



RIVER MURRAY WEEKLY REPORT

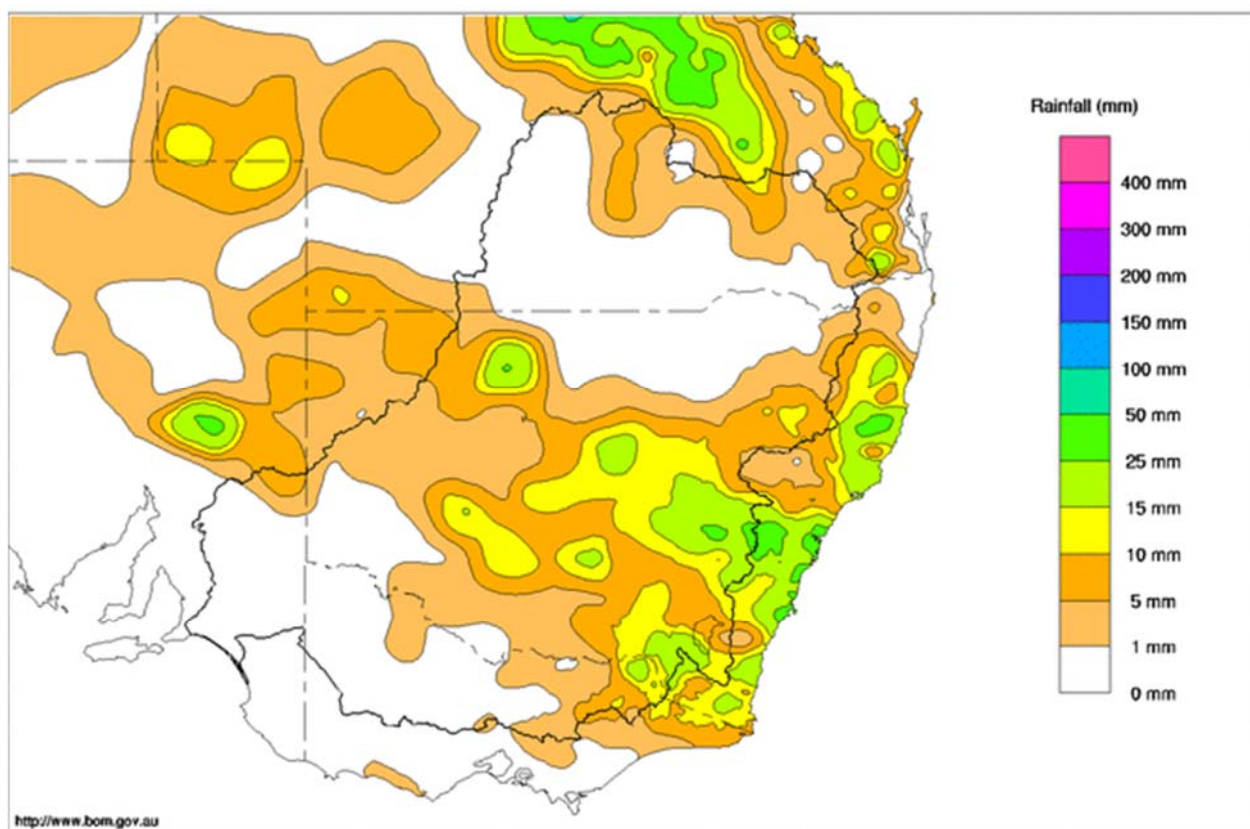
FOR THE WEEK ENDING WEDNESDAY, 10 JANUARY 2018

Trim Ref: D18/1960

Rainfall and inflows

Rainfall was relatively widespread across central New South Wales (NSW) and the Victorian Alps this week although totals were modest (Map 1). The remainder of the Murray-Darling Basin catchment recorded little or no rainfall. In NSW, the highest totals included 39 mm at Cabramurra AWS and 30 mm at Crookwell in the southern tablelands, 27 mm at Orange airport AWS in the central tablelands and 25mm at Manildra on the central western slopes. In Victoria, the highest totals were recorded in the northeast and included 22 mm at Koetong and Nariel Creek and 20 mm at Hunters Hill AWS. In Queensland, Miles in the Darling Downs recorded 15 mm.

Murray-Darling Rainfall Totals (mm) Week Ending 10th January 2018
Australian Bureau of Meteorology



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Map 1 - Murray-Darling Basin rainfall map week ending 10 January 2018 (Source: Bureau of Meteorology).

Flows in the upper Murray tributaries mostly receded this week, with only a brief interruption following a small amount of rain that fell towards the end of the week. The flow at Biggara on the upper Murray reduced to a low of 400 ML/day. This is the lowest flow recorded at this gauge since July 2017. Flow in the upper Mitta Mitta River at Hinnomunjie also eased to around 400 ML/day. Inflows from the Kiewa River to the Murray averaged near 900 ML/day over the past week, whilst flow in the Ovens River at Wangaratta fell to below 900 ML/day.



River operations

- Demands higher as dry and warmer conditions continue
- Delivery of water traded from the Goulburn valley to the Murray commences
- River Murray levels downstream of Torrumbarry weir recede as demands and system losses increase over summer

MDBA active storage decreased this week by 131 GL to 5,924 GL (70% capacity).

The storage volume at **Dartmouth Reservoir** increased by 1 GL to 3,436 GL (89% capacity). The release from Dartmouth Reservoir, measured at Colemans, returned to 300 ML/day early in the week. This is after it had been temporarily increased to around 3,000 ML/day in the previous week for the benefit of water quality in the Mitta Mitta River downstream of Dartmouth Dam. White water rafters and kayakers took advantage of the faster flowing conditions downstream of Dartmouth. This included the [Australian wildwater team selection trials](#) which were held on the 2nd and 3rd of January 2018 (Photo 1). Fishers also reported a good response from the pulse with a number of Murray cod caught and released.



Photo 1 – Competitor at the Australian wildwater team selection trials on the Mitta Mitta River. Source: Charlie Collin.

At **Hume Reservoir**, the storage volume decreased by 79 GL to 2,052 GL (68% capacity). The release from Hume increased during the week from 12,000 ML/day to reach 16,800 ML/day late in the week. With warm and dry conditions forecast to continue, releases of this rate are expected over the coming week.

Downstream at **Lake Mulwala**, the pool level has remained within the normal operating range of 124.7 to 124.9 m AHD. Diversions at the major irrigation offtakes increased further in response to continuing warm and dry conditions. The diversion to Mulwala Canal is currently 5,500 ML/day, up from 4,400 ML/day at the start of the week. At Yarrowonga Main Channel, the diversion has averaged 1,500 ML/day.

Releases from **Yarrowonga Weir** over the past week have averaged 9,250 ML/day. If conditions remain warm and dry, releases between 8,500 ML/day and 9,500 ML/day can be expected for the remainder of January.



Flow into the **Gulpa Creek** is currently targeting 500 ML/day to deliver water to support bird breeding in Reedbeds wetland. This is above the normal summer maximum regulated flow of 350 ML/day. The flow through the Edward offtake regulator is targeting the maximum regulated flow of 1,600 ML/day. Return flows from Millewa forest into the **Edward River** continue to ease contributing to the flow at Toonalook declining to 2,300 ML/day. Over the next week this flow is expected to continue its gentle recession towards 2,100 ML/day. Diversion into Wakool Main Canal has averaged 1,500 ML/day. Murray Irrigation Limited are currently releasing around 700 ML/day from Edward Escape to help meet the higher demand at Wakool Main Canal. The release from Stevens Weir has averaged around 530 ML/day and is likely to be maintained around 600 ML/day over the coming weeks.

Inflow to the Murray from the **Goulburn River**, measured at McCoys Bridge, increased to 1,000 ML/day with a further rise to 1,200 ML/day foreshadowed in the coming days as the MDBA calls on water from the Goulburn valley (Goulburn valley inter valley transfers (IVT)). This IVT water will help meet system demands in the Murray valley downstream of the Barmah choke. If conditions remain warm and dry, IVT will continue to be delivered from the Goulburn system during February, possibly at higher rates.

Goulburn-Broken Catchment Management Authority are currently planning to deliver a small flow pulse in the lower Goulburn River to benefit native fish. The pulse is planned to commence in late January and reach around 2,500 ML/day at McCoys Bridge for around two weeks.

Goulburn valley IVT is also being delivered to the Murray via the **Campaspe River**, with a flow rate of around 200 ML/day being targeted at Rochester. Information regarding current opportunities for allocation trade between the Goulburn and Murray valleys is available at the [Victorian water register website](#).

Diversions into National Channel, from **Torrumbarry Weir** pool, has remained steady near 2,300 ML/day. The release downstream of Torrumbarry is currently 5,150 ML/day and expected to be maintained around 5,500 ML/day over the coming week.

Inflows from the **Murrumbidgee River**, measured at Balranald, increased this week to around 1,100 ML/day. This is above the normal January end of system target of 190 ML/day and is due to reduced irrigation demand following rainfall upstream in the Murrumbidgee valley back in late December 2017. The [Murrumbidgee IVT balance](#) is currently 3 GL, restricting the MDBA's ability to call on water from this valley to help meet Murray system demands.

At **Euston**, the weir pool level remains around 20 cm above the full supply level (FSL). The pool level, which was initially raised to capture and conserve water during the recent unregulated flow event, will be held above the FSL over the coming weeks to provide a buffer to any short-lived very high irrigation demand periods during January. The downstream release has continued to recede and is currently 6,300 ML/day. Further recession is expected over the coming weeks toward 4,000 ML/day. Further downstream, small volumes of return flows from **Hattah Lakes** continue to enter the Murray via the Messengers and Oateys regulators to Chalka Creek.

At **Menindee Lakes**, the storage volume reduced by 14 GL to 417 GL (24% capacity). A [red alert](#) warning (high alert) for blue-green algae is current for Lake Wetherell and Lake Menindee. Releases from the Menindee Lakes are currently being managed by WaterNSW in accordance with the [Lower Darling Annual Operations Plan](#). This plan was implemented by WaterNSW when the storage volume fell below 480 GL in December 2017 and will remain in place until the storage volume next exceeds 640GL. The plan aims to help ensure critical human water needs are met whilst seeking to maintain environmental objectives in the Lower Darling under the worst-case inflow scenario. The [release from Weir 32](#) is currently 245 ML/day to maintain a minimum flow in the lower Darling at Burtundy. The flow at Burtundy is currently around 50 ML/day.



Downstream on the Murray, the flow at **Wentworth** has reduced to 4,650 ML/day, and is expected to recede further over the coming weeks. Operations at **Lock 9, 8 and 7** continue to target weir pool levels around FSL.

At Lake Victoria, the storage volume reduced by 38 GL and is currently at 630 GL (93% capacity). The Lake level is expected to fall away as stored water is used to help deliver entitlement flows to South Australia. The flow to South Australia averaged 9,700 ML/day this week and is currently 8,500 ML/day. Over the coming week the flow will reduce further to around 6,300 ML/day.

At the **Lower Lakes**, the 5-day average water level in Lake Alexandrina eased to 0.78 m AHD, and remains above the normal full supply level of 0.75 m AHD. Releases through the barrages reduced from 2,700 ML/day to 1,300 ML/day. All barrage fishways remain open.

For media inquiries contact the Media Officer on 02 6279 0141

ANDREW REYNOLDS
Executive Director, River Management



Water in Storage

Week ending Wednesday 10 Jan 2018

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	479.37	3 436	89%	71	3 365	+1
Hume Reservoir	192.00	3 005	186.73	2 052	68%	23	2 029	-79
Lake Victoria	27.00	677	26.61	630	93%	100	530	-38
Menindee Lakes		1 731*		417	24%	(- -) #	0	-14
Total		9 269		6 535	71%	--	5 924	-131
Total Active MDBA Storage							70% ^	

Major State Storages

Burrinjuck Reservoir	1 026	666	65%	3	663	-17
Blowering Reservoir	1 631	738	45%	24	714	-35
Eildon Reservoir	3 334	2 471	74%	100	2 371	-20

* 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 09 Jan 2018

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2017
Lake Eucumbene - Total	1 783	-10	Snowy-Murray	+12	565
Snowy-Murray Component	757	-13	Tooma-Tumut	+2	179
Target Storage	1 520		Net Diversion	11	386
			Murray 1 Release	+17	782

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)	42.2	502	Yarrowonga Main Channel (net)	9.2	153
Wakool Sys Allowance	3.3	21	Torrumbarry System + Nyah (net)	13.8	241
Western Murray Irrigation	1.3	12	Sunraysia Pumped Districts	5.4	61
Licensed Pumps	6.3	116	Licensed pumps - GMW (Nyah+u/s)	1	18
Lower Darling	4.6	56	Licensed pumps - LMW	4.6	186
TOTAL	57.7	707	TOTAL	34	659

* 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	217.0 *	
Flow this week	67.9	(9 700 ML/day)
Flow so far this month	97.7	
Flow last month	437.9	

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

	Current	Average over the last week	Average since 1 August 2017
Swan Hill	90	80	110
Euston	120	110	-
Red Cliffs	150	150	160
Merbein	150	150	150
Burtundy (Darling)	640	660	660
Lock 9	160	150	170
Lake Victoria	240	240	220
Berri	220	200	280
Waikerie	230	230	330
Morgan	240	240	350
Mannum	270	270	400
Murray Bridge	330	330	450
Milang (Lake Alex.)	710	700	640
Poltalloch (Lake Alex.)	660	640	600
Meningie (Lake Alb.)	1 700	1 640	1 540
Goolwa Barrages	1 010	980	1 210



River Levels and Flows

Week ending Wednesday 10 Jan 2018

	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	-	-	-	2 290	F	3 050	1 490
Jingellic	4.0	1.64	208.16	3 940	F	3 360	2 910
Tallandoon (Mitta Mitta River)	4.2	1.52	218.41	830	R	1 280	1 670
Heywoods	5.5	3.09	156.72	16 250	F	14 710	12 090
Doctors Point	5.5	3.16	151.63	17 010	F	15 950	13 570
Albury	4.3	2.17	149.61	-	-	-	-
Corowa	4.6	3.28	129.30	16 160	R	14 100	13 340
Yarrowonga Weir (d/s)	6.4	1.60	116.64	9 280	F	9 250	9 580
Tocumwal	6.4	2.24	106.08	9 360	F	9 390	9 730
Torrumbarry Weir (d/s)	7.3	1.89	80.44	5 150	R	5 570	6 790
Swan Hill	4.5	1.16	64.08	5 710	F	6 180	7 710
Wakool Junction	8.8	2.85	51.97	7 040	F	7 640	9 870
Euston Weir (d/s)	9.1	1.32	43.16	6 300	R	6 920	10 180
Mildura Weir (d/s)	-	-	-	6 070	F	6 960	10 960
Wentworth Weir (d/s)	7.3	2.85	27.61	4 650	R	5 680	10 880
Rufus Junction	-	3.86	20.79	8 850	R	9 140	9 560
Blanchetown (Lock 1 d/s)	-	0.86	-	5 140	F	6 160	9 620
Tributaries							
Kiewa at Bandiana	2.8	1.21	154.44	760	F	920	1 150
Ovens at Wangaratta	11.9	8.14	145.82	890	S	1 030	1 680
Goulburn at McCoys Bridge	9.0	1.54	92.96	1 020	R	910	920
Edward at Stevens Weir (d/s)	5.5	0.78	80.55	440	F	530	800
Edward at Liewah	-	1.67	57.05	1 000	F	1 190	1 520
Wakool at Stoney Crossing	-	1.45	54.94	500	F	580	890
Murrumbidgee at Balranald	5.0	1.62	57.58	1 120	R	800	250
Barwon at Mungindi	6.1	3.18	-	80	F	80	50
Darling at Bourke	9.0	3.98	-	30	F	40	90
Darling at Burtundy Rocks	-	0.68	-	50	S	50	100

Natural Inflow to Hume	2 380	4 370
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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	-0.18	-	No. 7 Rufus River	22.10	+0.09	+1.54
No. 26 Torrumbarry	86.05	-0.00	-	No. 6 Murtho	19.25	-0.00	+0.17
No. 15 Euston	47.60	+0.22	-	No. 5 Renmark	16.30	+0.01	+0.26
No. 11 Mildura	34.40	+0.04	+0.10	No. 4 Bookpurnong	13.20	+0.05	+0.83
No. 10 Wentworth	30.80	+0.04	+0.21	No. 3 Overland Corner	9.80	+0.00	+0.27
No. 9 Kulnine	27.40	+0.03	+0.05	No. 2 Waikerie	6.10	+0.05	+0.12
No. 8 Wangumma	24.60	+0.05	+0.13	No. 1 Blanchetown	3.20	-0.07	+0.11

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

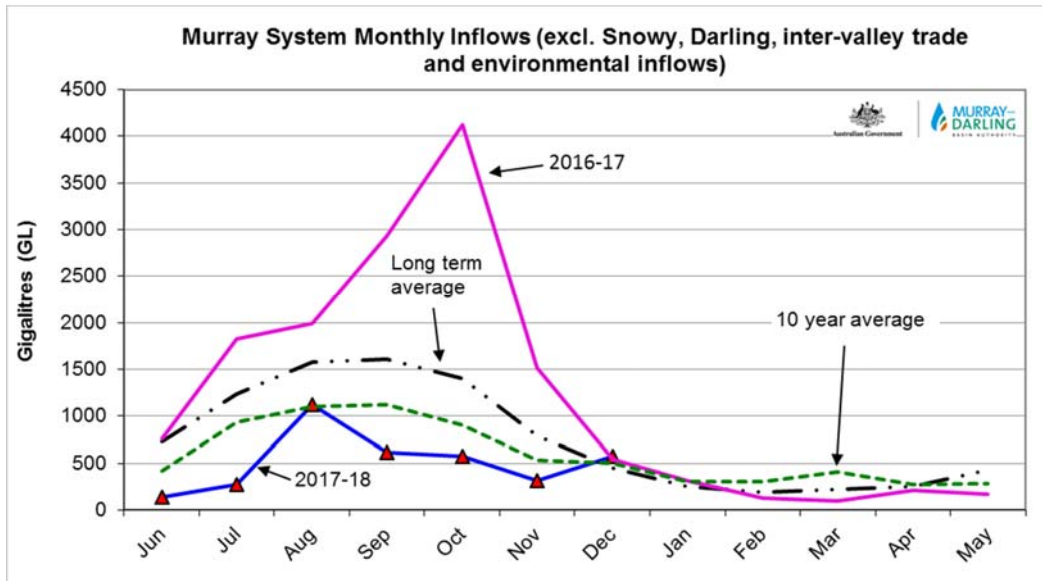
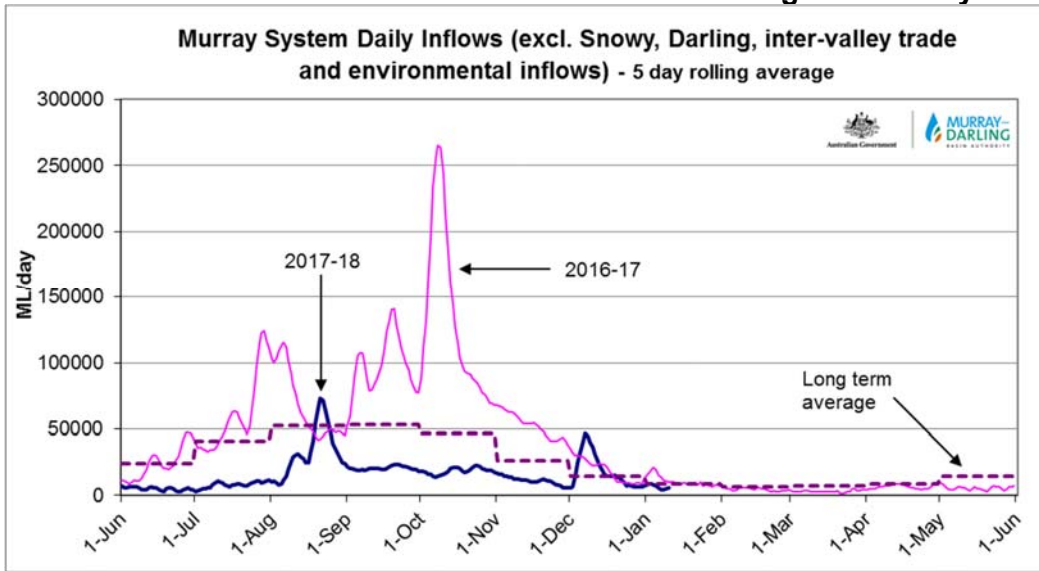
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.83	2	-	Open	Open	-
Mundoo	26 openings	0.77	All closed	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	1	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwitchere	322 gates	0.79	3	Open	Open	Open	-

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



Week ending Wednesday 10 Jan 2018



State Allocations (as at 10 Jan 2018)

NSW - Murray Valley

High security	97%
General security	46%

Victorian - Murray Valley

High reliability	100%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	33%

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>