



North Coast Regional Water Quality Control Board Freshwater Harmful Algal Bloom Monitoring & Response Program End of Year Summary 2024

Overview

Freshwater harmful algal blooms (FHABs) are dense proliferations of planktonic (floating) and/or benthic (attached) cyanobacteria capable of producing cyanotoxins that can impact human and animal health. In 2024, the North Coast Regional Water Quality Control Board (RB1) FHAB Program recommended 18 public health alert postings in rivers and lakes (Table 1). For more information on regional postings, see [Reports Map](https://mywaterquality.ca.gov/habs/where/freshwater_events.html) (https://mywaterquality.ca.gov/habs/where/freshwater_events.html). These planktonic and benthic FHAB postings are discussed below.

Table 1. Number of planktonic and benthic postings in the North Coast Region, 2024.

Report Type	Planktonic Postings			Benthic Postings
	Caution	Warning	Danger	Toxic Algae Alert
Routine Monitoring	0	0	0	1
Pre-Holiday Assessment	2	0	1	0
Incident Response	5	0	0	3
Studies & Research	0	0	0	6
Total:	7	0	1	10

See [California HABs Portal](https://mywaterquality.ca.gov/habs/resources/habs_response.html)

(https://mywaterquality.ca.gov/habs/resources/habs_response.html) for more information on posting guidance.

In addition to responding to FHAB reports, RB1 worked with partners on routine monitoring; performed pre-holiday assessments; conducted studies and research; reported and presented study findings; provided FHAB program trainings; and assisted partners in developing their monitoring programs. Staff worked with various partners including Blue Lake and Big Lagoon Rancherias; Karuk, Yurok, Hoopa, Pulikla, Wiyot, and Cahto Tribes; Big Valley Band of Pomo Indians; Quartz Valley Indian Reservation; Del Norte, Humboldt, Lake, Mendocino, Siskiyou, Sonoma, and Trinity Counties; and the Klamath Basin Monitoring Program, US Environmental Protection Agency (USEPA), US Army Corps of Engineers, US Forest Service, US Fish and Wildlife, Sonoma Water, and Pacific Gas & Electric.

Routine & Partner Monitoring

Routine monitoring was conducted for three waterbodies or locations:

- *Big Lagoon* – monitored biweekly by Big Lagoon Rancheria for a common class of cyanotoxins called microcystins and analyzed by USEPA.
- [Klamath Basin](https://kbmp.net/maps-data/blue-green-algae-tracker) (<https://kbmp.net/maps-data/blue-green-algae-tracker>) – monitored biweekly to monthly for microcystins by Hoopa, Karuk, Yurok, and Pulikla Tribes and analyzed by USEPA.

- *Russian River* – recreational beaches visually assessed by Sonoma County, and four stations monitored biweekly for cyanobacterial growth by Sonoma Water.

Pre-Holiday Assessments

RB1 and partners collected water grab or algal mat samples from popular recreational lakes and rivers prior to major holiday weekends to inform visitors of waterbody conditions (Table 2). For more information on pre-holiday assessments and participation, see [State FHAB Program Wiki Page](https://sites.google.com/view/fhab-program-wiki/pre-holiday-assessment) (https://sites.google.com/view/fhab-program-wiki/pre-holiday-assessment).

Table 2. FHAB waterbody status following pre-holiday assessments, 2024.

Waterbody	Memorial Day	Fourth of July	Labor Day	Post-Holiday
Lake Mendocino		No Advisory	No Advisory	No Advisory
Lake Pillsbury	No Advisory	No Advisory	Caution	Danger
Lewiston Reservoir		No Advisory	No Advisory	No Advisory
Ruth Lake		No Advisory	No Advisory	No Advisory
Salmon Creek	No Advisory	No Advisory	No Advisory	No Advisory
Stone Lagoon	No Advisory	No Advisory	No Advisory	No Advisory
Trinity Lake		No Advisory	No Advisory	No Advisory

Incident Response & Illnesses

RB1 received reports of three human illnesses, a report of three dog deaths at one location, and a fish illness in 2024 (Table 3). Reports of illnesses are referred to the State Illness Workgroup who determines if the incident is believed to be related to FHABs. All reports were determined not to be FHAB-related, however, only two waterbodies were visually confirmed for no bloom presence, while three did not have sufficient information. See [Illness Tracking](https://mywaterquality.ca.gov/habs/hab-related_illness.html) (https://mywaterquality.ca.gov/habs/hab-related_illness.html) for more information.

Table 3. FHAB reports of human, dog and fish illnesses, 2024.

Illness Type	Waterbody	Status
Human illness	Mad River near CDFW Hatchery	Not FHAB-related; visually confirmed
Human illness	South Fork Eel River at Richardson Grove	Not FHAB-related; insufficient information
Human illness	Trinity River above Willow Creek	Not FHAB-related; insufficient information
Dog deaths	Eel River near Fernbridge	Not FHAB-related; insufficient information; not authorized to access private property
Fish illness	Fox Pond in Healdsburg	Not FHAB-related; visually confirmed

Studies & Research

The following studies and research were conducted in 2024:

- RB1 collaborated with University of Nevada Reno to better understand the spatial variation in anatoxin production within and across river networks.
- RB1 participated in the national USEPA Region Office of Research and Development Associated Research (ROAR) project to determine the distance needed between Solid Phase Adsorption Toxin Tracking (SPATT) samplers in the South Fork Eel River.
- RB1 is currently co-leading the California Cyanobacteria Harmful Algal Bloom (CCHAB) Benthic Subcommittee and used results from the regional special studies to revise current benthic guidelines.

Reports, Presentations, & Trainings

RB1 provided the following reports, presentations, and trainings in 2024:

- Special Sessions for Revising Benthic Guidelines. State Board, RB1, and Southern California Coastal Water Research Project (SCCWRP). Presentations for CCHAB Network Benthic Subcommittee, 2024.
- North Coast Regional Water Quality Control Board Executive Officer Briefing Memorandum: FHAB Monitoring & Response Program. February 2024.
- [Partner Training in the North Coast Region](https://www.waterboards.ca.gov/northcoast/water_issues/programs/swamp/media/GMT20240807-170335_Recording_1920x1080.mp4) (https://www.waterboards.ca.gov/northcoast/water_issues/programs/swamp/media/GMT20240807-170335_Recording_1920x1080.mp4) Virtual Training, August 2024.
- Partner Training in the Scott, South Fork Eel, and East Fork Russian Rivers. Field Trainings, August 2024.
- [Tiered Monitoring for Benthic Cyanobacteria and Cyanotoxins in Rivers](https://kbmp.net/images/stories/pdf/Meeting_Materials/Meeting_33/KBMP_General_Membership_Meeting_Agenda_Fall_2024.pdf) (https://kbmp.net/images/stories/pdf/Meeting_Materials/Meeting_33/KBMP_General_Membership_Meeting_Agenda_Fall_2024.pdf) Presentation for the Klamath Basin Monitoring Program, November 2024.
- Implementation of a Benthic Cyanobacteria Tiered Monitoring Program for Public Health Protection in Northern California Rivers. RB1 Monitoring Report, December 2024.
- Benthic Cyanobacteria and Cyanotoxin Threshold Development. RB1 Technical Memorandum for the CCHAB Network Benthic Subcommittee (*in review*).