



River Murray Weekly Report

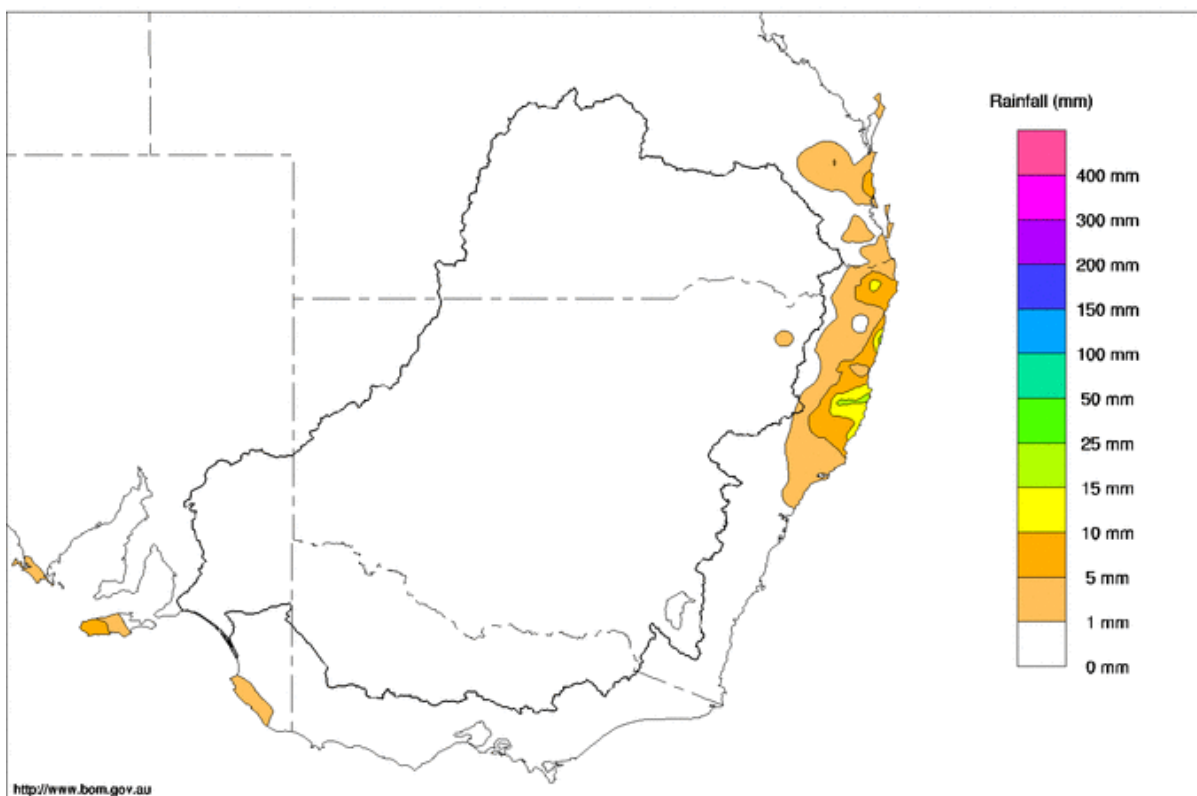
For the week ending Wednesday, 17 April 2019

Trim Ref: D19/22129

Rainfall and inflows

Conditions were dry across the Murray-Darling Basin this week, with almost the entire basin devoid of any rainfall (map 1). The Bureau of Meteorology (BoM) is forecasting negligible rain over the [coming 8 days](#).

Murray-Darling Rainfall Totals (mm) 17th April 2019
Australian Bureau of Meteorology



<http://www.bom.gov.au>

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Map 1. Murray-Darling Basin rainfall map week ending 17 April 2019 (Source: Bureau of Meteorology)

Flow in the upper Murray tributaries continued to recede this week. The flow in the upper Mitta Mitta River at Hinnomunjie Bridge reduced from 210 ML/day to 180 ML/day. The upper Murray at Biggara eased from 240 ML/day to 220 ML/day. Downstream of Hume Reservoir, inflow from the Kiewa River at Bandiana receded from 380 ML/day, to the current flow of 240 ML/day. Flow in the Ovens River at Wangaratta averaged 240 ML/day.

In the northern Basin, flows resulting from rain over some upper catchments in recent weeks are continuing to move steadily downstream along various tributaries. The most significant flows resulted from rain over the far north of the Basin that generated flood flows along the upper Warrego River. These flows are now moving through the lower Warrego and spreading out through the large distributary network, including along the Cuttaburra Channel that connects flow across to the Paroo River. These flows are recharging wetlands and providing welcome benefits to a fairly parched region of the northern Basin, but are expected to provide little if any significant connecting flow through to the Darling River. Other flows were generated along the Namoi and Castlereagh River systems. This water has reached the Barwon-Darling River in northern NSW. However, flow rates and volumes have so far been modest. The [flow](#) at Geera on the Barwon River reached just over 500 ML/day and has since receded. Flow on the



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Barwon downstream of the Namoi junction at Walgett increased to 120 ML/day. Without further rain, it is *unlikely* that significant volumes from these tributaries will flow beyond Bourke or to reaches downstream towards the Menindee Lakes. WaterNSW has this week advised of a temporary pumping restriction in the Barwon-Darling to protect releases from Copeton dam. More information is available on the WaterNSW [website](#).

River operations

- Lock 26 remains closed for urgent repairs
- Red level warning (high alert) for blue-green algae continues at a number of Darling River sites
- Water being delivered on behalf of environmental water holders to the Lower Lakes and Coorong

System operations

Similar to the last few weeks, operations continue to focus on releasing sufficient water from storage to meet system demands while planning to achieve winter target levels at key locations, including Lake Victoria; while also aiming to conserve water for next season.

With the busy Easter and school holiday period approaching, river users are reminded that River Murray levels downstream of Hume Dam depend on a range of factors including weather conditions and system demands. More information is available from the [MDBA website](#).

With the Bureau of Meteorology forecasting negligible rain over the [coming 8 days](#), flows in the Edward-Wakool system and in the Murray from Yarrawonga downstream to below Barmah are likely to remain relatively steady over Easter. Further downstream, as inflow from the Goulburn River recedes it is likely that flow in the Murray from Echuca downstream will ease over the coming week.

River levels between Hume and Yarrawonga will depend on irrigation demands and inflows from the Ovens and Kiewa rivers. Inflows have remained low and irrigation demands steady over the last week. Given the dry outlook, releases from Hume are likely to remain close to current levels over the coming week. River users are advised to maintain a close eye on conditions and keep up to date via [River Murray data](#) when planning recreational or other activities.

Report into Fish Deaths in Lower Darling

The independent panel tasked with investigating the causes of the 2018-19 fish deaths in the lower Darling River has this week released its final report. The report is available on the MDBA [website](#). The panel has made 27 recommendations for policy makers and water managers to consider. The recommendations focus on long-term system management to protect native fish species. The panel emphasised that without considerable rainfall, low water levels and declining water quality are likely to persist making further fish deaths likely.

River operations

The **MDBA active storage** volume decreased by 57 GL this week to 3,153 GL (34% capacity).

At **Dartmouth Reservoir** the storage volume decreased by 1 GL to 2,445 GL (63% capacity). The release from Dartmouth, measured at Colemans, averaged 400 ML/day. The release is being managed to target 600 ML/day at Tallandoon by adjusting for variations in the inflows from Snowy Creek. The need to commence transfers from Dartmouth to Hume during autumn will continue to be reviewed and will depend on the storage level trend in Hume Reservoir which is, in turn, influenced by releases from the Snowy Hydro Scheme, natural inflows as well as releases from Hume Reservoir to meet system demands.

At **Hume Reservoir**, the storage volume continued to decline, reducing by 41 GL to 506 GL (17% capacity). The release from Hume averaged 10,400 ML/day and is currently near 10,000 ML/day.

Downstream at **Lake Mulwala** the level is currently 124.78 m AHD, which is within the normal operating range (124.6 to 124.9 m AHD). The diversion to Yarrawonga Main Channel averaged around 1,000 ML/day with



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120 ML/day of this flow returning to the Murray via Broken Creek. On the New South Wales side, Mulwala Canal diversion averaged 1,540 ML/day. Around 250 ML/day of this diversion is being released into the Edward River to meet Wakool Canal Diversions.

The release from **Yarrowonga Weir** increased this week to target 8,200 ML/day and is expected to remain around this rate over the Easter period. The release was increased in light of the continuing warm and dry conditions and the dry [outlook](#), in order to meet demands along the Murray and at the South Australian border whilst the level in Lake Victoria is very low.

Flows at the **Edward River** and **Gulpa Creek** offtakes remain around their normal regulated flow rates near 1,550 ML/day and 330 ML/day respectively. The flow downstream of **Stevens Weir** averaged 1,200 ML/day and is forecast to remain around this flow rate over the coming week.

Inflow to the Murray from the **Goulburn River**, measured at McCoys Bridge, gradually reduced to the current flow of 1,000 ML/day. The flow is expected to ease to around 940 ML/day over coming days and remain at this rate over the Easter period. 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 delivery from the Goulburn Valley is [likely](#) to continue at low rates during April and into May if conditions remain dry. The total volume of IVT called during 2018-19 is expected to exceed 400 GL. This volume would be a record volume delivered from the Goulburn Valley, and a record total volume of IVT delivered in a water year. Information regarding current opportunities for allocation trade between the Goulburn and Murray valleys is available at the [Victorian water register website](#).

National Channel diversions were steady around 1,950 ML/day and are likely to remain around this rate over the coming week depending on autumn irrigation demands.

At **Torrumbarry**, Lock 26 remains closed while urgent repairs are made to damaged inlet valves. This temporary closure of the lock does 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](#). The release downstream of Torrumbarry Weir averaged 5,000 ML/day and is forecast to remain around this rate over the coming week.

This week, inflows from the **Murrumbidgee River**, measured at Balranald, averaged 200 ML/day which is close to the normal end of system target for this time of year. The flow at Balranald will target the April end of system flow rate of 180 ML/day for the remainder of the month. WaterNSW has issued a red alert for blue-green algae on the Murrumbidgee River at Redbank weir. More information is available on the WaterNSW [website](#). The [Murrumbidgee IVT balance](#) is currently only 3 GL, preventing the MDBA from calling water from the Murrumbidgee to help meet Murray system demands.

At **Euston**, the weir pool is targeting FSL. The downstream release averaged 6,200 ML/day and is forecast to gradually reduce over the coming weeks to around 5,000 ML/day.

A red level warning (high alert) for blue-green algae is current at a number of sites along the Darling River including Menindee Lakes. A summary of alert levels in New South Wales is available on the [WaterNSW](#) website. Current environmental conditions in the Darling River system are well suited to algal growth due to persistent fine and warm weather, warm water temperatures and low or no flow conditions. 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](#).

The **Menindee Lakes** storage volume is 18 GL (less than 1% 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 upstream of Pooncarie at Court Nareen and Karoola, below Pooncarie near Jamesville and below Burtundy near Ashvale. 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** ceased on 12th of February. WaterNSW has advised that releases at Weir 32 are only planned to recommence when significant inflows are received into the Menindee lakes (inflows are currently zero). [Water restrictions](#) remain in place across much of New South Wales as a result of the extensive and on-going drought conditions.



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At **Wentworth Weir**, operations continue to target a pool level of around 10 cm above the full supply level to assist pumpers in the upper reaches of the Darling River arm of the weir pool whilst there is no inflow from the Darling River. The downstream release averaged 5,400 ML/day and is expected to fall away over the coming weeks to around 4,000 ML/day. Water from the River Murray continues to supply Broken Hill after the successful commissioning of [the Wentworth to Broken Hill pipeline](#). The 270 km pipeline extends from the River Murray near Wentworth to Broken Hill and has the capacity to deliver up to 37.4 ML/day of water to supply Broken Hill community and businesses.

The **Lock 9** weir pool is currently near FSL. As part of the weir pool variability program Lock 8 and 7 are currently targeting 100 cm and 90 cm (respectively) below FSL.

At **Lake Victoria** the storage decreased by 14 GL to 184 GL (27% capacity). If conditions remain dry over the coming weeks, the lake level is expected to fall to around 160 GL by the end of April before starting to rise again in May. This forecast level is very low for this time of year but has been targeted to maximise the ability to capture inflows from tributaries downstream of Hume Dam over autumn and winter and conserving water in upstream storages. System operations will be adapted over the coming months in light of any inflows through autumn and early winter.

The flow to **South Australia** reduced to 6,500 ML/day this week and is likely to reduce further to 4,900 ML/day by the weekend. The flow to South Australia is likely to continue to target around this rate for the remainder of April. The current flow consists of entitlement flow, traded water and environmental water. Deliveries of water on behalf of environmental water holders to the Lower Lakes and Coorong are expected to continue through April.

The 5-day average water level in the **Lower Lakes** remained steady at 0.54 m AHD. Environmental water delivered to South Australia is helping to prolong small barrage releases to the Coorong. This is supporting mudflat habitat for birds prior to their migration to the northern hemisphere for winter. Around 11.4 GL of water was released through the barrages this week. All fishways remain open to maintain a connection between the Lower Lakes and Coorong. 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



Australian Government



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Water in Storage

Week ending Wednesday 17 Apr 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	461.46	2 445	63%	71	2 374	-1
Hume Reservoir	192.00	3 005	173.58	506	17%	23	483	-41
Lake Victoria	27.00	677	22.31	184	27%	100	84	-14
Menindee Lakes		1 731*		18	1%	(- -) #	0	-1
Total		9 269		3 153	34%	--	2 941	-57
Total Active MDBA Storage							35% ^	

Major State Storages

Burrinjuck Reservoir	1 026	313	31%	3	310	-4
Blowering Reservoir	1 631	437	27%	24	413	+15
Eildon Reservoir	3 334	1 243	37%	100	1 143	-29

* 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 16 Apr 2019

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2018
Lake Eucumbene - Total	789	n/a	Snowy-Murray	+16	725
Snowy-Murray Component	339	n/a	Tooma-Tumut	+0	199
Target Storage	1 340		Net Diversion	15	526
			Murray 1 Release	+23	900

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)	10.5	358	Yarrawonga Main Channel (net)	6.8	203
Wakool Sys Allowance	2.0	51	Torrumbarry System + Nyah (net)	12.9	471
Western Murray Irrigation	0.5	25	Sunraysia Pumped Districts	1.7	115
Licensed Pumps	2.6	174	Licensed pumps - GMW (Nyah+u/s)	1	34
Lower Darling	0.1	7	Licensed pumps - LMW	4.6	385
TOTAL	15.7	615	TOTAL	27	1208

* 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	48.3	(6 900 ML/day)
Flow so far this month	124.9	
Flow last month	251.4	

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

	Current	Average over the last week	Average since 1 August 2018
Swan Hill	90	90	70
Euston	-	-	-
Red Cliffs	110	100	110
Merbein	100	100	100
Burtundy (Darling)	-	-	870
Lock 9	110	110	110
Lake Victoria	920	250	160
Berri	160	150	180
Waikerie	200	200	240
Morgan	200	190	250
Mannum	200	230	300
Murray Bridge	250	260	340
Milang (Lake Alex.)	1 020	1 030	920
Poltalloch (Lake Alex.)	340	550	770
Meningie (Lake Alb.)	1 770	1 900	1 580
Goolwa Barrages	3 900	4 940	3 020



River Levels and Flows

Week ending Wednesday 17 Apr 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	-	-	-	490	F	2 730	5 040
Jingellic	4.0	1.13	207.65	1 160	F	3 780	4 970
Tallandoon (Mitta Mitta River)	4.2	1.40	218.29	500	F	510	530
Heywoods	5.5	2.91	156.54	10 030	S	10 410	10 100
Doctors Point	5.5	2.69	151.16	11 030	F	11 390	11 340
Albury	4.3	1.69	149.13	-	-	-	-
Corowa	4.6	2.46	128.48	10 680	F	10 300	10 190
Yarrowonga Weir (d/s)	6.4	1.43	116.47	8 300	R	8 070	7 390
Tocumwal	6.4	1.97	105.81	7 880	R	7 640	7 220
Torrumbarry Weir (d/s)	7.3	1.92	80.46	5 250	R	4 970	5 540
Swan Hill	4.5	1.04	63.96	4 870	F	5 170	6 160
Wakool Junction	8.8	2.61	51.73	6 130	F	6 420	7 140
Euston Weir (d/s)	9.1	1.18	43.02	5 640	F	6 180	6 650
Mildura Weir (d/s)	-	-	-	5 900	F	6 040	6 180
Wentworth Weir (d/s)	7.3	2.83	27.59	5 210	R	5 400	5 610
Rufus Junction	-	3.38	20.31	5 810	F	6 730	7 380
Blanchetown (Lock 1 d/s)	-	0.52	-	5 730	F	5 900	6 020
Tributaries							
Kiewa at Bandiana	2.8	0.79	154.02	240	F	270	600
Ovens at Wangaratta	11.9	7.79	145.47	240	R	240	310
Goulburn at McCoys Bridge	9.0	1.53	92.95	1 030	F	1 320	1 640
Edward at Stevens Weir (d/s)	5.5	1.32	81.09	1 060	F	1 170	1 150
Edward at Liewah	-	1.90	57.28	1 190	F	1 210	1 180
Wakool at Stoney Crossing	-	1.37	54.86	370	R	360	390
Murrumbidgee at Balranald	5.0	0.44	56.40	190	F	200	440
Barwon at Mungindi	6.1	3.15	-	30	F	30	30
Darling at Bourke	9.0	2.09	-	0	F	0	0
Darling at Burtundy Rocks	-	0.49	-	0	F	0	0

Natural Inflow to Hume	1 580	1 730
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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	-0.12	-	No. 7 Rufus River	22.10	-0.86	+1.07
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.00	+0.10
No. 15 Euston	47.60	-0.02	-	No. 5 Renmark	16.30	+0.04	+0.19
No. 11 Mildura	34.40	+0.01	+0.16	No. 4 Bookpurnong	13.20	+0.04	+0.70
No. 10 Wentworth	30.80	+0.10	+0.19	No. 3 Overland Corner	9.80	+0.02	+0.23
No. 9 Kulnine	27.40	+0.01	-0.91	No. 2 Waikerie	6.10	+0.03	+0.20
No. 8 Wangumma	24.60	-0.98	-0.62	No. 1 Blanchetown	3.20	+0.04	-0.23

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.54
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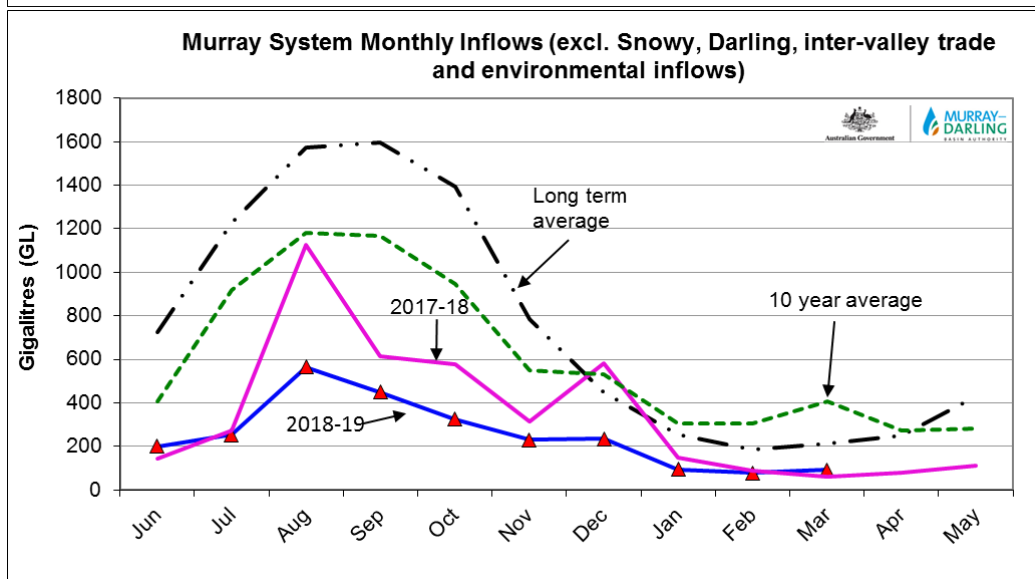
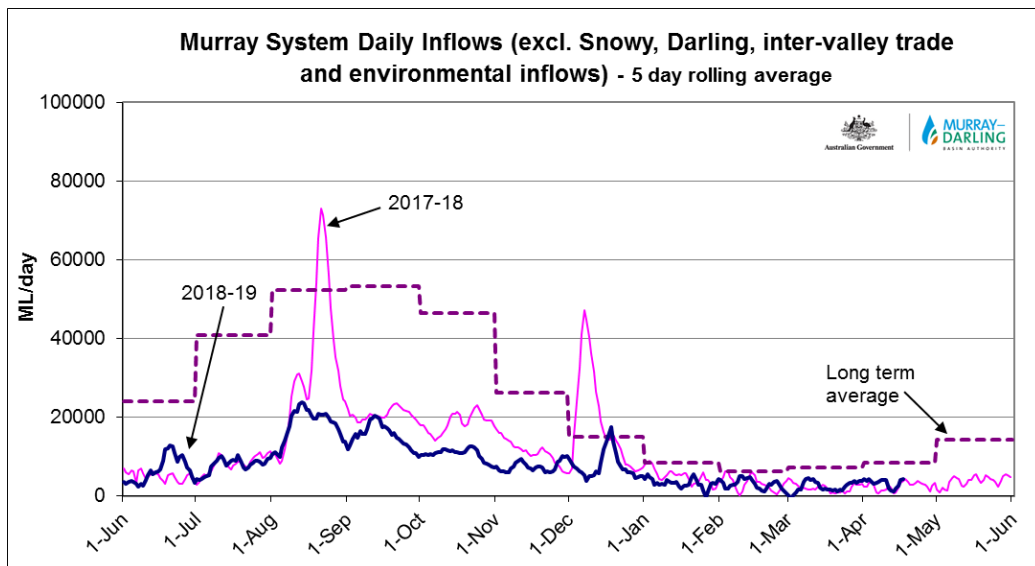
Barrages

Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.49	1	-	Open	Open	-
Mundoo	26 openings	0.53	All closed	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	1	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwichee	322 gates	0.47	19	Open	Open	Open	-

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





State Allocations (as at 10 Apr 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	100%
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>

