Lachlan Region - Algae Alert Status

17 April 2025

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

Red Alerts

- Lake Brewster Regulator C
- Lake Brewster Outlet Channel

Amber Alerts

- Lake Cargelligo Weir
- Lake Cargelligo Town Water Supply
- Lake Cargelligo Boatshed
- Lake Cargelligo Outlet at Lake Creek
- Lake Brewster Inflow
- Lake Brewster inflow wetlands upstream of Eastern Spillway
- Lachlan River at Booligal

Green Alerts

- Wyangala Junction (Lachlan & Sandy Ck)
- Wyangala Abercrombie River
- Carcoar Dam Wall (Station 1)
- Lachlan River downstream of Lake Cargelligo Weir
- Lake Cargelligo intake downstream of Curlew Waters
- Lachlan River at Willandra Weir
- Lachlan River at Hillston
- Lachlan River at Corrong

General Comments: Where Red Alerts are raised, contact with or use of water should be avoided, and recreational restrictions apply. People, pets and livestock should avoid consuming untreated water from this waterbody.

Weather Forecast: For the remainder of April, rainfall is unlikely to exceed the average across the region. Maximum temperatures are very likely to exceed the average, whilst minimum temperatures have a near equal likelihood of exceeding the average. (Source: Bureau of Meteorology (BoM))

Algae Outlook: The risk for algal growth is moderate to high. There remains a higher risk where waters are shallow or stagnant.

Satellite image observations start on page 3 of this report.

Results Table

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

Site	Description	Latest Sample Date	Cyanobacteria Total Count (cells/mL)	Cyanobacteria Biovolume (mm3/L)	Potentially Toxic Cyanobacterial Count (cells/mL)	Potentially Toxic Cyanobacterial Biovolume (mm3/L)	Current Status (based on Latest Sample)	Previous Status	Cyanobacteria Dominant toxic taxa	Comments on Dominant Potentially Toxic Cyanobacteria Taxa
Wyangala Dam										
DWYA01	Wyangala Junction Lachlan & Abercrombie	9/04/2025	17,787	0.026	544	0.015	No Alert	No Alert	*Microcystis sp.*	Potentially toxic, taste & odour
DWYA02	Wyangala Junction Lachlan & Sandy Ck	9/04/2025	135,517	0.139	1,123	0.059	GREEN	GREEN	*Microcystis sp.*	Potentially toxic, taste & odour
DWYA05	Wyangala Abercrombie R	9/04/2025	24,667	0.053	204	0.017	GREEN	GREEN	*Aphanizomenonaceae sp.*	Potentially toxic, taste & odour
DWYA06	Wyangala Inland Waters Park	9/04/2025	16,801	0.014	272	0.007	No Alert	No Alert	*Microcystis sp.*	Potentially toxic, taste & odour
DWYA08	Wyangala Dam Wall Station 1	9/04/2025	11,907	0.012	340	0.009	No Alert	GREEN	*Microcystis sp.*	Potentially toxic, taste & odour
DWYA04	Wyangala Dam Downstream	9/04/2025	680	0.006	68	0.001	No Alert	No Alert	*Microcystis sp.*	Potentially toxic, taste & odour
N1168	Lachlan River at Cowra	3/04/2025	1,565	0.005	0	0.000	No Alert	*No Alert*		
Carcoar Dam										
DCAR01	Carcoar Dam Station 1 (Dam Wall)	8/04/2025	6,436	0.133	1,803	0.120	GREEN	AMBER	*Microcystis aeruginosa/botrys*	Potentially toxic, taste & odour
DCAR02	Carcoar Downstream (Belubula River)	8/04/2025	0	0.000	0	0.000	No Alert	No Alert		
N1022	Lachlan River at Cottons Weir (Forbes)	6/03/2025	544	0.000	0	0.000	No Alert	No Alert		
N1024	Lachlan River @ Condobolin Bridge	5/03/2025	1,633	0.020	0	0.000	No Alert	No Alert		
Lake Cargelligo										
DCRG04	Lake Cargelligo Weir	7/04/2025	7,058	1.112	0	0.000	AMBER	No Alert		
DCRG06	Lachlan River downstream of Lake Cargelligo Weir	7/04/2025	2,586	0.243	0	0.000	GREEN	No Alert		
DCRG05	Lake Cargelligo intake downstream of Curlew Waters	7/04/2025	60,505	0.073	0	0.000	GREEN	GREEN		
DCRG02	Lake Cargelligo Town Water Supply 41210042	7/04/2025	1,727,565	3.405	2,279	0.135	AMBER	AMBER	*Raphidiopsis raciborskii*	Potentially toxic, taste & odour
DCRG03	Lake Cargelligo Boatshed	7/04/2025	4,902,098	7.065	3,059	0.203	AMBER	AMBER	*Raphidiopsis raciborskii*	Potentially toxic, taste & odour
DCRG01	Lake Cargelligo Outlet @ Lake Creek	7/04/2025	1,443,848	2.373	3,776	0.179	AMBER	AMBER	*Raphidiopsis raciborskii*	Potentially toxic, taste & odour
Lake Brewster										
DBRW01	Lake Brewster Inflow 412102	7/04/2025	1,206,405	1.226	0	0.000	AMBER	GREEN		
DBRW02	Lake Brewster Inf wetland u/s eastern spillway	7/04/2025	1,194,491	1.697	3,266	0.091	AMBER	AMBER	*Microcystis sp.*	Potentially toxic, taste & odour
DBRW03	Lake Brewster Regulator C	7/04/2025	1,318,977	10.649	12,701	0.823	RED	RED	*Planktothrix sp.*	Potentially toxic
DBRW04	Lake Brewster Outlet Channel 412108	7/04/2025	4,224,417	8.750	8,380	0.586	RED*	RED	*Raphidiopsis mediterranea*	Potentially toxic
DLOS06	Lachlan River @ Willandra Weir	7/04/2025	158,364	0.175	347	0.008	GREEN	GREEN	*Microcystis sp.*	Potentially toxic, taste & odour
N1025	Lachlan River at Hillston	18/03/2025	110,084	0.242	544	0.013	GREEN	GREEN	*Microcystis sp.*	Potentially toxic, taste & odour
N1023	Lachlan River at Booligal	18/03/2025	195,799	0.716	1,837	0.102	AMBER	AMBER	*Microcystis sp.*	Potentially toxic, taste & odour
N1026	Lachlan River at Corrong	18/03/2025	208,313	0.320	680	0.099	GREEN	AMBER	*Anabaenopsis sp.*	Potentially toxic

*Indicates that sampling results show algal numbers have reduced, however another low sampling result is required to reduce the alert to a lower level.

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 mm3/L	No Alert
Green	Low	0.05 to 0.5 mm3/L	Green
Yellow	Medium	0.5 to 5.0 mm3/L	Amber
Red	High	5.0 to 20.0 mm3/L	Red
Dark red	Extreme	> 20 mm3/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 through 4)

Wyangala Dam: Mostly very low levels algal activity was indicated by the satellite imagery on the 15th of April (Figure 1).

Carcoar Dam: Primarily very low levels were indicated across the dam on the 15th of April (Figure 2).

Lake Cargelligo: Mostly low levels of algal activity were indicated on the 14th of April, with lower levels indicated at Curlew Water (Figure 3).

Lake Brewster: Predominantly medium to low levels of algae were indicated across the lake, with high levels indicated in the outlet channel on the 14th of April (Figure 4).

Figure 1. Wyangala Dam 15/4/2025 Sentinel Hub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW

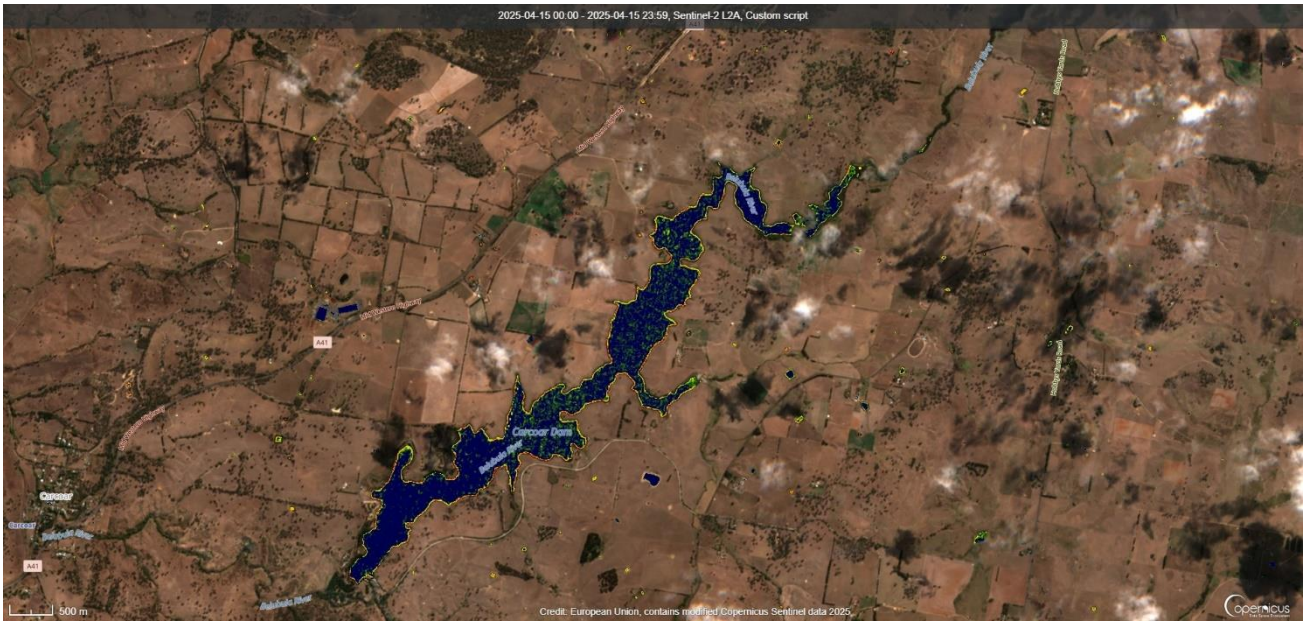

Figure 2. Carcoar Dam 15/4/2025 Sentinel Hub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW

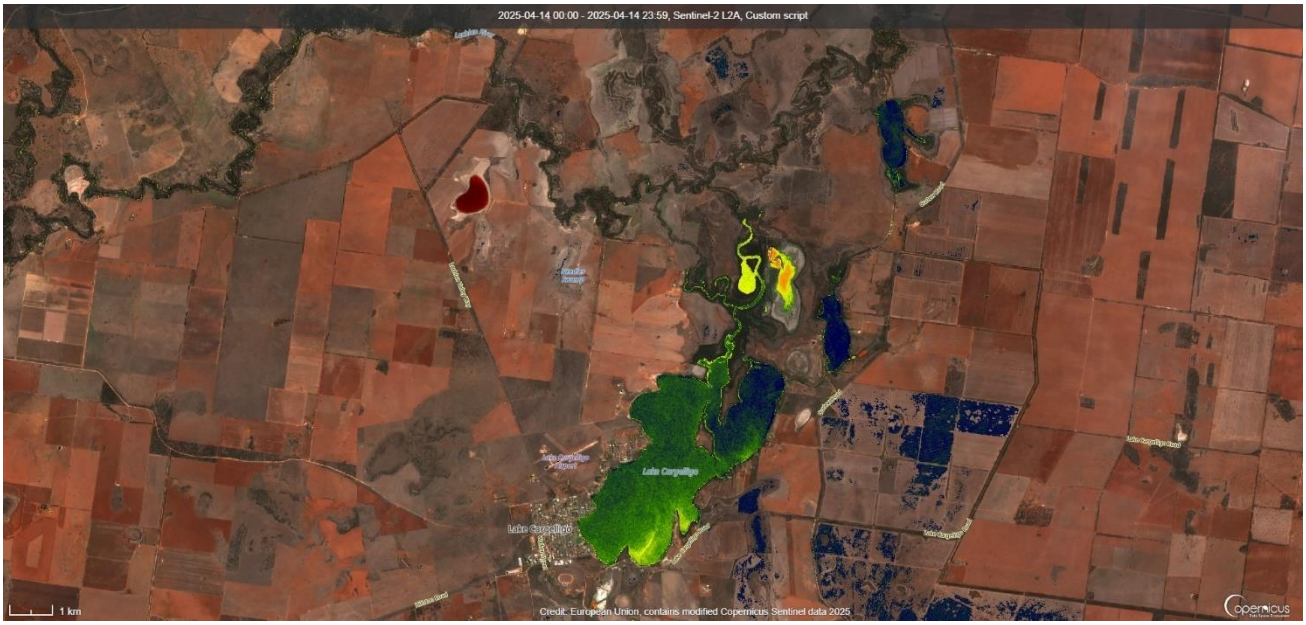

Figure 3. Lake Cargelligo 14/4/2025 Sentinel Hub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW

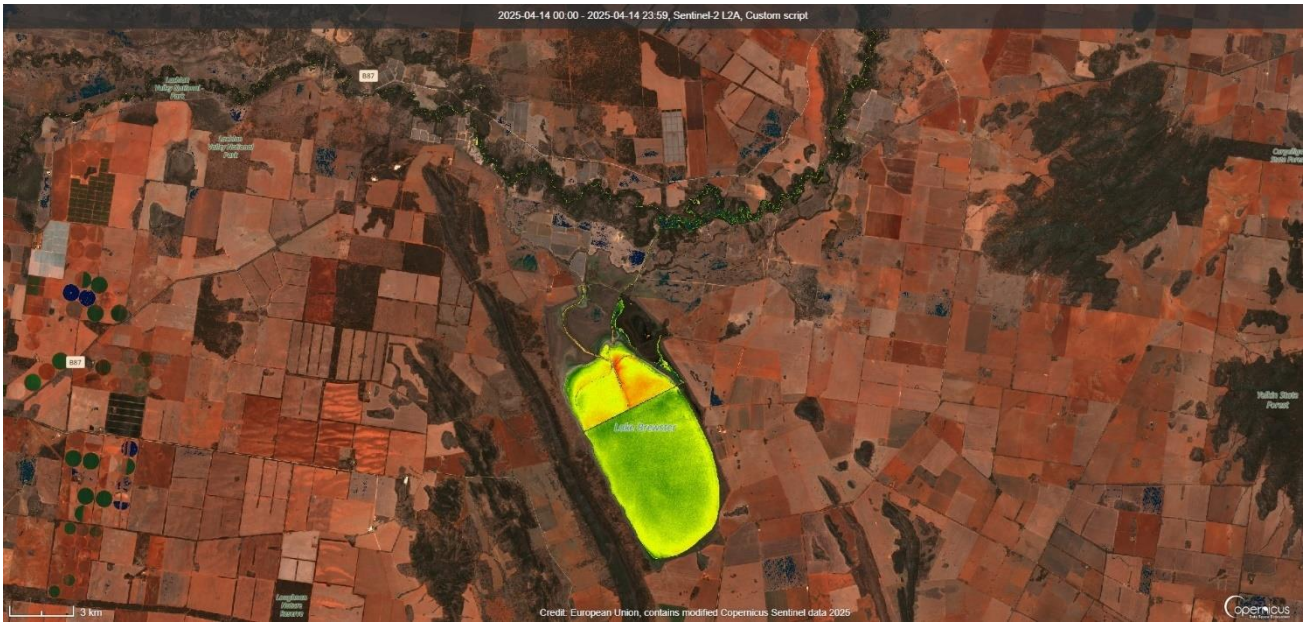

Figure 4. Lake Brewster 14/4/2025 Sentinel Hub [CC BY-NC 4.0] NSW-Custom Algae Script - TF, WaterNSW.

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

RED Alert ≥10 µg/L total microcystins OR ≥50 000 cells/mL toxic M. aeruginosa 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.	• 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.** **Action** • 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.
AMBER Alert ≥5000 to <50 000 cells/mL M. aeruginosa 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.	• Indicates blue-green algae are multiplying. • Water may have a green tinge and musty taste and odour. **Action** • 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.
GREEN Alert ≥500 to <5000 cells/mL M. aeruginosa OR biovolume equivalent of >0.04 to <0.4 mm3/L for the combined total of all cyanobacteria.	• Low levels of potentially toxic species detected – suggesting base crop of blue green algae may be on the increase. **Action** • 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 mm^3/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.waternsw.com.au/algae**
Water Insights (Lachlan Catchment)**:** **https://waterinsights.waternsw.com.au/**
Algae Alerts NSW Map: **https://www.waternsw.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
7 Day Forecasts: **http://www.bom.gov.au/nsw/forecasts/map7day.shtml**
BOM: **http://www.bom.gov.au/**

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