



CALIFORNIA DEPARTMENT OF WATER RESOURCES

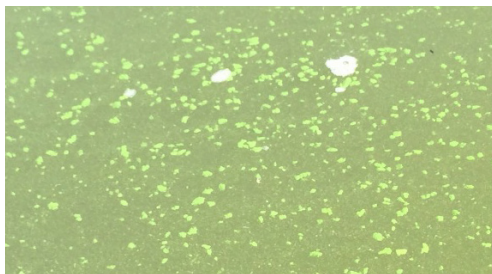
Harmful Algal Blooms of 2021

Request

The California Department of Water Resources is requesting input on any negative impacts of the harmful algal bloom in the Delta during the summer of 2021, any disproportionate impacts to vulnerable communities with respect to drinking water quality, contact and non-contact recreation, impacts to tribal cultural resources, and impacts to aesthetics including odors and the visual character of Delta waterways.

What are Harmful Algal Blooms?

Harmful Algal Blooms (HABs) are caused by toxin-producing cyanobacteria and may cause rashes or illness, depending on what type of cyanobacteria are present. HABs occur most frequently in the summer in areas with poor water circulation. They may look like bright green flakes floating in the water, green/brown discolored water, or green scum on the surface.



From left to right: **Microcystis sp. floating colonies** (Photograph: SWAMP), **Microcystis sp.** (Photograph: Jacob Kann), **Dolichospermum lemmermannii** (Photograph: Ann St. Amand; Rosen et al., 2015).
Photos from the California CyanoHAB Network identification guide.

If you have seen algal blooms in the Delta in the past year, we want to know! To provide input, please:
Fill out this survey to share how HABs impact your use of the Delta: <https://www.surveymonkey.com/r/DWR-HAB>

Join us for a listening session to learn more and share your experience.

May 5th, 2022, 2:30 p.m. as a part of the SGMA Tribal Advisory Group Meeting.
Sign up here: <https://www.signupforms.com/registrations/28387>

Contact **Rosemary Hartman** (Rosemary.Hartman@water.ca.gov)
if you cannot make the listening session or would like to share more information.

Management background

In June 2021, the State Water Board granted the CA Department of Water Resources and US Bureau of Reclamation a Temporary Urgency Change Order relaxing Delta Outflow standards in June and July. At the same time, DWR installed an emergency drought barrier in West False River to combat salinity intrusion caused by the drought. These management actions prompted concern that they would lead to an increase in harmful cyanobacterial blooms across the Delta. DWR conducted a special study of harmful cyanobacteria in the summer of 2021.

Results

Low and medium levels of Microcystis and other potentially toxic cyanobacteria were detected throughout the Delta for most of the summer of 2021, continuing the increasing trend seen over the past ten years. A large cyanobacterial bloom was detected in Franks Tract during July and August, which may have been exacerbated by the West False River Emergency Drought Barrier.

Impact of TUCP and Barrier

Drought and increased water temperatures were major factors leading to the development of HABs across the estuary in 2021, and that the 2021 Temporary Urgency Change Petition and Emergency Drought Barrier are unlikely to have caused Delta-wide increases in Microcystis abundance. An increase in residence time caused by the barrier contributed to the cyanobacterial bloom in Franks Tract during July and August 2021. All cyanotoxin levels were below warning levels for recreational use, but may have had non-lethal effects on fish and wildlife.

Future directions

- DWR will increase monitoring of cyanobacteria and cyanotoxins in 2022.
- All observations will be reported to SWRCB's My Water Quality website. <https://mywaterquality.ca.gov/habs/>