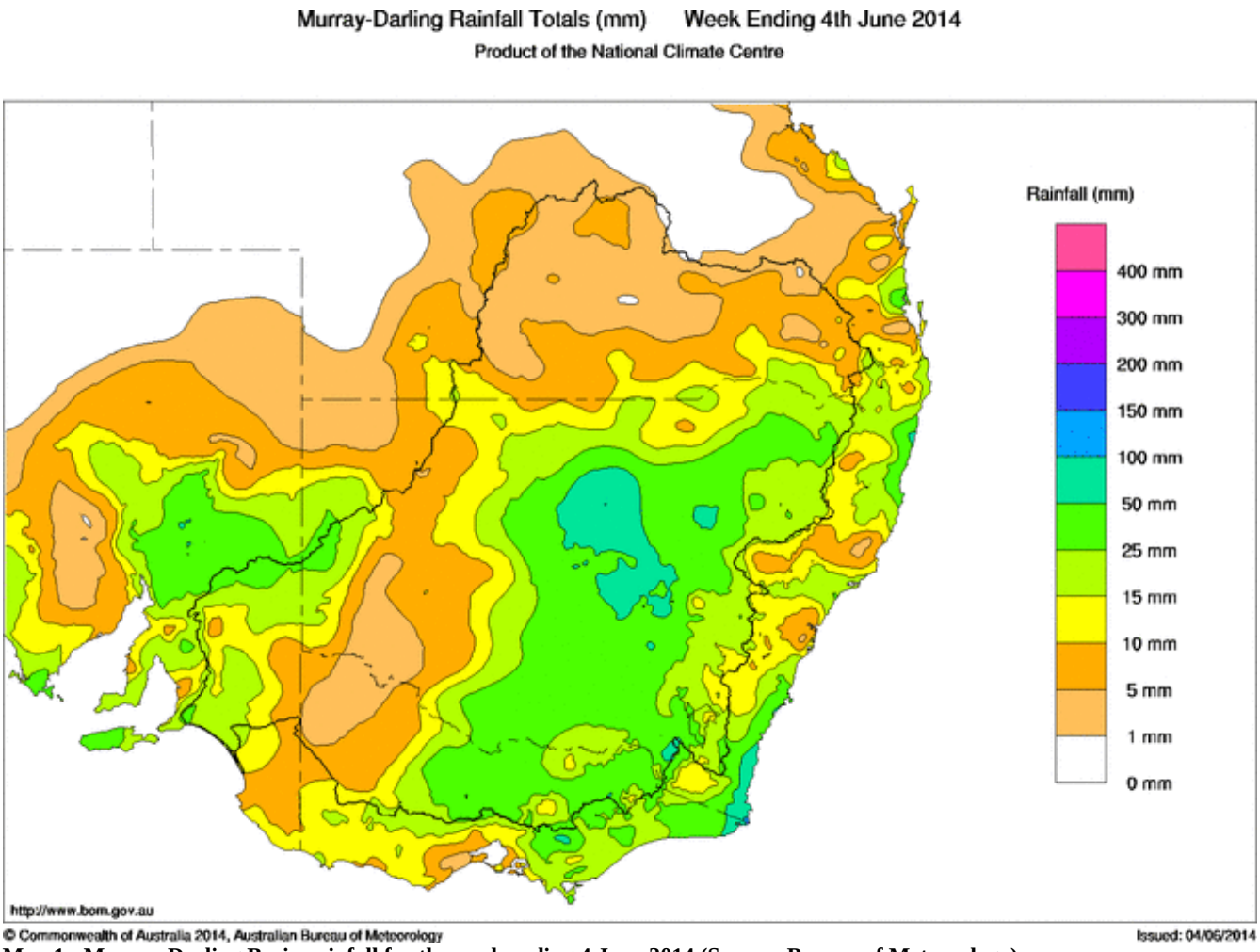
RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 4 JUNE 2014

Trim Ref: D14/18811

Rainfall and Inflows

Rain and isolated thunderstorms were reported across a wide area of the Murray-Darling Basin this week (Map 1). Some of the highest rainfall totals occurred in central western New South Wales including 79 mm at Trundle, 73 mm at Mudall, and 63 mm at Nyngan. Other notable totals include 62 mm at Mt Hotham AWS and 56 mm at Mt Buller AWS in northeastern Victoria.



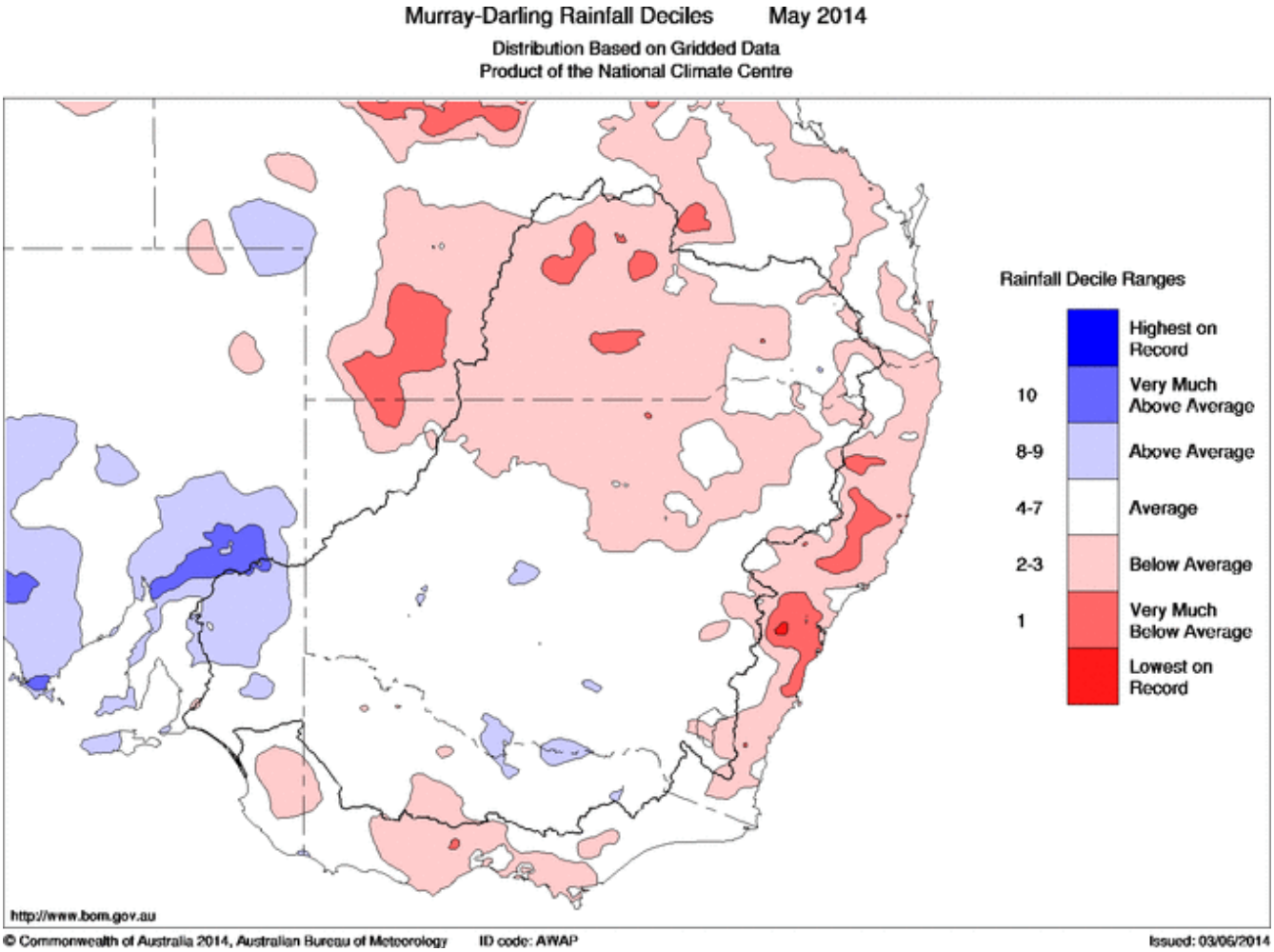
Map 1 - Murray-Darling Basin rainfall for the week ending 4 June 2014 (Source: Bureau of Meteorology).

Streamflows in the upper Murray tributaries have fallen from the higher flows generated from last week's rain. However this week's rain has helped to slow recessions or generate some renewed rises. On the Mitta Mitta River, the flow at Hinnomunjie Bridge receded from around 5,000ML/day to 900 ML/day. The Murray at Biggara receded from around 2,000 ML/day to 700 ML/day and is currently rising above 800 ML/day. On the Kiewa River, the flow at Mongans Bridge receded from around 3,200 ML/day to 600 ML/day and is currently rising above 1,600 ML/day. On the Ovens River, the flow at Rocky Point receded from around 6,300 ML/day to 1,900 ML/day and is currently reaching a peak of 2,700 ML/day.

May 2014 Summary

Rainfall across the southern Basin was around average during May 2014, while much of the northern Basin experienced below-average rainfall (Map 2). Across the Basin as a whole, the Bureau of Meteorology (BoM) has reported the month as the 36th driest in 115 years of records with an area-averaged total of 21.8 mm (49% below the long-term mean).

Temperatures during May were very warm across the Basin, and Australia as a whole, prompting BoM to issue a special climate statement: http://www.bom.gov.au/climate/current/statements/scs49.pdf. The mean daily temperature was between 0 and 3 degrees Celsius above the long-term average with the warming trend generally higher in the west of the Basin.



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

River Murray System inflows for May (excluding Snowy Scheme, Darling River and managed environmental inflows) totalled around 195 GL. This volume was greater than May 2013 inflows (165 GL), however was still less than half the long-term average for May of about 440 GL.

2014-15 MDBA Water Year Summary

The beginning of June marks the transition to a new 'water year' for the River Murray system as the commencement of the winter-spring period is typically when tributary inflows increase and headwater storages begin to be replenished. The water year is used by the MDBA to manage and report on system inflows, demands and storage levels across a 12 month period in a way that best matches the system's hydrological and demand cycle.

The pattern of inflow for the 2013-14 water year was broadly similar to the previous water year with a marked increase through early to mid-winter in line with a pattern that is typical of the long-term average. There were high inflows during parts of July and August but these were mainly captured in storages and downstream flows did generally not even reach minor flood level. Thereafter, inflows fell away quickly during spring and into summer when the southern Basin once again experienced a period of low rainfall and above-average temperatures. Despite wetter conditions returning in February, March and April, inflows remained below the long-term average for each of these months and for the remainder of the water year.

Winter 2013 had begun with total water storage remaining well above the long-term average with levels increasing throughout the winter. However, high demands during the spring and summer have subsequently drawn storage levels down to around the long-term average (Figure 1). In contrast to 2012-13, there was very little inflow to the Menindee Lakes system over the last 12 months, which has been another key factor in the reduction in total system water availability.

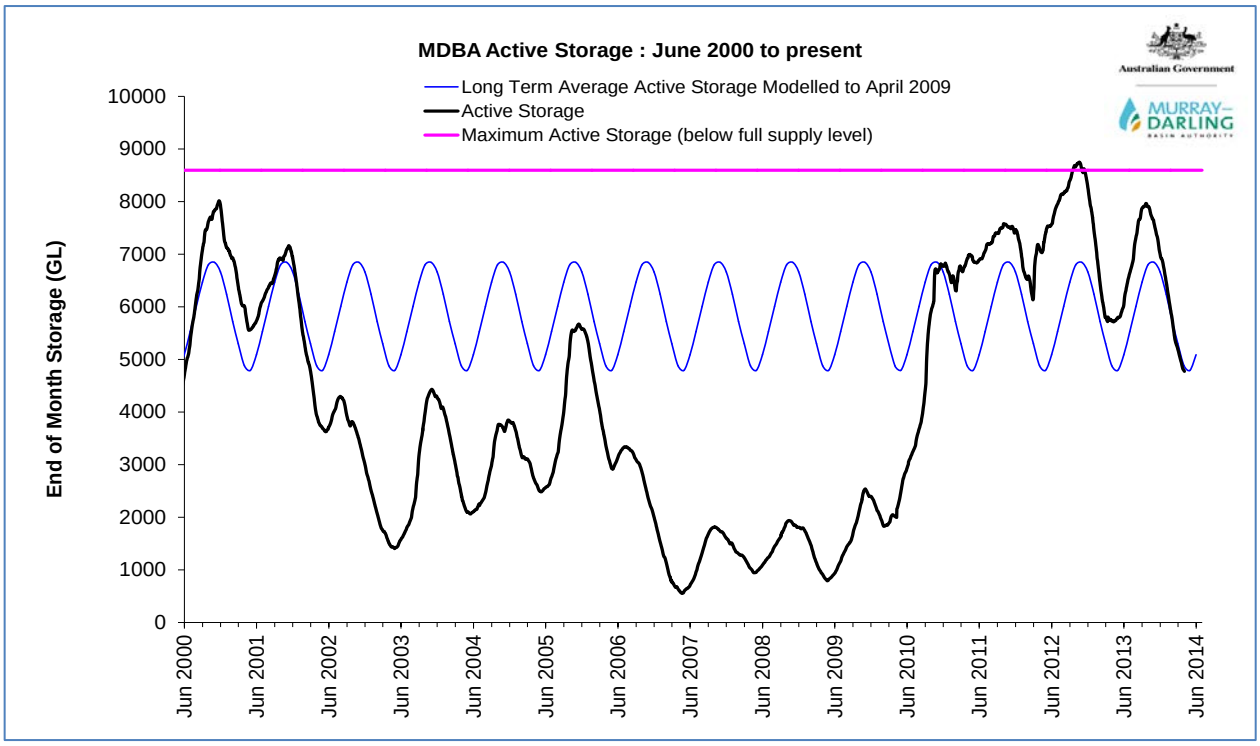


Figure 1 – MDBA active storage, June 2000 to June 2014.

There was very hot weather — similar to the previous year — during late spring and early summer, with several weeks of extreme temperatures contributing to high demands and a period that featured some of the highest system losses ever observed. Water storage in Hume Reservoir was drawn down quickly during this time with the volume dropping to 36% capacity by early April. However, a return to wetter weather from late February to April was observed across large areas of the southern Basin. With particularly heavy rainfall across South Australia and the mid-Murray irrigation districts, there was a rapid decline in system demands that was quite unlike any seen for many years. Storage levels in Hume and Dartmouth Reservoirs have subsequently begun to slowly rise. With the Bureau of Meteorology indicating possible El Niño conditions during the 2014 winter, this water will be very valuable should dry conditions persist in the southern Basin over the coming months.

River Operations

- Inflows from the Kiewa, Ovens and Goulburn Rivers increase flows in the Murray.
- Watering continues at Gunbower Forest and Hattah Lakes using environmental works.
- Several Murray weir pools continue to be held above full supply levels.

MDBA total storage increased by 63 GL this week, with the active storage now 5,002 GL or 59% capacity. Releases from the upper storages remain at a minimum, with tributary inflows meeting system demands. At **Dartmouth** Reservoir, the storage volume has increased by 13 GL to 3,456 GL (90% capacity). The flow at Colemans increased at the end of the week to 2,000 ML/day due to entitlement releases by AGL Hydro for electricity generation.

Storage at **Hume** Reservoir has increased by 45 GL to 1,294 GL (43%). The release was steady at 600 ML/day. Moderate inflows from the Kiewa increased the flow downstream at Doctors Point to a peak of 3,400 ML/day.

At **Yarrawonga Weir**, inflows reached around 7,000 ML/day. The pool level increased 16 cm to 124.85 m AHD. The downstream release reached 4,500 ML/day, a significant increase above the minimum release of around 1,800 ML/day that persisted from mid-April until late-May. The release will be reduced over the coming week to manage the weir pool at around the full supply level of 124.9 m AHD. Tributary inflows captured in the weir pool will be used to help meet downstream demand over the coming weeks, should conditions turn dry.

On the **Edward** River system, higher flows in the Murray have allowed diversions through the Edward and Gulpa offtakes to be increased. The combined flow has risen from around 170 ML/day to 500 ML/day and will increase to around 900 ML/day in the coming week. Stevens Weir pool and diversions to Colligen Creek will be used to buffer the inflows to limit flow downstream of Stevens Weir at around 300 ML/day to protect maintenance works due to commence at Tumudgery Creek Regulator next week.

On the **Goulburn** River, rain has boosted the flow at McCoys Bridge to 2,800 ML/day and it is forecast to rise further over coming days to around 3,500 ML/day.

At **Torrumbarry** Weir, the pool level is steady at the full supply level of 86.05 m AHD. The diversion at National Channel has increased to 2,000 ML/day. This includes around 700 ML/day to supply an environmental watering event in **Gunbower Forest** and 1,300 ML/day for storage in the Victorian mid-Murray storages. Victorian water managers are harvesting water for storage in the mid-Murray storages in light of the Bureau of Meteorology's relatively dry and warm outlook this winter (http://www.bom.gov.au/climate/ahead/).

At **Swan Hill** the flow is currently 2,500 ML/day. The flow is forecast to rise to around 4,500 ML/day over the coming week. Downstream at **Euston** Weir, the pool level is steady at 47.78 m AHD (18 cm above full supply level) and the release is around 4,300 ML/day.

Environmental watering continued at **Hattah Lakes** this week. Pumps are now delivering around 900 ML/day via Chalka Creek South. The pump rate is expected to be increased to around 1,000 ML/day in the coming week. At Mildura Weir, further information on the planned drawdown of the weir pool in July is provided in the attached media release.

At **Menindee Lakes**, the storage volume decreased by 4 GL and is now 392 GL (23% capacity). The release at Weir 32 is 200 ML/day, which corresponds with a downstream flow at Burtundy of around 140 ML/day. The latest communique on the management of the Menindee Lakes is available at the NSW Office of Water website (http://www.water.nsw.gov.au/).

The flow at **Wentworth** Weir reduced over the week from 4,900ML/day to 3,300 ML/day. The storage in **Lake Victoria** increased by 8 GL to 446 GL (66% capacity, 24.98 m AHD).

Flow across the border to **South Australia** averaged 3,000 ML/day over the past week. At the **Lower Lakes**, the five-day average level in Lake Alexandrina rose 2 cm to 0.66 m AHD due to local rainfall and reduced evaporation. The release through the barrages is estimated to be around 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 04 Jun 2014

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	479.70	3 456	90%	71	3 385	+13
Hume Reservoir	192.00	3 005	181.35	1 294	43%	23	1 271	+45
Lake Victoria	27.00	677	24.98	446	66%	100	346	+8
Menindee Lakes		1 731*		392	23%	(- -) #	0	-4
Total		**9 269**		**5 588**	**60%**	**- -**	**5 002**	**+63**
Total Active MDBA Storage							59% ^	

Major State Storages

Burrinjuck Reservoir	1 026		579	56%	3	576	+7
Blowering Reservoir	1 631		887	54%	24	863	+25
Eildon Reservoir	3 334		2 310	69%	100	2 210	+19

* 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 Jun 2014

Storage	Active Storage (GL)	Weekly Change (GL)	Diversion (GL)	This Week	From 1 May 2014
Lake Eucumbene - Total	1 544	+8	Snowy-Murray	+6	69
Snowy-Murray Component	840	+17	Tooma-Tumut	+9	22
Target Storage	1 240		Net Diversion	-3	46
			Murray 1 Release	+18	92

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)	-0.4	1080	Yarrawonga Main Channel (net)	0	312
Wakool Sys Allowance	2.1	53	Torrumbarry System + Nyah (net)	1.6	540
Western Murray Irrigation	0.1	26	Sunraysia Pumped Districts	0.5	110
Licensed Pumps	1.8	240	Licensed pumps - GMW (Nyah+u/s)	0	172
Lower Darling	0.1	198	Licensed pumps - LMW	1.5	297
TOTAL	**3.7**	**1597**	**TOTAL**	**3.6**	**1431**

* 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	90.0 *
Flow this week	21.3
Flow so far this month	11.7
Flow last month	114.7

(3 000 ML/day)

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

	Current	Average over the last week	Average since 1 August 2013
Swan Hill	100	120	100
Euston	160	160	100
Red Cliffs	180	170	120
Merbein	200	200	130
Burtundy (Darling)	590	580	510
Lock 9	190	190	180
Lake Victoria	210	220	240
Berri	390	370	270
Waikerie	370	350	320
Morgan	350	340	320
Mannum	360	360	360
Murray Bridge	440	460	370
Milang (Lake Alex.)	680	690	680
Poltalloch (Lake Alex.)	580	560	560
Meningie (Lake Alb.)	2 440	2 460	2 650
Goolwa Barrages	1 420	1 300	1 290

River Levels and Flows

Week ending Wednesday 04 Jun 2014

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	-	-	-	7 120	R	4 260	2 370
Jingellic	4.0	2.11	208.63	7 610	R	5 860	3 860
Tallandoon (Mitta Mitta River)	4.2	1.56	218.45	830	R	800	680
Heywoods	5.5	1.30	154.93	600	S	600	690
Doctors Point	5.5	1.54	150.01	1 540	F	2 320	1 300
Albury	4.3	0.70	148.14	-	-	-	-
Corowa	3.8	0.83	126.85	2 540	F	2 850	1 660
Yarrawonga Weir (d/s)	6.4	0.90	115.94	4 530	S	3 950	2 050
Tocumwal	6.4	1.46	105.30	4 700	R	3 710	2 040
Torrumbarry Weir (d/s)	7.3	1.84	80.39	5 120	R	3 140	2 510
Swan Hill	4.5	0.70	63.62	2 490	R	2 570	3 310
Wakool Junction	8.8	2.02	51.14	4 060	F	4 550	4 590
Euston Weir (d/s)	8.8	1.00	42.84	4 300	F	4 680	4 340
Mildura Weir (d/s)		-	-	-	-	-	-
Wentworth Weir (d/s)	7.3	2.90	27.66	3 340	F	3 760	3 300
Rufus Junction	-	2.67	19.60	2 190	F	2 280	2 850
Blanchetown (Lock 1 d/s)	-	0.58	-	2 640	R	2 420	2 900
Tributaries							
Kiewa at Bandiana	2.7	1.36	154.59	1 000	F	1 720	640
Ovens at Wangaratta	11.9	8.87	146.55	2 920	R	3 440	750
Goulburn at McCoys Bridge	9.0	2.44	93.86	2 750	F	1 820	1 000
Edward at Stevens Weir (d/s)	-	0.59	80.36	360	F	310	290
Edward at Liewah	-	0.93	56.31	450	F	690	700
Wakool at Stoney Crossing	-	1.51	55.00	630	S	650	490
Murrumbidgee at Balranald	5.0	0.76	56.72	400	R	330	330
Barwon at Mungindi	-	3.15	-	40	S	40	50
Darling at Bourke	-	4.03	-	130	S	130	190
Darling at Burtundy Rocks	-	0.74	-	140	S	150	150

Natural Inflow to Hume	2 550	1 580

(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	-0.05	-	No. 7 Rufus River	22.10	-0.00	+0.39
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.04	+0.04
No. 15 Euston	47.60	+0.18	-	No. 5 Renmark	16.30	+0.09	+0.09
No. 11 Mildura	34.40	+0.00	+0.04	No. 4 Bookpurnong	13.20	+0.03	+0.34
No. 10 Wentworth	30.80	+0.04	+0.26	No. 3 Overland Corner	9.80	+0.12	+0.37
No. 9 Kulnine	27.40	+0.10	+0.48	No. 2 Waikerie	6.10	+0.15	+0.27
No. 8 Wangumma	24.60	+0.50	+0.03	No. 1 Blanchetown	3.20	+0.20	-0.17

Lower Lakes FSL = 0.75 m AHD

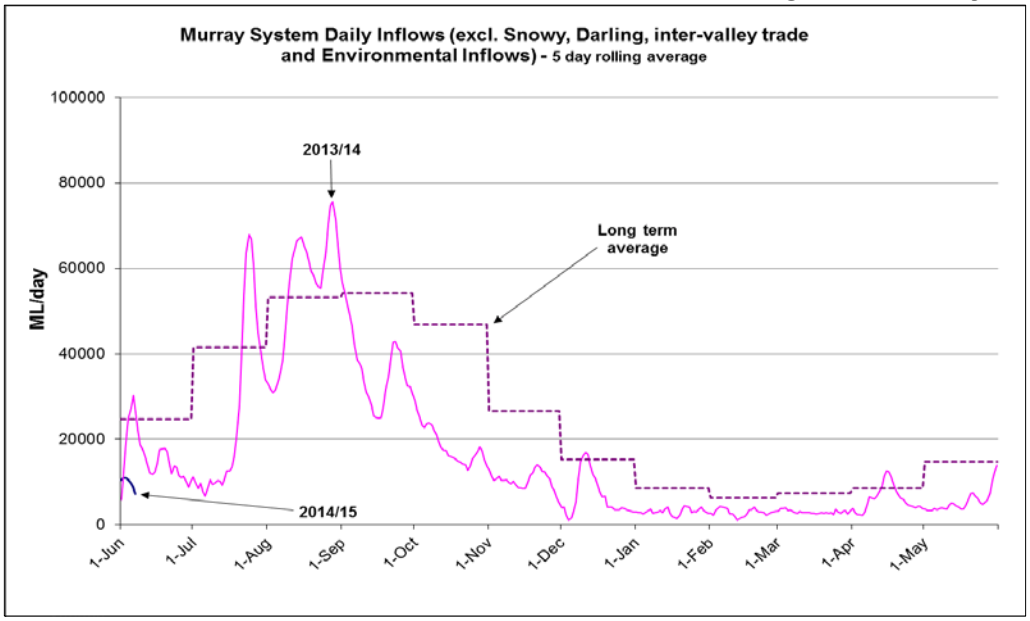
Lake Alexandrina average level for the past 5 days (m AHD)	0.66

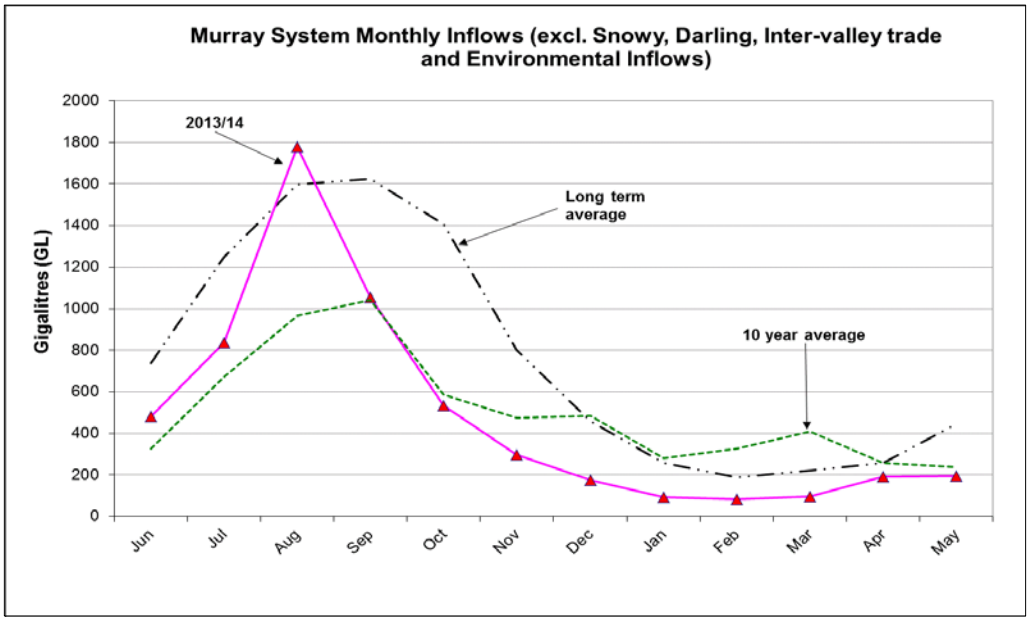
Barrages

	Openings	Level (m AHD)	Fishways at Barrages: No. Open	Rock Ramp	Vertical Slot
Goolwa	128 openings	0.63	5	-	Open
Mundoo	26 openings	0.63	All closed	-	-
Boundary Creek	6 openings	-	0.1	-	-
Ewe Island	111 gates	-	All closed	-	-
Tauwitchere	322 gates	0.66	5	Open	Open

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

Week ending Wednesday 04 Jun 2014





State Allocations (as at 04 Jun 2014)

NSW - Murray Valley

High security	100%
General security	100%

Victorian - Murray Valley

High reliability	100%
Low reliability	0%

NSW – Murrumbidgee Valley

High security	95%
General security	63%

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

MEDIA RELEASE

Australian Government

MURRAY–DARLING BASIN AUTHORITY

30 May 2014

Update on Mildura lock and weir works

The community of Mildura and surrounding districts are reminded that the water level in the Mildura weir pool is expected to drop to very low levels in late July, when work is carried out at the Mildura weir.

MDBA head of River Management David Dreverman said as part of the works Lock 11 would also be closed for about four weeks from Tuesday 15 July.

"There had been a chance we'd have to close Lock 11 for a week at the end of June as well, however that is no longer necessary," Mr Dreverman said.

"The Mildura weir pool will start to be drawn down in the week commencing 21 July and it is likely to remain low until mid-August while work is underway," Mr Dreverman said.

David Dreverman said the works had been scheduled to cause the least disruption to river users.

"We appreciate the community's understanding while we do this upgrade. Based on local tourism, industry and irrigation advice we've managed to time the works to start after the Victorian and New South Wales school holidays and prior to the irrigation season," Mr Dreverman said.

"Removing the weir will drop the river height to about 3.6 metres below the level of a full weir pool, but the exact river height will depend on river flows."

Mr Dreverman said the weir pool would be raised back to full supply level by mid-August and the lock reopened, once the weir was reinstated.

The work this winter is part of a maintenance program to upgrade the weir by installing mechanised gates and repairing the support structure on the riverbed. The final phase of the program is expected to be completed over a two to three month period during winter in 2015.

"It's important that we maintain the weir so the river can be properly managed and reliably support surrounding industries," Mr Dreverman said.

The MDBA and Goulburn–Murray Water will issue further advice in the coming weeks.

ENDS

For more information, contact the MDBA Media office at media@mdba.gov.au or 02 6279 0141 or Goulburn–Murray Water on 1800 013 357.

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