



River Murray Weekly Report

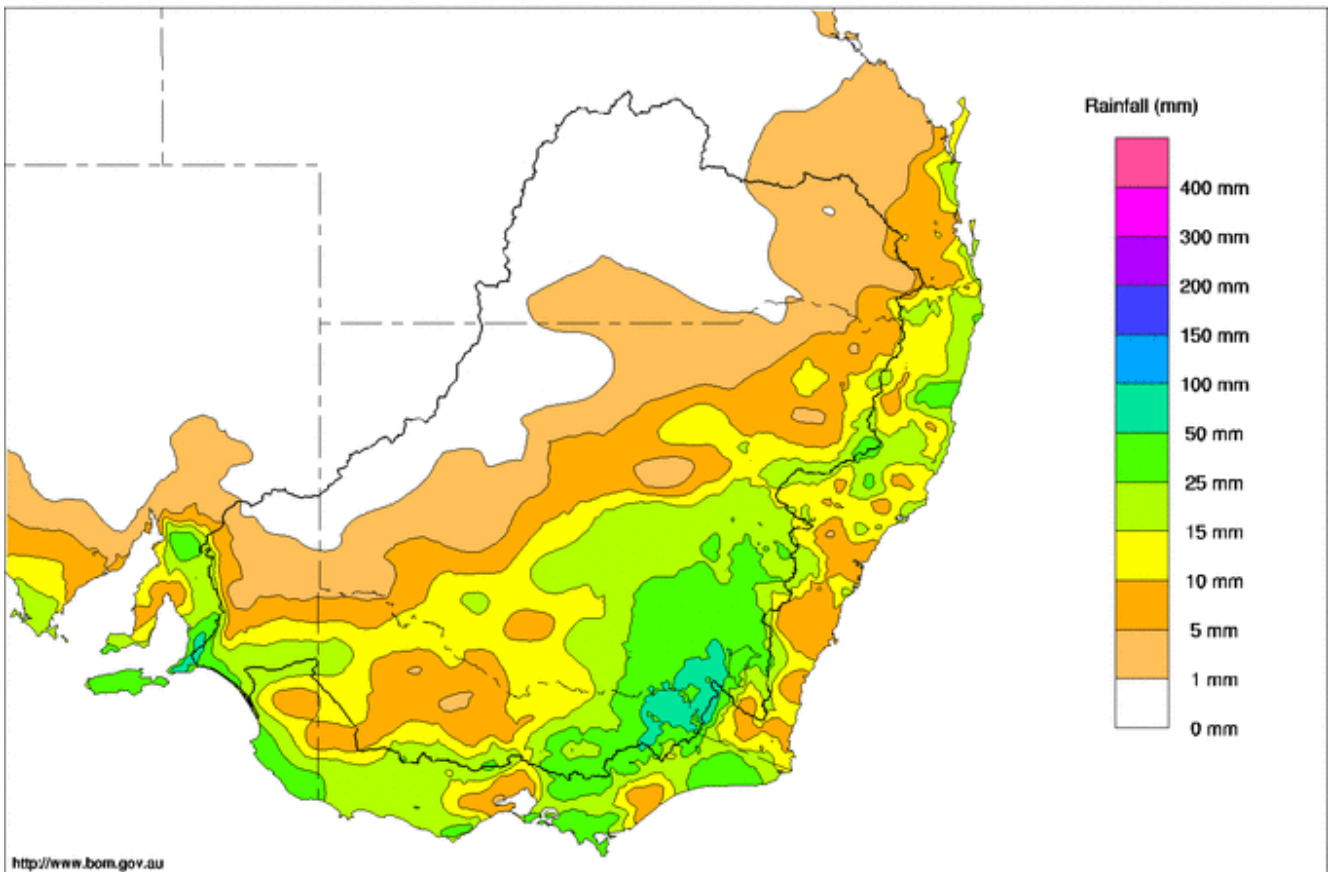
For the week ending Wednesday, 24 June 2020

Trim Ref: D20/20197

Rainfall and inflows

There was widespread rainfall across the southern and eastern parts of the Murray-Darling Basin this week, with the highest rainfall totals recorded across the NSW Snowy Mountains and Victorian Alps regions (Map 1). On the southwestern slopes of NSW, Cabramurra and Khancoban recorded 66 and 64 mm respectively, while a little further north, Burrinjuck Dam recorded 46 mm. In upper northeast Victoria, Falls Creek and Mount Hotham recorded 60 and 58 mm respectively. South Australia also recorded some moderate totals including 39 mm at Victor Harbour (just outside Murray-Darling Basin).

Murray-Darling Rainfall Totals (mm) Week Ending 24th June 2020
Australian Bureau of Meteorology



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Map 1 - Murray-Darling Basin rainfall totals for week ending 24 June (Source: Bureau of Meteorology)

The upper Murray catchment received totals between 15-100 mm this week, and inflows responded accordingly, with the gauge at Jingellic peaking at around 16,500 ML/day at the start of the week. The Bureau of Meteorology (BoM) is currently forecasting modest rainfall over the southern Murray-Darling Basin in the coming [8 days](#) that may help to maintain reasonable tributary inflows over the coming week.

Specific information about flows at key locations can be found at the MDBA's [River Murray data](#) webpage. Up-to-date river data for sites in the upper Murray can also be found on BoM's [website](#) and in the Murray River Basin Daily River Report at the WaterNSW [website](#).

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System operations

Unregulated flow event

Despite releases from Hume Dam remaining at minimums, recent inflows from the Ovens, Kiewa and Goulburn Rivers have resulted in sustained elevated flows through the mid-Murray and the capture of around 180 GL in Lake Victoria since the beginning of June. Lake Victoria exceeded 80% capacity as of 22 June and is continuing to rise. As of 26 June 2020, MDBA analysis confirms that, even under a very conservative upstream tributary inflow scenario, the storage can be filled in the coming month(s). After guaranteeing the effective filling of Lake Victoria under a minimum upstream inflow scenario, sufficient surplus volume remains to declare a period of unregulated flow for certain reaches of the River Murray System, which will commence on 27 June. For more information please refer to your local water authority.



Photo 1: Releases from Scrivener Dam driven by rain in the upper Murrumbidgee Catchment (Photo Courtesy Tim Rossi, MDBA)

In the Murrumbidgee system, this week WaterNSW announced [limited supplementary water access](#) following rainfall across the catchment. For more information, please refer to the WaterNSW website.

River operations

- Minimum releases from Hume Dam continue as tributary inflows exceed downstream requirements
- Elevated Victorian tributary inflows boost River Murray flows
- Lake Victoria continues to rise as recent tributary inflows are captured
- Unregulated flows announced

River operations and the COVID-19 virus

The MDBA is continuing to work with government partners and stakeholders during this challenging time. In response to the impact of COVID-19, the MDBA has enacted business continuity arrangements to ensure the continued operation of our business functions. River operations have been identified as a priority in this time as running the river is essential to supporting irrigation supply to [agricultural industries](#).

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We hope all our community members remain safe at this time. We encourage all river users to evaluate plans against government advice, social distancing and travel, and to support actions to limit the spread of COVID-19.

Water quality impacts

A number of amber alerts for **blue-green algae** remain current in the River Murray system. It is important that water users regularly keep up to date with algal alerts, notices and health warnings. This information is available through [Goulburn-Murray Water](#) and [WaterNSW](#).

River operations

Over the past week, MDBA total active storage (Dartmouth, Hume and Lake Victoria) increased by 173 GL to 3,421 GL (41% capacity).

At **Dartmouth Reservoir**, the [storage](#) increased by 26 GL to 1,989 GL (52% capacity). The [release](#) from Dartmouth, measured at Colemans, targeted the minimum flow of 200 ML/day over most of the past week with the exception of the last two days of the week where the flow has increased to around 1,200 ML/day for the purposes of electricity generation. It is expected that the flow will return to minimums by the coming weekend.

At **Hume Reservoir**, the [storage](#) increased by 103 GL to 1,065 GL (35% capacity) and is expected to continue to rise in response to this week's rain in the upper Murray catchment (photo 2). Downstream of Hume, elevated tributary inflows following rainfall have been sufficient to meet and exceed downstream flow requirements, and hence the release from Hume is continuing at the minimum release of 600 ML/day.

At **Lake Mulwala**, the pool [level](#) is currently 124.76 m AHD, which is within the normal operating range between 124.6 and 124.9 m AHD. At **Yarrowonga Weir**, flow increased from 6,500 ML/day to 10,000 ML/day at the end of the week to pass inflows. A peak release around 11,000 ML/day is expected in coming days.



Photo 2: River Murray near Burrowye (Image courtesy Cecilia Burke MDBA)

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As Yarrawonga releases increased above 9,000 ML/day (approximate downstream channel capacity), some forest regulators in the Millewa Forest have been opened to manage river levels.

The gates at Edward and Gulpa Creek offtake regulators were previously raised clear of the water, allowing inflows to the **Edward River** to vary with the Murray. This week, as Murray flows gradually increased, the gates have been reinstated to manage flows near 1,550 ML/day and 200 ML/day, respectively. At Stevens Weir, the downstream flow increased from a low of 570 ML/day to near 1,200 ML/day and is expected to slowly rise over the coming week.

Back on the River Murray, the flow at **Barmah** increased from 3,500 ML/day to the current rate near 5,500 ML/day. Over the coming week, the flow is expected to continue rising as the higher releases from Yarrawonga Weir arrive. Inflows from the **Broken Creek**, measured at Rice's Weir, averaged around 40 ML/day this week.

On the **Goulburn River**, the flow measured at McCoy's Bridge peaked during the week at around 6,000 ML/day and has since eased to around 5,300 ML/day. With the Waranga Basin now at its winter target level, all Goulburn tributary inflows to the river downstream of Eildon Reservoir will flow through to the Murray. Variations in flow will therefore reflect rainfall and streamflow responses in the Goulburn catchment, with another increase in the lower Goulburn expected in the coming days from recent rain.

[Diversions](#) to National Channel from the Torrumbarry Weir pool continued to remain steady this week, averaging around 410 ML/day. Whilst diversions for irrigation have now ceased, water is expected to continue to be diverted at around this rate over coming weeks to maintain baseflows in the Gunbower Creek. Having been lowered over the past few weeks, the **Torrumbidgee Weir pool** has reached its target level of around 30 cm below the Full Supply Level. The pool will now be varied between 20-30 cm below FSL over the coming months as part of the weir pool variability program. Varying pool levels assists with reducing the incidence of notching and can help improve bank stability for riverbanks within the influence of the weir pool. The release from Torrumbarry Weir returned from a low of around 6,900 ML/day to the current rate of 10,800 ML/day, in response to inflows from the Goulburn River following rain in the preceding week. Flows are expected to continue to gradually rise in the coming week as increased Goulburn inflows combine with higher upstream Murray flows.

Inflow from the **Murrumbidgee River**, measured at [Balranald](#), averaged around 950 ML/day this week. These elevated flows at Balranald have resulted from rain and the drawing down of various weir pools in the Murrumbidgee system for winter maintenance purposes. It is expected that the flow will remain above the end of system target of 429 ML/day through June. The [Murrumbidgee IVT balance](#) is open for trade from the Murrumbidgee to the Murray (currently at 94 GL), while trade from the Murray to the Murrumbidgee is closed.

At **Euston Weir**, the [weir pool level](#) is targeting around 30 cm below FSL as part of the weir pool variability program. The [downstream release](#) peaked at around 13,000 ML/day this week, before decreasing to the current rate of around 11,300 ML/day. The release is expected to remain steady at about this rate over the coming week.

This week the **Menindee Lakes storage** remained steady at 480 GL (28% capacity). [WaterNSW](#) has been providing regular updates on the streamflow response in the Barwon-Darling system. Upstream on the Darling River, flows at Bourke have continued to recede slowly and are currently around 50 ML/day. WaterNSW has ceased the transfer of water from Lake Wetherell to Lake Pamamaroo (now storing around 330 GL) as the two lakes have reached parity in level. The downstream release, measured at Weir 32, averaged around 210 ML/day over the past week. Despite the rainfall and streamflow responses during recent months, in many parts of NSW drought conditions persist with extensive [water restrictions](#) still in place. Links to drought services and assistance can be also accessed via the MDBA [drought webpage](#).

At **Wentworth Weir**, the weir pool level is being managed to a target level around FSL (30.80 m AHD) but is expected to vary 10 cm above and below this level as part of normal operations. River users are advised to adjust their activities, pumps and moorings to accommodate any changes in weir pool level. The downstream release increased gradually this week, from around 9,900 to 11,900 ML/day and is expected to gradually decrease over the coming week.



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At **Lock 9**, the pool level remains surcharged to maximise the inflow of water into **Lake Victoria**, but the pool may return to FSL over the coming week. Around 8,500 ML/day is currently being diverted into Lake Victoria with all inlet gates to the lake fully open. The storage volume increased by 45 GL to 561 GL (83% capacity). The storage will continue to rise during the remainder of June as some of the elevated river flows resulting from recent tributary inflows are captured and stored. On Friday 26 June, MDBA commenced slowing the rate of fill at Lake Victoria. This occurred as MDBA is satisfied there are sufficient flows in transit to ensure Lake Victoria can be filled at a later time under a recession to worst-case inflow conditions. This action is instigated to meet the requirements of the Lake Victoria Operating Strategy (LVOS) to limit damage to cultural heritage sites around the foreshore of Lake Victoria. The commencement of this action, in combination with on-going elevated flows resulting from recent tributary inflows has triggered a period of unregulated flow.

The **flow to South Australia** averaged around 3,300 ML/day this week, comprised of June Entitlement and small volumes of environmental water. For more information on South Australia's Entitlement flow, see the South Australian Department for Environment and Water's latest [River Murray flow report](#). Increased flows are anticipated in coming weeks as unregulated upstream inflows pass into South Australia.

The **Lower Lakes** 5-day average water level is currently 0.65 m AHD. Releases have continued through fishways, with opportunistic releases through Tauwitchere barrage when tide and wind conditions permit. The variable barrage release strategy will continue to target the incoming high tide window in order to push fresh water along the Coorong. For information on barrage releases see the South Australian [Department for Environment and Water Weekly 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 24 Jun 2020

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	451.71	1 989	52%	71	1 918	+26
Hume Reservoir	192.00	3 005	179.41	1 065	35%	23	1 042	+103
Lake Victoria	27.00	677	26.02	561	83%	100	461	+44
Menindee Lakes		1 731*		480	28%	(- -) #	0	+0
Total		9 269		4 095	44%	- -	3 421	+173
Total Active MDBA Storage							41% ^	

Major State Storages

Burrinjuck Reservoir	1 026	443	43%	3	440	+14
Blowering Reservoir	1 631	892	55%	24	868	+60
Eildon Reservoir	3 334	1 583	47%	100	1 483	+47

* 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 23 Jun 2020

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2020
Lake Eucumbene - Total	931	+7	Snowy-Murray	+11	234
Snowy-Murray Component	447	+12	Tooma-Tumut	+7	56
Target Storage	1 240		Net Diversion	5	178
			Murray 1 Release	+22	291

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2019	Victoria	This Week	From 1 July 2019
Murray Irrig. Ltd (Net)	0.0	131	Yarrowonga Main Channel (net)	0	127
Wakool Sys Allowance	0.5	57	Torrumbarry System + Nyah (net)	0	287
Western Murray Irrigation	0.1	24	Sunraysia Pumped Districts	0.4	109
Licensed Pumps	0.6	134	Licensed pumps - GMW (Nyah+u/s)	0.2	32
Lower Darling	0.1	1	Licensed pumps - LMW	0.7	388
TOTAL	1.3	347	TOTAL	1.3	943

* 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	90.0 *	
Flow this week	22.9	(3 300 ML/day)
Flow so far this month	81.2	
Flow last month	123.8	

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

	Current	Average over the last week	Average since 1 August 2019
Swan Hill	130	130	70
Euston	-	-	-
Red Cliffs	90	90	50
Merbein	100	100	100
Burtundy (Darling)	280	300	610
Lock 9	100	90	100
Lake Victoria	130	130	120
Berri	200	200	160
Waikerie	280	270	220
Morgan	290	310	230
Mannum	250	250	260
Murray Bridge	350	340	290
Milang (Lake Alex.)	980	980	900
Poltalloch (Lake Alex.)	730	670	800
Meningie (Lake Alb.)	1 740	1 750	1 770
Goolwa Barrages	6 040	5 120	3 040



River Levels and Flows

Week ending Wednesday 24 Jun 2020

	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)				
River Murray							
Khancoban	-	-	-	2 950	R	3 860	6 380
Jingellic	4.0	2.38	208.90	10 640	F	10 750	9 180
Tallandoon (Mitta Mitta River)	4.2	2.05	218.94	2 480	S	1 690	900
Heywoods	5.5	1.49	155.12	600	S	600	600
Doctors Point	5.5	1.94	150.41	3 740	F	3 340	2 010
Albury	4.3	1.03	148.47	-	-	-	-
Corowa	4.6	1.22	127.24	4 080	R	2 940	1 930
Yarrowonga Weir (d/s)	6.4	1.63	116.67	10 050	R	8 500	4 960
Tocumwal	6.4	2.08	105.92	9 030	R	7 360	4 350
Torrumbarry Weir (d/s)	7.3	3.39	81.93	10 850	R	8 570	9 120
Swan Hill	4.5	1.54	64.46	8 300	R	8 290	9 780
Wakool Junction	8.8	3.30	52.42	9 490	F	10 520	10 590
Euston Weir (d/s)	9.1	1.98	43.82	11 350	F	12 260	11 180
Mildura Weir (d/s)	-	-	-	12 560	F	12 100	10 620
Wentworth Weir (d/s)	7.3	3.38	28.14	11 860	S	11 290	10 060
Rufus Junction	-	2.79	19.72	2 820	S	2 800	2 770
Blanchetown (Lock 1 d/s)	-	0.61	-	2 860	R	2 800	2 720
Tributaries							
Kiewa at Bandiana	2.8	2.51	155.74	2 940	F	2 720	1 590
Ovens at Wangaratta	11.9	10.17	147.85	7 450	F	6 460	3 140
Goulburn at McCoys Bridge	9.0	3.68	95.10	5 290	F	5 280	4 110
Edward at Stevens Weir (d/s)	5.5	1.42	81.20	1 180	F	830	840
Edward at Liewah	-	1.75	57.13	1 060	S	1 050	1 210
Wakool at Stoney Crossing	-	1.48	54.97	610	S	640	820
Murrumbidgee at Balranald	5.0	1.43	57.39	1 010	R	950	1 030
Barwon at Mungindi	6.1	3.20	-	130	F	130	110
Darling at Bourke	9.0	4.00	-	70	S	100	200
Darling at Burtundy Rocks	-	0.73	-	170	S	170	170

Natural Inflow to Hume	14 410	5 750
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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	-0.14	-	No. 7 Rufus River	22.10	-0.11	+0.49
No. 26 Torrumbarry	86.05	-0.22	-	No. 6 Murtho	19.25	+0.00	+0.03
No. 15 Euston	47.60	-0.28	-	No. 5 Renmark	16.30	+0.06	+0.20
No. 11 Mildura	34.40	+0.02	+0.45	No. 4 Bookpurnong	13.20	+0.14	+0.39
No. 10 Wentworth	30.80	+0.04	+0.74	No. 3 Overland Corner	9.80	+0.16	+0.25
No. 9 Kulnine	27.40	+0.26	-0.64	No. 2 Waikerie	6.10	+0.15	+0.19
No. 8 Wangumma	24.60	-0.69	-0.05	No. 1 Blanchetown	3.20	+0.15	-0.14

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.65
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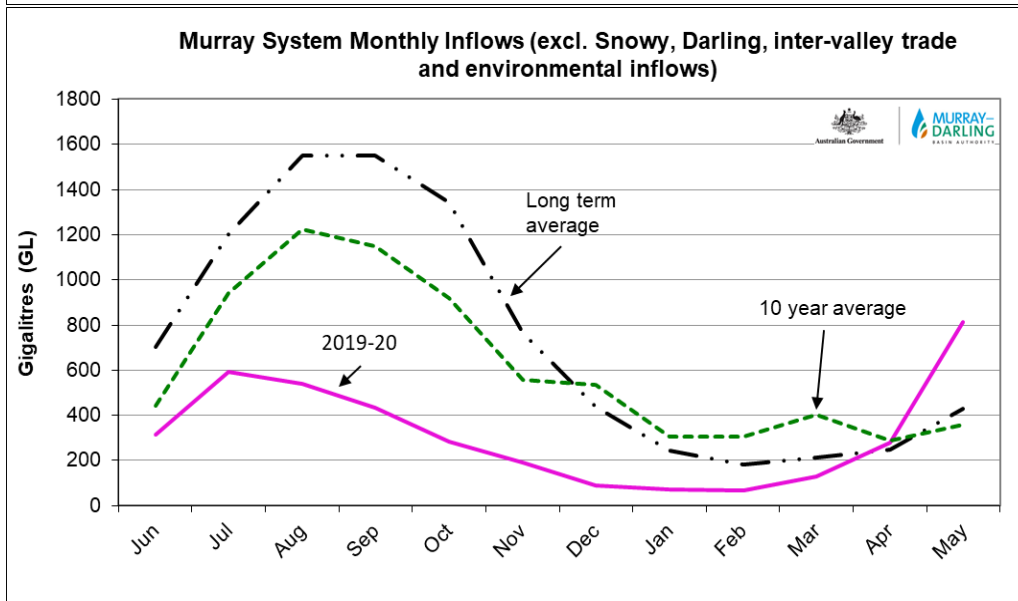
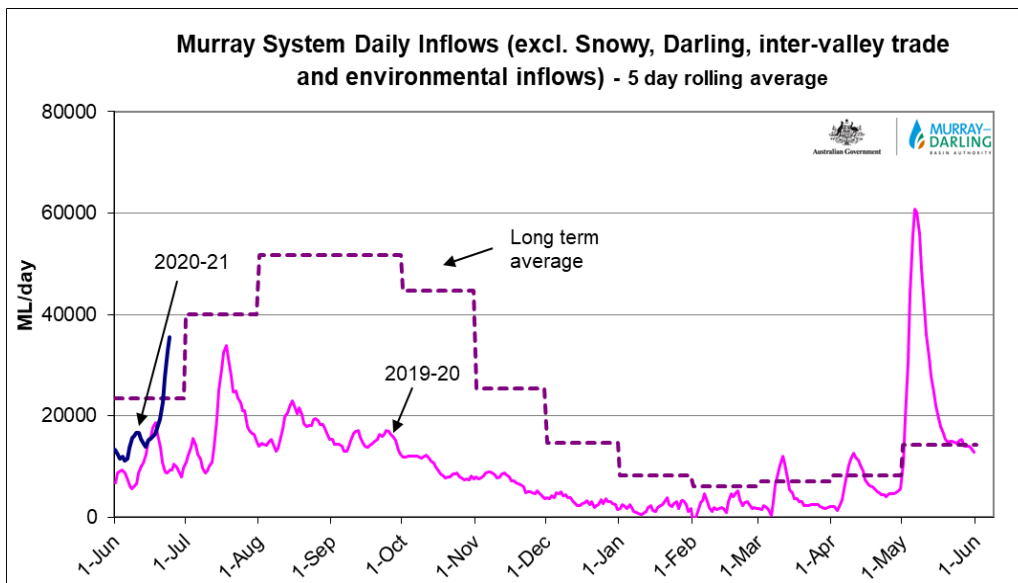
Barrages

Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.68	All closed	-	Closed	Open	-
Mundoo	26 openings	0.64	All closed	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	All closed	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwichee	322 gates	0.67	2	Open	Open	Open	-

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





State Allocations (as at 24 Jun 2020)

NSW - Murray Valley

High security	97%
General security	3%

Victorian - Murray Valley

High reliability	66%
Low reliability	0%

NSW – Murrumbidgee Valley

High security	95%
General security	11%

Victorian - Goulburn Valley

High reliability	80%
Low reliability	0%

NSW - Lower Darling

High security	100%
General security	30%

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>

