The Efficiency of Wetland Plants on Absorbing Contaminated Runoff

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Cyanobacteria, also known as blue-green algae is a big issue today because it is destroying the ecosystems of lakes, streams, and other waterways. As the blue-green algae grow rapidly and spread, it forms algal blooms. When you can notice a sheer, bluish-green tint in the water, that means an algal bloom has formed. Eventually, these blooms will start to decompose and die, which uses up a lot of the oxygen in the water since the bacteria are decomposing its cells. This causes hypoxic zones, places where all living organisms like plants and fish are dying due to the lack of oxygen. Blue-green algae is a big reason for these hypoxic zones, and it thrives on nitrogen and phosphorus. Nitrogen and phosphorus are found in several household products like laundry detergent, fertilizers, and cleaning products. Excess of these supplies can be washed down drains and eventually make its way into runoff water which ends up in lakes, streams, and ponds. Although there are some products that contain less nitrogen and phosphorus, it would be unrealistic to make a plan to stop the growth of the algae by assuming everyone is able to stop using products that contain harmful contaminants. Instead, this research project will be focused on trying to absorb the nitrogen and phosphorus that is in runoff water before it reaches lakes, rivers, and ponds. Based on research that has been done, the theory is that plants roots are able to absorb contaminants from the water they are being watered with. If plants are watered with contaminated runoff water, they should be able to absorb the nitrogen and phosphorus in the water. This could decrease algae growth and benefit the plants.

Awards Won: