RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 9TH DECEMBER 2015

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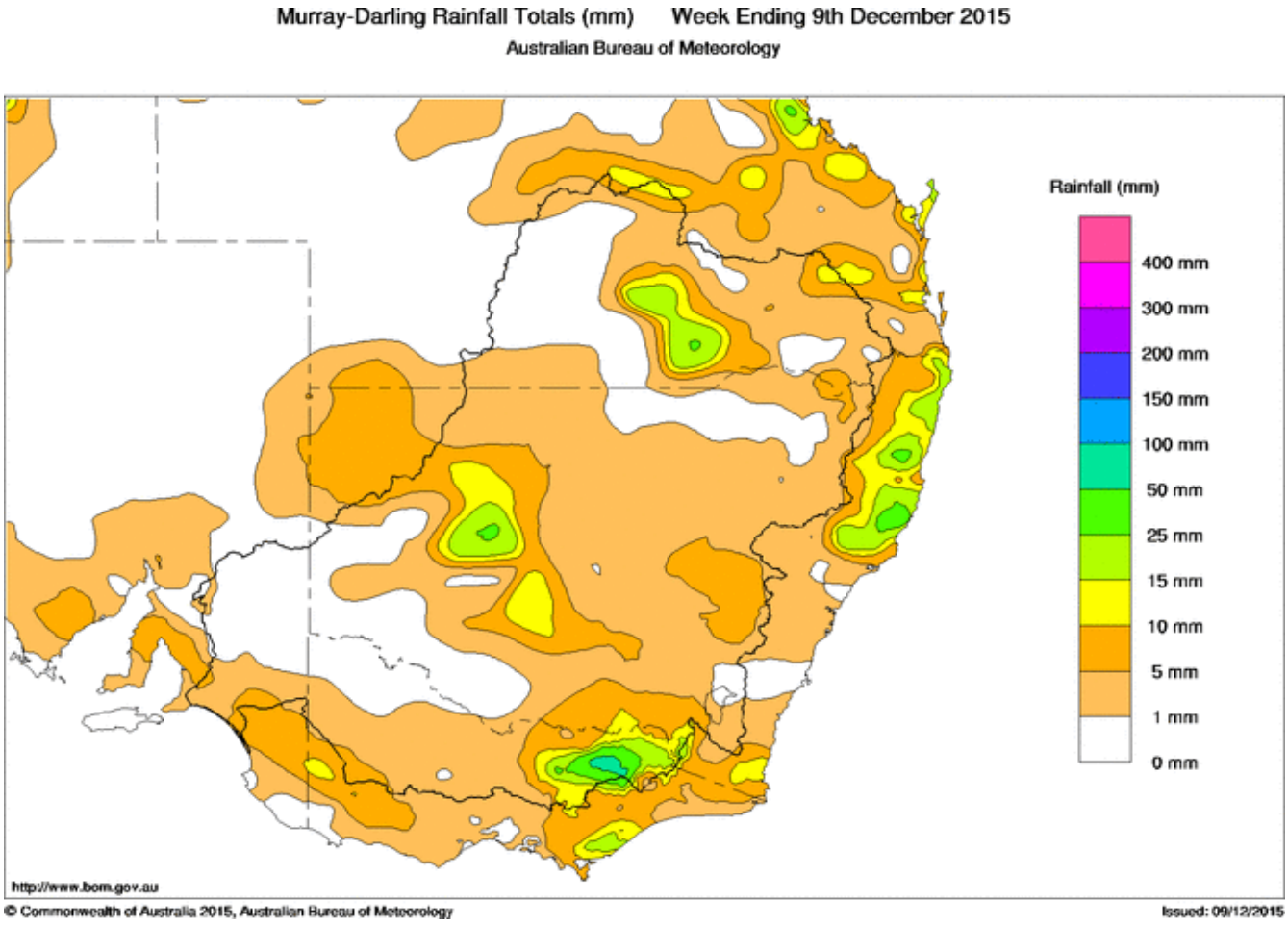
Rainfall and inflows

It was another hot and dry week across most of the Basin. Maximum temperatures for a large part of the south-west Basin averaged above 35° C for the week, with a number of locations on the Murray River between Swan Hill and Murray Bridge reaching well over 40° C on the weekend. These hot temperatures, in conjunction with strong north to westerly winds (up to 60 km/h) resulted in high evaporation and increased demands along mid to lower River Murray reaches over the past week.

There were some scattered falls of rain across the Basin this week (see Map 1). At the beginning of the week, between 10 and 20 mm fell in the north-east with Jandowae and Maryvale (Queensland) recording 16 mm and 11 mm respectively, and Armidale (NSW) recording 20 mm. Towards the end of the week, storms brought isolated rainfall to parts of central NSW and the southern Basin. In NSW, Hillston received 14 mm and in SA, Monarto recorded 10 mm. There were particularly intense storms in the Victorian ranges on Tuesday night where notable weekly totals included 88 mm at Eurobin, 69 mm at Mt Buffalo, 57 mm at Mt Hotham and 45 mm at Greta South.



Map 1- Murray-Darling Basin rainfall week ending 9th December 2015 (Source: Bureau of Meteorology)

Despite the rainfall this week, inflows have remained low. The storm activity in the Victorian ranges caused short-lived spikes in some tributaries, with only small volumes generated. For example, on Wednesday morning, the Mitta Mitta River at Tallandoon jumped to around 9,400 ML/day; and the Ovens River at Rocky Point peaked at around 2,200 ML/day before receding quickly.

River Operations

- Locks 7 and 15 weir pools begin lowering this week.
- Delivery of Inter-Valley Trade from the Goulburn and Murrumbidgee Valleys continues.
- Updated MDBA website and information on River Murray operations

MDBA total storage decreased by 100 GL this week, with the active storage now 3,825 GL (45% capacity). At **Dartmouth Reservoir**, the storage volume has decreased by 43 GL to 2,134 GL (55% capacity). The release from Dartmouth, measured at Colemans, was further decreased, reaching 6,750 ML/day at the end of the week. The release will be held at around 6,500 ML/day this weekend, to allow for maintenance work at Dartmouth, before increasing to 8,000 ML/day. This operation and further details on likely releases during the coming holiday period are provided in the attached flow advice. Releases from Dartmouth continue to provide bulk transfers to Hume Reservoir to ensure downstream demands can be met this water year.

At **Hume Reservoir**, the storage volume decreased by 36 GL to 1,308 GL (44% capacity). Releases averaged just under 14,000 ML/day. The current release is targeting a flow of 13,200 ML/day at Doctors Point.

At **Yarrawonga** Weir, diversions totalled around 27 GL for the week, with Mulwala Canal averaging around 2,600 ML/day and Yarrawonga Main Channel averaging around 1,250 ML/day. About half the diverted water is passing through the irrigation escapes into the Edward River and Broken Creek to bypass the Barmah Choke and help meet downstream demands. The pool level increased slightly this week and is currently 124.82 m AHD. The release remained steady at 10,000 ML/day. A release of 10,300 ML/day is planned for the end of next week to facilitate flow variability for environmental benefit including native fish spawning.

On the **Edward** River system, the flow through the Edward offtake has remained steady at around 1,600 ML/day, while the flow through the Gulpa offtake has continued to decrease slowly, reaching 550 ML/day at the end of the week. Diversions to Wakool Main Canal were consistently around 200 ML/day this week. The flow downstream of Stevens Weir decreased slightly this week to average 2,440 ML/day.

On the **Goulburn** River, the flow at McCoys Bridge increased from around 450 ML/day to approximately 520 ML/day. This is above the average monthly minimum flow for December of 350 ML/day due to the delivery of Inter-Valley Trade (IVT) water. The flow is forecast to stay around 550 ML/day until the end of December under dry conditions.

This week, Goulburn-Murray Water (GMW) issued a media release advising irrigators to begin planning for dry conditions. Over the past 5 months, Lake Eildon has received less than a third of its typical inflows for this time of the year, with the other storages in northern Victoria experiencing similar conditions. The media release states that "*if these conditions continue the Broken, Goulburn, Campaspe, Loddon and Bullarook systems will not reach 100 per cent of high-reliability water shares (HRWS) and there will be no low-reliability water shares (LRWS) this season*".

At **Torrumbarry** Weir, diversions at National Channel continued around 2,400 ML/day for this week. The flow downstream of Torrumbarry Weir has risen slightly to around 5,600 ML/day with similar flows expected over the coming week.

On the lower **Murrumbidgee** River, flow at Balranald increased to around 1,300 ML/day at the end of the week with the delivery of IVT water to the Murray. The IVT delivery is anticipated to maintain the flow at Balranald between 1,300 and 1,500 ML/day into the New Year.

On the River Murray at **Euston** Weir, the flow reduced from around 7,600 ML/day to around 6,700 ML/day. The weir pool will be lowered back to Full Supply Level (FSL) from the current raised level of 47.9 m AHD (30 cm above FSL) during the coming weeks. This lowering, combined with the arrival of higher flows from the Murrumbidgee River, is expected to result in a small increase to flows downstream of Euston Weir over the coming week.

On the **Darling** River, total storage in **Menindee** Lakes decreased by 2 GL to the current volume of 77 GL (4.5% capacity). The release at Weir 32 has been reduced to around 80 ML/day.

On the Murray, the flow at **Locks 8 and 9** has decreased this week, from around 4,000 ML/day to around 2,000 ML/day. At **Lock 7**, the weir pool has begun lowering from 22.6 m AHD (50 cm above FSL) to 21.6 m AHD (50 cm below FSL). The target level is expected to be reached by late December.

At Lake Victoria, the storage volume decreased by 20 GL to 577 GL (85% capacity). The flow to South Australia totalled around 44 GL this week and will target 6,500 ML/day over the coming week.

At the Lower Lakes, the 5-day average level for Lake Alexandrina decreased by 1 cm to 0.77 m AHD, but remains surcharged above FSL (0.75 m AHD). Recent lake conditions have proved suitable for bird breeding, with nesting bird colonies observed in Lake Alexandrina in recent weeks (Photo 1). A small release into the Coorong continues through the fishways, estimated at around 100–200 ML/day.

Photo 1 – Birds currently breeding in Lake Alexandrina include Cormorants, Spoonbills and Ibis (Photos: Adrienne Rumbelow, DEWNR).

For media inquiries contact the Media Officer on 02 6279 0141

DAVID DREVERMAN
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Water in Storage

Week ending Wednesday 09 Dec 2015

MDBA Storages	Full Supply Level (m AHD)	Full Supply Volume (GL)	Current Storage Level (m AHD)	Current Storage (GL)	Current Storage %	Dead Storage (GL)	Active Storage (GL)	Change in Total Storage for the Week (GL)
Dartmouth Reservoir	486.00	3 856	454.93	2 134	55%	71	2 063	-43
Hume Reservoir	192.00	3 005	181.46	1 308	44%	23	1 285	-36
Lake Victoria	27.00	677	26.17	577	85%	100	477	-20
Menindee Lakes		1 731*		77	4%	(- -) #	0	-2
Total		**9 269**		**4 096**	**44%**	**- -**	**3 825**	**-100**
Total Active MDBA Storage							45% ^	

Major State Storages

Burrinjuck Reservoir	1 026		684	67%	3	681	-15
Blowering Reservoir	1 631		604	37%	24	580	-48
Eildon Reservoir	3 334		1 680	50%	100	1 580	-33

* Menindee surcharge capacity – 2050 GL ** All Data is rounded to nearest GL **
# NSW takes control of Menindee Lakes when storage falls below 480 GL, and control reverts to MDBA when storage next reaches 640 GL
^ % of total active MDBA storage

Snowy Mountains Scheme

Snowy diversions for week ending 08 Dec 2015

Storage	Active Storage (GL)	Weekly Change (GL)	Diversion (GL)	This Week	From 1 May 2015
Lake Eucumbene - Total	2 321	n/a	Snowy-Murray	+5	271
Snowy-Murray Component	1 136	n/a	Tooma-Tumut	+0	138
Target Storage	1 510		Net Diversion	5	133
			Murray 1 Release	+6	445

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2015	Victoria	This Week	From 1 July 2015
Murray Irrig. Ltd (Net)	7.4	210	Yarrawonga Main Channel (net)	6.8	117
Wakool Sys Allowance	2.8	30	Torrumbarry System + Nyah (net)	0.3	229
Western Murray Irrigation	1.2	4	Sunraysia Pumped Districts	5.5	44
Licensed Pumps	5.3	78	Licensed pumps - GMW (Nyah+u/s)	0.9	16
Lower Darling	0.4	5	Licensed pumps - LMW	6	108
TOTAL	**17.1**	**327**	**TOTAL**	**19.5**	**514**

* Figures derived from estimates and monthly data. 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)

Entitlement this month	217.0
Flow this week	44.4
Flow so far this month	57.6
Flow last month	210.5

(6 300 ML/day)

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

	Current	Average over the last week	Average since 1 August 2015
Swan Hill	80	90	80
Euston	-	-	-
Red Cliffs	150	140	130
Merbein	120	120	130
Burtundy (Darling)	1 200	1 200	990
Lock 9	120	110	140
Lake Victoria	170	160	220
Berri	210	200	220
Waikerie	300	320	280
Morgan	290	300	290
Mannum	290	280	310
Murray Bridge	290	290	330
Milang (Lake Alex.)	740	740	750
Poltalloch (Lake Alex.)	670	660	580
Meningie (Lake Alb.)	2 070	2 050	2 030
Goolwa Barrages	1 120	1 240	1 030

River Levels and Flows

Week ending Wednesday 09 Dec 2015

River Murray	Minor Flood Stage (m)	Gauge Height local (m)	Gauge Height (m AHD)	Flow (ML/day)	Trend	Average Flow this Week (ML/day)	Average Flow last Week (ML/day)
Khancoban	-	-	-	1 000	F	880	1 490
Jingellic	4.0	1.30	207.82	1 690	F	1 740	2 420
Tallandoon (Mitta Mitta River)	4.2	3.34	220.23	9 410	R	7 490	7 810
Heywoods	5.5	3.00	156.63	12 680	F	13 910	13 300
Doctors Point	5.5	2.86	151.33	13 260	F	14 300	13 690
Albury	4.3	1.89	149.33	-	-	-	-
Corowa	4.6	3.04	129.06	14 500	S	13 990	13 600
Yarrawonga Weir (d/s)	6.4	1.63	116.67	10 010	S	9 990	9 710
Tocumwal	6.4	2.25	106.09	10 210	R	10 140	9 810
Torrumbarry Weir (d/s)	7.3	1.93	80.48	5 700	R	5 610	5 530
Swan Hill	4.5	1.16	64.08	5 710	S	5 670	5 720
Wakool Junction	8.8	3.06	52.18	8 120	R	8 080	8 290
Euston Weir (d/s)	9.1	1.40	43.25	6 720	S	6 960	7 910
Mildura Weir (d/s)		-	-	6 030	F	6 280	7 960
Wentworth Weir (d/s)	7.3	2.74	27.50	4 130	R	4 830	6 520
Rufus Junction	-	3.40	20.33	5 930	F	6 050	5 800
Blanchetown (Lock 1 d/s)	-	0.82	-	3 750	R	3 180	3 080
Tributaries							
Kiewa at Bandiana	2.8	1.08	154.31	650	R	530	520
Ovens at Wangaratta	11.9	7.82	145.50	280	F	320	460
Goulburn at McCoys Bridge	9.0	1.24	92.66	520	S	480	450
Edward at Stevens Weir (d/s)	5.5	2.36	82.13	2 550	S	2 440	2 540
Edward at Liewah	-	2.97	58.35	2 520	F	2 550	2 430
Wakool at Stoney Crossing	-	1.54	55.03	680	F	710	770
Murrumbidgee at Balranald	5.0	1.71	57.67	1 300	F	900	870
Barwon at Mungindi	6.1	3.19	-	60	R	40	130
Darling at Bourke	9.0	3.98	-	30	R	40	80
Darling at Burtundy Rocks	-	0.66	-	0	F	0	0

Natural Inflow to Hume	2 860	2 270

(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	-0.08	-	No. 7 Rufus River	22.10	+0.30	+1.07
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.01	+0.14
No. 15 Euston	47.60	+0.30	-	No. 5 Renmark	16.30	+0.11	+0.17
No. 11 Mildura	34.40	+0.02	+0.16	No. 4 Bookpurnong	13.20	+0.01	+0.59
No. 10 Wentworth	30.80	+0.10	+0.10	No. 3 Overland Corner	9.80	+0.02	+0.16
No. 9 Kulnine	27.40	-0.06	-0.50	No. 2 Waikerie	6.10	+0.02	+0.05
No. 8 Wangumma	24.60	-0.51	+0.32	No. 1 Blanchetown	3.20	-0.09	+0.07

Lower Lakes FSL = 0.75 m AHD

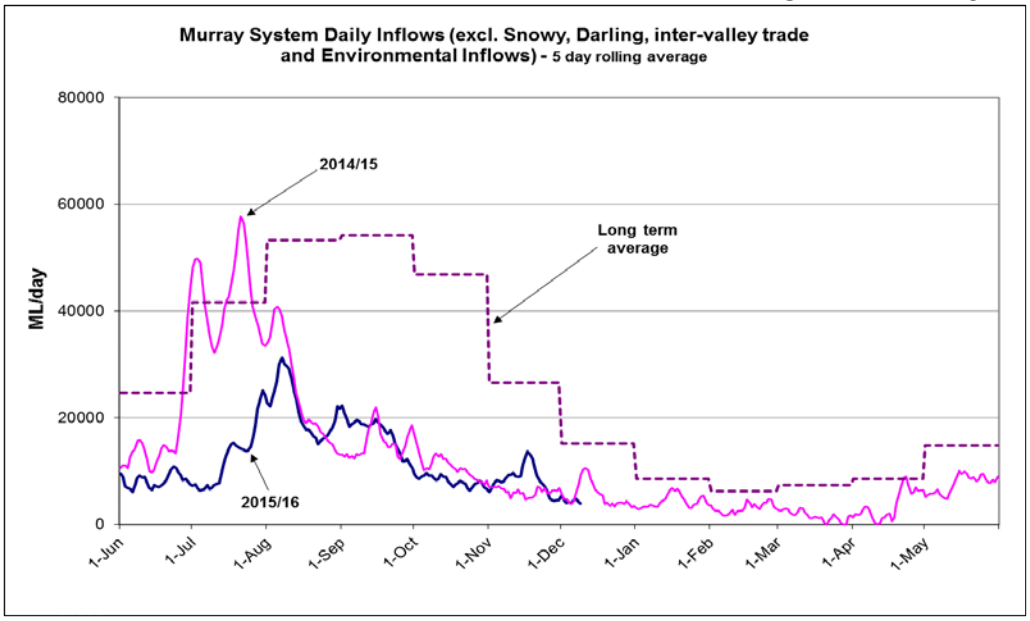
Lake Alexandrina average level for the past 5 days (m AHD)	0.77

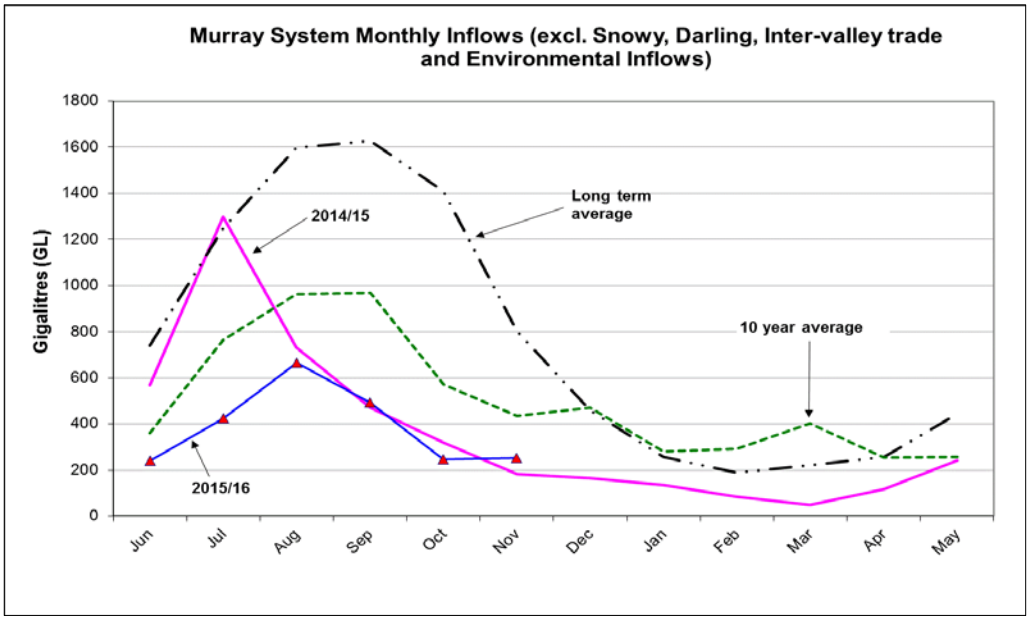
Barrages

	Openings	Level (m AHD)	No. Open	Fishways at Barrages: Rock Ramp	Fishways at Barrages: Vertical Slot
Goolwa	128 openings	0.71	All closed	-	Open
Mundoo	26 openings	0.74	All closed	-	-
Boundary Creek	6 openings	-	All closed	-	-
Ewe Island	111 gates	-	All closed	-	-
Tauwitchere	322 gates	0.71	All closed	Open	Open

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

Week ending Wednesday 09 Dec 2015





State Allocations (as at 09 Dec 2015)

NSW - Murray Valley

High security	97%
General security	15%

Victorian - Murray Valley

High reliability	92%
Low reliability	0%

NSW – Murrumbidgee Valley

High security	95%
General security	31%

Victorian - Goulburn Valley

High reliability	80%
Low reliability	0%

NSW - Lower Darling

High security	50%
General security	0%

South Australia – Murray Valley

High security	100%

NSW : http://www.water.nsw.gov.au/Water-management/Water-availability/Water-allocations/Water-allocations-summary/water-allocations-summary/default.aspx
VIC : http://www.nvrm.net.au/allocations/current.aspx
SA : http://www.environment.sa.gov.au/managing-natural-resources/river-murray

Flow advice

11 December 2015

Mitta Mitta flow update

Landholders and river users, including pumpers, on the Mitta Mitta River are advised to take into account the forecast releases of water from Dartmouth Dam and make any necessary adjustment to their river activities.

Releases will start increasing from Monday 14 December to reach 8,300 megalitres per day (ML/day), before decreasing from 20 December to return to a steady flow of 6,500 ML/day by 8 January.

The information in the table below assumes dry conditions, with little or no rainfall for the period.

Forecast Mitta Mitta flows 12 December — 8 January 2015

Date	Releases from Dartmouth Dam	Colemans Gauge		Tallandoon Gauge	
		Flow (ML/day)	Height (m)	Flow (ML/day)	Height (m)
Saturday 12 December	Flows steady	6,500	2.42	6,800	2.93
Monday 14 December	Flows start increasing	6,500	2.42	6,700	2.91
Friday 18 December	Flows steady	8,300	2.63	8,300	3.17
Sunday 20 December	Flows start decreasing	8,300	2.63	8,300	3.17
Friday 8 January	Flows steady	6,500	2.42	6,600	2.90

If dry conditions persist, releases are expected to be above 5,000 ML/day over summer.

The releases from Dartmouth Dam may vary from those forecast and flows on the Mitta Mitta may increase at any time if there's rainfall in the catchment downstream of the dam.

A further flow advice will be issued when there is a significant change to releases.

Landholders and river users on the Mitta Mitta are advised to regularly check the current flows and forecasts on the MDBA website for more information on releases from Dartmouth Dam: www.mdba.gov.au/river-information/storage-volumes-releases

Live river data for Dartmouth Dam, the Mitta Mitta and other sites on the Murray system can be seen at http://livedata.mdba.gov.au.

Summary information about the River Murray system is available in the River Murray weekly report at: http://www.mdba.gov.au/river-information/weekly-reports

ENDS

For more information, contact the MDBA Media office at media@mdba.gov.au or 02 6279 0141
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