



Blue Green Algae Report for the Barwon Region

7th February 2020

This blue-green algal alert report is based on routine monitoring at sites in the Barwon Algae Reporting Area. These sites are monitored by WaterNSW and local councils.

Summary

A Red Alert is now in place for Macintyre River at Goondiwindi. A media Release has been issued. Stock and domestic users in this stretch of the Macintyre River should exercise a high level of caution, seek alternate water supplies. Park users along the Macintyre River should watch their pets closely and not let them drink or enter the water. Stock and domestic users further along the river should apply caution and inspect water sources for algae scums. **Macintyre River at Boggabilla Weir is now on Amber Alert.** Water users should be on the lookout for algae scums and avoid contact if scums become visible. Stock users should consider alternate water supplies.

Copeton Dam remains on Red Alert. No alert is in place for the Gwydir River below the storage indicating that the water below the storage remains suitable for stock and domestic use. However, due to the Red Alert on the storage water users should use caution. If blue-green algae are suspected or scums become visible, water should be sourced from alternate supplies.

Pindari Dam continues to be on Red Alert. Algae concentration have significantly increased. Pindari downstream (Severn River) has **Green Alert** in place indicating that the water below the storage remains safe for stock and domestic use, water users should use caution. If blue-green algae are suspected or scums become visible, water should be sourced from alternate supplies.

Namoi River downstream Keepit Dam is now on Amber Alert. Stock and domestic should seek alternate water supplies. **Keepit Dam remains on Amber Alert.**

Lake Inverell is on a Red alert. Park users should not let their pets enter the water. **Inverell at Middle Creek is on Amber Alert.**

River flows have flushed the blue-green algae bloom from the Commissioners Waters river system east of Armidale. The previous Red Alert has now been lifted and a media release has been issued, however an Amber Alert is still in place for the Gara River at Blue Holes.

Split Rock Dam and the Manila River downstream of Split Rock are on Amber Alert. The algae below the storage is not known to be a toxin producer and therefore is not considered harmful for stock. However, stock managers should apply caution.

Malpas Dam is on Amber Alert.

Chaffey Dam in on Amber Alert. Chaffey Dam downstream is also on Green Alert.

Barwon At Mungindi is on Amber Alert.

Gara River at Blue Holes is on Amber Alert.

Stock managers in these areas of Amber Alert should seek alternate water supplies as the at the dominant algae species is known to be a toxin producer. Pet owners should not let their pets drink the water.

Mehi River at Gundare and Narrabri Creek at Narrabri are on **Green Alert.**

These alert levels apply to **non-consumptive or recreational contact.** Drinking water safety

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

Barwon Regional Algal Coordinating Committee (B-RACC)
Blue-green Algae Report

Results Table

Note: * indicates that sampling results show algal numbers have reduced however another low sampling result is required to reduce the alert to a lower level.

Site Description	Latest Sample Date	Toxic BGA Biovolume (mm3/L)	BGA Biovolume (mm3/L)	Current Status (based on Latest Sample)	Previous Status	BGA Dominant Toxic Taxa	Comments
Chaffey Downstream	29-Jan-2020	0.00	0.12	Green	Amber	<i>Aphanizomenon</i> <i>aceae</i> - <i>Unknown</i>	Potentially toxic, taste & odour
Chaffey Dam Station 2 (Mid storage)	29-Jan-2020	0.63	0.65	Amber	Amber	<i>Aphanizomenon</i> <i>aceae</i> - <i>Unknown</i>	Potentially toxic, taste & odour
Chaffey Dam Station 1 (Aerator)	29-Jan-2020	0.64	0.68	Amber	Green	<i>Aphanizomenon</i> <i>aceae</i> - <i>Unknown</i>	Potentially toxic, taste & odour
Copeton Dam Kiosk	28-Jan-2020	5.55	7.55	Red	Amber	<i>Aphanizomenon</i> <i>aceae</i> - <i>Unknown</i>	Potentially toxic, taste & odour
Copeton Dam Northern Foreshore	28-Jan-2020	16.43	21.09	Red	Red	<i>Aphanizomenon</i> <i>aceae</i> - <i>Unknown</i>	Potentially toxic, taste & odour
Copeton Dam Station 1 (Dam Wall)	28-Jan-2020	2.18	4.11	Amber	Amber	<i>Aphanizomenon</i> <i>aceae</i> - <i>Unknown</i>	Potentially toxic, taste & odour
Copeton Dam Wonulla	28-Jan-2020	0.04	0.14	Green	Red		
Copeton Downstream (Gwydir River)	28-Jan-2020	0.00	0.02	No Alert	No Alert		
Keepit Dam Station 1 (Dam Wall)	29-Jan-2020	0.40	0.91	Amber	Amber	<i>Aphanizomenon</i> <i>aceae</i> - <i>Unknown</i>	Potentially toxic, taste & odour
Keepit Recreation Area	29-Jan-2020	0.49	1.93	Amber	Red	<i>Aphanizomenon</i> <i>aceae</i> - <i>Unknown</i>	Potentially toxic, taste & odour
Keepit Downstream (Namoi River)	29-Jan-2020	0.03	0.63	Amber	Red	<i>Anabaenopsis</i> - <i>sp.</i>	Potentially toxic, taste & odour
Pindari Dam Station 1 (Dam Wall)	28-Jan-2020	28.17	29.75	Red	Red	<i>Aphanizomenon</i> <i>aceae</i> - <i>Unknown</i>	Potentially toxic, taste & odour
Pindari Dam Station 2/3	28-Jan-2020	21.23	25.83	Red	Red	<i>Dolichospermum</i> - <i>sp.</i>	Potentially toxic, taste & odour
Pindari Dam Station Boat Ramp	----	--	--	--	---		site no longer suitable for algae sampling due to low dam levels
Pindari Downstream (Severn River)	28-Jan-2020	0.07	0.10	Green	No Alert		
Split Rock Downstream (Manilla River)	07-Jan-2020	0.00	4.29	Amber	No Alert		Non Toxic dominant

Split Rock Dam Station 1 (Dam Wall)	07-Jan-2020	3.52	3.67	Amber	No Alert		
Split Rock Recreation Area	---	---	---	---	No Alert		
Macintyre River at Lake Inverell	13-Jan-2020	12.12	12.26	Red	No Alert	<i>Microcystis - Unknown</i>	Potentially toxic, taste & odour
Macintyre River at Inverell (Middle Ck)	13-Jan-2020	2.17	2.65	Amber	Amber	<i>Microcystis - Unknown</i>	Potentially toxic, taste & odour
Macintyre River at Boggabilla Weir	14-Jan-2020	1.47	3.37	Amber	Red	<i>Raphidiopsis - raciborskii</i>	Potentially toxic, taste & odour
Macintyre River at Goondiwindi	08-Jan-2020	4.28	13.36	Red	--	<i>Dolichospermum sp.</i>	Potentially toxic, taste & odour
Narrabri Creek at Narrabri	09-Jan-2020	0.19	0.21	Green	No Alert		
Barwon River at Mungindi	07-Jan-2020	3.03	3.11	Amber	Green	<i>Aphanizomenon aceae - Unknown</i>	Potentially toxic, taste & odour
Namoi River at Walgett	--	---	---	---	---		Dry
Barwon River at Dangar Bridge (Walgett)	--	--	--	---			Dry
Malpas Dam	30-Jan-2020	1.79	--	Amber	Amber	<i>Microcystis sp.</i>	Potentially toxic, taste & odour
Dumaresq Dam	31-Jan-2020	0.0	--	No Alert			
Commissioners Waters	13-Jan-2020	0.01	0.02	No Alert			River Flows have flushed the system
Gara River at Blue Holes	13-Jan-2020	0.65	1.11	Amber		<i>Dolichospermum - sp.</i>	Potentially toxic, taste & odour
Mehi River at Gundare	16-Jan-2020	0.00	0.07	Green			

Note: * indicates that sampling results show algal numbers have reduced however another low sampling result is required to reduce the alert to a lower level.

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 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.

Table 2: Key to Alerts For Recreational Waters

<p>RED Alert $\geq 50\,000$ 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 <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 <p>Local authority and health authorities to warn the public that the water body is considered to be unsuitable for primary contact recreation</p>
---	---

<p>AMBER Alert ≥ 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 <p>Investigations into the causes of the elevated levels and increased sampling to enable the risks to recreational users to be more accurately assessed.</p>
<p>GREEN Alert > 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> <p>Continue/increase routine sampling to measure cyanobacterial levels</p>

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.watarnsw.com.au/water-quality/algae>

Call

NSW algae hotline 1800 999 457

Contacts

Tracy Fulford (Barwon RACC coordinator)

Tracy.Fulford@watarnsw.com.au

Telephone: 02 6763 3910