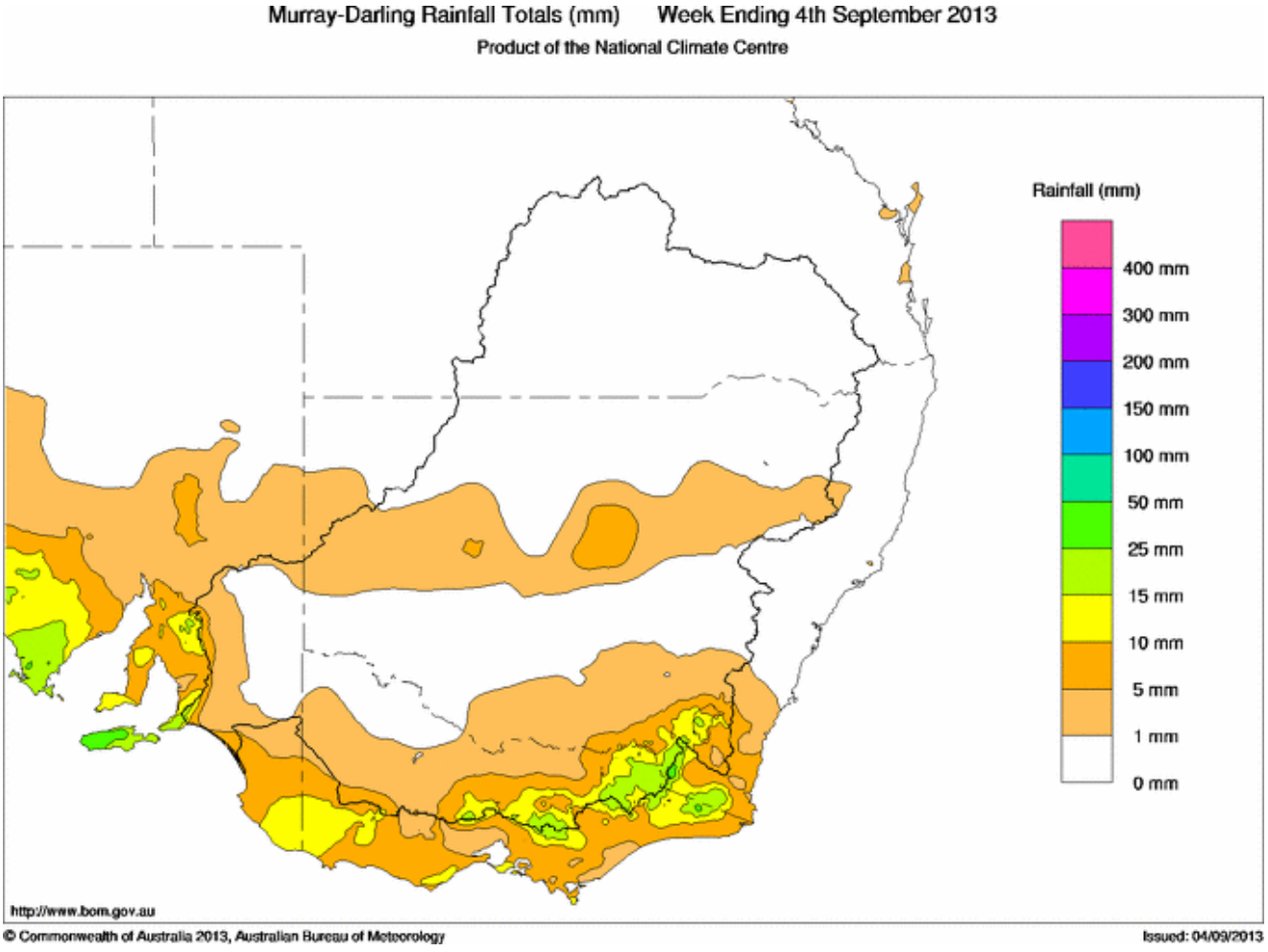
RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 4 SEPTEMBER 2013

Trim Ref: D13/32487

Rainfall and Inflows

It was considerably drier across the southern Murray-Darling Basin during the past seven days compared to recent weeks, with the only worthwhile rain falling from a band of storms that crossed the region early in the week. The higher rainfall totals were again focussed over the south-east ranges; while across northern parts of the Basin, the recent spell of dry weather continued (Map 1). It was also a much warmer week for the Basin, with the Bureau of Meteorology reporting that many areas are currently experiencing a run of near-record temperatures for this time of the year. Highest weekly precipitation totals were in the NSW Snowy Mountains with falls of around 30 mm reported. In Victoria there was 26 mm at Mt William, 24 mm at Mt Hotham and 20 mm at Woods Point.



Map 1 - Murray-Darling Basin rainfall for the week ending 4 September 2013 (Source: Bureau of Meteorology).

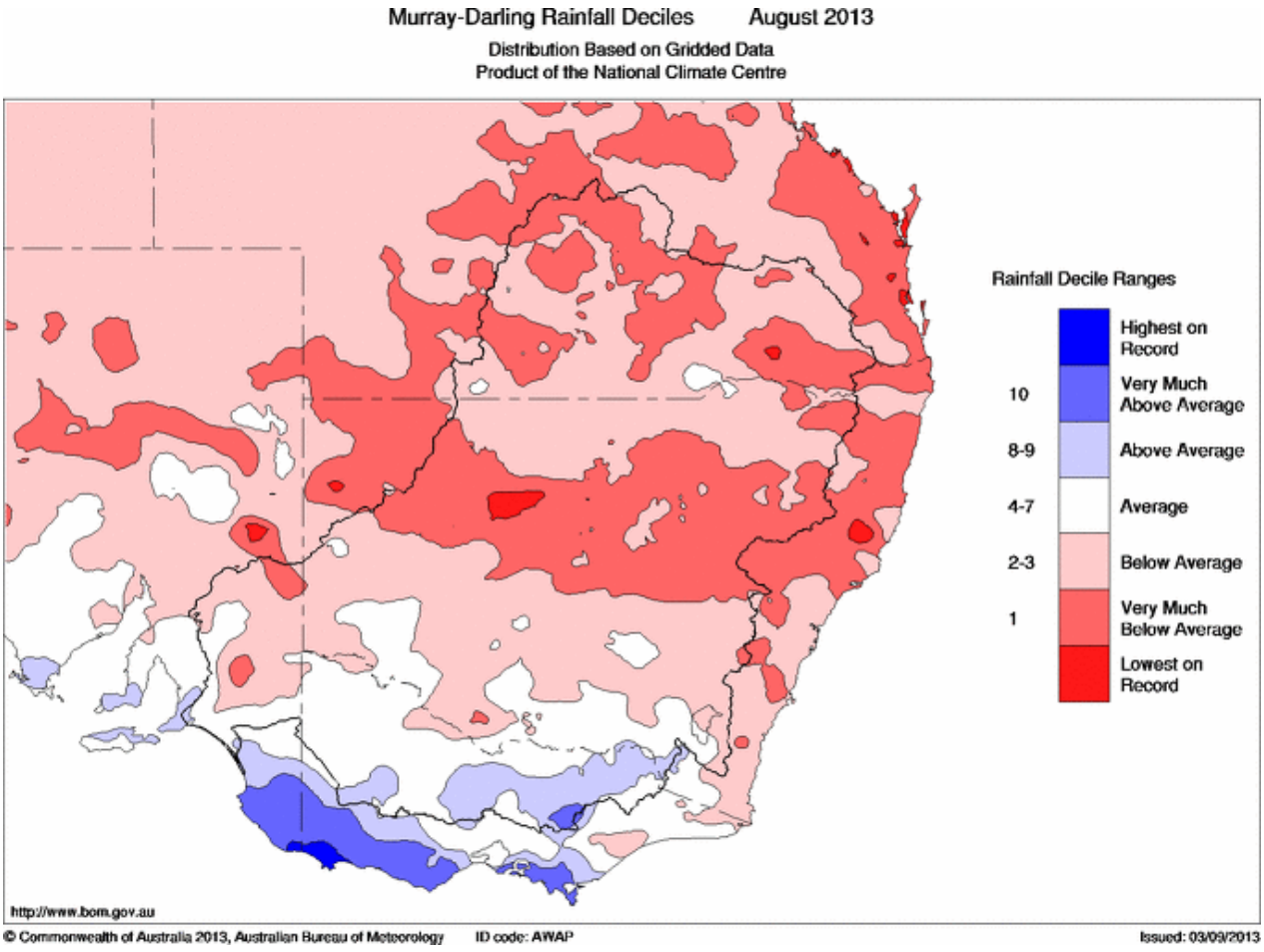
There were modest stream flow increases along some upper Murray tributaries early in the week; however, for the most part flows have fallen away. On the Mitta Mitta River, the flow at Hinnomunjie Bridge peaked at 4,100 ML/day and has now receded to 2,900 ML/day. On the upper Murray, the flow at Biggara reached 3,200 ML/day before receding slowly to the current flow of 2,300 ML/day. Downstream at Jingellic, the flow peaked at 16,500 ML/day but has since decreased to 12,600 ML/day. On the Kiewa River, flows above the minor flood level are persisting at Bandiana with

a gradual recession from 5,200 to 4,600 ML/day. On the Ovens River, the flow receded throughout the week, with the Wangaratta gauge decreasing from 21,500 to 8,500 ML/day.

August 2013 Summary

The rainfall decile map for the Murray-Darling Basin during August 2013 shows a marked contrast between areas north and south of the River Murray. Through the central and northern parts of the Basin, conditions were dry with large areas recording rainfall that was 'very much below average'. In far southern NSW and northern Victoria, rainfall was close to average, while over the south-east ranges rain was mostly above average (Map 2). However, with the vast majority of the region recording below-average rainfall, the total area-averaged rain for the Basin during August was reported by the Bureau of Meteorology at just 17.1 mm, which is 55% below the long-term mean.

Temperatures across the Basin during August were some of the highest ever recorded for the late winter period. The Bureau of Meteorology noted particularly high maximum temperatures through NSW and Queensland with most of this area reported as 'very much above average'. Minimum temperatures were also higher than the long-term August average and the largest anomalies were reported in Victoria. Wetter and cloudier weather helped push the state as a whole to its second highest average August minimum temperature on record.



Map 2 - Murray-Darling Basin rainfall deciles for August 2013 (Source: Bureau of Meteorology).

The persistent rain across the south-east ranges during August increased inflows to the River Murray system substantially. System inflows (excluding Snowy and Darling inflows) rose from around 830 GL in July to 1,750 GL during August (see the graph on page 7). The total was above the long-term

August average of around 1,600 GL and quite similar to the August inflows recorded in 2011 and 2012. Additional tributary inflow from environmental releases remained very small during August 2013; however releases from tributary storages for environmental purposes are anticipated to increase over the coming months.

River Operations

MDBA active storage increased by 67 GL this week with the total active storage volume now at 7,892 GL (92% capacity).

Dartmouth Reservoir is currently storing 3,787 GL (98% capacity), which is a reduction of 8 GL since last week. The release, measured at the Colemans gauge, has been decreased slightly during the week and is currently at 6,500 ML/day following a peak release of 8,100 ML/day mid-week. The flow downstream at Tallandoon decreased to 8,600 ML/day and will recede slightly more over the coming days. Releases from Dartmouth and flows along the lower Mitta Mitta River during the coming weeks will depend on future rain and any changes in release required to manage reservoir airspace.

At Hume Reservoir, the release has been increased over recent days and is currently targeting a flow of 25,000 ML/day at Doctors Point, downstream of the Kiewa River junction. Water storage in Hume Reservoir increased by 81 GL during the week to a volume of 2,968 GL, which is slightly less than 99% capacity. The reservoir has been brought quite close to the Full Supply Level due to the operating requirement to store at least 99% of capacity prior to downstream demands exceeding inflow to the reservoir. With demands already quite high and further increases anticipated to meet planned environmental orders; demand-driven releases from Hume Reservoir may soon be required. However, if significant rain is forecast, releases may be increased to actively manage airspace in Hume Reservoir to provide as much protection against downstream flooding as possible, whilst maximising water availability.

At Yarrawonga Weir the release decreased from 42,000 to 28,000 ML/day as tributary inflows fell away. A further reduction is expected over the coming days; however flows in excess of 20,000 ML/day are likely to continue for at least the next week. Diversions to the irrigation areas from Lake Mulwala have risen with the warm weather and the current total diversion is in excess of 5,000 ML/day. The level in Lake Mulwala has remained fairly steady in recent days with the current level at 124.77 m AHD.

On the Edward River system, flows through the Edward River and Gulpa Creek offtakes have been fairly steady at around 2,100 and 900 ML/day respectively with high flows continuing through the various forest regulators and the Millewa forest. Downstream at Toonalook, the flow has reached 10,000 ML/day and is close to a peak. At Stevens Weir, the flow has increased to 10,100 ML/day and the pool level is 5.04 m on the local gauge. Downstream on the Wakool River, flows are expected to continue rising for at least the next 2 to 3 weeks with the flow at Stoney Crossing now at 3,400 ML/day.

On the Goulburn River, the flow at McCoys Bridge increased to 8,700 ML/day during the week and is holding close to a peak. Downstream on the River Murray, the flow at Torrumbarry Weir increased from 16,200 to 23,200 ML/day with further rises expected in coming days. Diversions at National Channel increased from 850 to 2,400 ML/day.

At Euston Weir, the flow increased slightly to 18,800 ML/day; however more significant rises are anticipated during the coming week. A flow in excess of 25,000 ML/day is expected during mid-September.

The Menindee Lakes' storage volume decreased by 7 GL this week and their current combined volume is 1,226 GL (71% capacity). The release, measured at Weir 32, has been steady at about 220 ML/day. Downstream at Wentworth Weir, the Murray has remained fairly steady with a current flow of 18,900 ML/day. The flow is expected to begin gradually increasing during the coming week.

At Lake Victoria the storage volume increased by just 1 GL during the week and is now 585 GL (86% capacity). The flow to South Australia is currently 15,700 ML/day and is expected to be further increased in the next 1–2 weeks.

At the Lower Lakes, the 5-day average level at Lake Alexandrina decreased to 0.74 m AHD, which is within the current target range of 0.7–0.75 m AHD. Flows through the barrages are currently estimated at around 10,000 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 04 Sep 2013

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	484.94	3 787	98%	71	3 716	-8
Hume Reservoir	192.00	3 005	191.82	2 968	99%	23	2 945	+81
Lake Victoria	27.00	677	26.23	585	86%	100	485	+1
Menindee Lakes		1 731*		1 226	71%	(480 #)	746	-7
Total		**9 269**		**8 566**	**92%**	**- -**	**7 892**	**+67**
Total Active MDBA Storage							92% ^	

Major State Storages

Burrinjuck Reservoir	1 026		529	52%	3	526	+10
Blowering Reservoir	1 631		1 468	90%	24	1 444	-1
Eildon Reservoir	3 334		2 979	89%	100	2 879	+48

* 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 03 Sep 2013

Storage	Active Storage (GL)	Weekly Change (GL)	Diversion (GL)	This Week	From 1 May 2013
Lake Eucumbene - Total	1 632	+64	Snowy-Murray	+1	475
Snowy-Murray Component	606	+31	Tooma-Tumut	+14	142
Target Storage	1 240		Net Diversion	-13	333
			Murray 1 Release	+23	620

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2013	Victoria	This Week	From 1 July 2013
Murray Irrig. Ltd (Net)	37.5	86	Yarrawonga Main Channel (net)	0.3	1
Wakool Sys Allowance	0.0	-1	Torrumbarry System + Nyah (net)	6.5	44
Western Murray Irrigation	0.4	1	Sunraysia Pumped Districts	2	5
Licensed Pumps	2.1	6	Licensed pumps - GMW (Nyah+u/s)	0.2	1
Lower Darling	3.2	14	Licensed pumps - LMW	5	14
TOTAL	**43.2**	**106**	**TOTAL**	**14**	**65**

* 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 commencement of unregulated flows.

Entitlement this month	135.0 *
Flow this week	118.8
Flow so far this month	64.1
Flow last month	388.7

(17 000 ML/day)

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

	Current	Average over the last week	Average since 1 August 2013
Swan Hill	100	90	110
Euston	90	100	140
Red Cliffs	120	130	150
Merbein	120	140	160
Burtundy (Darling)	440	440	450
Lock 9	160	160	150
Lake Victoria	230	270	320
Berri	340	350	380
Waikerie	450	400	490
Morgan	370	370	500
Mannum	470	510	570
Murray Bridge	530	590	600
Milang (Lake Alex.)	670	620	610
Poltalloch (Lake Alex.)	940	780	700
Meningie (Lake Alb.)	2 700	2 610	2 610
Goolwa Barrages	1 420	1 830	3 020

River Levels and Flows

Week ending Wednesday 04 Sep 2013

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	-	-	-	6 550	F	6 130	5 060
Jingellic	4.0	2.61	209.13	12 580	R	13 700	17 250
Tallandoon (Mitta Mitta River)	4.2	3.22	220.11	8 610	F	9 490	9 890
Heywoods	5.5	3.21	156.84	17 410	R	14 760	11 790
Doctors Point	5.5	3.58	152.05	21 970	R	19 320	17 020
Albury	4.3	2.67	150.11	-	-	-	-
Corowa	3.8	3.99	130.01	21 250	R	17 500	21 710
Yarrawonga Weir (d/s)	6.4	3.59	118.63	28 030	F	32 060	43 370
Tocumwal	6.4	4.37	108.21	29 970	F	36 280	41 290
Torrumbarry Weir (d/s)	7.3	6.02	84.57	23 220	R	21 530	14 060
Swan Hill	4.5	2.99	65.91	17 240	R	15 470	12 600
Wakool Junction	8.8	5.52	54.64	19 560	R	17 600	16 020
Euston Weir (d/s)	8.8	3.12	44.96	18 760	R	18 080	17 580
Mildura Weir (d/s)		-	-	-	-	-	-
Wentworth Weir (d/s)	7.3	3.68	28.44	18 850	R	18 780	17 250
Rufus Junction	-	4.67	21.60	14 830	R	16 250	14 340
Blanchetown (Lock 1 d/s)	-	1.18	-	15 380	F	16 510	13 850
Tributaries							
Kiewa at Bandiana	2.7	2.83	156.06	4 590	F	4 750	5 570
Ovens at Wangaratta	11.9	10.35	148.03	8 460	F	12 180	24 140
Goulburn at McCoys Bridge	9.0	5.04	96.46	8 680	S	8 500	4 030
Edward at Stevens Weir (d/s)	-	5.04	84.81	10 070	F	9 550	7 550
Edward at Liewah	-	3.44	58.82	3 270	R	2 970	2 680
Wakool at Stoney Crossing	-	2.29	55.78	3 360	R	2 860	1 980
Murrumbidgee at Balranald	5.0	1.70	57.66	1 250	R	1 200	1 670
Barwon at Mungindi	-	3.34	-	390	S	490	170
Darling at Bourke	-	4.17	-	640	F	750	880
Darling at Burtundy Rocks	-	0.79	-	240	S	240	200

Natural Inflow to Hume	25 230	35 870

(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	-0.13	-	No. 7 Rufus River	22.10	+0.01	+2.34
No. 26 Torrumbarry	86.05	-0.01	-	No. 6 Murtho	19.25	+0.04	+0.69
No. 15 Euston	47.60	-0.26	-	No. 5 Renmark	16.30	+0.02	+0.62
No. 11 Mildura	34.40	+0.01	+0.79	No. 4 Bookpurnong	13.20	-0.09	+1.55
No. 10 Wentworth	30.80	-0.01	+1.04	No. 3 Overland Corner	9.80	-0.08	+0.81
No. 9 Kulnine	27.40	+0.12	+0.81	No. 2 Waikerie	6.10	-0.04	+0.87
No. 8 Wangumma	24.60	+0.46	+0.73	No. 1 Blanchetown	3.20	-0.03	+0.43

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	0.82	10	-	Open
Mundoo	26 openings	0.78	1	-	-
Boundary Creek	6 openings	-	0.1	-	-
Ewe Island	111 gates	-	5	-	-
Tauwitchere	322 gates	0.84	20	Open	Open

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

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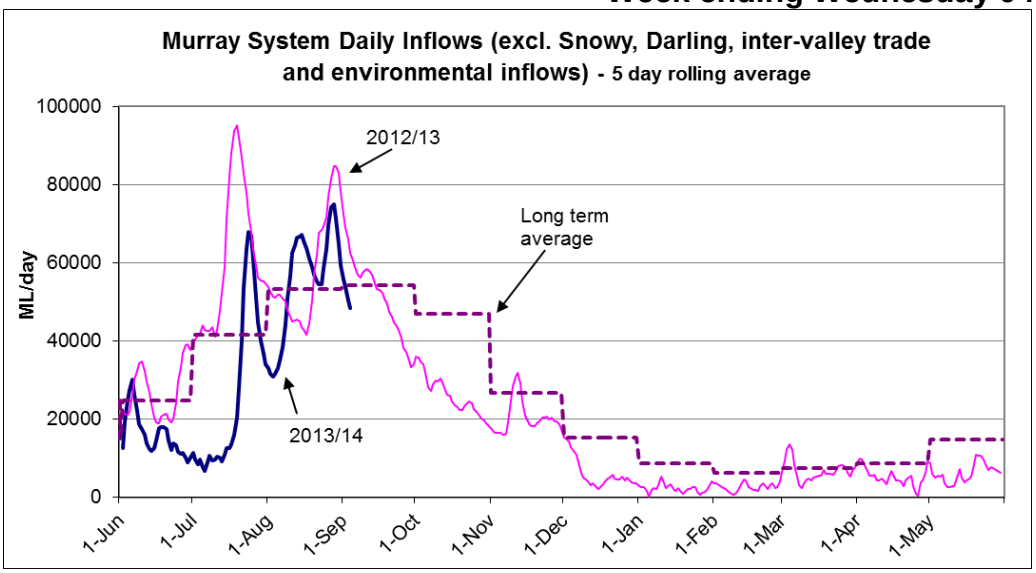

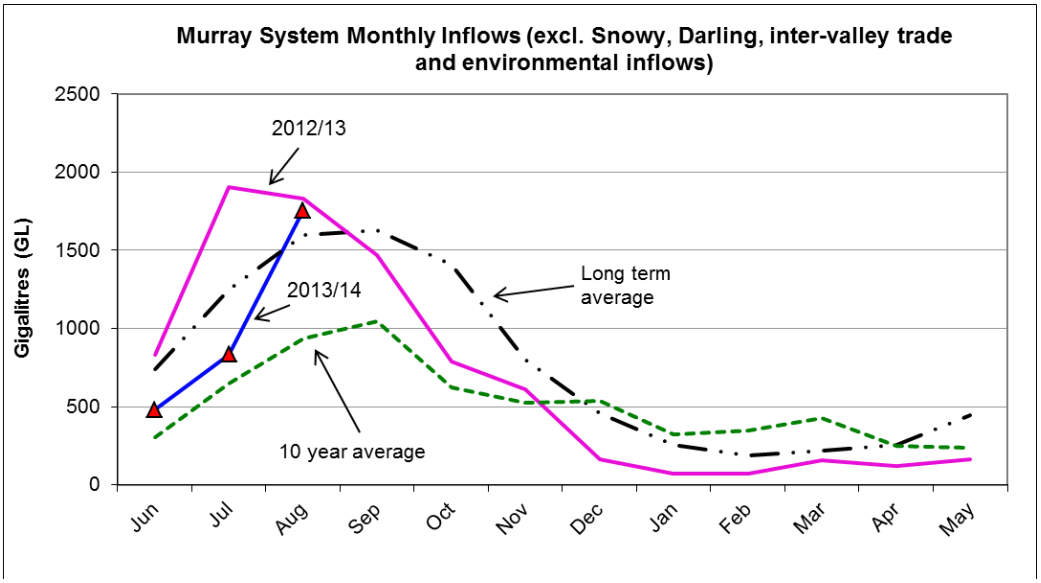

State Allocations (as at 04 Sep 2013)

NSW - Murray Valley

High security	97%
General security	79%

Victorian - Murray Valley

High reliability	66%
Low reliability	0%

NSW – Murrumbidgee Valley

High security	95%
General security	28%

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