



## What are harmful algal blooms and cyanotoxins?

Cyanobacteria, or blue-green algae, are found naturally in lakes, rivers, ponds, and other surface waters. Under certain conditions, such as in warm water containing an abundance of nutrients, they can rapidly form harmful algal blooms (HABs). HABs may have negative impacts on ecosystems, and human and animal health. Some HABs are capable of producing toxins, called algal toxins or cyanotoxins, which can be harmful to humans and animals. <sup>[1]</sup>



## How are humans and pets exposed to Cyanotoxins?

Human exposure to cyanotoxins generally occurs through ingestion or skin contact during recreational water activities (e.g. swimming and wading) when cyanotoxins are present, or by consuming drinking water or food (e.g. fish and shellfish) containing cyanotoxins. <sup>[2][3]</sup>

Pets may be exposed to cyanotoxins if they drink water that has cyanotoxins, lick their fur after swimming in contaminated water with cyanotoxins, or eat algal scum or mats containing cyanotoxins. <sup>[2]</sup>



## What are potential health effects from Cyanotoxins to humans and pets?

In humans, potential health effects include upset stomach, fever, headaches, muscle and joint pain, vomiting and diarrhea, liver and kidney damage, and skin and eye irritation. <sup>[1][2][3]</sup>


In pets, health effects from cyanotoxins may include skin rashes, vomiting, diarrhea, seizures, and even death. <sup>[2]</sup>



## Are there drinking water standards for Cyanotoxins?

Currently, there are no drinking water regulations for cyanotoxins. However, in 2015, the U.S. Environmental Protection Agency (EPA) issued 10-Day Health Advisories for the cyanotoxins microcystins and cylindrospermopsin (see table in the next column). Per the U.S. EPA, consuming drinking water that has cyanotoxins at or below the advisory levels for 10 days or less is not expected to cause adverse health effect to humans.

U.S. EPA 10-DAY HEALTH ADVISORIES FOR DRINKING WATER	LEVEL
<b>Microcystins</b>	
Children pre-school age and younger (under 6 years old)	0.3 parts per billion
School-age children (6 years and older)	1.6 parts per billion
<b>Cylindrospermopsin</b>	
Children pre-school age and younger (under 6 years old)	0.7 parts per billion
School-age children (6 years and older)	3.0 parts per billion



## Are there regulations for Cyanotoxins in recreational water?


Currently, there are no state or federal regulations for cyanotoxins in recreational waters. However, there are U.S. EPA Health Advisories which are summarized in table below. <sup>[4]</sup>

U.S. EPA HEALTH ADVISORIES FOR RECREATIONAL WATERS	LEVEL
Microcystins	8.0 parts per billion
Cylindrospermopsin	15.0 parts per billion



## Have Cyanotoxins ever been detected in Valley Water's treated drinking water?

Valley Water has a comprehensive algal toxin monitoring and response program. We routinely monitor cyanotoxins in Valley Water's drinking water delivered from our three surface water treatment plants. Since initiating the cyanotoxins monitoring program in 2015, there have been no detection of cyanotoxins in Valley Water's treated drinking water.



## Have Cyanotoxins ever been detected in the source water supplying Valley Water's treatment plants?

Cyanotoxins are detected routinely in reservoirs, mainly near the shoreline or boat launch areas. Drinking water source intakes are typically located in the deepest part of the reservoirs, well below the surface and far from the shoreline. As a result, very low levels of cyanotoxins have occasionally been detected in the source water supplying Valley Water's treatment plants. At these plants,

the water is treated to meet state and federal drinking water standards before it is delivered to local water retailers. Cyanotoxins have never been detected in the water delivered by Valley Water.



### What will Valley Water do if it finds Cyanotoxins in its treated drinking water?

If cyanotoxins are detected in treated drinking water, Valley Water would immediately notify the state regulatory agency for drinking water (State Water Resources Control Board's Division of Drinking Water), the Santa Clara County Department of Environmental Health, and affected water retailers. Valley Water would also explore operational changes to reduce the level of cyanotoxins such as changing the water source supplying our water treatment plants or adjusting treatment processes.



### Does Valley Water monitor Cyanotoxins in its reservoirs and ponds?

While recreational activities such as boating are allowed in some of Valley Water reservoirs, swimming and or wading is prohibited in all Valley Water reservoirs and percolation ponds. This restriction applies to both people and pets. As such, Valley Water currently does not routinely monitor for cyanotoxins in its reservoirs and percolation ponds. Valley Water has a seasonal algae control program for percolation ponds that includes application of a harmless dye, an enzyme treatment, and or algae harvesting. All recreational activities at Valley Water reservoirs are managed by the Santa Clara County Parks and Recreation Department<sup>[5]</sup>, and the two agencies are working together on posting informational signage regarding algal blooms at Valley Water reservoirs.



### Where can I find more information about harmful algal blooms and Cyanotoxins?

U.S. EPA Cyanotoxin Web Page:

<https://www.epa.gov/ground-water-and-drinking-water/managing-cyanotoxins-public-drinking-water-systems>

U.S. EPA Harmful Algal Blooms Web Page:

<https://www.epa.gov/cyanohabs>

State Water Resources Control Board's Division of Drinking Water Cyanotoxin Web Page:

[https://www.waterboards.ca.gov/drinking\\_water/programs/habs/](https://www.waterboards.ca.gov/drinking_water/programs/habs/)

U.S. EPA Informational Signage on Harmful Algal Blooms:

<https://www.epa.gov/cyanohabs/infographics-help-educate-public-habs-basics>

### What We Do

Valley Water manages an integrated water resources system that includes the supply of clean, safe water, flood protection and stewardship of streams on behalf of Santa Clara County's 2 million residents. We effectively manage 10 dams and surface water reservoirs, three drinking water treatment plants, an advanced recycled water purification center, a state-of-the-art water quality laboratory, nearly 400 acres of groundwater recharge ponds and more than 275 miles of streams.

We provide wholesale water and groundwater management services to local municipalities and private water retailers who deliver drinking water directly to homes and businesses in Santa Clara County.

### Footnotes

<sup>[1]</sup> [https://www.epa.gov/sites/production/files/2016-11/documents/harmful\\_algal\\_blooms\\_and\\_cyanotoxins\\_frequently\\_asked\\_questions.pdf](https://www.epa.gov/sites/production/files/2016-11/documents/harmful_algal_blooms_and_cyanotoxins_frequently_asked_questions.pdf)

<sup>[2]</sup> <https://www.epa.gov/sites/production/files/2016-12/documents/draft-hh-rec-ambient-water-swimming-factsheet.pdf>

<sup>[3]</sup> [https://www.epa.gov/sites/production/files/2015-07/documents/habs\\_faqs-and-resources\\_v1-july2015.pdf](https://www.epa.gov/sites/production/files/2015-07/documents/habs_faqs-and-resources_v1-july2015.pdf)

<sup>[4]</sup> <https://www.epa.gov/sites/production/files/2019-05/documents/hh-rec-criteria-habs-factsheet-2019.pdf>

<sup>[5]</sup> <https://www.sccgov.org/sites/parks>

### CONTACT US

To find out the latest information on Valley Water projects or to submit questions or comments, email **Atlasi Daneshvar** at [ADaneshvar@valleywater.org](mailto:ADaneshvar@valleywater.org) or use our **Access Valley Water** customer request system at <https://deliver.com/2yukx>.



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