

Algal Alerts in the Lachlan Catchment

24th October 2008



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

Table 1 – Lachlan Storages 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 (BVEq)
17/09/08 GREEN	Lake Wyangala Dam Wall / State Rec Area	58,387 C/ml 0.09 mm ³ /L BVEq	Green	Aphanocapsa sp.
17/09/08 GREEN	Lake Wyangala at Grabine (Stn 2)	39,309 C/ml 0.07 mm ³ /L BVEq	nil	Aphanocapsa sp.
17/09/08 GREEN	Lake Wyangala State Rec area Site 7	77,767 0.15 mm ³ /L BVEq	Green	Aphanocapsa sp.
25/07/08 No Alert	Carcoar Dam.	568 C/mL <0.04 mm ³ /L BVEq	nil	Aphanocapsa sp.
22/09/08 GREEN	Lake Cargelligo	7,452 C/mL 0.07 mm ³ /L BVEq	Amber	Planktolbyngba sp.
22/09/08 No Alert	Lake Cargelligo TWS Site 2 41210042	2,271 C/mL <0.04 mm ³ /L BVEq		Chroococcus sp..
29/07/08 No Alert	Lake Ck at LC outlet 412008	2,537 C/mL <0.04		Aphanocapsa sp
22/09/08 GREEN	LC intake d/s Lake Curlew	7,864 C/mL 0.06 mm ³ /L BVEq	nil	Aphanocapsa sp.

Table 2 – River Sites. 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
25/07/08 No Alert	Belubula River downstream Carcoar	151 C/ml <0.04 mm ³ /L BVEq	nil	Planktolbyngba sp.
17/09/08 No Alert	Lachlan River d/s Wyangala Dam	13,840 0.03 mm ³ /L BVEq	Green	Cyanodicton sp.
26/05/08 GREEN	Lachlan River @ Cowra	4,406 C/mL 0.04 mm ³ /L BVEq	nil	Microcystis flos-aquae
30/06/08 No Alert	Lachlan River @ Forbes	719 C/mL <<0.04 mm ³ /L BVEq	nil	Chroococcus sp.
29/01/08 No Alert	Lachlan River @ Condobolin	817 C/mL 0.01 mm ³ /L BVEq	nil	
22/09/08 No Alert	Lachlan River at Lake Cargelligo Weir	824 C/mL <0.04 mm ³ /L BVEq	Nil	Chroococcus sp.
22/09/08 AMBER	Lachlan River at Lake Brewster Weir	6,667 C/mL 0.44 mm ³ /L BVEq	nil	Aphanothece sp.
22/09/08 AMBER	Lachlan River at Willandra Weir	26,714 C/mL 0.51 mm ³ /L BVEq	nil	Aphanocapsa sp.

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07/05/08 GREEN	Lachlan River at Hillston Weir	2,744 C/ml 0.1 mm ³ /L BVEq	nil	Aphanocapsa sp.
07/05/08 GREEN	Lachlan River at Booligal Weir	16,541 C/ml 0.08 mm ³ /L BVEq	Green	Aphanocapsa sp.

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
GREEN	Green Alert
>500 – <5,000 cells/mL potentially toxic cyanobacteria or biovolume equivalent of >0.04 to <0.4 mm ³ /L for the combined total of all cyanobacteria	<ul style="list-style-type: none"> • Low levels of detected – suggesting base crop of blue green algae may be on the increase Action <ul style="list-style-type: none"> • Continue/increase routine sampling to measure cyanobacterial levels
AMBER	Amber Alert
≥5,000 – <50,000 cells/mL potentially toxic cyanobacteria or biovolume equivalent of >0.4 to < 4.0 mm ³ /L for the combined total of all cyanobacteria	<ul style="list-style-type: none"> • Indicates blue-green algae are multiplying • Water may have a green tinge and musty taste and odour Action <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
RED	Red Alert
>50,000 cells/mL potentially toxic cyanobacteria or biovolume equivalent of ≥ 4 mm ³ /L for the combined total of all cyanobacteria where a known toxic producer is dominant Or The total biovolume of all cyanobacterial material exceeds 10 mm ³ /L Or Cyanobacterial blooms are consistently present	<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 Extreme care should be exercised, and contact with the water should be avoided Action <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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