



Blue-green algal alerts for the Lachlan Region

16 April 2020

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

Red alerts for blue-green algae are current for the following Wyangala Dam areas: Wyangala Junction Lachlan and sandy Creek, Wyangala Inland Waters Park and Wyangala Dam Wall Station 1.

Amber alerts for blue-green algae are current for Wyangala Junction Lachlan and Abercrombie, Wyangala Dam Abercrombie River arm (DWYA05), Lachlan River at Cottons Weir (Forbes), Lake Cargelligo Outlet at Lake Creek, Lake Cargelligo Town Water Supply, Lake Cargelligo Boatshed, Lake Brewster Inflow 412102 and Lake Brewster Outlet Channel 412108.

The Lachlan River at Cowra, Carcoar Dam Station 1 (Dam Wall), Goobang Creek at Condobolin, Lake Cargelligo intake downstream of Curlew Waters as well as the Lachlan River at Willandra Weir and at Booligal are on **Green** alert.

Other sites have no blue-green algal alert.

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 | 7/04/2020 | 11,610 | 0.344 | 11,470 | 0.344 | AMBER | AMBER | <i>Microcystis Unknown</i> | Potentially toxic, taste & odour |
| DWYA02 | Wyangala Junction Lachlan & Sandy Ck | 24/03/2020 | 123,500 | 4.608 | 123,500 | 4.608 | RED | RED | <i>Microcystis Unknown</i> | Potentially toxic, taste & odour |
| DWYA04 | Wyangala Dam Downstream | 7/04/2020 | 5,340 | 0.019 | 568 | 0.013 | No Alert | No Alert | <i>Microcystis sp.</i> | Potentially toxic, taste & odour |
| DWYA05 | Wyangala Abercrombie R | 7/04/2020 | 17,030 | 0.078 | 1,640 | 0.056 | AMBER | AMBER | <i>Microcystis Unknown</i> | Potentially toxic, taste & odour |
| DWYA06 | Wyangala Inland Waters Park | 7/04/2020 | 1,243,000 | 18.853 | 1,237,000 | 18.844 | RED | AMBER | <i>Microcystis Unknown</i> | Potentially toxic, taste & odour |
| DWYA08 | Wyangala Dam Wall Station 1 | 7/04/2020 | 44,520 | 0.775 | 44,520 | 0.775 | RED | RED | <i>Microcystis Unknown</i> | Potentially toxic, taste & odour |
| | | | | | | | | | | |
| N1168 | Lachlan River at Cowra | 1/04/2020 | 21,500 | 0.324 | 13,870 | 0.314 | GREEN | GREEN | <i>Microcystis Unknown</i> | Potentially toxic, taste & odour |
| | | | | | | | | | | |
| DCAR01 | Carcoar Dam Station 1 (Dam Wall) | 23/03/2020 | 16,670 | 0.250 | 16,670 | 0.250 | GREEN | GREEN | <i>Microcystis Unknown</i> | Potentially toxic, taste & odour |
| DCAR02 | Carcoar Downstream (Belubula River) | 23/03/2020 | 0 | 0.000 | 0 | 0.000 | No Alert | GREEN | | |
| | | | | | | | | | | |
| N1022 | Lachlan River at Cottons Weir (Forbes) | 25/03/2020 | 125,700 | 2.814 | 124,200 | 2.813 | AMBER | No Alert | <i>Microcystis Unknown</i> | Potentially toxic, taste & odour |
| | | | | | | | | | | |
| N1024 | Lachlan River @ Condobolin Bridge | 25/03/2020 | 2,070 | 0.009 | 140 | 0.003 | No Alert | GREEN | | |
| N1100 | Goobang Creek at Condobolin | 25/03/2020 | 3,230 | 0.109 | 140 | 0.003 | GREEN | GREEN | <i>Microcystis Unknown</i> | Potentially toxic, taste & odour |
| N1101 | Memorial Park Condobolin | | | | | | | | | |
| N1097 | Gum Bend Lake | | | | | | | | | |
| DCRG01 | Lake Cargelligo Outlet @ Lake Creek | 31/03/2020 | 221,000 | 0.667 | 0 | 0.031 | AMBER | No Alert | <i>Anabaenopsis sp.</i> | Potentially toxic |
| DCRG02 | Lake Cargelligo Town Water Supply 41210042 | 31/03/2020 | 84,550 | 0.392 | 210 | 0.092 | AMBER | AMBER | <i>Anabaenopsis sp.</i> | Potentially toxic |
| DCRG03 | Lake Cargelligo Boatshed | 31/03/2020 | 59,620 | 0.244 | 542 | 0.054 | AMBER | AMBER | <i>Raphidiopsis raciborskii</i> | Potentially toxic Taste and odour |
| DCRG04 | Lake Cargelligo Weir | 31/03/2020 | 1,400 | 0.007 | 140 | 0.002 | No Alert | No Alert | | |
| DCRG05 | Lake Cargelligo intake downstream of Curlew Waters | 31/03/2020 | 212,900 | 0.277 | 0 | 0.048 | GREEN | GREEN | <i>Anabaena sp.</i> | Potentially toxic, taste & odour |
| DBRW01 | Lake Brewster Inflow 412102 | 31/03/2020 | 116,600 | 0.406 | 210 | 0.021 | AMBER | AMBER | <i>Raphidiopsis raciborskii</i> | Potentially toxic Taste and odour |
| DBRW04 | Lake Brewster Outlet Channel 412108 | 31/03/2020 | 528,600 | 0.829 | 0 | 0.000 | AMBER | AMBER | <i>Unknown</i> | |
| DLOS06 | Lachlan River @ Willandra Weir | 31/03/2020 | 84,950 | 0.183 | 0 | 0.089 | GREEN | GREEN | <i>Aphanizomenon gracile</i> | Potentially toxic |
| N1025 | Lachlan River at Hillston | 18/03/2020 | 8,700 | 0.018 | 140 | 0.003 | No Alert | No Alert | | |
| N1023 | Lachlan River at Booligal | 30/03/2020 | 5,190 | 0.190 | 876 | 0.082 | GREEN | GREEN | <i>Dolichospermum sp.</i> | Potentially toxic, taste & odour |
| N1026 | Lachlan River at Corrong | 30/03/2020 | 11,090 | 0.027 | 421 | 0.010 | No Alert | No Alert | | |

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</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

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