

Paper by Maranda Green

This paper has been very slightly altered from the original submission. Some terms and sentence portions that are not accurate are blocked out in grey. A small portion of the Introduction is not included until resubmitted due to accuracy issues.

Conclusion and data are the students own.

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Scientific Research Paper

Title: What are the Urban Impacts on Waterbodies?

Abstract: The purpose of this report is to determine what is it exactly that is polluting our waterbodies, and is it because of the way in which we treat the urban environment. As for data, I have the amounts of oxygen, phenols, copper, and chlorine that was found in the creeks and rivers that were visited. The waterbodies I visited were Cypress Creek, and the Wolf River. My conclusion is the environment in the urban areas does have a major and harmful impact on the waterbodies.

Introduction: If you've seen an urban environment, then you will know that litter is a common problem. . . My hypothesis is the litter that is thrown in the streets contain harmful chemicals,so, when it rains, all of the trash and chemicals are poured into our creeks and rivers, contaminating our water. I first plan to observe the types of litter found in the streets ,creeks, and rivers. I then plan to take samples from the water to test for harmful properties such as too much chlorine, phenols, or not enough oxygen. This will allow me to successfully discover the connection between the litter and the pollutants found in our important waterbodies.

Materials and Methods:The materials used were a phetometer, test tubes, and a bucket. The bucket was used to gather water from the waterbody. The test tube was filled with a certain solution to help determine the presence of whatever chemical I was looking for. The water testing kit gave me the exact measurements of each substance I was testing for in the water. This work was conducted outdoors near the waterbodies I tested during the times of 9:00 a.m until 11:00 a.m.

Results: The results found regarding the types of litter in the streets were, aluminum, plastic, paper, glass, metal, electrical trash, and cigarette butts. The ratio of recyclable to non-recyclable trash amounted to 12%. If people recycle more, there would be a major decrease in the amounts of trash found in the streets. After that concluded, I began my sampling of the water system. In Cypress Creek, I tested for phenols, **acidic toxic white crystalline solids**, in the water. The amount of phenols found was averaged .47ppm. The amount of copper found in the creek averaged around .62 mgL, which is enough copper to impact the water. And Lastly, the amount of chlorine equaled to .022 mgL, which is not bad, but could be helped. The amount of oxygen found in the water equaled to 8.48 mgL. This is excellent because a high presence of oxygen means the flourishing of life under water.

Discussion: To conclude this experiment, I have proved that my hypothesis is correct. **The treatment of** urban environments have a harmful impact on our waterbodies. All of the litter, including, but not limited to: **feces**, hair products, plastic, grocery bags, aluminum, and more that is dumped on the streets end up in the same location, our waterbodies. The chemicals from the products contaminate our water **sources in large amounts, making purification more difficult as time passes**. One change that can be made to prevent the contamination of our water is to stop littering. As long as trash remains in the street, pollutants will continue to enter our water and contamination can't be helped. If we can eliminate litter all together, contamination by these chemicals would not be a problem. Another way I can test my hypothesis is to take water samples from the large water bodies, such as the Mississippi River, and determine if we find

some of the same chemicals that we found in our creeks and smaller rivers, and test to determine the amount of those chemicals as well.