

Algal Alerts in the Lachlan Catchment

28th June 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
14/05/07 No Alert	Lake Wyangala Dam Wall / State Rec Area	794C/mL	nil	<i>Microcystis flos-aquae</i>
22/02/07	Lake Wyangala at Grabine (Stn 2)	9,842 1.4 mm ³ /L BVEq	Amber	<i>Microcystis aeruginosa</i>
04/06/07 No Alert	Carcoar Dam.	1,059 C/mL <0.04 mm ³ /L BVEq	Nil	<i>Aphanocapsa</i> sp.
4/06/07 AMBER ⇄	Lake Cargelligo	44,964 1.10mm ³ /L BVEq	Amber	<i>Planktolyngbya</i> sp.
4/06/07 AMBER ↓	Lake Curlew (#2 TWS)	123,140 C/mL 2.47 mm ³ /L BVEq	Red	<i>Aphanocapsa</i> sp.

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
04/06/07 No Alert	Belubula River downstream Carcoar	None detected	Green	
14/05/07 NoAlert	Lachlan River d/s Wyangala Dam	794C/mL	nil	<i>Oscillatoria</i>
21/05/07 No Alert	Lachlan River @ Cowra	177 C/mL	None detected	<i>Raphidiopsis</i>
10/05/07 No Alert	Lachlan River @ Forbes	None detected	None detected	
28/11/06	Lachlan River @ Condobolin	None detected	Green	
4/06/07 No Alert ⇄	Lachlan River at Lake Cargelligo Weir	934 C/ml	nil	
4/06/07 No Alert	Lachlan River at Lake Brewster Weir	1,359 C/mL < 0.01 mm ³ /L BVEq	Green	<i>Chroococcus</i> sp.
4/06/07 No Alert	Lachlan River at Willandra Weir	None detected	nil	<i>Planktothrix</i> sp
14/05/07 No Alert ↓	Lachlan River at Hillston Weir	None detected	Green	
12/05/07 No Alert ↓	Lachlan River at Booligal Weir	2,878 C/mL 0.01 mm ³ /L BVEq	Green	<i>Aphanocapsa</i> sp

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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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