



Blue-green algal alerts for the Lachlan Region

20 January 2021

This blue-green algal alert report is based on routine monitoring at sites in the Lachlan Algae Reporting Area. The sites are monitored by WaterNSW and local councils.

Summary

Lake Brewster outlet channel is on **RED** alert for blue-green algae

Carcoar Dam Station 1 (Dam Wall), Lake Cargelligo Outlet at Lake Creek, Lake Cargelligo Town Water Supply, Lake Cargelligo Boatshed, Lake Brewster Regulator C as well as the Lachlan River at Willandra Weir, Booligal and at Corrong are on **Amber** alert for blue-green algae.

The following sites in Wyangala Dam are on **Green** alert for blue-green algae - Lachlan & Abercrombie junction, Abercrombie River arm, Inland Waters Park and Dam Wall. Lake Cargelligo downstream of Curlew Waters, Lake Brewster Inflow 412102 and Lachlan River at Hillston are on **Green** alert.

Other sites have no blue-green algal alert.

Outlook: Condobolin - Next seven days – Mostly sunny with maximum air temperatures between 33 and 41 °C and possible showers on Thursday and Friday. Source of information - <http://www.bom.gov.au/nsw/forecasts/condobolin.shtml> Good weather for promoting phytoplankton activity.

These alert levels apply to **non-consumptive or recreational contact**. Drinking water safety thresholds are much more stringent.

Results Table

	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 toxic taxa	Comments
DWYA01	Wyangala Junction Lachlan & Abercrombie	14/01/2021	15,940	0.228	1,320	0.221	GREEN	No Alert	<i>Dolichospermum circinale</i>	Potentially toxic, taste & odour
DWYA02	Wyangala Junction Lachlan & Sandy Ck	14/01/2021	33,700	0.023	416	0.008	No Alert	No Alert	<i>Phormidium sp.</i>	Potentially toxic, taste & odour
DWYA04	Wyangala Dam Downstream	14/01/2021	415	0.001	0	0.000	No Alert	No Alert	<i>No toxic species</i>	
DWYA05	Wyangala Abercrombie R	14/01/2021	106,500	0.158	0	0.000	GREEN	No Alert	<i>Unknown</i>	
DWYA06	Wyangala Inland Waters Park	14/01/2021	6,300	0.212	1,250	0.209	GREEN	No Alert	<i>Dolichospermum circinale</i>	Potentially toxic, taste & odour
DWYA08	Wyangala Dam Wall Station 1	14/01/2021	23,110	0.371	2,140	0.358	GREEN	No Alert	<i>Dolichospermum circinale</i>	Potentially toxic, taste & odour
N1168	Lachlan River at Cowra	5/01/2021	2,770	0.006	0	0.000	No Alert	No Alert	<i>No toxic species</i>	
DCAR01	Carcoar Dam Station 1 (Dam Wall)	6/01/2021	35,210	0.676	25,960	0.664	AMBER	No Alert	<i>Microcystis Unknown</i>	Potentially toxic, taste & odour
DCAR02	Carcoar Downstream (Belubula River)	6/01/2021	0	0.000	0	0.000	No Alert	No Alert	<i>No toxic species</i>	
N1022	Lachlan River at Cottons Weir (Forbes)	7/01/2021	0	0.000	0	0.000	No Alert	No Alert	<i>No toxic species</i>	
N1024	Lachlan River @ Condobolin Bridge	7/01/2021	553	0.001	0	0.000	No Alert	No Alert	<i>No toxic species</i>	
N1100	Goobang Creek at Condobolin	7/01/2021	5,740	0.010	0	0.000	No Alert	No Alert	<i>No toxic species</i>	
DCRG01	Lake Cargelligo Outlet @ Lake Creek	6/01/2021	53,410	1.555	4,130	1.092	AMBER	AMBER	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour
DCRG02	Lake Cargelligo Town Water Supply 41210042	6/01/2021	157,500	0.625	1,720	0.411	AMBER	No Alert	<i>Sphaerospermopsis aphanizomenoides</i>	Potentially toxic, taste & odour
DCRG03	Lake Cargelligo Boatshed	6/01/2021	229,700	0.985	5,390	0.682	AMBER	No Alert	<i>Sphaerospermopsis aphanizomenoides</i>	Potentially toxic, taste & odour
DCRG04	Lake Cargelligo Weir	6/01/2021	3,870	0.006	0	0.000	No Alert	No Alert	<i>No toxic species</i>	
DCRG05	Lake Cargelligo intake downstream of Curlew Waters	6/01/2021	83,980	0.090	0	0.000	GREEN	No Alert	<i>Unknown</i>	
DCRG06	Lake Cargelligo Lachlan River ds Lake Carlweir	6/01/2021	3,733	0.0057	0	0.000	No Alert			
DBRW01	Lake Brewster Inflow 412102	8/01/2021	15,230	0.140	415	0.104	GREEN	GREEN	<i>Anabaena sp.</i>	Potentially toxic, taste & odour
DBRW03	Lake Brewster Regulator C	8/01/2021	440,000	1.376	0	0.347	AMBER	RED	<i>Anabaena sp.</i>	Potentially toxic, taste & odour
DBRW04	Lake Brewster Outlet Channel 412108	8/01/2021	2,047,000	4.999	2,600	2.677	RED	RED	<i>Sphaerospermopsis aphanizomenoides</i>	Potentially toxic, taste & odour
DLOS06	Lachlan River @ Willandra Weir	8/01/2021	663,800	1.471	538	0.721	AMBER	RED	<i>Sphaerospermopsis aphanizomenoides</i>	Potentially toxic, taste & odour
N1025	Lachlan River at Hillston	7/01/2021	210,600	0.326	0	0.000	GREEN	GREEN	<i>Unknown</i>	
N1023	Lachlan River at Booligal	6/01/2021	13,410	2.647	608	2.600	AMBER	AMBER	<i>Dolichospermum smithii</i>	Taste & Odour
N1026	Lachlan River at Corrong	6/01/2021	30,220	0.472	1,670	0.423	AMBER	GREEN	<i>Planktothrix sp.</i>	Potentially toxic

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 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 ≥ 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</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 < 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

Go to the WaterNSW Algal Website

<http://www.waternsw.com.au/water-quality/algae>

Call

NSW algae hotline 1800 999 457

Contacts

Gerhard Schulz (Coordinator)

Gerhard.Schulz@waternsw.com.au

Telephone: 03 5880 1748