



RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 19 JULY 2017

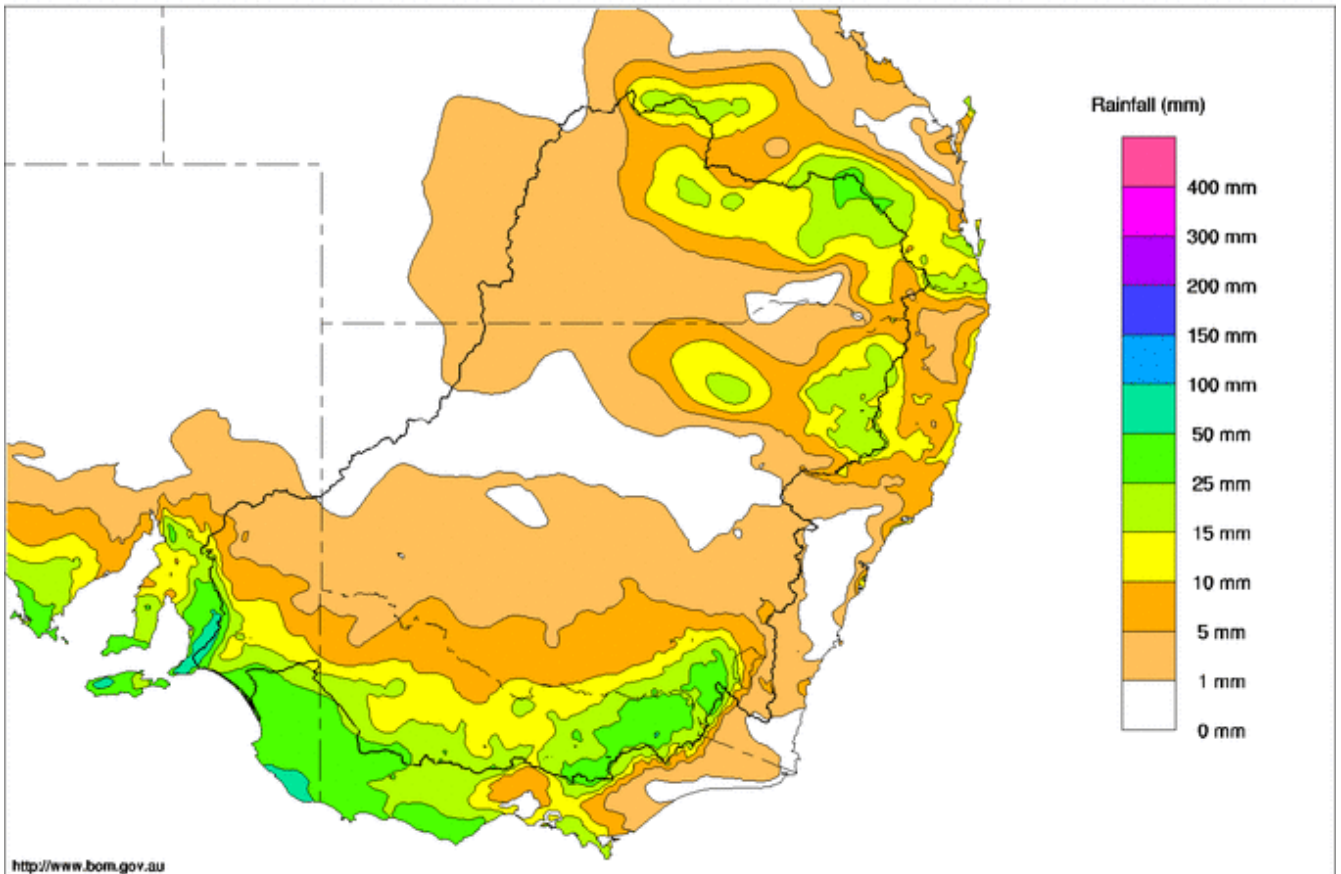
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Rainfall and inflows

At the start of the week, a cold front delivered light to moderate isolated falls to eastern South Australia. This was followed by a second cold front combined with a complex low producing widespread rainfall and some thunderstorms along the southeast coast of South Australia, across much of Victoria and into southeast NSW.

In the north, the middle of the week saw a mid-level trough and associated surface trough strengthened, resulting in light to moderate falls in northern NSW and Queensland.

Murray-Darling Rainfall Totals (mm) Week Ending 19th July 2017
Australian Bureau of Meteorology



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Map 1 - Murray-Darling Basin rainfall map week ending 19 July 2017. Source: Bureau of Meteorology

Whilst rainfall totals in the Riverina and Murray Lands were small, between 15- 80 mm of rainfall was recorded across the Australian Alps for this week. Despite these falls, a limited streamflow response was observed this week.

The Mitta Mitta River at Hinnomunjie Bridge rose only 300 ML/day to a peak of 680 ML/day. The upper Murray at Biggara peaked around 1,000 ML/day while the Ovens River, measured at Rocky Point, increased to 1,400 ML/day.



Overall, streamflow responses are much lower than this time last year reflecting dryer catchment conditions.

Water Availability

On the 17 July, NSW Murray general security allocation increased by 2 per cent and is now 13 per cent of entitlement for the 2017/18 water year. With an average carryover of about 42 per cent, the overall general security water availability is 55 per cent of entitlement. High security allocations remain at 97%.

In Victoria, high-reliability water shares in the Murray and Goulburn systems remain unchanged at 66% and 36% respectively.

Given the reasonable water availability and the below average rainfall over irrigation districts during June and July so far, diversions for irrigation are expected to start early this water year.

River operations

- The Goulburn pulse is receding
- Flow to South Australia reaches 11,500 ML/day

MDBA total storage rose by 40 GL this week, with the active storage now 5,771 GL or 67% capacity.

At **Dartmouth** Reservoir, the storage volume increased by 2 GL to 3,028 GL (79% capacity). Releases from Dartmouth, measured at Colemans gauge, continued at the minimum flow rate of 200 ML/day.

At **Hume** Reservoir, the storage increased by 40 GL to 2,229 GL (74% capacity). Increases to Hume storage are continuing to be driven by the consistently high releases from the Snowy Hydro Scheme.

The release from Hume averaged around 2,000 ML/day this week and varied in response to forecast rainfall and environmental targets downstream of Yarrowonga. Releases above the minimum are meeting winter environmental flow targets in the Murray downstream at Yarrowonga Weir. The additional releases to protect winter base flows downstream in the River Murray have been made on behalf of environmental water holders.

Over the coming week, releases from Hume Dam will vary to mimic natural flow conditions downstream of Yarrowonga up to 10,000 ML/day (channel capacity). This water would be released on behalf of the Commonwealth Environmental Water Holder for the purpose of providing environmental benefits along the length of the Murray.

At **Yarrowonga** Weir, the pool level is 124.81 m AHD (9cm below full supply level (FSL)). With dry conditions persisting diversions through Mulwala and Yarrowonga Main Channel are expected to begin in early August. [Murray Irrigation](#) is considering opening the Mulwala Canal Offtake on Monday 24 July and the Wakool Main canal offtake on Monday 31 July for channel filling purposes. Releases from the Yarrowonga weir averaged 5,200 ML/day downstream this week.

Downstream of Yarrowonga Weir, the [regulators into the Barmah-Millewa forest were opened](#) last week. Traditionally these regulators were only opened when river flows downstream of Yarrowonga would result in the Barmah Choke channel capacity being exceeded. This new operation will provide connectivity between the river and the floodplain in winter and into spring when river flows are below channel capacity. This will benefit native fish and improve the transfer of valuable nutrients from the floodplain to the river to increase productivity. The small additional water loss associated with undertaking this action is being debited from water accounts held by the environmental water holders.

On the **Edward** River system, the gates at Edward and Gulpa Offtakes remain clear of the water. Flows through the Edward and Gulpa offtakes are currently 800 ML/day and 250 ML/day respectively and will continue to vary over the winter period in response to river level fluctuations in the Murray at Picnic Point. At **Stevens Weir**, the pool level is around 4.0 m (local gauge) and will vary between 3.8 m and



4.0 m over winter to provide connectivity for fish and protect instream habitat in the Colligen and Yallakool Creeks and downstream in the Wakool River. The release downstream of the weir averaged 700 ML/day.

On the **Goulburn River**, the flow at McCoy's bridge continued to recede this week and is currently 3,200 ML/day. The flow is expected to continue to recede towards 1,000 ML/day over the coming week. The environmental flows in the Goulburn River have been planned by the Goulburn Broken CMA. More information can be found on the GMW [factsheet](#) and the Goulburn Broken CMA [website](#).

On the **Campaspe River**, the small environmental flow passing Rochester has receded to 100 ML/day.

At **Torrumbarry** the weir pool level is 85.84 m AHD. This is 21 cm below the FSL in accordance with the weir pool variability program. The weir will be gradually raised during July to around 86.0 m AHD (5 cm below FSL). Diversions into National Channel continued at around 420 ML/day to maintain winter base flows along **Gunbower Creek** for the benefit of native fish. With the Goulburn flows receding, the flow over Torrumbarry Weir has reduced to 8,500 ML/day and is forecast to recede to around 6,000 ML/day over the coming week.

Inflow from the **Murrumbidgee River** averaged 1,400 ML/day this week. Environmental agencies are planning to deliver a 'river fresh' along the Murrumbidgee River and Yanco Creek systems starting later in July. The fresh includes targeting a flow rate of around 20,000 ML/day at Wagga Wagga. The aim of the fresh is to improve the health of wetlands along the mid-Murrumbidgee River as well as deliver instream benefits throughout the mid and lower Murrumbidgee River system. This event is expected to deliver significant inflows, at within-channel rates, to the Murray in August. Further environmental benefits will accrue as the flows are passed down the Murray to South Australia.

At **Euston weir**, the pool level is currently 47.35 m AHD (25 cm below FSL). The pool level is expected to be varied over the coming weeks, also as part of the weir pool variability program. The release downstream of Euston weir peaked at 12,200 ML/day on Monday and has receded to 11,800 ML/day.

Downstream of Euston at **Hattah Lakes**, pumping of environmental water into the lakes continues at pump capacity of 1,000 ML/day. Pumping around this rate is expected to continue until early October 2017. Delivery of this water will build upon the ecological outcomes resulting from the natural flooding that occurred in 2016, and continue to improve the ecological health of this wetland system.

On the **Darling River**, the total storage volume in the **Menindee Lakes** decreased by 2 GL and is currently 765 GL (44% capacity). Inflows to the lakes are continuing at low rates, with the daily flow, measured at Wilcannia, around 400 ML/day. Releases from Menindee Lakes to the lower Darling River at Weir 32 are currently 400 ML/day. This is above the normal minimum of 200 ML/day at this time of year. The additional water is being released on behalf of environmental water holders to benefit native fish in the lower Darling River.

At the junction of the Darling and Murray rivers at **Wentworth**, flow has increased to 12,000 ML/day. Downstream of the weir, inflows from the Great Darling Anabranch continue at very low rates.

Lock 9 is currently at FSL while at **Locks 8** and **7**, the pool levels are currently 96 cm and 20 cm below FSL respectively. Pool levels are varied to help restore a more natural wetting and drying cycle to riverbanks and adjacent wetlands within the influence of the weir pool.

At **Lake Victoria**, the storage volume remained at 423 GL (62% capacity) this week. Over the coming months MDBA will manage the filling of Lake Victoria in line with the Lake Victoria Operating Strategy. The strategy aims to maximise water security whilst minimising the impact on vegetation and aboriginal cultural heritage sites around the lake.

This week, flow to **South Australia** increased to 11,500 ML/day. The increase in flow is largely due to the peak of the Goulburn environmental water pulse flowing across the border. The flow is expected to



remain around 10,000 ML/day over the coming week. Whilst flow to South Australia is higher, South Australia's Department of Environment, Water and Natural Resources (DEWNR) is planning to undertake modest weir pool lowerings of 8 cm (within normal operating ranges) at Locks 2, 5 and 6 during July for [ecological benefits](#). Further information can be found at DEWNR's [WaterConnect](#) website and [media release](#).

At the Lower Lakes, the 5-day average water level in Lake Alexandrina decreased by 1 cm to 0.71 m AHD. Releases through the barrages were stepped up early in the week to over 10,000 ML/day. A key objective of this pulse was to provide an attractant flow for [pouched lamprey](#) which characteristically migrate upstream at this time of year to breed see photo 1.



Photo 2 – Sampling of pouched Lamprey at the barrages (Source: SARDI)

For media inquiries contact the Media Officer on 02 6279 0141

DAVID DREVERMAN
Executive Director, River Management



Water in Storage

Week ending Wednesday 19 Jul 2017

MDBA Storages	Full Supply Level	Full Supply Volume	Current Storage Level	Current Storage		Dead Storage	Active Storage	Change in Total Storage for the Week
	(m AHD)	(GL)	(m AHD)	(GL)	%	(GL)	(GL)	(GL)
Dartmouth Reservoir	486.00	3 856	472.43	3 028	79%	71	2 957	+2
Hume Reservoir	192.00	3 005	187.80	2 229	74%	23	2 206	+40
Lake Victoria	27.00	677	24.76	423	62%	100	323	-0
Menindee Lakes		1 731*		765	44%	(480 #)	285	-2
Total		9 269		6 445	70%	--	5 771	+40
Total Active MDBA Storage								67% ^

Major State Storages

Burrinjuck Reservoir	1 026	647	63%	3	644	+1
Blowering Reservoir	1 631	1 297	80%	24	1 273	-9
Eildon Reservoir	3 334	2 056	62%	100	1 956	-4

* Menindee surcharge capacity – 2050 GL

** All Data is rounded to nearest GL **

NSW has sole access to water when the storage falls below 480 GL. MDBA regains access to water when the storage next reaches 640 GL.

^ % of total active MDBA storage

Snowy Mountains Scheme

Snowy diversions for week ending 18 Jul 2017

Storage	Active Storage (GL)	Weekly Change (GL)	Diversion (GL)	This Week	From 1 May 2017
Lake Eucumbene - Total	1 275	n/a	Snowy-Murray	+31	406
Snowy-Murray Component	567	n/a	Tooma-Tumut	+2	24
Target Storage	1 170		Net Diversion	29	382
			Murray 1 Release	+29	435

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2017	Victoria	This Week	From 1 July 2017
Murray Irrig. Ltd (Net)	0.0	0	Yarrowonga Main Channel (net)	0	1
Wakool Sys Allowance	1.4	2	Torrumbarry System + Nyah (net)	1.1	3
Western Murray Irrigation	0.1	0	Sunraysia Pumped Districts	0.3	1
Licensed Pumps	0.5	2	Licensed pumps - GMW (Nyah+u/s)	1	1
Lower Darling	0.0	0	Licensed pumps - LMW	4.6	3
TOTAL	2.0	4	TOTAL	7	9

* Figures are derived from actual and estimates where data is unavailable. 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 environmental flows.

Entitlement this month	108.5 *	
Flow this week	72.2	(10 300 ML/day)
Flow so far this month	145.4	
Flow last month	159.2	

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

	Current	Average over the last week	Average since 1 August 2016
Swan Hill	80	80	120
Euston	-	-	-
Red Cliffs	150	170	170
Merbein	160	190	170
Burtundy (Darling)	640	640	590
Lock 9	210	220	220
Lake Victoria	270	270	210
Berri	340	360	300
Waikerie	420	440	360
Morgan	450	470	370
Mannum	470	470	390
Murray Bridge	500	520	360
Milang (Lake Alex.)	550	560	520
Poltalloch (Lake Alex.)	550	550	410
Meningie (Lake Alb.)	1 580	1 520	1 760
Goolwa Barrages	4 620	3 100	1 240



River Levels and Flows

Week ending Wednesday 19 Jul 2017

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	-	-	-	2 650	F	4 760	5 860
Jingellic	4.0	1.69	208.21	4 370	F	6 440	7 640
Tallandoon (Mitta Mitta River)	4.2	1.52	218.41	860	R	590	660
Heywoods	5.5	1.80	155.43	2 250	R	2 080	1 950
Doctors Point	5.5	1.96	150.43	3 610	R	3 010	3 170
Albury	4.3	1.03	148.47	-	-	-	-
Corowa	4.6	0.98	127.00	2 860	R	3 910	3 340
Yarrowonga Weir (d/s)	6.4	0.90	115.94	4 930	R	5 230	4 870
Tocumwal	6.4	1.47	105.31	4 290	F	4 770	4 130
Torrumbarry Weir (d/s)	7.3	2.80	81.34	8 460	F	10 030	11 800
Swan Hill	4.5	1.79	64.71	9 480	F	10 230	9 890
Wakool Junction	8.8	3.84	52.96	10 920	F	11 240	9 370
Euston Weir (d/s)	9.1	2.29	44.13	11 750	F	11 810	8 680
Mildura Weir (d/s)	-	-	-	12 110	F	11 280	7 060
Wentworth Weir (d/s)	7.3	3.25	28.01	11 960	S	11 010	6 690
Rufus Junction	-	4.20	21.13	11 230	R	10 020	6 190
Blanchetown (Lock 1 d/s)	-	0.95	-	10 040	R	8 930	5 330
Tributaries							
Kiewa at Bandiana	2.8	1.34	154.57	1 010	R	940	1 210
Ovens at Wangaratta	11.9	8.29	145.97	1 250	R	1 190	1 380
Goulburn at McCoys Bridge	9.0	2.69	94.11	3 230	F	5 110	7 980
Edward at Stevens Weir (d/s)	5.5	1.05	80.82	710	F	510	420
Edward at Liewah	-	1.16	56.54	590	R	510	510
Wakool at Stoney Crossing	-	1.51	55.00	630	F	610	600
Murrumbidgee at Balranald	5.0	1.86	57.82	1 370	F	1 360	1 230
Barwon at Mungindi	6.1	3.45	-	690	F	760	530
Darling at Bourke	9.0	4.12	-	450	R	370	400
Darling at Burtundy Rocks	-	0.80	-	300	F	320	330

Natural Inflow to Hume	3 220	5 370
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(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
Yarrowonga	124.90	-0.09	-	No. 7 Rufus River	22.10	-0.20	+1.89
No. 26 Torrumbarry	86.05	-0.21	-	No. 6 Murtho	19.25	-0.08	+0.35
No. 15 Euston	47.60	-0.25	-	No. 5 Renmark	16.30	-0.09	+0.44
No. 11 Mildura	34.40	+0.02	+0.42	No. 4 Bookpurnong	13.20	+0.00	+1.30
No. 10 Wentworth	30.80	+0.01	+0.61	No. 3 Overland Corner	9.80	+0.03	+0.52
No. 9 Kulnine	27.40	+0.00	-0.40	No. 2 Waikerie	6.10	-0.05	+0.47
No. 8 Wangumma	24.60	-0.96	+0.38	No. 1 Blanchetown	3.20	-0.08	+0.20

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.71
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Barrages

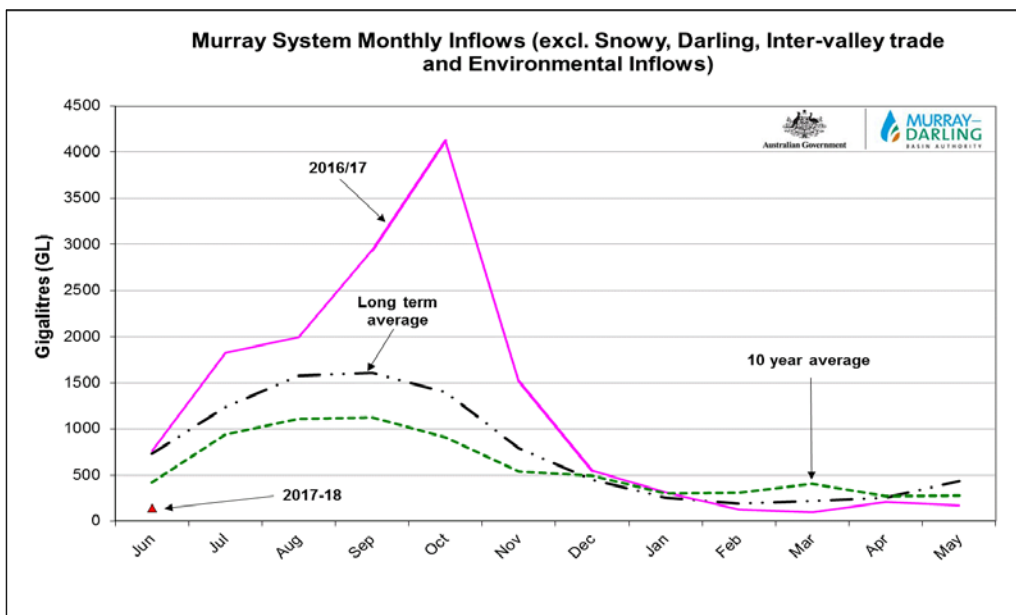
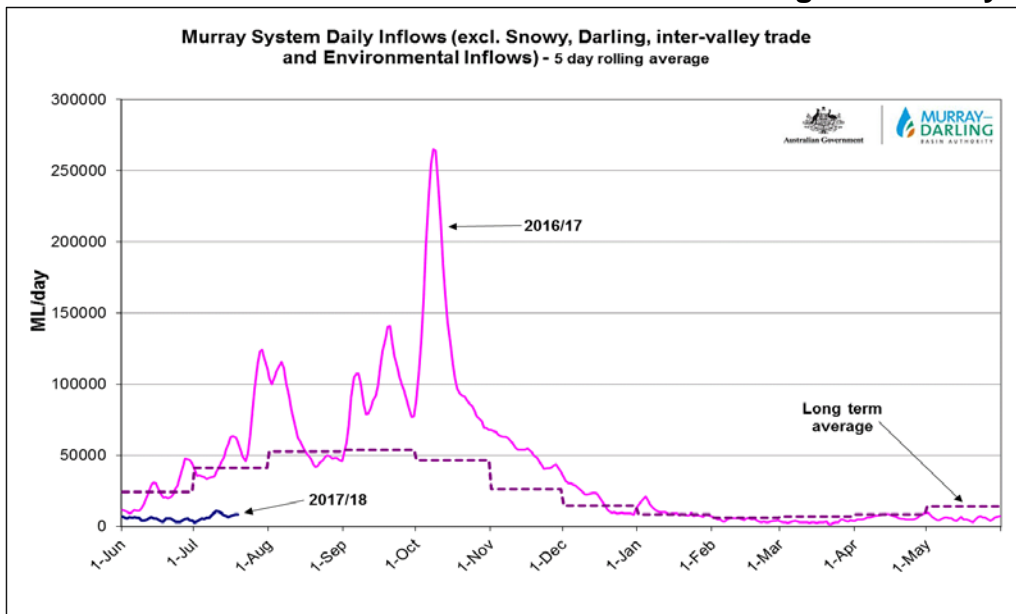
Fishways at Barrages

	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.55	All closed	-	Open	Open	-
Mundoo	26 openings	0.54	All closed	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	1	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwicheere	322 gates	0.56	All closed	Open	Open	Open	-

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



Week ending Wednesday 19 Jul 2017



State Allocations (as at 19 Jul 2017)

NSW - Murray Valley

High security	97%
General security	13%

Victorian - Murray Valley

High reliability	66%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	20%

Victorian - Goulburn Valley

High reliability	36%
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>
 VIC : <http://nvrn.net.au/seasonal-determinations/current>
 SA : <http://www.environment.sa.gov.au/managing-natural-resources/river-murray>