

For information about HABs and shellfish safety:

California Department of Public Health,
Shellfish Information Line: 800-553-4133

CDPH Quarantine Info: <http://www.cdph.ca.gov/Pages/MusselQuarantineFAQ.aspx>

To report a red tide or other unusual marine sighting:

www.jellywatch.org

To report a marine mammal stranding:

Long Marine Lab: 831-469-1719

Monterey Bay Aquarium:
www.montereybayaquarium.org

Marine Mammal Center:
www.marinemammalcenter.org

To report a seabird stranding:

Monterey County SPCA Humane Wildlife Services: www.spcamb.org/hws.html

Native Animal Rescue:
www.nativeanimalrescue.org

Want to support HAB legislation?

www.HABlegislation.com

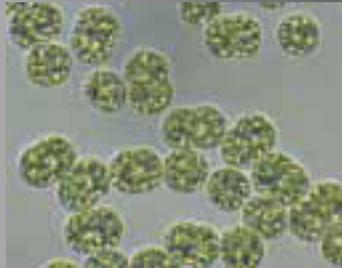
Learn more about National Occurrence, Laws, & Regulations:

<http://www2.epa.gov/nutrient-policy-data/cyanobacterial-harmful-algal-blooms-cyanohabs>

Cyano

Cyanobacteria

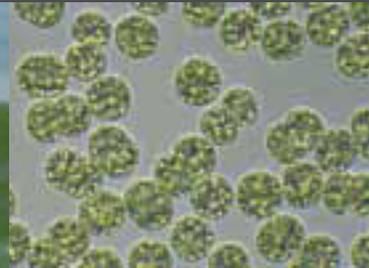
Photosynthetic bacteria found in terrestrial, fresh, brackish, or marine water. Cells are too small to be seen without a microscope, but can sometimes form visible colonies.



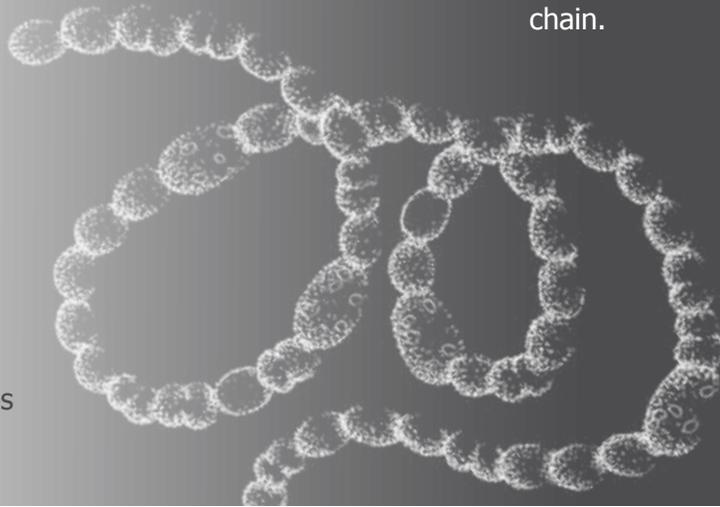
Cyanobacteria have been found among the oldest fossils on earth and are one of the largest groups of bacteria.

Harmful Algal Blooms

A small number of phytoplankton and cyanobacteria can cause a Harmful Algal Bloom. When conditions are favorable and cells "bloom" rapidly, they can deplete oxygen, block sunlight, irritate the gills or skin of other animals, or deplete waterproofing oils on bird feathers. All of these can be considered a HAB.



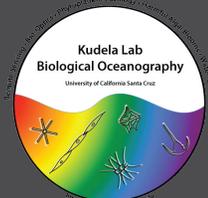
Additionally, a small number of species produce toxins. A bloom of a toxin-producing species can be harmful to other animals and to humans. In fresh and brackish water, toxins can build up in the tissues of filter-feeding fish and be transferred up the food chain.



Toxin Producers

- *Anabaena*
- *Aphanizomenon*
- *Cylindrospermopsis*
- *Microcystis*
- *Nodularia*
- *Planktothrix*
- *Woronichinia*

HABs



CyanoHAB or pond scum: How do I know?



CyanoHAB

What is a CyanoHAB?

CyanoHABs are algal blooms that are dangerous to people, animals, or the environment. CyanoHABs can block sunlight, deplete oxygen, and produce toxins.

How are humans exposed?

Humans can be exposed through inhaling, swallowing, or skin contact with affected water, and by using affected water for irrigation or washing.

Are HABs dangerous for animals?

Yes. Pets should not swim in or drink from water where a HAB may be present. If your pet becomes sick, tell your veterinarian that there may have been exposure to CyanoHAB toxins.

Are CyanoHABs visible?

Dense blooms of cyanobacteria can turn the water bright green and be clearly visible. However, presence of toxins can not be determined from appearance, odor, or taste alone.

Is all pond scum dangerous?

No. Many kinds of algae can be found in freshwater. Algae growing on the bottom (benthic), on rocks at the shoreline, or in floating mats are generally not harmful. Pond scum may be harmless, but if in doubt, avoid contact and don't allow pets to use the water.

Toxins

- Cyanobacteria produce a variety of toxins
- Known toxins include microcystin, saxitoxin, anatoxin-a, lyngbyatoxin, nodularin, and cylindrospermopsin. Microcystins are particularly hazardous to human health, and produced by *Microcystis*, *Anabaena*, *Planktothrix*, and *Woronichinia*.
- California guidelines recommend action when microcystins are > 0.8 ppb, similar to regulatory levels for lead



Help Prevent CyanoHABs

- Limit fertilizer use, especially near streams and other bodies of water
- Maintain septic tanks
- Promote native plant growth along streams and shorelines to act as a buffer for runoff
- Minimize standing water, and don't allow direct runoff from agricultural ponds, golf course ponds, or other water bodies with "green scum" to streams and rivers