



# RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 6<sup>TH</sup> MAY 2015

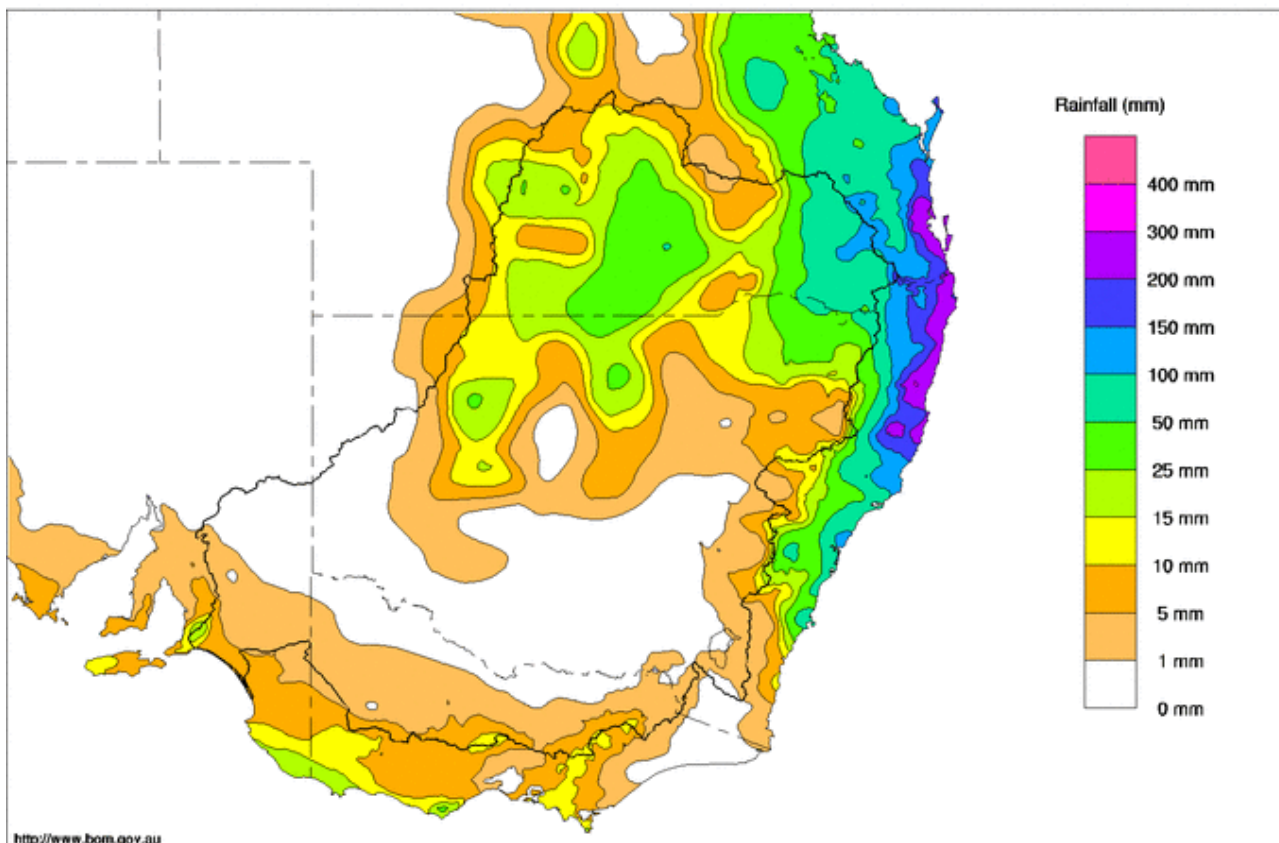
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## Rainfall and Inflows

There were wet conditions over parts of the northern Murray-Darling Basin this week as on-shore winds and a trough off Australia's east coast generated further heavy rain across parts of Queensland and NSW. The heaviest downpours fell along the coast, however rain also reached areas west of the Great Divide with quite high totals recorded across the Darling Downs. There were fairly rapid flow responses along streams in the upper Condamine and Border Rivers' catchments with several gauges exceeding their minor and moderate flood levels. However, the peaks were relatively short in duration, and only modest volumes are expected to flow into the Barwon-Darling system over the coming weeks. Rain was also recorded further west in Queensland and in central northern NSW. And in the southern Basin, a cold front late in the week brought light rain, however this was confined to the Basin's southern margin with totals mostly less than 10 mm (Map 1).

The highest weekly rain totals were recorded over the eastern Darling Downs and included 181 mm at Oakington, 179 mm at The Head, 127 mm at Toowoomba 100 mm at Killarney, 94 mm at Felton and 82 mm at Dalby. Further west, there was 61 mm at Brewarrina and 47 mm at Mulga Downs.

Murray-Darling Rainfall Totals (mm) Week Ending 6th May 2015  
Australian Bureau of Meteorology



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Map 1 - Murray Darling Basin rainfall week ending 6<sup>th</sup> May 2015 (Source: Bureau of Meteorology)

Stream flows in the upper Murray tributaries generally receded this week as conditions stayed mostly dry. On the upper Murray, the flow at Biggara receded from 500 to 400 ML/day. On the Mitta Mitta River, the flow at Hinnomunjie Bridge decreased from 650 to 500 ML/day. On the Ovens River, the flow at Wangaratta receded from 500 to 350 ML/day.



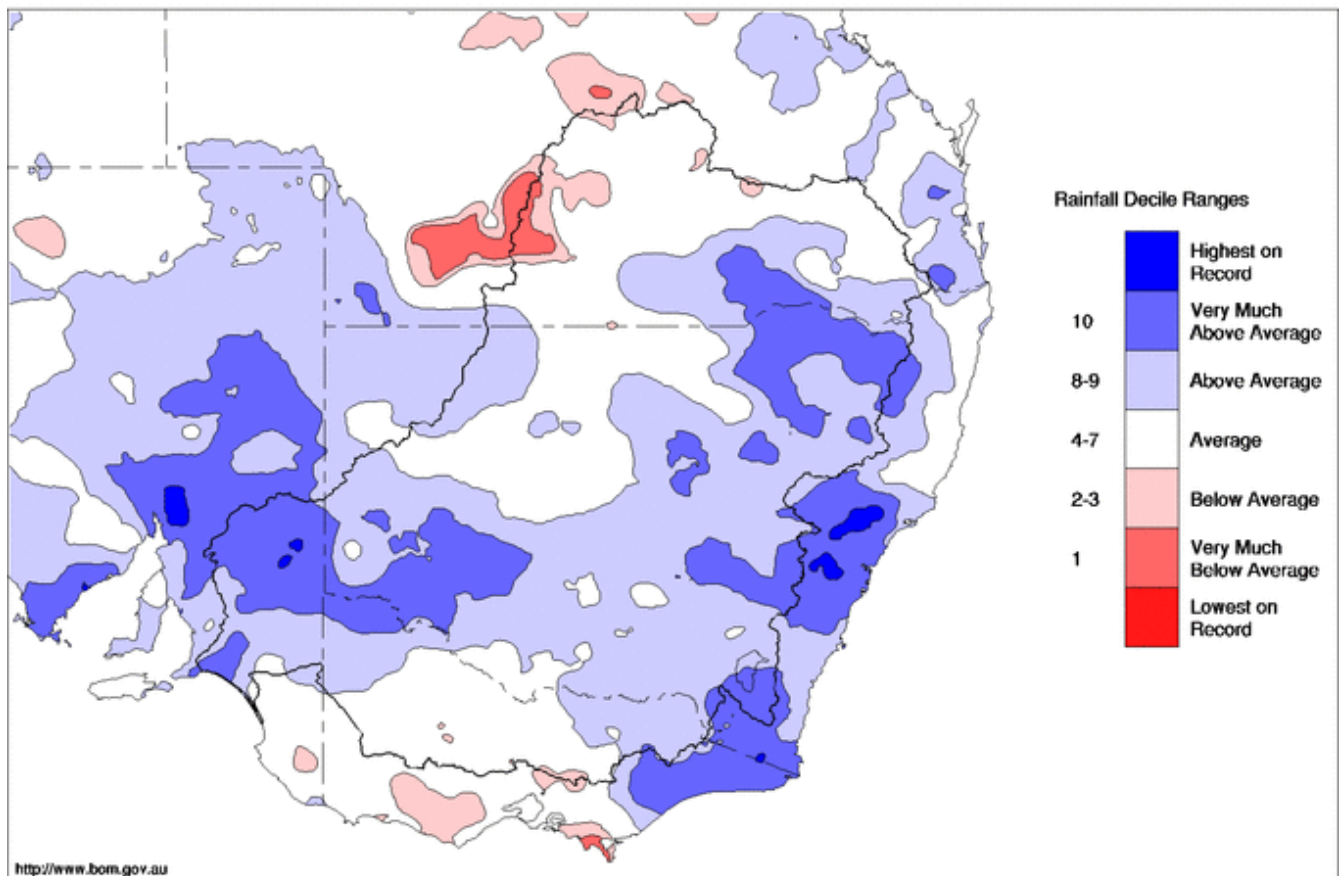
## April 2015 Summary

In contrast to March, April 2015 was relatively wet for much of the Murray-Darling Basin, with only small areas in the far southern and northern Basin recording below average rainfall. Totals were boosted by several significant rain events, with relatively heavy falls over the South Australian and Sunraysia sections of the Murray Valley, the upper Murray and Murrumbidgee catchments and along the NSW slopes and ranges (Map 2).

Across the Basin as a whole, the Bureau of Meteorology has reported area-averaged rain totalling 51.2 mm, which is 34% above the long-term April mean and the 19th wettest April in 116 years of record. Associated with the wet and cloudy conditions were cooler daytime temperatures, with daily maximums generally below the long-term April mean across the Basin. Minimum temperatures were close to average.

Murray-Darling Rainfall Deciles April 2015

Distribution Based on Gridded Data  
Australian Bureau of Meteorology



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Map 2 - Murray Darling Basin rainfall deciles for April 2015 (Source: Bureau of Meteorology).

River Murray System inflows for April (excluding Snowy Scheme, Darling River and managed environmental inflows) totalled just over 100 GL. This volume is an improvement on March inflows, but still less than half of the long-term monthly average for April (see the graph on page 7).

Estimated evaporation losses from MDBA storages for April 2015 are reported in Table 1. Evaporation is estimated by multiplying the surface area of the storage by the net evaporation (evaporation minus rainfall). As a result of rainfall exceeding evaporation during April, net evaporation at both Dartmouth and Hume Reservoirs was negative (i.e. there was a gain of water on the storage, not a loss). Evaporation at Lake Victoria and the Menindee Lakes was also significantly reduced compared with



March, as temperatures were much cooler and some rain also fell locally. Generally, evaporative losses have reduced in recent weeks due to:

- Shorter days and cooler conditions typical of autumn.
- A reduction of the surface area of storages as the volume of stored water has further declined.

**Table 1:** Monthly evaporation figures for MDBA storages

Storage	*Approximate (net) evaporative loss in April 2015 (GL)	Average storage volume in April 2015 (GL)
Dartmouth	-3.6	2,938
Hume	-1.9	643
Lake Victoria	2	180
Menindee Lakes	5	75

\* Evaporative loss from storage = surface area of the storage x net evaporation. Net evaporation = measured evaporation (using a 'pan' instrument) - rainfall.

## River Operations

- Lake Mulwala remains below normal operating level in preparation for drawdown;
- Lock 8 Weir pool level rising towards FSL following lowering;
- Rough weather and swell conditions limit barrage releases at Lower Lakes.

MDBA total storage decreased by 2 GL this week, with the active storage now 3,565 GL (42% capacity).

At **Dartmouth** Reservoir, storage decreased by 3 GL to 2,899 GL (75% capacity). Releases, measured at Colemans gauge, were reduced to 450 ML/day. The release will be increased to 700 ML/day later this week.

At **Hume** Reservoir, the storage volume decreased by 27 GL this week with total storage now at 617 GL (21% capacity). The release has been relatively steady this week with an average flow downstream of the Kiewa River Junction at Doctors Point of 9,300 ML/day. As the irrigation season draws to a close over the next week, releases from Hume will be reduced and are expected to be at a minimum rate of 1,800 ML/day by the middle of May.

At **Yarrowonga** Weir, the pool level has been reduced to 124.56 m AHD in preparation for the drawdown (commencing 15 May) when the irrigation season finishes (see [Lake Mulwala media release](#) on the MDBA website). The pool level will decline further below the normal target operating level (124.7 m AHD) over the coming week whilst ensuring that gravity diversions to the major irrigation offtakes are met. The downstream release is currently 8,000 ML/day, and a release rate between 7,000 and 8,000 ML/day is expected to continue over the coming week to meet demands then move into the period of weir pool lowering during the planned drawdown.

Irrigation demands through the major irrigation offtakes have increased slightly in recent days, but are still relatively low. Yarrowonga Main Channel and Mulwala Canal diverted an average of 700 ML/day and 1,100 ML/day respectively. Irrigation diversions will continue over the next few days, before the season comes to and end on 15 May.

On the **Edward** River system, flow through the Edward River and Gulpa Creek offtakes has been slightly reduced as demands decline. At **Stevens** Weir, the downstream release is currently 850 ML/day. On the **Goulburn** River, flows at McCoys Bridge remain steady at 1,000 ML/day.

On the Murray at **Torrumbarry** Weir, diversions at National Channel were increased to 2,500 ML/day and the downstream flow at Torrumbarry receded to 5,300 ML/day.

On the lower **Murrumbidgee** River, the flow at Balranald has been reduced to the normal end-of-system minimum flow of 300 ML/day.



At **Euston Weir**, flows are now receding after flows peaked at 11,500 ML/day on 1 May. The current flow is 9,300 ML/day.

The weir pool level at **Lock 8** is now being increased following a period of lower levels during the weir pool manipulation trial. The level was being maintained at about 80 cm below FSL but is now rising to 24.3 m AHD (30 cm below FSL) by the coming weekend.

At **Menindee Lakes** the storage volume decreased by 2 GL and is now 65 GL (4% capacity). NSW has ceased releases from the lakes as part of water conservation requirements during periods of low storage and inflow. Upstream of Menindee, flows at Bourke have averaged around 1,500 ML/day over the past week but are now receding. These flows originated from tributary inflows following rains in the upper Darling catchments several weeks ago, and are expected to provide a small inflow to the Menindee Lakes during the next few weeks.

On the River Murray, downstream of the Darling confluence, the flow at **Wentworth Weir** is currently peaking at just over 11,000 ML/day. Flows will recede in the coming days.

At **Lake Victoria**, the storage volume has increased by 30 GL to 243 GL (36% capacity). The flow to South Australia averaged 4,800 ML/day with similar flows targeted for the coming week.

At the **Lower Lakes**, rough weather conditions have impacted operations. All barrage gates are currently closed to limit sea water ingress due to strong winds and very large swells that are causing high water levels in the Coorong. Barrage releases will re-commence once conditions abate. The 5-day average level in Lake Alexandrina remains at 0.57 m AHD.

**For media inquiries contact the Media Officer on 02 6279 0141**

DAVID DREVERMAN  
Executive Director, River Management



**Water in Storage**

**Week ending Wednesday 06 May 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	470.11	2 899	75%	71	2 828	-3
Hume Reservoir	192.00	3 005	174.90	617	21%	23	594	-27
Lake Victoria	27.00	677	22.96	243	36%	100	143	+30
Menindee Lakes		1 731*		65	4%	(-) #	0	-2
<b>Total</b>		<b>9 269</b>		<b>3 824</b>	<b>41%</b>	<b>--</b>	<b>3 565</b>	<b>-2</b>
Total Active MDBA Storage							42% ^	

**Major State Storages**

Burrinjuck Reservoir	1 026	415	40%	3	412	+10
Blowering Reservoir	1 631	435	27%	24	411	-5
Eildon Reservoir	3 334	1 875	56%	100	1 775	-9

\* 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 05 May 2015

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2015
Lake Eucumbene - Total	2 144	n/a	Snowy-Murray	+6	2
Snowy-Murray Component	962	n/a	Tooma-Tumut	+6	5
Target Storage	1 290		Net Diversion	1	-3
			Murray 1 Release	+8	2

**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)	9.0	847	Yarrowonga Main Channel (net)	4.1	297
Wakool Sys Allowance	1.7	81	Torrumbarry System + Nyah (net)	15.7	615
Western Murray Irrigation	0.1	23	Sunraysia Pumped Districts	0.2	104
Licensed Pumps	1.5	274	Licensed pumps - GMW (Nyah+u/s)	0.8	66
Lower Darling	0.1	61	Licensed pumps - LMW	5.7	278
<b>TOTAL</b>	<b>12.4</b>	<b>1286</b>	<b>TOTAL</b>	<b>26.5</b>	<b>1360</b>

\* 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	93.0 *	
Flow this week	33.5	(4 800 ML/day)
Flow so far this month	28.5	
Flow last month	183.0	

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

	Current	Average over the last week	Average since 1 August 2014
Swan Hill	60	60	80
Euston	-	-	100
Red Cliffs	90	90	120
Merbein	90	90	120
Burtundy (Darling)	920	910	810
Lock 9	100	110	130
Lake Victoria	230	190	210
Berri	210	220	220
Waikerie	410	390	280
Morgan	280	280	280
Mannum	300	300	320
Murray Bridge	320	310	350
Milang (Lake Alex.)	620	630	750
Poltalloch (Lake Alex.)	510	620	630
Meningie (Lake Alb.)	2 360	2 440	2 430
Goolwa Barrages	3 830	1 760	1 340



**River Levels and Flows**

**Week ending Wednesday 06 May 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	-	-	-	430	F	1 260	3 540
Jingellic	4.0	1.23	207.75	1 540	F	2 860	4 620
Tallandoon ( Mitta Mitta River )	4.2	1.47	218.36	690	S	1 000	2 740
Heywoods	5.5	2.63	156.26	8 300	S	8 260	7 270
Doctors Point	5.5	2.50	150.97	8 980	S	9 310	8 470
Albury	4.3	1.54	148.98	-	-	-	-
Corowa	4.6	2.20	128.22	9 030	F	9 010	8 550
Yarrowonga Weir (d/s)	6.4	1.39	116.43	8 040	S	8 020	8 390
Tocumwal	6.4	1.97	105.81	8 040	S	8 040	8 780
Torrumbarry Weir (d/s)	7.3	1.80	80.35	5 250	R	5 680	7 500
Swan Hill	4.5	1.11	64.03	5 440	F	6 330	7 460
Wakool Junction	8.8	3.11	52.23	8 380	F	9 610	10 120
Euston Weir (d/s)	9.1	1.76	43.60	9 290	F	10 850	11 030
Mildura Weir (d/s)	-	-	-	10 780	F	10 960	10 260
Wentworth Weir (d/s)	7.3	3.12	27.88	11 070	R	11 040	10 530
Rufus Junction	-	2.94	19.87	3 310	F	3 950	4 470
Blanchetown (Lock 1 d/s)	-	0.63	-	3 940	R	4 070	5 830
<b>Tributaries</b>							
Kiewa at Bandiana	2.8	1.04	154.27	580	R	820	890
Ovens at Wangaratta	11.9	7.88	145.56	370	F	400	500
Goulburn at McCoys Bridge	9.0	1.50	92.92	970	R	930	1 070
Edward at Stevens Weir (d/s)	5.5	1.08	80.86	840	F	1 040	1 330
Edward at Liewah	-	2.45	57.83	1 850	F	2 200	2 710
Wakool at Stoney Crossing	-	1.50	54.99	610	S	670	710
Murrumbidgee at Balranald	5.0	0.63	56.59	310	S	390	830
Barwon at Mungindi	6.1	3.30	-	300	F	490	700
Darling at Bourke	9.0	4.25	-	1 150	F	1 460	850
Darling at Burtundy Rocks	-	1.07	-	0	F	0	0

Natural Inflow to Hume (i.e. Pre Dartmouth & Snowy Mountains scheme)	2 490	4 020
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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	-0.34	-	No. 7 Rufus River	22.10	+0.03	+0.61
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	-0.05	-0.05
No. 15 Euston	47.60	-0.24	-	No. 5 Renmark	16.30	-0.00	+0.13
No. 11 Mildura	34.40	+0.03	+0.39	No. 4 Bookpurnong	13.20	+0.01	+0.47
No. 10 Wentworth	30.80	+0.07	+0.48	No. 3 Overland Corner	9.80	+0.01	+0.16
No. 9 Kulnine	27.40	+0.02	-0.53	No. 2 Waikerie	6.10	+0.05	+0.05
No. 8 Wangumma	24.60	-0.56	+0.10	No. 1 Blanchetown	3.20	-0.08	-0.12

**Lower Lakes FSL = 0.75 m AHD**

Lake Alexandrina average level for the past 5 days (m AHD)	0.57
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**Barrages**

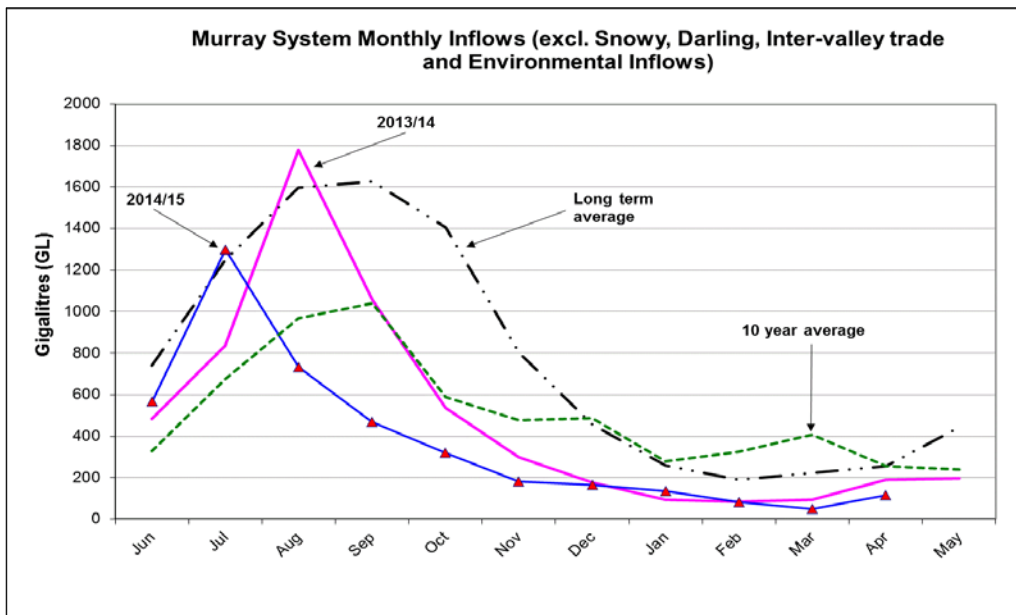
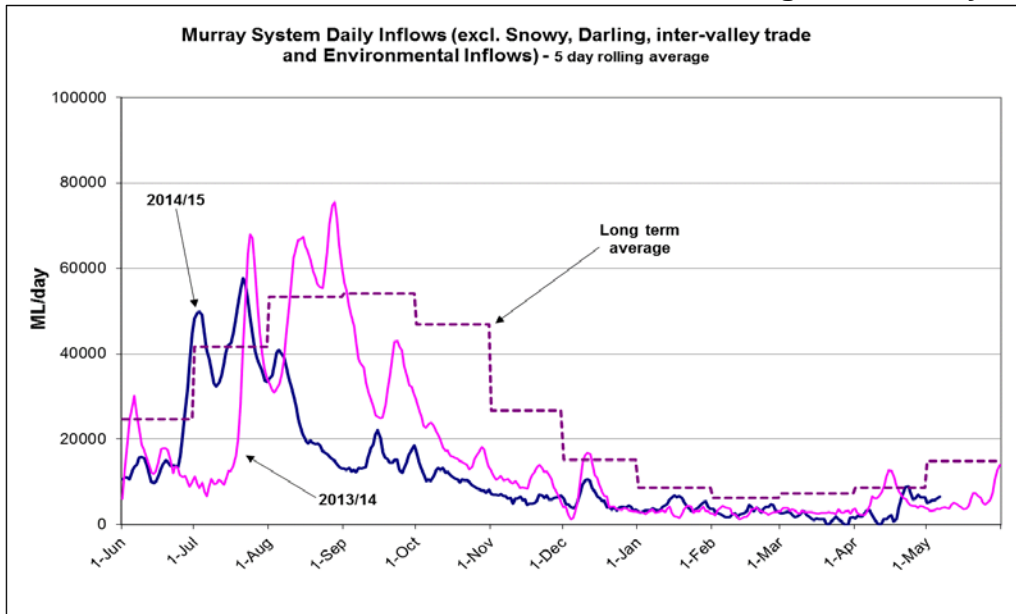
**Fishways at Barrages**

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot
Goolwa	128 openings	0.50	All closed	-	Open
Mundoo	26 openings	0.51	All closed	-	-
Boundary Creek	6 openings	-	0.1	-	-
Ewe Island	111 gates	-	All closed	-	-
Tauwitchere	322 gates	0.53	All closed	Open	Open

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



Week ending Wednesday 06 May 2015



State Allocations (as at 06 May 2015)

NSW - Murray Valley

High security	97%
General security	61%

Victorian - Murray Valley

High reliability	100%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	53%

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.nvrn.net.au/allocations/current.aspx>  
 SA : <http://www.environment.sa.gov.au/managing-natural-resources/river-murray>