

CALIFORNIA  
ENVIRONMENTAL  
HEALTH TRACKING  
PROGRAM

The **California Environmental Health Tracking Program** works to mobilize data for public health action. We help community groups, researchers and health advocates shine a spotlight on environmental hazards that may be impacting community health. As part of this effort, we are initiating a new project to track the health impacts of harmful algal blooms in California.

## Improving Efforts to Monitor the Health Impacts of Harmful Algal Blooms



Credit: Dr. Jennifer L. Graham, USGS. Public domain.

### Some natural algal blooms produce harmful toxins

Most freshwater algae are harmless to humans and animals, and can be beneficial

to the ecosystem. Some naturally occurring algal blooms, however, can produce

to the ecosystem. Some naturally occurring algal blooms, however, can produce large amounts of toxins that can cause significant health problems in humans, and severe health problems or death in pets, livestock, and wildlife. Such blooms are sometimes referred to as 'blue green algae,' but are more accurately known among scientists as harmful algal blooms (HABs).

## Harmful algal blooms are increasing

Research and monitoring around the world suggests the number of these types of algal blooms is increasing due to a variety of factors, including:

- Damming of rivers, which slows water flow
- Warming waters, which increase growth of HABs
- Runoff from agricultural land, which fertilizes the blooms

## Impacts go beyond recreational activities

HABs have been noted for years as a problem for lake managers, especially in bodies of water used for recreation. The slimy algae deter beach goers and boaters from enjoying the water and in some areas have caused significant economic loss. But as the problem of HABs increases in scope, there is growing awareness of the health implications for humans and other animals.

## How to identify a harmful algal bloom

According to the [California Department of Public Health](#), possible signs include:

- Bright green, blue, brown, or red water (may look like floating paint)
- Cloudy water (though toxins can remain after water has cleared)
- Very bad odor, like a sewer or rotten eggs
- Dead plants or fish

## HABs are dangerous to humans and other animals

Humans and other animals can be exposed to the toxins produced by HABs through:

- Ingestion
- Inhalation
- Skin exposure
- Eating fish and shellfish that have been exposed to the toxins

Ingestion by humans of untreated water that contains microcystin or other HABs-produced toxins can cause stomach upset, abdominal pain, headache, neurological symptoms, vomiting, and diarrhea, and may cause liver and/or kidney damage at high doses. Direct contact or inhalation (such as through riding in a speed boat or

water skiing through a bloom) can cause skin, eye, nose, throat or respiratory irritation. In dogs and other large mammals and birds, eating the blooms or licking residue off their fur can lead to sudden severe organ damage and death. Health impacts of other exposures, such as eating fish caught in a bloom area, are less well documented and understood.

## CEHTP will track human and animal HABS deaths and illnesses

The California **State Water Resources Control Board** is responsible for collecting information on all freshwater bloom events in the state. To date, surveillance of the health impacts of exposure to HABS has been by reporting through the **MyWaterQuality.ca.gov** website.

CEHTP is now implementing a data collection system created by the CDC, the **One Health Harmful Algal Bloom Reporting System** (OH HABS). This system tracks and follows up on reported incidents of human, pet, livestock/farm animal and wildlife health and mortality events associated with a bloom event. The OH HABS system is currently used to report such events in over half the states in the US, and data have been used to help in resource allocation and mitigation efforts in other states.

CEHTP is implementing the system for the 2018 bloom season in California (typically May - October, although sometimes extended in warm drought years). Data collected via OH HABS will be used to inform all stakeholders on the scope of health impacts related to HAB exposure. Look for updates on the **CEHTP website**.

## Multi-agency effort to increase HABS awareness and coordination

We are partnering with other state agencies to develop an outreach and education campaign aimed at raising awareness about blooms and their hazards and giving healthcare providers, veterinarians, local health officers, lake



Dead fish during an algal bloom.  
Credit: Mike Hooper, USGS. Public Domain.

managers and the general public information on how to report blooms or health impacts



Credit: Dr. Jennifer L. Graham, USGS. Public domain

blooms and their impacts as they happen.

In addition to CEHTP, the California Department of Public Health, California Department of Fish and Wildlife, California EPA/Office of Environmental Health Hazard Assessment and the California State Water Resources Control Board are collaborating on outreach and on communication efforts to ensure that all agencies are informed about

## Learn more and get involved

For more technical information on HABs activity in California, join the quarterly meetings of the **California Cyanobacteria and HAB network**.

For more information about the implementation of the OH HABs system in California, please contact **Susan Paulukonis**.

## More HABs Resources

- How to **report a bloom** in California
- CDPH page on **harmful algal blooms**
- CDC page on **HABs-associated illness**
- CDC's **One Health Harmful Algal Bloom Reporting System**

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