



RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 3RD SEPTEMBER 2014

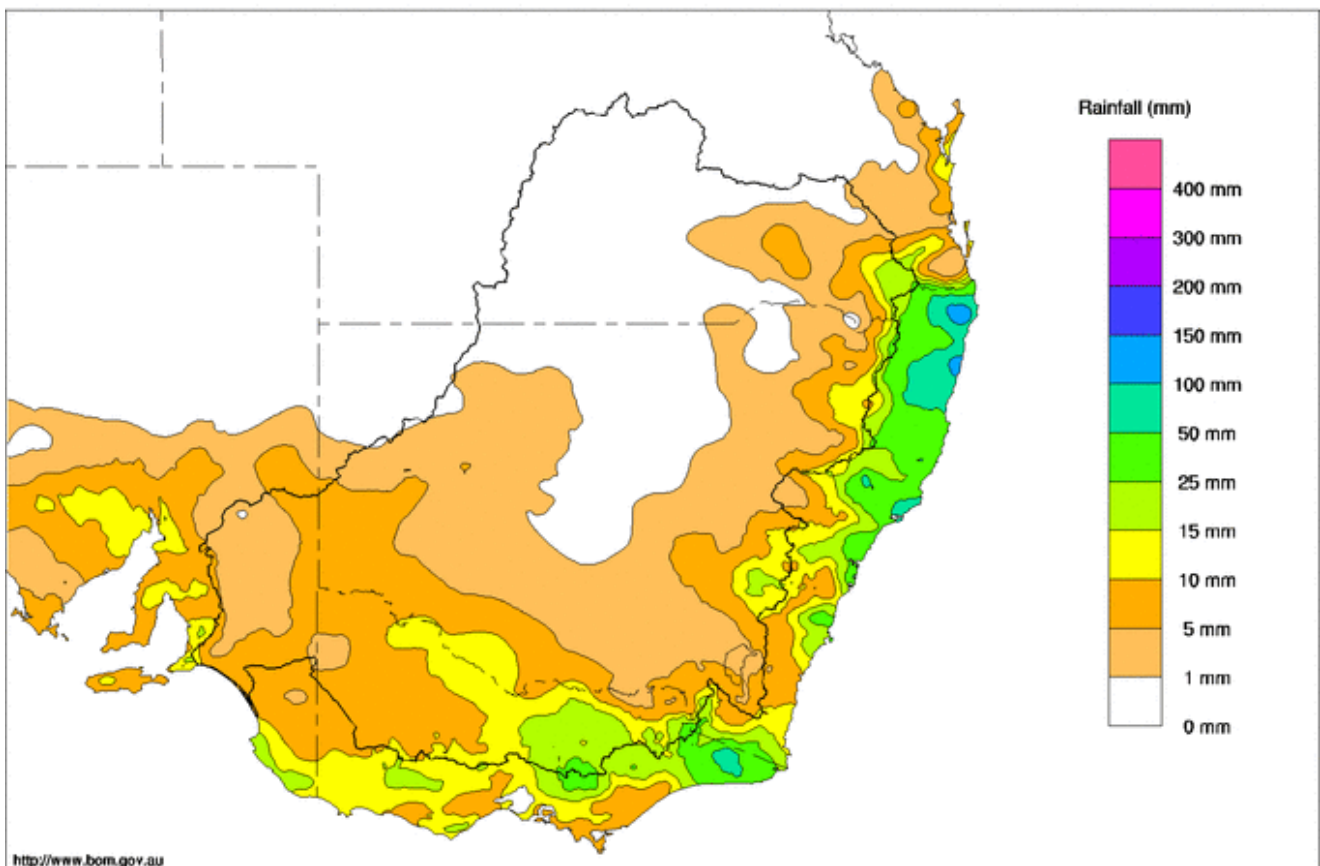
Trim Ref: D14/33800

Rainfall and Inflows

Rainfall was heaviest along the southern and eastern fringes of the Murray-Darling Basin this week with only light totals over most inland areas and dry conditions across the north-west (Map 1). The rain was associated with on-shore winds along the NSW and south-east Queensland coasts at the start of the week; and with the passage of a rain band and cold front in the south toward week's end.

There was rain and snow across the south-east ranges and this resulted in totals up to around 30 mm across the NSW Snowy Mountains and Victorian Alps, where for example Mt Buller recorded 28 mm and Falls Creek recorded 25 mm. Totals elsewhere in Victoria included 28 mm at Mt William, 26 mm at Murchison and 27 mm at Yea. Rainfall across the NSW irrigation areas was only light and included 14 mm at Lake Mulwala and 10 mm at Deniliquin. Notable totals in the northern Basin included 26 mm at Killarney and 16 mm at Warwick.

Murray-Darling Rainfall Totals (mm) Week Ending 3rd September 2014
Product of the National Climate Centre



© Commonwealth of Australia 2014, Australian Bureau of Meteorology
Map 1- Murray-Darling Basin rainfall for the week ending 3rd September 2014 (Source: Bureau of Meteorology) Issued: 03/09/2014

Stream flows in the upper Murray tributaries remained fairly steady with small rises observed late in the week in response to the rain. For example, on the Mitta Mitta River at Hinnomunjie Bridge, the flow averaged around 1,200 ML/day with a peak of 1,450 ML/day on 2 September. On the upper Murray, the flow at Biggara decreased slightly from last week with the average flow decreasing from around 1,400 to 1,200 ML/day. On the Ovens River, the flow at Rocky Point averaged around 1,800 ML/day with a peak flow of 1,900 ML/day.



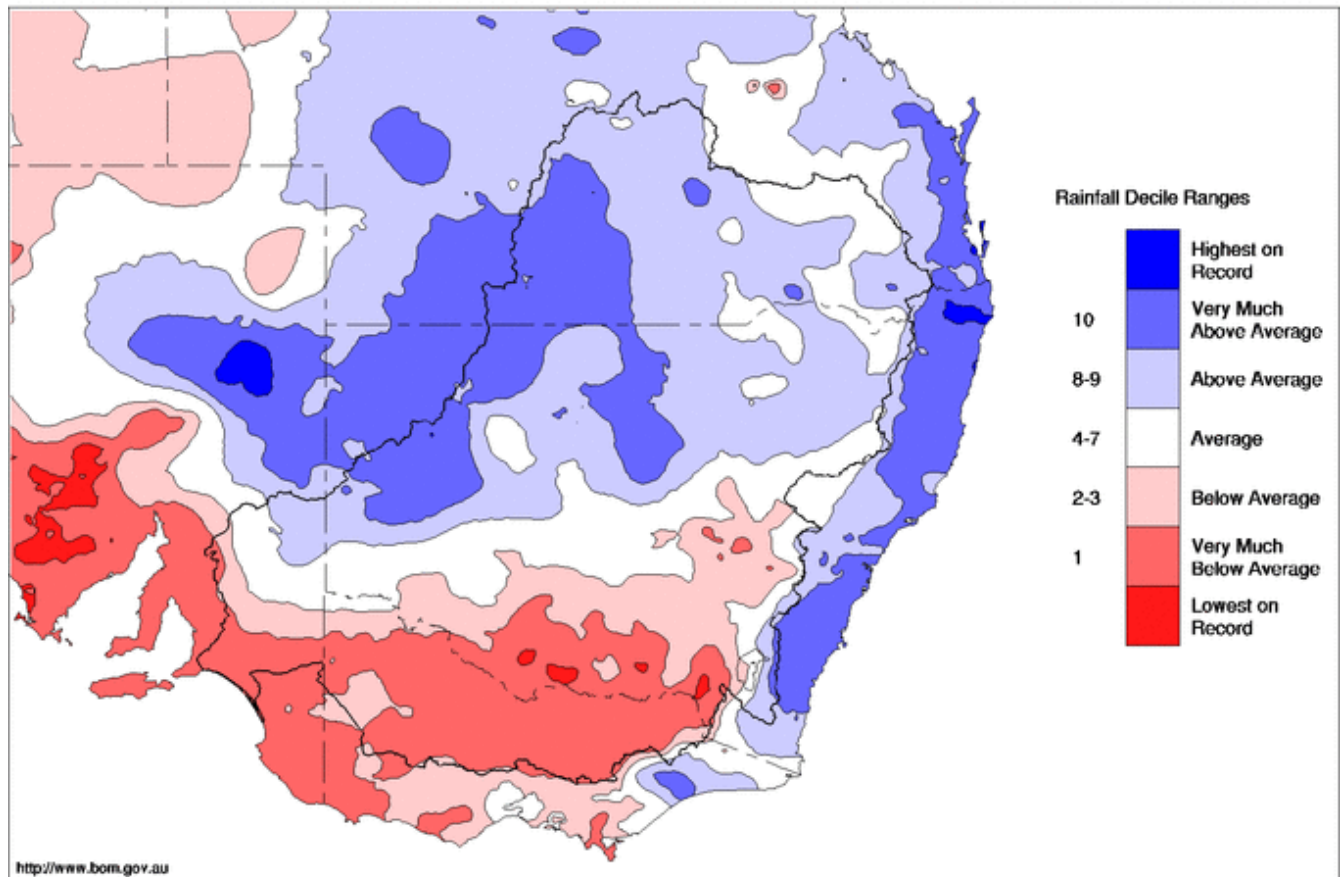
August 2014 Summary

It was a dry month across the southern Murray-Darling Basin during August, with well below-average rainfall recorded in Victoria and southern NSW (Map 2). In contrast, the northern Basin recorded average to very much above average rainfall; however actual rain totals were not particularly significant (generally between 25 and 50 mm) as, broadly speaking, average rainfall in the northern Basin is close to its lowest during August. Across the Basin as a whole, the Bureau of Meteorology has reported area-averaged rain totalling 32.3 mm, which is 15% below the long-term mean and the 53rd driest August in 115 years of record.

The generally clear and dry conditions in the southern Basin resulted in above average daytime temperatures during August. However, the clear skies contributed to some very cold overnight temperatures, with 'lowest on record' temperatures recorded in south-western NSW, north-western Victoria and southern South Australia.

Murray-Darling Rainfall Deciles August 2014

Distribution Based on Gridded Data
Product of the National Climate Centre



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

© Commonwealth of Australia 2014, Australian Bureau of Meteorology ID code: AWAP

Issued: 03/09/2014

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

River Murray System inflows (excluding Snowy Scheme, Darling River and managed environmental inflows) dropped away considerably with the dry conditions, with a total for August of around 730 GL. This is a large turnaround from the 1,300 GL recorded in July and less than half of the long-term monthly average for August of around 1,600GL.



River Operations

- Pumping to Hattah Lakes to be reduced in the coming week;
- Lake Victoria effectively full at 99% capacity;
- Testing of new environmental works on the Chowilla Floodplain from early September.

MDBA active storage decreased by 28 GL this week to 6,338 GL (75% capacity). This is slightly less than the long term average storage level for the end of August of 6470 GL.

At **Dartmouth** Reservoir, the storage volume increased by 8 GL to 3,655 GL (95% capacity). Releases for hydro-electricity generation ceased on the weekend. In response the flow, measured at Colemans, was reduced from 1,000 ML/day to 500 ML/day. At **Hume** Reservoir, the storage volume reduced by 32 GL to 2,205 GL (73% capacity). The release was reduced from 15,000 ML/day to 9,500 ML/day due to an ease in downstream demand following this week's rain.

System planning indicates that transfers of water from Dartmouth to Hume Reservoir are likely to commence soon due to continuing dry conditions and the anticipated high demand for water along the River Murray System. An earlier start to transfers will lessen the likelihood of very high transfer rates during the coming summer and further details will be provided next week.

At **Lake Mulwala** diversions to Mulwala Canal and Yarrawonga Main Channel reduced to 3,000 ML/day and 500 ML/day respectively. The reduction in irrigation demand resulted in the level in Lake Mulwala increasing over the week to 124.88 m AHD (2 cm below Full Supply Level (FSL)). The release downstream of **Yarrawonga** Weir is at channel capacity of 10,600 ML/day.

On the **Edward/Wakool** system, flow through the Edward and Gulpa offtakes is being managed at around 1,600 ML/day and 350 ML/day respectively. Diversions to Wakool Main Canal reduced from 750 ML/day to 500 ML/day. Further downstream at Stevens Weir, the release is currently 1,000 ML/day.

Flow in the **Goulburn** River averaged around 1,300 ML/day at McCoys Bridge this week. Downstream on the Murray, the diversion to **National Channel** averaged around 3,100 ML/day. Diversions of 500 ML/day have continued at the **Koondrook-Perricoota** inlet regulator.

The flow at **Torrumbarry** Weir increased to 4,900 ML/day this week. Flows through **Gunbower** forest are returning to the Murray at Chinamens bend and contributing about 450 ML/day. Downstream at **Swan Hill**, the flow reached a low of 3,400 ML/day (0.8 m local gauge height) and is now rising - currently 4,200 ML/day.

Environmental watering continued at **Hattah** Lakes this week, with pumps delivering around 1,000 ML/day. Pumping will be gradually reduced in the coming week as the Lake level approaches the target of around 44.8 m AHD. Releases from the Lakes, via Messengers and Oateys regulators (up to a total flow of 1,500 ML/day), will commence in mid-September and are likely to continue into November. These return flows allow the movement of fish and other aquatic organisms between the Lakes and the river. They also carry valuable organic material, providing an important food source for in-stream micro-organisms that sustain aquatic ecosystem health.

On the lower **Darling** River higher salinity levels eased with values of 860 to 930 EC recorded at Burtundy this week. Salinity levels are expected to continue to slowly reduce over the coming week. Forecast salinity levels for Burtundy can be accessed at <http://www.mdba.gov.au/river-data/current-information-forecasts/river-salinity>.

Lake Victoria is effectively full at 99% storage capacity (effective full supply is at or above 99%) and will be managed at this level over the coming days to maximise the storage of unregulated flows. Flow to South Australia continued to recede this week - currently 5,500 ML/day - and will reduce to the



normal entitlement flow of about 4,500 ML/day in the coming days. Later in September, flow rates will increase above entitlement due to delivery of environmental water, including water from the Goulburn River and releases from Hattah Lakes.

Testing of the new environmental water management infrastructure on the **Chowilla Floodplain** is planned from early September until the end of November 2014. Testing will involve use of the Chowilla Creek Environmental Regulator and ancillary structures. It will also include the progressive raising of Lock 6 weir pool levels by up to 40 cm over a period of about eight weeks from late September through to mid-November, reaching the target height of 19.65 m AHD for about two weeks during mid-October. Testing will allow engineering checks to ensure that the structures can be operated as designed and will also provide ecological benefits for the floodplain. More information can be found at: www.environment.sa.gov.au/chowilla-floodplain.

At the **Lower Lakes**, the five-day average water level at Lake Alexandrina increased 2 cm to 0.74 m AHD. The total barrage release is currently 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 03 Sep 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	482.89	3 655	95%	71	3 584	+8	
Hume Reservoir	192.00	3 005	187.65	2 205	73%	23	2 182	-32	
Lake Victoria	27.00	677	26.96	672	99%	100	572	+2	
Menindee Lakes		1 731*		351	20%	(-) #	0	-7	
Total		9 269		6 883	74%	- -	6 338	-28	
Total Active MDBA Storage							75% ^		

Major State Storages

Burrinjuck Reservoir	1 026	834	81%	3	831	+35
Blowering Reservoir	1 631	1 171	72%	24	1 147	-0
Eildon Reservoir	3 334	2 894	87%	100	2 794	+11

* 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 02 Sep 2014

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2014
Lake Eucumbene - Total	1 905	n/a	Snowy-Murray	+4	194
Snowy-Murray Component	859	n/a	Tooma-Tumut	+8	133
Target Storage	1 240		Net Diversion	-4	61
			Murray 1 Release	+13	308

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)	28.9	112	Yarrowonga Main Channel (net)	8.9	27
Wakool Sys Allowance	0.1	2	Torrumbarry System + Nyah (net)	21.4	122
Western Murray Irrigation	0.2	1	Sunraysia Pumped Districts	1.5	5
Licensed Pumps	12.4	27	Licensed pumps - GMW (Nyah+u/s)	1.2	3
Lower Darling	2.6	5	Licensed pumps - LMW	5	13
TOTAL	44.2	147	TOTAL	38	170

* 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 unregulated flows and the delivery of additional environmental water.

Entitlement this month	135.0 *	
Flow this week	56.2	(8 000 ML/day)
Flow so far this month	18.4	
Flow last month	439.4	

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

	Current	Average over the last week	Average since 1 August 2014
Swan Hill	110	100	90
Euston	100	110	110
Red Cliffs	130	130	110
Merbein	140	130	120
Burtundy (Darling)	860	890	900
Lock 9	130	120	130
Lake Victoria	170	180	200
Berri	160	170	210
Waikerie	300	300	320
Morgan	250	260	300
Mannum	290	310	390
Murray Bridge	400	370	450
Milang (Lake Alex.)	730	740	730
Poltalloch (Lake Alex.)	510	530	620
Meningie (Lake Alb.)	2 290	2 290	2 230
Goolwa Barrages	720	730	1 590



River Levels and Flows

Week ending Wednesday 03 Sep 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	-	-	-	5 110	F	2 890	2 370
Jingellic	4.0	2.07	208.59	7 230	R	5 500	5 800
Tallandoon (Mitta Mitta River)	4.2	1.65	218.54	1 120	F	1 430	2 110
Heywoods	5.5	2.49	156.12	9 550	F	11 580	12 300
Doctors Point	5.5	2.65	151.12	10 530	F	12 700	14 020
Albury	4.3	1.63	149.07	-	-	-	-
Corowa	3.8	2.57	128.59	11 210	F	13 930	11 110
Yarrowonga Weir (d/s)	6.4	1.74	116.78	10 600	R	10 380	6 950
Tocumwal	6.4	2.36	106.20	10 080	R	9 640	5 980
Torrumbarry Weir (d/s)	7.3	1.77	80.32	4 890	R	3 760	3 470
Swan Hill	4.5	0.93	63.85	4 200	R	3 720	6 200
Wakool Junction	8.8	2.46	51.58	5 640	F	6 540	10 670
Euston Weir (d/s)	8.8	1.37	43.21	6 330	F	7 880	13 180
Mildura Weir (d/s)	-	-	-	6 540	F	6 600	-
Wentworth Weir (d/s)	7.3	3.12	27.88	8 260	R	9 740	15 830
Rufus Junction	-	3.20	20.13	4 780	R	7 270	10 350
Blanchetown (Lock 1 d/s)	-	0.78	-	4 750	F	7 720	12 570
Tributaries							
Kiewa at Bandiana	2.7	1.78	155.01	1 650	R	1 630	1 980
Ovens at Wangaratta	11.9	8.91	146.59	3 040	R	2 550	2 870
Goulburn at McCoys Bridge	9.0	1.70	93.12	1 310	F	1 330	1 920
Edward at Stevens Weir (d/s)	-	1.28	81.05	1 050	F	790	460
Edward at Liewah	-	1.43	56.81	800	F	1 320	1 970
Wakool at Stoney Crossing	-	1.61	55.10	870	F	930	1 170
Murrumbidgee at Balranald	5.0	1.79	57.75	1 340	F	1 210	1 140
Barwon at Mungindi	-	3.11	-	0	F	0	0
Darling at Bourke	-	4.05	-	190	S	150	70
Darling at Burtundy Rocks	-	0.74	-	140	S	140	150

Natural Inflow to Hume (i.e. Pre Dartmouth & Snowy Mountains scheme)	8 280	9 640
---	-------	-------

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	-0.02	-	No. 7 Rufus River	22.10	+0.03	+0.90
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.02	+0.15
No. 15 Euston	47.60	+0.20	-	No. 5 Renmark	16.30	+0.12	+0.25
No. 11 Mildura	34.40	+0.02	+0.23	No. 4 Bookpurnong	13.20	+0.09	+0.63
No. 10 Wentworth	30.80	+0.08	+0.48	No. 3 Overland Corner	9.80	+0.02	+0.43
No. 9 Kulnine	27.40	+0.17	+0.64	No. 2 Waikerie	6.10	+0.29	+0.46
No. 8 Wangumma	24.60	+0.62	+0.15	No. 1 Blanchetown	3.20	+0.32	+0.03

Lower Lakes FSL = 0.75 m AHD

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

Barrages

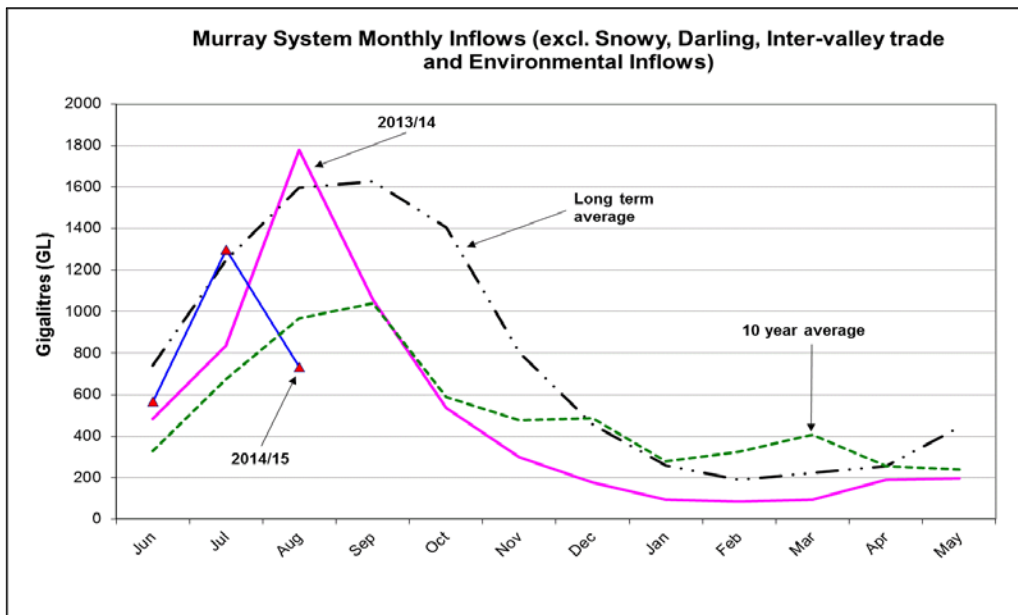
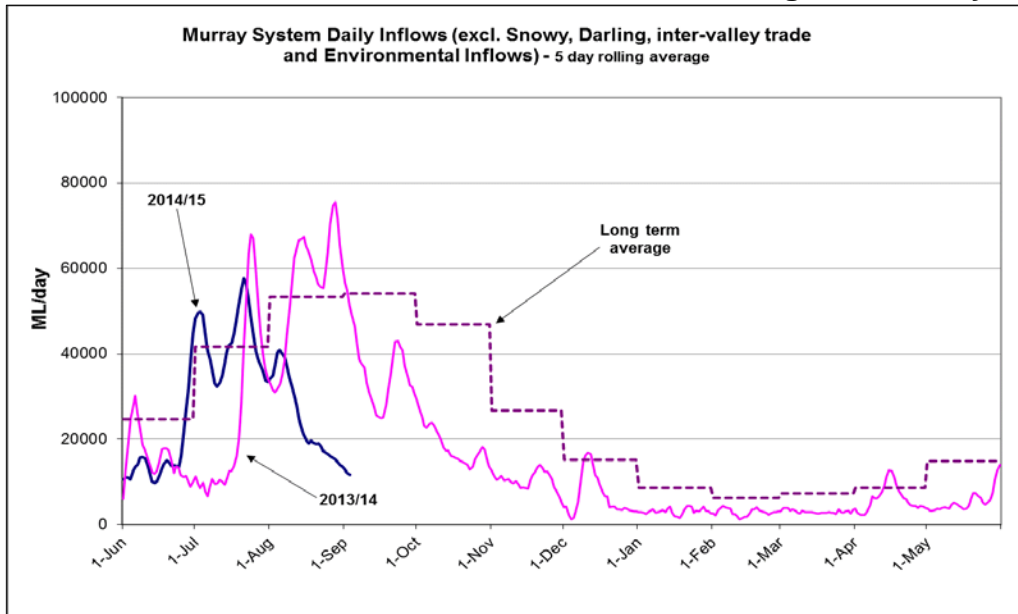
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot
Goolwa	128 openings	0.79	5	-	Open
Mundoo	26 openings	0.76	All closed	-	-
Boundary Creek	6 openings	-	0.1	-	-
Ewe Island	111 gates	-	All closed	-	-
Tauwitchere	322 gates	0.79	4	Open	Open

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



Week ending Wednesday 03 Sep 2014



State Allocations (as at 03 Sep 2014)

NSW - Murray Valley

High security	97%
General security	20%

Victorian - Murray Valley

High reliability	96%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	30%

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%
---------------	------

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>