



RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 2 JULY 2014

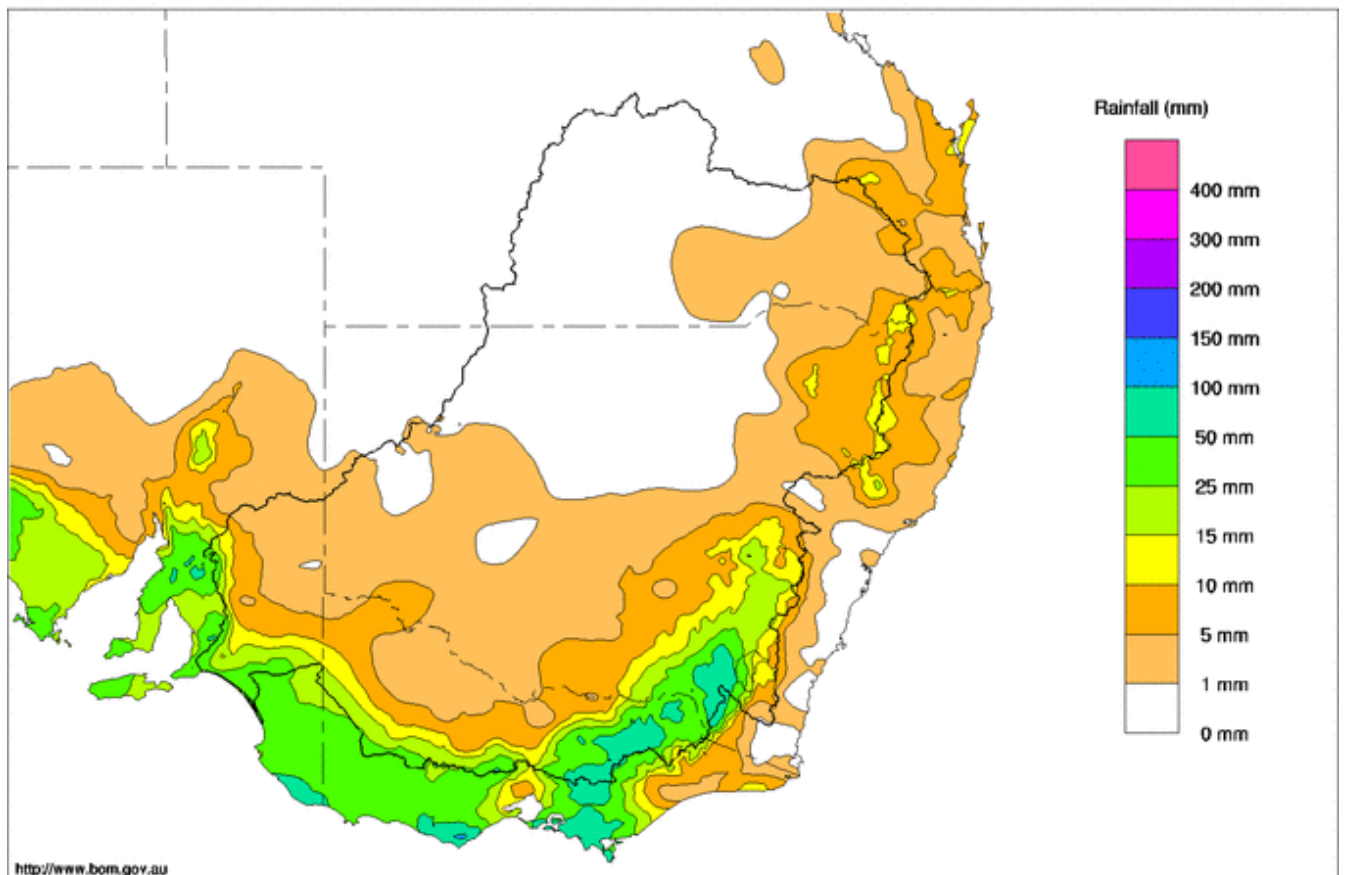
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Rainfall and Inflows

There was further rain across the key south-eastern catchments this week as another strong cold front crossed the region over the weekend. The spatial pattern of precipitation was very typical of the winter period with the heaviest totals over the south-eastern ranges and further snow falling on the Alps. Moderate rain fell across the southern Great Divide in Victoria, and over the Mount Lofty Ranges in South Australia, with lighter totals reported across the north-eastern ranges of NSW. The interior stayed quite dry with only 0 to 5 mm recorded for the week (Map 1).

The highest precipitation totals fell in the Victorian Alps with 167 mm at Rocky Valley and 155 mm at Mt Buffalo, all falling as snow. There were similar heavy falls across the NSW Snowy Mountains with weekly totals close to 150 mm adding to an already substantial early season snow pack. Away from the main peaks there was 104 mm at Harris Lane and 90 mm at Hunters Hill. Notable totals across the central Victorian divide included 101 mm at Mt William, 86 mm at Woods Point and 52 mm at Trentham. At the Lower Lakes in South Australia, there was 40 mm at Meningie.

Murray-Darling Rainfall Totals (mm) Week Ending 2nd July 2014
Product of the National Climate Centre



Map 1 - Murray-Darling Basin rainfall for the week ending 2 July 2014 (Source: Bureau of Meteorology)

The recurrent rain during the last few weeks has led to a general building of stream flows across the upper Murray tributaries with several gauges reaching their highest levels for the year so far. Both the



Kiewa and King Rivers have risen sufficiently for some gauges to exceed the minor flood level. On the Tooma River, the flow at Pinegrove peaked at around 5,000 ML/day. On the upper Murray, the flow at Biggara peaked at 3,700 ML/day and is currently flowing at 2,600 ML/day; while downstream at Jingellic, the flow peaked at just under 18,000 ML/day. On the Ovens River, the flow at Wangaratta peaked just below minor flood level on 1 July at 19,200 ML/day with the current flow at 15,600 ML/day.

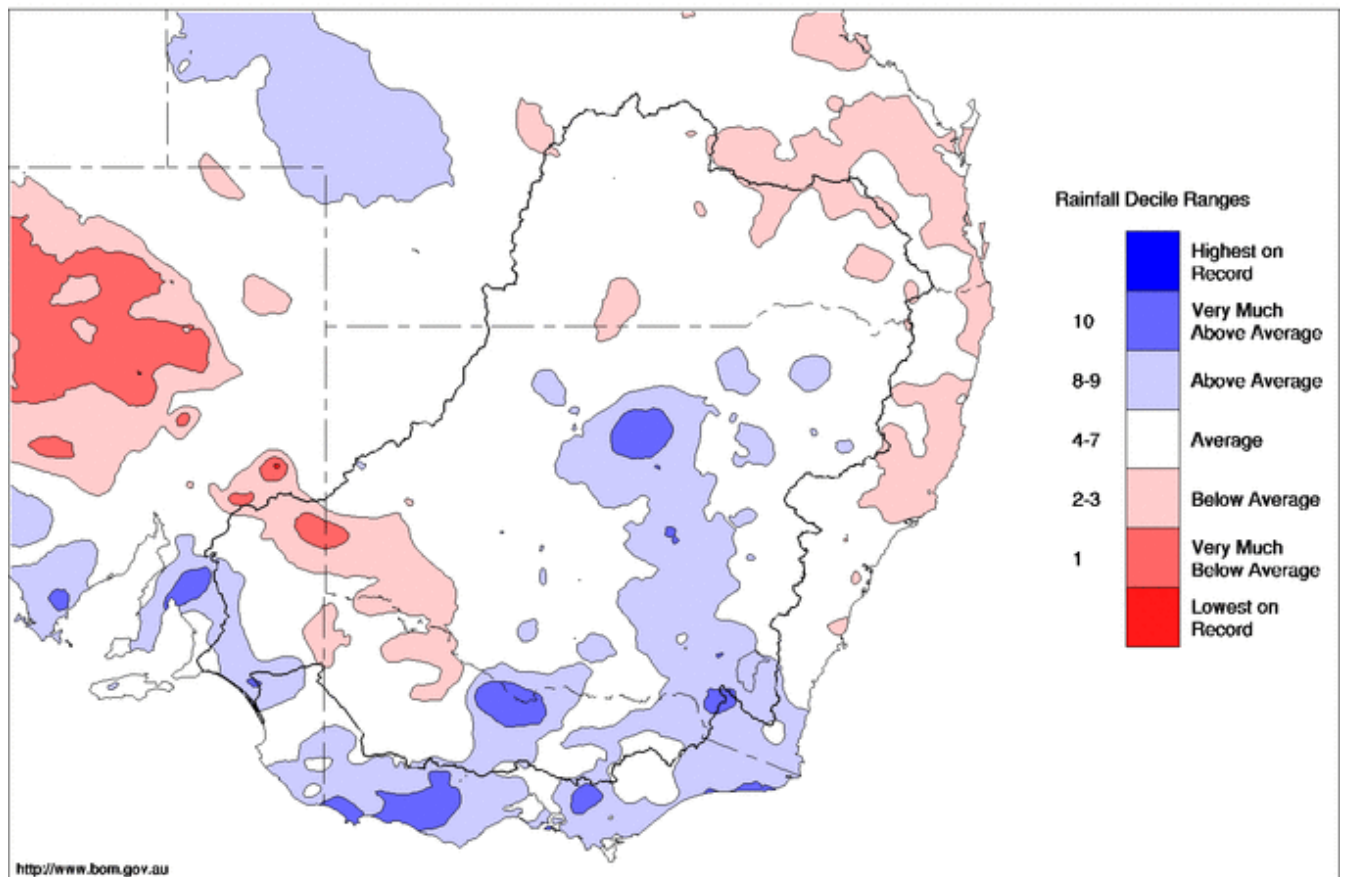
June 2014 Summary

Rainfall during June 2014 across the Basin was around average for most areas, with only parts of south-western NSW and inland South Australia recording substantially below average rain. In contrast, the month was relatively wet across central and south-eastern NSW and parts of northern and north-eastern Victoria, with good early winter rain falling over most key upper Murray catchments (Map 2).

Across the Basin as a whole, the Bureau of Meteorology has reported the Basin's area-averaged rain at 39.6 mm (18% above the long-term mean). June was also another relatively warm month with temperatures continuing to trend above the long-term average across the entire Basin.

Murray-Darling Rainfall Deciles June 2014

Distribution Based on Gridded Data
Product of the National Climate Centre



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Map 1 - Murray-Darling Basin rainfall deciles for June 2014 (Source: Bureau of Meteorology).

River Murray System inflows for June (excluding Snowy Scheme, Darling River and managed environmental inflows) totalled around 570 GL. This volume was greater than the June 2013 inflows (480 GL), but remained below the long-term average for June, which is about 740 GL.



River Operations

- States have made initial allocation announcements
- Overbank flows in Barmah-Millewa Forest
- High tides and large swells reduce the releases through the barrages at the Lower Lakes

MDBA total storage increased this week by 186 GL. Active storage is now at 5,380 GL (64% capacity), while total inflows to the River Murray System have swollen to around 50,000 ML/day (plot, page 7).

The storage volume in **Dartmouth** Reservoir increased by 36 GL to 3,515 GL (91% capacity). The release has been reduced back to the minimum flow at Colemans gauge of 200 ML/day.

Inflows to **Hume** Reservoir averaged around 20,000 ML/day this week with the storage increasing by 138 GL to 1,595 GL (53% capacity). The release remains at the minimum flow of 600 ML/day. Inflows from the Kiewa River downstream of Hume are keeping the flow at Doctors Point averaging around 4,500 ML/day.

At **Yarrawonga** Weir, the pool level in Lake Mulwala is currently 124.68 m AHD, which is close to the normal operating target. The release increased markedly during the week, from 5,600 ML/day to 17,100 ML/day. Further increases to the release, up to around 20,000 ML/day, are likely in the next couple of days.

Most regulators into the Barmah-Millewa Forest have been opened as flows are well above the channel capacity of the **Barmah Choke**.

On the **Edward-Wakool** system, around 1,800 ML/day is flowing through the Edward River offtake, which remains fully open. The Gulpa Creek offtake has been increased to pass around 350 ML/day. At Stevens Weir, the pool level is expected to be steady for the next week and flows downstream of the weir are forecast to increase during the coming weeks.

On the **Goulburn** River, the flow at McCoys Bridge has increased to 4,200 ML/day, and similar high flows are likely to continue for the next week. Downstream at Torrumbarry Weir, diversions at National Channel have been steady at 700 ML/day, as environmental watering of the Gunbower Forest continues. The flow downstream of Torrumbarry Weir is 9,200 ML/day and expected to reach at least 12,000 ML/day in the coming week or so.

The **Wakool** River at Kyalite is currently flowing at 1,250 ML/day. This flow may recede slightly in the coming weeks before rising again. On the Murrumbidgee River, the flow at Balranald is currently 700 ML/day and expected to rise to around 830 ML/day in the coming week.

At **Euston** Weir, the pool level is currently 20 cm above Full Supply Level, but will be gradually reduced back to Full Supply Level in the coming week. The flow downstream of Euston Weir is now 6,600 ML/day, but forecast to exceed 10,000 ML/day in the next 1–2 weeks.

Environmental watering of the **Hattah Lakes**, located between Robinvale and Mildura, commenced in late May. The watering is continuing with almost 1,000 ML/day being pumped into Chalka Creek. This water is filling the wetland system for ecological benefit (Photo 1). For more information on the Hattah Lakes watering, see <http://www.malleecma.vic.gov.au/about-us/programs/rivers-and-wetlands/hattah-lakes.html>.

The storage in the **Menindee Lakes** remains fairly steady, with a decrease this week of just 3 GL to 379 GL (22% capacity). The release, measured at Weir 32, is currently 200 ML/day.

At Weir and **Lock 8**, the level is currently 50 cm above full supply level. This level will be gradually reduced back to full supply level over the next week.



Photo 1 – Lake Waterap in the Hattah Lakes system (Photo courtesy: Paul Sureda, MDBA).

At **Lake Victoria**, the storage volume increased this week by 15 GL to 464 GL (69% capacity, 25.15 m AHD). The flow to South Australia averaged 3,600 ML/day over the past week, and may increase in the coming week.

At the **Lower Lakes**, the 5-day average water level in Lake Alexandrina is 0.69 m AHD, which is a rise of 4 cm since last week. Releases through the barrages and fishways were minimal for most of the week due to high tides and a large swell. The release was able to be increased on Tuesday 1 July and is currently estimated to be 2,200 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 02 Jul 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	480.65	3 515	91%	71	3 444	+36
Hume Reservoir	192.00	3 005	183.66	1 595	53%	23	1 572	+138
Lake Victoria	27.00	677	25.15	464	69%	100	364	+15
Menindee Lakes		1 731*		379	22%	(-) #	0	-3
Total		9 269		5 953	64%	--	5 380	+186
Total Active MDBA Storage							64% ^	

Major State Storages

Burrinjuck Reservoir	1 026	666	65%	3	663	+55
Blowering Reservoir	1 631	1 018	62%	24	994	+38
Eildon Reservoir	3 334	2 438	73%	100	2 338	+89

* 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 01 Jul 2014

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2014
Lake Eucumbene - Total	1 540	+13	Snowy-Murray	+4	105
Snowy-Murray Component	852	+4	Tooma-Tumut	+11	58
Target Storage	1 170		Net Diversion	-7	47
			Murray 1 Release	+18	160

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)	0.0	0	Yarrowonga Main Channel (net)	0	0
Wakool Sys Allowance	1.0	1	Torrumbarry System + Nyah (net)	0	0
Western Murray Irrigation	0.3	0	Sunraysia Pumped Districts	0.1	0
Licensed Pumps	1.0	0	Licensed pumps - GMW (Nyah+u/s)	0	0
Lower Darling	0.2	0	Licensed pumps - LMW	0.9	0
TOTAL	2.5	1	TOTAL	1	0

* 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 entitlement water.

Entitlement this month	108.5 *	
Flow this week	25.4	(3 600 ML/day)
Flow so far this month	7.3	
Flow last month	103.6	

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

	Current	Average over the last week	Average since 1 August 2013
Swan Hill	240	230	100
Euston	120	140	110
Red Cliffs	130	140	130
Merbein	160	170	140
Burtundy (Darling)	620	650	520
Lock 9	220	230	180
Lake Victoria	230	230	240
Berri	400	410	280
Waikerie	460	450	330
Morgan	440	440	330
Mannum	390	390	360
Murray Bridge	400	410	380
Milang (Lake Alex.)	710	700	680
Poltalloch (Lake Alex.)	740	690	570
Meningie (Lake Alb.)	2 300	2 320	2 600
Goolwa Barrages	8 300	7 200	1 440



River Levels and Flows

Week ending Wednesday 02 Jul 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	-	-	-	9 490	R	5 900	1 950
Jingellic	4.0	2.97	209.49	16 730	F	14 380	5 620
Tallandoon (Mitta Mitta River)	4.2	1.92	218.81	1 910	F	2 610	1 450
Heywoods	5.5	1.30	154.93	600	S	600	600
Doctors Point	5.5	2.09	150.56	4 970	F	4 570	2 220
Albury	4.3	1.12	148.56	-	-	-	-
Corowa	3.8	1.53	127.55	5 530	R	4 560	2 510
Yarrowonga Weir (d/s)	6.4	2.53	117.57	17 110	R	13 510	5 480
Tocumwal	6.4	3.06	106.90	15 680	R	10 250	5 290
Torrumbarry Weir (d/s)	7.3	2.99	81.54	9 180	R	6 660	5 420
Swan Hill	4.5	1.19	64.11	5 580	R	5 360	5 040
Wakool Junction	8.8	2.80	51.92	6 950	R	6 640	6 480
Euston Weir (d/s)	8.8	1.41	43.25	6 560	R	6 480	6 680
Mildura Weir (d/s)	-	-	-	4 970	F	4 990	-
Wentworth Weir (d/s)	7.3	2.97	27.73	5 460	S	5 510	5 330
Rufus Junction	-	2.80	19.73	2 830	F	2 920	3 260
Blanchetown (Lock 1 d/s)	-	0.65	-	3 030	F	3 320	3 390
Tributaries							
Kiewa at Bandiana	2.7	2.80	156.03	4 150	F	3 980	1 660
Ovens at Wangaratta	11.9	11.81	149.49	18 650	F	15 420	3 560
Goulburn at McCoys Bridge	9.0	3.19	94.61	4 230	F	3 500	2 080
Edward at Stevens Weir (d/s)	-	1.15	80.92	910	F	660	390
Edward at Liewah	-	1.18	56.56	610	R	600	640
Wakool at Stoney Crossing	-	1.52	55.01	660	S	680	640
Murrumbidgee at Balranald	5.0	1.09	57.05	710	R	510	490
Barwon at Mungindi	-	3.13	-	10	S	10	10
Darling at Bourke	-	4.12	-	450	F	380	120
Darling at Burtundy Rocks	-	0.75	-	160	R	130	140

Natural Inflow to Hume (i.e. Pre Dartmouth & Snowy Mountains scheme)	26 710	10 210
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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	-0.22	-	No. 7 Rufus River	22.10	+0.05	+0.52
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.01	+0.00
No. 15 Euston	47.60	+0.20	-	No. 5 Renmark	16.30	+0.07	+0.06
No. 11 Mildura	34.40	+0.04	+0.09	No. 4 Bookpurnong	13.20	-0.00	+0.34
No. 10 Wentworth	30.80	+0.02	+0.33	No. 3 Overland Corner	9.80	+0.08	+0.28
No. 9 Kulnine	27.40	+0.10	+0.48	No. 2 Waikerie	6.10	+0.19	+0.14
No. 8 Wangumma	24.60	+0.49	+0.10	No. 1 Blanchetown	3.20	+0.19	-0.10

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.69
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Barrages

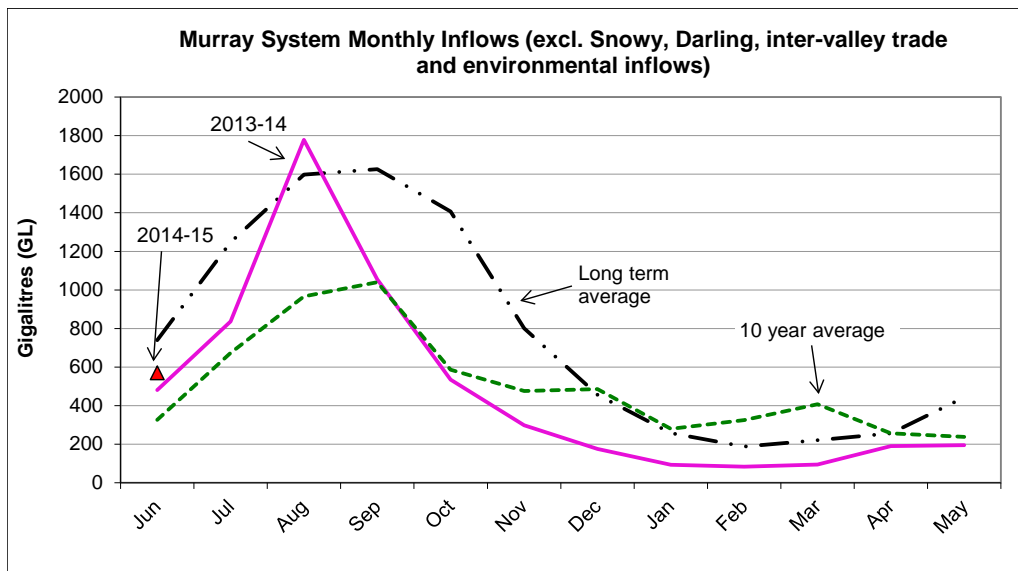
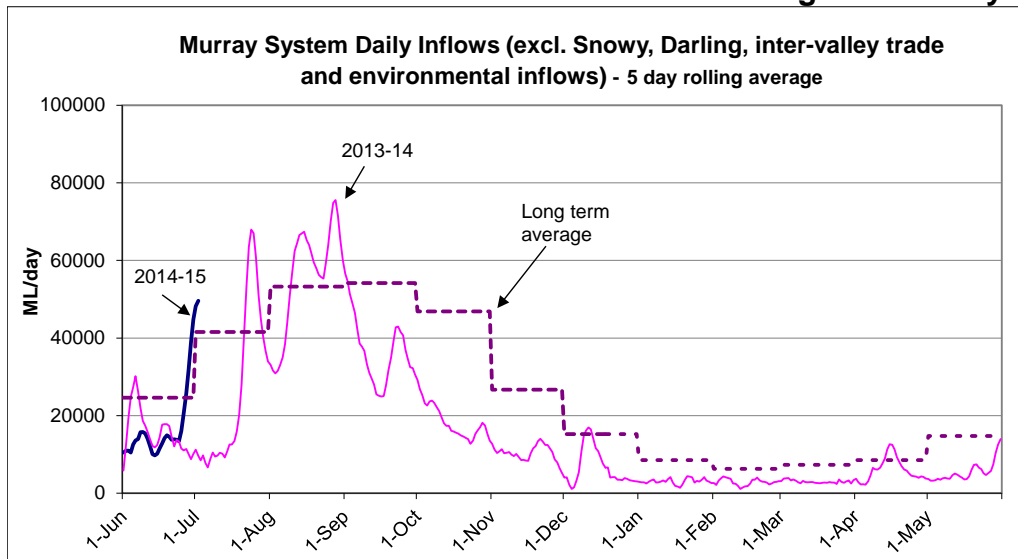
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot
Goolwa	128 openings	0.74	5	-	Open
Mundoo	26 openings	0.71	All closed	-	-
Boundary Creek	6 openings	-	0.1	-	-
Ewe Island	111 gates	-	All closed	-	-
Tauwitchere	322 gates	0.73	5	Open	Open

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



Week ending Wednesday 02 Jul 2014



State Allocations (as at 02 Jul 2014)

NSW - Murray Valley

High security	97%
General security	6%

Victorian - Murray Valley

High reliability	57%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	10%

Victorian - Goulburn Valley

High reliability	74%
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>