

NEWS AND INFO

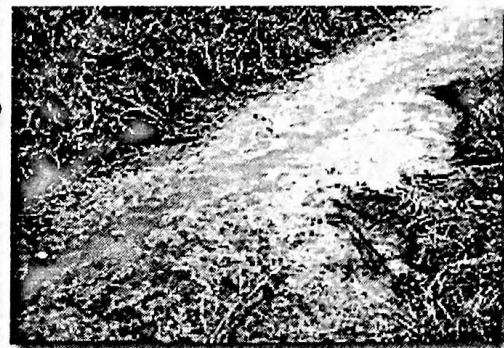
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Nutrients - Can There Be Too Much of a Good Thing?

In the 2005 Chesapeake Summer Forecast, Chesapeake Bay Program scientists anticipate poorer than average water quality conditions in the Bay. While weather, water temperature and water salinity play important roles in the balance of good water quality, nutrients have an overriding influence on many aspects of the Bay's health, particularly with regard to water quality.

What do nutrients have to do with the Bay?

Nutrients, such as nitrogen and phosphorous, are naturally occurring chemicals in the environment that help plants and animals grow. They come from a number of natural sources, and they are added into a variety of man-made products, from fertilizers to cleaning solutions, to help those products work better and more quickly.



Nutrients enter the Bay in a number of ways, for example:

- precipitation carries excess nutrients from the land (e.g. when there is too much fertilizer for the ground to absorb) into the Bay's rivers and streams,
- wastewater treatment plants release nutrients from treated water into the Bay and
- storm drains send nutrient-enriched storm water directly to the Bay's streams and rivers.

In the spring, snow melting on the mountains and natural spring rains send more water into the Bay's rivers and streams, so spring is the season during which a significant amount of nutrients naturally enter the Bay.

How are nutrients related to dissolved oxygen?

There is a direct relationship between the amount of nutrients flowing into the Bay and the severity of low dissolved oxygen it experiences. In the Bay, nutrients fuel the growth of phytoplankton, which many species rely on for food. When unconsumed, phytoplankton settle on the bottom of the Bay and are decomposed by oxygen-consuming bacteria. Those bacteria remove dissolved oxygen from the deep areas of the Bay, and because the water is so deep in these areas, the oxygen is not replenished.

How are nutrients related to algal blooms?

Just as nutrients help land plants grow quickly, nutrients in the water help aquatic plants and plant-like organisms, like algae, to grow quickly. In some ways, nutrients can be considered a fuel for algae to grow.