

Murrumbidgee Region - Algae Alert

Status

14 November 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

Red Alerts

- No Red Alerts

Amber Alerts

- Yanga Lake at Regatta Beach
- Lake Wyangan (North) – For more information: [Griffith City Council](#)

Green Alerts

- Burrinjuck – Goodhope
- Lake Albert – For more information: [Lake Albert – Wagga City Council](#)

Satellite image observations start on page 3 of this report.

Weather Forecast: For December, above average maximum and minimum temperatures are very likely (60% to greater than 80% chance) across the region. It is likely the region will experience above average rainfall. (Source: [Bureau of Meteorology \(BoM\)](#))

Algae Outlook: Based on the forecast, the current risk for algal growth is moderate due to the warming weather creating conditions more favourable for algae growth.

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 on Dominant Potentially Toxic Cyanobacteria Taxa
N1017	Murrumbidgee River at Mittagang Crossing (Cooma)	5/11/2024	953	0.005	0	0.000	No Alert	No Alert		
Burrinjuck Dam										
DBRJ12	Burrinjuck Goodhope	5/11/2024	882	0.268	0	0.000	GREEN	No Alert		
DBRJ11	Burrinjuck Woolgarlo	5/11/2024	3,538	0.002	0	0.000	No Alert	No Alert		
DBRJ10	Burrinjuck Waters State Park	5/11/2024	4,226	0.002	0	0.000	No Alert	No Alert		
DBRJ09	Burrinjuck Station 1 (Dam Wall)	5/11/2024	2,450	0.000	0	0.000	No Alert	No Alert		
DBRJ01	Burrinjuck Downstream	5/11/2024	3,130	0.003	0	0.000	No Alert	No Alert		
Blowering Dam										
DBLO01	Blowering Station 1 (Dam Wall)	6/11/2024	6,001	0.002	0	0.000	No Alert	No Alert		
DBLO02	Blowering Downstream	6/11/2024	0	0.000	0	0.000	No Alert	No Alert		
N1014	Murrumbidgee River at Gundagai	5/11/2024	0	0.000	0	0.000	No Alert	No Alert		
N1059	Murrumbidgee River D/S Wagga Wagga (Roaches Road)	5/11/2024	0	0.000	0	0.000	No Alert	No Alert		
N1019	Murrumbidgee River at Gogeldrie Weir	28/10/2024	0	0.000	0	0.000	No Alert	No Alert		
Tombullen Storage										
N1018	Murrumbidgee River at Carrathool	28/10/2024	3,470	0.002	0	0.000	No Alert	No Alert		
N1056	Murrumbidgee River at Hay weir Buoy	29/10/2024	0	0.000	0	0.000	No Alert	No Alert		
N1058	Murrumbidgee River at Maude Weir Buoy	29/10/2024	136	0.000	0	0.000	No Alert	No Alert		
N1057	Murrumbidgee River at Redbank Weir Buoy	28/10/2024	340	0.000	0	0.000	No Alert	GREEN		
N1061	Murrumbidgee River at Balranald	28/10/2024	3,402	0.003	0	0.000	No Alert	GREEN		
Additional Alerts										
N1344	Yanga Lake at Regatta Beach	28/10/2024	3,896,528	5.460	0	0.000	AMBER	AMBER		

Satellite Imagery

The key to the algae approximate concentrations using the Custom Algae (CA) Script is to provide a starting reference only (Table 2). 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. Therefore, these colours and descriptors are not the official “Algae Alert Level” but rather provides information on the **potential risk on algae formation**.

Table 2: Observed risk levels based on probable chlorophyll-a concentration 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

Note: Satellite images are usually more recent than the sampling data and therefore may contribute to not agreeing with sampled algae results. So please check dates when comparing.

Satellite Image Observations (Figures 1 to 3)

Burrinjuck Dam: Mostly very low levels of phytoplankton activity were indicated by the satellite imagery on the 14th of November (Figure 1).

Blowering Dam: Very low levels of algal activity were indicated on the 14th of November by the imagery, as shown in Figure 2.

Yanga Lake: Low to medium levels of activity were indicated at Yanga Lake on the 8th and 10th of November (Figure 3). An Amber alert status remains in place, with additional sampling continuing.

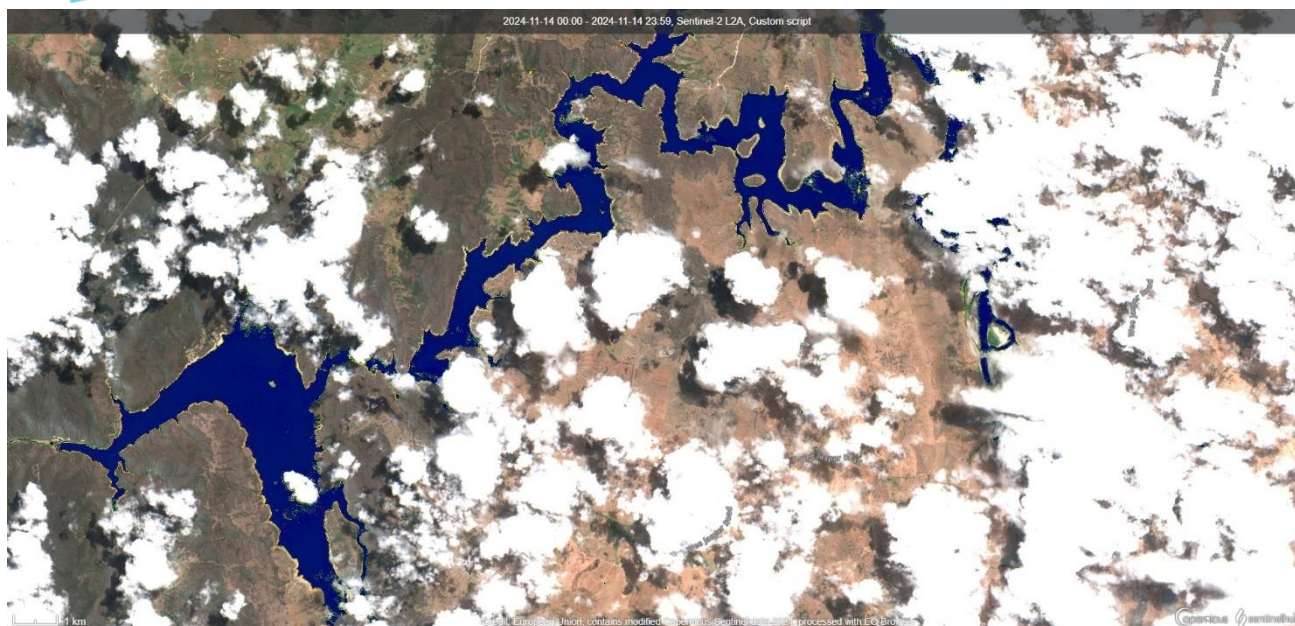


Figure 1: Burrinjuck Dam 14/11/2024 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW

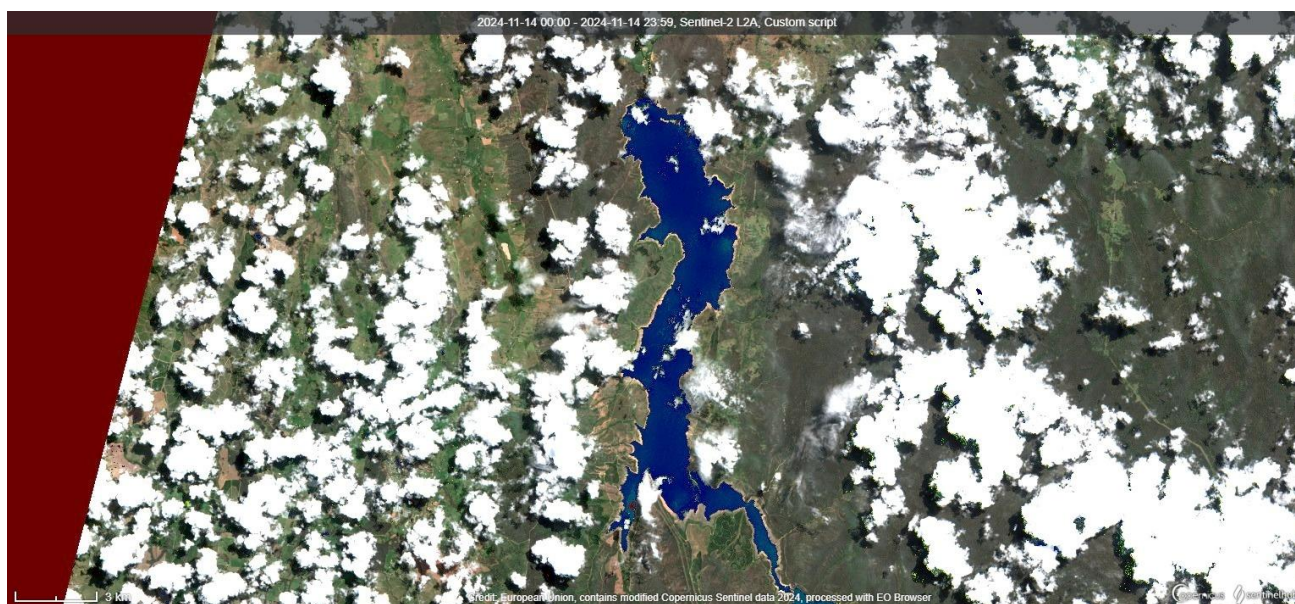


Figure 2: Blowering Dam 14/11/2024 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW.

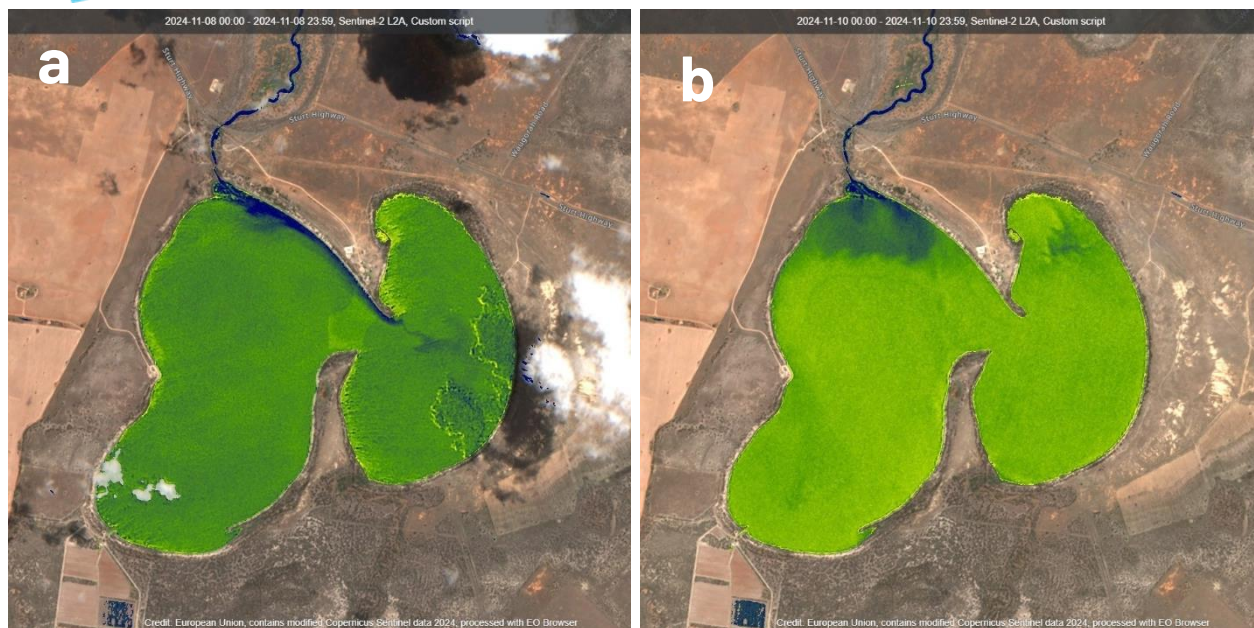


Figure 3: Yanga Lake (a) 8/11/2024 and (b) 10/11/2024 SentinelHub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW

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</p> <p>≥10 µg/L total microcystins OR ≥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 ≥10 mm³/L for total biovolume of all cyanobacterial material where known toxins are not present. 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</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 where a known toxin producer is dominant in the total biovolume OR ≥0.4 to <10 mm³/L for the combined total of all cyanobacteria where known toxin producers are not present.</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

*The definition of ‘dominant’ is where the known toxin producer comprises 75% or more of the total biovolume of cyanobacteria in a representative sample.

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

Water NSW Algal Websites

Algal Information: <http://www.watarnsw.com.au/algae>

Water Insights (Murrumbidgee Catchment): <https://waterinsights.watarnsw.com.au/>

Algae Alerts NSW Map: <https://www.watarnsw.com.au/water-services/water-quality/algae-alerts>

Department of Primary Industries Algal Websites

<https://www.dpi.nsw.gov.au/agriculture/water/quality/pubs-and-info/blue-green-algae>

BOM Websites

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

7 Day Forecasts: <http://www.bom.gov.au/nsw/forecasts/map7day.shtml>

Contacts

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