



RIVER MURRAY WEEKLY REPORT

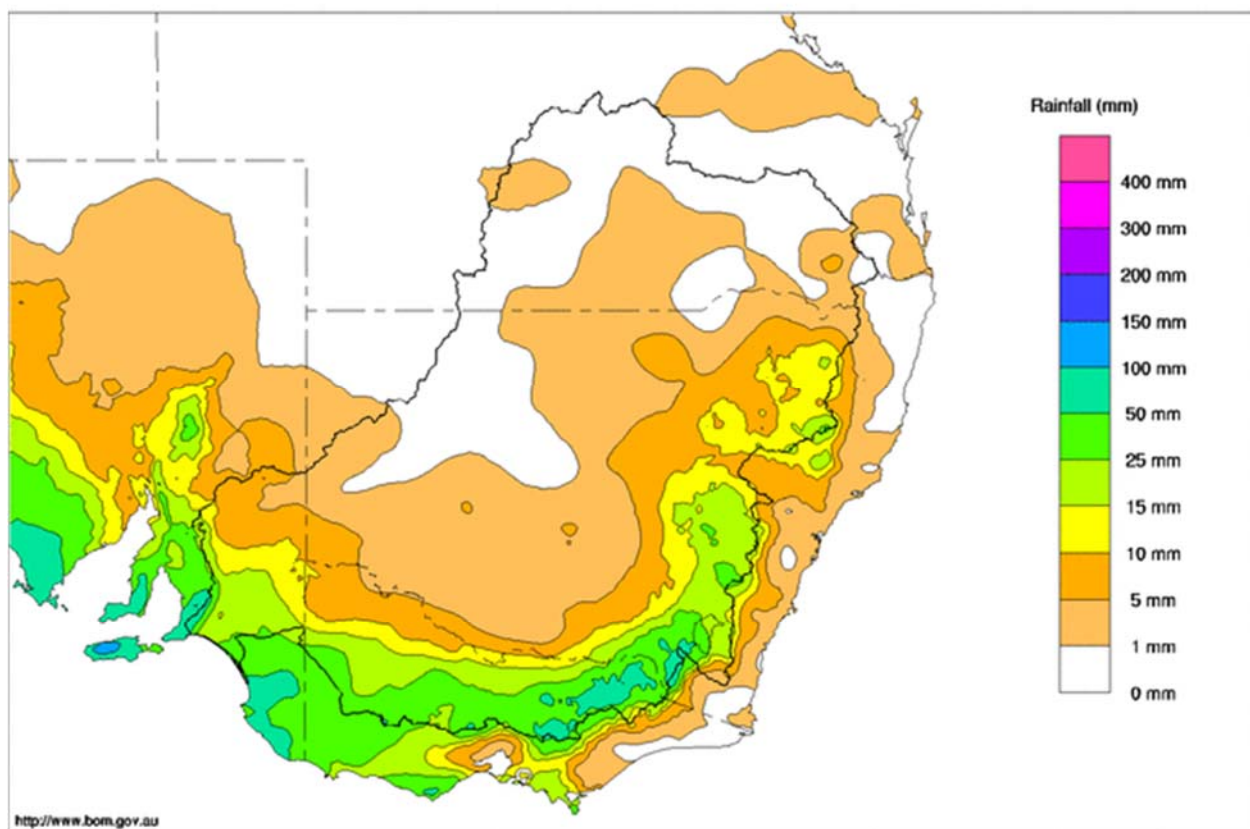
FOR THE WEEK ENDING WEDNESDAY, 8 AUGUST 2018

Trim Ref: D18/38849

Rainfall and inflows

Cold fronts with associated cloud bands and thunderstorms brought moderate rainfall across the southern and eastern slopes and ranges this week, with snowfalls across alpine areas (Map 1). In Victoria, the highest totals included 125 mm at Rocky Valley and 95 mm at Mount Wombat in the northeast, and 89 mm at Mount William in the Wimmera. In New South Wales (NSW), the highest totals were recorded in the Snowy Mountains and southern and central tablelands. These included 96 mm recorded at Perisher Valley AWS and 82 mm at Thredbo (both stations just outside the Basin), and 32 mm at Orange airport AWS. In South Australia, highest totals include 62 mm at Macclesfield and 69 mm at Mount Barker in the Mount Lofty Ranges. Little or no rain was recorded across much of western NSW and Queensland.

Murray-Darling Rainfall Totals (mm) Week Ending 8th August 2018
Australian Bureau of Meteorology



Map 1 - Murray-Darling Basin rainfall map week ending 8 August 2018 (Source: Bureau of Meteorology).

Following the rainfall this week, flow in the upper Murray tributaries reached some of the highest rates since December 2017. On the Mitta Mitta River at Hinnomunjie Bridge, the flow peaked around 3,200 ML/day. On the Murray River at Biggara, the flow reached 2,300 ML/day. Downstream of Hume Reservoir, inflows from the Kiewa River measured at Bandiana increased to almost 3,000 ML/day. On the Ovens River at Wangaratta, the flow peaked at 7,400 ML/day on Monday 6 August and remained around 7,000 ML/day for the remainder of the week. However, as of Thursday 9 August, the flow had increased to 8,000 ML/day with flows around 10,000 ML/day likely for the coming days.



River operations

- Flow in upper Murray tributaries at highest levels since December 2017
- Lake Mulwala approaching normal operating level of 124.7 m AHD
- Diversions at major irrigation off-takes increasing

MDBA active storage increased by 20 GL this week to 5,000 GL (59% capacity). This is around 900 GL less than for the same time last year and 1,100 GL less than the long-term average for this time of year (Figure 1).

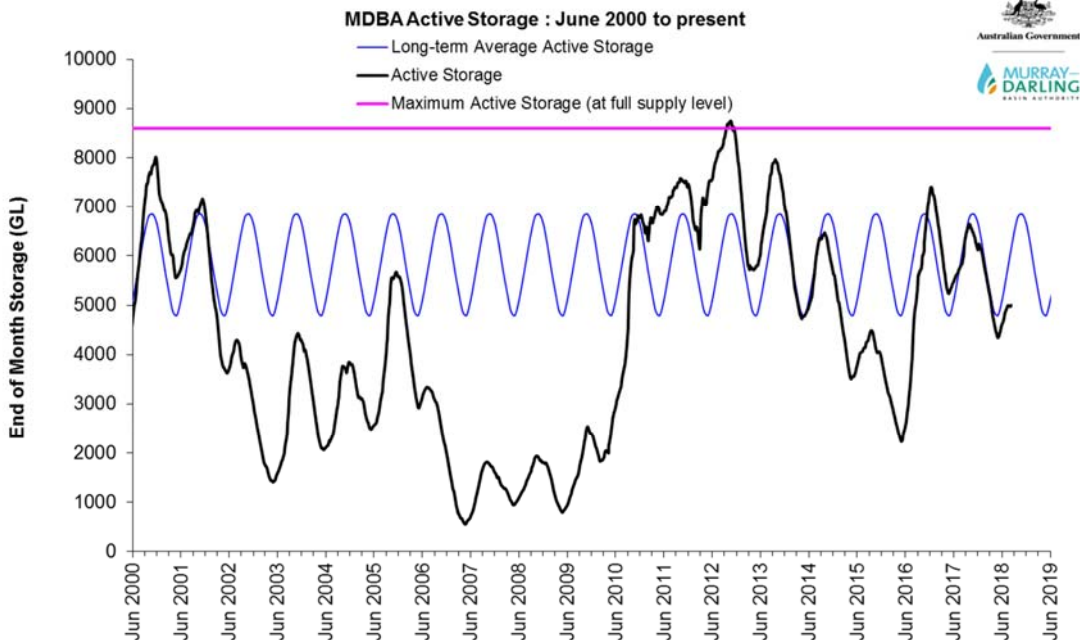


Figure 2 – MDBA active storage for the period 1 June 2000 to present

The storage volume at **Dartmouth Reservoir** increased by 10 GL to 3,453 GL (90% capacity). The release, measured at Colemans gauge, varied between 500 ML/day and 3,000 ML/day. This included a flow pulse to benefit water quality in the lower Mitta Mitta River. Over coming weeks, the release from Dartmouth is expected to remain above minimum flow rates as water is transferred to Hume Dam ahead of increasing downstream demands in the coming months. For August, releases are expected to fluctuate up to 4,500 ML/day. More information is available at the MDBA [website](#).

The storage volume at **Hume Reservoir** increased by 19 GL this week to 1,378 GL (46% capacity). The release from Hume reduced to 2,600 ML/day. This was in response to increased tributary inflows from the Kiewa and Ovens Rivers reducing the requirement to release water to meet downstream demands.

At **Lake Mulwala** the level has risen to 124.59 m AHD. The level is expected to reach the normal operating level of 124.7 m AHD by next week. Diversions into the Mulwala Canal and Yarrowonga Main Channel are continuing to fill irrigation channels ahead of the start of the irrigation season. The release from **Yarrowonga Weir** increased to 9,500 ML/day. If conditions remain dry, releases downstream of Yarrowonga will continue around this rate throughout August as water is transferred to Lake Victoria in readiness for higher system demands over summer.

Regulators in the Barmah-Millewa forest remain open to provide connectivity between the river and the forest floodplain in winter and into spring. This action will benefit native fish and improve the transfer of valuable nutrients from the floodplain to the river to increase ecosystem productivity. The small additional water loss associated with this action is being debited from environmental water holder's accounts.



Flow at the **Edward River** offtake is currently 1,370 ML/day and will increase toward the maximum regulated flow rate of around 1,600 ML/day over the coming week. At **Gulpa Creek** offtake the flow is targeting the maximum regulated flow rate of 350 ML/day.

Downstream on the Edward River, WaterNSW is continuing to fill **Stevens Weir**. The pool level is currently 4.46 m (local gauge) and water is now flowing through the Wakool River regulator (currently 30 ML/day). Water has been flowing into Yallakool and Colligen Creeks for around two weeks. Murray Irrigation Limited is diverting around 300 ML/day at Wakool Main Canal to fill irrigation channels. The flow downstream of Stevens Weir averaged around 500 ML/day as water is captured to refill the weir pool.

Inflow to the Murray from the **Goulburn River**, measured at McCoys Bridge, averaged 770 ML/day, and is expected to vary between around 600 and 1,200 ML/day over the coming week. This flow is above the minimum flow rate of 400 ML/day due to the delivery of water on behalf of environmental water holders.

Given the relatively low inflows over winter from the tributaries downstream of the major storages (Kiewa, Ovens, Goulburn and Murrumbidgee Rivers), and the [outlook](#) for drier conditions, deliveries of Inter-Valley Trade (IVT) water from the Goulburn to the Murray system are being considered by the MDBA to boost storage in Lake Victoria if relatively dry conditions continue during the next few weeks. Deliveries are now likely to commence in August with further deliveries possible in September.

Water levels around the **Echuca** district (Photo 1) and downstream at Swan Hill were low this week but are expected to improve later in the coming week as higher flows arrive from upstream.



Photo 1: Low river levels at the port of Echuca (photo courtesy of Mike Ridley, MDBA)

At **Torrumbarry Weir**, pool level has returned to the full supply level of 86.05 m AHD. The flow downstream of Torrumbarry Weir averaged 3,000 ML/day. The diversion to National Channel averaged 1,500 ML/day and will increase to 2,000 ML/day next week. This water is being delivered to the Gunbower Creek, Gunbower Forest and to refill the irrigation network within Torrumbarry. 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 950 ML/day and is expected to remain steady during the coming week.



At **Euston**, the weir pool is being varied to target between 20cm and 30cm below FSL. Lowering Euston Weir is part of the [weir pool variability program](#) which aims to help restore a more natural wetting and drying regime for river banks and wetlands. The downstream release (Photo 2) decreased to 4,900 ML/day and is expected to continue to gradually decline to around 4,500 ML/day over the coming week.



Photo 2: Flow downstream of Euston Weir (photo courtesy of Peter Ebner, LMW)



The **Menindee Lakes** storage volume decreased by 3 GL to 193 GL (11% 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 has increased to 230 ML/day to gradually fill pools behind these block banks.

At **Wentworth Weir**, operators are targeting 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 release downstream of the weir decreased to around 5,300 ML/day and is expected to continue to ease over the coming week.

The **Lock 7** and **9** weir pools continue to target a water level 10 cm below FSL and will vary between FSL and 10 cm below FSL over the coming weeks. The **Lock 8** weir pool is targeting 30 cm below FSL.

At **Lake Victoria**, the storage volume decreased by 9 GL to 363 GL (54% capacity). Flow to **South Australia** is 6,300 ML/day and is expected to reduce to around 5,000 ML/day late in the coming week.

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 take approximately another 6 weeks to complete.

The 5-day average water level in the **Lower Lakes** is 0.77 m AHD. Lake levels are expected to remain relatively high over the coming weeks. When conditions allow, environmental water is being released through the barrages into the Coorong and Murray Mouth in planned 'pulses'. These pulsed releases are being supported by the recent delivery of environmental water to South Australia and will provide a freshening flow into the Coorong. The pulses are also aimed at enhancing the upstream migration and spawning of pouched lamprey, a primitive eel-like fish. This week, releases from the barrages were prioritised at Tauwitchere, Goolwa and Mundoo. All 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 08 Aug 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	479.65	3 453	90%	71	3 382	+10
Hume Reservoir	192.00	3 005	182.01	1 378	46%	23	1 355	+19
Lake Victoria	27.00	677	24.18	363	54%	100	263	-9
Menindee Lakes		1 731*		193	11%	(- -) #	0	-3
Total		9 269		5 387	58%	--	5 000	+17
Total Active MDBA Storage							59% ^	

Major State Storages

Burrinjuck Reservoir	1 026	417	41%	3	414	+2
Blowering Reservoir	1 631	1 180	72%	24	1 156	-7
Eildon Reservoir	3 334	1 886	57%	100	1 786	+52

* 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 07 Aug 2018

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2018
Lake Eucumbene - Total	556	-11	Snowy-Murray	+16	408
Snowy-Murray Component	251	-9	Tooma-Tumut	+8	51
Target Storage	1 190		Net Diversion	8	357
			Murray 1 Release	+21	472

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)	12.3	20	Yarrowonga Main Channel (net)	1.9	4
Wakool Sys Allowance	0.5	2	Torrumbarry System + Nyah (net)	10.4	38
Western Murray Irrigation	0.1	1	Sunraysia Pumped Districts	0.6	3
Licensed Pumps	2.5	7	Licensed pumps - GMW (Nyah+u/s)	1	0
Lower Darling	0.1	1	Licensed pumps - LMW	4.6	9
TOTAL	15.5	31	TOTAL	18.5	54

* 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	124.0 *	
Flow this week	47.9	(6 800 ML/day)
Flow so far this month	53.7	
Flow last month	239.7	

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

	Current	Average over the last week	Average since 1 August 2018
Swan Hill	90	80	80
Euston	110	110	110
Red Cliffs	130	120	120
Merbein	110	110	110
Burtundy (Darling)	730	730	730
Lock 9	130	130	130
Lake Victoria	200	190	190
Berri	180	170	170
Waikerie	210	210	210
Morgan	220	230	230
Mannum	380	400	400
Murray Bridge	470	470	470
Milang (Lake Alex.)	810	810	820
Poltalloch (Lake Alex.)	560	570	570
Meningie (Lake Alb.)	1 460	1 450	1 470
Goolwa Barrages	15 710	9 510	9 140



River Levels and Flows

Week ending Wednesday 08 Aug 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	-	-	-	5 560	F	3 960	3 770
Jingellic	4.0	2.18	208.70	8 690	R	6 260	5 270
Tallandoon (Mitta Mitta River)	4.2	1.90	218.79	1 860	F	2 210	1 530
Heywoods	5.5	1.79	155.42	2 600	F	5 000	7 610
Doctors Point	5.5	2.18	150.65	6 110	R	7 910	9 840
Albury	4.3	1.23	148.67	-	-	-	-
Corowa	4.6	1.69	127.71	6 280	F	8 170	9 440
Yarrowonga Weir (d/s)	6.4	1.54	116.58	9 070	R	7 590	5 500
Tocumwal	6.4	1.99	105.83	7 980	R	6 580	5 370
Torrumbarry Weir (d/s)	7.3	1.32	79.86	3 170	R	3 030	4 050
Swan Hill	4.5	0.77	63.69	3 100	R	3 380	5 080
Wakool Junction	8.8	2.04	51.16	4 040	F	4 700	6 360
Euston Weir (d/s)	9.1	1.06	42.90	4 890	F	5 840	7 660
Mildura Weir (d/s)	-	-	-	6 140	F	6 480	8 600
Wentworth Weir (d/s)	7.3	2.83	27.59	5 260	R	5 830	8 430
Rufus Junction	-	3.40	20.33	5 930	F	6 420	7 260
Blanchetown (Lock 1 d/s)	-	0.74	-	5 740	R	5 480	7 270
Tributaries							
Kiewa at Bandiana	2.8	2.51	155.74	2 960	R	2 110	1 250
Ovens at Wangaratta	11.9	10.10	147.78	7 110	S	5 520	3 160
Goulburn at McCoys Bridge	9.0	1.30	92.72	640	R	770	1 260
Edward at Stevens Weir (d/s)	5.5	0.80	80.58	500	F	510	740
Edward at Liewah	-	1.33	56.71	730	F	770	700
Wakool at Stoney Crossing	-	1.22	54.71	160	F	190	220
Murrumbidgee at Balranald	5.0	1.44	57.40	950	R	960	960
Barwon at Mungindi	6.1	2.93	-	0	F	0	0
Darling at Bourke	9.0	3.95	-	20	F	20	40
Darling at Burtundy Rocks	-	0.67	-	50	R	40	20

Natural Inflow to Hume	8 260	5 000
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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	-0.31	-	No. 7 Rufus River	22.10	-0.08	+1.09
No. 26 Torrumbarry	86.05	+0.01	-	No. 6 Murtho	19.25	+0.02	+0.19
No. 15 Euston	47.60	-0.25	-	No. 5 Renmark	16.30	+0.13	+0.21
No. 11 Mildura	34.40	+0.02	+0.16	No. 4 Bookpurnong	13.20	+0.04	+0.79
No. 10 Wentworth	30.80	+0.08	+0.19	No. 3 Overland Corner	9.80	+0.01	+0.47
No. 9 Kulnine	27.40	-0.03	-0.25	No. 2 Waikerie	6.10	+0.24	+0.23
No. 8 Wangumma	24.60	-0.28	-0.03	No. 1 Blanchetown	3.20	+0.02	-0.01

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.77
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Barrages

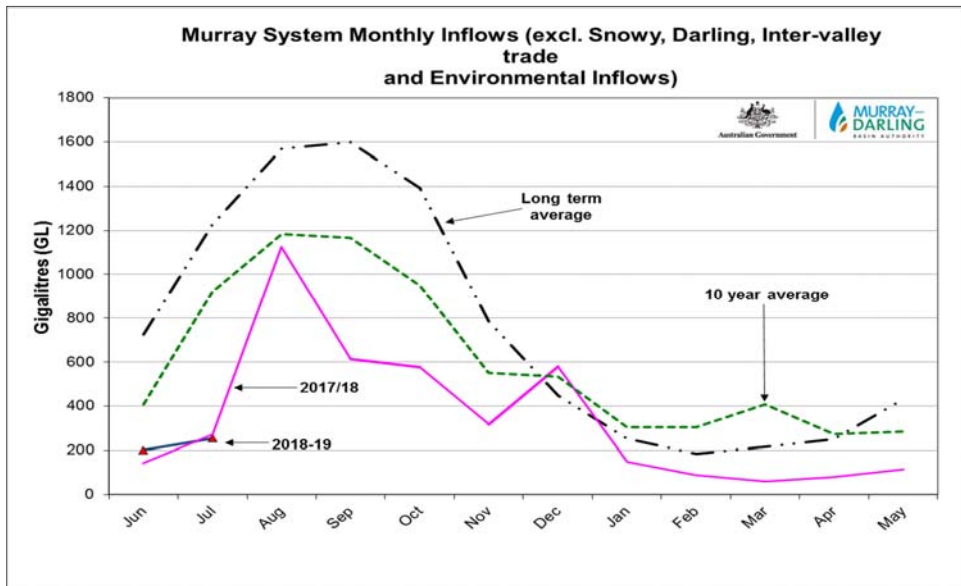
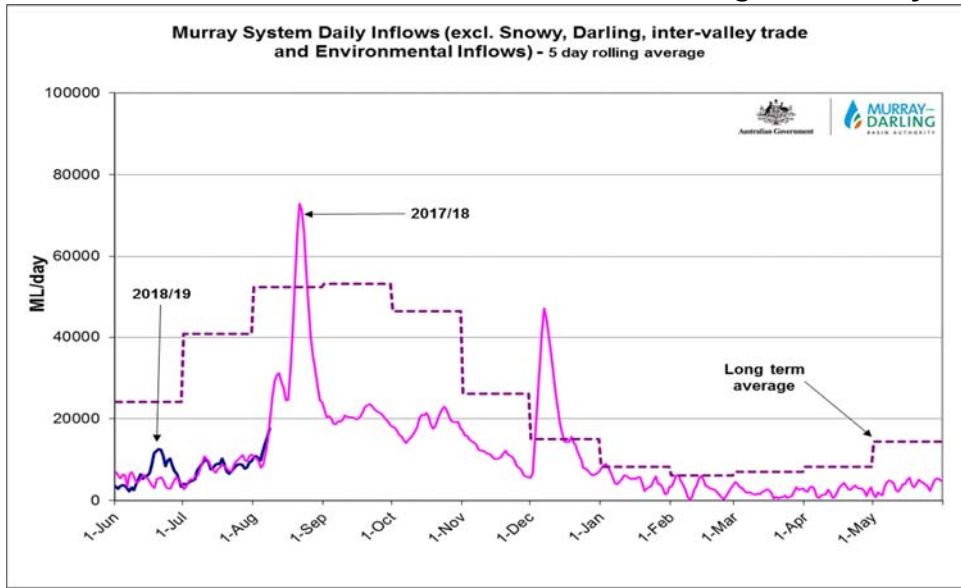
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.65	All closed	-	Open	Open	-
Mundoo	26 openings	0.67	All closed	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	All closed	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwitchere	322 gates	0.78	All closed	Open	Open	Open	-

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



Week ending Wednesday 08 Aug 2018



State Allocations (as at 08 Aug 2018)

NSW - Murray Valley

High security	97%
General security	0%

Victorian - Murray Valley

High reliability	49%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	6%

Victorian - Goulburn Valley

High reliability	37%
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>