DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
450 GOLDEN GATE
SAN FRANCISCO, CALIFORNIA 94102-1398

CESPN-DE December 16, 2020

POLICY MEMORANDUM

SUBJECT: Public Notification for Cyanobacteria

1. Purpose. This policy memorandum represents the policy and procedures for public notification for cyanobacteria.

2. Applicability. This memorandum applies to all Civil Works Water Resource Projects where the San Francisco District has operations and maintenance responsibilities.

3. References. Latest version of;

a. California Cyanobacteria and Harmful Algal Bloom (CCHAB) Network Blue-Green Algae Voluntary Guidance Document

b. California Environmental Protection Agency State Water Resources Control Board Website: https://www.waterboards.ca.gov/water issues/programs/swamp/freshwater cyanobacteria.html

4. Policy. Effectively immediately within the USACE San Francisco District, Project Managers will implement and respond, as appropriate, to Cyanobacteria and Harmful Algal Bloom reporting, monitoring and public notification at Lake Mendocino and Lake Sonoma.

5. Responsibilities.

a. District. The Park Manager (PM) will coordinate media announcements through the Public Affairs Office (PAO).

b. Park Manager. The Park Manager (PM) will report all cyanobacteria blooms through the Chain of Command (CoC) established in this policy. The PM will follow all reporting requirements. The PM will ensure that cyanobacteria posters are printed and posted in locations identified in this policy. The PM will review appendix A and reporting procedures with all USACE staff and volunteers.

c. All USACE Staff. All USACE staff and volunteers are responsible for reporting possible cyanobacteria blooms, both personally witnessed and reports of blooms received from other entities, to the PM who will confirm.

6. Cyanobacteria. Cyanobacteria, also known as blue-green algae, are primitive photosynthetic single celled bacteria that are naturally found in water based

ecosystems. When nutrients (phosphorus and nitrogen) are present in concentrations above what would occur naturally, the algae can "bloom," or grow very quickly to extreme numbers.

7. Health Risks of Cyanobacteria. Not all cyanobacteria blooms are harmful, but some species are referred to as toxigenic because they have the potential to produce toxins that can cause serious illness or death in people, pets, and wildlife. Toxigenic cyanobacteria can produce three types of toxins: neurotoxins, hepatotoxins, and dermatoxins. Neurotoxins affect the nervous system. Symptoms include muscle cramps, twitching, and in extreme cases paralysis, cardiac or respiratory failure, and death. Hepatotoxins affect liver function. Dermatoxins are skin irritants. If affected water is swallowed, symptoms can include headache, cramps, diarrhea, nausea and vomiting, numbness, dizziness and fever. Skin exposure symptoms can include red skin coloration, raised rash and irritation. If any of these symptoms are severe or persist, medical attention should be sought. If pets exhibit any usual symptoms, seek advice from a veterinarian as soon as possible. The greatest risk to health comes from coming into contact with or ingesting the toxins produced by cyanobacteria while engaging in what is called "full body contact" (during swimming, skiing or jet skiing, etc.), or from inhaling spray cast up from the water's surface by recreational activities or by the wind. Children and pets are most at risk while engaging in recreation in the water because they are more likely to accidently or intentionally swallow lake water. No antidote exists for any known algal toxin currently. This makes prevention the best option for protecting against toxigenic cyanobacteria.

Determining if a cyanobacteria bloom is toxicogenic can only be done by conducting toxin testing. However, it is the policy of the San Francisco District to not test cyanobacterial blooms for toxicity because testing is unreliable and the results could be misleading. Our policy will instead focus on educating the public on potential risks involved with any cyanobacteria bloom. Factors that were considered in making this decision are listed below.

a. Water sampling can be unreliable in determining the toxin level in the entirety of the bloom. Cyanobacteria concentrations often rapidly change due to wind or other factors.

b. Currently there are few readily available analytical methods to quantify cyanobacterial toxicity and identify the profile of microcystin variants with a water sample.

c. Lab results can take several days, providing unreliable real-time toxin levels to the public. During the several day waiting period of results, bloom toxicity can change.

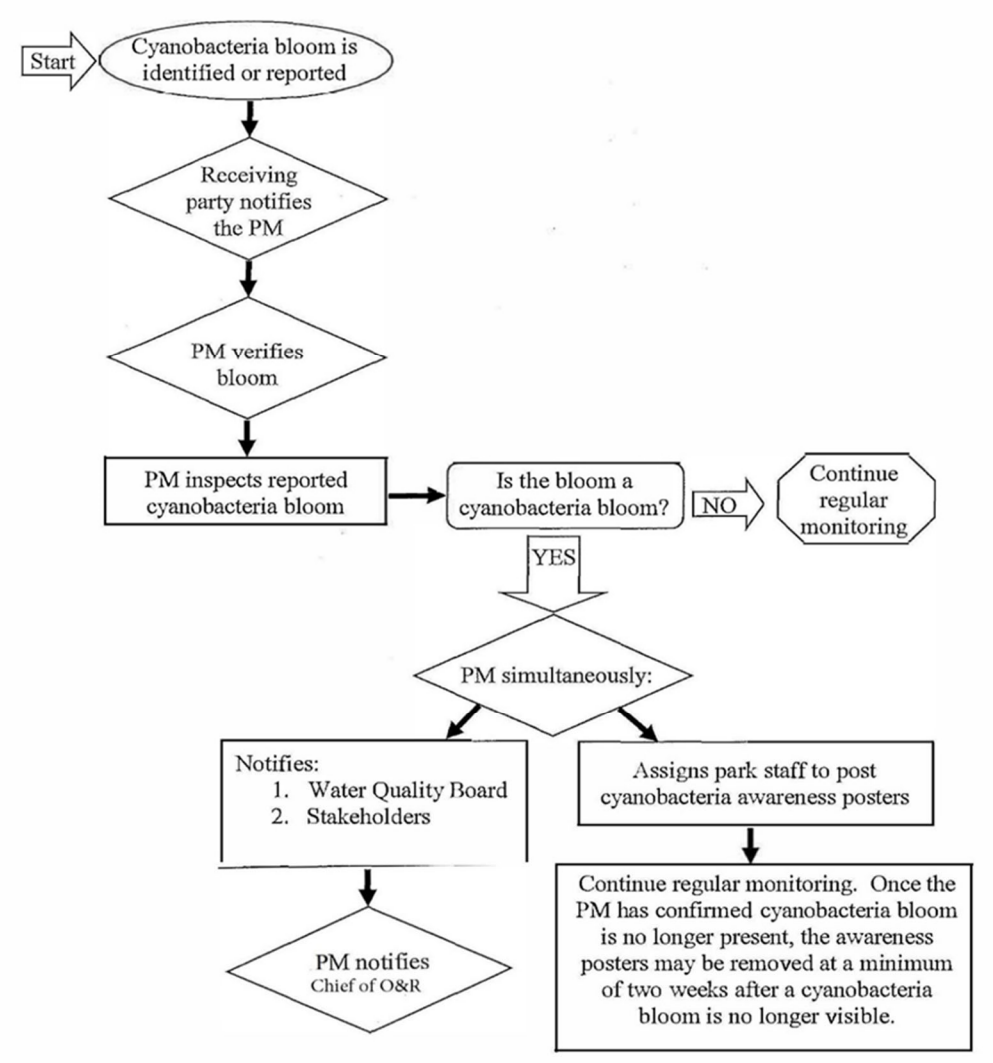
d. Providing a warning system to the public in which advisories are only enacted when toxins are identified using lab results, can provide an unrealistic

expectation for safety of USACE to maintain, given changing environmental factors, changing bloom characteristics and staffing availability.

8. Reporting and Monitoring.

a. If any USACE staff or volunteers suspect a bloom or a bloom is reported (directly to USACE staff or volunteers, identified through media channels, etc.), PM will notify appropriate California State Water Resources Board, County Health Department and stakeholders.

b. Monitoring for cyanobacteria blooms will be coordinated and directed by the appropriate California State Water Resources Board and County Health Department.



9. Notification and Public Posting. Use the following for identified cyanobacteria blooms.

a. Notification. Once the PM confirms the presence of a cyanobacteria bloom, they will first notify the Chief of Operations and Readiness. The PM will next notify the California Environmental Protection Agency State Water Resources Control Board:

California Water Board's Surface Water Ambient Monitoring
Program: 1-916-341-5357
Toll Free: 1-844-729-6466
Cyan0HAB.Rep01is@waterboards.ca.gov

The PM will then notify the appropriate Water Resources Board, County Department of Health and project's stakeholders. Stakeholders may include and are not limited to; local business owners (example: companies that use the project for recreation purposes), property owners, hydropower companies, drinking water service providers, and/or local governments. Cyanobacteria blooms should also be reported to the county agricultural commissioner if grazing lands are proximal to the affected water body, and to the local offices of the state Department of Fish and Wildlife, as well as the U.S. Fish and Wildlife, to address concerns about effect on livestock and wildlife.

b. Cyanobacteria Awareness Posting. Once the PM confirms the presence of a cyanobacteria bloom, they will ensure that cyanobacteria awareness posters are posted at various public locations (i.e., visitor centers, headquarters office, etc.) on project. Appendix B serves as the approved Cyanobacteria Awareness Poster. Any changes or additional postings concerning cyanobacteria must be approved by District PAO.

c. Posting will occur in areas with high visibility and points of access where the public has the potential for exposure to cyanobacteria. Geography, proximity of the bloom location, and recreational uses (boat ramps, swim beaches, etc.) should all be taken into consideration.

d. The PM will dictate the removal of cyanobacteria awareness postings. At a minimum, signage will remain posted during the presence of a bloom and a minimum of two additional weeks (there should be no viable bloom recurrence during this time) before removing the postings. A PM may choose to leave signage posted even after a bloom is no longer present.

10. Reporting. Any medically confirmed cyanobacteria-related illnesses or fatalities, human or animal, as a result of exposure at USACE managed projects, will be reported immediately to the supervisor and PM, and they will call up the CoC. All of the rules of the CoC apply, if you can't reach one person move onto the next in the chain. In

addition to a phone call, please provide the supervisor and PM with an email detailing the event. Reporting protocol will also be completed in compliance with any San Francisco District Reporting Procedures.

11. Effective Date. This memorandum is effective immediately and supersedes previous guidance regarding reporting procedures.

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John D. Cunningham
Lieutenant Colonel, U.S. Army
District Commander and Engineer

2 Encls
1. Cyanobacteria FAQs
2. Example of Information/Interpretative Sign