



RIVER MURRAY WEEKLY REPORT

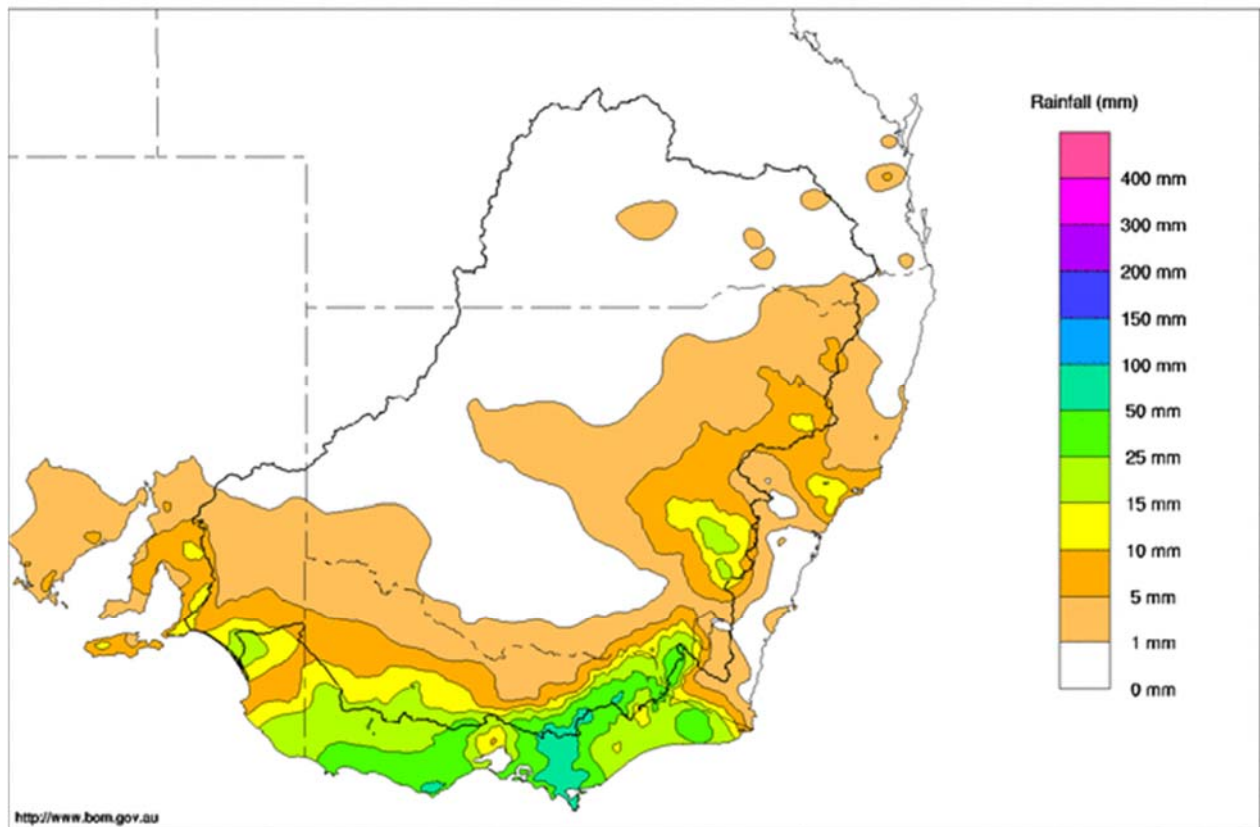
FOR THE WEEK ENDING WEDNESDAY, 20 SEPTEMBER 2017

Trim Ref: D17/32758

Rainfall and inflows

A ridge of high pressure maintained mostly dry conditions in the northern Basin, while in the south a series of cold fronts delivered modest rainfall to the southern ranges (Map 1). The heaviest falls were in the Victorian alpine ranges where Rocky Valley and Mt Buller recorded 94 mm and 83 mm for the week respectively, while in New South Wales 67 mm was recorded at Perisher Valley AWS. In South Australia, the highest weekly total was 18 mm at Meningie. Negligible rain fell in the Queensland portion of the Basin this week.

Murray-Darling Rainfall Totals (mm) Week Ending 20th September 2017
Australian Bureau of Meteorology



Map 1 - Murray-Darling Basin rainfall map week ending 20 September 2017 (Source: Bureau of Meteorology).

This week's rainfall provided minor streamflow responses in the upper Murray tributaries. Hinnomunjie, on the upper Mitta Mitta River averaged near 1,300 ML/day last week before increasing to an average of 2,300 ML/day this week. On the upper Murray, Biggara increased from 1,500 ML/day to around 2,000 ML/day and has since fallen to 1,700 ML/day. The Ovens River at Wangaratta increased from 5,600 ML/day to a peak near 7,000 ML/day and is now back below 6,400 ML/day. With little [rainfall forecast](#) (as at 20 September), upper Murray tributaries are expected to further recede over the coming days.



River operations

- Goulburn pulse to reach the Murray this week
- Lake Victoria nearing capacity
- Weir pools at Locks 15, 9, 8, 7, 5 and 2 remain surcharged above the FSL

MDBA total active storage rose by 65 GL this week to an active storage of 6,607 GL or 77%.

At **Dartmouth Reservoir**, the storage volume increased by 26 GL to 3,217 GL (83% capacity). The release from Dartmouth, measured at Coleman's gauge, is continuing at the minimum rate of 200 ML/day.

At **Hume Reservoir** the storage increased by 14 GL to 2,736 GL (91% capacity) with downstream releases averaging around 5,800 ML/day. If conditions along the Murray remain relatively dry and downstream demands continue to climb, regulated releases from Hume will increase. This could see Hume storage level on the downward trend in the coming fortnight.

However, with Hume near full, one or two substantial rainfall events in the upper catchments could dampen demands and trigger the need to create airspace at Hume. MDBA is continuing to closely monitor rainfall forecasts from the Bureau of Meteorology (BoM) and forecast downstream demands to determine if and when higher releases for 'airspace management' at Hume Reservoir are required. Airspace management releases can be made to provide flood protection if filling of the reservoir is assured when demand exceeds inflows. For further information on [airspace management](#) at Hume Reservoir, visit MDBA's website. Subscribers to [WaterNSW's EWN](#) will receive a notification of any changes to the release from Hume Dam when the flow at Doctors Point is greater than 25,000 ML/day.

At **Yarrowonga Weir**, diversions at the major irrigation offtakes have steadied after increasing last week. At Yarrowonga Main Channel, diversions averaged 1,900 ML/day while at Mulwala Canal, diversions have averaged 4,000 ML/day. The pool level in **Lake Mulwala** is currently around 124.8 m AHD. The downstream release has been temporarily increased from 8,500 ML/day to 8,800 ML/day for a few days to provide some slight variability in downstream river levels. A portion of the release is being used to improve connectivity between the River Murray and flood runners in the **Barmah-Millewa** forest for the benefit of native fish and vegetation.

Still in the Murray, water levels at Picnic Point increased around 8 cm this week. Flows through the Edward offtake increased to around 1,550 ML/day and Gulpa Creek offtake continues to regulate a flow around 350 ML/day. The flow on the **Edward River** at Toonalook has slowly reduced to around 2,600 ML/day as returns from the Millewa forest, brought about by overbank flows in mid-August, continue to slowly recede.

At **Stevens Weir**, irrigation demand at Wakool Main Canal has increased from 340 ML/day to 600 ML/day. The release downstream of the weir has decreased from 1,650 ML/day to 1,300 ML/day and is expected to decrease further in the coming days.

The **Goulburn River** at McCoy's bridge slowly receded from 1,450 ML/day to below 1,250 ML/day before rising on Wednesday 20 September to 1,700 ML/day. Flows will continue rising over the next week as [a pulse of water](#) is delivered on behalf of environmental water holders to benefit bank-stabilising vegetation in the lower Goulburn River. A release rate peaking around 8,500 ML/day downstream of Goulburn Weir is expected later in the coming week. In response to this flow pulse from the Goulburn River, [river levels on the Murray](#) in the Echuca district and downstream are expected to vary in the coming weeks.



Photo 1 – Flows at McCoys Bridge (pictured – looking upstream) will increase this week as a pulse of water released on behalf of environmental water holders moves down the Goulburn River and into the Murray. Photo: Hugo Bowman, MDBA

The **Torrumbarry** weir pool has been held at 5 cm below full supply level (FSL), but is now being gradually returned to FSL (86.05 m AHD). Diversions at National Channel have almost doubled this week to 3,300 ML/day and may increase further in the coming days. The increased diversions are helping to meet large irrigation demands throughout the Torrumbarry Irrigation System and are also being used to rebuild storage levels in Kow Swamp (Photo 2), which was drawn upon during the week. The release from Torrumbarry Weir has continued to reduce this week, and has fallen from around 7,000 ML/day to the current flow near 3,400 ML/day. In the coming days the flow will increase in response to the increased flows coming out of the Goulburn River.

Downstream at **Swan Hill**, the flow has receded to around 4,200 ML/day and will continue to fall until the Goulburn pulse begins to arrive later in the coming week. Further downstream, inflows to the Murray from the **Wakool** River are receding after Kyalite peaked around 4,500 ML/day a week ago. The Murray at Wakool Junction has fallen from close to 14,000 ML/day to below 9,000 ML/day and will continue falling this coming week. Inflows from the **Murrumbidgee** River are relatively steady, with the flow at Balranald around 1,350 ML/day.



Photo 2 – The level at Kow Swamp (pictured) fell during the week as the storage was drawn upon to meet increasing irrigation demands. Photo: Hugo Bowman, MDBA.

At **Euston** weir, the pool level is 47.90 m AHD (30 cm above FSL). The pool level is expected to vary around this level in the coming week. The pool level is being varied above the FSL as part of the [weir pool variability program](#). The downstream release has reduced from 14,400 ML/day to 11,200 ML/day and will fall towards 6,000 ML/day over the coming week.

On the **Darling River**, the flow at Bourke has receded to below 100 ML/day. Downstream at the **Menindee Lakes**, the total storage volume decreased by 16 GL to 684 GL (40% capacity). Releases from Menindee Lakes to the Lower Darling River at Weir 32 continue to target 400 ML/day. This is above the normal minimum of 200 ML/day at this time of year. The additional water is being released by WaterNSW on behalf of environmental water holders to benefit native fish in the lower Darling River. A blue-green algae red alert remains in place for Lake Menindee, Weir 32 and the Lower Darling River immediately downstream. See the [WaterNSW website](#) for more details.

At the junction of the Darling and the Murray, the release from **Wentworth** Weir averaged 14,000 ML/day and is expected to fall below 9,000 ML/day this coming week.

Lock 9 is currently around 20 cm above the FSL of 27.4 m AHD. The pool level has been raised to maximise the volume of water diverted via Frenchmans Creek into Lake Victoria. Tributary inflows from upstream on the Murray, which occurred following rainfall in mid-August, are currently being stored in Lake Victoria. The capture and storage of these inflows is part of normal operations to assist in the supply of downstream demands over summer and autumn. At **Lake Victoria**, the storage volume increased by 40 GL to 644 GL (95% capacity), with operations at Lake Victoria predicting the storage to be effectively full by the end of September.



Operations at **Lock 7** and **8** continue to target respective weir pool heights around 30 cm and 50 cm above FSL over the coming week. The pool levels at these weirs are being varied as part of the weir pool variability program. Varying pool levels helps restore a more natural wetting and drying cycle to riverbanks and adjacent wetlands within the influence of the weir pool.

The flow to **South Australia** averaged 6,600 ML/day this week but is expected to gradually decrease towards 4,500 ML/day over the coming week. Flows are expected to increase in October as the Goulburn pulse is delivered into South Australia.

The **Lock 5** and **2** weir pools remain surcharged, targeting 45 cm and 50cm (respectively) above FSL. Depending on flow conditions, it is anticipated that these pools will remain around these levels until mid-October, before being gradually lowered to their normal operating levels.

At the **Lower Lakes**, the 5-day average water level in Lake Alexandrina is 0.81 m AHD. Releases through the barrages are continuing when conditions in the Coorong allow, with releases being prioritised at Tauwitchere and Goolwa.

For media inquiries contact the Media Officer on 02 6279 0141

ANDREW REYNOLDS
Executive Director, River Management



Water in Storage

Week ending Wednesday 20 Sep 2017

MDBA Storages	Full Supply Level	Full Supply Volume	Current Storage Level	Current Storage		Dead Storage (GL)	Active Storage (GL)	Change in Total Storage for the Week (GL)
	(m AHD)	(GL)	(m AHD)	(GL)	%			
Dartmouth Reservoir	486.00	3 856	475.71	3 217	83%	71	3 146	+26
Hume Reservoir	192.00	3 005	190.62	2 736	91%	23	2 713	+14
Lake Victoria	27.00	677	26.73	644	95%	100	544	+40
Menindee Lakes		1 731*		684	40%	(480 #)	204	-16
Total		9 269		7 281	79%	--	6 607	+65
Total Active MDBA Storage							77% ^	

Major State Storages

Burrinjuck Reservoir	1 026	629	61%	3	626	+9
Blowering Reservoir	1 631	1 321	81%	24	1 297	-31
Eildon Reservoir	3 334	2 423	73%	100	2 323	+58

* 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 19 Sep 2017

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2017
Lake Eucumbene - Total	1 369	+42	Snowy-Murray	+0	505
Snowy-Murray Component	569	+17	Tooma-Tumut	+12	94
Target Storage	1 240		Net Diversion	-12	412
			Murray 1 Release	+9	601

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2017	Victoria	This Week	From 1 July 2017
Murray Irrig. Ltd (Net)	31.0	96	Yarrowonga Main Channel (net)	13.3	29
Wakool Sys Allowance	0.0	6	Torrumbarry System + Nyah (net)	0.1	13
Western Murray Irrigation	0.3	2	Sunraysia Pumped Districts	1.6	8
Licensed Pumps	7.1	19	Licensed pumps - GMW (Nyah+u/s)	1	4
Lower Darling	3.7	15	Licensed pumps - LMW	4.6	22
TOTAL	42.1	138	TOTAL	20.6	76

* 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 environmental flows.

Entitlement this month	135.0 *	
Flow this week	46.2	(6 600 ML/day)
Flow so far this month	144.0	
Flow last month	190.0	

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

	Current	Average over the last week	Average since 1 August 2017
Swan Hill	110	110	130
Euston	100	120	150
Red Cliffs	210	160	190
Merbein	150	150	170
Burtundy (Darling)	690	700	690
Lock 9	160	160	180
Lake Victoria	240	230	250
Berri	310	300	310
Waikerie	350	370	360
Morgan	400	400	380
Mannum	360	380	430
Murray Bridge	460	460	510
Milang (Lake Alex.)	570	580	570
Poltalloch (Lake Alex.)	680	640	570
Meningie (Lake Alb.)	1 530	1 540	1 540
Goolwa Barrages	880	1 030	1 720



River Levels and Flows

Week ending Wednesday 20 Sep 2017

	Minor Flood Stage	Gauge Height		Flow (ML/day)	Trend	Average Flow this Week (ML/day)	Average Flow last Week (ML/day)
		local (m)	(m AHD)				
River Murray	(m)						
Khancoban	-	-	-	2 500	F	2 490	2 430
Jingellic	4.0	1.97	208.49	6 700	F	6 610	6 370
Tallandoon (Mitta Mitta River)	4.2	1.74	218.63	1 430	F	1 440	1 340
Heywoods	5.5	2.10	155.73	5 040	R	5 820	5 500
Doctors Point	5.5	2.43	150.90	8 220	R	8 730	7 920
Albury	4.3	1.40	148.84	-	-	-	-
Corowa	4.6	1.92	127.94	7 500	F	8 460	8 240
Yarrowonga Weir (d/s)	6.4	1.53	116.57	8 820	S	8 620	8 410
Tocumwal	6.4	2.14	105.98	8 020	R	7 980	7 680
Torrumbarry Weir (d/s)	7.3	1.38	79.93	3 370	F	4 350	9 270
Swan Hill	4.5	0.98	63.90	4 250	F	6 220	10 240
Wakool Junction	8.8	3.37	52.49	8 830	F	11 350	13 880
Euston Weir (d/s)	9.1	2.21	44.05	11 210	F	12 820	14 240
Mildura Weir (d/s)	-	-	-	13 300	F	13 900	14 150
Wentworth Weir (d/s)	7.3	3.42	28.18	13 220	S	14 040	14 440
Rufus Junction	-	3.40	20.33	5 930	F	6 080	6 160
Blanchetown (Lock 1 d/s)	-	0.79	-	5 220	R	4 440	5 930
Tributaries							
Kiewa at Bandiana	2.8	2.34	155.57	2 630	F	2 490	2 070
Ovens at Wangaratta	11.9	9.91	147.59	6 350	F	6 280	5 820
Goulburn at McCoys Bridge	9.0	1.93	93.35	1 730	R	1 360	1 430
Edward at Stevens Weir (d/s)	5.5	1.55	81.32	1 310	F	1 410	2 310
Edward at Liewah	-	2.34	57.72	1 670	F	1 990	2 440
Wakool at Stoney Crossing	-	1.80	55.29	1 530	F	1 810	1 840
Murrumbidgee at Balranald	5.0	1.83	57.79	1 350	S	1 330	1 250
Barwon at Mungindi	6.1	3.19	-	90	F	140	340
Darling at Bourke	9.0	4.01	-	90	R	110	180
Darling at Burtundy Rocks	-	0.78	-	240	S	260	230

Natural Inflow to Hume	13 330	11 720
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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	-0.11	-	No. 7 Rufus River	22.10	+0.51	+1.08
No. 26 Torrumbarry	86.05	-0.03	-	No. 6 Murtho	19.25	+0.05	+0.47
No. 15 Euston	47.60	+0.30	-	No. 5 Renmark	16.30	+0.46	+0.21
No. 11 Mildura	34.40	-0.02	+0.50	No. 4 Bookpurnong	13.20	+0.04	+0.79
No. 10 Wentworth	30.80	+0.04	+0.78	No. 3 Overland Corner	9.80	+0.03	+0.70
No. 9 Kulnine	27.40	+0.20	+0.34	No. 2 Waikerie	6.10	+0.53	+0.14
No. 8 Wangumma	24.60	+0.30	+0.62	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)	0.81
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Barrages

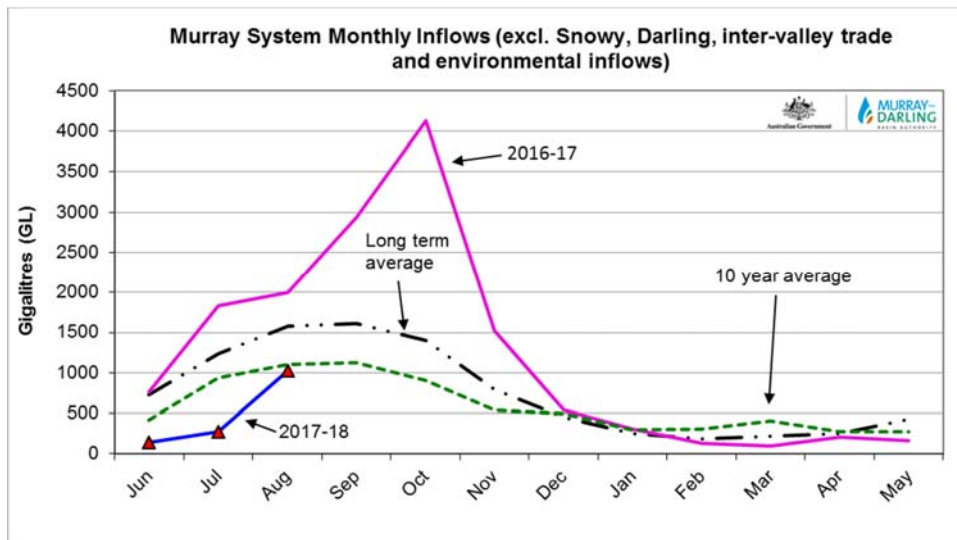
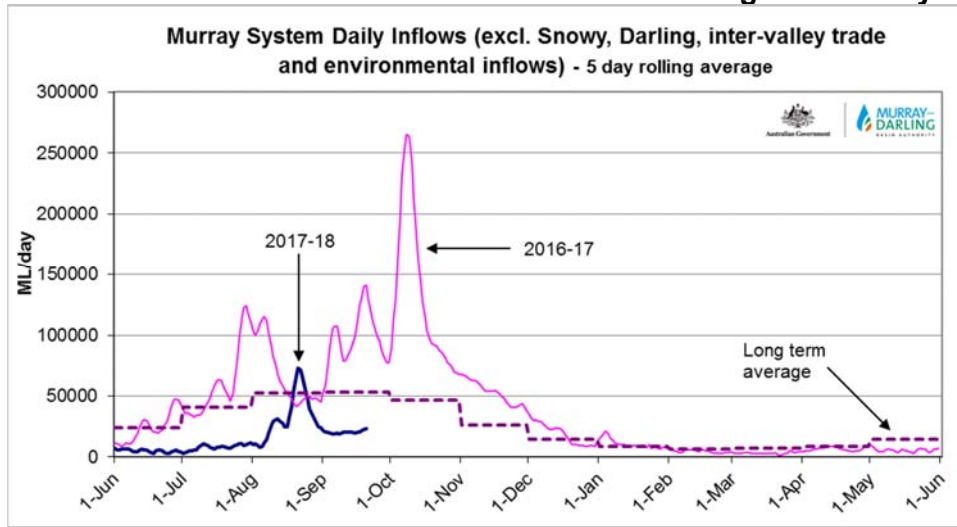
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.88	2	-	Open	Open	-
Mundoo	26 openings	0.86	1	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	1	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwitchere	322 gates	0.91	3	Open	Open	Open	-

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



Week ending Wednesday 20 Sep 2017



State Allocations (as at 20 Sep 2017)

NSW - Murray Valley

High security	97%
General security	20%

Victorian - Murray Valley

High reliability	98%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	33%

Victorian - Goulburn Valley

High reliability	71%
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>