



# RIVER MURRAY WEEKLY REPORT

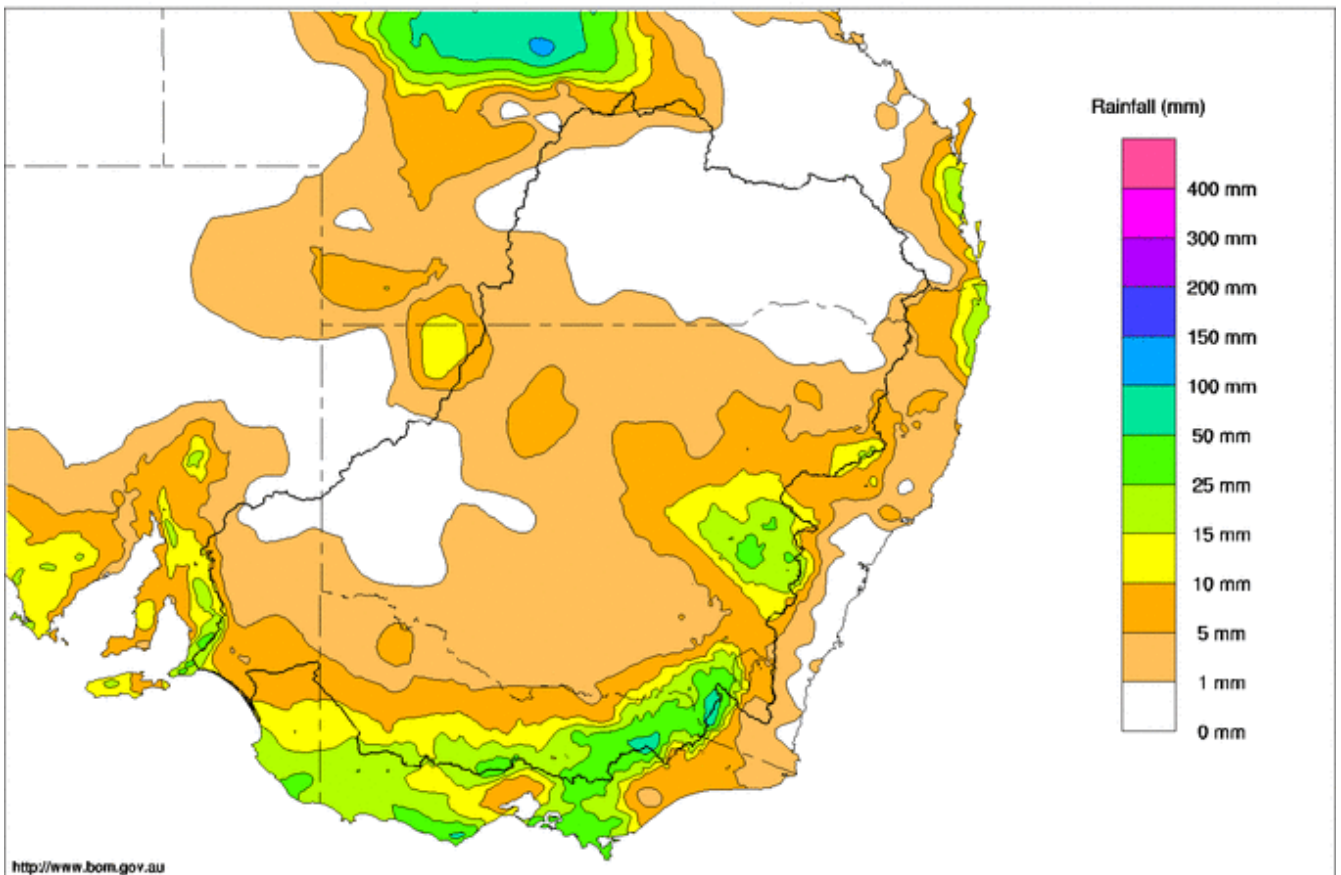
FOR THE WEEK ENDING WEDNESDAY, 15<sup>TH</sup> JUNE 2016

Trim Ref: D16/20328

## Rainfall and inflows

A series of cold fronts delivered moderate falls primarily to the southern Basin ranges (see Map 1), which built upon last week's heavier falls. In New South Wales, Orange received 42 mm of rain while further south in the upper Murrumbidgee catchment 61 mm was recorded at Cabramurra. In Victoria the highest totals were recorded in the north east, with 73 mm at Mount Buller while Lake William Hovell received 48 mm. In South Australia 28 mm was recorded in the Mont Lofty Ranges at Mount Compass.

Murray-Darling Rainfall Totals (mm) Week Ending 15th June 2016  
Australian Bureau of Meteorology



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Map 1 - Murray-Darling Basin rainfall week ending 15th June 2016 (Source: Bureau of Meteorology)

The upper catchment rainfall built upon the higher inflows resulting from heavy rainfall last week. Releases from Khancoban (Snowy scheme) into the Murray peaked above the Minor Flood Level at 12,700 ML/day, contributing to a downstream peak at Jingellic above 16,000 ML/day. On the Mitta Mitta River upstream of Dartmouth Reservoir, Hinnomunjie peaked near 4,500 ML/day.

This week inflows to the Murray system (excluding Snowy, Darling, inter-valley trade and environmental inflows) rose above the long-term average for this time of year, see page 7, however with storages at low levels significant and sustained follow-up rainfall will be needed to refill storages.



## River operations

- Dartmouth and Hume releases at minimums
- Torrumbarry Weir pool level remains 40 cm below FSL
- Blue-green algae red alerts remain for selected reaches

MDBA storage increased by 167 GL over the past week, with the active storage currently 2,834 GL (34% capacity).

At **Dartmouth** Reservoir, the storage volume increased by 28 GL to 1,747 GL (45% capacity). Releases, measured at Colemans, have remained near the minimum release of 200 ML/day.

The storage volume at **Hume** Reservoir increased by 105 GL to 907 GL (30% capacity). Much of this inflow has been from increased Snowy scheme releases owing to last week's rainfall. The release from Hume has remained at the minimum flow of 600 ML/day, and is expected to remain close to this flow for the remainder of June.

On the **Kiewa** River, this week's rainfall helped boost flows which resulted in Bandiana peaking at the Minor Flood Level of 2.80 m (4,200 ML/day) before receding, while on the **Ovens** River the flow past Wangaratta peaked at 8,500 ML/day.

Downstream at **Yarrowonga** Weir, the pool level has fluctuated between 124.7 and 124.8 m AHD. Given the higher inflows from the Kiewa and Ovens, the downstream release has been increased to 9,800 ML/day and is anticipated to gradually decline over the coming week. The release has remained below the downstream channel capacity (approximately 10,000 ML/day) to enable works in the Barmah and Millewa forests to proceed.

Flows through the **Edward** River and **Gulpa** Creek offtakes have increased to near 1,500 ML/day and 330 ML/day respectively. Further downstream at Stevens Weir the pool height is 1.6 m local gauge height, which is about 3.6 m below Full Supply level. The pool level is expected to continue falling over the coming weeks as WaterNSW draws the pool down over winter. The downstream release is currently near 1,150 ML/day and is expected to increase throughout the coming week.

The flow in the **Goulburn** River at McCoys Bridge has increased to 1,200 ML/day and is expected to peak near 1,300 ML/day before slowly receding. On the Murray at **Torrumbarry** Weir, the pool level remains around 40 cm below FSL with around 270 ML/day being diverted at National Channel to maintain a winter base flow in Gunbower Creek for the benefit of native fish. The flow downstream of Torrumbarry Weir is around 5,100 ML/day and is expected to rise during the coming week.

Inflow to the Murray from the **Murrumbidgee** River at Balranald receded to below 1,400 ML/day during the week before increasing to near 1,500 ML/day. The flow is expected to continue rising until early July when [translucent releases](#) from Burrinjuck Dam arrive.

The pool level at **Euston** Weir remains about 30 cm below FSL. The flow is currently around 7,800 ML/day and is expected to recede further over the next few days before increasing due to the combined upstream Murray and Murrumbidgee flows.

Low-level environmental watering of Lake Hawthorn continues in a bid to maintain a waterbird refuge, see Photo 1 & 2. The partial filling of the saline lake promotes the growth of certain aquatic plants which are an important food source for the many shorebirds and waterbirds currently found at the lake. More information is available on the Victorian Environmental Water Holder [website](#).



Photo 1 – Environmental water has been delivered to Lake Hawthorn near Mildura to provide a waterbird refuge. Photo - Mallee CMA.



Photo 2 - Black Winged Stilts flying over Lake Hawthorn. Photo – Mallee CMA.

At **Menindee** Lakes, the storage volume decreased by 1 GL and is now 47 GL (3% capacity). Releases to the lower Darling remain effectively nil.

The storage in **Lake Victoria** increased by another 35 GL during the week to 374 GL (55% capacity). The flow to South Australia has averaged near 2,800 ML/day with a similar flow targeted for the coming week.



Down at the **Lower Lakes**, the 5-day average water level in Lake Alexandrina has risen to 0.65 m AHD. Rough weather conditions have continued to impact operations, and as a result barrage gates have remained closed to limit sea water ingress due to strong winds and large swells.

Red alerts for **blue-green algae** remain in place along the Murray from Yarrawonga Weir downstream to Moama/Echuca and downstream of Red Cliffs to Lock 9. A red alert also remains in the Edward River upstream of Moulamein and upstream of the Wakool-Barham road bridge in the Wakool River. The alerts apply to the main channel of the rivers as well as many anabranches and connected lakes and wetlands. Non-toxic blue-green algae has also been detected in South Australian reaches of the Murray. More information is available from [NSW DPI](#), [Goulburn-Murray Water](#), [SA DEWNR](#) and the [MDBA website](#).

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

DAVID DREVERMAN  
Executive Director, River Management



**Water in Storage**

**Week ending Wednesday 15 Jun 2016**

MDBA Storages	Full Supply Level	Full Supply Volume	Current Storage Level	Current Storage		Dead Storage	Active Storage	Change in Total Storage for the Week
	(m AHD)	(GL)	(m AHD)	(GL)	%	(GL)	(GL)	(GL)
Dartmouth Reservoir	486.00	3 856	445.99	1 747	45%	71	1 676	+28
Hume Reservoir	192.00	3 005	177.95	907	30%	23	884	+105
Lake Victoria	27.00	677	24.29	374	55%	100	274	+35
Menindee Lakes		1 731*		47	3%	(- -) #	0	-1
<b>Total</b>		<b>9 269</b>		<b>3 075</b>	<b>33%</b>	<b>--</b>	<b>2 834</b>	<b>+167</b>
Total Active MDBA Storage							34% ^	

**Major State Storages**

Burrinjuck Reservoir	1 026	482	47%	3	479	-3
Blowering Reservoir	1 631	972	60%	24	948	+31
Eildon Reservoir	3 334	1 106	33%	100	1 006	+31

\* 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 14 Jun 2016

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2016
Lake Eucumbene - Total	1 349	+41	Snowy-Murray	+13	127
Snowy-Murray Component	868	+25	Tooma-Tumut	+14	37
Target Storage	1 240		Net Diversion	-1	91
			Murray 1 Release	+28	171

**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)	-0.1	442	Yarrowonga Main Channel (net)	0	247
Wakool Sys Allowance	0.0	91	Torrumbarry System + Nyah (net)	1.3	498
Western Murray Irrigation	0.0	20	Sunraysia Pumped Districts	0	105
Licensed Pumps	0.9	204	Licensed pumps - GMW (Nyah+u/s)	0.3	49
Lower Darling	0.1	11	Licensed pumps - LMW	1.2	300
<b>TOTAL</b>	<b>0.9</b>	<b>768</b>	<b>TOTAL</b>	<b>2.8</b>	<b>1199</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 Lower than normal for this month due to SA entitlement deferral.

Entitlement this month	90.0 *
Flow this week	19.9
Flow so far this month	43.4
Flow last month	91.8

(2 800 ML/day)

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

	Current	Average over the last week	Average since 1 August 2015
Swan Hill	50	50	70
Euston	90	100	100
Red Cliffs	120	110	120
Merbein	110	110	120
Burtundy (Darling)	1 640	1 610	1 310
Lock 9	110	100	120
Lake Victoria	130	190	200
Berri	280	290	220
Waikerie	330	330	270
Morgan	280	270	260
Mannum	300	300	310
Murray Bridge	320	320	330
Milang (Lake Alex.)	840	850	800
Poltalloch (Lake Alex.)	770	700	680
Meningie (Lake Alb.)	2 080	2 060	2 110
Goolwa Barrages	5 590	6 510	1 960



**River Levels and Flows**

**Week ending Wednesday 15 Jun 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	-	-	-	6 600	F	8 210	7 570
Jingellic	4.0	2.41	208.93	10 770	R	12 920	8 430
Tallandoon ( Mitta Mitta River )	4.2	1.61	218.50	1 010	F	1 250	900
Heywoods	5.5	1.47	155.10	600	S	600	600
Doctors Point	5.5	1.89	150.36	3 370	F	3 610	2 280
Albury	4.3	1.00	148.44	-	-	-	-
Corowa	4.6	1.20	127.22	3 720	F	3 230	2 350
Yarrawonga Weir (d/s)	6.4	1.60	116.64	9 710	F	7 450	4 560
Tocumwal	6.4	2.11	105.95	9 100	R	6 320	4 810
Torrumbarry Weir (d/s)	7.3	1.77	80.32	5 140	R	4 760	4 680
Swan Hill	4.5	0.95	63.87	4 320	F	4 540	4 260
Wakool Junction	8.8	2.66	51.78	6 620	F	6 710	7 080
Euston Weir (d/s)	9.1	1.57	43.41	7 790	F	7 960	9 420
Mildura Weir (d/s)	-	-	-	7 490	F	8 290	9 330
Wentworth Weir (d/s)	7.3	2.94	27.70	6 950	F	7 850	8 810
Rufus Junction	-	2.79	19.72	2 490	S	2 510	2 580
Blanchetown (Lock 1 d/s)	-	0.59	-	2 560	S	2 660	2 840
<b>Tributaries</b>							
Kiewa at Bandiana	2.8	2.41	155.64	2 880	F	3 270	1 640
Ovens at Wangaratta	11.9	9.67	147.35	5 450	F	6 250	1 960
Goulburn at McCoys Bridge	9.0	1.66	93.08	1 220	R	860	720
Edward at Stevens Weir (d/s)	5.5	1.33	81.10	1 150	F	1 190	1 110
Edward at Liewah	-	2.13	57.51	1 410	R	1 360	1 490
Wakool at Stoney Crossing	-	1.44	54.94	470	F	590	830
Murrumbidgee at Balranald	5.0	1.87	57.83	1 490	R	1 410	1 860
Barwon at Mungindi	6.1	3.09	-	0	F	0	10
Darling at Bourke	9.0	3.89	-	0	F	0	0
Darling at Burtundy Rocks	-	0.60	-	0	F	0	0

Natural Inflow to Hume (i.e. Pre Dartmouth & Snowy Mountains scheme)	15 040	7 460
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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	-0.09	-	No. 7 Rufus River	22.10	-0.00	+0.47
No. 26 Torrumbarry	86.05	-0.40	-	No. 6 Murtho	19.25	-0.05	-0.02
No. 15 Euston	47.60	-0.30	-	No. 5 Renmark	16.30	+0.03	+0.13
No. 11 Mildura	34.40	+0.02	+0.16	No. 4 Bookpurnong	13.20	+0.05	+0.30
No. 10 Wentworth	30.80	+0.01	+0.30	No. 3 Overland Corner	9.80	+0.02	+0.15
No. 9 Kulnine	27.40	-0.01	-0.05	No. 2 Waikerie	6.10	+0.06	+0.00
No. 8 Wangumma	24.60	-0.02	+0.02	No. 1 Blanchetown	3.20	-0.08	-0.16

**Lower Lakes FSL = 0.75 m AHD**

Lake Alexandrina average level for the past 5 days (m AHD)	0.64
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**Barrages**

**Fishways at Barrages**

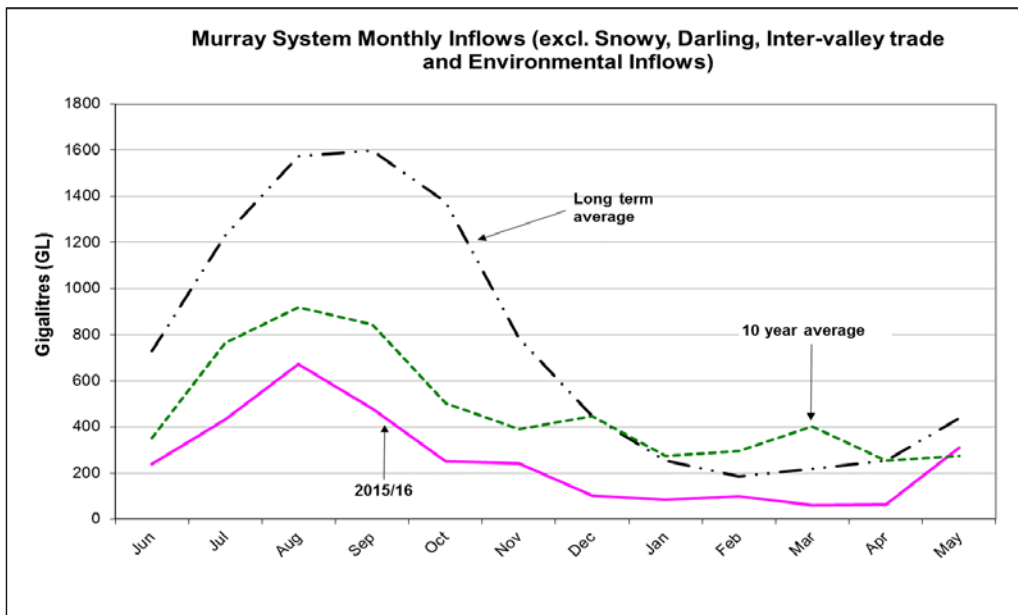
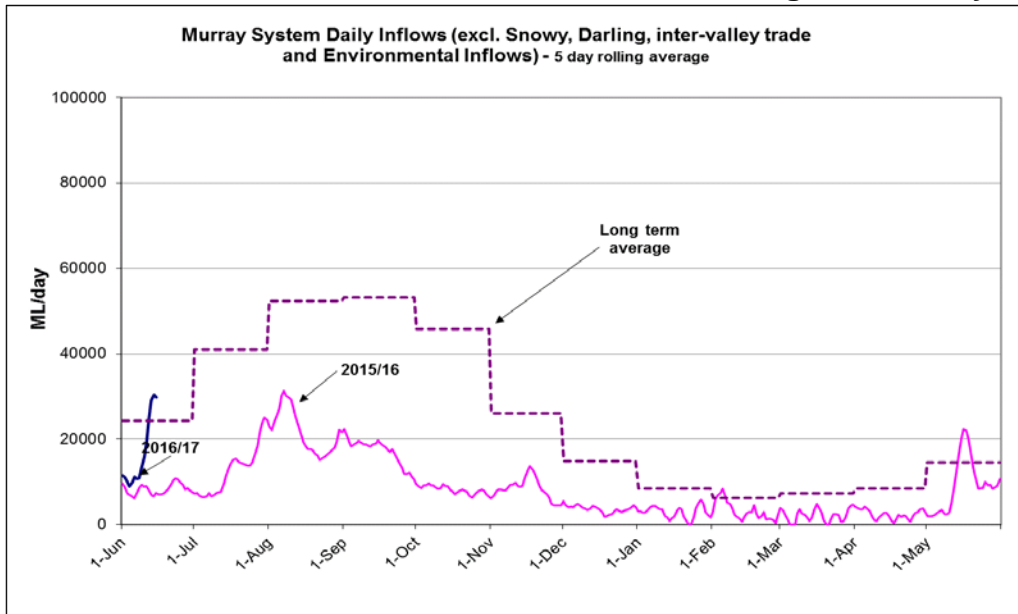
	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.69	All closed	-	Open	Open	-
Mundoo	26 openings	0.67	All closed	-	-	-	Closed
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	All closed	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwicheere	322 gates	0.72	All closed	Open	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 15 Jun 2016**



**State Allocations (as at 15 Jun 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	37%

**Victorian - Goulburn Valley**

High reliability	90%
Low reliability	0%

**NSW - Lower Darling**

High security	80%
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.nvrn.net.au/allocations/current.aspx>
- SA : <http://www.environment.sa.gov.au/managing-natural-resources/river-murray>