

Algal Alerts in the Lachlan Catchment

7th December 2007



Central West Regional Algal Coordinating Committee

This blue-green algal alert report is based on routine monitoring undertaken by the Shire Councils of Cowra, Forbes and Lachlan; State Water and the Department of Water and Energy

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

Lachlan Storages

Table 1 – Total blue-green algal counts and/or biovolume equivalents in Lachlan Catchment storages

Date/Alert	Storage Sites	Current count (total cells/mL / BVEq)	Previous Alert	Dominant species
20/11/07 AMBER	Lake Wyangala Dam Wall / State Rec Area	1,588 C/ml 0.40 mm ³ /L BVEq	Amber	<i>Anabaena circinalis</i>
20/11/07 No Alert	Lake Wyangala at Grabine (Stn 2)	None detected	nil	
20/11/07 No Alert	Carcoar Dam.	None detected	nil	.
27/11/07 AMBER	Lake Cargelligo	35,102 3.39 mm ³ /L BVEq	Green	<i>Pseudanabaena sp.</i>
27/11/07 GREEN	Lake Curlew/ (#2 TWS)	25,871 0.06 mm ³ /L BVEq	nil	<i>Aphanocapsa sp.</i>

River Sites

Table 2 – Total blue-green algal counts and/or biovolume equivalents in the Lachlan River

Date/Alert	River Sites	Current count (total cells/mL / BVEq)	Previous Alert	Dominant species
20/11/07 No Alert	Belubula River downstream Carcoar	37 C/mL <0.04 mm ³ /L BVEq	nil	<i>Synechococcus sp</i>
20/11/07 No Alert	Lachlan River d/s Wyangala Dam	331 C/mL <0.04 mm ³ /L BVEq	nil	<i>Oscillatoria sp.</i>
20/11/07	Lachlan River @ Cowra	Awaiting results	nil	
26/11/07 No Alert	Lachlan River @ Forbes	None detected	nil	
28/11/06	Lachlan River @ Condobolin	None detected	Green	
27/11/07 No Alert ⇄	Lachlan River at Lake Cargelligo Weir	2,746 C/mL <0.04 mm ³ /L BVEq	nil	<i>Aphanocapsa sp.</i>
27/11/07 No Alert ⇄	Lachlan River at Lake Brewster Weir	None detected	nil	
27/11/07 GREEN	Lachlan River at Willandra Weir	1,430 C/mL 0.1 mm ³ /L BVEq	nil	<i>Aphanocapsa sp.</i>
09/11/07 No Alert ↓	Lachlan River at Hillston Weir	None detected	nil	
09/11/07 AMBER	Lachlan River at Booligal Weir	1,390 C/ml 0.86 mm ³ /L BVEq	Amber	<i>Anabaena planktonica</i>

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The total observed cyanobacteria genera that contribute to the current alert level are presented in conjunction with a bio-volume equivalent (BVEq) to *Microcystis aeruginosa* calculated for all contributing cyanobacteria species. These data are presented for information only. We recommend that water treatment and stock management responses should not be altered according to the observed cyanobacteria genera. All Cyanobacteria should be considered as potentially harmful to human and animal health when present in blooms.

River users and landholders are advised to avoid waters in areas subject to RED (High) alert levels or with visible algae scums. They should also consider either alternative sources of water for stock. NSW Health advises that any domestic use of surface water without treatment is dangerous and should be avoided. Note, boiling water contaminated with blue green algae **does not** remove toxins

Alert Definitions as specified in The National Health and Medical Research Council (NHMRC) *Guidelines for Managing Risks in Recreational Water 2005*

The interim use of these guidelines is endorsed by the Scientific Subcommittee of the NSW Algal Advisory Group

Key to alerts for recreational waters

Blue-Green Algal Level	Alert Definition
<p style="text-align: center;">GREEN</p> <p>>500 – <5,000 cells/mL potentially toxic cyanobacteria or biovolume equivalent of >0.04 to <0.4 mm³/L for the combined total of all cyanobacteria</p>	<p>Green Alert</p> <ul style="list-style-type: none"> • Low levels of 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
<p style="text-align: center;">AMBER</p> <p>≥5,000 – <50,000 cells/mL potentially toxic cyanobacteria or biovolume equivalent of >0.4 to <4.0 mm³/L for the combined total of all cyanobacteria</p>	<p>Amber Alert</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 commence 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 style="text-align: center;">RED</p> <p>>50,000 cells/mL potentially toxic cyanobacteria or biovolume equivalent of ≥ 4 mm³/L for the combined total of all cyanobacteria where a known toxic producer is dominant</p> <p>Or</p> <p>The total biovolume of all cyanobacterial material exceeds 10 mm³/L</p> <p>Or</p> <p>Cyanobacterial blooms are consistently present</p>	<p>Red Alert</p> <ul style="list-style-type: none"> • High levels 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 <p>Extreme care should be exercised, and contact with the water should be avoided</p> <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 considered to be unsuitable for primary contact recreation

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