



# RIVER MURRAY WEEKLY REPORT

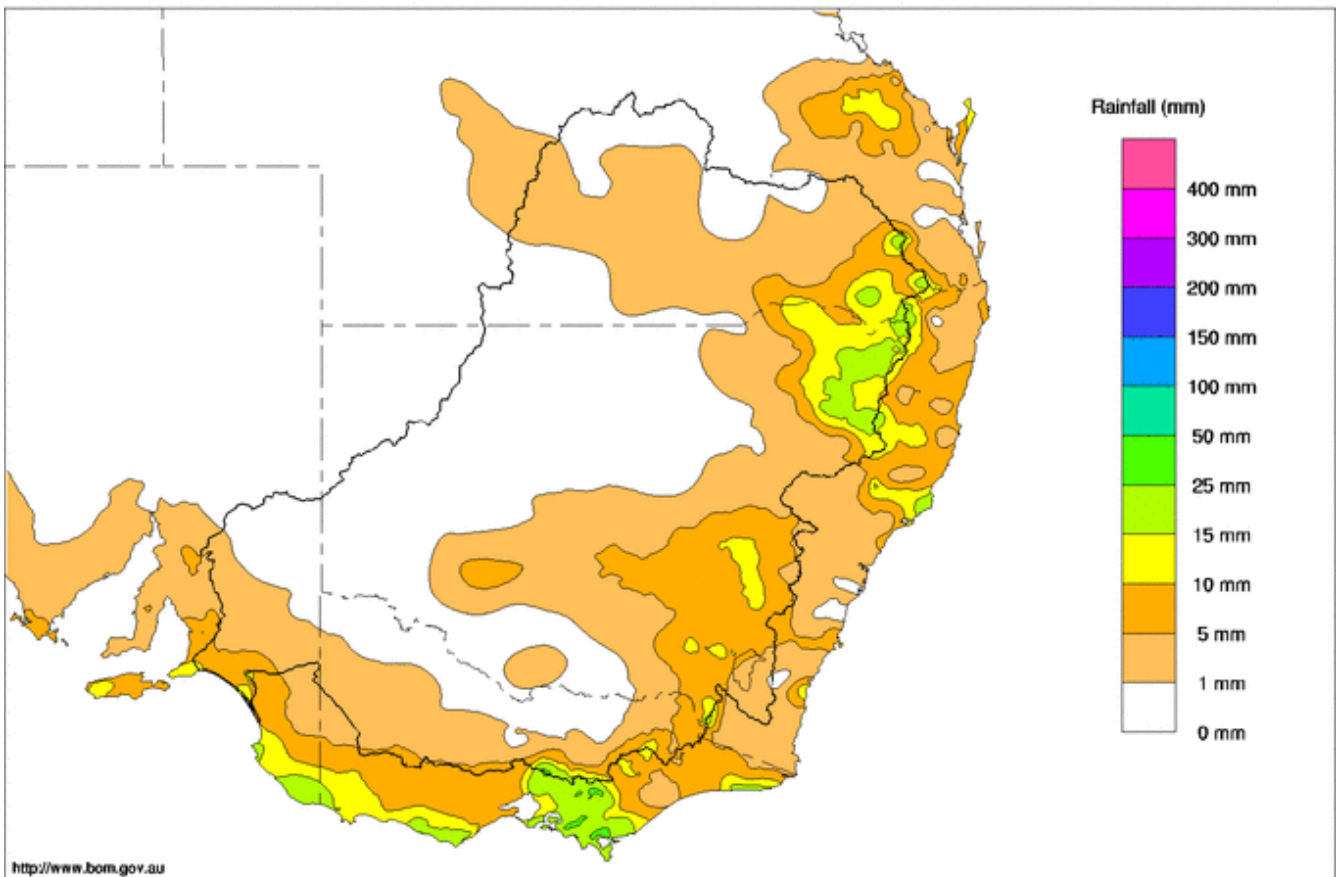
FOR THE WEEK ENDING WEDNESDAY, 3 MAY 2017

Trim Ref: D17/18700

## Rainfall and inflows

Most of the rain recorded this week fell along the Great Dividing Range due to a surface trough and cold front at the start of the week. Light falls were also recorded along the southern divide and in the north of the basin later in the week. In Queensland, the highest weekly totals included 22 mm at Yangan and 19 mm at Wallangarra in the Darling Downs. In NSW, 20 mm was recorded at Glen Innes airport and Inverell in the northern tablelands and 17 mm at Woolbrook on the northwest slopes. In Victoria, the highest totals included 21 mm at Mount William in the Wimmera and 18 mm at Mount Hotham AWS in the northeast.

Murray-Darling Rainfall Totals (mm) Week Ending 3rd May 2017  
Australian Bureau of Meteorology



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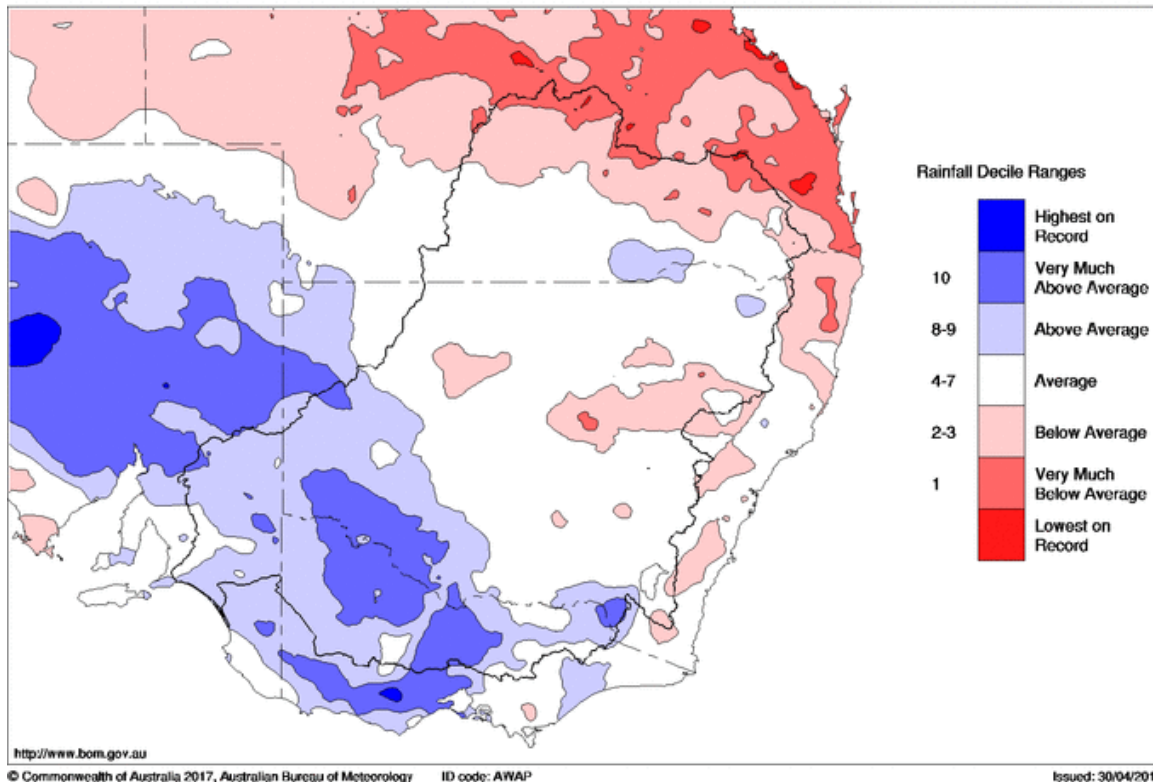
Map 1 - Murray-Darling Basin rainfall map week ending 3 May 2017 (Source: Bureau of Meteorology)

Stream flows along upper Murray tributaries receded this week. On the Mitta Mitta River, the flow at Hinnomunjie bridge decreased from around 1,350 to 380 ML/day. On the upper Murray at Biggara, flows reduced from 1,600 to 420 ML/day. On the Ovens River, flow at Rocky Point decreased from around 2,200 to 570 ML/day.

# April 2017 Summary

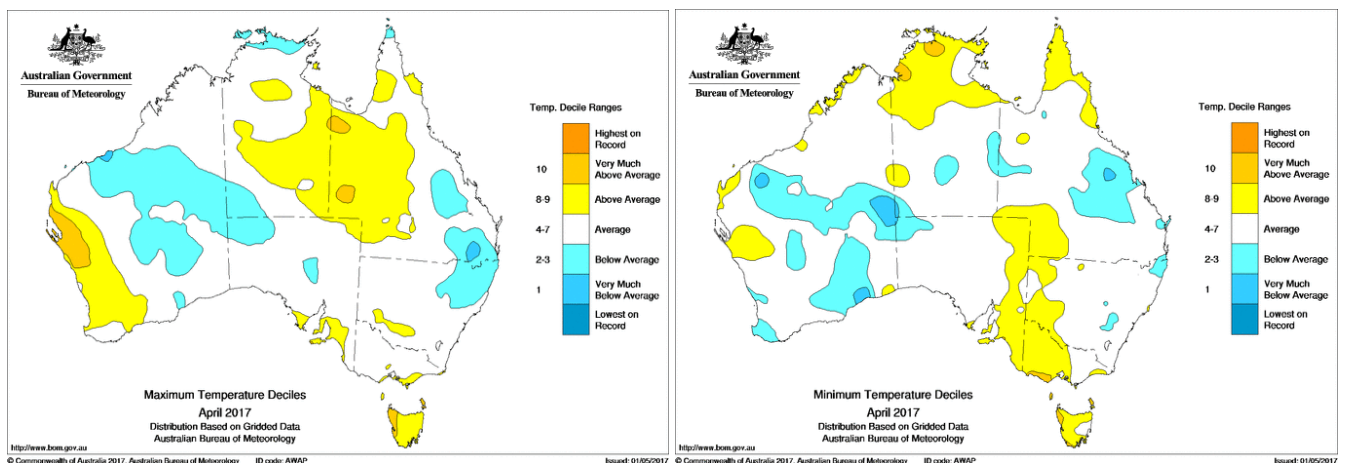
April was a wet month across much of the southern Murray-Darling Basin with above-average rainfall recorded in Victoria, South Australia and south western New South Wales (Map 2). Of particular significance, above-average rainfall along much of the River Murray resulted in renewed tributary inflows and reduced irrigation demands. Below-average rainfall was recorded in parts of central NSW and the far north of the basin in Queensland.

Murray-Darling Rainfall Deciles April 2017  
Distribution Based on Gridded Data  
Australian Bureau of Meteorology



Map 2 - Murray-Darling Basin rainfall deciles for April 2017 (Source: Bureau of Meteorology)

Following an exceptionally warm March, temperatures during April were mostly closer to average. Broadly speaking, mean daily maximum temperatures were below average in the northeast and close to average across the remainder of the basin, while mean daily minimum temperatures were above average in the southwest and mostly close to average across the remainder of the basin (Map 3).



Map 3 - Murray-Darling Basin temperature deciles for April 2017 (Source: Bureau of Meteorology)



River Murray system inflows during April (excluding Snowy Scheme, Darling River and managed environmental flows) totalled around 209 GL, which is above the month’s long-term median of 174 GL. In comparison with the historical record since 1891, only about 35% of previous monthly totals for April have been higher than the inflows observed in April 2017.

Estimated evaporation losses from MDBA storages for April 2017 are reported in Table 1. Evaporation is estimated by multiplying the surface area of the storage by the net evaporation. Net evaporation is derived by subtracting the rainfall recorded at the storage from this calculated evaporation. Rainfall during April resulted in net gains (negative evaporative loss) at Dartmouth and Hume storages.

Table 1 - Monthly evaporation figures for MDBA storages

Storage	*Approximate (net) evaporative loss in April 2017 (GL)	Average storage volume in April 2017 (GL)	Percentage net evaporative loss in April 2017
Dartmouth	-3	2999	-0.1
Hume	-2	1828	-0.1
Lake Victoria	4	333	1.3
Menindee Lakes	34	831	4.1

\* Evaporative loss from storage = surface area of the storage x net evaporation.

## River operations

- MDBA total storage now rising
- Continuing low system demands boost mid-river flows
- Weir pools at Euston, Lock 7 and Lock 8 to be refilled to full supply level

Total MDBA storage increased by 34 GL this week, with the active storage currently 5,289 GL (62% capacity). This is close to the long-term average for this time of year (Figure 1).

At **Dartmouth Reservoir**, the storage volume increased by 7 GL to 3,010 GL (78% capacity). The release from Dartmouth, measured at Colemans, was held at 200 ML/day throughout the week.

The **Hume Reservoir** storage volume increased by 31 GL this week and is currently 1,797 GL (60% capacity). Releases decreased during the week to 900 ML/day due to reduced demand and higher inflows from the Kiewa and Ovens Rivers. The release subsequently increased again to 2,000 ML/day late in the week as tributary inflows receded, and is expected to remain around this rate over the coming week.

At **Lake Mulwala** diversions to the Mulwala canal remained low, averaging around 650 ML/day. Diversions at Mulwala canal are expected to cease on Monday 8 May. At Yarrowonga Main Channel, diversions have currently ceased and are unlikely to increase significantly before the end of their irrigation season on 15 May. The pool level at Lake Mulwala is currently 124.85 m AHD and is likely to gradually reduce toward 124.7 m AHD in the coming week. The release downstream of **Yarrowonga Weir** was reduced to 4,000 ML/day during the week and is currently being maintained around this rate using environmental water. This environmental water is providing higher base flows whilst tributary inflows are low, and during a period (outside the irrigation season) when dam releases are historically targeting minimum flow requirements along the River Murray. The use of environmental water to vary the release at around 4,000 ML/day is expected to continue over May and June unless inflows from the Kiewa and Ovens Rivers boost flows above this rate.



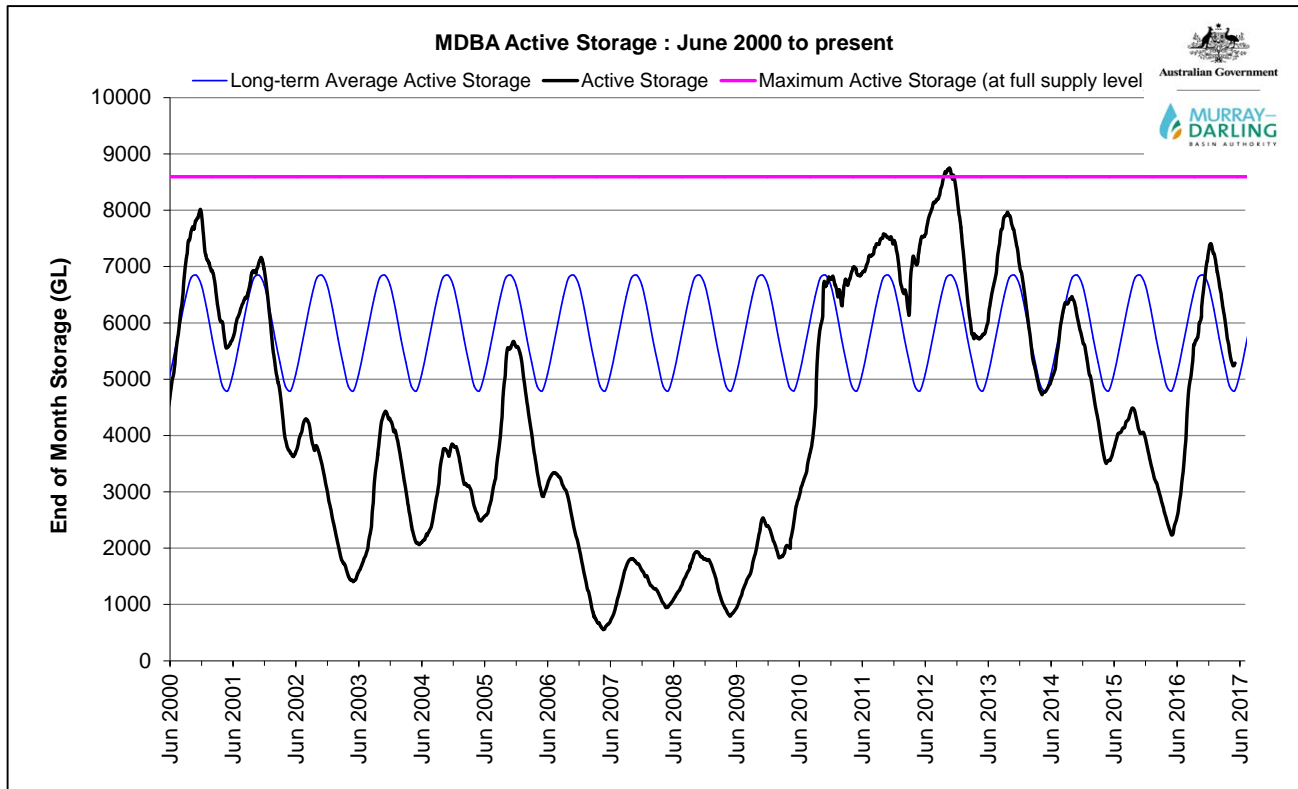


Figure 1 – MDBA active storage: June 2000 to present.

The Edward and Gulpa offtake gates were lifted clear of the water during the week. Inflows to the **Edward-Wakool** system can be expected to fluctuate in coming weeks in response to any changes in river levels downstream of Yarrowonga Weir. In response to falling River Murray levels, flow through the Edward River and Gulpa Creek offtakes has reduced and is currently around 790 ML/day and 220 ML/day respectively. At **Stevens Weir**, diversions to the Wakool Main Canal have remained low, averaging 180 ML/day, and are expected to cease on Monday 8 May. With inflows to the system reducing, water stored in the weir pool will be used to help meet demands over the final few days of the irrigation season. In response, the pool level is likely to be variable over the coming week. Releases downstream have fluctuated, averaging around 820 ML/day, and are expected to reduce to around 300 ML/day in the coming week. Inflows of around 600 ML/day from Billabong Creek are boosting flows on the Edward River at Moulamein to around 1,450 ML/day. On the Wakool River, the flow at Stoney Crossing has risen to 920 ML/day and is expected to remain around this rate during the coming week.

On the **Goulburn River**, flows at McCoys Bridge eased to around 1,300 ML/day. The flow is expected to reduce further, to around 940ML/day, in the coming week. On the **Campaspe River**, the flow at Rochester peaked at around 470 ML/day in response to rainfall last week and is currently 80 ML/day and receding.

At **Torrumbarry Weir**, the pool remains at the full supply level (FSL) of 86.05 m AHD. Beginning around mid-May, as part of the weir pool variability program, the weir pool is expected to be varied to a maximum planned lowering of around 50 cm below the FSL (for more information, visit the [MDBA website](#)). Demands in the Torrumbarry irrigation district remain low and diversions to National Channel are around 600 ML/day. The release downstream of the weir reduced during the week from a peak of around 8,200 ML/day to the current rate of 6,100 ML/day, and will continue to recede over the coming week.

Inflows from the **Murrumbidgee River** are rising in response to reduced demands resulting from recent rainfall. The flow at Balranald is currently 720 ML/day. The flow will continue to rise and is likely to remain above 1,000 ML/day over the coming week.

At **Euston Weir**, the pool level is currently 47.41 m AHD (19 cm below FSL). The pool level is now planned to be gradually refilled to the full supply level over the coming week as higher flows travel



downstream. Rather than holding the pool level low, surplus water resulting from the significant reduction in demand following rainfall late in April will be stored to maximise water availability ahead of the 2017-18 season. The flow rate downstream of the weir has increased to around 8,900 ML/day and is expected to peak above 10,000 ML/day in the coming week.

On the Darling River, the total storage volume in the **Menindee Lakes** reduced by 27 GL and is currently 789 GL (46% capacity). Inflows at low rates are continuing following rainfall in March. Earlier in the week, the Darling River peaked at Bourke at around 4,800 ML/day and later at Louth at around 2,900 ML/day. Releases from Menindee Lakes to the lower Darling River are currently around 400 ML/day. This release includes some environmental water aimed at maintaining cod habitat in the Lower Darling River. Releases from Lake Cawndilla have remained steady at around 1,100 ML/day as environmental flows continue to be delivered to the Great Darling Anabranch. Downstream on the Darling at Burtundy, the flow is gradually receding and is currently 500 ML/day

At the junction of the Darling and Murray rivers at **Wentworth** the flow is currently 8,200 ML/day and rising. Downstream of the weir, inflows from the **Great Darling Anabranch** are contributing around 800 ML/day.

At **Lock 7 and Lock 8** the pool levels are currently 82 cm and 93 cm (respectively) below their FSL as part of the weir pool variability program. These pool levels are also now planned to be gradually refilled to their full supply levels over the next two weeks as higher flows travel downstream. Raising the weir pool levels will allow replenishment flows to the Potterwalkagee Creek at Lock 8 and the upper Lindsay River at Lock 7.

**Lake Victoria's** storage increased by 23 GL this week to a volume of 367 GL (24.2 m AHD, 54% capacity). The storage will continue to rise over the coming weeks, however during May it will be limited to a maximum volume of 396 GL (24.5 m AHD) in accordance with the Lake Victoria Operating strategy. This strategy aims to protect the health of foreshore vegetation around the Lake in order to minimise the impact on its aboriginal heritage. The flow to **South Australia** is currently targeting around 4,600 ML/day and is expected to increase over the coming weeks. Downstream of **Lock 1** flows are around 4,400 ML/day.

At the **Lower Lakes**, the 5-day average water level in Lake Alexandrina has increased slightly to 0.61 m AHD. Barrage releases are continuing at low rates when conditions permit.

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

DAVID DREVERMAN  
Executive Director, River Management



## Water in Storage

Week ending Wednesday 03 May 2017

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	472.11	3 010	78%	71	2 939	+7
Hume Reservoir	192.00	3 005	185.07	1 797	60%	23	1 774	+31
Lake Victoria	27.00	677	24.22	367	54%	100	267	+23
Menindee Lakes		1 731*		789	46%	(480 #)	309	-27
<b>Total</b>		<b>9 269</b>		<b>5 963</b>	<b>64%</b>	<b>--</b>	<b>5 289</b>	<b>+34</b>
Total Active MDBA Storage							62% ^	

### Major State Storages

Burrinjuck Reservoir	1 026	657	64%	3	654	+1
Blowering Reservoir	1 631	1 052	65%	24	1 028	-4
Eildon Reservoir	3 334	2 188	66%	100	2 088	-2

\* Menindee surcharge capacity – 2050 GL

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

# NSW has sole access to water when the storage falls below 480 GL. MDBA regains access to water when the storage next reaches 640 GL.

^ % of total active MDBA storage

## Snowy Mountains Scheme

Snowy diversions for week ending 02 May 2017

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2017
Lake Eucumbene - Total	1 793	-12	Snowy-Murray	+16	10
Snowy-Murray Component	803	0	Tooma-Tumut	+5	
Target Storage	1 290		Net Diversion	10	10
			Murray 1 Release	+24	16

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

New South Wales	This Week	From 1 July 2016	Victoria	This Week	From 1 July 2016
Murray Irrig. Ltd (Net)	4.9	897	Yarrowonga Main Channel (net)	0.6	234
Wakool Sys Allowance	0.4	33	Torrumbarry System + Nyah (net)	0	423
Western Murray Irrigation	0.1	24	Sunraysia Pumped Districts	0.2	95
Licensed Pumps	2.6	246	Licensed pumps - GMW (Nyah+u/s)	1	33
Lower Darling	8.2	97	Licensed pumps - LMW	4.6	283
<b>TOTAL</b>	<b>16.2</b>	<b>1297</b>	<b>TOTAL</b>	<b>6.4</b>	<b>1068</b>

\* Figures are derived from actual and estimates where data is unavailable. 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 unregulated flows.

Entitlement this month	93.0 *	
Flow this week	30.6	(4 400 ML/day)
Flow so far this month	13.4	
Flow last month	172.8	

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

	Current	Average over the last week	Average since 1 August 2016
Swan Hill	180	160	110
Euston	110	110	-
Red Cliffs	180	170	170
Merbein	170	160	170
Burtundy (Darling)	580	560	590
Lock 9	250	230	220
Lake Victoria	210	210	200
Berri	490	480	280
Waikerie	450	440	340
Morgan	450	430	340
Mannum	530	530	350
Murray Bridge	590	410	310
Milang (Lake Alex.)	550	550	500
Poltalloch (Lake Alex.)	550	550	380
Meningie (Lake Alb.)	1 750	1 730	1 760
Goolwa Barrages	2 440	2 200	1 100



**River Levels and Flows**

**Week ending Wednesday 03 May 2017**

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	-	-	-	7 560	F	4 710	1 150
Jingellic	4.0	2.09	208.61	7 600	R	5 350	1 520
Tallandoon ( Mitta Mitta River )	4.2	1.38	218.27	550	F	620	620
Heywoods	5.5	1.75	155.38	1 710	R	1 160	5 140
Doctors Point	5.5	1.82	150.29	2 940	R	2 470	6 130
Albury	4.3	0.95	148.39	-	-	-	-
Corowa	4.6	0.89	126.91	2 540	F	3 560	8 090
Yarrawonga Weir (d/s)	6.4	0.74	115.78	3 950	F	4 660	6 460
Tocumwal	6.4	1.43	105.27	3 780	F	4 720	5 960
Torrumbarry Weir (d/s)	7.3	2.17	80.72	6 120	F	7 450	6 190
Swan Hill	4.5	1.56	64.48	8 400	F	8 070	5 100
Wakool Junction	8.8	3.62	52.74	9 870	R	8 920	5 530
Euston Weir (d/s)	9.1	1.84	43.68	8 850	R	7 920	5 870
Mildura Weir (d/s)	-	-	-	8 600	F	7 730	5 870
Wentworth Weir (d/s)	7.3	2.99	27.75	8 150	R	7 910	6 300
Rufus Junction	-	3.08	20.01	4 070	F	4 160	4 950
Blanchetown (Lock 1 d/s)	-	0.62	-	4 330	F	4 390	4 030
<b>Tributaries</b>							
Kiewa at Bandiana	2.8	1.15	154.38	740	F	1 100	480
Ovens at Wangaratta	11.9	8.11	145.79	900	F	1 400	650
Goulburn at McCoys Bridge	9.0	1.71	93.13	1 330	F	1 470	1 700
Edward at Stevens Weir (d/s)	5.5	1.12	80.89	790	F	820	980
Edward at Liewah	-	2.13	57.51	1 410	R	1 320	1 180
Wakool at Stoney Crossing	-	1.62	55.11	920	R	840	620
Murrumbidgee at Balranald	5.0	1.14	57.10	720	R	420	800
Barwon at Mungindi	6.1	3.55	-	960	F	1 000	910
Darling at Bourke	9.0	4.32	-	1 640	F	3 670	1 710
Darling at Burtundy Rocks	-	0.88	-	510	F	730	920

Natural Inflow to Hume (i.e. Pre Dartmouth & Snowy Mountains scheme)	2 540	1 650
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**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
Yarrawonga	124.90	-0.05	-	No. 7 Rufus River	22.10	-0.82	+0.75
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.03	+0.03
No. 15 Euston	47.60	-0.19	-	No. 5 Renmark	16.30	+0.03	+0.11
No. 11 Mildura	34.40	+0.07	+0.19	No. 4 Bookpurnong	13.20	+0.02	+0.50
No. 10 Wentworth	30.80	+0.01	+0.35	No. 3 Overland Corner	9.80	+0.04	+0.22
No. 9 Kulnine	27.40	-0.01	-0.90	No. 2 Waikerie	6.10	+0.07	+0.08
No. 8 Wangumma	24.60	-0.93	-0.65	No. 1 Blanchetown	3.20	-0.06	-0.13

**Lower Lakes FSL = 0.75 m AHD**

Lake Alexandrina average level for the past 5 days (m AHD)	0.61
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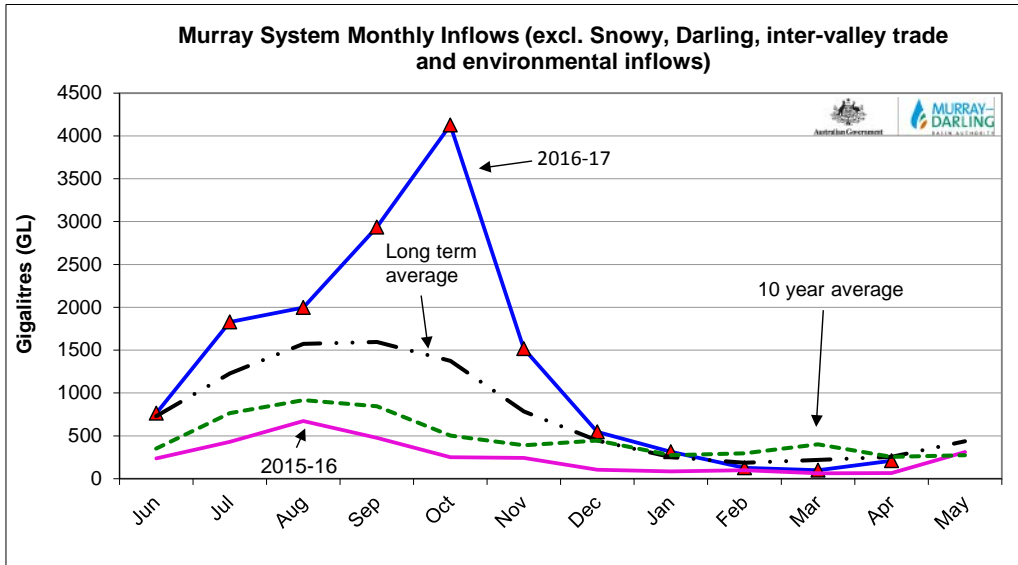
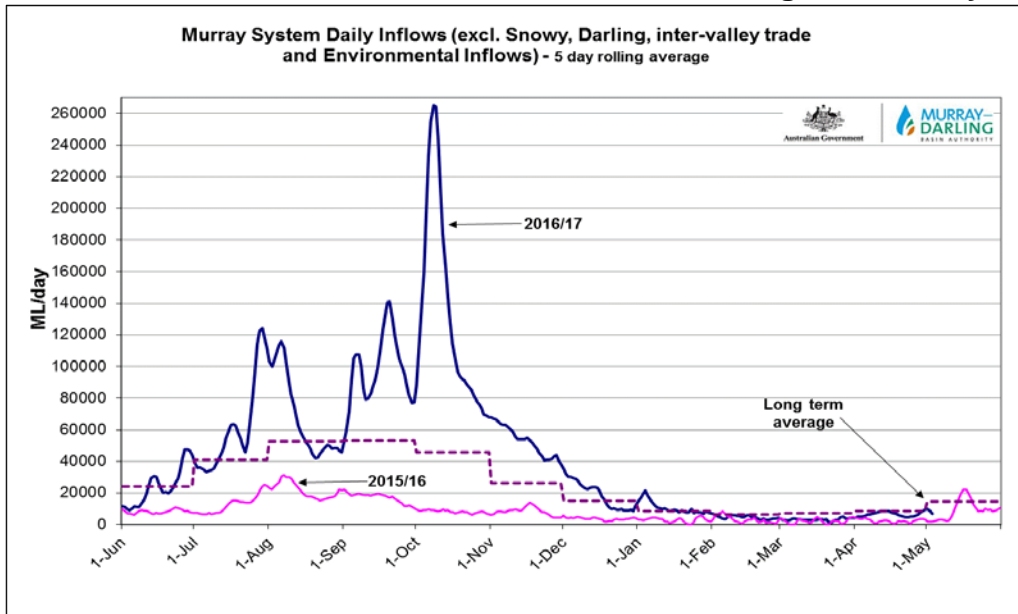
**Barrages**

**Fishways at Barrages**

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.63	All closed	-	Open	Open	-
Mundoo	26 openings	0.60	All closed	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	All closed	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwitchere	322 gates	0.62	All closed	Open	Open	Open	-

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





**State Allocations (as at 03 May 2017)**

**NSW - Murray Valley**

High security	100%
General security	100%

**Victorian - Murray Valley**

High reliability	100%
Low reliability	5%

**NSW - Murrumbidgee Valley**

High security	100%
General security	100%

**Victorian - Goulburn Valley**

High reliability	100%
Low reliability	0%

**NSW - Lower Darling**

High security	100%
General security	100%

**South Australia - Murray Valley**

High security	100%
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NSW : <http://www.water.nsw.gov.au/water-management/water-availability>  
 VIC : <http://nvrn.net.au/seasonal-determinations/current>  
 SA : <http://www.environment.sa.gov.au/managing-natural-resources/river-murray>