Barrages	1 370	1 480	1 150



**River Levels and Flows**

**Week ending Wednesday 17 Feb 2016**

River Murray	Minor Flood Stage (m)	Gauge	Height	Flow (ML/day)	Trend	Average Flow this Week (ML/day)	Average Flow last Week (ML/day)
		local (m)	(m AHD)				
Khancoban	-	-	-	2 620	F	4 670	2 980
Jingellic	4.0	1.58	208.10	3 260	F	4 940	3 430
Tallandoon ( Mitta Mitta River )	4.2	2.28	219.17	3 300	F	3 810	4 980
Heywoods	5.5	3.17	156.80	13 000	R	12 420	12 560
Doctors Point	5.5	2.87	151.34	13 380	R	12 930	13 230
Albury	4.3	1.90	149.34	-	-	-	-
Corowa	4.6	2.69	128.71	12 130	R	12 680	12 080
Yarrowonga Weir (d/s)	6.4	1.52	116.56	9 140	S	9 420	9 800
Tocumwal	6.4	2.12	105.96	9 240	F	9 670	9 870
Torrumbarry Weir (d/s)	7.3	2.17	80.72	6 550	F	6 960	7 430
Swan Hill	4.5	1.32	64.24	6 850	F	7 200	7 280
Wakool Junction	8.8	3.39	52.51	9 610	F	9 860	9 470
Euston Weir (d/s)	9.1	2.08	43.92	11 360	R	11 450	9 980
Mildura Weir (d/s)	-	-	-	10 190	F	9 270	8 390
Wentworth Weir (d/s)	7.3	3.02	27.78	8 880	R	7 880	7 010
Rufus Junction	-	3.97	20.90	9 610	S	9 380	8 100
Blanchetown (Lock 1 d/s)	-	0.79	-	7 030	S	6 860	5 860
<b>Tributaries</b>							
Kiewa at Bandiana	2.8	0.75	153.98	200	F	340	530
Ovens at Wangaratta	11.9	7.74	145.42	180	S	200	410
Goulburn at McCoys Bridge	9.0	1.30	92.72	620	F	670	840
Edward at Stevens Weir (d/s)	5.5	2.22	81.99	2 320	F	2 410	2 620
Edward at Liewah	-	3.04	58.42	2 570	S	2 560	2 560
Wakool at Stoney Crossing	-	1.45	54.95	490	F	530	570
Murrumbidgee at Balranald	5.0	1.93	57.89	1 540	F	2 460	2 450
Barwon at Mungindi	6.1	3.44	-	590	F	760	540
Darling at Bourke	9.0	4.16	-	640	R	450	490
Darling at Burtundy Rocks	-	0.62	-	0	F	0	0

Natural Inflow to Hume	850	2 380
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(i.e. Pre Dartmouth & Snowy Mountains scheme)

**Weirs and Locks** Pool levels above or below Full Supply Level (FSL)

Murray	FSL (m AHD)	u/s	d/s		FSL (m AHD)	u/s	d/s
Yarrowonga	124.90	-0.17	-	No. 7 Rufus River	22.10	-0.67	+1.67
No. 26 Torrumbarry	86.05	-0.01	-	No. 6 Murtho	19.25	-0.01	+0.24
No. 15 Euston	47.60	+0.02	-	No. 5 Renmark	16.30	+0.02	+0.31
No. 11 Mildura	34.40	+0.08	+0.34	No. 4 Bookpurnong	13.20	+0.02	+1.06
No. 10 Wentworth	30.80	+0.11	+0.38	No. 3 Overland Corner	9.80	+0.00	+0.27
No. 9 Kulnine	27.40	-0.04	-0.63	No. 2 Waikerie	6.10	+0.02	+0.19
No. 8 Wangumma	24.60	-0.81	-0.26	No. 1 Blanchetown	3.20	-0.09	+0.04

**Lower Lakes** FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.60
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**Barrages**

**Fishways at Barrages**

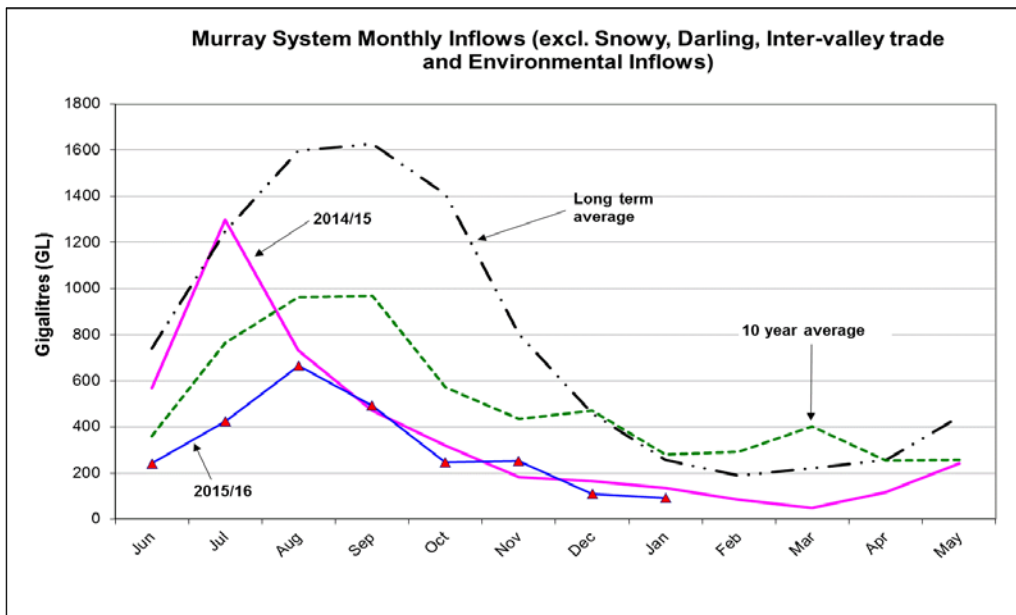
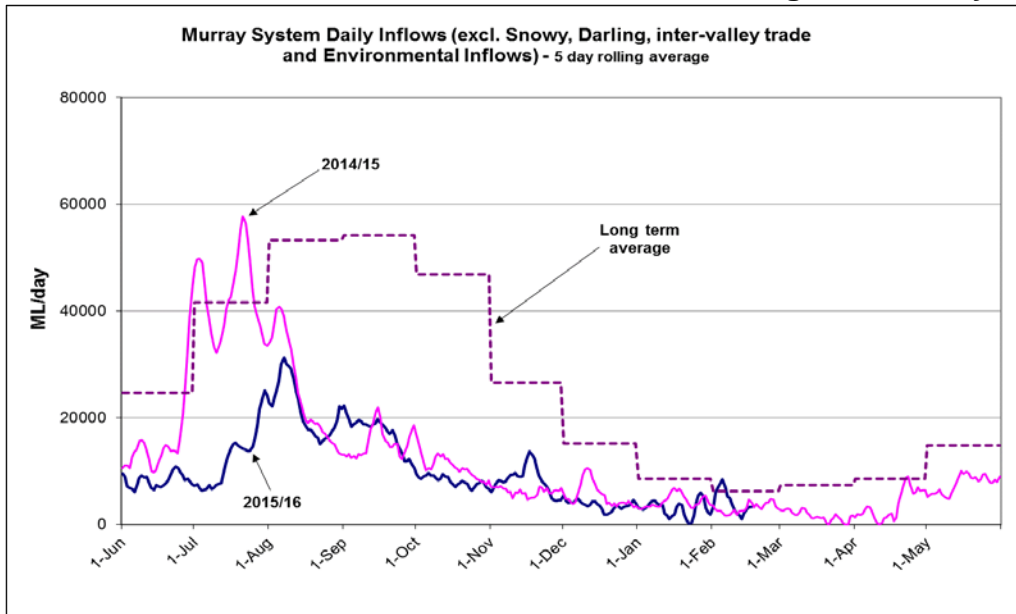
	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.65	All closed	-	Open	Open	-
Mundoo	26 openings	0.60	All closed	-	-	-	Closed
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	All closed	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwichee	322 gates	0.63	2	Closed	Open	Open	-

\* Mundoo Barrage Dual vertical slots are currently under construction.

AHD = Level relative to Australian Height Datum, i.e. height above sea level



Week ending Wednesday 17 Feb 2016



**State Allocations (as at 17 Feb 2016)**

**NSW - Murray Valley**

High security	97%
General security	23%

**Victorian - Murray Valley**

High reliability	100%
Low reliability	0%

**NSW - Murrumbidgee Valley**

High security	95%
General security	36%

**Victorian - Goulburn Valley**

High reliability	90%
Low reliability	0%

**NSW - Lower Darling**

High security	75%
General security	0%

**South Australia - Murray Valley**

High security	100%
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NSW : <http://www.water.nsw.gov.au/Water-management/Water-availability/Water-allocations/Water-allocations-summary/water-allocations-summary/default.aspx>  
 VIC : <http://www.nvrm.net.au/allocations/current.aspx>  
 SA : <http://www.environment.sa.gov.au/managing-natural-resources/river-murray>