

19 April 2024

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

Summary

Amber alerts for blue-green algae are current for Burrinjuck Dam at Goodhope, Tom Bullen storage at the outlet, the Murrumbidgee at Redbank Weir Buoy and Yanga Lake at the regatta beach.

Lake Albert is on **amber** alert for blue-green algae. More information can be obtained from the following link: [Lake Albert - Wagga City Council](#)

Lake Wyangan North has an **amber** alert status for blue green algae. For more information select the following link: [Griffith City Council](#)

Burrinjuck Dam at Woolgarlo and the dam wall, Blowering Dam at the Dam Wall as well as the Murrumbidgee River at Maude Weir Buoy and Balranald are on **green** alert for blue-green algae.

Satellite images are shown on page 3 of this report.

A seven-day weather forecast together with the blue-green algal outlook is available on page 5.

Results Table

Table 1: Current blue-green algal alerts in the catchment of the Murrumbidgee River.

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	Comments
N1017	Murrumbidgee River at Mittagang Crossing (Cooma)	3/04/2024	0	0.000	0	0.000	No Alert	No Alert		
Burrinjuck Dam										
DBRJ12	Burrinjuck Goodhope	9/04/2024	12,269	0.044	1,572	0.040	AMBER	AMBER	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
DBRJ11	Burrinjuck Woolgarlo	9/04/2024	31,055	0.084	2,504	0.064	GREEN	No Alert	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
DBRJ10	Burrinjuck Waters State Park	9/04/2024	1,564	0.008	340	0.008	No Alert	No Alert	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
DBRJ09	Burrinjuck Station 1 (Dam Wall)	9/04/2024	6,669	0.042	1,633	0.041	GREEN	GREEN	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
DBRJ01	Burrinjuck Downstream	9/04/2024	2,585	0.026	544	0.012	No Alert	GREEN	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
Blowering Dam										
DBLO01	Blowering Station 1 (Dam Wall)	2/04/2024	16,526	0.065	1,971	0.060	GREEN	GREEN	<i>Radiocystis sp.</i>	Potentially toxic
DBLO02	Blowering Downstream	2/04/2024	0	0.000	0	0.000	No Alert	No Alert		
N1014	Murrumbidgee River at Gundagai	2/04/2024	0	0.000	0	0.000	No Alert	No Alert		
N1059	Murrumbidgee River D/S Wagga Wagga (Roaches Road)	3/04/2024	0	0.000	0	0.000	No Alert	No Alert		
N1019	Murrumbidgee River at Gogeldrie Weir	19/03/2024	10,880	0.010	0	0.000	No Alert	No Alert		
Tombullen Storage										
S_LEE636	Tombullen Outlet at Weir D/S	5/03/2024	65,973	0.472	1,733	0.219	AMBER	GREEN	<i>Anabaenopsis sp.</i>	Potentially toxic
N1018	Murrumbidgee River at Carrathool	8/04/2024	2,382	0.001	0	0.000	No Alert	No Alert		
N1056	Murrumbidgee River at Hay weir Buoy	10/04/2024	16,767	0.028	0	0.000	No Alert	No Alert		
N1058	Murrumbidgee River at Maude Weir Buoy	10/04/2024	10,492	0.051	0	0.000	GREEN	AMBER		
N1057	Murrumbidgee River at Redbank Weir Buoy	9/04/2024	7,506	0.575	0	0.000	AMBER	No Alert		
N1061	Murrumbidgee River at Balranald	13/03/2024	38,338	0.045	0	0.000	GREEN	GREEN		
Additional Alerts										
N1344	Yanga Lake at Regatta Beach	26/03/2024	2,602,030	5.351	85	0.010	AMBER	AMBER	<i>Anabaenopsis sp.</i>	Potentially toxic

Satellite imagery

The key to the approximate total algae (blue green and non-blue green) concentrations using the Custom Algae Script can be found Table 1. 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 1: 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 (Figures 1 to 3)

Figure 1 indicates that Burrinjuck Dam had mostly very low phytoplankton activity on 18/04/2024, with some patches that appear to be low to medium phytoplankton activity. Some medium to high phytoplankton activity was also present in the Murrumbidgee arm towards the inflow.

The latest satellite image of Blowering Dam on 18/04/2024 (Figure 2) shows very low-level phytoplankton activity in most of the dam, with some patches that appear to be low to high phytoplankton activity.

Figure 3 indicates that Yanga Lake had very low to medium phytoplankton activity on 17/04/2024.

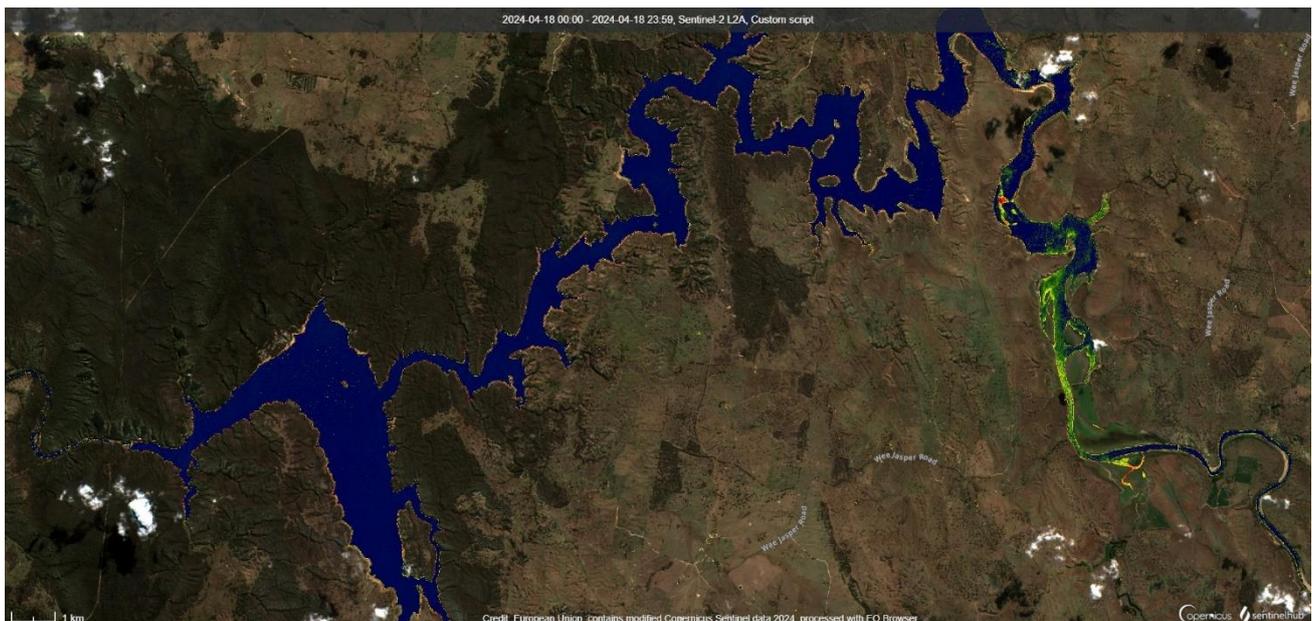


Figure 1: Burrinjuck Dam 18/04/2024 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW

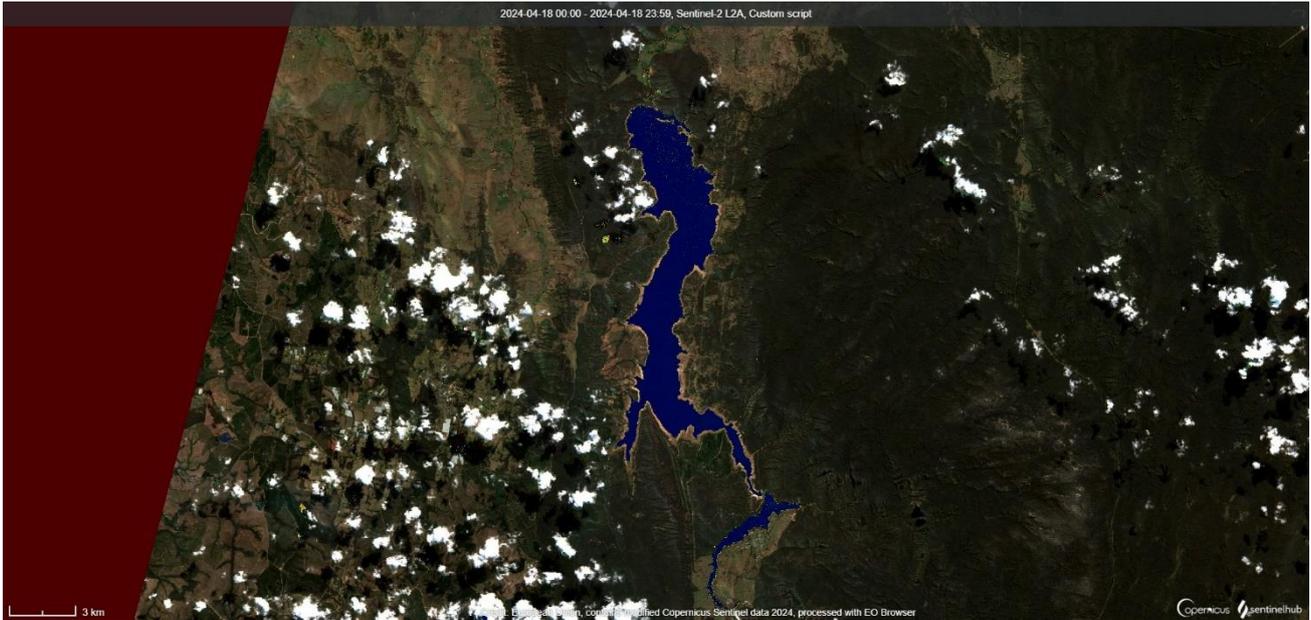


Figure 2: Blowering Dam 18/04/2024 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW.



Figure 3: Yanga Lake 17/04/2024 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW

Weather forecast and blue-green algal outlook.

Yass and Balranald, [BOM 7-day weather forecast](#)

Yass							
Forecast updated at 5:33 am EST on Friday 19 April 2024. Detailed Yass Forecast							
	Fri. 19 Apr	Sat. 20 Apr	Sun. 21 Apr	Mon. 22 Apr	Tue. 23 Apr	Wed. 24 Apr	Thu. 25 Apr
	 Possible shower.	 Mostly sunny.	 Sunny.	 Mostly sunny.	 Partly cloudy.	 Mostly sunny.	 Partly cloudy.
Max. Temperature	19 °C	21 °C	22 °C	23 °C	23 °C	21 °C	18 °C
Min. Temperature		8 °C	5 °C	6 °C	7 °C	9 °C	7 °C

Balranald							
Forecast updated at 5:33 am EST on Friday 19 April 2024. Detailed Balranald Forecast							
	Fri. 19 Apr	Sat. 20 Apr	Sun. 21 Apr	Mon. 22 Apr	Tue. 23 Apr	Wed. 24 Apr	Thu. 25 Apr
	 Partly cloudy.	 Sunny.	 Sunny.	 Sunny.	 Mostly sunny.	 Sunny.	 Mostly sunny.
Max. Temperature	21 °C	24 °C	24 °C	26 °C	28 °C	19 °C	20 °C
Min. Temperature		8 °C	7 °C	5 °C	9 °C	8 °C	5 °C

Blue-green algal outlook

In the upper reaches of the catchment near Yass, most days are expected to have some cloud cover. This cloud cover, combined with mild air temperatures and cool minimum temperatures is likely to create less favourable conditions for blue-green algal growth.

The mild, sunny days with some cloud cover at times in combination with cool minimum temperatures at Balranald, is expected to give rise to moderate conditions for blue-green algae.

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</p> <p>≥ 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 OR The total biovolume of all cyanobacteria exceeds 10 mm³/L OR Cyanobacterial blooms 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</p> <p>≥5000 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 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</p> <p>> 500 to < 5000 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

Select the links below to the WaterNSW and Department of Primary Industries Algal Websites

www.watersw.com.au/algae

[DPI blue-green-algae](#)

For more information on water quality and flows in the Murrumbidgee Catchment

<https://waterinsights.watersw.com.au/11982-murrumbidgee-regulated-river/updates>

Contacts

Gerhard Schulz (Coordinator)

Gerhard.Schulz@watersw.com.au

Telephone: 0457 505 850