

# Harmful Algal Blooms

Marine algae are single-celled plantlike organisms that are in all the world's oceans. They are also called phytoplankton or "drifters". When conditions are right (nutrients, light, and temperature), the algal cells can quickly multiply and create what are called "algal blooms". Some algal species produce toxins that can be harmful to other members of the marine food web. For example, filter feeding fish like anchovies eat toxic algae and then pass the toxins to their predators, like Sea Lions and Pelicans. These predators can become sick and in some cases die as a result of the toxins. Humans can also become sick when the toxins are passed through seafood. Fortunately, several seafood safety programs are in place to prevent people from eating toxic seafood.

When a bloom of toxic algae happens, it is called a Harmful Algal Bloom (HAB). It is not clear exactly what causes algae to bloom or to produce toxins. Scientists do know that temperature, nutrients, light and water quality are factors that influence when and where algal blooms occur. In general, warmer water temperatures are more favorable for blooms. This is a concern because ocean temperatures have been steadily increasing as a result of global climate change. Scientists are concerned that this will cause the number of blooms and the geographic range of blooms to increase. Below is a photo of an algal bloom recently observed in Puget Sound, WA.



**Photograph of an algal bloom observed in Washington's Puget Sound in May 2012.**

Scientists took water samples from this bloom and found several species of diatoms (*Pseudonitzschia*, *Thalassiosira*, *Leptocylindrus*, *Chaetoceros*) and some dinoflagellates (*Protoperidinium*, *Noctiluca*) in the water.