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Guidelines for Cyanobacteria at Recreational Freshwater Locations
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Cyanobacteria (sometimes called blue-green algae) occur naturally in freshwater, but under certain conditions they can multiply quickly, creating a highly concentrated area known as an “algae bloom”. Algae blooms can be harmful to humans and animals. Some harmful cyanobacteria produce toxins (known as cyanotoxins) that are dangerous at very low levels in surface waterbodies. These harmful algae blooms (HABs) may occur at any time in Massachusetts, but are most common in late summer and early fall.

Issuing a Public Health Advisory

DPH recommends issuing a public health advisory for HABs at recreational freshwater locations when at least one of the following criteria is met:

- 1. A visible cyanobacteria scum or mat is evident;**
- 2. Total cell count of cyanobacteria exceeds 70,000 cells/mL;**
- 3. Concentration of the toxin microcystins exceeds 8 µg/L; or**
- 4. Concentration of the toxin cylindrospermopsin exceeds 15 µg/L**

Guideline values are based on US Environmental Protection Agency (US EPA)¹ and World Health Organization (WHO)^{2,3} recommendations. When issuing an advisory, signage should be posted at each access point at the waterbody warning against any contact with the water.

Rescinding a Public Health Advisory

Cyanobacteria cells can release cyanotoxins into the water when they die. Therefore, algal toxins may be present when a visible scum or mat is no longer evident. DPH recommends the rescinding of a public health advisory after two successive samples, collected a week apart, demonstrate cell counts or toxin levels below the quantitative guideline values.

¹U.S. EPA (United States Environmental Protection Agency) (2019). Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin. EPA-822-R-19-001. <https://www.epa.gov/wqc/recommended-human-health-recreational-ambient-water-quality-criteria-or-swimming-advisories>

²WHO (World Health Organization) (1999). Toxic Cyanobacteria in Water: A Guide to Their Public Health Consequences, Monitoring, and Management. Ingrid Chorus and Jamie Bartram (eds).

³WHO (World Health Organization) (2003). Guidelines for Safe Recreational Water Environments, Volume 1: Coastal and Fresh Waters. http://www.who.int/water_sanitation_health/publications/srwe1/en/