



RIVER MURRAY WEEKLY REPORT

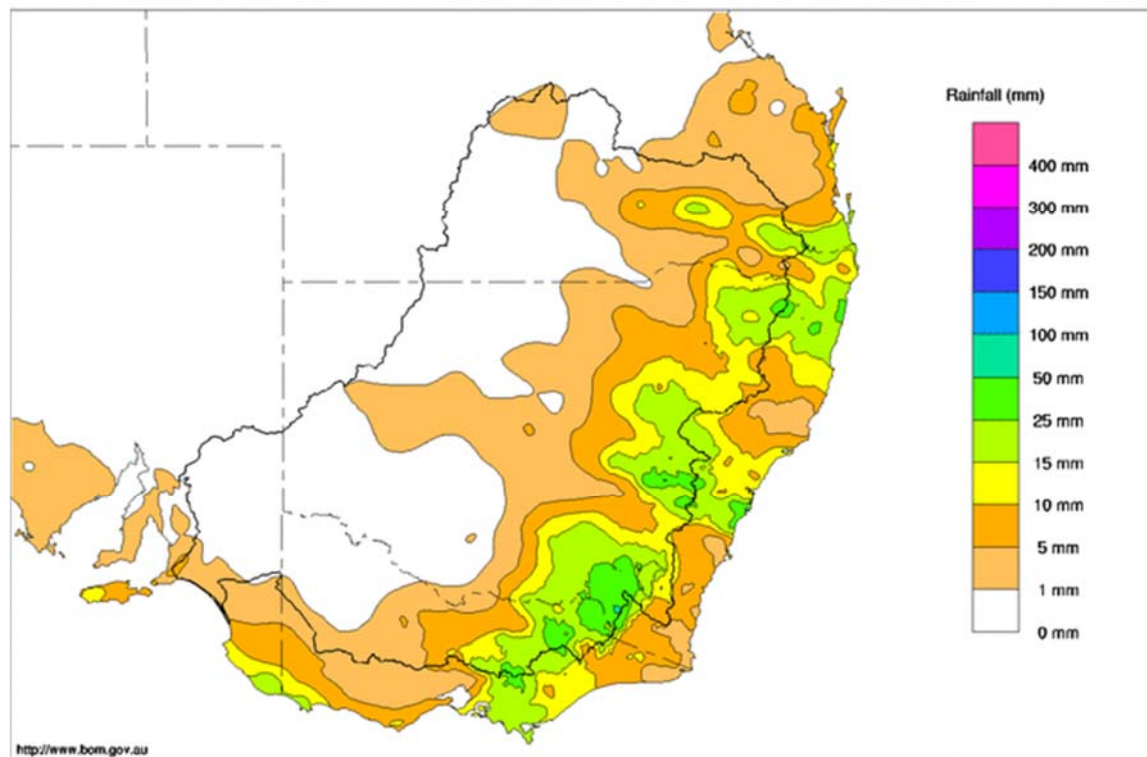
FOR THE WEEK ENDING WEDNESDAY, 12TH SEPTEMBER 2018

Trim Ref: D18/44278

Rainfall and inflows

For the week ending 12th September moderate rainfall totalling 30-50 mm was observed in areas of eastern New South Wales and north eastern Victoria (map 1). The highest Victorian rainfall totals were 54 mm at Mount Buffalo, 40 mm at Rocky Valley and 38 mm at Mount Hotham. The highest New South Wales rainfall totals were 35 mm at Orange, 32 mm at Khancoban and 29 mm at Adelong. Little or no rain fell in western or north-western parts of the Basin.

Murray-Darling Rainfall Totals (mm) Week Ending 12th September 2018
Australian Bureau of Meteorology



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Map 1 - Murray-Darling Basin rainfall map week ending 12th September 2018 (Source: Bureau of Meteorology).

Following the rainfall late last week, the flow in the upper Mitta Mitta River at Hinnomunjie increased to just over 2,700 ML/day before receding to 1,900 ML/day. However, since then the flow at Hinnomunjie has increased again and reached a flow of 2,400 ML/day despite no further rain. This is likely due to snow melt from alpine areas in the upper catchment increasing under the springtime sunshine and milder temperatures of recent days, temporarily boosting flows. Similarly the upper Murray at Biggara increased to 1,800 ML/day following rainfall before receding to 1,300 ML/day, but has since increased slightly to 1,400 ML/day.

Downstream of Hume Reservoir, inflows from the Kiewa River increased to around 2,850 ML/day before receding to the current flow of 2,300 ML/day. Flow in the Ovens River at Wangaratta peaked at 6,000 ML/day over the weekend and has now receded to 4,300 ML/day.



River operations

- Water being transferred from Dartmouth Reservoir to Hume Reservoir
- Transfers boosted from Hume Reservoir to Lake Victoria
- Inter Valley Trade (IVT) delivery from Goulburn system to the Murray continues

MDBA active storage increased by 12 GL this week to 5,510 (59% capacity).

The storage volume at **Dartmouth Reservoir** decreased by 19 GL to 3,406 GL (88% capacity). The release, measured at Colemans gauge, averaged 6,400 ML/day this week as water continues to be transferred to Hume Reservoir ahead of expected higher system demands in the coming months. As a result of the ongoing dry conditions, the release is planned to increase to 8,000 ML/day over the coming days. Looking further ahead, transfers are [likely to continue](#) for the coming months and will deliver flows at Tallandoon that may vary up to channel capacity (approximately 3.4m local gauge height).

The storage volume at **Hume Reservoir** increased by 25 GL this week to 1,592 GL (53% capacity). The release averaged 10,500 ML/day and is currently 11,300 ML/day. The release is expected to continue around this rate over the coming week.

At **Lake Mulwala** the level is currently 124.77 m AHD, which is within the normal operating range. Diversions into Mulwala Canal increased from 2,000 ML/day to 3,500 ML/day and are expected to remain around this rate over the coming week. This increase was in part due to an MDBA order issued to increase flows downstream of Stevens Weir towards channel capacity. Murray Irrigation and WaterNSW have reached an interim agreement to allow the MDBA access to flow capacity through the Edward Escape via Mulwala Canal. This has enabled flows to be boosted along the Edward River that will help meet overall downstream requirements in the coming months. Diversions to Yarrawonga Main Channel increased from 1,050 ML/day to around 1,300 ML/day and are forecast to remain around this rate over the coming days.

The release from **Yarrawonga Weir** increased to 13,000 ML/day this week and is expected to remain at relatively high rates over coming weeks. This increase has been undertaken to boost transfers to Lake Victoria and help prepare the system to meet expected demands over summer and into autumn. To deliver water at this rate, a component of the flow is being passed through pre-wetted anabranch channels that can transfer water efficiently around the Barmah Choke. This action is also continuing to provide connectivity between the river and forest channels benefiting native fish.

Flow at the **Edward River** offtake is currently 1,580 ML/day and will fluctuate around this rate over the coming week. At the **Gulpa Creek** offtake, the flow is targeting the maximum regulated rate of 350 ML/day. Downstream, return flows from the Millewa Forest are contributing to the flow at Toonalook which is currently around 3,000 ML/day. Diversion into Wakool Main Canal averaged 470 ML/day, while the Wakool, Yallakool and Colligen offtakes are currently passing around 70, 470 and 380 ML/day respectively. Water is currently being released from the Wakool escape on behalf of environmental water holders to target a flow pulse in the Wakool River of around 800 ML/day downstream of the junction with the Yallakool Creek. The flow downstream of **Stevens Weir** averaged 1,900 ML/day but is now targeting 2,500 ML/day. As mentioned above, this flow target is being achieved as a result of additional water now flowing through the Edward Escape and will continue over the coming weeks to help transfer additional water along the Edward River to Lake Victoria and the lower Murray system.

Inflow to the Murray from the **Goulburn River**, measured at McCoys Bridge, receded this week to 990 ML/day and is expected to remain around this level as IVT water continues to be delivered to help meet demands downstream in the Murray. Small volumes of IVT will continue to be delivered from the Goulburn and Campaspe systems to the Murray over the coming week. Information regarding current opportunities for allocation trade between the Goulburn and Murray valleys is available at the [Victorian water register website](#).

At **Torrumbarry Weir** the flow downstream is 5,320 ML/day and is expected to rise over the coming week. National Channel diversions are 2,500 ML/day and are expected to remain around this rate over the coming week. Lock 26 at Torrumbarry Weir will [reopen](#) on Friday 14th September following successful refurbishment works (photo 1).



Photo 1. Refilling Lock 26 at Torrumbarry following successful refurbishment works (Photos courtesy Goulburn Murray Water)

Water continues to be delivered to Gunbower Creek and Gunbower Forest on behalf of environmental water holders. Flow through the forest reconnected with the Gunbower Creek via the outfall at Three Corner Hole around one month ago and is currently around 140 ML/day. This return flow re-enters the River Murray near Barham. More information on the Gunbower Forest watering can be found on the [North Central Catchment Management Authority \(NCCMA\) website](#).

Inflow from the **Murrumbidgee River**, measured at Balranald, averaged around 1,400 ML/day.

At **Euston**, the weir pool is targeting a level around full supply to 10 cm below FSL. The downstream flow averaged 8,600 ML/day and is expected to gradually decrease over the coming week.

The **Menindee Lakes** storage volume decreased by 4 GL to 168 GL (10% capacity). WaterNSW continues to manage the Menindee Lakes in accordance with the [Lower Darling Annual Operations Plan](#). As part of drought contingency measures, WaterNSW has installed two temporary block banks across the lower Darling below Pooncarie near Jamesville and below Burtundy near Ashvale to assist in maintaining supply to domestic, stock and permanent plantings along the lower Darling. The release from Weir 32 is around 220 ML/day to gradually fill pools behind these block banks.

At **Wentworth Weir**, operations continues to target a pool level of around 10 cm above FSL. This is to assist pumpers in the upper reaches of the Darling arm of the weir pool whilst there is no inflow from the lower Darling River. The downstream release from Wentworth Weir averaged 7,040 ML/day.

The **Lock 7** weir pool is currently targeting around 10 cm above FSL to deliver flow in the upper Lindsay River for the benefit of native fish. The level is likely to increase to around 30 cm above FSL in the coming weeks in order to target a flow rate of around 40 ML/day. The diversion at Mullaroo regulator will also be gradually increased to around 1,200 ML/day to supplement the flow into the lower Lindsay River. The **Lock 8** weir pool is currently around 35 cm below FSL and may be lowered up to 50 cm below FSL in September as part of the weir pool variability program.

At **Lake Victoria**, the storage volume increased by 9 GL to 344 GL (51% capacity). Flow to **South Australia** is currently targeting 5,500 ML/day and will remain at this rate over the coming week.

Environmental deliveries to South Australia are supporting the operation of the **Chowilla** Environmental Regulator. The regulator is being operated to deliver an in-channel rise along Chowilla Creek and connected anabranches to improve their ecological condition. The **Lock 6** water level is currently 10 cm



above FSL and is [expected to be gradually increased](#) to approximately 20 cm above FSL to assist the Chowilla action. Flows from this event are expected to remain mostly within creek banks.

At **Lock 5** and **Lock 2**, the weir pools are currently targeting around 35 cm and 50 cm above the normal pool level. The pool levels will be held for a short period before being slowly lowered back to the normal operating level. For more information see the South Australian Department of Environment and Water's latest [River Murray flow report](#).

Downstream at **Lock 3 (Overland Corner)**, the lock remains [temporarily closed for a major refurbishment](#) which commenced in mid-June. These works are expected to be completed in September.

The 5-day average water level in the **Lower Lakes** is currently 0.77 m AHD. When conditions allow, environmental water is being released through the barrages to maintain connectivity between Lake Alexandrina and the Coorong estuary. Barrage releases averaged just under 1,400 ML/day this week, with release prioritised through the Goolwa and Tauwitche barrages.

For media inquiries contact the Media Officer on 02 6279 0141

ANDREW REYNOLDS
Executive Director, River Management



Water in Storage

Week ending Wednesday 12 Sep 2018

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	478.88	3 406	88%	71	3 335	-19
Hume Reservoir	192.00	3 005	183.63	1 592	53%	23	1 569	+25
Lake Victoria	27.00	677	24.00	344	51%	100	244	+9
Menindee Lakes		1 731*		168	10%	(- -)#	0	-4
Total		9 269		5 510	59%	--	5 148	+12
Total Active MDBA Storage							61% ^	

Major State Storages

Burrinjuck Reservoir	1 026	432	42%	3	429	+6
Blowering Reservoir	1 631	1 236	76%	24	1 212	-30
Eildon Reservoir	3 334	2 161	65%	100	2 061	+24

* 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 11 Sep 2018

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2018
Lake Eucumbene - Total	492	+33	Snowy-Murray	+0	492
Snowy-Murray Component	214	+20	Tooma-Tumut	+16	97
Target Storage	1 240		Net Diversion	-16	396
			Murray 1 Release	+14	591

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2018	Victoria	This Week	From 1 July 2018
Murray Irrig. Ltd (Net)	15.4	114	Yarrowonga Main Channel (net)	6.9	40
Wakool Sys Allowance	2.7	13	Torrumbarry System + Nyah (net)	0.1	117
Western Murray Irrigation	0.3	2	Sunraysia Pumped Districts	1.9	9
Licensed Pumps	n/a	28	Licensed pumps - GMW (Nyah+u/s)	1	5
Lower Darling	0.2	2	Licensed pumps - LMW	4.6	26
TOTAL	18.6	159	TOTAL	14.5	197

* 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	34.3
Flow so far this month	59.7
Flow last month	174.7

(4 900 ML/day)

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

	Current	Average over the last week	Average since 1 August 2018
Swan Hill	60	70	80
Euston	-	-	-
Red Cliffs	130	140	140
Merbein	130	130	130
Burtundy (Darling)	760	760	740
Lock 9	150	150	140
Lake Victoria	150	160	180
Berri	220	230	200
Waikerie	280	270	240
Morgan	270	280	240
Mannum	280	280	330
Murray Bridge	340	360	410
Milang (Lake Alex.)	870	880	830
Poltalloch (Lake Alex.)	650	690	710
Meningie (Lake Alb.)	1 530	1 510	1 500
Goolwa Barrages	1 830	1 910	4 630



River Levels and Flows

Week ending Wednesday 12 Sep 2018

	Minor Flood Stage	Gauge Height		Flow	Trend	Average Flow this Week	Average Flow last Week
		local (m)	(m AHD)				
River Murray	(m)			(ML/day)		(ML/day)	(ML/day)
Khancoban	-	-	-	1 940	R	3 180	5 020
Jingellic	4.0	1.79	208.31	5 210	F	6 970	7 880
Tallandoon (Mitta Mitta River)	4.2	3.09	219.98	7 760	S	7 280	5 020
Heywoods	5.5	2.72	156.35	11 310	R	10 520	7 480
Doctors Point	5.5	2.87	151.34	13 580	R	12 670	9 700
Albury	4.3	1.88	149.32	-	-	-	-
Corowa	4.6	2.66	128.68	11 930	F	11 520	8 780
Yarrowonga Weir (d/s)	6.4	2.05	117.09	13 110	S	12 710	10 450
Tocumwal	6.4	2.65	106.49	12 360	R	11 720	9 660
Torrumbarry Weir (d/s)	7.3	1.94	80.48	5 320	F	5 640	6 030
Swan Hill	4.5	1.17	64.09	5 730	F	5 880	5 740
Wakool Junction	8.8	2.94	52.06	7 440	S	7 690	6 980
Euston Weir (d/s)	9.1	1.59	43.43	8 140	F	8 580	7 020
Mildura Weir (d/s)	-	-	-	8 190	F	7 760	6 340
Wentworth Weir (d/s)	7.3	2.92	27.68	7 470	S	7 040	5 860
Rufus Junction	-	3.24	20.17	4 990	R	4 380	4 560
Blanchetown (Lock 1 d/s)	-	0.83	-	3 630	F	3 930	4 030
Tributaries							
Kiewa at Bandiana	2.8	2.16	155.39	2 290	R	2 180	1 740
Ovens at Wangaratta	11.9	9.36	147.04	4 340	F	4 990	4 570
Goulburn at McCoys Bridge	9.0	1.51	92.93	990	F	1 330	2 710
Edward at Stevens Weir (d/s)	5.5	2.30	82.07	2 460	F	1 890	1 750
Edward at Liewah	-	2.31	57.69	1 630	R	1 600	1 600
Wakool at Stoney Crossing	-	1.54	55.03	560	S	530	430
Murrumbidgee at Balranald	5.0	1.91	57.87	1 430	R	1 400	1 360
Barwon at Mungindi	6.1	2.68	-	0	F	0	0
Darling at Bourke	9.0	3.85	-	0	F	0	0
Darling at Burtundy Rocks	-	0.64	-	20	F	70	90

Natural Inflow to Hume	13 120	7 200
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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	-0.13	-	No. 7 Rufus River	22.10	+0.09	+0.94
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.09	+0.34
No. 15 Euston	47.60	-0.02	-	No. 5 Renmark	16.30	+0.34	+0.11
No. 11 Mildura	34.40	+0.04	+0.28	No. 4 Bookpurnong	13.20	+0.02	+0.46
No. 10 Wentworth	30.80	+0.10	+0.28	No. 3 Overland Corner	9.80	-0.02	+0.60
No. 9 Kulnine	27.40	-0.06	-0.30	No. 2 Waikerie	6.10	+0.47	+0.09
No. 8 Wangumma	24.60	-0.35	+0.18	No. 1 Blanchetown	3.20	-0.02	+0.08

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.78
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Barrages

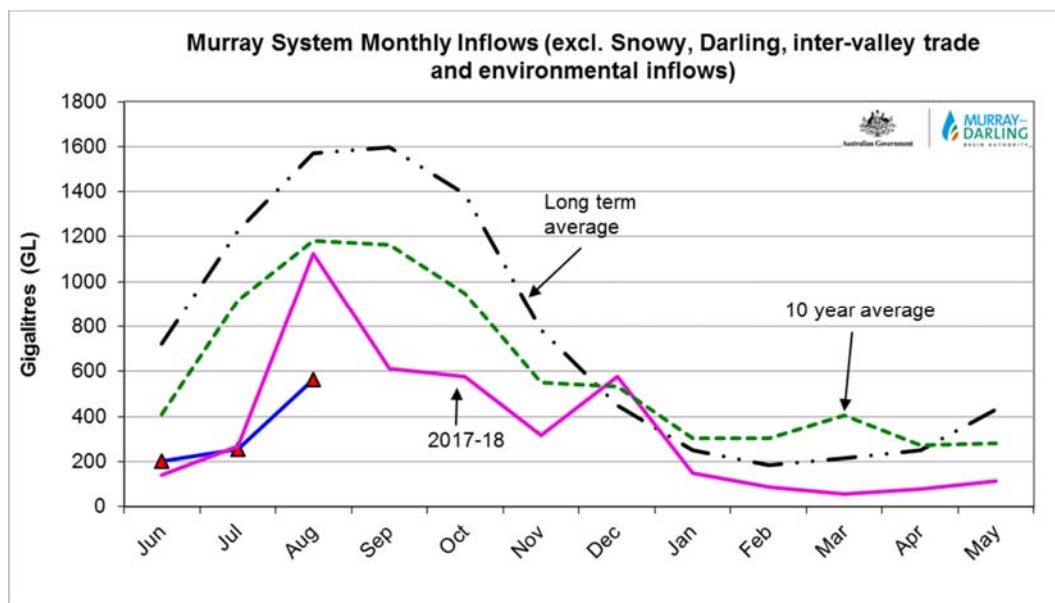
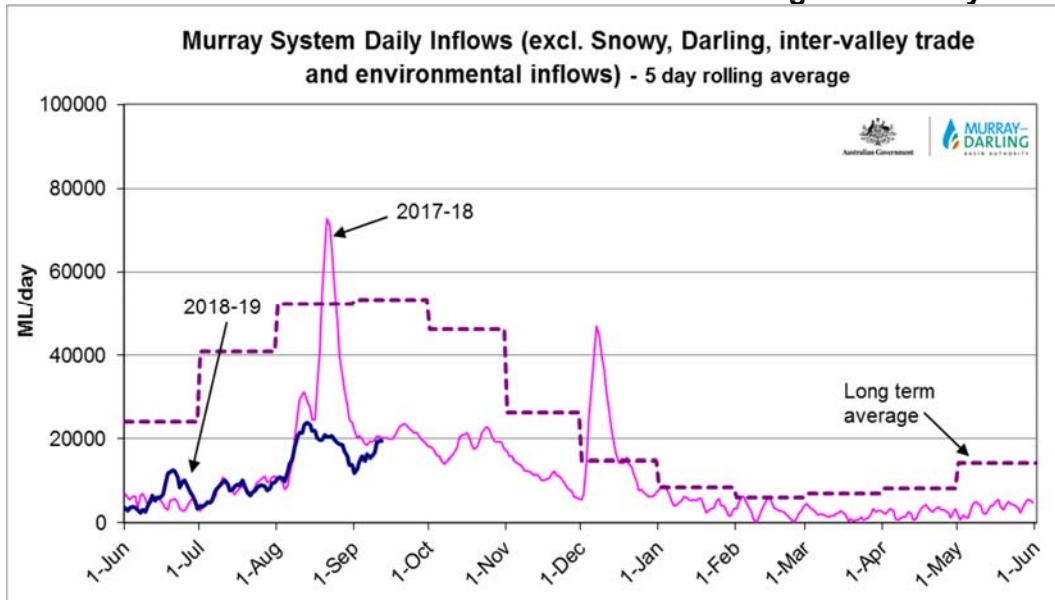
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.70	2	-	Open	Open	-
Mundoo	26 openings	0.76	All closed	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	1	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwitchere	322 gates	0.74	2	Open	Open	Open	-

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



Week ending Wednesday 12 Sep 2018



State Allocations (as at 12 Sep 2018)

NSW - Murray Valley

High security	97%
General security	0%

Victorian - Murray Valley

High reliability	71%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	6%

Victorian - Goulburn Valley

High reliability	56%
Low reliability	0%

NSW - Lower Darling

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