Managing cyanobacterial toxin risks to recreators: a case study of inland lakes in south-east Queensland.

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Abstract:

Seqwater is responsible for South-East Queensland's bulk water supply. Included in this portfolio is the management of recreational activities on Seqwater's lakes. Currently on-water recreational access is permitted on 17 lakes in open catchments for primary and secondary recreation. The use of drinking water lakes for recreational activities can adversely affect water quality; however these impacts must be weighed against the benefits to the health and wellbeing of the community and local economies.

There are minimal cyanobacterial guidelines and advisory documents for water authorities to guide decision making processes for recreational waters in Australia. Those that do exist focus on saxitoxin-producing species which are not prevalent in South-East Queensland. Seqwater's Recreational Water Quality Management Plan has been operated for the last five years to protect recreators from poor water quality conditions. The program combines cyanobacterial biovolume, speciated cell count and toxin triggers to drive the specialised monitoring program targeting multiple potentially toxic species. Seqwater conducts extensive year-round water quality monitoring at recreational water storages to test the water is fit for approved recreational activities. Following a four part cyanobacterial escalation/de-escalation system, Seqwater is able to track recreational water quality suitability and close lakes to recreators when waters become unsafe. The closure of lakes should not be the point of focus in communication with the recreating general public. It should instead be communicated that Seqwater is opening lakes to recreation when conditions are suitable and the recreators' safety will not be compromised in line with Seqwater's moral and legal obligations.

Key words: Recreation, Management, Monitoring, Cyanobacterial Triggers, Open Catchments, Source Water Quality.