



# River Murray Weekly Report

For the week ending Wednesday 6<sup>th</sup> February 2019

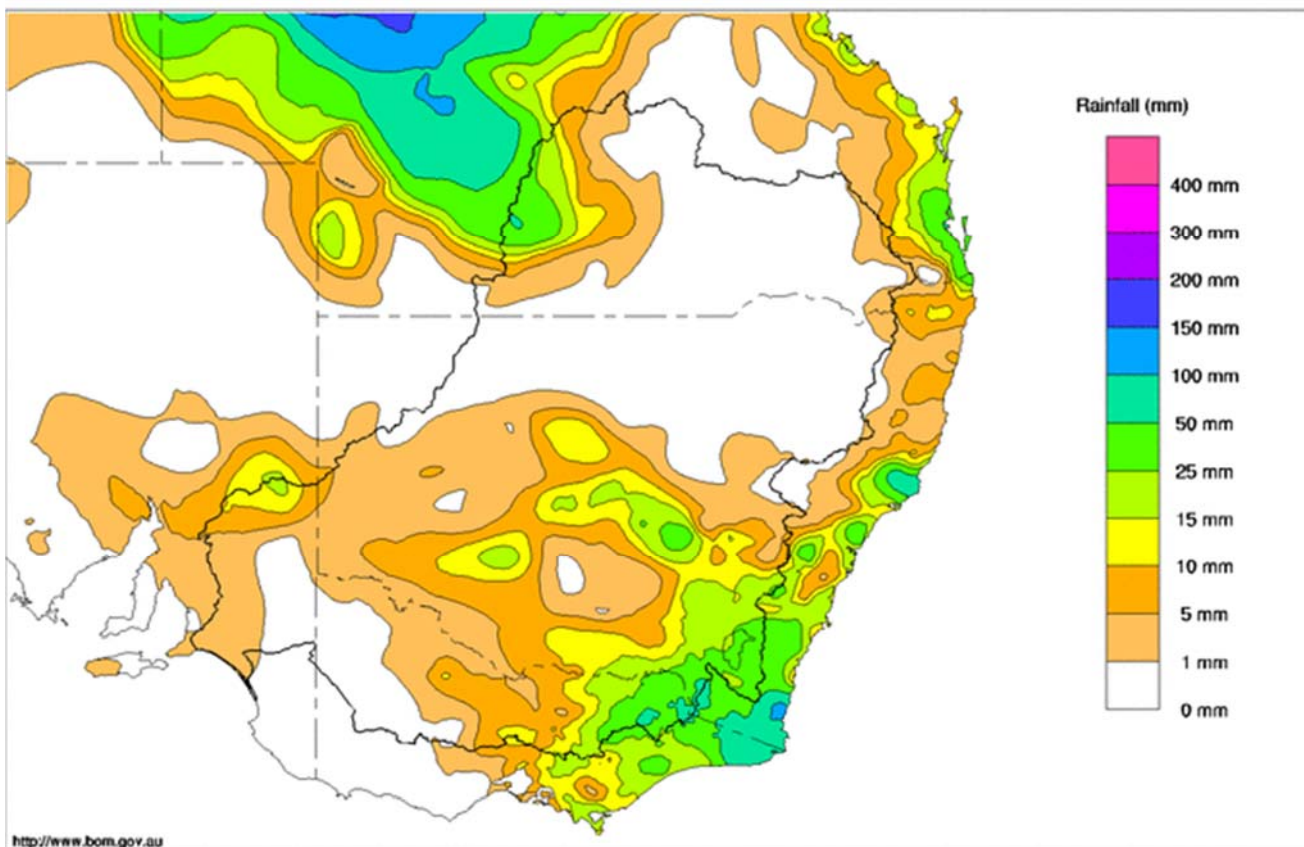
Trim Ref: D19/5224

## Rainfall and inflows

For the week ending the 6<sup>th</sup> February, moderate rainfall was observed in the south-east of the Murray-Darling Basin and further into central New South Wales (Map 1). The highest rainfalls totals for the week included 82 mm at Rocky Valley and 42 mm at Lake Dartmouth in Victoria and Gungahlin, in the ACT, recorded 40 mm.

Despite the heavy rainfall in Northern Queensland, rainfall throughout the northern Basin was limited with the exception of the north-west corner of the Murray-Darling Basin.

Murray-Darling Rainfall Totals (mm) Week Ending 6th February 2019  
Australian Bureau of Meteorology



Map 1 - Murray-Darling Basin rainfall map week ending 06 February 2019 (Source: Bureau of Meteorology).

Small increases in stream flow were observed in upper Murray tributaries in response to recent rainfall. The flow in the upper Mitta Mitta River at Hinnomunjie increased from 140 ML/day to a peak of 560 ML/day, while in the upper Murray at Biggara the flow increased from 170 ML/day to a current flow near 760 ML/day.

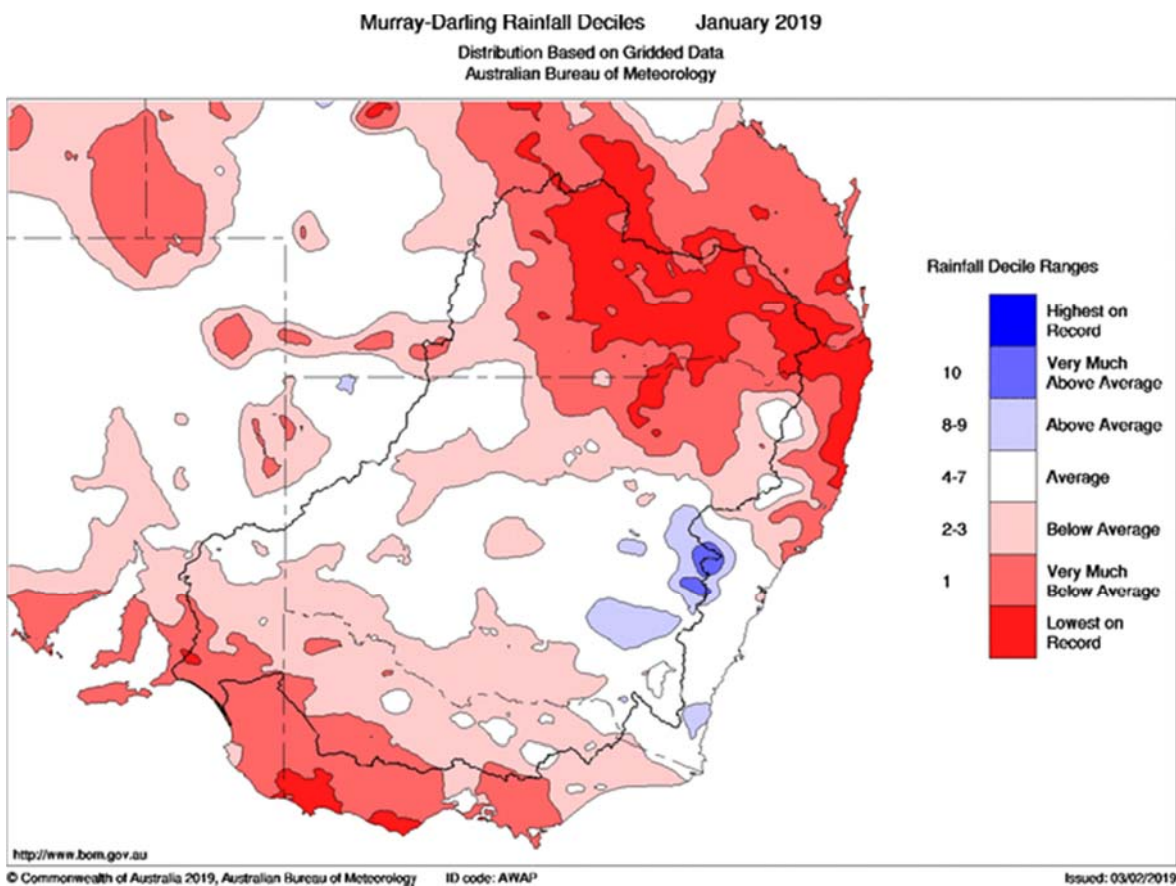
Downstream of Hume Reservoir, inflow from the Kiewa River at Bandiana peaked at 760 ML/day before receding to 305 ML/day, while the Ovens River averaged a flow of approximately 350 ML/day through the week at Wangaratta.

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## January 2019 Summary

The Bureau of Meteorology (BoM) reports that January 2019 rainfall was below average across much of the northern Basin, with lowest on record rainfall recorded across large areas of southern Queensland (Map 2). Below average rainfall was also observed throughout much of Victoria and South Australia. Across the Basin as a whole the BoM reported an area-average rainfall for the Murray-Darling Basin in January of 16.2 mm. This is 71% below the long-term average and makes January 2019 the 11th driest January in 120 years of historical records.

River Murray system inflows for the month of January totalled approximately 100 GL which is well below the month's long-term median of 193 GL. In comparison with historical records since 1891, around 8% of January monthly totals have been lower than the inflows observed in in 2019.

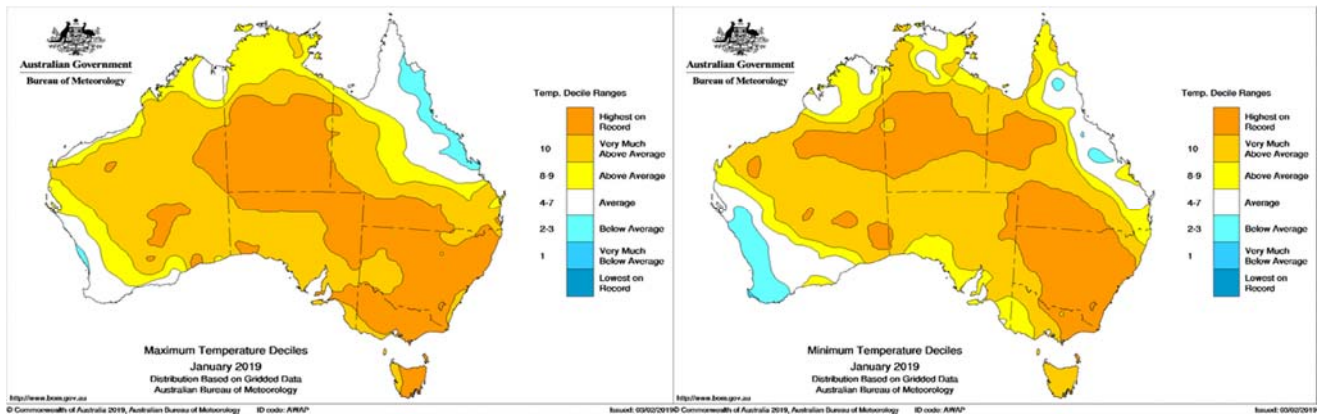


Map 2 – Murray-Darling Basin rainfall deciles for January 2019 (Source: Bureau of Meteorology)

The BoM reports that January 2019 was an exceptionally warm month. Australian temperatures in January 2019 were the warmest on record in terms of mean, maximum and minimum temperatures. Persistent stable and sunny conditions brought sustained and unprecedented heatwaves throughout the Murray-Darling Basin, with multiple sites within the Basin observing record maximum temperatures. Temperatures at Bourke Airport set a NSW state record, recording temperatures above 40 °C for 21 consecutive days. The BoM has released a [special climate statement](#) concerning the extended period of heatwaves over much of Australia during December 2018 and January 2019.



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Map 3 – Maximum and minimum temperature deciles for January 2019 (Source: Bureau of Meteorology)

## River operations

- IVT deliveries from the Goulburn Valley to the Murray continue
- Transfers from Dartmouth Reservoir to Hume Reservoir continue
- Lock 26 at Torrumbarry is closed for urgent repairs and maintenance

## System operations

Despite December and January observing the warmest monthly temperatures on record including unprecedented heatwave conditions, all consumptive demands were able to be supplied along the River Murray. Over the coming week there is a low risk of a shortfall (based on current demands, weather forecasts and operations) whilst flows remain sufficiently high along the Murray.

River Murray Operations will continue to update communities on the risk of any shortfall (i.e. not meeting demands) during this warm weather via the weekly report.

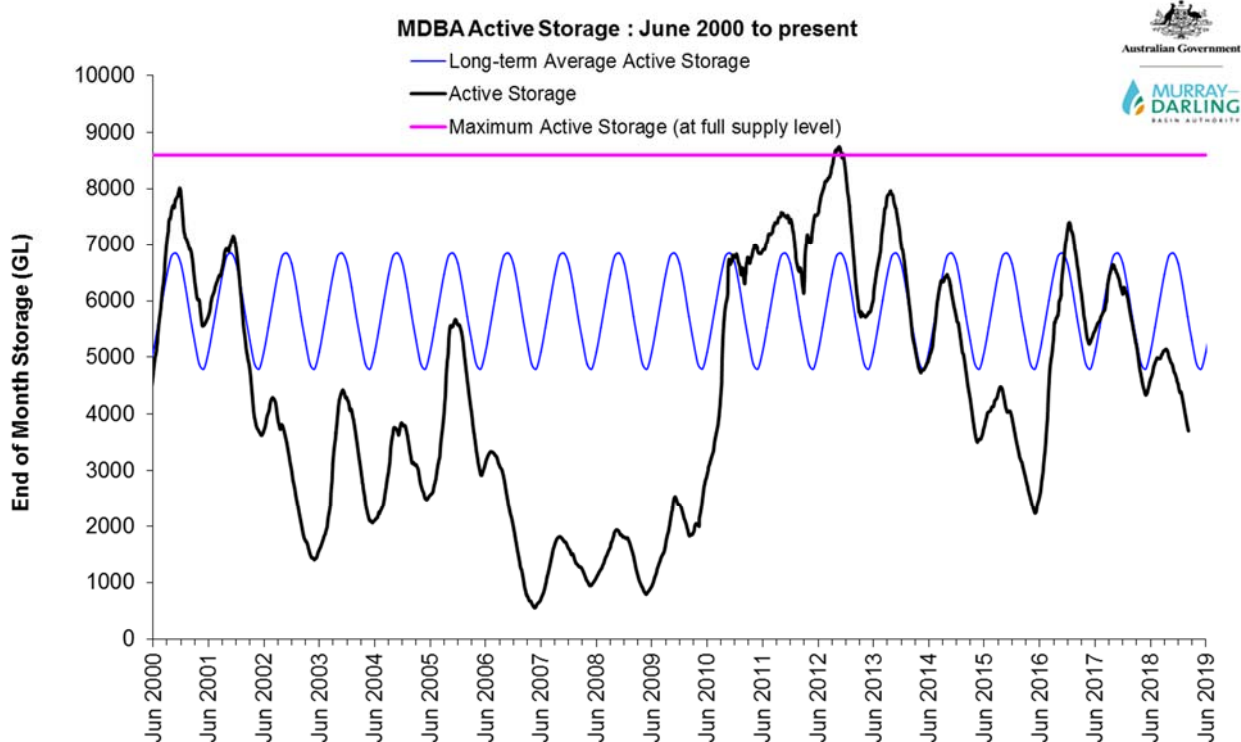


Figure 1 – MDBA active storage for the period June 2000 to present

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The MDBA active storage volume decreased by 86 GL this week to 3,705 GL (44% capacity) (figure 1). This is approximately 2,000 GL below the long term average for the start of February.

The **Dartmouth Reservoir** storage volume decreased by 31 GL to 2,559 GL (66% capacity). The release from Dartmouth reservoir, measured at Colemans, averaged near 5,000 ML/day. Throughout February, the flow is expected to cycle between the current flow and 3,800 ML/day to assist in reducing erosion impacts caused by sustained high river flows. The rate and timing of transfers to Hume for the coming months will depend on climatic conditions, storage inflows and demands over the coming months. Water stored in Dartmouth Reservoir is generally maintained as the system's drought reserve and is called upon in dry seasons when the downstream storages have insufficient water to meet demands.

At **Hume Reservoir**, the storage volume continued to decline, reducing by 25 GL to 960 GL (32% capacity). A [red level warning \(high alert\) for blue-green algae](#) was issued in late January for Lake Hume. Current environmental conditions are well suited to algal growth due to prevailing hot weather and warm water temperatures that help promote blue-green algal blooms. The release from Hume is currently targeting 11,500 ML/day.

Downstream at **Lake Mulwala** the level is currently 124.84 m AHD, which is within the normal operating range (124.6 to 124.9 m AHD). Diversions to the major irrigation offtakes reduced slightly over the past week compared to the week before. Diversion to Yarrowonga Main Channel averaged near 550 ML/day, while on the New South Wales side Mulwala Canal diversion averaged around 3,450 ML/day. Of the diversion to Mulwala Canal, approximately 2,200 ML/day is being diverted around the Barmah Choke through Murray Irrigation Limited (MIL) infrastructure and released into the River Murray (Perricoota escape), Wakool River (Wakool escape), Edward River (Edward escape) and Billabong Creek (Finley escape). Similarly, on the Victorian side around 120 ML/day continues to travel through Yarrowonga Main Channel and into the Broken Creek, again to meet demands downstream of the Barmah Choke. The release from **Yarrowonga Weir** is currently targeting 8,800 ML/day and is expected to remain steady over the coming week.

Flows at the **Edward River** and **Gulpa Creek** offtakes are currently around their normal summer regulated flow rates of 1,600 ML/day and 350 ML/day. Diversion into Wakool Main Canal averaged 110 ML/day, and Wakool, Yallakool and Colligen offtakes are passing around 60, 420 and 400 ML/day respectively. The flow in the Edward River downstream of Stevens Weir continues to target channel capacity of around 2,700 ML/day.

Inflow to the Murray from the **Goulburn River**, measured at McCoys Bridge, is currently near 2,600 ML/day and is forecast to increase up to 2,800 ML/day over coming days. The majority of this flow is Goulburn Valley Inter Valley Trade (IVT) water that is being delivered to help meet demands on the River Murray as a result of trade from the Goulburn to the Murray valley. A sustained call of IVT from the Broken Creek, Goulburn River and Campaspe River is [likely](#) over the coming months while temperatures are hot, dry and River Murray demands remain high. Information regarding current opportunities for allocation trade between the Goulburn and Murray valleys is available at the [Victorian water register website](#).

National Channel diversions remained around 2,000 ML/day during the past week and are likely to continue around this rate. The **Torrumbarry Weir** release increased to the current flow of 7,900 ML/day, and is expected to ease over the coming week. Lock 26 at Torrumbarry has been closed to undertake urgent repairs and maintenance. This temporary closure of the lock will not affect the normal operation of Torrumbarry Weir in terms of river flow and water supply. More information can be found on the Goulburn-Murray Water [website](#).

Downstream, the flow at **Swan Hill** has remained fairly steady this week and is currently near 8,250 ML/day.

This week inflows from the **Murrumbidgee River**, measured at Balranald, increased from around 485 ML/day to 570 ML/day as environmental water was delivered to help improve water quality in parts of the Murrumbidgee. The flow at Balranald is expected to remain around the current rate over the next few weeks. More information regarding this environmental action can be found on the MDBA [website](#). The [Murrumbidgee IVT balance](#) is currently below 0 GL, preventing the MDBA from calling water from this valley to help meet Murray system demands.

At **Euston**, the weir pool continues to target 20 cm above the full supply level (FSL). If required, the additional volume stored in the Euston weir pool will be used to boost downstream flows during hot and dry periods when





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irrigation demands are high. The downstream release gradually increased to around 8,700 ML/day and is expected to average near 9,000 ML/day this coming week.

The **Menindee Lakes** storage volume decreased by 4 GL to 38 GL (2% capacity). WaterNSW continues to manage the Menindee Lakes in accordance with the [Lower Darling Annual Operations Plan](#). As part of drought contingency measures within this plan, WaterNSW has installed four temporary block banks across the lower Darling below Pooncarie near Jamesville, below Burtundy near Ashvale, and upstream of Pooncarie at Court Nareen and Karoola. Water held in these pools will assist in maintaining supply to domestic, stock and permanent plantings along the lower Darling.

The release from **Weir 32** is around 40 ML/day this week. [Water restrictions](#) remain in place across much of New South Wales as a result of the extensive and on-going drought conditions.

A red level warning (high alert) for blue-green algae is current for parts of the Darling River downstream of Rose Isle (between Bourke and Louth), Lake Wetherell, Lake Pamamaroo, Copi Hollow, Lake Cawndilla and the Lower Darling River at Menindee, Pooncarrie, Tolarno and Burtundy. A visual summary of alert levels in New South Wales is available on the [WaterNSW](#) website. The poor water quality conditions in the river has led to [fish deaths](#) in the lower Darling River. More information regarding the water quality conditions of the lakes and the lower Darling is available at the WaterNSW [website](#). Information on factors that affect fish is available from NSW Department of Primary Industries [website](#). Information on drought impacts across the Murray-Darling Basin including on fish and operations is available on the [MDBA website](#).

At **Wentworth Weir**, operations continue to target a pool level of around 10 cm above the Full Supply Level (FSL) to assist pumpers in the upper reaches of the Darling River arm of the weir pool. A red alert warning (high alert) for blue-green algae is current for the Wentworth Weir pool, from Merbein downstream to the weir. The downstream release is currently near 5,900 ML/day and is expected remain above 5,000 ML/day over the coming week.

The **Lock 9** weir pool is currently near Full Supply Level (FSL). At **Lock 8**, the weir pool is targeting 50 cm below FSL and the **Lock 7** weir pool is targeting 20 cm below FSL. Over coming week the weir pool levels at Lock 8 and Lock 7 will be further lowered to around 60 cm and 50 cm (respectively) below FSL.

At **Lake Victoria** the storage reduced by 26 GL to 280 GL (56% capacity). The flow to **South Australia** is currently targeting around 7,650 ML/day and is expected to remain steady over the coming week. The current flow to South Australia consists of entitlement flow, traded water and environmental water. Deliveries of environmental water are expected to continue through summer.

The 5-day average water level in the **Lower Lakes** decreased by 4 cm to 0.58 m AHD. Environmental water delivered to South Australia is helping to slow the rate of fall at the Lower Lakes and prolong small barrage releases to maintain connectivity between Lake Alexandrina and the Coorong estuary. Barrage releases have been prioritised for Tauwitchere and Goolwa and all fishways remain open. For more information see the South Australian Department for Environment and Water's latest [River Murray flow report](#).

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

ANDREW REYNOLDS  
Executive Director, River Management



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[River Data website](#)



[Water in Storages](#)

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## Water in Storage

Week ending Wednesday 06 Feb 2019

MDBA Storages	Full Supply Level (m AHD)	Full Supply Volume (GL)	Current Storage Level (m AHD)	Current Storage		Dead Storage (GL)	Active Storage (GL)	Change in Total Storage for the Week (GL)
				(GL)	%			
Dartmouth Reservoir	486.00	3 856	463.71	2 559	66%	71	2 488	-31
Hume Reservoir	192.00	3 005	178.45	960	32%	23	937	-25
Lake Victoria	27.00	677	24.35	380	56%	100	280	-26
Menindee Lakes		1 731*		38	2%	(- -) #	0	-4
<b>Total</b>		<b>9 269</b>		<b>3 937</b>	<b>42%</b>	<b>- -</b>	<b>3 705</b>	<b>-86</b>
Total Active MDBA Storage							44% ^	

### Major State Storages

Burrinjuck Reservoir	1 026	366	36%	3	363	-20
Blowering Reservoir	1 631	509	31%	24	485	-14
Eildon Reservoir	3 334	1 592	48%	100	1 492	-49

\* 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 05 Feb 2019

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2018
Lake Eucumbene - Total	831	n/a	Snowy-Murray	+19	591
Snowy-Murray Component	442	n/a	Tooma-Tumut	+3	184
Target Storage	1 460		Net Diversion	17	407
			Murray 1 Release	+22	742

### 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)	6.9	277	Yarrowonga Main Channel (net)	3.6	153
Wakool Sys Allowance	3.0	25	Torrumbarry System + Nyah (net)	0.3	355
Western Murray Irrigation	1.0	18	Sunraysia Pumped Districts	4.6	89
Licensed Pumps	4.4	133	Licensed pumps - GMW (Nyah+u/s)	1	22
Lower Darling	0.1	6	Licensed pumps - LMW	4.6	281
<b>TOTAL</b>	<b>15.4</b>	<b>459</b>	<b>TOTAL</b>	<b>14.1</b>	<b>900</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 environmental flows.

Entitlement this month	194.0 *	
Flow this week	53.0	(7 600 ML/day)
Flow so far this month	46.0	
Flow last month	267.7	

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

	Current	Average over the last week	Average since 1 August 2018
Swan Hill	60	60	70
Euston	-	-	-
Red Cliffs	100	100	110
Merbein	100	100	110
Burtundy (Darling)	940	990	830
Lock 9	110	110	110
Lake Victoria	150	160	160
Berri	160	160	190
Waikerie	210	210	260
Morgan	220	220	270
Mannum	280	280	320
Murray Bridge	320	330	360
Milang (Lake Alex.)	690	730	890
Poltalloch (Lake Alex.)	770	780	760
Meningie (Lake Alb.)	1 610	1 510	1 490
Goolwa Barrages	1 930	1 790	2 530



## River Levels and Flows

Week ending Wednesday 06 Feb 2019

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	-	-	-	4 140	F	3 220	4 510
Jingellic	4.0	1.72	208.24	4 610	R	3 680	4 790
Tallandoon ( Mitta Mitta River )	4.2	2.67	219.56	5 280	F	5 230	5 520
Heywoods	5.5	2.79	156.42	11 150	F	11 770	13 680
Doctors Point	5.5	2.68	151.15	11 430	F	12 350	14 730
Albury	4.3	1.69	149.13	-	-	-	-
Corowa	4.6	2.68	128.70	12 100	R	12 320	13 930
Yarrowonga Weir (d/s)	6.4	1.50	116.54	8 800	S	8 820	9 190
Tocumwal	6.4	2.07	105.91	8 520	S	8 680	8 980
Torrumbarry Weir (d/s)	7.3	2.65	81.19	7 900	S	7 970	7 650
Swan Hill	4.5	1.53	64.45	8 240	R	7 870	7 720
Wakool Junction	8.8	3.52	52.64	9 980	R	9 730	9 480
Euston Weir (d/s)	9.1	1.67	43.51	8 690	R	8 310	7 810
Mildura Weir (d/s)	-	-	-	7 160	F	6 970	6 340
Wentworth Weir (d/s)	7.3	2.83	27.59	5 910	R	5 600	4 790
Rufus Junction	-	3.62	20.55	7 270	R	7 000	6 900
Blanchetown (Lock 1 d/s)	-	0.68	-	3 890	R	3 920	3 630
<b>Tributaries</b>							
Kiewa at Bandiana	2.8	0.84	154.07	300	R	410	820
Ovens at Wangaratta	11.9	7.85	145.53	310	R	330	300
Goulburn at McCoys Bridge	9.0	2.37	93.79	2 610	F	2 830	2 840
Edward at Stevens Weir (d/s)	5.5	2.42	82.19	2 670	F	2 650	2 620
Edward at Liewah	-	2.98	58.36	2 500	S	2 500	2 380
Wakool at Stoney Crossing	-	1.55	55.04	770	S	780	820
Murrumbidgee at Balranald	5.0	0.94	56.90	570	F	560	230
Barwon at Mungindi	6.1	3.10	-	0	F	10	20
Darling at Bourke	9.0	2.38	-	0	F	0	0
Darling at Burtundy Rocks	-	0.63	-	10	R	10	10

Natural Inflow to Hume	1 140	1 010
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(i.e. Pre Dartmouth &amp; 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	-0.06	-	No. 7 Rufus River	22.10	-0.18	+1.31
No. 26 Torrumbarry	86.05	-0.00	-	No. 6 Murtho	19.25	+0.02	+0.16
No. 15 Euston	47.60	+0.23	-	No. 5 Renmark	16.30	+0.04	+0.24
No. 11 Mildura	34.40	+0.00	+0.20	No. 4 Bookpurnong	13.20	+0.05	+0.75
No. 10 Wentworth	30.80	+0.10	+0.19	No. 3 Overland Corner	9.80	+0.02	+0.18
No. 9 Kulnine	27.40	-0.04	-0.42	No. 2 Waikerie	6.10	+0.00	+0.15
No. 8 Wangumma	24.60	-0.45	-0.09	No. 1 Blanchetown	3.20	+0.02	-0.07

## Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.58
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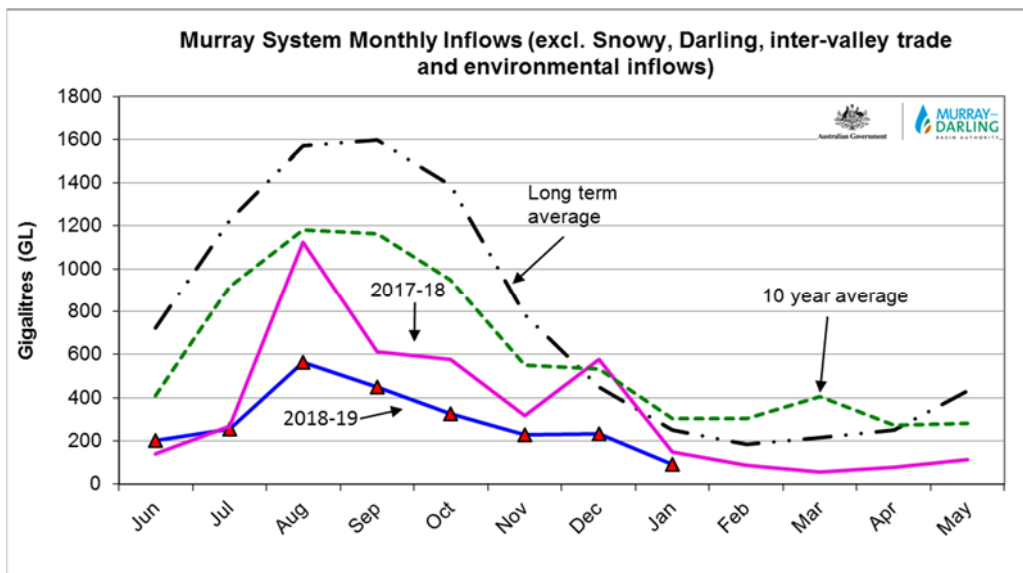
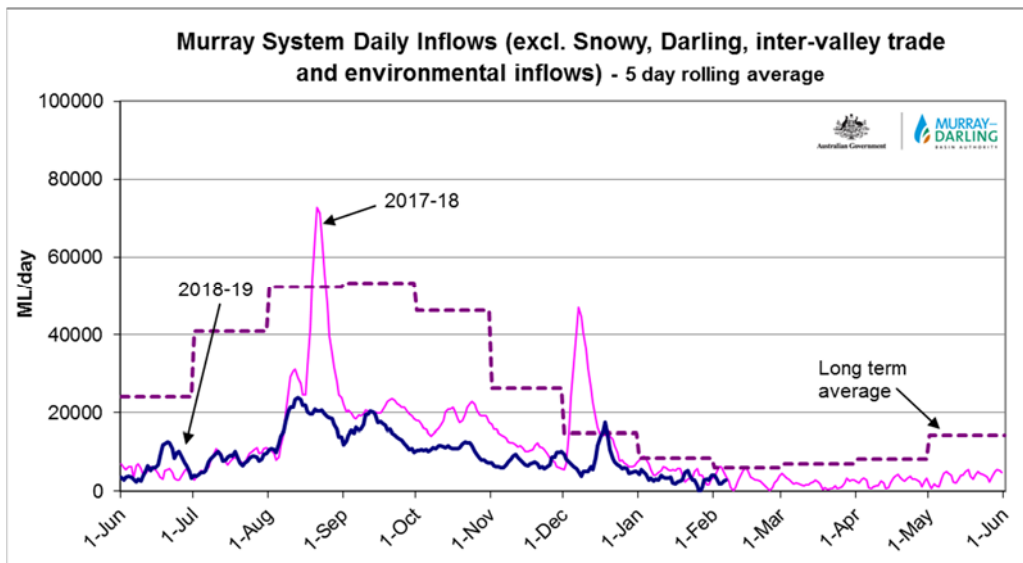
## Barrages

## Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.58	1	-	Open	Open	-
Mundoo	26 openings	0.54	All closed	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	1	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwitchere	322 gates	0.54	1	Open	Open	Open	-

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





**State Allocations (as at 06 Feb 2019)**

**NSW - Murray Valley**

High security	97%
General security	0%

**Victorian - Murray Valley**

High reliability	100%
Low reliability	0%

**NSW - Murrumbidgee Valley**

High security	95%
General security	7%

**Victorian - Goulburn Valley**

High reliability	94%
Low reliability	0%

**NSW - Lower Darling**

High security	100%
General security	0%

**South Australia - Murray Valley**

High security	100%
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NSW : <https://www.industry.nsw.gov.au/water/allocations-availability/allocations/summary>

VIC : <http://nvrn.net.au/seasonal-determinations/current>

SA : <http://www.environment.sa.gov.au/managing-natural-resources/river-murray>

