



For the week ending Wednesday, 10 February 2021

Trim Ref: D21/3905

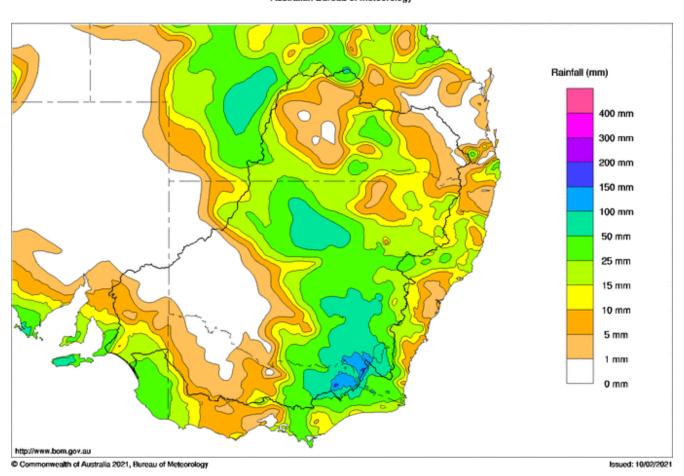
Rainfall and inflows

Widespread moderate rainfall totals were recorded across the south-east and central Murray-Darling Basin this week (Map 1). Daily rainfall totals in excess of 100 mm were recorded in north-east Victoria and south-east NSW. In north-east Victoria, 101 mm was recorded at Lake Buffalo and Mitta Mitta. In south-east NSW, 121 mm was recorded at Cabramurra and 105 mm at Tumbarumba. Further north on the Darling River, 57 mm was recorded at Bourke.

The Bureau of Meteorology is forecasting 10-15 mm of rainfall in the upper Murray catchment in the coming days.

Murray-Darling Rainfall Totals (mm) Week Ending 10th February 2021

Australian Bureau of Meteorology



Map 1: Murray-Darling Basin rainfall for the week ending 10 February 2021. Source: Bureau of Meteorology.

Stream flows in the upper Murray tributaries responded well following heavy rainfall this week. On the Ovens River, Rocky Point increased to around 12,500 ML/day, resulting in a peak close to 9,000 ML/day at Wangaratta. In the Kiewa River, Mongans Bridge peaked near 4,500 ML/day and the flow downstream at Bandiana reached 2,800 ML/day. Further 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.









Photo 1: Snowy River upstream of Guthega dam following rainfall (Photo courtesy: Tom Zouch, MDBA)



River operations

- Upper Murray, Ovens and Kiewa inflows respond with heavy rainfall
- Hume dam releases reduced due to tributary inflows downstream
- Inter Valley Trade from the Murrumbidgee River arriving to Murray in a pulse
- Red alert level for blue-green algae for parts of Sunraysia

Water demand

The MDBA is actively monitoring shortfall risks. A shortfall occurs when water cannot be delivered to users when and where it is needed. A delivery shortfall occurs when actual water use is higher than it was forecast to be when river water was released from storages, weeks earlier, to meet the forecast needs for irrigation and environmental water. A system shortfall occurs when the combined capacity of the system is unable to supply all downstream requirements over the full season. More information about shortfalls can be found at Water demand (shortfalls) | Murray-Darling Basin Authority (mdba.gov.au).

The risk of a **delivery shortfall** in the River Murray between Wakool Junction and the SA border over the coming week is currently negligible. The MDBA is continuing to monitor weather conditions and forecast demands and will continue to actively manage the risk of delivery shortfall across the high demand summer-autumn period as conditions evolve.

The risk of a **system shortfall** is being closely monitored in consultation with states. Recent rainfall has assisted in reducing the risk of a system shortfall this season and any additional rainfall will continue to reduce the risk even further. The MDBA and states will continue to monitor this risk closely over the coming weeks and will take steps to minimise the risk of a shortfall as necessary.

The MDBA, Basin state governments and their agencies have different roles and responsibilities in managing delivery shortfalls. Read more information on <u>delivery shortfall risks for Victorian water licence holders</u>.

Water quality impacts

The Murray and Lower Darling Regional Algal Coordinating Committee (RACC) has recently declared a number of red and amber alerts for **blue-green algae** in the River Murray System. Currently, a **red alert** is declared for the <u>lower Darling River</u> below Menindee Lakes and on the River Murray between Mt Dispersion and Merbein. **Amber alerts** are in place at a number of sites on the River Murray and along the Edward-Wakool River system. The locations of these sites are available on the <u>WaterNSW</u> website. It is important that water users regularly keep up to date with algal alerts, notices and health warnings. This information is available through <u>Goulburn-Murray Water</u> and <u>WaterNSW</u>.

Monthly snapshot of water in the system

River Murray communities can now access a monthly point-in-time snapshot that shows what proportion of water in the river has been provided for the environment compared with water for towns, industries and irrigators. Find out more on Flows in the River Murray system.





River operations

Recent rain resulted in good inflows into the upper storages, with total **active storage** increasing over the last week by 42 GL to 4,217 GL (50% capacity).

At **Dartmouth Reservoir**, the <u>storage</u> increased by 25 GL to 2,432 GL (63% capacity). The release, measured at Colemans, remains near 200 ML/day as inflows from Snowy Creek continue to boost the flow at Tallandoon above the current minimum target of 600 ML/day. The release is expected to remain around 200 ML/day in the coming week whilst higher inflows from Snowy Creek persist.

Over the past week the **Hume Reservoir** storage increased by 40 GL to 1,691 GL (56% capacity) following heavy rain upstream of the storage. The Hume release reduced to a low of 4,500 ML/day and is currently around 6,500 ML/day. The release is expected to increase in the coming days.

Diversion to Mulwala Canal is currently around 3,000 ML/day, after reaching a low of 2,150 ML/day earlier in the week. Around 900 ML/day of this diversion is returning to the river system to meet demands downstream of the Barmah Choke. This rate reduced from last week due to rainfall and cooler weather supressing the system demands further downstream. Diversion to Yarrawonga Main Channel (YMC) is currently around 650 ML/day, after reaching a low of 200 ML/day earlier in the week.

At **Lake Mulwala**, the pool <u>level</u> peaked around 124.92 m AHD (2cm above the full supply level (FSL) of 124.9 m AHD) this week in response to rainfall and reduced irrigation demands. This operation was undertaken to conserve water after a "rain rejection" of irrigation orders and to assist in reducing or preventing unseasonal flooding of the downstream Barmah-Millewa forest. The pool level is expected to return to below FSL by Friday, 12 February.

Every year the MDBA investigates whether lowering Lake Mulwala is required to assist any works on Yarrawonga Weir or bridge, or for the management of the invasive weed *Egeria densa*. Lowering Lake Mulwala can help manage *Egeria* and is typically undertaken every 3 to 5 years. Lowering Lake Mulwala is done in late autumn and early winter to avoid peak irrigation (having Lake Mulwala at full supply level is required for gravity diversions into Yarrawonga Main Channel and Mulwala Canal) and peak recreation periods. Following assessment of the extent of weed in the lake, the MDBA has determined that Lake Mulwala will not be drawn down in 2021. However, this year's assessment has identified that a lowering in winter 2022 is likely to be required to manage Egeria and assist with works.

The release from Yarrawonga Weir eased from 9,200 ML/day to 8,000 ML/day in response to reduced downstream system demands. As releases eased, the level through the Barmah Choke, at the Picnic Point gauge, decreased to 2.3 m (the maximum level is 2.6 m).

Flow through the **Edward River Offtake** has averaged near 1,550 ML/day. With the level at Picnic Point reducing and delivery of water to wetlands along the Gulpa Creek ceasing, the diversion through the **Gulpa Creek Offtake** gradually eased this week from 370 ML/day to channel capacity near 230 ML/day.

Downstream on the **Edward River**, the release from Edward Escape reduced from around 1,700 ML/day to 1,200 ML/day and the diversion to Wakool Main Canal averaged around 750 ML/day. The flow downstream of Stevens Weir was around 2,300 ML/day for much of the week before reducing to the current rate of 1,770 ML/day. The release will continue to gradually ease to target around 1,500 ML/day over the coming week.

On the **Goulburn River**, the flow measured at McCoys Bridge increased early in the week to 2,000 ML/day in response to rain from the previous week. The flow is currently near 1,360 ML/day (largely Goulburn Inter Valley Trade (IVT)) and is expected to increase over the coming week following recent rainfall.

In addition to the Goulburn River, the delivery of water from the Goulburn IVT account to the Murray is continuing via the Campaspe River and Broken Creek. Combined, IVT deliveries are expected to total 40 GL in February. For more information see the <u>Goulburn-Murray Water website</u>. Information regarding opportunities for allocation trade between the Goulburn and Murray Valleys is available at the Victorian water register <u>website</u>.





<u>Diversions</u> to **National Channel** have averaged around 1,350 ML/day this week. The release from **Torrumbarry Weir** has remained around 7,400 ML/day.



Photo 2: Pollack Swamp in Koondrook-Pericoota Forest (Photo Courtesy: Jean Dind, Forestry NSW)

Inflow from the **Murrumbidgee River** is increasing, in part, due to a "rain rejection" of irrigation orders upstream. The flow, measured at <u>Balranald</u>, increased from 1,900 ML/day to the current rate near 3,600 ML/day. Flow is forecast to remain around 3,600 ML/day in the coming days before reducing back to minimum flows near 200 ML/day. This additional flow will help meet the 45 GL of Murrumbidgee IVT that was ordered from upstream Murrumbidgee storages for February. The <u>Murrumbidgee IVT balance</u> from the Murrumbidgee to the Murray is closed with an account balance of 92.7 GL. Trade remains open from the Murray to the Murrumbidgee.

At **Euston Weir**, the <u>weir pool level</u> remains near FSL. The <u>downstream release</u> increased this week to 11,100 ML/day as the pulse from the Murrumbidgee arrives. The release will peak around 12,000 ML/day over the coming week. Higher flow is also the result of reduced demands from recent rain and mild weather.

Menindee Lakes total combined <u>storage</u> decreased by 3 GL to 317 GL (18% capacity) over the last week. Upstream of the Lakes, flow in the Darling River has arrived at Wilcannia and is currently around 990 ML/day. Further downstream, the flows reached Lake Wetherell this week and the storage increased by 2 GL. WaterNSW currently forecast around 8-13 GL of inflow will reach Lake Wetherell during February, more information is provided in WaterNSW <u>regional water availability report</u>. Some <u>water restrictions</u> remain current in NSW. Links to drought services and assistance can be accessed via the MDBA <u>drought webpage</u>. At Weir 32, the release is around the normal summer minimum rate of 350 ML/day.

At **Wentworth Weir**, the weir pool level continues to be managed around FSL. The downstream flow increased to the current rate near 7,600 ML/day and is expected to continue to rise over the coming week as higher flows arrive from upstream.

Downstream at Lock 9 the weir pool continues to vary near FSL. The Lock 8 and Lock 7 weir pools are 50 cm below FSL as part of the weir pool variability program and are planned to remain at these levels over the coming months.

This week the <u>storage</u> level at **Lake Victoria** reduced by 21 GL to 288 GL (43% capacity) as releases continue to supplement Murray flows to meet system demands.

The <u>flow</u> to **South Australia** continues to target around 8,400 ML/day during February. The flow includes South Australia's normal monthly Entitlement flow, small volumes of consumptive trade and water for the environment. In February, environmental water holders have ordered 30 GL of water for the environment to South Australia, delivered at an additional rate of around 1,070 ML/day.

The **Lower Lakes** 5-day average water level is 0.74 m AHD. Barrage releases will continue to be made, when conditions allow, to push fresh water into the Coorong and to support Black Bream spawning over the coming months. For information on barrage releases and South Australia's Entitlement flow, see the South Australian Department for Environment and Water Weekly <u>River Murray Flow Report</u>.







For media inquiries contact the Media Officer on 02 6279 0141

ANDREW REYNOLDS Executive Director, River Management









Water in Storage

Week ending Wednesday 10 Feb 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	461.19	2 432	63%	71	2 361	+25
Hume Reservoir	192.00	3 005	184.34	1 691	56%	23	1 668	+40
Lake Victoria	27.00	677	23.43	288	43%	100	188	-21
Menindee Lakes		1 731*		317	18%	() #	0	-3
Total		9 269		4 728	51%		4 217	+42
Total Active MDBA Storage 50% ^								

Major State Storages

Burrinjuck Reservoir	1 026	739	72%	3	736	+24
Blowering Reservoir	1 631	1 243	76%	24	1 219	+31
Eildon Reservoir	3 334	2 145	64%	100	2 045	-1

^{*} Menindee surcharge capacity – 2050 GL

Snowy Mountains Scheme

Snowy diversions for week ending 09 Feb 2021

Storage	Active Storage (GL)	Weekly Change (GL)	Diversion (GL)	This Week	From 1 May 2020
Lake Eucumbene - Total	1 203	+2	Snowy-Murray	+7	619
Snowy-Murray Component	596	+9	Tooma-Tumut	+8	220
Target Storage	1 460		Net Diversion	0	400
			Murray 1 Release	+13	888

Major Diversions from Murray and Lower Darling (GL) *

		<u> </u>			
New South Wales	This Week	From 1 July 2020	Victoria	This Week	From 1 July 2020
Murray Irrig. Ltd (Net)	10.3	410	Yarrawonga Main Channel (net)	2.5	120
Wakool Sys Allowance	2.7	71	Torrumbarry System + Nyah (net)	7	186
Western Murray Irrigation	0.9	17	Sunraysia Pumped Districts	3.6	78
Licensed Pumps	4.0	166	Licensed pumps - GMW (Nyah+u/s)	0.6	17
Lower Darling	0.1	1	Licensed pumps - LMW	13.9	298
TOTAL	18.0	665	TOTAL	27.6	699

^{*} 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	58.6	(8
Flow so far this month	83.7	
Flow last month	275.0	

(8 400 ML/day)

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

	Current	Average over the last week	Average since 1 August 2020				
Swan Hill	120	120	100				
Euston	-	-	-				
Red Cliffs	120	120	130				
Merbein	-	110	140				
Burtundy (Darling)	470	470	370				
Lock 9	120	120	130				
Lake Victoria	110	120	120				
Berri	160	170	160				
Waikerie	220	210	200				
Morgan	220	230	210				
Mannum	250	250	230				
Murray Bridge	260	250	240				
Milang (Lake Alex.)	720	710	760				
Poltalloch (Lake Alex.)	620	570	1 200				
Meningie (Lake Alb.)	1 440	1 480	1 640				
Goolwa Barrages	1 240	1 150	1 230				





^{**} 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.

 $^{^{\}wedge}\,\%$ of total active MDBA storage





River Levels and Flows

Week ending Wednesday 10 Feb 2021

	Minor Flood Stage	Gauge	Height	Flow	Trend	Average Flow this Week	Average Flow last Week
		local	(m				
River Murray	(m)	(m)	AHD)	(ML/day)		(ML/day)	(ML/day)
Khancoban	-	-	-	4 360	R	3 480	4 540
Jingellic	4.0	1.99	208.51	7 070	F	9 760	7 130
Tallandoon (Mitta Mitta River)	4.2	1.53	218.42	830	F	1 080	890
Heywoods	5.5	2.31	155.94	4 640	R	5 800	7 210
Doctors Point	5.5	2.36	150.83	7 720	F	9 310	10 050
Albury	4.3	1.43	148.87	-	-	=	-
Corowa	4.6	1.89	127.91	7 700	F	8 820	11 030
Yarrawonga Weir (d/s)	6.4	1.34	116.38	8 000	F	8 270	9 190
Tocumwal	6.4	1.92	105.76	8 100	F	8 440	9 380
Torrumbarry Weir (d/s)	7.3	-	-	6 930	F	7 410	6 990
Swan Hill	4.5	1.47	64.39	7 850	R	7 610	6 960
Wakool Junction	8.8	3.40	52.52	9 920	R	9 570	8 790
Euston Weir (d/s)	9.1	1.94	43.78	11 100	R	10 020	8 360
Mildura Weir (d/s)		-	-	8 380	F	7 500	6 830
Wentworth Weir (d/s)	7.3	2.90	27.66	7 600	R	6 680	6 000
Rufus Junction	-	3.70	20.63	7 980	S	8 040	8 180
Blanchetown (Lock 1 d/s)	-	0.79	-	6 210	R	5 910	5 960
Tributaries							
Kiewa at Bandiana	2.8	1.88	155.11	1 780	F	1 810	1 140
Ovens at Wangaratta	11.9	8.76	146.44	2 640	F	3 530	1 440
Goulburn at McCoys Bridge	9.0	1.72	93.14	1 360	F	1 710	1 340
Edward at Stevens Weir (d/s)	5.5	1.85	81.62	1 770	F	2 090	2 540
Edward at Liewah	-	2.91	58.29	2 400	R	2 350	2 170
Wakool at Stoney Crossing	-	1.47	54.96	600	S	620	660
Murrumbidgee at Balranald	5.0	3.48	59.44	3 580	F	3 150	1 260
Barwon at Mungindi	6.1	3.17	-	30	F	90	220
Darling at Bourke	9.0	4.18	-	850	F	910	930
Darling at Burtundy Rocks	-	0.75	-	210	F	210	200

Natural Inflow to Hume 16 140 6 160

(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
Yarrawonga	124.90	+0.02	-	No. 7 Rufus River	22.10	-0.49	+1.38
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	-0.02	+0.20
No. 15 Euston	47.60	+0.04	-	No. 5 Renmark	16.30	+0.04	+0.24
No. 11 Mildura	34.40	+0.05	+0.16	No. 4 Bookpurnong	13.20	+0.04	+0.80
No. 10 Wentworth	30.80	+0.00	+0.26	No. 3 Overland Corner	9.80	+0.05	+0.27
No. 9 Kulnine	27.40	-0.04	-0.49	No. 2 Waikerie	6.10	+0.02	+0.24
No. 8 Wangumma	24.60	-0.47	-0.45	No. 1 Blanchetown	3.20	+0.06	+0.04

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD) 0.74

Barrages

Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots		
Goolwa	128 openings	0.74	All closed	-	Open	Open	-		
Mundoo	26 openings	0.72	All closed	-	-	-	Open		
Hunters Creek	-	-	-	-	Open	-	-		
Boundary Creek	6 openings	-	1	-	Open	-	-		
Ewe Island	111 gates	-	All closed	-	-	-	Open		
Tauwitchere	322 gates	0.77	2	Open	Open	Open	•		

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



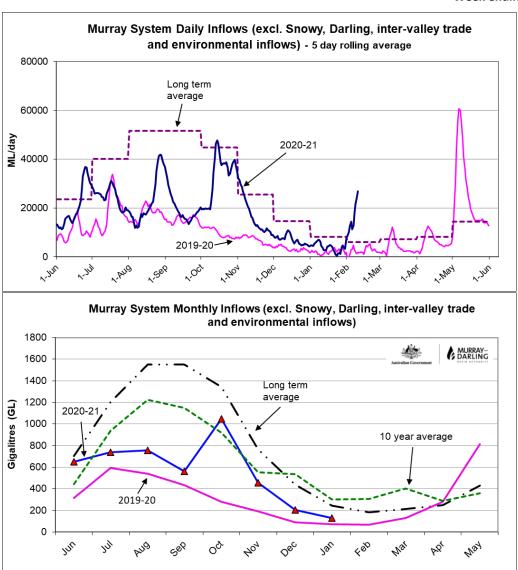








Week ending Wednesday 10 Feb 2021



State Allocations (as at 10 Feb 2021)

NSW - Murray Valley

11011 111011107								
High security	97%							
General security	46%							

NSW - Murrumbidgee Valley

High security	100%
General security	100%

NSW - Lower Darling

High security	100%
General security	30%

Victorian - Murray Valley

High reliability	97%
Low reliability	0%

Victorian - Goulburn Valley

High reliability	100%
Low reliability	0%

South Australia - Murray Valley

High security 100%

 ${\color{red} NSW:} \qquad \underline{ \text{https://www.industry.nsw.gov.au/water/allocations-availability/allocations/summary}}$

VIC: http://nvrm.net.au/seasonal-determinations/current

SA: https://www.environment.sa.gov.au/topics/river-murray/water-allocations-and-announcements



