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Avoiding Algal Blooms



By [Gemma Alexander](#)

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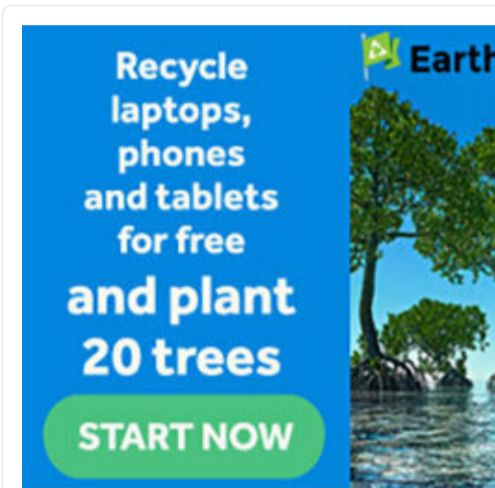


Anyone who lives near a body of water is probably familiar with toxic algal blooms. As the climate and bodies of water warm, they are becoming more common and more severe. And with impacts that range from foul odors to sea mammal die-off, it's worth learning how to stop contributing to toxic algal blooms, even if you live far from water.

Algal blooms can be **caused** by cyanobacteria or by true algae, which includes seaweed. Algae grows naturally in fresh, brackish, and salty water. But when normal environmental conditions are disrupted, they can form harmful blooms. There are well over a quarter million species of algae. Some, like the blue-green algae **spirulina**, are nutritious. Others, like the seaweed **kelp**, are keystone species in their habitats. But there are toxic varieties of both freshwater **algae and seaweed** that can be very harmful when they bloom.

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Algae does not bloom in the sense that flowers do; instead, an [algal bloom](#) refers to explosive growth of algae that forms big clumps or covers the surface of the water in slime. It can also, like the spirulina in your green smoothie, change the color of the water – this is where the phrase “[red tide](#)” comes from.

Record-breaking blooms are impacting coastal ecosystems from California to Lake Erie to Florida this year. Although a natural phenomenon, blooms can be triggered by human activity. Algal blooms result from [eutrophication](#) when excess nutrients, particularly phosphorus, enter an aquatic system. Agricultural runoff and untreated [wastewater](#) are the main sources of these extra nutrients, which are flushed into waterways during heavy rainfall. As climate change [has resulted](#) in warmer waters and more frequent extreme storms and flooding, algal blooms have [become more common](#).

Harmful and Toxic

Algal blooms are [not always toxic](#). Algae is naturally occurring and provides food for many species. But even beneficial algae are usually unwelcome on swimming beaches. Nontoxic algal blooms can have a slimy texture, unpleasant odor, cause discoloration of the water and have a negative effect on the taste of water and fish. These types of blooms are called [nuisance blooms](#).

[Harmful algal blooms](#) (HAB) are those that produce toxins or deplete oxygen causing dead zones in the water. People and pets can become sick if they are exposed to toxic algal blooms, drink the water, or eat fish and shellfish caught in the affected area. Freshwater HABs can cause skin, eye, nose, throat, and lung irritation and in some cases stomach pain, headaches, vomiting and liver damage, [among other symptoms](#). HABs in salt water cause the same symptoms, and can lead to various forms of shellfish poisoning that can [lead to serious illness and death](#).

When HAB's happen, closed beaches hurt local economies, and both recreational and commercial fisheries can be shut down by algal blooms. The [average annual economic impact](#) of HABs in the U.S. is estimated at \$10-100 million and costs from a single major HAB event can reach tens of millions of dollars.

[Sargassum](#) is a seaweed that grows in huge patches in the middle of the North Atlantic. But in 2011, Sargassum experienced a bloom so large that satellite images could see it, and the bloom has continued to grow ever since. Although it is critical to the open ocean ecosystem, Sargassum is a nuisance when it washes onto beaches, and it can smother coral reefs and harm other coastal ecosystems. Last year, the US Virgin Islands declared a state of emergency after Sargassum clogged a desalinization plant.

This year, freshwater algal blooms have caused fish kills in [North Carolina](#) and [Texas](#) and the death of a dog in [Utah](#). A red tide that has been growing since May in California has sickened or killed [hundreds of sea mammals](#).

Protecting Yourself

While most blooms are visible from the surface of the water, not all of them are. And you cannot tell just by looking if a visible bloom is toxic.

To [protect yourself](#) and your pets from toxic algae, it's important to pay attention to water quality advisories and signage about a bloom. Stay out of and away from the water, because others may have tracked the toxins on the nearby



ground.

If you, your family, or pets come into contact with affected water, wash thoroughly as soon as possible. [Effects of exposure](#) to the toxins from HABs can range from mild to fatal for both people and pets, but the harm goes beyond the health impacts of direct exposure.

Stopping the Bloom

Wetlands absorb carbon and nutrients. They function like sponges, absorbing and storing water during heavy rainfall and releasing it during dry seasons. On coasts, wetlands reduce storm surges and floods. These characteristics give wetlands [considerable potential](#) to reduce algal growth. [Protecting wetlands](#) helps stop the increase in algal blooms as well as slowing one of their root causes, climate change.

Even if you don't live anywhere near water, your actions can impact harmful algal blooms. If you have a septic system, maintain it well. No matter what wastewater system you have, [waste less water](#) and don't use too much [laundry detergent](#). Design your [landscape to handle stormwater](#) runoff and cut down on the chemicals you use in your yard. Use natural [fertilizers](#) and don't use more than the recommended amount. Even if you don't garden, you can help eliminate fertilizer runoff by purchasing [organically grown food](#).

Awareness Is Key

Being alert to your local water conditions, as well as monitoring the source of fish and shellfish you eat, are important steps to preventing exposure to algal blooms. The most important thing you can do to prevent HABs is to [shrink your carbon footprint](#) to reduce the pace of global warming. You can have a more direct impact by reducing the pollutants and nutrients you release into the water.

[Edit](#)



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[Designing Sustainable Outdoor Living Spaces](#)



By [Gemma Alexander](#)

Gemma Alexander has an M.S. in urban horticulture and a backyard filled with native plants. After working in a genetics laboratory and at a landfill, she now writes about the environment, the arts and family. See more of her writing [here](#).

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