

# REPORT FOR THE WEEK ENDING

Wednesday, 8 December 2004

Our Ref : RMW305/01/01/prs, jm, bwh  
Trim Ref : 04/12762DO

10 December, 2004



## ***Rainfall and Inflows***

A deep low pressure system has persisted over the eastern States during the latter part of this week and looks set to continue into the coming weekend. It has brought scattered thunderstorms and mild to warm and humid conditions to much of the Basin. The attached rainfall map shows the patchy nature of the rainfall. The heaviest falls, of up to 100 mm, occurred in the northern part of the Basin.

Despite the widespread rainfall, there has only been a very limited streamflow response in the Upper Murray and tributaries, following the hot and mostly dry conditions last week. There have been some localised increases in streamflow in the northern rivers, including the Upper Darling and Barwon, however, this is not expected to lead to any significant inflow to Menindee Lakes.

## ***System Operation***

Following recent improvements in storage in Hume Reservoir and Lake Victoria during late November and early December, transfer of water from Dartmouth Reservoir to Hume Reservoir will be gradually reduced over the coming week. The release will initially be reduced from 4 000 ML/day to 3 000 ML/day, and then further to 2 000 ML/day (*see attached media release*).

The recent rain resulted in a significant reduction in diversions particularly from Lake Mulwala, and in response, release from Hume has been progressively reduced. Despite this reduction, the total release from Hume this week exceeded inflows, and the storage level fell by about 20 GL.

In the mid Murray, diversion via National Channel to the Torrumbarry Irrigation System was reduced late in the week, and may be reduced further next week depending on rain. The reduced diversions, coupled with local rainfalls, has resulted in an increase in the release from Torrumbarry Weir from 4 800 ML/day to almost 6 000 ML/day.

Lake Victoria storage reached capacity (677 GL or 27.0 m AHD) on 4 December, and has since begun to slowly fall as water from the lake is used to supplement the River Murray flow to assist in meeting South Australia's December entitlement of 7 000 ML/day.

Despite the current high water level in Lake Victoria, storage is expected to steadily fall in coming weeks and, unless there is further significant rainfall, it will be necessary to continue the transfer of water from Hume Reservoir to Lake Victoria to ensure that all requirements in New South Wales, Victoria and South Australia can be supplied over the remainder of the irrigation season.

DAVID DREVERMAN  
General Manager

### ***Drought Update***

RMW has released an information paper on the current drought outlining its severity and its impacts on agriculture, water quality and the environment. A copy of the paper is attached and is also available at the MDBC website at: [www.mdbc.gov.au](http://www.mdbc.gov.au).

# MEDIA RELEASE

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Thursday, December 9, 2004

## Further Reduction in Release from Dartmouth Reservoir



**TRIM Ref: 04/12754DO**

The rate of transfer of water from Dartmouth Reservoir to Hume Reservoir is to be further reduced following recent improvements in inflows in the River Murray System in late November and early December.

River Murray Water (RMW) General Manager, Mr David Dreverman said today that there has been a significant reduction in the volume of water required to be released from Dartmouth Reservoir for the remainder of the irrigation season.

“Good system inflows over November and early December coupled with reduced irrigation demand due to rainfall and cooler conditions have resulted in improved storage levels in Hume Reservoir and Lake Victoria,” he said.

Release from Dartmouth is currently 4 000 ML/day or about 2.1 m on the Colemans gauge. Beginning on the morning of Friday 10 December 2004, the release rate will be gradually reduced to 3 000 ML/day (1.9 m gauge height). Then, beginning on the morning of Tuesday 14 December 2004, the release will be gradually reduced further to 2 000 ML/day (1.7 m gauge height).

Further downstream at Tallandoon, it is expected that the river level (currently 2.5 m gauge height) will gradually decline to about 2.1 m gauge height, and continue near this rate if there is no further significant rain.

Some variation in river level at Tallandoon could occur in response to any rainfall and increased flows in tributaries of the Mitta Mitta River. Release from Dartmouth will be reduced, if necessary, to avoid (as far as possible) flow exceeding the river’s channel capacity.

“In early January 2005, River Murray Water intends to start a program to vary the release from Dartmouth in a cyclic pattern to mimic to some extent the variability of river levels seen under natural conditions,” Mr Dreverman said.

“This mode of operation aims at providing environmental benefits including reduced impact on stream banks of the Mitta Mitta River.”

The rate of release from Dartmouth will be continually reviewed taking into account conditions across the entire River Murray System. If conditions are very dry for the remainder of the season, there is a possibility that the release may need to be increased to higher rates before the end of the season, however this is considered very unlikely. This plan will assist in maintaining a moderate flow rate in the river for some time before it is necessary to reduce to minimum flow rates.

RMW will provide further updates throughout the season on the program of release from Dartmouth Reservoir, particularly when significant changes are required.

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*(Allison Hicks is not to be quoted as a spokesperson)*

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## River Murray System–Drought Update

### THE DROUGHT CONTINUES

The 2004-05 season is shaping up to be another dry year, making the current drought arguably the most serious to affect the River Murray since records began in the 1890's. The drought has left no one untouched, impacting on irrigators, communities and the environment.

This information paper provides an overview of the severity of the current drought, the impact it is having on the River Murray, the operation of the river and an outlook for the remainder of the 2004-05 irrigation season.

### HOW SEVERE IS THIS DROUGHT?

Much of south-eastern Australia has experienced rainfall deficiencies for periods of three years and longer. It is now clear that the current drought is longer and more severe than that experienced in the mid 1960's. Whilst there have been more prolonged drought periods in the 1940's and 1890's, the four years to October 2004 have recorded the lowest River Murray system *inflows* and been the *driest four years on record*. Figure 1 shows how the current drought period compares with historical droughts.

The 1890's and 1940's extended droughts occurred prior to significant irrigation development, so that the impacts now being observed – both to communities and the environment – are unprecedented.

For example, flows in the River Murray at Euston have been extremely low for the past 6 years with only one significant flood event during that time. Figure 2 shows that even during the prolonged drought periods of the 1890's and 1940's, floods were far more frequent due to fewer dams and limited diversions for consumptive use.

On the Darling River, inflows to Menindee Lakes for the three years to October 2004 have been the *driest three years on record*. It's the same story in South Australia where for 9 out of the past 10 years, flow to South Australia has been below average, and flow over the past three years has been the *lowest three year total flow on record*.

### IMPACTS OF THE DROUGHT

#### On Irrigation Allocations

The extended nature of the drought means that River Murray system water reserves have been significantly depleted so that users are virtually living from year to year. Some irrigators are now experiencing the third consecutive year

with less than full allocations. South Australia is experiencing its second ever year with announced availability less than full allocation.

The pressure on all irrigation communities is immense. Large volumes of water have been traded in recent years to support high value industries and commercial arrangements have been established for the advance of additional water purchased from the Snowy Mountains Hydro-electric Scheme.

#### On System Operation

Key features of current system operation include:

- persistent dry conditions in the Darling resulting in low levels in Menindee Lakes. These lakes revert to NSW control under such conditions and consequently its waters have largely not been available to the MDBC to supplement the Murray since March 2002; and
- Dartmouth Reservoir is fulfilling its design function as a drought reserve, with the vast bulk (85%) of the River Murray System's available water being held in Dartmouth at the start of 2004-05. Therefore, water is currently being transferred from Dartmouth to prevent the storage levels in Hume dropping too low. Water is also being transferred from Hume to Lake Victoria, after the earliest start ever, to ensure all three States' needs can be met over the coming season.

#### On Water Quality

In much of the River Murray, and contrary to what might be expected in a drought, the large volume of good quality water being transferred from the Upper Murray together with reduced high salinity groundwater inputs have kept river salinity and turbidity very low. For example, salinity at Morgan is currently about 370 EC – considerably lower than the long term average for the last twenty years of 560 EC as well as the 800 EC salinity target.

However, the long period of less than average flow to South Australia has led to the salinity levels in Lake Alexandrina and Lake Albert continuing to increase. Despite local rainfall boosting lake levels in recent months, the salinity at Meningie is currently about 2,100 EC and is expected to worsen under continuing drought conditions.

Persistent high concentrations of blue-green algae were observed in and downstream of Lake Hume last season. As temperatures increase over summer there will be an increased risk of high alerts both here and across the entire River Murray System.

Figure 1: River Murray System inflows showing extended drought periods

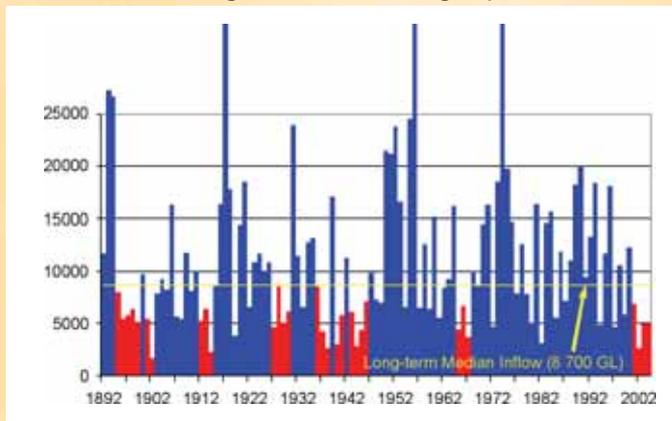


Figure 2: River Murray flows at Euston

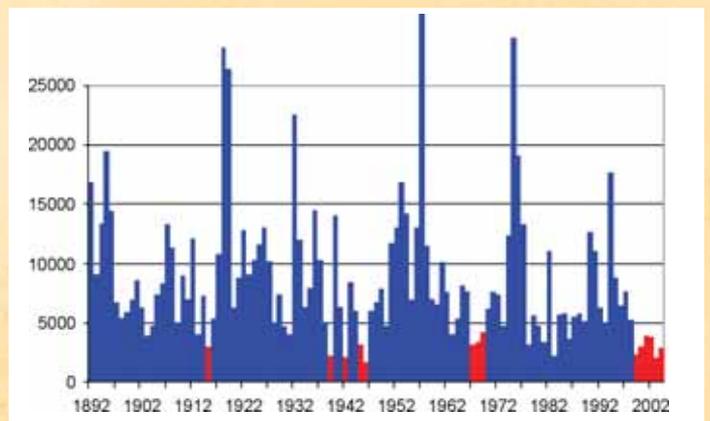
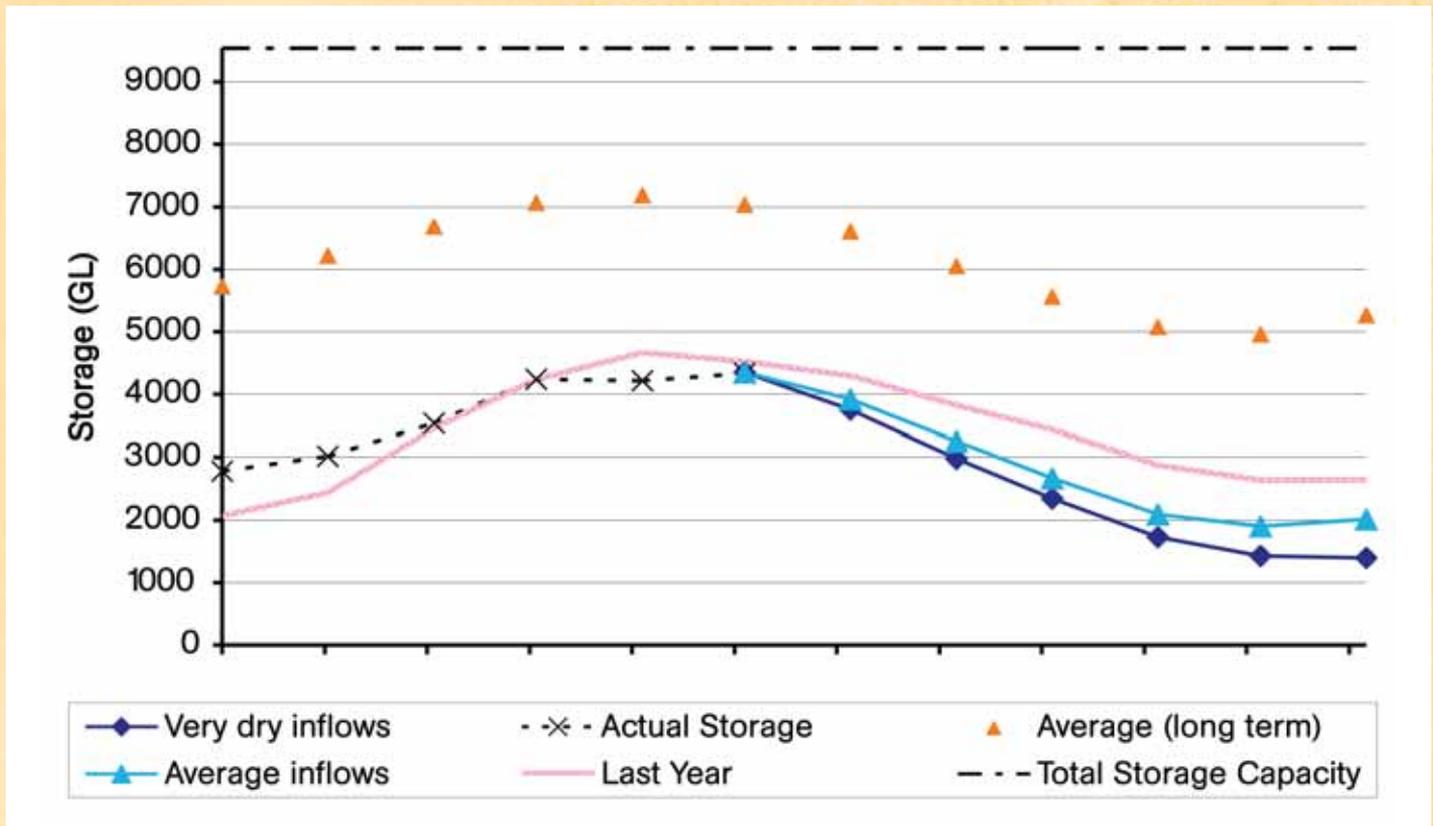


Figure 3: Total System Storage (indicative forecast for this season)



## On the Environment

The drought, combined with current levels of irrigation consumption and regulation by headwater storages, has resulted in unusually long periods without flooding. Such conditions have not been seen before and are having significant impacts on the river's wetland, lake, floodplain and estuarine ecosystems. For example:

- widespread decline in River Redgum health has been reported all the way along the River from Euston to the Murray Mouth;
- an increased incidence of fish kills associated with low tributary flows and drought conditions; and
- the build up of salt on the floodplains.

Neither the use of environmental water (for example, the Barmah Millewa Forest) nor activities associated with the Living Murray initiative has exacerbated the position.

## OUTLOOK

The outlook for total system storage for the remainder of this season (for very dry and average conditions) is shown in Figure 3. If inflows are low, total reserves could fall to the lowest level since Dartmouth was completed in 1979.

From both the point of view of the environment and water users the drought will break only when inflows improve substantially. Until then River Redgums are likely to experience increasing stress and river salinity is likely to remain low. Sustained rainfall is needed in 2005-06 to secure water supplies and improve the health of the River. However, the next flood is likely to lead to increased river salinity as accumulated salt on the floodplain is washed into the river system.

## WHERE CAN I GET MORE INFORMATION?

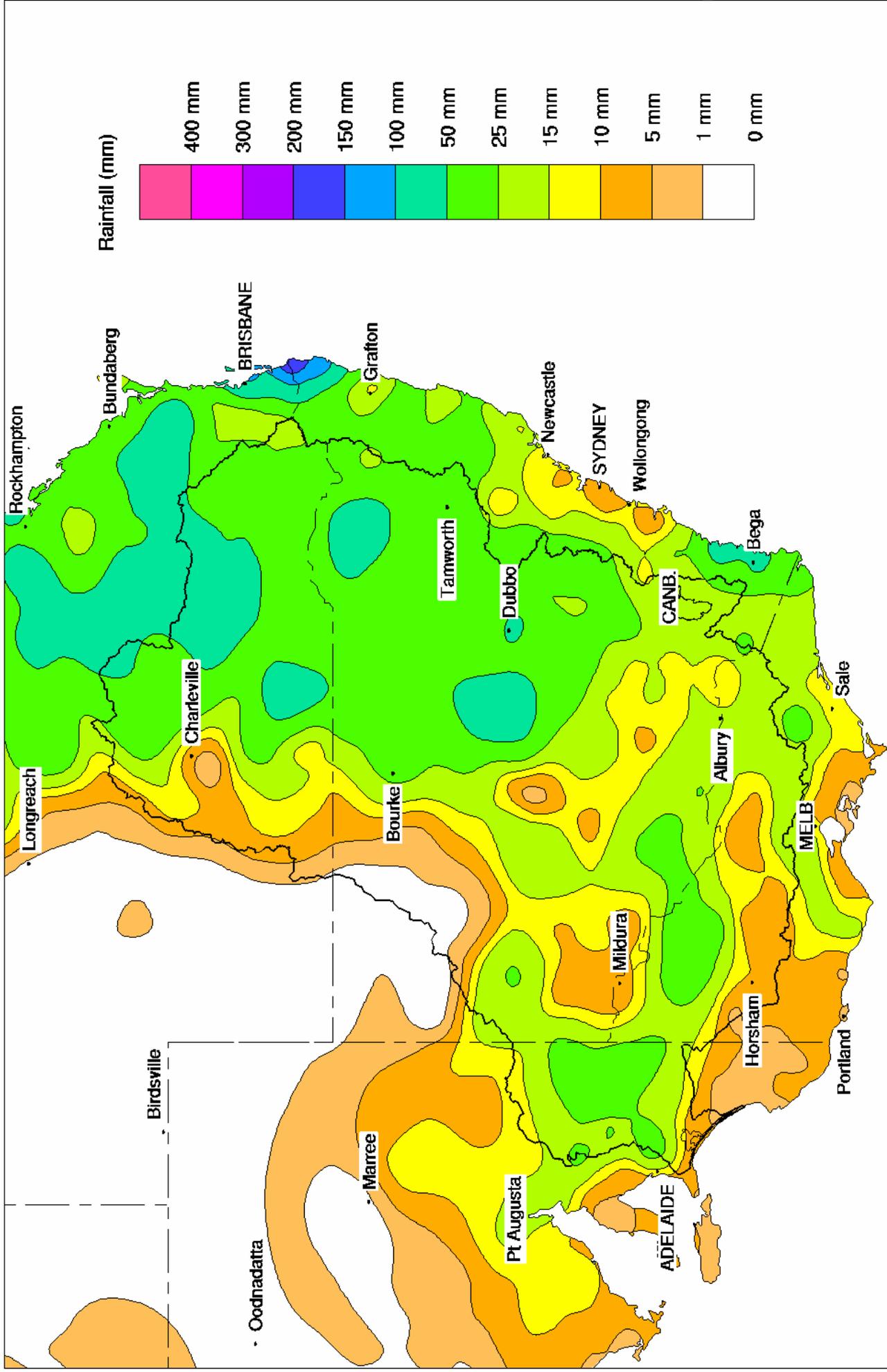
MDBC Website  
[www.mdbc.gov.au](http://www.mdbc.gov.au)  
 (includes the RMW Weekly Report containing more detailed information)  
 or Ph 02 6279 0100

Or Drought Hotline:  
 Ph 1800 814 647  
[www.affa.gov.au](http://www.affa.gov.au)

Or Bureau of Meteorology:  
 Ph 03 9669 4082  
[www.bom.gov.au](http://www.bom.gov.au)

# Murray Darling Rainfall Analysis (mm) Week Ending 8th December 2004

Product of the National Climate Centre



**Water in Storage**

MDBC Storages	Full Supply Level (m AHD)	Full Supply Volume (GL)	Current Storage Level (m AHD)	Current Storage		Dead Storage (GL)	Active Storage (GL)	Change in Storage for the week (GL)
				(GL)	%			
Dartmouth Reservoir	486.00	3 906	445.45	1 756	45%	80	1 676	-18
Hume Reservoir	192.00	3 038	183.62	1 621	53%	30	1 591	-19
Lake Victoria	27.00	677	26.98	674	100%	100	574	+0
Menindee Lakes		1 603 *		239	15%	640 #	0	-9
<b>Total</b>		<b>9 224</b>		<b>4 289</b>	<b>47%</b>	<b>850</b>	<b>3 841</b>	<b>-46</b>

\* Menindee surcharge capacity 1916 GL

% of Total Active MDBC Storage = **46%**

# NSW Menindee Lakes Reserve

**Major State Storages**

Burrinjuck Reservoir	1 026	208	20%	3	205	+1
Blowering Reservoir	1 631	488	30%	24	464	-22
Eildon Reservoir	3 390	1 454	43%	100	1 354	-5

**Snowy Mountains Scheme**

Snowy diversions for week ending 07-Dec-2004

Storage	Active storage (GL)	Weekly change (GL)	Diversion (GL)	This week	From 1 May 2004
Lake Eucumbene - Total	2 593	n/a	Snowy-Murray	+4	335
Snowy-Murray Component	1 173	-	Tooma-Tumut	+7	219
Target Storage	1 510		Nett Diversion	-2.8	116
			Murray 1 Release	+12	638

**Major Diversions from Murray and Lower Darling (GL)**

New South Wales	This week	From 1 July 2004
Murray Irrig. Ltd (Net)	16.1	328.7
Wakool System loss	1.9	4.8
Western Murray Irrig.	1.0	11.1
Licensed Pumps	7.1	114.1
Lower Darling	0.8	9.5
<b>TOTAL</b>	<b>26.8</b>	<b>468.3</b>

Victoria	This week	From 1 July 2004
Yarrawonga Main Channel (net)	8.8	137
Torrumbarry System + Nyah (net)	19.9	255
Sunraysia Pumped Districts	5.4	57
Licensed pumps - GMW (Nyah+u/s)	1.5	12
Licensed pumps - SRW	5.9	121
<b>TOTAL</b>	<b>41.5</b>	<b>581</b>

**Flow to South Australia (GL)**

Entitlement this month	217	(7 200 ML/day)
Flow this week	50.1	
Flow so far this month	58	
Flow last month	193	

**Salinity (EC)**

(microsiemens/cm @ 25° C)

	Current	Average over the last week	Average since 1 August 2004
Swan Hill	80	80	100
Euston	110	130	120
Red Cliffs	-	-	100
Merbein	180	140	110
Burtundy (Darling)	530	510	450
Lock 9	140	140	130
Lake Victoria	180	170	180
Berri	220	220	260
Waikerie	-	330	420
Morgan	350	350	430
Mannum	470	470	520
Murray Bridge	560	550	560
Milang (Lake Alex.)	1 350	1 350	1 250
Poltalloch (Lake Alex.)	680	700	1 010
Meningie (Lake Alb.)	2 060	2 110	2 100
Goolwa Barrages	1 910	1 880	1 830

**River Levels and Flows**

	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)				
<b>River Murray</b>							
Khancoban	-	-	-	1 330	F	2 790	5 520
Jingellic	4.0	1.59	208.11	4 040	F	6 310	7 780
Tallandoon ( Mitta Mitta River )	4.2	2.45	219.34	5 090	R	5 030	6 740
Heywoods	5.5	2.53	156.16	10 790	F	13 570	14 150
Doctors Point	5.5	2.79	151.26	11 600	F	14 110	15 130
Albury	4.3	1.79	149.23	-	-	-	-
Corowa	7.0	2.92	128.94	14 500	F	16 360	15 010
Yarrowonga Weir (d/s)	6.4	1.75	116.79	9 940	S	9 980	10 000
Tocumwal	6.4	2.31	106.15	10 500	R	10 240	10 200
Torrumbarry Weir (d/s)	7.3	2.01	80.56	5 790	R	5 070	5 670
Swan Hill	4.5	1.09	64.01	4 880	R	4 600	7 010
Wakool Junction	8.8	2.90	52.02	7 630	F	8 450	12 070
Euston Weir (d/s)	8.8	1.52	43.36	7 160	F	8 370	11 640
Mildura Weir (d/s)	-	-	31.08	-	F	9 720	12 370
Wentworth Weir (d/s)	7.3	2.98	27.74	6 940	R	8 070	10 040
Rufus Junction	-	3.52	20.45	6 870	R	6 790	6 630
Blanchetown (Lock 1 d/s)	-	-	-	5 660	R	4 880	3 880
<b>Tributaries</b>							
Kiewa at Bandiana	2.7	1.56	154.79	1 510	R	1 140	1 430
Ovens at Wangaratta	11.9	8.42	146.10	1 887	R	1 900	2 490
Goulburn at McCoys Bridge	9.0	1.33	92.75	654	R	550	490
Edward at Stevens Weir (d/s)	-	-	-	2 880	F	2 820	2 500
Edward at Liewah	-	2.79	58.17	2 370	S	2 370	2 670
Wakool at Stoney Crossing	-	0.74	55.23	1 090	F	1 190	1 590
Murrumbidgee at Balranald	5.0	0.50	56.46	231	R	200	170
Barwon at Mungindi	-	3.31	-	250	R	180	500
Darling at Bourke	-	4.04	-	191	F	210	170
Darling at Burtundy Rocks	-	0.63	-	10	S	10	20

<b>Natural Inflow to Hume</b> (ie pre Dartmouth & Snowy Mountains scheme)	7 620	8 830
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**Weirs and Locks**

**Pool levels above or below design level**

Murray	FSL (m AHD)	u/s	d/s		FSL (m AHD)	u/s	d/s
Yarrowonga	124.90	+0.06	-	No. 7 Rufus River	22.10	+0.02	+1.21
No 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.01	+0.19
No. 15 Euston	47.60	+0.00	-	No. 5 Renmark	16.30	+0.00	+0.26
No. 11 Mildura	34.40	+0.05	+0.28	No. 4 Bookpurnong	13.20	+0.05	+0.81
No. 10 Wentworth	30.80	+0.04	+0.34	No.3 Overland Corner	9.80	+0.05	+0.28
No. 9 Kulnine	27.40	+0.01	-0.01	No. 2 Waikerie	6.10	+0.03	+0.26
No. 8 Wangumma	24.60	+0.02	+0.08	No 1. Blanchetown	3.20	+0.05	+0.25

Murrumbidgee	FSL (m AHD)	relation to FSL	d/s gauge ht.		Flow (ML/day)
			local (m)	(m AHD)	
No. 7 Maude	75.40	-0.10	0.88	70.23	629
No. 5 Redbank	66.90	-0.12	0.18	61.48	296

**Barrages**

FSL = 0.75 m AHD

	Openings	Level	Status
Goolwa	128 openings	0.86	All closed
Mundoo	26 openings	-	All closed
Boundary Creek	6 openings	-	All closed
Ewe Island	111 gates	-	All closed
Tauwichee	322 gates	0.69	All closed

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

