

Murray and Sunraysia – Algae Alert Status

10 January 2025

This Blue-green algal (BGA) alert report is based on routine monitoring at sites in the Murray & Sunraysia Algae Reporting Area. The sites are monitored by WaterNSW and local water authorities. Satellite imagery may be used to supplement the monitoring data.

Table 1 shows the following red and amber, blue-green algal alerts:

Murray River

Hume Dam as well as the Murray River at Cobram, Tocumwal, Picnic Point, Moama, Mount Dispersion, Merbein, Curlwaa and Fort Courage are on **Amber** alert for blue-green algae.

Billabong Creek, Edward River & Wakool River

The Gulpa Creek at Mathoura, and Edward River at Deniliquin are on **Amber** alert for blue-green algae.

Menindee Lakes and lower Darling River

The Darling River at Wilcannia, Lake Wetherell site 2, Lake Menindee outlet regulator, Darling River at Tolarno, Pooncarie and Ellerslie as well as the Great Darling anabranch at the Silver City Highway Crossing are on **Red** alert for blue-green algae.

Lake Wetherell (sites 3 & 4) as well as Lakes Tandure, Pamamaroo centre and at the outlet, Copi Hollow and Cawndilla outlet regulator are on **Amber** alert for blue-green algae. The Darling River at BHWP and upstream of Weir 32, Burtundy and Tapio are on **Amber** alert for blue-green algae.

Some satellite images are shown on page 4 of this report.

Blue-green algal outlook

In the upper reaches of the catchment near Albury, weather conditions are expected to vary from sunny on Tuesday to partly cloudy, storms and showers on other days. Maximum day air temperatures will be between 26 °C and 36 °C with minimum temperatures ranging from 15 °C to 21 °C (Source -[BOM 7-day weather forecast](#)). These conditions are likely to create favourable circumstances for blue-green algal growth.

At Menindee, days are forecast to be mostly sunny. Maximum day air temperatures are expected to be between 30 °C and 42 °C with minimum temperatures ranging from 14 °C to 25 °C. These environmental conditions are expected to create favourable circumstances for blue-green algal growth.

Table 1: Combined Murray and Sunraysia Alerts

Site	Description	Latest Sample Date	Cyanobacteria Total Count (cells/mL)	Cyanobacteria Biovolume (mm ³ /L)	Potentially Toxic Cyanobacterial Count (cells/mL)	Potentially Toxic Cyanobacterial Biovolume (mm ³ /L)	Current Status (based on Latest Sample)	Previous Status	Cyanobacteria dominant potentially toxic taxa	Cyanobacteria Comments
MURRAY RIVER SYSTEM										
	Manus Lake (SVC) Lake pontoon	30/12/2025	51,600	2.425	26500	2.045	AMBER	AMBER		
DLH003	Lake Hume, Ebden	16/12/2024	381,005	0.398	3,402	0.102	AMBER	AMBER	<i>Radiocystis sp.</i>	Potentially toxic
DLH001	Lake Hume, Heywoods Bay nr Bethanga	16/12/2024	208,336	0.051	408	0.010	AMBER	AMBER	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
DLH002	Lake Hume, Hume Dam Resort	16/12/2024	409,497	0.300	531	0.013	AMBER	AMBER	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
DLH004	Lake Hume, Dam Wall	16/12/2024	378,091	0.237	735	0.018	AMBER	AMBER	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
N1000	Murray R. Union Bridge Albury	2/12/2024	3,212	0.070	2,600	0.070	GREEN	No Alert	<i>Phormidium sp.</i>	Potentially toxic, taste & odour
N1001	Murray R. Corowa	2/12/2024	27,832	0.045	817	0.019	GREEN	No Alert	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
	Yarrowonga Weir (outlet) GMW	7/01/2025	2,817	0.053	0	0.000	GREEN	AMBER		
N1008	Mulwala Canal Offtake	19/12/2024	23,557	0.156	0	0.000	GREEN	AMBER		
N1007	Murray R. @ below Yarrowonga	19/12/2024	23,407	0.287	1,361	0.127	GREEN	AMBER	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour
N1051	Murray R. Cobram (Barooga)	19/12/2024	47,300	0.625	170	0.015	AMBER	AMBER	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour
	Cobram WTP, raw water (GVW)	31/12/2024	26,693	1.809	1658	0.111	AMBER	AMBER	<i>Aphanizomenonaceae family – straight</i>	
N1013	Murray R. Tocumwal	19/12/2024	50,074	2.061	204	0.004	AMBER	AMBER	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
N1052	Murray R. Picnic Point	6/01/2025	109,038	2.090	0	0.000	AMBER	GREEN		
	Barmah WTP raw water (GVW)	30/12/2024	60,588	4.057	655	0.175	AMBER	AMBER	<i>Dolichospermum - coiled (≥6µm)</i>	
N1050	Murray R. Moama (Echuca)	6/01/2025	56,841	2.296	1,021	0.031	AMBER	AMBER	<i>Radiocystis sp.</i>	Potentially toxic
	Torrumbarry Weir GMW	6/01/2025	82,045	0.322	0.000	0.000	GREEN	GREEN		
N1003	Murray R. Barham (Koondrook)	6/01/2025	18,066	0.053	0	0.000	GREEN	GREEN		
N1054	Murray R. Murray Downs (Swan Hill)	6/01/2025	80,955	0.112	0	0.000	GREEN	No Alert		
	Murray River U/S Woorinen pumps GMW	16/12/2024	6,000	0.031	0	0.000	No Alert	AMBER		
N1055	Murray R. Tooleybuc (Piangil)	6/01/2025	55,056	0.088	0	0.000	GREEN	AMBER		
N1064	Lake Benanee Rec Area	4/12/2024	0	0.000	0	0.000	No Alert	No Alert		
N1028	Murray R. Euston (Robinvale)	3/12/2024	2,840	0.106	0	0.000	GREEN	AMBER		
N1065	Murray R. Mount Dispersion	4/12/2024	1,903	0.472	0	0.000	AMBER	No Alert		
N1062	Murray R. Buronga	2/12/2024	25,953	0.247	0	0.000	GREEN	GREEN		
	Merbein (LMW)	23/12/2024	14,607	1.189	0	0.000	AMBER	GREEN		
N1027	414206 - Murray River at Merbein	3/12/2024	23,392	0.666	1,286	0.037	AMBER	GREEN	<i>Radiocystis sp.</i>	Potentially toxic
N1063	Murray R. Curlwaa	2/12/2024	30,397	0.710	0	0.000	AMBER	AMBER		
N1066	Murray R. Fort Courage	2/12/2024	53,322	1.966	204	0.029	AMBER	GREEN	<i>Anabaenopsis sp.</i>	Potentially toxic
	Lock 9 (LMW)	23/12/2024	33,179	0.171	0	0.000	GREEN	GREEN		
N1077	Murray R. Lock 8	2/12/2024	68,400	0.150	0	0.000	GREEN	GREEN		
N1078	Lake Victoria Outlet Regulator	2/12/2024	34,489	0.068	255	0.030	GREEN	No Alert	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour

Table 1: Continued

BILLBONG CREEK, EDWARD & WAKOOL RIVERS										
N1020	Billabong Ck. Walbundrie	2/12/2024	22,704	0.024	0	0.000	No Alert	No Alert		
N1015	Billabong Ck. Jerilderie	2/12/2024	1,089	0.001	0	0.000	No Alert	GREEN		
N1006	Gulpa Ck. Mathoura	6/01/2025	69,877	2.136	136	0.003	AMBER	AMBER	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
N1002	Edward R Deniliquin	6/01/2025	64,216	0.412	0	0.000	AMBER	GREEN		
N1053	Edward R. Old Morago	6/01/2025	14,623	0.022	0	0.000	No Alert	AMBER		
N1005	Edward R. Moulamein	6/01/2025	72,967	0.113	204	0.005	GREEN	No Alert	<i>Phormidium sp.</i>	Potentially toxic, taste & odour
N1010	Wakool R. Wakool-Barham Road	6/01/2025	24,496	0.035	0	0.000	No Alert	GREEN		
N1004	Wakool R. @ Stoney Crossing	6/01/2025	9,867	0.014	0	0.000	No Alert	GREEN		
N1009	Wakool R. Kyalite	6/01/2025	23,599	0.104	2,450	0.074	GREEN	GREEN	<i>Radiocystis sp.</i>	Potentially toxic
MENINDEE LAKE SYSTEM & LOWER DARLING RIVER										
N1042	Darling River at Wilcannia	4/12/2024	72,454	6.022	65,860	6.015	RED	AMBER	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour
N1087	Lake Wetherell Site 1	16/12/2024	53,620	0.112	0	0.000	GREEN	No Alert		
N1088	Lake Wetherell Site 2	16/12/2024	627,421	10.604	0	0.000	RED	GREEN		
N1089	Lake Wetherell Site 3	16/12/2024	448,953	4.152	15,553	1.953	AMBER	AMBER	<i>Anabaenopsis sp.</i>	Potentially toxic
N1090	Lake Wetherell Site 4	16/12/2024	207,162	1.253	474	0.060	AMBER	AMBER	<i>Anabaenopsis sp.</i>	Potentially toxic
N1091	Lake Tandure Site 8	16/12/2024	524,392	0.898	1,633	0.207	AMBER	GREEN	<i>Anabaenopsis sp.</i>	Potentially toxic
N1092	Lake Pamamaroo Inlet (Site 9)	16/12/2024	81,431	0.113	0	0.000	GREEN	No Alert		
N1129	42510013 Centre Pamamaroo (Site 13)	17/12/2024	741,323	1.002	0	0.000	AMBER	No Alert		
N1093	Lake Pamamaroo Outlet (Site 10)	16/12/2024	395,277	6.794	323	0.039	AMBER	No Alert	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour
N1094	Menindee Lakes, Copi Hollow	17/12/2024	1,049,655	1.512	0	0.000	AMBER	AMBER		
N1339	Lake Menindee outlet regulator	16/12/2024	2,729,188	63.110	19,459	2.466	RED	RED	<i>Anabaenopsis sp.</i>	Potentially toxic
N1128	Lake Cawndilla Site 34 Outlet	16/12/2024	598,319	6.164	0	0.000	AMBER	AMBER		
N1095	Darling R. Menindee bhwb pump	17/12/2024	57,016	0.978	0	0.000	AMBER	GREEN		
N1086	Darling R u/s Weir 32	17/12/2024	161,894	1.373	493	0.046	AMBER	AMBER	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour
N1043	Darling R. Tolarno	19/12/2024	419,198	3.902	1,497	0.085	RED	RED	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
N1040	Darling R. Pooncarie	19/12/2024	831,938	3.237	612	0.089	RED	RED	<i>Anabaenopsis sp.</i>	Potentially toxic
N1041	Darling R. Burtundy	16/12/2024	940,679	1.270	1,087	0.101	AMBER	AMBER	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour
N1074	Darling R. Ellerslie	16/12/2024	736,254	2.442	8,302	0.976	RED	RED	<i>Aphanizomenonaceae sp.</i>	Potentially toxic, taste & odour
N1075	Darling R. Tapio	16/12/2024	945,930	1.293	816	0.076	AMBER	AMBER	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour
GREAT DARLING ANABRANCH										
N1350	Silver City Hwy	11/12/2024	1,237,771	12.618	6,260	0.748	RED	No Alert	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour

Satellite imagery

The key to the approximate total algae (blue green and non-blue green) concentrations using the Custom Algae Script can be found in Table 3. The actual values can potentially vary by a significant margin due to the geology of the waterbody, species of algae, turbidity, aquatic plants, time of day of the image capture, aerosols in the atmosphere, etc. This variability is a result of the nature of satellite imagery being a large-scale remote sensing format and is not function of the technology or the script itself. For this reason, these colours and descriptors are not the official “Algae Alert Level” but rather provides information on the **potential risk on algae formation**.

Table 3: Observed risk levels based on the estimated photosynthetic activity for Custom Algae Script

Map Colour	Risk Level -	Starting concentration guide range	RACC recreational alert values approx. equivalence
Blue	Very low	<0.05 mm ³ /L	No Alert
Green	Low	0.05 to 0.5 mm ³ /L	Green
Yellow	Medium	0.5 to 5.0 mm ³ /L	Amber
Red	High	5.0 to 20.0 mm ³ /L	Red
Dark red	Extreme	> 20 mm ³ /L	Red

Observations about the satellite images

Figure 1 indicates that Hume Dam had mostly very low-level phytoplankton activity on 01/01/2025. The later image on 06/01/2025 was hidden from view by cloud cover.

The satellite image of the Menindee Lakes on 07/01/2025 (Figure 2) shows very low-level to Low phytoplankton activity in lakes Wetherell (sites 3 and 4), Tandure, Pamamaroo and Copi Hollow. Phytoplankton activity in Lake Menindee ranged from very low to medium. Lake Cawndilla had low to medium level algal activity. Weir 32 weir pool had very low to medium phytoplankton activity.

Figure 3 indicates that the Murray River near Wentworth had very low phytoplankton activity on 07/01/2025, while the anabranch appears to have had medium phytoplankton activity. The lower Darling River had very low to medium phytoplankton activity.

Lake Victoria had mostly very low phytoplankton activity on 07/01/2025 (Figure 4).



Figure 1: Hume Dam 01/01/2025 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW.

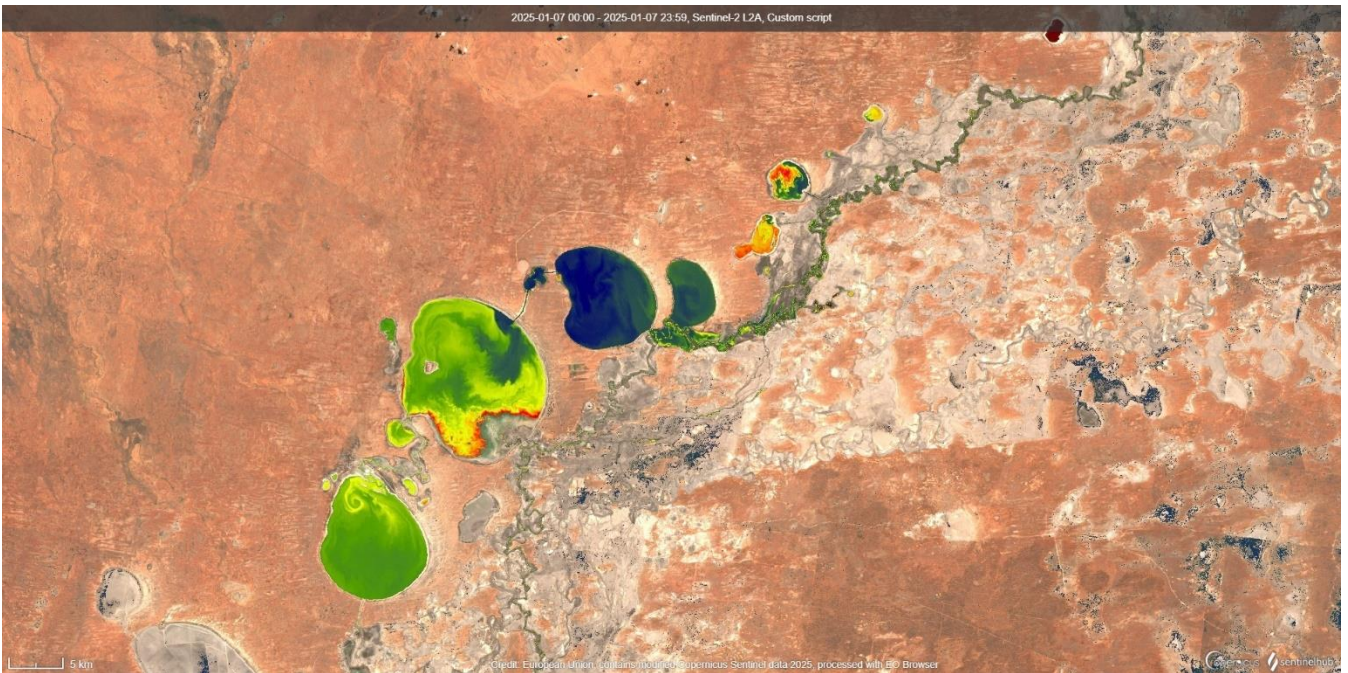


Figure 2: Menindee Lakes 07/01/2025 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW.



Figure 3: Murray River near Wentworth, Lower Darling River and Great Darling Anabranch 07/01/2025 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW.

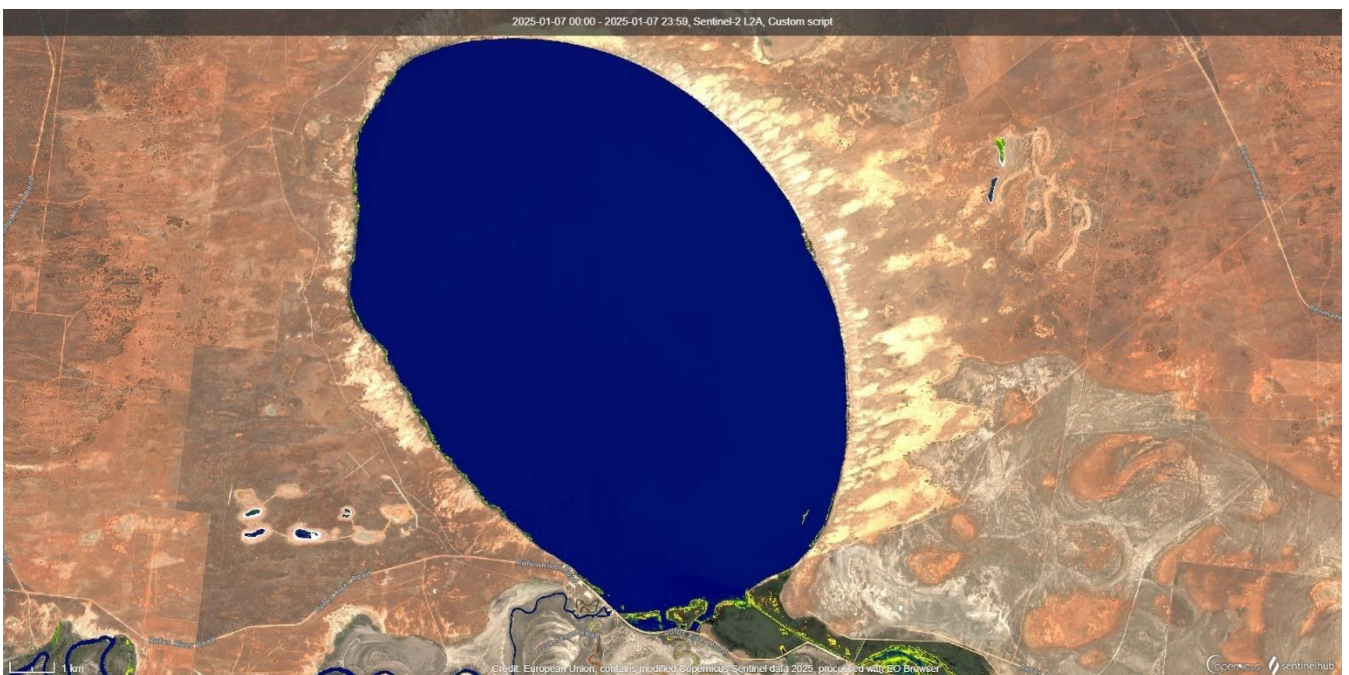


Figure 4: Lake Victoria 07/01/2025 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW.

Alert Definitions for Recreational Waters

Alert Definitions as specified in The National Health and Medical Research Council (NHMRC) *Guidelines for Managing Risks in Recreational Water* 2008.

The interim use of these guidelines is endorsed by the Scientific Subcommittee of the NSW Algal Advisory Group.

RED ALERT

These alert levels represent 'bloom' conditions. Water will appear green or discoloured and clumps or scums could be visible. It can also give off a strong musty or organic odour.

Algae may be toxic to humans and animals. Contact with or use of water from red alert areas should be avoided due to the risk of eye and skin irritation. Drinking untreated or boiled water from these supplies can cause stomach upsets.

Alternative water supplies should be sought or activated carbon treatment employed to remove toxins. People should not fish when an algal scum is present. Owners should keep dogs away from high alert areas and provide alternative watering points for stock.

AMBER ALERT

Blue-green algae may be multiplying, and the water may have a green tinge and musty or organic taste and odour. The water should be considered as unsuitable for potable use and alternative supplies or prior treatment of raw water for domestic purposes should be considered. The water may also be unsuitable for stock watering. Generally suitable for water sports, however people are advised to exercise caution in these areas, as blue-green algal concentrations can rise to red alert levels quickly under warm, calm weather conditions.

GREEN ALERT

Blue-green algae occur naturally at low numbers. At these concentrations, algae would not normally be visible, however some species may affect taste and odour of water even at low numbers and does not pose any problems for recreational, stock or household use.

Key to Alerts for Recreational Waters

<p>RED Alert $\geq 50\,000$ cells/mL toxic <i>M. aeruginosa</i> OR biovolume equivalent of ≥ 4 mm³/L for the combined total of all cyanobacteria where a known toxin producer is dominant in the total biovolume OR The total biovolume of all cyanobacteria ≥ 10 mm³/L OR Cyanobacterial scums are consistently present</p>	<ul style="list-style-type: none"> • High levels of Blue Green Algae detected • Indicates “bloom” conditions • Toxicity should be presumed • Water will appear green or brownish and may have a strong musty taste and odour • Surface scums could occur • Extreme care should be exercised, and contact with the water should be avoided <p>Action</p> <ul style="list-style-type: none"> • Issue Media Release • Water supply authorities to increase filtering with activated carbon as appropriate • Local authority and health authorities to warn the public that the water body is unsuitable for primary contact recreation
<p>AMBER Alert $\geq 5\,000$ to $< 50\,000$ cells/mL <i>M. aeruginosa</i> OR biovolume equivalent of ≥ 0.4 to < 4 mm³/L for the combined total of all cyanobacteria where known toxin producers are dominant in the total biovolume OR ≥ 0.4 to < 10mm³/L combined total for all blue-green algae where known toxin producers are not dominant</p>	<ul style="list-style-type: none"> • Indicates blue-green algae are multiplying • Water may have a green tinge and musty taste and odour <p>Action</p> <ul style="list-style-type: none"> • Water supply authorities to consider filtering with activated carbon • Investigations into the causes of the elevated levels and increased sampling to enable the risks to recreational users to be more accurately assessed.
<p>GREEN Alert > 500 to $< 5\,000$ cells/mL <i>M. aeruginosa</i> OR biovolume equivalent of > 0.04 to < 0.4 mm³/L for the combined total of all cyanobacteria</p>	<ul style="list-style-type: none"> • Low levels of potentially toxic species detected – suggesting base crop of blue green algae may be on the increase <p>Action</p> <ul style="list-style-type: none"> • Continue/increase routine sampling to measure cyanobacterial levels

Livestock Drinking Water Guidelines Based on ARMCANZ (2000), Orr and Schneider (2006) and WQRA (2010)

This guideline should be used when water is used for livestock drinking water purposes.

- If visual scums are present, then a High alert should be declared. This would be applicable for both farm dams and publicly managed water bodies (streams, rivers, etc). Such advice should also be given to farmers who phone the department seeking information on managing blooms in their dams.
- Where blooms dominated by *Microcystis aeruginosa* are present, then the ANZECC/ARMCANZ (2000) guideline of 11,500 cells/mL should be used. Excess of this cell count will constitute a **High alert**.
- Where blooms dominated by *Dolichospermum circinale* are present, then the Orr and Schneider (2006) guideline of 25,000 cells/mL should be used. Excess of this cell count will constitute a **High alert**.
- **Blooms of blue-green algae other than *M. aeruginosa* and *D. circinale*** are also common in NSW. These can be of either known potentially toxic species, or of species not considered to be toxin producers. When these blooms are present, a total blue-green algal biovolume in excess of 6 mm³/L will constitute a **High alert**. (These are based on Very High alert recommendations for raw water sourced for potable human supply published by WQRA (2010), in lieu of there being nothing else available).

Further Information and Contacts

Links to websites of VIC and other agencies

[Link to Snowy Valleys Council](#)

[Link to North East Water](#)

[Link to Goulburn-Murray Water blue-green algal alerts](#)

[Link to Goulburn Valley Water blue-green algal information](#)

[Link to Lower Murray Water blue-green algal alerts](#)

Go to the WaterNSW Algal Website

www.waternsw.com.au/algae or at WaterInsights (links below):

Murray regulated river - <https://waterinsights.waternsw.com.au/11904-new-south-wales-murray-regulated-river/updates>

Lower-Darling regulated river - <https://waterinsights.waternsw.com.au/12104-lower-darling-regulated-river/updates>

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