



RIVER MURRAY WEEKLY REPORT

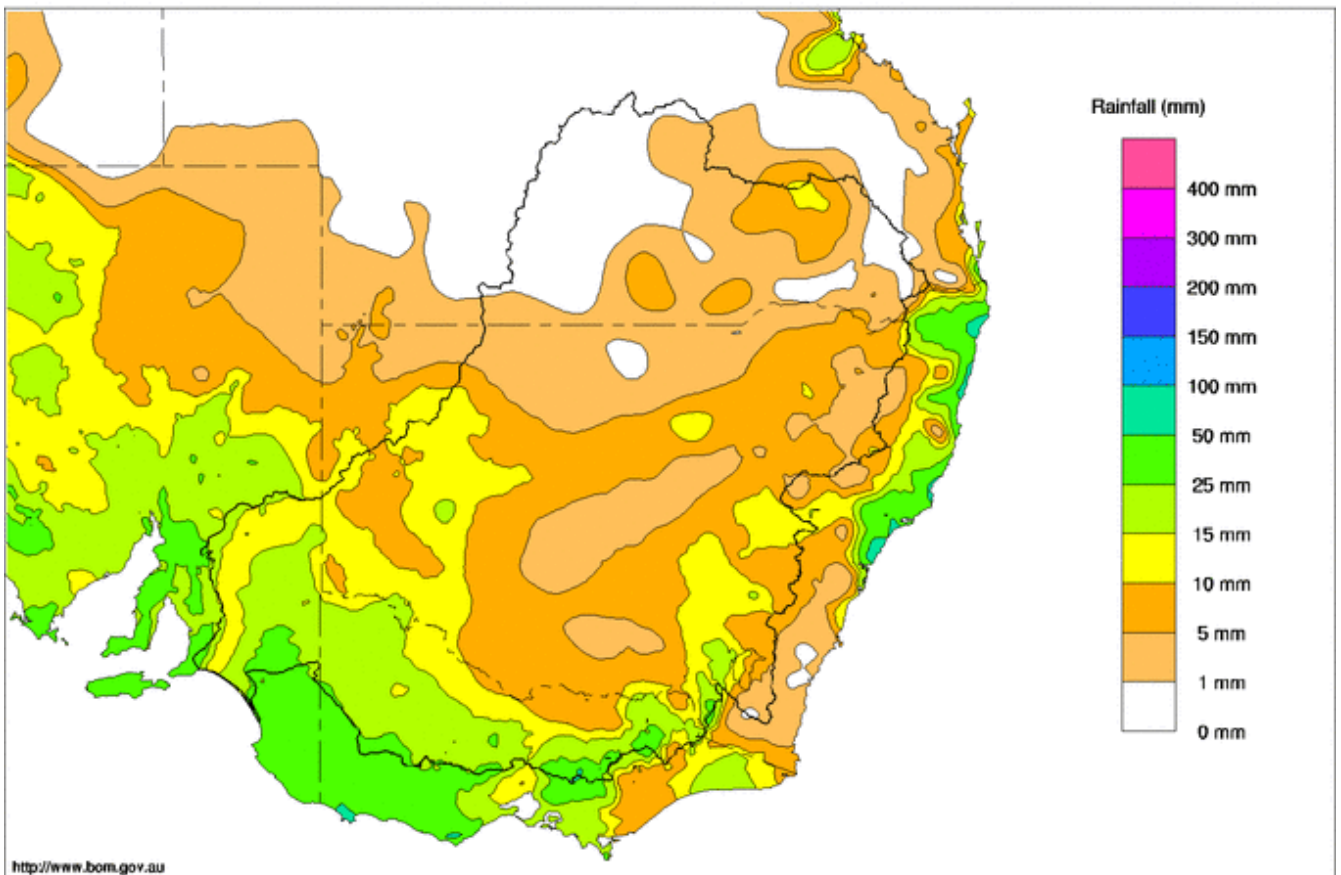
FOR THE WEEK ENDING WEDNESDAY, 30 APRIL 2014

Trim Ref: D14/14076

Rainfall and Inflows

Rain fell predominantly in the south of the Basin this week, due to a frontal cloud band that passed across the Great Australian Bight and swept through South Australia, Victoria and southern New South Wales (NSW). Highest rainfall totals were recorded in the southern ranges, including 44 mm at Charlotte Pass in NSW and 42 mm at Mt Hotham in Victoria (Map 1). Several of the major storages in the southern Basin also recorded significant rainfall including 20 mm at Dartmouth Reservoir, 19 mm at Hume Reservoir and 21 mm at Burrinjuck Reservoir.

Murray-Darling Rainfall Totals (mm) Week Ending 30th April 2014
Product of the National Climate Centre



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Issued: 30/04/2014

Map 1 - Murray-Darling Basin rainfall for the week ending 30 April 2014 (Source: Bureau of Meteorology).

Stream flows in the upper tributaries have risen only slightly following the recent rain. On the upper Murray, the flow at Biggara has increased from 300 ML/day to 400 ML/day; and on the Mitta Mitta River, the flow at Hinnomunjie Bridge has risen from 200 ML/day to 250 ML/day.

In the Ovens catchment, releases from Lakes Buffalo and William Hovell have increased over the past week to provide an environmental flow in the Ovens and King Rivers. These two rivers converge at Wangaratta, where flows peaked at 1,000 ML/day over the weekend before receding to 800 ML/day as the pulse moved downstream.



April 2014 Summary

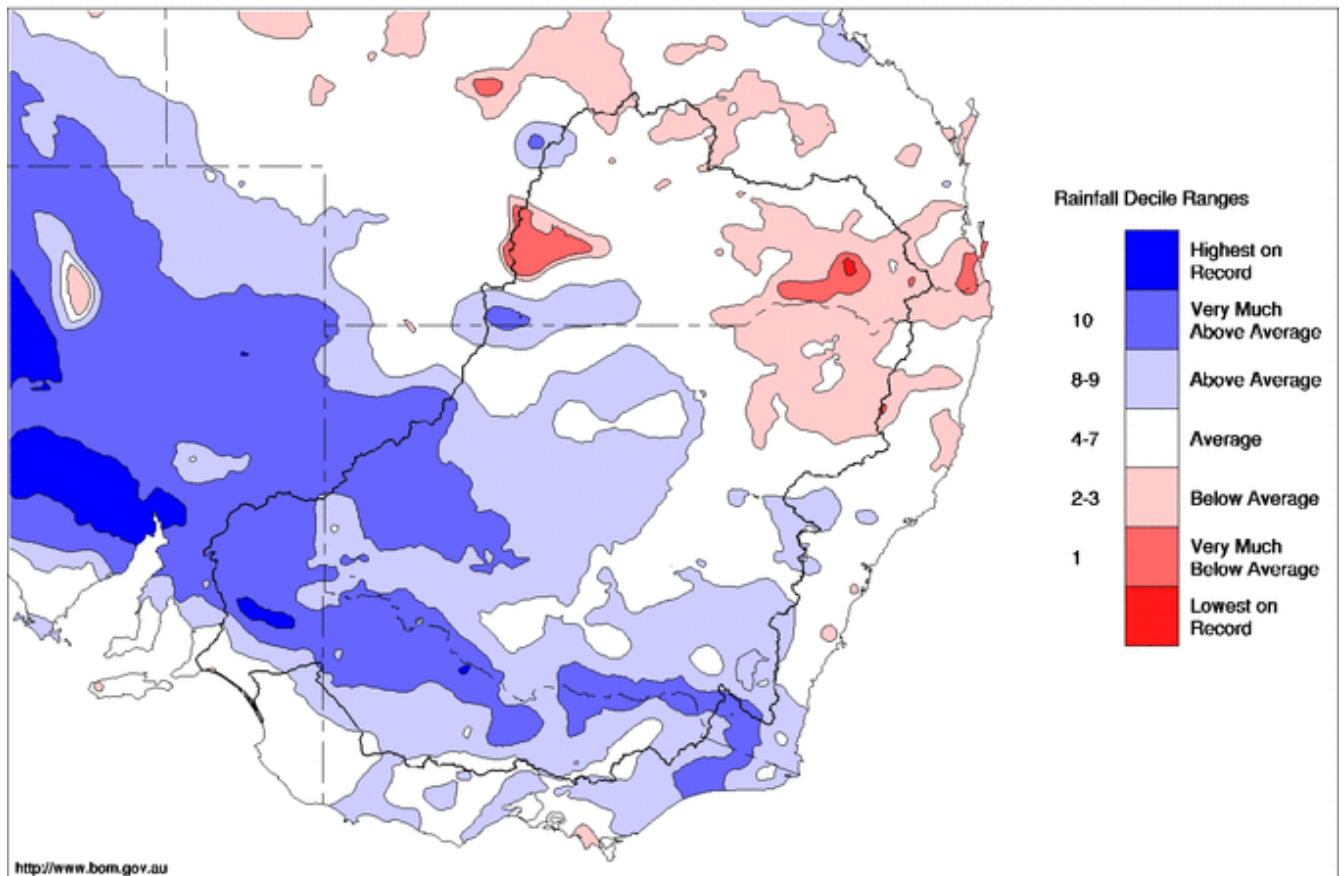
Rainfall across the southern Basin was above-average during April 2014, with particularly wet conditions along the River Murray itself (Map 2). In contrast, much of the northern Basin experienced average to below-average rainfall, with a small pocket in the Moonie and upper Barwon catchments recording lowest rainfall on record for the month.

The above-average rainfall along the Murray was primarily driven by a single large event in which close to 100 mm fell over a 48 hour period at many sites along the river. This rainfall event was the catalyst for a significant drop in irrigation demand throughout the system, resulting in reduced releases and low river flows along parts of the Murray over the Easter holiday period.

Across the Basin as a whole, the Bureau of Meteorology (BoM) has reported that April 2014 rainfall was equal to the long-term mean, with an area-averaged total of 38.1 mm.

Murray-Darling Rainfall Deciles April 2014

Distribution Based on Gridded Data
Product of the National Climate Centre



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

Inflows to the River Murray System (excluding Snowy Scheme, Darling River and managed environmental inflows) increased during April with around 180 GL recorded for the month. This volume was greater than April 2013 inflows (119 GL), however was still below the April long-term average of around 256 GL.



River Operations

Releases from the major storages of the River Murray system continued to remain at, or close to minimum flows this week. The conservation of water in upper storages is of particular importance given current climate indicators, with the BoM reporting that El Niño thresholds may be exceeded as early as July (<http://www.bom.gov.au/climate/enso>).

MDBA total storage increased by 15 GL this week and is currently 4,784 GL or 57% capacity. At Dartmouth Reservoir, storage increased by 1 GL to 3,425 GL (89% capacity). The release, measured at the Colemans gauge, remains steady at the minimum flow rate of 200 ML/day.

At Hume Reservoir, the storage volume decreased by 5 GL this week with total storage now at 1,131 GL (38% capacity). The release was increased to around 4,000 ML/day over the weekend to supply downstream demands, however releases are now being reduced following the rain. The flow at Doctors Point is currently 2,400 ML/day and expected to be at a minimum flow of 1,200 ML/day in coming days.

At Yarrowonga Weir, total weekly diversions at the major irrigation offtakes increased from 5.5 GL up to 11.7 GL this week following a fortnight of very low demand. With further rain forecast and the end of the irrigation season close at hand, demand from these offtakes is expected to reduce towards zero over the next fortnight. The pool level in Lake Mulwala is currently 124.67m AHD and forecast to remain at a similar level for the coming week. The downstream release from Yarrowonga Weir is currently at a minimum flow of 1,800 ML/day.

On the Edward River system, flow through the Edward River and Gulpa Creek offtakes is steady at 200 ML/day and 80 ML/day respectively. At Stevens Weir, the downstream release is 300 ML/day. On the Goulburn River, flows at McCoys Bridge are currently steady at 1,000 ML/day.

On the Murray at Torrumbarry Weir, diversions at National Channel are presently 1,000 ML/day. The downstream flow at Torrumbarry is currently 2,200 ML/day following a brief rise up to 2,500 ML/day; whilst at Euston Weir, the flow is 6,600 ML/day and receding.

At Menindee Lakes, the storage volume increased by 3 GL over the last week and is now at 389 GL (22% capacity). Release from the lakes is currently at a minimum flow rate of 300 ML/day at Weir 32. On the River Murray, downstream of the Darling confluence, a pulse of water has just passed Wentworth Weir following the significant rain event in the southern Basin in the week before Easter. The downstream flow at Wentworth is currently 8,400 ML/day and receding, following a peak of 9,400 ML/day.

Several of the weir pools on the lower River Murray are currently, or soon to be, surcharged above normal full supply levels. This includes Wentworth (raising 10 cm to 30.90 m AHD), Lock 9 (raising 10 cm to 27.50 m AHD) and Lock 8 (raising 60 cm to 25.20 m AHD). These weir pools are being raised in order to secure water that can be used to supply South Australia's entitlement later in May. This is necessary as works currently taking place on the outlet at Lake Victoria impose restrictions on the volume of water that Lake Victoria can release.

At Lake Victoria, the storage volume has increased by 17 GL to 422 GL (62% capacity). The flow to South Australia will be around 3,700 ML/day for the coming week, which is made up of 3,000 ML/day May entitlement flow plus an additional 700 ML/day of environmental water being delivered from the Goulburn River.

At the Lower Lakes, the 5-day average level in Lake Alexandrina is 0.63 m AHD, with releases through the Barrages estimated to be around 2,500 ML/day.

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Water in Storage

Week ending Wednesday 30 Apr 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	479.19	3 425	89%	71	3 354	+1
Hume Reservoir	192.00	3 005	179.99	1 131	38%	23	1 108	-5
Lake Victoria	27.00	677	24.75	422	62%	100	322	+17
Menindee Lakes		1 731*		389	22%	(- -) #	0	+3
Total		9 269		5 367	58%	--	4 784	+15
Total Active MDBA Storage							57% ^	

Major State Storages

Burrinjuck Reservoir	1 026	563	55%	3	560	+4
Blowering Reservoir	1 631	795	49%	24	771	+2
Eildon Reservoir	3 334	2 284	69%	100	2 184	-4

* 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 29 Apr 2014

Storage	Active Storage (GL)	Weekly Change (GL)	Diversions (GL)	This Week	From 1 May 2013
Lake Eucumbene - Total	1 586	+7	Snowy-Murray	+0	653
Snowy-Murray Component	758	+6	Tooma-Tumut	+1	248
Target Storage	1 340		Net Diversion	-1	405
			Murray 1 Release	+3	957

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)	9.4	1082	Yarrowonga Main Channel (net)	2.2	310
Wakool Sys Allowance	1.7	48	Torrumbarry System + Nyah (net)	5.3	510
Western Murray Irrigation	0.3	26	Sunraysia Pumped Districts	0.5	108
Licensed Pumps	1.2	234	Licensed pumps - GMW (Nyah+u/s)	0.1	169
Lower Darling	0.2	197	Licensed pumps - LMW	2	272
TOTAL	12.8	1587	TOTAL	10.1	1369

* 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	135.0 *
Flow this week	35.2
Flow so far this month	183.5
Flow last month	222.7

(5 000 ML/day)

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

	Current	Average over the last week	Average since 1 August 2013
Swan Hill	140	140	90
Euston	110	140	100
Red Cliffs	140	120	120
Merbein	130	120	130
Burtundy (Darling)	500	510	500
Lock 9	160	160	180
Lake Victoria	200	210	250
Berri	270	260	270
Waikerie	330	330	330
Morgan	330	320	320
Mannum	450	470	350
Murray Bridge	470	470	360
Milang (Lake Alex.)	760	770	680
Poltalloch (Lake Alex.)	460	530	570
Meningie (Lake Alb.)	2 670	2 680	2 670
Goolwa Barrages	890	900	1 270



River Levels and Flows

Week ending Wednesday 30 Apr 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	-	-	-	720	F	530	460
Jingellic	4.0	1.20	207.72	1 440	R	1 530	1 780
Tallandoon (Mitta Mitta River)	4.2	1.40	218.29	490	R	410	490
Heywoods	5.5	1.73	155.36	1 910	F	2 490	940
Doctors Point	5.5	1.72	150.19	2 420	F	2 990	1 630
Albury	4.3	0.86	148.30	-	-	-	-
Corowa	3.8	1.26	127.28	4 340	F	3 100	2 600
Yarrawonga Weir (d/s)	6.4	0.32	115.36	1 820	F	2 180	2 120
Tocumwal	6.4	1.06	104.90	2 680	S	2 600	3 400
Torrumbarry Weir (d/s)	7.3	1.09	79.63	2 480	R	2 290	6 250
Swan Hill	4.5	0.72	63.64	2 550	F	4 050	7 790
Wakool Junction	8.8	2.51	51.63	5 790	F	7 740	9 180
Euston Weir (d/s)	8.8	1.44	43.28	6 680	F	8 410	8 020
Mildura Weir (d/s)	-	-	-	8 070	F	8 120	-
Wentworth Weir (d/s)	7.3	3.11	27.87	8 410	F	8 860	7 220
Rufus Junction	-	2.81	19.74	2 870	F	4 330	5 860
Blanchetown (Lock 1 d/s)	-	0.76	-	4 970	F	4 550	6 320
Tributaries							
Kiewa at Bandiana	2.7	0.82	154.05	320	R	320	530
Ovens at Wangaratta	11.9	8.08	145.76	820	F	890	570
Goulburn at McCoys Bridge	9.0	1.52	92.94	990	S	990	1 340
Edward at Stevens Weir (d/s)	-	0.54	80.31	310	F	310	960
Edward at Liewah	-	2.14	57.52	1 480	F	1 490	1 140
Wakool at Stoney Crossing	-	1.60	55.09	870	R	850	710
Murrumbidgee at Balranald	5.0	0.60	56.56	260	R	200	230
Barwon at Mungindi	-	3.21	-	150	S	180	300
Darling at Bourke	-	4.26	-	1 210	F	2 030	1 590
Darling at Burtundy Rocks	-	-	-	250	R	240	290

Natural Inflow to Hume (i.e. Pre Dartmouth & Snowy Mountains scheme)	1 800	2 750
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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
Yarrawonga	124.90	-0.23	-	No. 7 Rufus River	22.10	+0.03	+0.54
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.06	+0.08
No. 15 Euston	47.60	-0.00	-	No. 5 Renmark	16.30	+0.11	+0.18
No. 11 Mildura	34.40	+0.05	+0.32	No. 4 Bookpurnong	13.20	+0.12	+0.46
No. 10 Wentworth	30.80	+0.12	+0.47	No. 3 Overland Corner	9.80	+0.10	+0.45
No. 9 Kulnine	27.40	+0.11	-0.05	No. 2 Waikerie	6.10	+0.25	+0.32
No. 8 Wangumma	24.60	-0.05	+0.09	No. 1 Blanchetown	3.20	+0.18	+0.01

Lower Lakes FSL = 0.75 m AHD

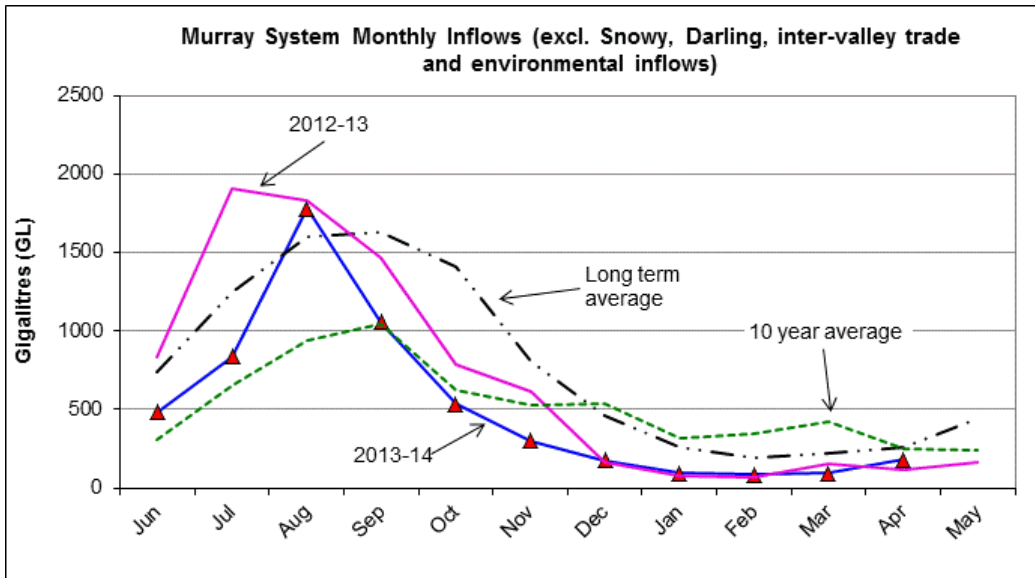
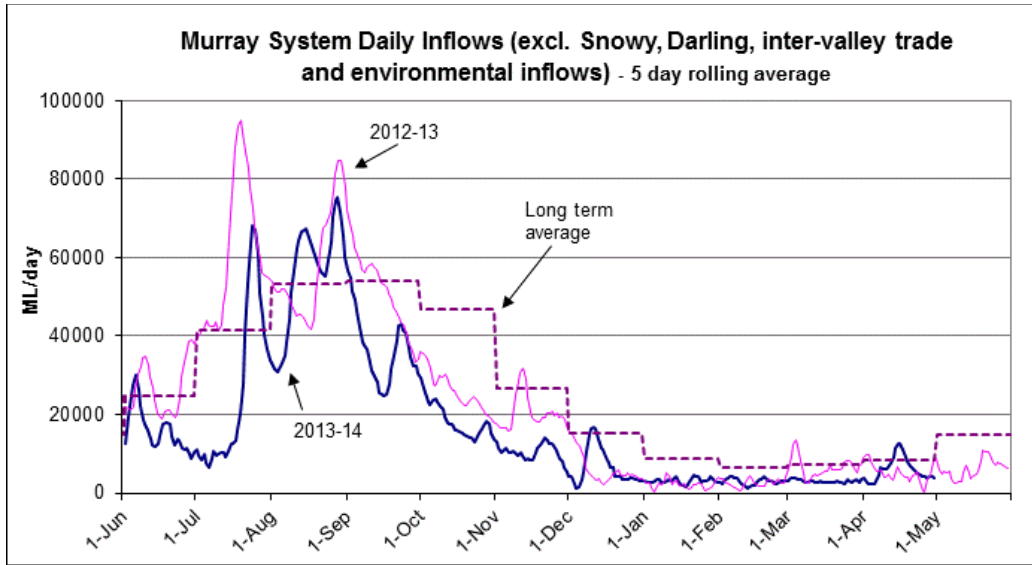
Lake Alexandrina average level for the past 5 days (m AHD)	0.63
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Barrages

Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot
Goolwa	128 openings	0.61	5	-	Open
Mundoo	26 openings	0.60	All closed	-	-
Boundary Creek	6 openings	-	0.1	-	-
Ewe Island	111 gates	-	All closed	-	-
Tauwichee	322 gates	0.61	6	Open	Open

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



State Allocations (as at 30 Apr 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	59%

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.g-mwater.com.au/water-resources/allocations/current.asp>
 SA : <http://www.environment.sa.gov.au/managing-natural-resources/river-murray>