



RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 1ST OCTOBER 2014

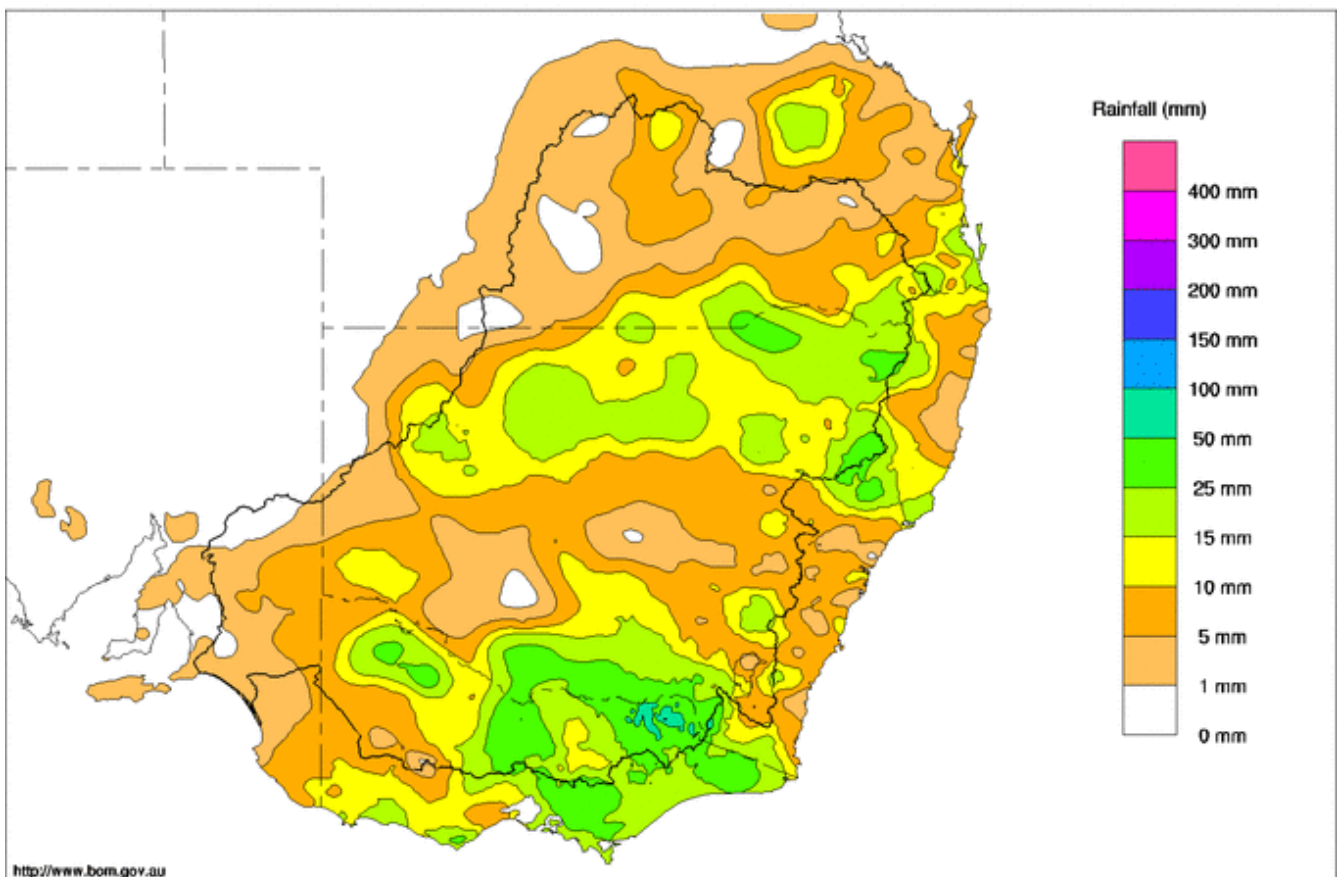
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Rainfall and Inflows

It was a wet start to the week, as a trough system tracked slowly across south-eastern Australia delivering widespread rain throughout Victoria, New South Wales (NSW) and parts of southern Queensland (Map 1). The trough was followed by a large high pressure system that produced mostly fine weather across the Basin for the remainder of the week.

Highest rainfall totals were recorded in north-east Victoria, where the rain settled in for a solid 24 hour period. Rochester on the Campaspe River recorded 81 mm, whilst Dartmouth Reservoir registered 51 mm. Across the border in southern NSW, significant totals included 50 mm at Hume Reservoir and 30 mm at Deniliquin. In northern NSW 52 mm was recorded at Coonamble on the Castlereagh River and 32 mm at Nundle in the upper Namoi catchment; whilst in Queensland 21 mm fell at Wallangarra in the Border Rivers catchment.

Murray-Darling Rainfall Totals (mm) Week Ending 1st October 2014
Australian Bureau of Meteorology



<http://www.bom.gov.au>

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Issued: 01/10/2014

Map 1 - Murray-Darling Basin rainfall for the week ending 1st October 2014 (Source: Bureau of Meteorology).

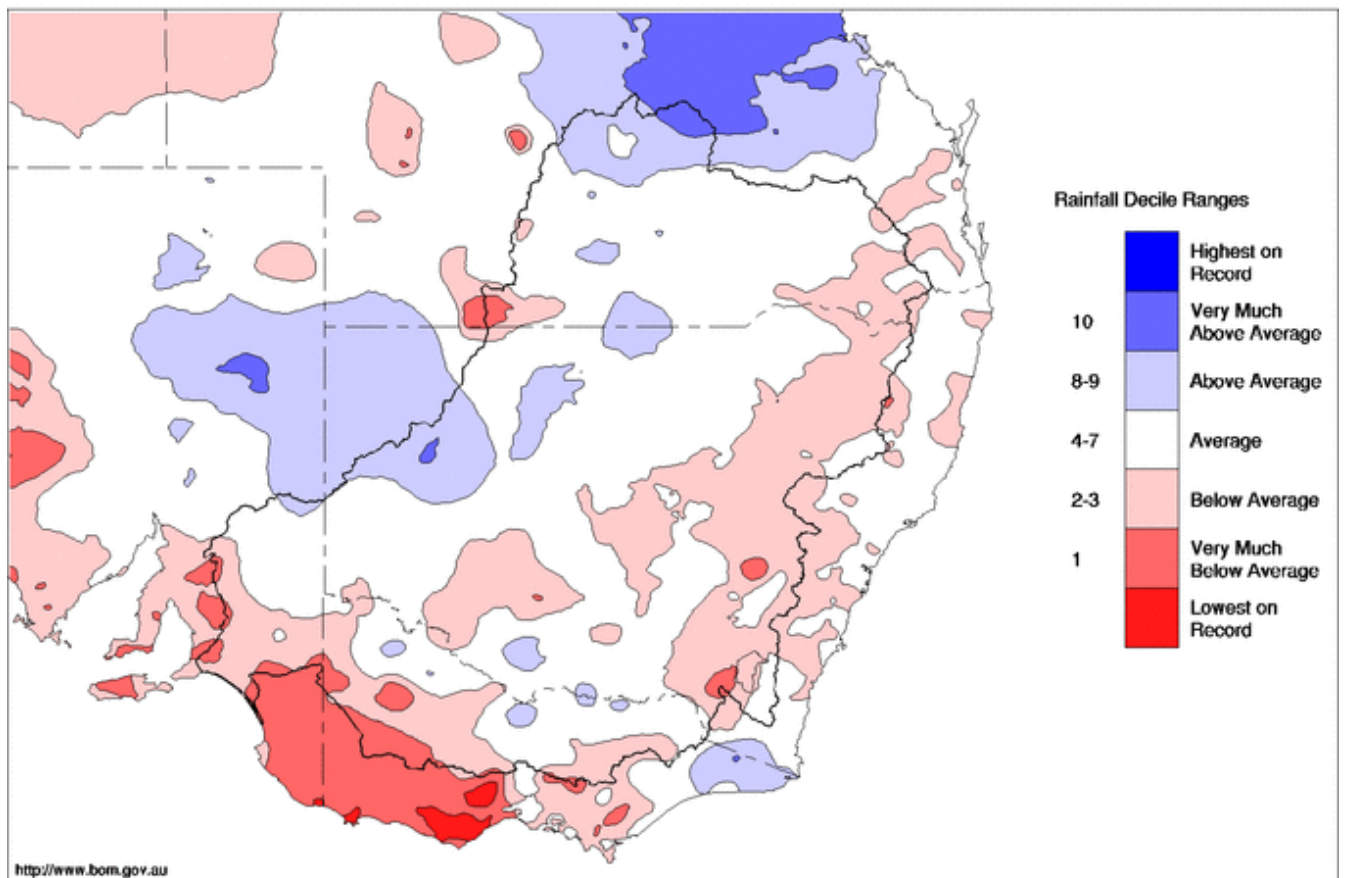
The steady, soaking rain that fell across the upper Murray catchments saturated the soil profile but did not generate a strong response in tributary inflows. The Mitta Mitta River at Hinnomunjie peaked at 2,400 ML/day and has now receded to 1,400 ML/day. The Murray at Biggara rose to 3,600 ML/day before returning to 1,200 ML/day, whilst on the Ovens River, the flow at Wangaratta increased to 3,200 ML/day and has now receded to 2,000 ML/day.



September 2014 Summary

September was a relatively dry month across the southern Murray-Darling Basin, with most areas in Victoria and southern NSW recording average or below average rainfall (Map 2). There was a similar pattern in the northern Basin, which also recorded predominantly average or below average rainfall. Notably, there was generally below average rainfall along almost the entire length of the NSW and Victorian Great Dividing Range – which is typically the source of most inflows into rivers of the Murray-Darling Basin. Across the Basin as a whole, the Bureau of Meteorology has reported area-averaged rain totalling 22.7 mm, which is 33% below the long-term mean and the 38th driest September in 115 years of record.

Murray-Darling Rainfall Deciles September 2014
Distribution Based on Gridded Data
Australian Bureau of Meteorology



<http://www.bom.gov.au>

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Map 2 - Murray-Darling Basin rainfall deciles for September 2014 (Source: Bureau of Meteorology).

Based on long-term averages, September typically provides the greatest volume of monthly inflows into the River Murray System. This has not been the case in 2014, with River Murray System inflows (excluding Snowy Scheme, Darling River and managed environmental inflows) for September totalling only 485 GL, which is little more than a quarter of the long-term monthly average for September of 1,610 GL. This follows on from average inflows in July and well below average inflows in August. The Bureau of Meteorology’s outlook for October indicates relatively hot and dry conditions are likely for south-east Australia (<http://www.bom.gov.au/climate/outlooks/#/rainfall/summary>).



River Operations

- System inflows during August and September well below average;
- Widespread, soaking rain has temporarily reduced irrigation demand;
- Bulk water transfers from Dartmouth to Hume are continuing.

MDBA total storage increased by 33 GL this week, with the active storage now 6,462 GL (77% capacity).

At **Dartmouth** Reservoir, the storage volume decreased 25 GL to 3,646 GL (95% capacity). Higher releases are being made from Dartmouth in order to transfer water to Lake Hume to meet downstream demands in coming months. The release is currently 6,900 ML/day with plans to reduce to around 5,000 ML/day in the coming week.

Bulk water transfers from Dartmouth have contributed to an increase in storage at **Hume** Reservoir, which has risen 68 GL to 2,344 GL (78% capacity). Releases from Hume were briefly lowered to 5,000 ML/day at Doctors Point during the week as downstream demand reduced following the rain. The release has now been raised back to 13,500 ML/day at Doctors Point as demand gradually returns.

At **Lake Mulwala**, water orders at the major irrigation offtakes have been relatively low following the rain. Diversions at Mulwala Canal averaged 750 ML/day for the week, whilst Yarrowonga Main Channel averaged 300 ML/day. The Lake Mulwala pool level is 124.69 m AHD and the release from Yarrowonga Weir is steady at 10,000 ML/day.

In the **Edward-Wakool** system, flows through the Edward and Gulpa offtakes are steady at 1,600 ML/day and 350 ML/day respectively. On the Edward River, the release from Stevens Weir was raised to 1,500 ML/day during the week following rain, and has now been reduced to 850 ML/day. Flow in the Wakool River at Gee Gee Bridge is steady at 460 ML/day, whilst the Niemur River at Mallan School is 100 ML/day.

On the **Goulburn** River, the flow at McCoys Bridge has risen to 3,500 ML/day due to a combination of environmental water releases and local tributary inflows following rainfall. The flow at McCoys Bridge is forecast to recede to around 3,000 ML/day over the coming week. A significant volume of environmental water is planned to be released from the Goulburn River over the next two months in the form of two pulsed releases – the first in late October and the second in late November (see attached flow advice). Readers can subscribe to receive MDBA flow advices and media releases via either email or fax by sending a subscription request to datarequests@mdba.gov.au.

At **Torrumbarry** Weir, diversions from National Channel are 2,800 ML/day, with around 400 ML/day of this flow entering **Gunbower** Forest. Water flowing into Gunbower has filled the forest wetlands, providing benefits to a wide variety of plants, frogs, fish and waterbirds (Figure 1). On the other side of the weir pool, diversions through the inlet into **Koondrook-Perricoota** Forest have effectively ceased for the current watering event, with only a small flow of around 7 ML/day passing through the fishway. Access to some areas of Koondrook-Perricoota continues to be restricted as water progresses through the forest. The release from Torrumbarry Weir is 8,200 ML/day.

Further downstream, inflow to the Murray from the **Murrumbidgee** River at Balranald is 1,250 ML/day, and will be reduced to the October minimum flow of 1,030 ML/day over the coming week. At **Euston**, the pool level is being managed at around 20 cm above the Full Supply Level (FSL) of 47.6 m AHD and the downstream release is 5,700 ML/day.

At **Hattah Lakes**, return flows of around 200 ML/day are entering the Murray via 'Oateys' regulator, whilst returns flows from 'Messengers' regulator have temporarily ceased for operational reasons. Around 130 ML/day continues to be pumped into Lake Kramen – a large episodic wetland some distance from the rest of the lakes.



Figure 1 – A white-bellied sea eagle on its nest in Gunbower Forest (Source: North Central Catchment Management Authority).

At **Menindee Lakes**, the storage volume has decreased 7 GL to 314 GL (18% capacity). The vast majority of this decrease in storage was due to evaporation, as the average release only totalled 125 ML/day at Weir 32. NSW Office of Water is closely monitoring flows in the Lower Darling River, with the aim of maximising the volume of water retained in the Lakes whilst still ensuring there is a visible flow at Burtundy. For more information please visit the NSW Office of Water website (www.water.nsw.gov.au).

At **Wentworth Weir** on the Murray, the pool level is being held around 10 cm above FSL. This is aimed at assisting irrigators within the weir influence to continue to divert water while there are low flows in the Lower Darling. The release from Wentworth Weir is 6,300 ML/day, and forecast to increase to around 7,500 ML/day over the coming week

At **Lake Victoria**, the storage volume decreased 4 GL to 666 GL (98% capacity). The flow to South Australia is currently around 7,350 ML/day. This incorporates entitlement flows, environmental water traded from the Goulburn River, and environmental water being used to test the new works on the Chowilla Floodplain.

At the **Lower Lakes**, the five-day average water level in Lake Alexandrina is 0.72 m AHD and releases out the barrages are targeting 2,000 ML/day.

For media inquiries contact the Media Officer on 02 6279 0141

DAVID DREVERMAN
Executive Director, River Management



Water in Storage

Week ending Wednesday 01 Oct 2014

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	482.75	3 646	95%	71	3 575	-25
Hume Reservoir	192.00	3 005	188.47	2 344	78%	23	2 321	+68
Lake Victoria	27.00	677	26.91	666	98%	100	566	-4
Menindee Lakes		1 731*		314	18%	(- -) #	0	-7
Total		9 269		6 970	75%	--	6 462	+33
Total Active MDBA Storage							77% ^	

Major State Storages

Burrinjuck Reservoir	1 026	864	84%	3	861	-14
Blowering Reservoir	1 631	1 137	70%	24	1 113	-8
Eildon Reservoir	3 334	2 920	88%	100	2 820	-1

* 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 30 Sep 2014

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2014
Lake Eucumbene - Total	2 057	n/a	Snowy-Murray	+1	202
Snowy-Murray Component	938	n/a	Tooma-Tumut	+7	161
Target Storage	1 400		Net Diversion	-7	41
			Murray 1 Release	+11	373

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2014	Victoria	This Week	From 1 July 2014
Murray Irrig. Ltd (Net)	5.0	153	Yarrowonga Main Channel (net)	1.4	41
Wakool Sys Allowance	1.9	8	Torrumbarry System + Nyah (net)	18	198
Western Murray Irrigation	0.1	2	Sunraysia Pumped Districts	1.3	11
Licensed Pumps	3.5	46	Licensed pumps - GMW (Nyah+u/s)	0.4	5
Lower Darling	0.2	14	Licensed pumps - LMW	5	33
TOTAL	10.7	223	TOTAL	26.1	288

* 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	170.0 *
Flow this week	50.6
Flow so far this month	7.0
Flow last month	184.3

(7 200 ML/day)

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

	Current	Average over the last week	Average since 1 August 2014
Swan Hill	90	90	90
Euston	120	110	110
Red Cliffs	150	140	120
Merbein	150	150	130
Burtundy (Darling)	700	690	820
Lock 9	160	160	140
Lake Victoria	210	200	200
Berri	230	220	210
Waikerie	270	270	290
Morgan	250	240	280
Mannum	300	300	340
Murray Bridge	350	350	420
Milang (Lake Alex.)	720	740	740
Poltalloch (Lake Alex.)	530	520	560
Meningie (Lake Alb.)	2 270	2 230	2 260
Goolwa Barrages	1 540	940	1 250



River Levels and Flows

Week ending Wednesday 01 Oct 2014

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	-	-	-	780	F	2 880	3 650
Jingellic	4.0	1.66	208.18	4 130	F	6 830	5 950
Tallandoon (Mitta Mitta River)	4.2	3.01	219.90	7 250	S	7 320	4 660
Heywoods	5.5	2.82	156.45	12 230	R	6 160	9 400
Doctors Point	5.5	2.92	151.39	13 820	R	8 040	10 660
Albury	4.3	1.90	149.34	-	-	-	-
Corowa	3.8	2.14	128.16	8 660	R	7 710	9 990
Yarrowonga Weir (d/s)	6.4	1.66	116.70	10 030	R	10 020	8 570
Tocumwal	6.4	2.26	106.10	9 480	S	9 610	7 640
Torrumbarry Weir (d/s)	7.3	2.72	81.27	8 210	R	6 230	2 890
Swan Hill	4.5	1.24	64.16	6 160	R	4 360	4 020
Wakool Junction	8.8	2.51	51.63	5 790	R	5 300	6 740
Euston Weir (d/s)	8.8	1.26	43.10	5 670	S	5 900	7 900
Mildura Weir (d/s)	-	-	-	5 650	F	5 670	-
Wentworth Weir (d/s)	7.3	2.98	27.74	6 270	S	7 540	8 430
Rufus Junction	-	3.48	20.41	6 400	R	6 490	5 050
Blanchetown (Lock 1 d/s)	-	0.92	-	5 810	F	5 650	4 360
Tributaries							
Kiewa at Bandiana	2.7	1.61	154.84	1 390	R	1 640	1 450
Ovens at Wangaratta	11.9	8.58	146.26	2 060	F	2 470	2 620
Goulburn at McCoys Bridge	9.0	2.81	94.23	3 470	F	2 760	1 430
Edward at Stevens Weir (d/s)	-	1.10	80.87	860	F	1 020	590
Edward at Liewah	-	1.43	56.81	800	F	1 010	1 550
Wakool at Stoney Crossing	-	1.53	55.02	680	S	690	740
Murrumbidgee at Balranald	5.0	1.69	57.65	1 250	F	1 340	1 340
Barwon at Mungindi	-	3.03	-	0	F	0	0
Darling at Bourke	-	3.97	-	30	F	40	50
Darling at Burtundy Rocks	-	0.69	-	60	S	60	80

Natural Inflow to Hume (i.e. Pre Dartmouth & Snowy Mountains scheme)	12 430	10 050
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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	-0.21	-	No. 7 Rufus River	22.10	-0.01	+1.15
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.15	+0.11
No. 15 Euston	47.60	+0.19	-	No. 5 Renmark	16.30	+0.09	+0.17
No. 11 Mildura	34.40	+0.00	+0.19	No. 4 Bookpurnong	13.20	-0.01	+0.62
No. 10 Wentworth	30.80	+0.10	+0.34	No. 3 Overland Corner	9.80	-0.04	+0.47
No. 9 Kulnine	27.40	+0.13	+0.63	No. 2 Waikerie	6.10	+0.28	+0.47
No. 8 Wangumma	24.60	+0.61	+0.08	No. 1 Blanchetown	3.20	+0.32	+0.17

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.72
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Barrages

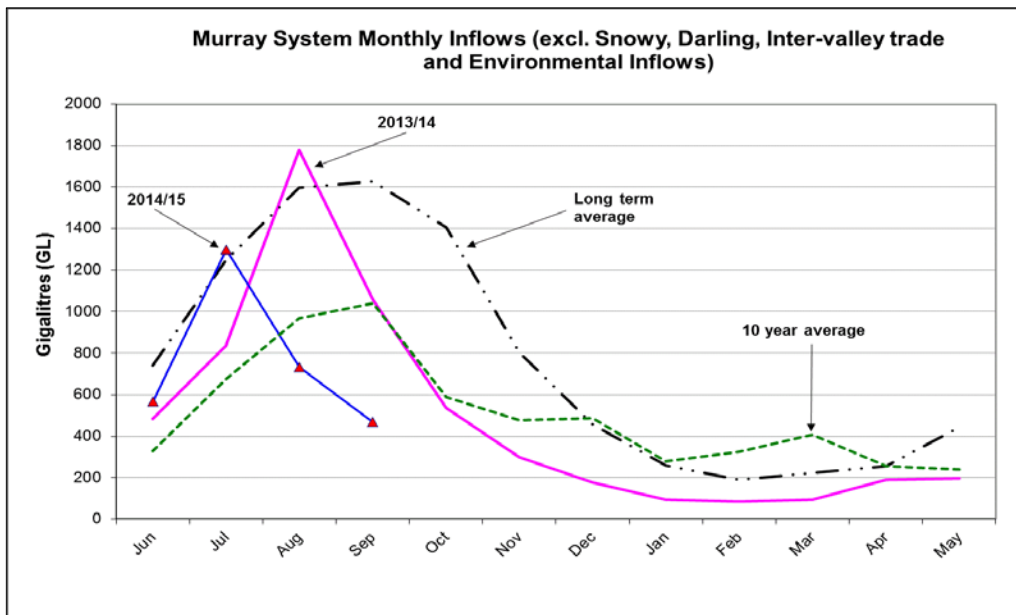
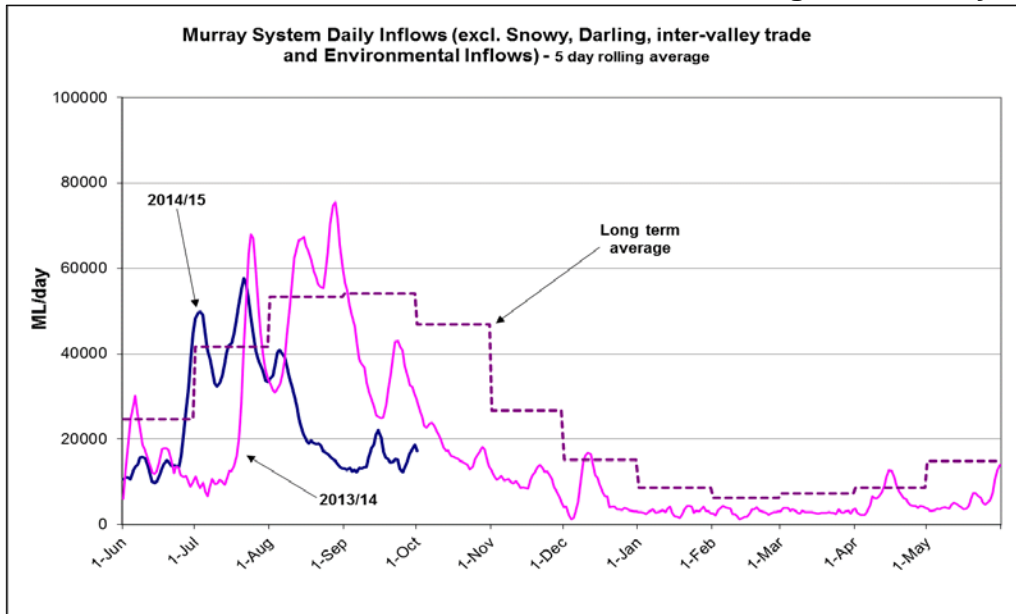
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot
Goolwa	128 openings	0.66	4	-	Open
Mundoo	26 openings	0.65	All closed	-	-
Boundary Creek	6 openings	-	0.1	-	-
Ewe Island	111 gates	-	All closed	-	-
Tauwitchere	322 gates	0.66	3	Open	Open

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



Week ending Wednesday 01 Oct 2014



State Allocations (as at 01 Oct 2014)

NSW - Murray Valley

High security	97%
General security	34%

Victorian - Murray Valley

High reliability	100%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	37%

Victorian - Goulburn Valley

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 : <http://www.water.nsw.gov.au/Water-management/Water-availability/Water-allocations/Water-allocations-summary/water-allocations-summary/default.aspx>
 VIC : <http://www.g-mwater.com.au/water-resources/allocations/current.asp>
 SA : <http://www.environment.sa.gov.au/managing-natural-resources/river-murray>

Flow advice



2 October 2014

Spring e-water brings changing Murray flows

Communities along the River Murray between Echuca and Sunraysia need to be aware of changing river levels between October and December 2014, and to adjust their activities accordingly.

The changes will occur as water enters the Murray from the Goulburn River following the release of two environmental water pulses from Lake Eildon.

The first pulse is expected to increase flow rates in the River Murray at Echuca from around 19 October. As the water moves along the river, levels will rise and remain higher for three to four weeks, before receding.

If conditions remain dry, levels at Echuca could rise about 0.5 metres to 87.4 metres (Australian Height Datum) and downstream of Torrumbarry Weir, the river is forecast to reach a peak—about four metres at the gauge—at the end of October.

The second pulse is expected to increase flows at Echuca in late November.

River users between the Echuca district and the upper reaches of Mildura Weir pool need to be aware that levels will fluctuate noticeably during this period and should adjust their activities, pumps and moorings accordingly.

Further updates will be provided as required through the media and the MDBA's river operations weekly report, which can be found at www.mdba.gov.au/river-data/current-information-forecasts/weekly-report

The environmental pulses will use Commonwealth Environmental Water Holder and The Living Murray water allocations to benefit fish spawning and vegetation on the Goulburn River and floodplain areas on the River Murray such as the Chowilla icon site.

The planned flows into the Goulburn River will be managed by the Victorian Environmental Water Holder in collaboration with the Goulburn Broken Catchment Management Authority.

ENDS

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

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