



RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 18TH NOVEMBER 2015

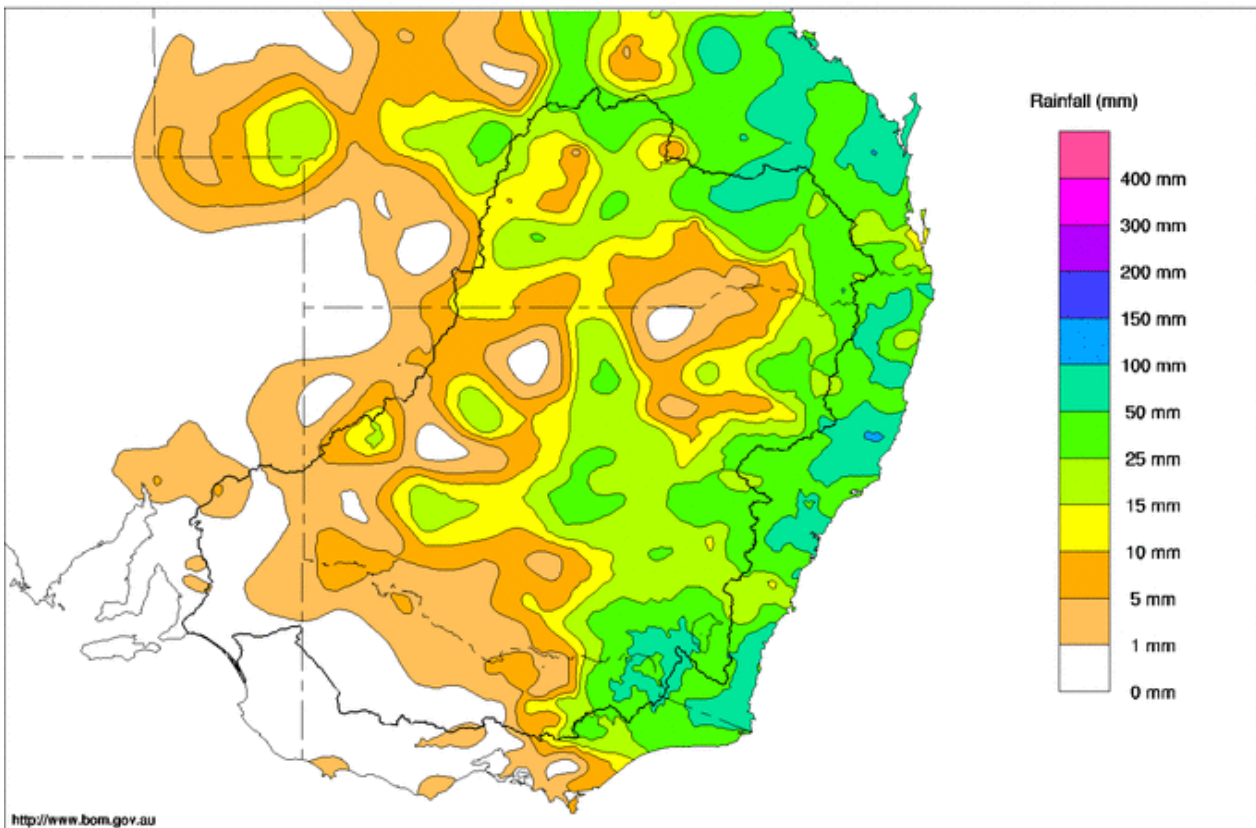
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Rainfall and Inflows

Another trough system developed over eastern Australia this week, generating further storms and rainfall to central and eastern parts of the Murray-Darling Basin. The heaviest rain fell in the north-eastern Basin and over the south-east slopes and ranges, with totals up to 100 mm recorded over the upper Murray catchments (Map 1).

The highest weekly totals were recorded in NSW over the Snowy Mountains, with around 100 mm reported. Totals further west included 77 mm at both Tumbarumba and Young, and 49 mm at Wagga. Weekly totals in Victoria included 59 mm at Gibbo Park, 55 mm at Dartmouth Dam and 47 mm at Burrowye. In Queensland, totals were highest along parts of the Condamine River catchment and included 82 mm at Drillham, 68 mm at Possum Park, 63 mm at Traighli and 60 mm at Applethorpe.

Murray-Darling Rainfall Totals (mm) Week Ending 18th November 2015
Australian Bureau of Meteorology



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Map 1 - Murray-Darling Basin rainfall week ending 18th November 2015 (Source: Bureau of Meteorology)

Following the accumulated rain of recent weeks, catchments were primed for more significant stream flow responses, and both the upper Murray and Mitta Mitta Rivers responded well following the latest rain. On the upper Murray at Biggara, the flow increased from 500 to almost 5,000 ML/day. This was the highest flow at this gauge since July 2013. However, the flow has since fallen back fairly quickly to around 1,000 ML/day. On the upper Mitta Mitta River, the flow at Hinnomunjie bridge increased from 600 to 2,000 ML/day. Responses on the Ovens and Kiewa Rivers were less significant as rainfall in their catchments was lower. For example, on the Ovens River, the Rocky Point gauge peaked at a flow of about 1,300 ML/day and is now flowing at 700 ML/day.



River Operations

- NSW Department of Primary Industries—Water announces re-opening of trade out of the Murrumbidgee valley
- Diversions increase with the onset of hot, dry weather

MDBA total storage increased by 11 GL this week, with the active storage now 4,062 GL (48% capacity). This is around 2,600 GL below the long-term average active storage volume for November (Figure 1).

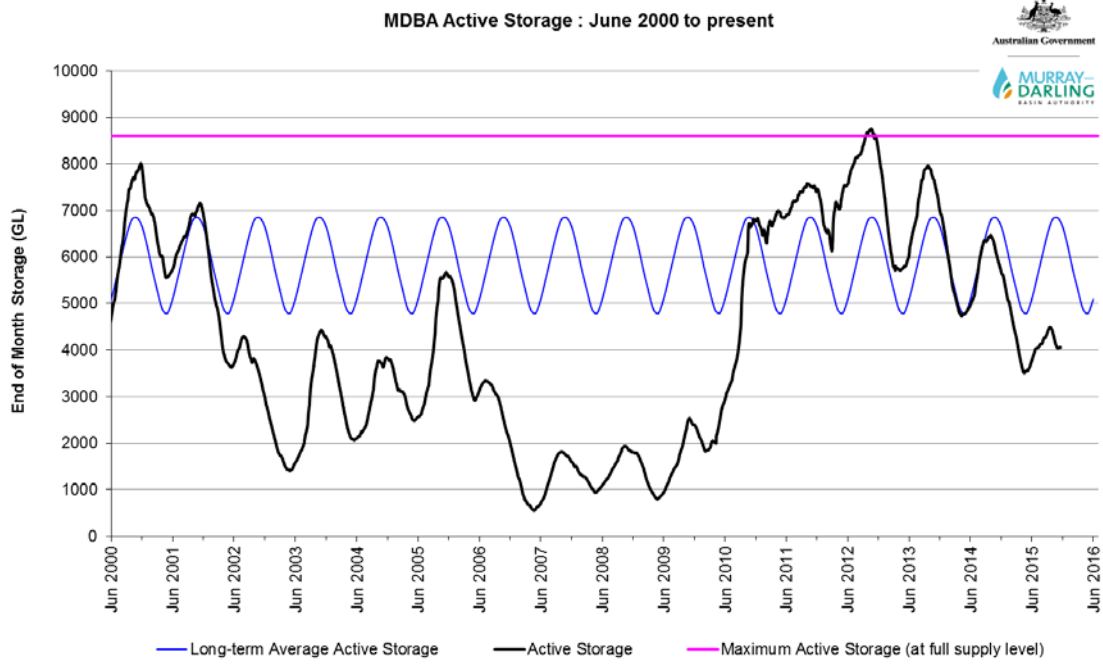


Figure 1 – MDBA active storage - June 2000 to present

Despite the rain over the upper catchments in the past week, **Dartmouth Reservoir** has decreased in storage volume by 30 GL to 2,272 GL (59% capacity). This decline in volume is due to continued bulk transfers to Hume, with the flow at Colemans averaging around 7,500 ML/day over the past week.

Bulk transfers have also contributed to an increase of 22 GL in storage volume at **Hume Reservoir**, which is now holding 1,398 GL (47% capacity). A rise in irrigation demand due to the hot, dry weather has resulted in an increase in release from Hume to target 13,500 ML/day at Doctors Point.

At **Yarrowonga Weir**, the daily diversion through Mulwala Canal increased from 350 ML/day to 1,850 ML/day (diversion includes water passed through Murray Irrigation limited (MIL) escapes for delivery to Lake Victoria). Yarrowonga Main Channel increased from 250 ML/day to 1,550 ML/day. The release downstream of Yarrowonga Weir has varied between 9,600 and 10,000 ML/day to promote fish spawning. A similar release pattern will be delivered over the coming week to encourage further spawning events.

On the **Edward River** system, the combined flow through the Edward and Gulpa offtakes averaged around 2,400 ML/day. Diversions to the Wakool Main Canal are currently 150 ML/day. The flow downstream of **Stevens Weir** has been just below 2,000 ML/day but is expected to increase towards channel capacity (2,650 ML/day) with the addition of water from the Edward escape.

On the **Goulburn River**, the flow at McCoys Bridge was around 640 ML/day for most of the week, but will be receding towards 550 ML/day in the coming week. On the **Campaspe River**, flows are currently around 40 ML/day and steady.



At **Torrumbarry Weir**, diversions to the National Channel have increased from 1,200 to 2,500 ML/day. The flow downstream of Torrumbarry has reduced to around 6,300 ML/day and is expected to be around 5,000 ML/day by the end of the month.

On the lower **Murrumbidgee River**, the flow at Balranald has averaged 2,430 ML/day during the last week. Inflows from the Murrumbidgee River will be above the normal end of system target during December due to the delivery of inter-valley trade (IVT). NSW Department of Primary Industries–Water has [announced](#) that trade out of the Murrumbidgee valley has been re-opened.

Downstream at **Euston Weir**, the flow in the Murray has averaged about 13,600 ML/day during the week but is expected to fall to as low as 6,500 ML/day by early December.

At **Hattah Lakes**, near Mildura, and Lake Powell, near Robinvale, recent environmental watering has attracted a large number and diversity of birds (Photo 1). Messengers regulator has been open during the last week to allow fish to exit the Hattah Lakes, but has now been closed.



Photo 1 – Roger Lonsdale, from the BirdLife Mildura club, is enjoying watching the birds attracted to water in Lake Powell near Robinvale (Photo courtesy of Mallee CMA)

At **Menindee Lakes**, the storage volume has reduced by 2 GL to 83 GL (5% capacity).

At **Lock 8**, the weir pool level has been lowered to 24.45 m AHD, 15 cm below full supply level, and will continue being lowered to 50 cm below full supply level for November.

At **Lake Victoria**, the storage volume increased by 21 GL to 586 GL (87% capacity). The volume is expected to reach 600 GL late in November before starting to reduce.

At the **Lower Lakes**, the 5-day average level for Lake Alexandrina is 0.85 m AHD. Flows into the Coorong through the Barrages averaged around 1,500 ML/day.

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Water in Storage

Week ending Wednesday 18 Nov 2015

MDBA Storages	Full Supply Level	Full Supply Volume (GL)	Current Storage Level	Current Storage		Dead Storage (GL)	Active Storage (GL)	Change in Total Storage for the Week (GL)
	(m AHD)		(m AHD)	(GL)	%			
Dartmouth Reservoir	486.00	3 856	457.90	2 272	59%	71	2 201	-30
Hume Reservoir	192.00	3 005	182.17	1 398	47%	23	1 375	+22
Lake Victoria	27.00	677	26.24	586	87%	100	486	+21
Menindee Lakes		1 731*		83	5%	(- -) #	0	-2
Total		9 269		4 339	47%	--	4 062	+11
Total Active MDBA Storage							48% ^	

Major State Storages

Burrinjuck Reservoir	1 026	711	69%	3	708	-10
Blowering Reservoir	1 631	688	42%	24	664	-13
Eildon Reservoir	3 334	1 772	53%	100	1 672	-7

* 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 17 Nov 2015

Storage	Active Storage (GL)	Weekly Change (GL)	Diversion (GL)	This Week	From 1 May 2015
Lake Eucumbene - Total	2 364	n/a	Snowy-Murray	+3	254
Snowy-Murray Component	1 154	n/a	Tooma-Tumut	+2	132
Target Storage	1 450		Net Diversion	1	122
			Murray 1 Release	+7	423

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)	6.3	187	Yarrawonga Main Channel (net)	4.7	96
Wakool Sys Allowance	0.0	23	Torrumbarry System + Nyah (net)	0.2	196
Western Murray Irrigation	0.8	1	Sunraysia Pumped Districts	3.3	31
Licensed Pumps	4.7	60	Licensed pumps - GMW (Nyah+u/s)	0.4	14
Lower Darling	0.3	4	Licensed pumps - LMW	10.5	85
TOTAL	12.1	275	TOTAL	19.1	422

* 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)

* Flow to SA will be greater than normal entitlement for this month due to the delivery of additional environmental water.

Entitlement this month	180.0 *
Flow this week	47.1
Flow so far this month	138.7
Flow last month	329.6

(6 700 ML/day)

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

	Current	Average over the last week	Average since 1 August 2015
Swan Hill	80	90	80
Euston	-	-	-
Red Cliffs	110	110	130
Merbein	100	100	140
Burtundy (Darling)	1 100	1 110	960
Lock 9	110	110	150
Lake Victoria	240	240	220
Berri	210	220	230
Waikerie	310	300	270
Morgan	320	300	280
Mannum	250	260	310
Murray Bridge	270	280	340
Milang (Lake Alex.)	760	760	760
Poltalloch (Lake Alex.)	590	570	570
Meningie (Lake Alb.)	2 010	1 970	2 030
Goolwa Barrages	1 020	1 000	1 010



River Levels and Flows

Week ending Wednesday 18 Nov 2015

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	-	-	-	1 630	F	2 350	2 460
Jingellic	4.0	1.67	208.19	3 970	F	5 160	3 760
Tallandoon (Mitta Mitta River)	4.2	3.07	219.96	7 630	R	8 000	7 180
Heywoods	5.5	2.96	156.59	12 700	R	10 520	6 820
Doctors Point	5.5	2.88	151.35	13 500	S	11 620	7 980
Albury	4.3	1.90	149.34	-	-	-	-
Corowa	4.6	2.81	128.83	12 920	R	10 580	8 010
Yarrowonga Weir (d/s)	6.4	1.64	116.68	10 010	R	9 720	10 240
Tocumwal	6.4	2.18	106.02	9 570	S	9 740	10 670
Torrumbarry Weir (d/s)	7.3	2.11	80.66	6 340	F	7 520	9 030
Swan Hill	4.5	1.45	64.37	7 660	F	8 540	9 360
Wakool Junction	8.8	3.80	52.92	11 550	F	12 120	12 070
Euston Weir (d/s)	9.1	2.36	44.20	13 230	F	13 600	12 380
Mildura Weir (d/s)	-	-	-	12 700	F	12 610	11 740
Wentworth Weir (d/s)	7.3	3.14	27.90	10 840	F	11 210	10 700
Rufus Junction	-	3.45	20.38	6 220	R	6 360	7 360
Blanchetown (Lock 1 d/s)	-	0.84	-	4 050	F	4 430	8 420
Tributaries							
Kiewa at Bandiana	2.8	1.35	154.58	1 020	F	1 250	1 220
Ovens at Wangaratta	11.9	8.20	145.88	1 130	F	1 370	1 590
Goulburn at McCoys Bridge	9.0	1.29	92.71	600	F	640	760
Edward at Stevens Weir (d/s)	5.5	1.98	81.75	1 950	F	1 940	2 480
Edward at Liewah	-	3.15	58.53	2 780	F	2 810	2 720
Wakool at Stoney Crossing	-	1.62	55.12	930	F	980	960
Murrumbidgee at Balranald	5.0	2.61	58.57	2 250	F	2 430	1 760
Barwon at Mungindi	6.1	3.02	-	0	F	140	40
Darling at Bourke	9.0	4.12	-	410	R	370	690
Darling at Burtundy Rocks	-	0.64	-	0	F	0	0

Natural Inflow to Hume	8 840	5 200
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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	-0.17	-	No. 7 Rufus River	22.10	+0.51	+1.13
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.01	+0.25
No. 15 Euston	47.60	+0.37	-	No. 5 Renmark	16.30	+0.23	+0.23
No. 11 Mildura	34.40	-0.03	+0.45	No. 4 Bookpurnong	13.20	+0.03	+0.59
No. 10 Wentworth	30.80	+0.08	+0.50	No. 3 Overland Corner	9.80	+0.04	+0.39
No. 9 Kulnine	27.40	-0.14	-0.09	No. 2 Waikerie	6.10	+0.26	+0.04
No. 8 Wangumma	24.60	-0.14	+0.61	No. 1 Blanchetown	3.20	-0.14	+0.09

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.85
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Barrages

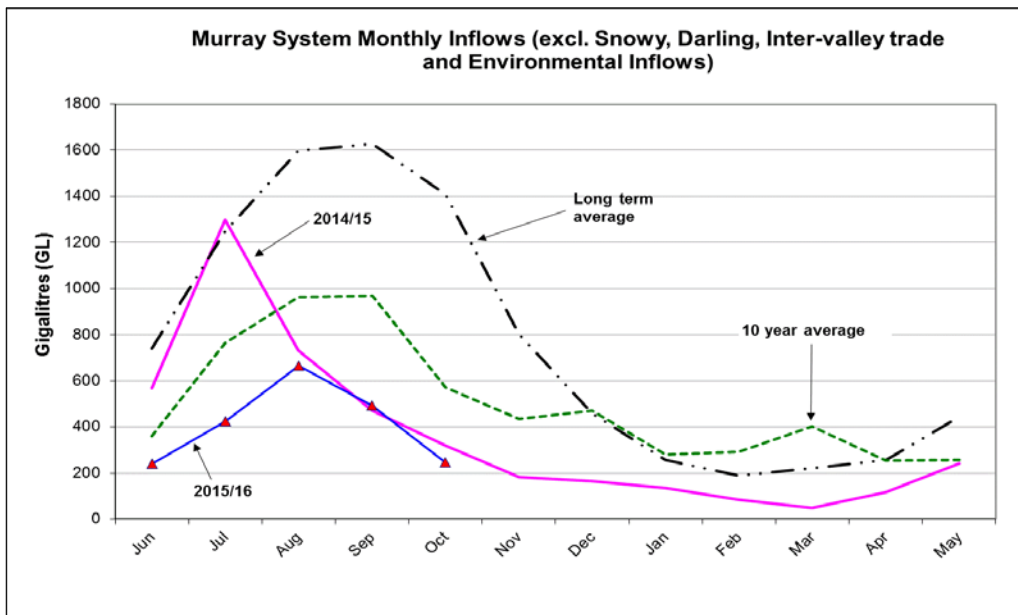
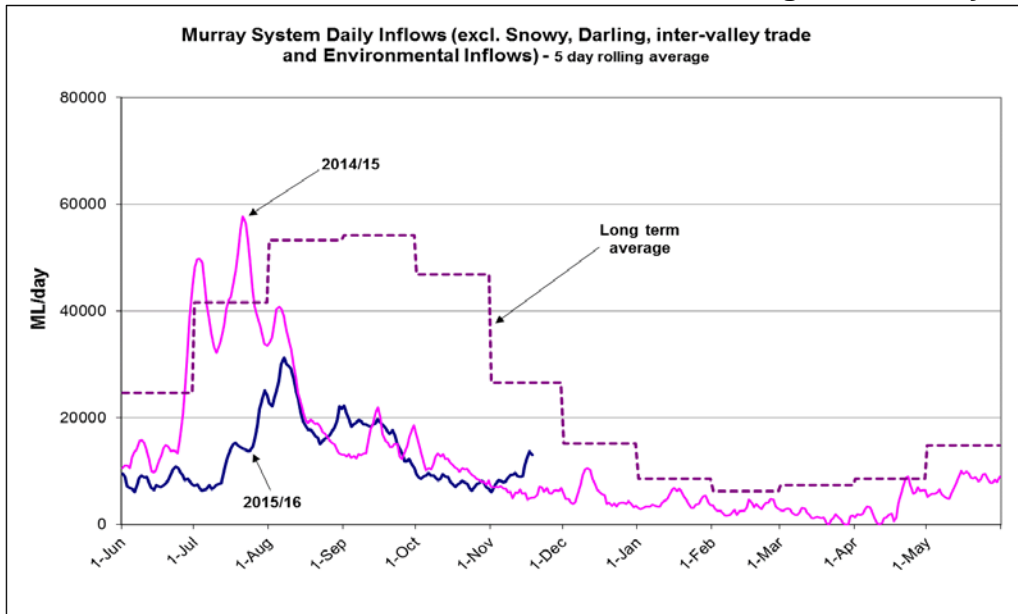
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot
Goolwa	128 openings	0.86	1	-	Open
Mundoo	26 openings	0.84	All closed	-	-
Boundary Creek	6 openings	-	All closed	-	-
Ewe Island	111 gates	-	All closed	-	-
Tauwichee	322 gates	0.86	2	Open	Open

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



Week ending Wednesday 18 Nov 2015



State Allocations (as at 18 Nov 2015)

NSW - Murray Valley

High security	97%
General security	14%

Victorian - Murray Valley

High reliability	90%
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%
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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>