

# Algal Alerts in the Lachlan Catchment

22<sup>nd</sup> August 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)
16/07/08 No Alert	Lake Wyangala Dam Wall / State Rec Area	6,374,274 C/ml 0.02 mm <sup>3</sup> /L BVEq	Green	Aphanocapsa sp.
16/07/08 No Alert	Lake Wyangala at Grabine (Stn 2)	3,123 C/ml 0.01 mm <sup>3</sup> /L BVEq	nil	Aphanocapsa sp.
16/07/08 <b>GREEN</b>	Lake Wyangala State Rec area Site 7	9,879 0.06 mm <sup>3</sup> /L BVEq	Green	Microcystis flos-aquae
25/07/08 No Alert	<b>Carcoar Dam.</b>	<b>568 C/mL</b> <b>&lt;0.04 mm<sup>3</sup>/L BVEq</b>	<b>nil</b>	<i>Aphanocapsa sp.</i>
29/07/08 No Alert	<b>Lake Cargelligo</b>	<b>4,717 C/mL</b> <b>0.02 mm<sup>3</sup>/L BVEq</b>	<b>Amber</b>	<b>Planktolbyngba sp.</b>
29/07/08 No Alert	<b>Lake Cargelligo TWS Site 2</b> <b>41210042</b>	<b>1,420 C/mL</b> <b>&lt;0.04</b>		<b>Planktolbyngba sp.</b>
29/07/08 No Alert	<b>Lake Ck at LC outlet</b> <b>412008</b>	<b>2,537 C/mL</b> <b>&lt;0.04</b>		<b>Aphanocapsa sp</b>
29/07/08 <b>GREEN</b>	<b>LC intake d/s Lake Curlew</b>	<b>20,591 C/mL</b> <b>0.05 mm<sup>3</sup>/L BVEq</b>	<b>nil</b>	<b>Aphanocapsa sp.</b>

**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	<b>Belubula River downstream</b> <b>Carcoar</b>	<b>151 C/ml</b> <b>&lt;0.04 mm<sup>3</sup>/L BVEq</b>	<b>nil</b>	<i>Planktolbyngba sp.</i>
16/07/08 <b>GREEN</b>	Lachlan River d/s Wyangala Dam	5,337 0.04 mm <sup>3</sup> /L BVEq	Green	Aphanocapsa sp.
26/05/08 <b>GREEN</b>	Lachlan River @ Cowra	4,406 C/mL 0.04 mm <sup>3</sup> /L BVEq	nil	Microcystis flos-aquae
30/06/08 No Alert	Lachlan River @ Forbes	719 C/mL <<0.04 mm <sup>3</sup> /L BVEq	nil	Chroococcus sp.
29/01/08 No Alert	Lachlan River @ Condobolin	817 C/mL 0.01 mm <sup>3</sup> /L BVEq	nil	
29/07/08 No Alert	<b>Lachlan River at Lake Cargelligo</b> <b>Weir</b>	<b>454 C/mL</b> <b>&lt;0.04 mm<sup>3</sup>/L BVEq</b>	<b>Nil</b>	<i>Chroococcus sp.</i>
29/07/08 <b>GREEN</b>	<b>Lachlan River at Lake Brewster</b> <b>Weir</b>	<b>12,813 C/mL</b> <b>0.04 mm<sup>3</sup>/L BVEq</b>	<b>nil</b>	<b>Aphanocapsa sp.</b>
29/07/08 No Alert	<b>Lachlan River at Willandra Weir</b>	<b>2,469 C/mL</b> <b>&lt;0.04 mm<sup>3</sup>/L BVEq</b>	<b>nil</b>	<b>Aphanocapsa sp.</b>

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07/05/08 GREEN	Lachlan River at Hillston Weir	2,744 C/ml 0.1 mm <sup>3</sup> /L BVEq	nil	Aphanocapsa sp.
07/05/08 GREEN	Lachlan River at Booligal Weir	16,541 C/ml 0.08 mm <sup>3</sup> /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
<p><b>GREEN</b></p> <p>&gt;500 – &lt;5,000 cells/mL potentially toxic cyanobacteria or biovolume equivalent of &gt;0.04 to &lt;0.4 mm<sup>3</sup>/L for the combined total of all cyanobacteria</p>	<p>Green Alert</p> <ul style="list-style-type: none"> <li>• <b>Low levels of detected – suggesting base crop of blue green algae may be on the increase</b></li> </ul> <p>Action</p> <ul style="list-style-type: none"> <li>• <b>Continue/increase routine sampling to measure cyanobacterial levels</b></li> </ul>
<p><b>AMBER</b></p> <p>≥5,000 – &lt;50,000 cells/mL potentially toxic cyanobacteria or biovolume equivalent of &gt;0.4 to &lt; 4.0 mm<sup>3</sup>/L for the combined total of all cyanobacteria</p>	<p>Amber Alert</p> <ul style="list-style-type: none"> <li>• <b>Indicates blue-green algae are multiplying</b></li> <li>• <b>Water may have a green tinge and musty taste and odour</b></li> </ul> <p>Action</p> <ul style="list-style-type: none"> <li>• <b>Water supply authorities to commence filtering with activated carbon</b></li> <li>• <b>Investigations into the causes of the elevated levels and increased sampling to enable the risks to recreational users to be more accurately assessed</b></li> </ul>
<p><b>RED</b></p> <p>&gt;50,000 cells/mL potentially toxic cyanobacteria or biovolume equivalent of ≥ 4 mm<sup>3</sup>/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 mm<sup>3</sup>/L</p> <p>Or</p> <p>Cyanobacterial blooms are consistently present</p>	<p>Red Alert</p> <ul style="list-style-type: none"> <li>• <b>High levels detected</b></li> <li>• <b>Indicates “bloom” conditions</b></li> <li>• <b>Toxicity should be presumed</b></li> <li>• <b>Water will appear green or brownish and may have a strong musty taste and odour</b></li> <li>• <b>Surface scums could occur</b></li> </ul> <p><b>Extreme care should be exercised, and contact with the water should be avoided</b></p> <p>Action</p> <ul style="list-style-type: none"> <li>• <b>Issue Media Release</b></li> <li>• <b>Water supply authorities to increase filtering with activated carbon as appropriate</b></li> <li>• <b>Local authority and health authorities to warn the public that the water body is considered to be unsuitable for primary contact recreation</b></li> </ul>

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