

Cyanobacterial Incident Management Frameworks (CIMFs) for application by drinking water suppliers

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Abstract

Cyanobacteria are commonly found in freshwater systems that are the source waters for the production of drinking water. This is of special importance to the drinking water suppliers as several genera of cyanobacteria can produce cyanotoxins that can affect human health. The possibility that drinking water can be a cyanobacterial-exposure route has resulted in the development of Cyanobacterial Incident Frameworks (CIMFs) that will guide water treatment managers to deal pro-actively with cyanobacteria and their associated toxins in source water by using a step-by-step alert levels framework to ensure provision of safe drinking water. In this paper two CIMF models are described, namely a CIMF model using cyanobacteria identification and enumeration as a primary trigger; and a CIMF model using chlorophyll *a* as primary trigger. These frameworks are based on the same principle, but differ in minor actions taken, especially at the lower alert levels. It is envisaged that the developed CIMFs would be the platform on which to evaluate the capacity to manage a cyanobacterial incident. Based on the requirements stipulated in the CIMFs and their assessment, the drinking water treatment works (DWTW) would then develop and implement their customised CIMFs.

Keywords: cyanobacteria, Cyanobacterial Incident Management Framework (CIMF), drinking water, drinking water treatment works (DWTW), alert levels