

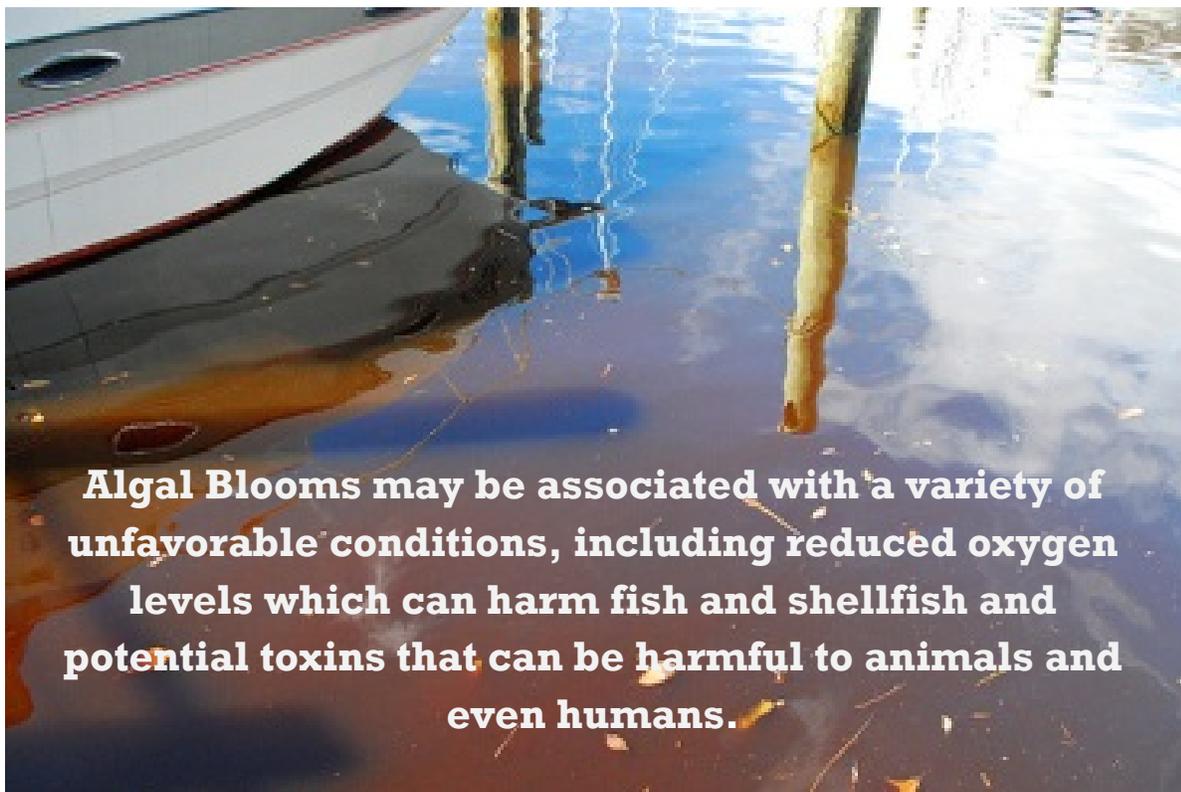


ALGAL BLOOMS, BACTERIA, & OUR LOCAL WATERS

A quarterly outreach article from the LaRC Environmental Office (SPEEB), June 2013

It's that time of year again...summer picnics, the beach, fireworks, and the endless mowing of grass. Hampton Roads is a pretty great place to be this time of year. Water, water, everywhere...and our recreational use of it is at an annual high. But more frequently in recent years, unwanted guests have been crashing the party. Algal blooms and high levels of bacteria are becoming an annual nuisance and are a symptom of an even bigger problem. There are things we all can do to help...and it starts with what we do around our homes and neighborhoods.

Excess nutrients in our stormwater runoff can have negative consequences for our local waterways, especially in the warmer months of summer. Algal blooms are generally accompanied by discoloration of the water which can take on a brown or even reddish color depending on the pigmentation of the particular type of algae. Algae species can respond to changes to our rivers caused by large storm events. Heavy rains not only locally reduce the salinity of our tidal waters, but also bring high levels of nutrients through surface runoff. The algae that grow best in these conditions can divide rapidly and can form blooms. These blooms may be associated with a variety of unfavorable conditions, including reduced oxygen levels which can harm fish and shellfish and potential toxins that can be harmful to animals and even humans.



These excess nutrients come from a variety of activities from construction to agriculture, septic systems, and even sanitary sewer overflows. But one source we sometimes overlook is the runoff from our homes and neighborhoods. Lawn fertilizer and the waste from our pets

are the main culprits. It is easy to overlook these sources if we just think about a single household, but multiply that by the number of homes in an individual watershed, and the impacts can be dramatic. Take for example a current study by the Virginia Department of Environmental Quality to limit the bacteria entering the Poquoson and Back River watersheds. It is estimated that there are over 41,000 dogs in these two watersheds alone.

It is up to each of us to do our part. There are no regulations being enforced to reduce pet waste and fertilizer use. In fact, no amount of regulation could be adequately enforced at the homeowner level.

While we can't do anything about the weather, we can all work to reduce the impact of these storms on our local waters. It is also important to remember that it is not just waterfront homeowners who need to be aware of the impacts of their actions. All of our homes are connected to our local waters by a series of storm drains and these storm drains eventually run directly into our waterways with no treatment.

Limit the amount of fertilizer you apply to your yard. Test your soil, or have it tested by a professional to determine if nitrogen

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Test your soil, or have it tested by a professional to determine if nitrogen or phosphorus additions are actually needed.

Scoop the poop.

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Plant a buffer.

A living shoreline slows down the flow of water and uptakes the nutrients before they can make it into our rivers

or phosphorus additions are actually needed. Scoop the poop. Animal waste can be a significant contributor of nutrient runoff following a storm. Plant a buffer. A living shoreline slows down the flow of water and uptakes the nutrients before they can make it into the river. The combined effort of a community taking these steps will significantly reduce the amount of excess nutrients into our waters and should limit the likelihood of algal blooms.

It's not just a problem with algae...

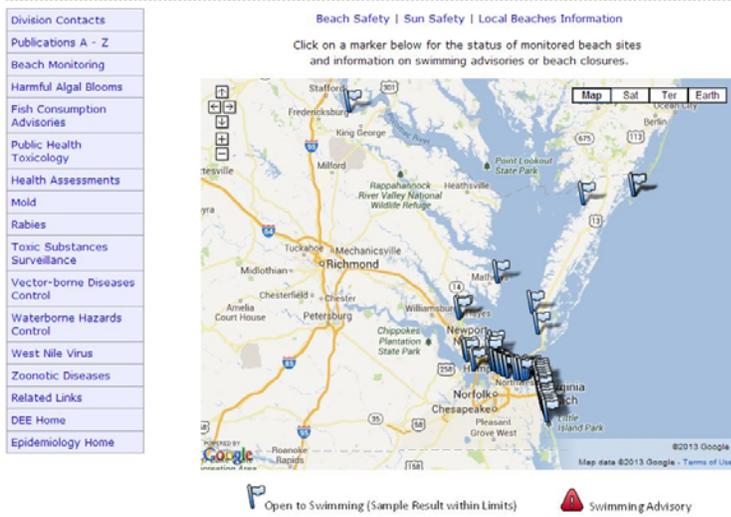
We continue to see closings at our local beaches every summer due to high levels of harmful bacteria. Already this year beaches in Virginia Beach and Norfolk have posted swimming advisories due to high bacteria levels.

Most of the time the closings come after a large rain event and it is no coincidence. Storm sewer outfalls discharge adjacent to our beaches after collecting runoff from residential streets and lawns. While sewage

overflows are also to blame, it is believed a substantial source of bacteria comes from pets in residential areas.

Pet owners have a responsibility to pick up pet waste to prevent it from entering our local waters through the storm sewers. And not

Swimming Advisories and Monitored Beaches Map



just during dog walks. It is important to clean up after our pets in our back yards as well. According to estimates, a single dog's waste can account for over 4,000,000,000 bacteria cells in a single day!