



INFORMATIONAL GUIDE ON

ALGAL BLOOMS

What Are Algal Blooms?

An Algal boom is the overgrowth of microscopic algae or cyanobacteria in fresh, salt, or brackish waters.

Algae are a group of plants that live in aquatic environments and use photosynthesis to produce energy from sunlight.

Cyanobacteria (also called blue-green algae) are a group of photosynthetic microbes that occur in most inland waters and can have effects on the water quality and functioning of aquatic ecosystems.



Algal blooms are a **natural phenomenon**, but their frequency, duration and intensity can be increased by excessive nutrients.

Most blooms are caused by a single-cell organism called **Phytoplankton**. The main types of phytoplankton that cause most blooms are:

Cyanobacteria: cause most freshwater blooms of public health concern.

Dinoflagellates and Diatoms: cause most saltwater blooms of public health concern.

Are Algal Blooms Harmful?

Phytoplankton is naturally occurring in bodies of water, but some types at bloom levels can be harmful.

Blooms can harm people, animals, and the environment when they:

- Produce toxins
- Use up oxygen in the water
- Release harmful gases
- Clog the gills of fish and invertebrates
- Smother submerged aquatic vegetation
- Contaminate drinking water sources

These events are called **Harmful Algal Blooms**, or "**HABs**."



References

<https://www.cdc.gov/habs/environment.html>

<https://www.cdc.gov/habs/prevention-control.html#prevent-forming>

<https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/algae-watch/what-are-algae/causes-of-an-algae-bloom#:~:text=Algae%20blooms%20can%20occur%20when,%2C%20and%20stable%20wind%20conditions>

<https://www.niehs.nih.gov/health/topics/agents/algal-blooms/index.cfm>

Signs of an Algal Bloom

When In Doubt, Keep Out!

Look for signs of a bloom of harmful algae or cyanobacteria before going into the water and stay out if water looks or smells bad.



Smell

When blooms of phytoplankton die and start decaying, they can release gases that smell like **rotten eggs or rotting plants**.

Visual Signs

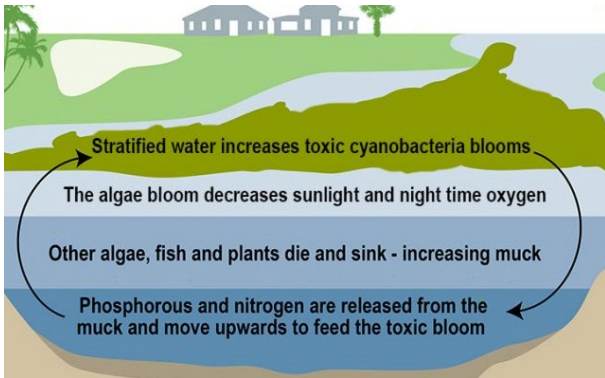
Another sign of an algal bloom is **dead fish or other animals**. Blooms can grow on the surface of water and look like **scum, mats, and spilled paint**.



They can also change the color of the water to **blue, green, brown, yellow, orange or red**.

Why Do Algal Blooms Occur?

Algal blooms can occur when a combination of suitable environmental conditions exist for abundant algal growth.



The most common factors are:

Levels of Nutrients such as phosphorus and nitrogen increase in water. Sources include:

- Fertilizer from home lawns
- Sewage from people and animals
- Run-off from land

Water Temperature increases. Blooms are more likely to happen in the spring and summer but can occur any time of year.

Water Flow is low and moves slow.

Water Conditions like pH or water clarity change.

What Can We Do?

The public plays an important role in helping prevent harmful algal blooms from forming.

Check local ordinances regulating fertilizer application

- Apply fertilizer according to weather and seasonal restrictions.
- Use only the recommended amount of fertilizer, reducing the potential of run-off into nearby water bodies.

Maintain your septic system

- Wastewater is full of nutrients that can feed algae and cyanobacteria.
- Keep wastewater from leaking and seeping into nearby bodies of water.

Nutrients in the water can help algae and cyanobacteria grow quicker than usual, causing blooms.

If you are concerned about a bloom in your area, please submit a report online to EPC at [Report an Environmental Concern](#), or call 813-627-2600.