



River Murray Weekly Report

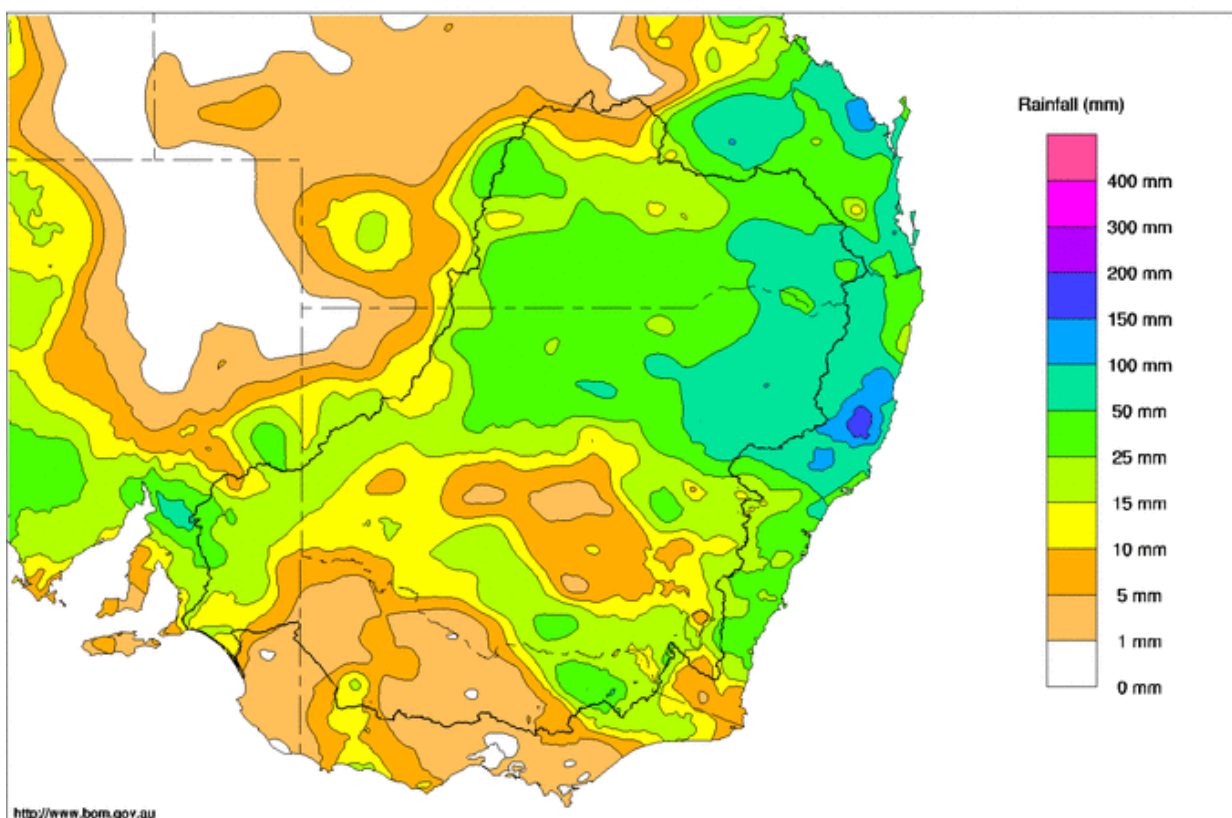
For the week ending Wednesday, 24 November 2021

Trim Ref: D21/46455

Rainfall and inflows

There was widespread rainfall across the Murray-Darling Basin this week, with the highest totals in the northern Basin (Map 1). In the Murray system the highest weekly totals occurred in Victoria with 48 mm at Mount Hotham (upper Murray catchment), while the Ovens catchment also received widespread rainfall between 30-50 mm. In South Australia the eastern Mount Lofty ranges recorded near 18 mm.

Murray-Darling Rainfall Totals (mm) Week Ending 24th November 2021
Australian Bureau of Meteorology



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Issued: 24/11/2021

Map 1 - Murray-Darling Basin rainfall for the week ending 24 November 2021. Source: Bureau of Meteorology.

Following rainfall in the last few days, tributary flows have started to increase. Upstream of Hume dam, Jingellic was flowing around 11,000 ML/day as of 24 November. By the 26th November, local inflow has increased the flow above 20,000 ML/day. However, higher flows are now expected across the weekend, with the Bureau of Meteorology (BoM) warning of possible minor flooding. Downstream on the Ovens river, the flow at Wangaratta has increased to around 4,000 ML/day with further rises possible. The BoM [8-day rainfall outlook](#) is forecasting further widespread rain across the Basin over the coming days, with totals in excess of 50 mm expected in the upper Murray catchments, before conditions clear over the weekend.

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](#), at the WaterNSW real-time data [website](#), and in the Murray River Basin [Daily River Report](#) at the WaterNSW website. See also Victoria's DELWP



River Murray Weekly Report

water monitoring [website](#), South Australia's Water Data [website](#) and Queensland's [Water Monitoring Information Portal](#).

River operations

- Further rain forecast over the coming week
- Releases at Hume Dam increase to manage airspace
- Elevated inflows to the Murray from the Murrumbidgee River continue

Hume Dam operations update

The BoM is forecasting widespread rain over the coming days in the upper Murray catchments. With Hume Dam around 98% capacity (around 50 GL of airspace) and irrigation demands remaining low, MDBA River Operators have increased releases [to manage airspace](#) in Hume and provide some peak flow mitigation where possible. Releases from Hume are currently within the downstream river channel capacity, however rainfall totals at the higher end of the forecast range could potentially require releases to increase further to help manage larger inflows. Higher flows from the Kiewa River may also push river levels above channel capacity at Albury and downstream. Communities downstream of Hume Dam are therefore advised to monitor the Bureau of Meteorology's flood watches and warnings over the coming days. River Operators will continue to work closely with the BoM to assess future rain and likely streamflow responses and actively manage Hume dam storage.

Andrew Reynolds, acting Chief Executive, provides an [overview](#) on how the MDBA is managing operations at Hume Dam during the current high flows on the MDBA website.

The latest video update includes:

- Forecast rainfall and inflows
- Planned management for the coming week
- Catchment conditions
- Water releases

Hume Dam
operations update
17 November 2021

Andrew Reynolds
Acting Chief Executive



Further details about [flood management](#) at Hume Dam are available on the MDBA website.

Unregulated flows

Rainfall last week caused increased inflows into Hume Dam, and to manage airspace, releases from the storage were increased. These releases, supported by the high flows and unregulated inflows to the Murray from the Murrumbidgee and lower Darling Rivers, have allowed access to unregulated flow between Hume to Torrumbarry to recommence. Access to unregulated flow is now also available in the Kolety/Edward -Wakool system. Access has been extended between Torrumbarry and South Australia and on the lower Darling River.

Forecast rainfall over the coming week increases the likelihood that access to unregulated flow throughout the system will be extended. River operators will closely monitor the coming week's forecast rain and flow responses and provide updated advice on unregulated flow access in due course. Information on access to Murray supplementary water licences in NSW is available from [WaterNSW Water insights](#). General information on River Murray unregulated flows can be accessed on the MDBA [webpage](#).

River operations

Total **active storage** decreased slightly over the last week by 13 GL to 8,092 GL (95% capacity).

At **Dartmouth Reservoir**, the [storage](#) increased by 26 GL to 3,275 GL (85% capacity). The release, measured at Colemans gauge, targeted the minimum rate of 200 ML/day this week and is expected to remain at this rate over the coming weeks.

Hume Reservoir [storage](#) remained steady at around 2,950 GL (98% capacity). Releases were increased during the week (21,500 ML/day as of Wednesday 24 November) to manage airspace ahead of forecast rainfall. As of the 26th



River Murray Weekly Report

November releases have been increased to 30,000 ML/day. If further rainfall and flow responses take place in the coming days, it is possible further increases may be required.

The water level at **Lake Mulwala** is currently 124.80 m AHD, within the normal operating range (124.6 to 124.9 m AHD). The diversion to Mulwala Canal averaged around 800 ML/day, while Yarrowonga Main Channel averaged 300 ML/day. The release from Yarrowonga Weir increased to 21,500 ML/day on Wednesday and is likely to continue to rise with rainfall forecast over the coming days.

Flow through the **Kolety** (pronounced Kol-etch)/**Edward River** and the **Gulpa Creek** offtakes averaged 1,800 ML/day and 900 ML/day, respectively. Further downstream at **Toonalook**, the flow averaged around 5,800 ML/day, including around 2,500 ML/day returning to the Kolety/Edward River from the Millewa forest.

At **Stevens Weir**, diversions at Wakool Main Canal have remained steady at around 650 ML/day in response to recent and forecast rainfall. Flow downstream of Stevens Weir increased over the week and currently around 4,200 ML/day. The flow is expected to recede over the coming days.

On the **Goulburn River**, the flow measured at [McCoys Bridge](#) averaged 2,700 ML/day. This includes small volumes of water released on behalf of environmental water holders to maintain base flows. Information regarding opportunities for allocation trade between the Goulburn and Murray Valleys is available at the Victorian water register [website](#) and the [Goulburn-Murray Water website](#).

The [diversion](#) to **National Channel** remained steady this week at around 1,000 ML/day. Releases from **Torrumbarry Weir** have increased over the week to a current flow of 13,800 ML/day. Similar releases are expected over the coming week.



Photo 1: Near Narrandera boat ramp on the Murrumbidgee. Photo: Tim Rossi

Inflow from the **Murrumbidgee River**, measured at [Balranald](#), remained above channel capacity this week as flows continue to return to the river from the Lowbidgee floodplain. With WaterNSW currently releasing around 9,500 ML/day to manage airspace in Burrinjuck dam ahead of forecast rainfall, higher inflows to the Murray are expected to continue well into December.

River Murray Weekly Report

At **Euston Weir**, the [downstream release](#) continued to recede and currently around 24,600 ML/day. The release is expected to increase to around 27,000 ML/day by next week.

Pumping to **Hattah Lakes** continued this week, averaging around 1,000 ML/day. Pumping at Hattah Lakes is expected to conclude on Friday 26 November. For more information, visit the Mallee CMA [website](#).

At **Menindee Lakes**, the storage remains above the full supply level in response to sustained inflows. Over the coming weeks, WaterNSW will manage releases to meet any demands and gradually reduce the storage level so that all the surcharge volume has been released by 31 December, in accordance with operating rules. The total [storage](#) volume was relatively steady this week at around 1,908 GL (110% capacity).

Releases to the lower Darling River (measured at Weir 32) have averaged around 2,500 ML/day this week. The majority of this release is to manage the water level in the lakes whilst they are above FSL, with a small component released on behalf of environmental water holders to maintain stable, elevated flows to protect nesting Murray Cod in the lower Darling River. WaterNSW has also continued releases from Lake Cawndilla (part of Menindee Lakes) into the Great Darling Anabranch (currently around 1,000 ML/day). Into December Weir 32 releases may be increased depending on the extent to which forecast inflows increase following significant rain over the northern Basin in recent weeks. Further information will be provided by the [Water NSW](#) water insights portal.

Over the coming months, the MDBA will continue to revise forecasts and operational plans for the volume and timing of operational water to be released from Menindee Lakes to support all water users along the River Murray System once unregulated flows cease. This process is on-going and will follow the practices agreed by the New South Wales, Victorian, South Australian and Commonwealth governments as stated in the Murray-Darling Basin Agreement and the [Objectives and Outcomes for River Operations in the River Murray System](#). These practices require State and Commonwealth agencies to provide ongoing advice on release decisions, and implications for water security, delivery efficiency, the community and environmental outcomes.

Further updates will be provided in the update to the 2021-22 [Annual Operating Outlook](#) to be published on the MDBA website later this year. Updates will also be provided in future Weekly Reports as plans and release decisions are revised. More information on Menindee Lakes management is available in a [webinar](#) hosted by the MDBA.

At **Wentworth Weir**, the downstream flow is around 26,000 ML/day this week and is expected to start increasing over the coming week.

At **Lock 9**, the weir pool is currently around 7 cm above FSL. The **Lock 8** weir pool has increased 6 cm above FSL. The continued high flows have resulted in the temporary removal of the **Lock 7** weir, as per standard high flow management at the weir. The weir will be reinstated when higher flows subside.

The [storage](#) at **Tar-ru/Lake Victoria** is close to the effective FSL. Outflows from Tar-ru/Lake Victoria are being managed to lower the storage volume in accordance with the Lake Victoria Operating Strategy (LVOS) as specified in the [Objectives and Outcomes for River Operations in the River Murray System](#), due to continuing inflows upstream. The LVOS aims to stabilise the lake foreshore and protect cultural heritage sites by encouraging the growth of native vegetation. To help achieve this, operations aim to reduce the length of time the foreshore vegetation is inundated. The storage level will be managed to maximise water availability by the end of the current unregulated flow event.

This week the [flow](#) to **South Australia** averaged around 30,500 ML/day and remains unregulated. Flows are expected to continue to recede over the coming week.

Additional Dilution Flow (ADF) to South Australia continues to be triggered. The current unregulated flows into South Australia mean that no additional releases from storage are needed to meet ADF at the current point in time. For information on ADF and the ADF triggers please refer to [Objectives and Outcomes for River Operations in the River Murray System](#) (pages 79-80).

The **Lower Lakes** 5-day average water level is 0.84 m AHD. Barrage releases are continuing and averaged around 25,400 ML/day over the last week. For further information on barrage releases and South Australia's Entitlement flow, see the South Australian Department for Environment and Water Weekly [River Murray Flow Report](#).



River Murray Weekly Report

For media inquiries contact the Media Officer on 02 6279 0141

ANDREW KREMOR
A/g Executive Director, River Management



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[River Data website](#)



[Water in Storages](#)

River Murray Weekly Report

Water in Storage

Week ending Wednesday 24 Nov 2021

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	476.70	3 275	85%	71	3 204	+26
Hume Reservoir	192.00	3 005	191.73	2 950	98%	23	2 927	+1
Lake Victoria	27.00	677	26.64	633	94%	100	533	-23
Menindee Lakes		1 731*		1 908	110%	(480 #)	1 428	-17
Total		9 269		8 766	95%	--	8 092	-13
Total Active MDBA Storage							94% ^	

Major State Storages

Burrinjuck Reservoir	1 026	924	90%	3	921	-83
Blowering Reservoir	1 631	1 591	98%	24	1 567	-4
Eildon Reservoir	3 334	2 896	87%	100	2 796	+26

* 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 Nov 2021

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2021
Lake Eucumbene - Total	1 634	n/a	Snowy-Murray	+18	408
Snowy-Murray Component	728	n/a	Tooma-Tumut	+12	231
Target Storage	1 450		Net Diversion	6	177
			Murray 1 Release	+29	678

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2021	Victoria	This Week	From 1 July 2021
Murray Irrig. Ltd (Net)	8.4	299	Yarrowonga Main Channel (net)	1.8	44
Wakool Sys Allowance	n/a	1	Torrumbarry System + Nyah (net)	0	155
Western Murray Irrigation	0.7	6	Sunraysia Pumped Districts	4.3	28
Licensed Pumps	n/a	80	Licensed pumps - GMW (Nyah+u/s)	n/a	11
Lower Darling	n/a	58	Licensed pumps - LMW	n/a	107
TOTAL	9.1	444	TOTAL	6.1	345

* 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	180.0 *	
Flow this week	213.4	(30 500 ML/day)
Flow so far this month	782.2	
Flow last month	923.6	

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

	Current	Average over the last week	Average since 1 August 2021
Swan Hill	80	90	80
Euston	-	-	-
Red Cliffs	130	150	120
Merbein	-	140	130
Burtundy (Darling)	350	350	310
Lock 9	170	160	130
Lake Victoria	120	120	130
Berri	170	170	150
Waikerie	210	190	180
Morgan	190	190	190
Mannum	200	200	200
Murray Bridge	210	210	220
Milang (Lake Alex.)	460	450	610
Poltalloch (Lake Alex.)	230	250	400
Meningie (Lake Alb.)	1 410	1 410	1 520
Goolwa Barrages	480	480	1 090



River Levels and Flows

Week ending Wednesday 24 Nov 2021

	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	-	-	-	5 350	F	6 410	5 410
Jingellic	4.0	2.40	208.92	10 890	F	13 700	13 540
Tallandoon (Mitta Mitta River)	4.2	1.77	218.66	1 480	R	1 480	1 960
Heywoods	5.5	3.42	157.05	18 610	R	16 240	14 720
Doctors Point	5.5	3.51	151.98	19 500	R	17 520	16 840
Albury	4.3	2.60	150.04	-	-	-	-
Corowa	4.6	3.39	129.41	18 170	R	18 370	18 990
Yarrowonga Weir (d/s)	6.4	2.80	117.84	20 070	S	19 340	19 950
Tocumwal	6.4	3.58	107.42	21 610	R	21 250	18 990
Torrumbarry Weir (d/s)	7.3	4.08	82.63	13 800	S	12 870	10 790
Swan Hill	4.5	2.27	65.19	13 050	R	12 000	11 610
Wakool Junction	8.8	4.99	54.11	18 450	R	18 480	20 500
Euston Weir (d/s)	9.1	3.78	45.62	24 630	S	25 270	28 680
Mildura Weir (d/s)	-	-	-	24 530	F	25 780	30 940
Wentworth Weir (d/s)	7.3	4.31	29.07	25 930	S	27 270	33 370
Rufus Junction	-	6.00	22.93	29 520	F	30 490	34 520
Blanchetown (Lock 1 d/s)	-	2.21	-	34 250	F	34 790	34 370
Tributaries							
Kiewa at Bandiana	2.8	1.90	155.13	1 820	R	2 130	2 460
Ovens at Wangaratta	11.9	8.84	146.52	2 910	R	3 200	3 750
Goulburn at McCoys Bridge	9.0	2.40	93.82	2 680	F	3 500	1 660
Edward at Stevens Weir (d/s)	5.5	3.17	82.94	4 250	F	3 520	3 100
Edward at Liewah	-	2.99	58.37	2 510	S	2 590	3 120
Wakool at Stoney Crossing	-	1.98	55.47	2 270	R	2 270	2 800
Murrumbidgee at Balranald	5.0	5.80	61.76	9 470	S	9 600	10 120
Barwon at Mungindi	6.1	5.10	-	4 910	R	3 970	2 190
Darling at Bourke	9.0	4.73	-	5 280	R	3 680	3 280
Darling at Burtundy Rocks	-	1.51	-	2 120	R	2 120	2 170

Natural Inflow to Hume	17 010	23 660
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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	-0.09	-	No. 7 Rufus River	22.10	+0.85	+3.69
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.02	+1.80
No. 15 Euston	47.60	+0.04	-	No. 5 Renmark	16.30	+0.26	+1.54
No. 11 Mildura	34.40	+0.00	-39.80	No. 4 Bookpurnong	13.20	+0.06	+2.52
No. 10 Wentworth	30.80	+0.02	+1.67	No. 3 Overland Corner	9.80	+0.01	+2.05
No. 9 Kulnine	27.40	+0.07	+1.13	No. 2 Waikerie	6.10	+0.03	+2.18
No. 8 Wangumma	24.60	+0.05	+1.92	No. 1 Blanchetown	3.20	+0.06	+1.46

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.84
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Barrages

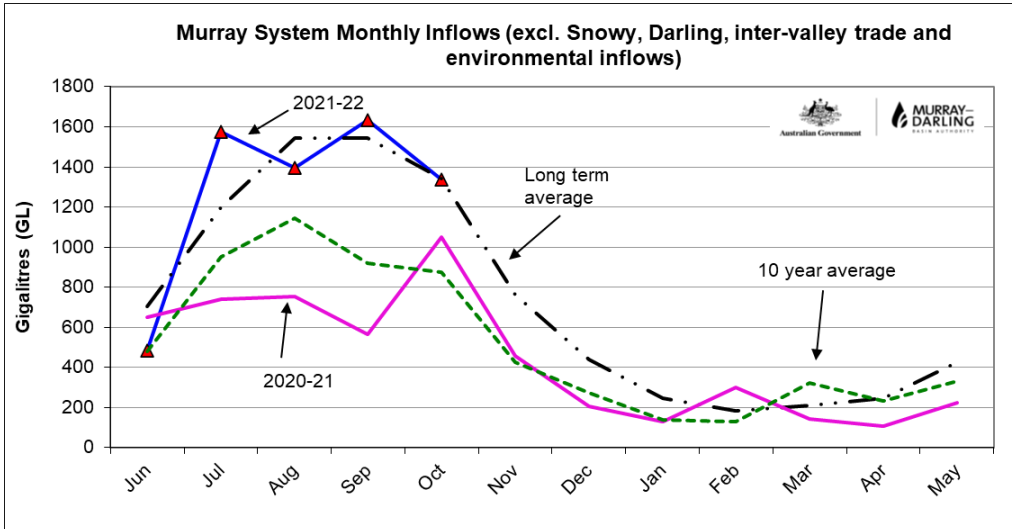
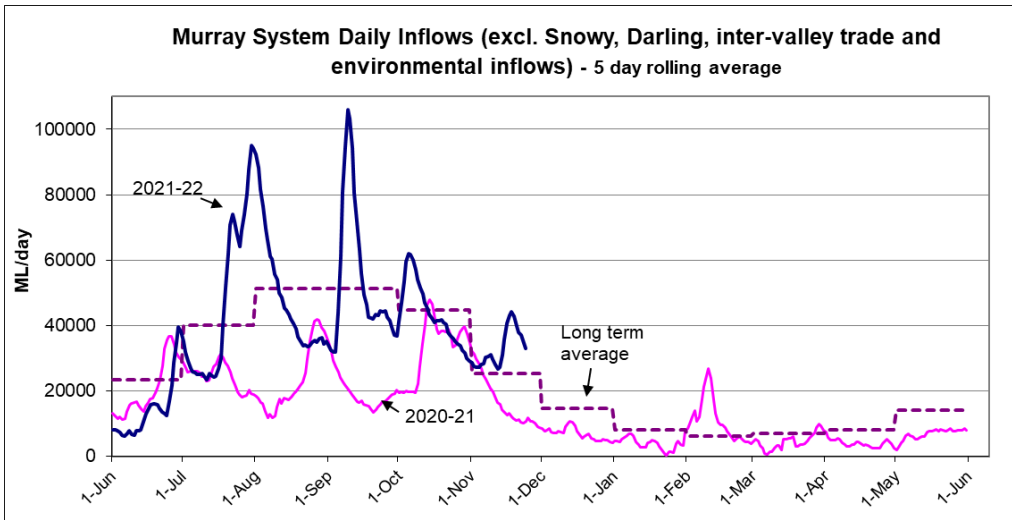
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.85	5	-	Open	Open	-
Mundoo	26 openings	0.80	3	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	1	-	Open	-	-
Ewe Island	111 gates	-	12	-	-	-	Open
Tauwichee	322 gates	0.84	55	Open	Open	Open	-

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



Week ending Wednesday 24 Nov 2021



State Allocations (as at 24 Nov 2021)

NSW - Murray Valley

High security	100%
General security	110%

Victorian - Murray Valley

High reliability	100%
Low reliability	0%

NSW – Murrumbidgee Valley

High security	100%
General security	100% &

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 : <https://www.industry.nsw.gov.au/water/allocations-availability/allocations/summary>

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

SA : [Department for Environment and Water | Current allocations](http://www.environment.sa.gov.au/department-for-environment-and-water/current-allocations)