



RIVER MURRAY WEEKLY REPORT

FOR THE WEEK ENDING WEDNESDAY, 24 FEBRUARY 2016

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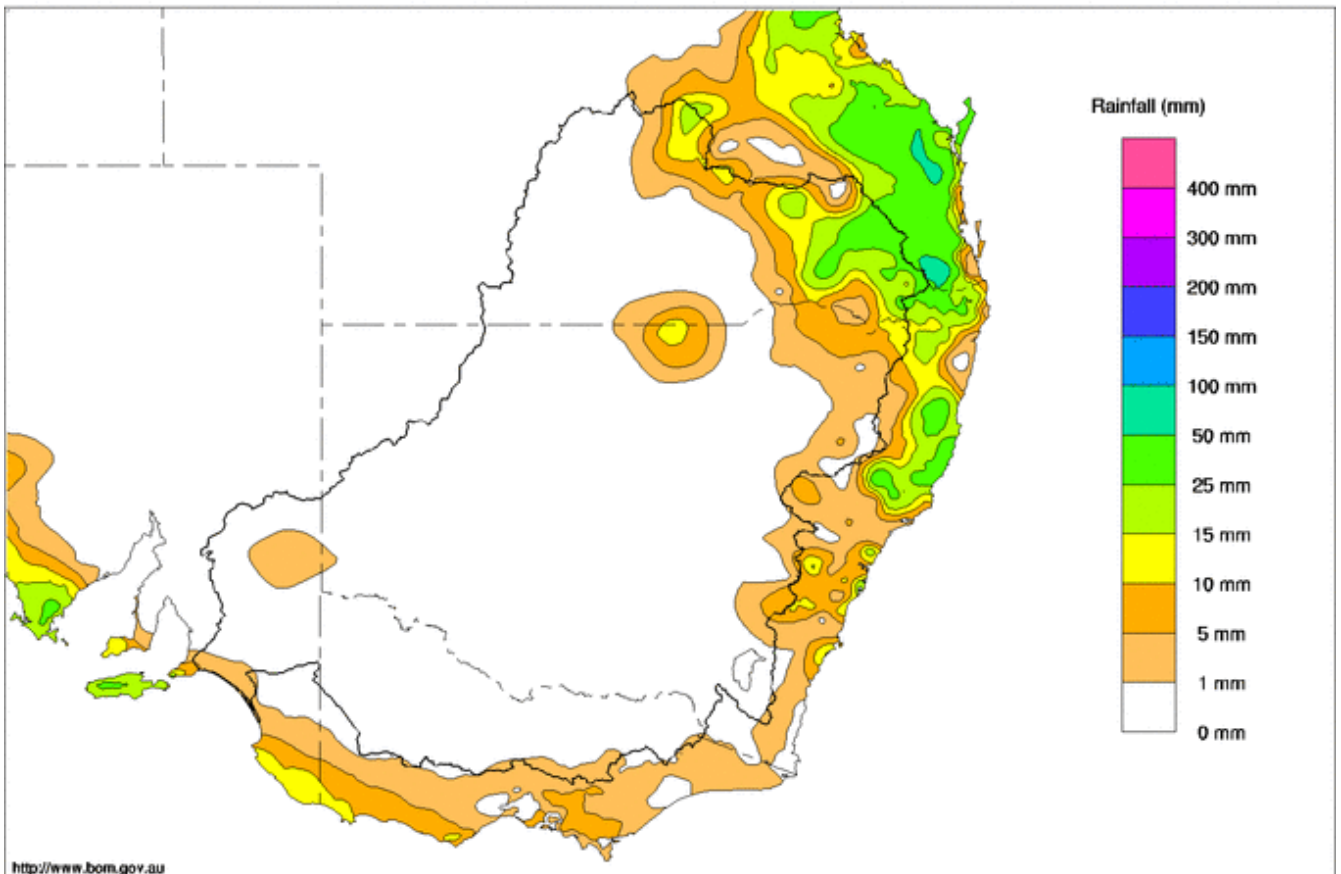
Rainfall and inflows

Conditions were mostly hot and dry across the Murray–Darling Basin this week, with the only notable rainfall occurring in the upper catchments of the Condamine-Balonne and Queensland Border Rivers (Figure 1). Rainfall totals in these regions included 59 mm at Maryvale, 55 mm at Dalby and 42 mm at Toowoomba.

Maximum daytime temperatures across the Basin became progressively hotter as the week progressed, with many locations along the lower River Murray exceeding 40 degrees Celsius across Tuesday and Wednesday. Temperatures are forecast to ease slightly for the southern Basin in coming days, however hot conditions are likely to persist in the northern Basin until later in the coming week.

Murray-Darling Rainfall Totals (mm) Week Ending 24th February 2016

Australian Bureau of Meteorology



<http://www.bom.gov.au>

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Issued: 24/02/2016

Figure 1 - Murray-Darling Basin rainfall week ending 24th February 2016 (Source: Bureau of Meteorology)

With no rain over the past week, stream flows in the upper Murray catchments have continued to recede to low base flows. On the upper Mitta Mitta River at Hinnomunjie bridge, the flow decreased slightly from 200 to 170 ML/day, whilst on the upper Murray at Biggara, the flow receded from 240 to 210 ML/day. On the Ovens River, the flow at Wangaratta reduced from 185 to 135 ML/day. The flow of 135 ML/day at Wangaratta corresponds to a local gauge height of 7.69 metres, which is the lowest recorded water level at this site since February 2010.



River Operations

- Blue-green algae red alert from Lake Mulwala to Torrumbarry Weir
- Murray water levels to vary in response to Goulburn River flow pulse planned for March
- Lock 9 weir pool returns to Full Supply Level

MDBA storage decreased by 74 GL this week, with active storage now 2,931 GL (35% capacity).

At **Dartmouth Reservoir**, the storage volume decreased by 15 GL to 1,715 GL (44% capacity). The release from Dartmouth, measured at Colemans, continues to be decreased and has been lowered from near 3,100 ML/day at the beginning of the week to a current release of 2,000 ML/day. The release is planned to be lowered to around 500 ML/day by the end of this week.

The storage volume at **Hume Reservoir** decreased by 43 GL to 1,024 GL (34% capacity). The release, measured at Doctors Point (downstream of the Kiewa River junction), has averaged close to 12,800 ML/day this week and is likely to increase slightly over the coming days.

At **Lake Mulwala**, the diversion through Yarrowonga Main Channel averaged 1,000 ML/day, while diversion to Mulwala Canal reduced from 2,400 ML/day to 1,850 ML/day. This decrease is primarily due to less water being delivered to bypass the Barmah Choke via the Edward and Perricoota escapes. Releases from **Yarrowonga Weir** were eased from 9,100 ML/day to 8,700 ML/day and may be increased this week to 9,500 ML/day to improve flow variability downstream of Yarrowonga. Goulburn-Murray Water is warning the public to avoid contact with water in Yarrowonga Weir/Lake Mulwala and the Murray Valley Irrigation Area after monitoring detected high levels of [blue-green algae](#). NSW DPI Water has issued a red alert for blue-green algae in the River Murray from Lake Mulwala to Torrumbarry Weir and the **Edward-Wakool** system (see attached media releases). More information on blue-green algae is available at the [MDBA website](#).

In the **Edward-Wakool** system, the flow through the Edward and Gulpa offtakes continues to be around 1,550 ML/day and 350 ML/day respectively. Diversions to Wakool Main Canal are currently near 200 ML/day. Across the weekend over 1,800 competitors took to the **Edward River** at Deniliquin for the local catch and release fishing competition (Figure 2). This is just one of many community recreational events taking place on rivers across the system around this time of year. Further downstream at **Stevens Weir**, the release has eased back to 2,100 ML/day and is expected to continue to reduce over the coming weeks.

Flow through Rice's Weir on the **Broken Creek** remains around 300 ML/day, while the **Goulburn River** at McCoys Bridge has increased to 670 ML/day and may rise further to around 700 ML/day over the coming week. This flow rate is above the normal summer minimum of around 350 ML/day due to the continuing delivery of inter valley trade (IVT) water. Delivery of a flow pulse made up of environmental water and IVT is planned in the Goulburn River in March. Water levels along the River Murray will vary through mid to late March and April in response to the higher Goulburn River flows, and river users, including boat owners, are advised to adapt their activities accordingly (see attached media release).

At **Torrumbarry Weir**, diversions to National Channel have remained around 1,900 ML/day. The flow downstream of Torrumbarry reduced to around 6,050 ML/day and is expected to continue to recede this coming week.

The **Murrumbidgee River** at Balranald continues to recede from the peak of 3,000 ML/day experienced a fortnight ago, and has now dropped below 500 ML/day. This flow rate remains above the February end of system minimum target of 180 ML/day due to IVT transfers to the Murray system. Flows are expected to remain relatively steady over the coming week before increasing in mid-March to accommodate additional IVT transfers.

At **Euston Weir**, the flow has fallen from around 11,400 ML/day to 8,800 ML/day due to the combination of reduced inflows from the Murrumbidgee River, reduced upstream Murray flows and high irrigation demands from the hot and dry conditions. Over the coming week the flow is expected to continue to decrease.



Figure 2 – Over 1,800 entrants took part in the Deniliquin RSL Fishing Club competition over the weekend, just one of many recreational events taking place on rivers around this time of year. Photo – Will Lucardie, MDBA

On the **Darling River** system, rain in the northern Basin during late January and early February generated small flow pulses along several tributaries. These flows are slowly moving down the Darling River and have now reached Tilpa (370 ML/day). However, high transmission losses resulting from hot summer temperatures and a mostly dry river channel mean that very little, if any, of this water is expected to reach the Menindee Lakes. Storage at the **Menindee Lakes** fell by approximately 2 GL this week, with the volume now down to 55 GL (3% capacity). Releases from Weir 32 were effectively ceased by Water NSW in December 2015.

Downstream at the junction of the Darling and the Murray, the weir pool at **Wentworth Weir** remains around 10 cm above Full Supply Level (FSL) to assist water users on the lower Darling arm of the weir pool. The downstream flow rate has fallen to around 7,000 ML/day.

The **Lock 9** weir pool is now back at FSL, while the **Lock 8** weir pool remains around 80 cm below FSL as part of an on-going weir pool variability trial. During the week the **Lock 7** weir pool was further lowered to 80 cm below FSL to test the minimum pool level required to maintain the normal operating minimum flow rate into **Mullaroo Creek** (400 ML/day). With this test now complete the Lock 7 weir pool level is being gradually increased to around 25 cm below FSL. More information on weir pool variability trials is available at the [MDBA website](http://www.mdba.gov.au).

The storage volume at **Lake Victoria** decreased by 15 GL to a total storage volume of 386 GL (57% capacity). The flow to **South Australia** has been around 9,600 ML/day, with around 3,200 ML/day of this being environmental water provided for the lower Murray system.

At the **Lower Lakes**, the 5-day average level of Lake Alexandrina remained relatively steady and is currently 0.60 m AHD. Releases through the barrages increased last week to target fish passage and salinity outcomes in the Coorong. Further increases in releases are expected in coming days.

For media inquiries contact the Media Officer on 02 6279 0141

ANDREW REYNOLDS
Acting Executive Director, River Management



Water in Storage

Week ending Wednesday 24 Feb 2016

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	445.20	1 715	44%	71	1 644	-15
Hume Reservoir	192.00	3 005	179.04	1 024	34%	23	1 001	-43
Lake Victoria	27.00	677	24.41	386	57%	100	286	-15
Menindee Lakes		1 731*		55	3%	(- -) #	0	-2
Total		9 269		3 180	34%	--	2 931	-74
Total Active MDBA Storage							35% ^	

Major State Storages

Burrinjuck Reservoir	1 026	500	49%	3	497	-31
Blowering Reservoir	1 631	481	29%	24	457	+7
Eildon Reservoir	3 334	1 372	41%	100	1 272	-30

* 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 gains access to water when the storage next reaches 640 GL.

^ % of total active MDBA storage

Snowy Mountains Scheme

Snowy diversions for week ending 23 Feb 2016

Storage	Active Storage (GL)	Weekly Change (GL)	Diversion (GL)	This Week	From 1 May 2015
Lake Eucumbene - Total	1 907	-55	Snowy-Murray	+26	484
Snowy-Murray Component	981	-25	Tooma-Tumut	+2	146
Target Storage	1 460		Net Diversion	24	338
			Murray 1 Release	+33	682

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2015	Victoria	This Week	From 1 July 2015
Murray Irrig. Ltd (Net)	7.5	290	Yarrowonga Main Channel (net)	5.1	169
Wakool Sys Allowance	2.1	52	Torrumbarry System + Nyah (net)	10.2	350
Western Murray Irrigation	0.8	15	Sunraysia Pumped Districts	3.4	86
Licensed Pumps	4.6	138	Licensed pumps - GMW (Nyah+u/s)	0.8	27
Lower Darling	0.2	8	Licensed pumps - LMW	10.2	250
TOTAL	15.2	503	TOTAL	29.7	882

* Figures derived from actual data and estimates where data is unavailable

** 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	194.0 *
Flow this week	67.5
Flow so far this month	217.5
Flow last month	218.8

(9 600 ML/day)

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

	Current	Average over the last week	Average since 1 August 2015
Swan Hill	70	70	80
Euston	90	80	100
Red Cliffs	100	100	130
Merbein	100	100	120
Burtundy (Darling)	1 540	1 520	1 140
Lock 9	100	100	130
Lake Victoria	190	190	210
Berri	180	180	220
Waikerie	240	240	270
Morgan	260	260	280
Mannum	300	330	320
Murray Bridge	330	350	340
Milang (Lake Alex.)	930	890	780
Poltalloch (Lake Alex.)	810	820	650
Meningie (Lake Alb.)	2 070	2 110	2 070
Goolwa Barrages	1 420	1 410	1 160



River Levels and Flows

Week ending Wednesday 24 Feb 2016

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	-	-	-	8 100	F	4 640	4 320
Jingellic	4.0	2.10	208.62	7 690	R	4 190	4 940
Tallandoon (Mitta Mitta River)	4.2	1.95	218.84	2 050	F	2 660	3 810
Heywoods	5.5	3.16	156.79	12 700	R	12 430	12 420
Doctors Point	5.5	2.85	151.32	13 150	R	12 820	12 930
Albury	4.3	1.87	149.31	-	-	-	-
Corowa	4.6	2.62	128.64	11 690	R	12 320	12 680
Yarrowonga Weir (d/s)	6.4	1.47	116.51	8 700	S	8 800	9 420
Tocumwal	6.4	2.09	105.93	9 030	R	9 110	9 670
Torrumbarry Weir (d/s)	7.3	2.03	80.58	6 060	F	6 230	6 960
Swan Hill	4.5	1.20	64.12	6 040	F	6 310	7 200
Wakool Junction	8.8	3.13	52.25	8 470	F	8 950	9 860
Euston Weir (d/s)	9.1	1.71	43.55	8 800	F	9 870	11 450
Mildura Weir (d/s)	-	-	-	8 330	F	9 330	9 250
Wentworth Weir (d/s)	7.3	2.92	27.68	7 080	F	8 040	7 880
Rufus Junction	-	3.98	20.91	9 690	R	9 380	9 380
Blanchetown (Lock 1 d/s)	-	0.68	-	6 860	F	6 860	6 860
Tributaries							
Kiewa at Bandiana	2.8	0.74	153.97	190	S	200	340
Ovens at Wangaratta	11.9	7.69	145.37	140	F	160	200
Goulburn at McCoys Bridge	9.0	1.33	92.75	670	S	620	670
Edward at Stevens Weir (d/s)	5.5	2.05	81.82	2 070	F	2 290	2 410
Edward at Liewah	-	2.95	58.33	2 460	F	2 540	2 560
Wakool at Stoney Crossing	-	1.42	54.91	410	F	450	530
Murrumbidgee at Balranald	5.0	0.85	56.81	490	F	920	2 460
Barwon at Mungindi	6.1	3.19	-	70	R	180	760
Darling at Bourke	9.0	4.10	-	330	F	540	450
Darling at Burtundy Rocks	-	0.61	-	0	F	0	0

Natural Inflow to Hume	1 020	1 060
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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	-0.15	-	No. 7 Rufus River	22.10	-0.72	+1.69
No. 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	+0.00	+0.23
No. 15 Euston	47.60	-0.02	-	No. 5 Renmark	16.30	+0.01	+0.30
No. 11 Mildura	34.40	+0.03	+0.24	No. 4 Bookpurnong	13.20	+0.02	+1.07
No. 10 Wentworth	30.80	+0.10	+0.28	No. 3 Overland Corner	9.80	+0.03	+0.29
No. 9 Kulnine	27.40	-0.01	-0.66	No. 2 Waikerie	6.10	+0.03	+0.19
No. 8 Wangumma	24.60	-0.78	-0.33	No. 1 Blanchetown	3.20	-0.10	-0.08

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.60
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Barrages

Fishways at Barrages

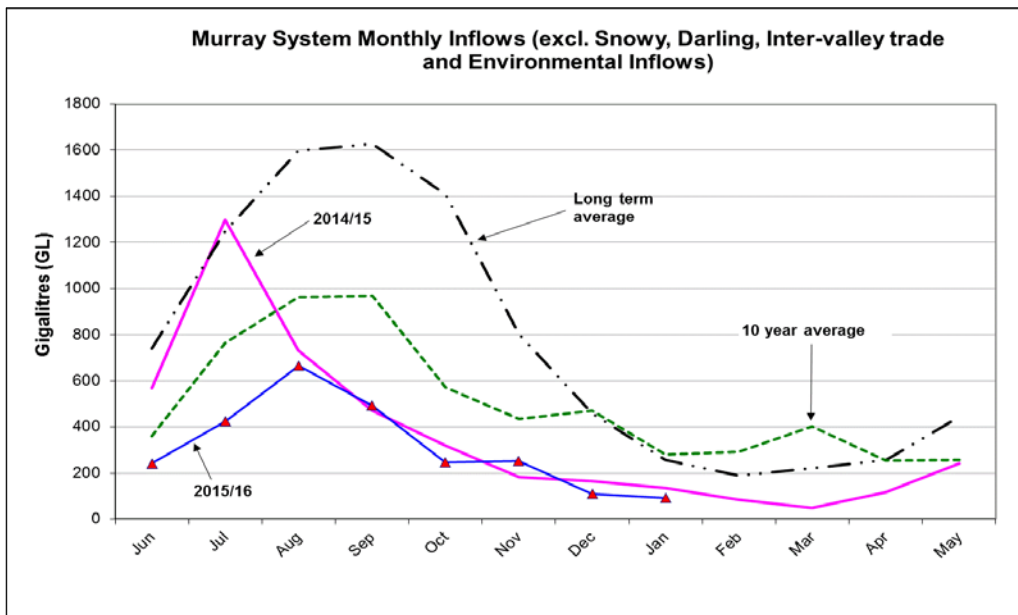
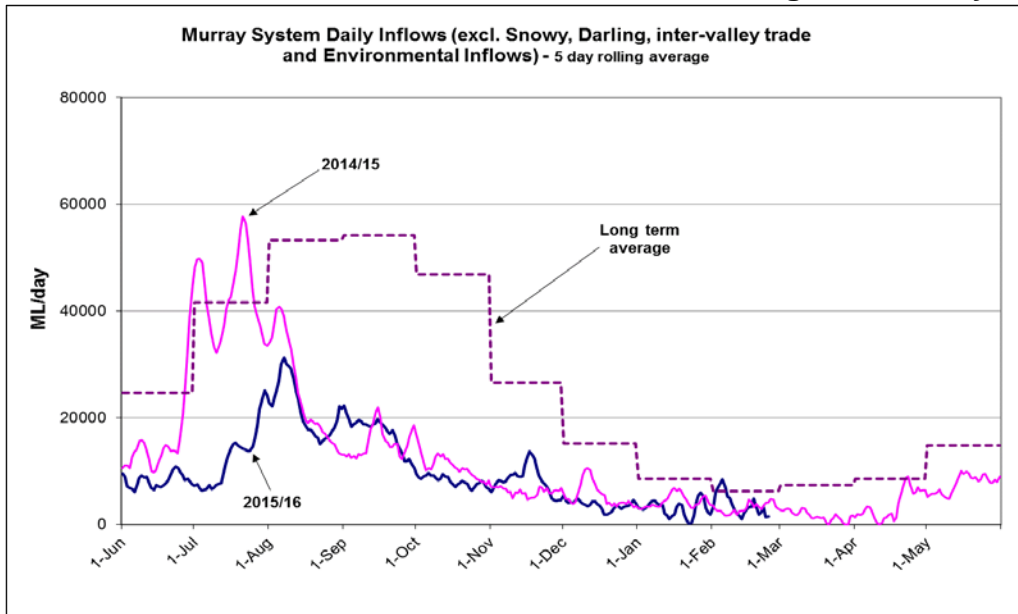
	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.57	All closed	-	Open	Open	-
Mundoo	26 openings	0.57	All closed	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	All closed	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwichee	322 gates	0.63	2	Open	Open	Open	-

* Mundoo Barrage Dual vertical slots are currently under construction.

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



Week ending Wednesday 24 Feb 2016



State Allocations (as at 24 Feb 2016)

NSW - Murray Valley

High security	97%
General security	23%

Victorian - Murray Valley

High reliability	100%
Low reliability	0%

NSW - Murrumbidgee Valley

High security	95%
General security	36%

Victorian - Goulburn Valley

High reliability	90%
Low reliability	0%

NSW - Lower Darling

High security	75%
General security	0%

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.nvrm.net.au/allocations/current.aspx>

SA : <http://www.environment.sa.gov.au/managing-natural-resources/river-murray>



ALGAL ALERT BULLETIN

Murray Regional Algal Coordinating Committee

25 February 2016

Red alert issued for blue-green algae in the Murray River – Lake Mulwala to Torrumbarry Weir

The Murray Regional Algal Coordinating Committee today expanded a red alert warning for blue-green algae in the Murray River, which now extends from Lake Mulwala to Torrumbarry Weir, including Moama and Echuca.

This red alert level warning indicates that waters are unsuitable for recreational use or primary contact by domestic users and may also pose a threat to livestock and pets.

Warning signs are being positioned at key recreational areas and will remain in place while high levels of blue-green algae are present. However, due to the expanse of the bloom it is impracticable to erect warning signs at every public access point.

The species of blue-green algae identified are potentially toxic and may cause gastroenteritis in humans if consumed and skin and eye irritations after contact. Boiling the water does not remove algal toxins.

People are advised not to enter the water, not to drink untreated water or bathe in water drawn from the river while this red alert level warning is in place.

Appropriate water treatment is in place by the respective local water utilities and town water supplies remain unaffected and safe to drink.

Livestock owners are reminded to continue to check stock water supplies for blue-green algae and to remove stock from foreshores where surface scum is visible or blue-green algae are suspected.

Blue-green algae usually appear as green paint-like scums on the water, near the edges, or as greenish clumps throughout the water. It makes the water appear dirty, green or discoloured and generally has a strong musty or earthy odour.

People should not eat mussels or crayfish from red level warning areas. Any fish caught should be cleaned and washed thoroughly in uncontaminated water and any internal organs disposed of before consumption.

Blue-green algae occur naturally and can reproduce quickly in favourable conditions where there is still or slow-flowing water, abundant sunlight and sufficient levels of nutrients.

It is not possible to predict how long the algae will remain at high levels.

Regular monitoring will continue and the alert will be lifted as soon as the high levels of algae dissipate.

Information updates about blue-green algae blooms and red level warning areas can be obtained from the Regional Algal Coordinating Committee freecall Algal Information Hotline on **1800 999 457** or visit – **www.water.nsw.gov.au**

ENDS

Media contact: James Muddle – 0407 103 507



ALGAL ALERT BULLETIN

Murray Regional Algal Coordinating Committee

26 February 2016

Red alert issued for blue-green algae in the Edward River and Gulpa Creek

The Murray Regional Algal Coordinating Committee today issued a red alert warning for blue-green algae in the Edward River from Picnic Point to Old Morago, which includes Deniliquin, and Gulpa Creek at Mathoura.

This follows yesterday's announcement to extend a red alert warning in the Murray River, which now extends from Lake Mulwala to Torrumbarry Weir, including Moama and Echuca.

This red alert level warning indicates that these waters are unsuitable for recreational use or primary contact by domestic users and may also pose a threat to livestock and pets.

The species of blue-green algae identified are potentially toxic and may cause gastroenteritis in humans if consumed and skin and eye irritations after contact. Boiling the water does not remove algal toxins.

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ENDS

Media contact: James Muddle – 0407 103 507

Media Release



26 February 2016

Autumn flow to vary levels in the River Murray

Flows along the River Murray are expected to vary downstream of the junction with the Goulburn River as environmental water moves through the river this autumn.

River users are advised to adjust their activities, pumps and moorings accordingly and boat owners should note they are responsible for the safety of their vessel.

The pulse of environmental water is expected to raise river levels noticeably in the Echuca district for about two weeks, from mid to late March, while the water leaves the Goulburn River and enters the Murray.

When the pulse reaches Torrumbarry, releases from the weir are likely to increase from about 5000 megalitres per day (1.7 metres gauge height) up to around 9000 ML/day (2.9 metres) for the latter half of March.

The flows at Torrumbarry are expected to be in the range 4000 to 6000 ML/day by mid-April, assuming dry conditions.

At Swan Hill, the pulse could increase the river level from about 1.0 to 1.6 metres (local gauge height) in late March.

The higher flow is expected to reach Euston by the end of March, and take another three to four days to reach Mildura.

This autumn pulse will use water from the Victorian Environmental Water Holder and the Commonwealth Environmental Water Holder, and deliver benefits through the Goulburn River and along the River Murray, all the way to the Coorong and Lower Lakes. It will also include water traded from the Goulburn Valley to the River Murray.

The MDBA will issue a revised media release if there are any significant changes to this forecast.

River users wanting more information on river heights can contact the MDBA on (02) 6279 0100 or receive updates at the River Murray weekly report <http://www.mdba.gov.au/river-information/weekly-reports>

Live river data for the River Murray system can be seen at: <http://livedata.mdba.gov.au>

ENDS

For more information, contact the MDBA Media office at media@mdba.gov.au or 02 6279 0141.

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