

2014 Cyanobacteria Blooms in the San Diego Region

What is it?

Cyanobacteria (also known as blue-green algae) are photosynthetic bacteria that are found naturally in a variety of freshwater habitats throughout California and can produce toxins (cyanotoxins) under certain conditions. Exposure to cyanotoxins can occur by ingestion, inhalation, and dermal contact. Cyanotoxins have been causing problems in a number of water bodies in California, and have resulted in drinking water supply concerns, wildlife and domestic animal deaths, human health risks, and restrictions on shellfish harvesting. In spite of these well-documented problems, no monitoring efforts are in place to routinely screen for cyanobacteria blooms or associated cyanotoxins in water or organisms in freshwater habitats.

In 2012 and 2013, the San Diego Water Board screened several different water body types (depressional wetlands, streams, lakes/reservoirs, and estuaries) for cyanotoxin presence. Results show that cyanotoxins, especially microcystins, are prevalent in all water body types in the San Diego Region. The recent drought in California provides ideal conditions for cyanobacteria blooms; therefore an ad-hoc cyanobacteria/cyanotoxin sampling program was



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conducted in 2014 for lakes/reservoirs in the San Diego Region with a high level of recreational use. Several of the lakes/reservoirs that were tested showed elevated levels of microcystins (up to 7.69 mg/L microcystin LR). Specifically, Harveston Lake and Santee Lake #5 exceeded the World Health Organization (WHO) guidelines for Safe Recreational Water Environments and the Office of Environmental Health Hazard Assessment (OEHHA) Action Levels for Human Recreational Uses.

Why is it important?

Cyanotoxins are an emerging contaminant of concern that may potentially impact many beneficial uses of water, including aquatic life, recreation, and water supply. This study shows that several lakes/reservoirs in the San Diego Region exceed recommended action levels for recreational use. With the data from this study, decision makers can now better assess the threat of cyanobacteria blooms and cyanotoxin production in the San Diego Region, and they can take necessary steps to create a monitoring program for cyanobacteria blooms and cyanotoxin production in the San Diego Region.

How will this information be used?

The data produced by this project will be used in water body assessments under the Clean Water Act (CWA) Section 305(b). It may also inform future monitoring and regulatory actions. The data will be available to the public through the California Environmental Data Exchange Network (CEDEN). A fact sheet on this study will be shared and communicated to stakeholders and other interested parties.