

Bronx River Research Essay

The Bronx River is approximately 24 miles, the freshwater river runs through southeast New York. Although the Bronx River is known for being very polluted in the last through years, the state took many steps in cleaning this river. As a class, we studied and collected leaf packs of the Bronx River watershed. A watershed is an area or ridge of land that separates waters flowing to different rivers, basins, or seas. Although the Bronx River watershed is still polluted, it is now only moderately polluted compared to the state it was a few years ago.

In the Macroinvertebrate data collected grade wide, it is shown through the data, that there is a high count of Scuds in all groups. Scuds are Moderately Pollution-Sensitive Organisms, meaning that if a lot of them are located in the Bronx River, it most likely means the water is slightly polluted. Water beetles were also found in all groups. Water beetles is a common group of aquatic insects. Depending on the type of water beetle, they can range from sensitive to somewhat tolerant of pollution. Crayfish, Caddisfly and Mayfly were also found in the leaf pack samples. They are also Moderately Pollution-Sensitive Organisms, once again confirming that the Bronx River is slightly polluted.

The pH of pure or unpolluted water is 7. Water with a pH lower than 7 is acidic, and water with a pH greater than 7 is basic. The normal range for pH in water systems such as the rivers is 6.5 to 8.5. The majority of the samples had a Ph between 6.4-7.2, however most were closer to 6.4. There were also a sample that had a Ph of about 5.9 and another that had a Ph of approximately 5.2. They are both slightly below, or more acidic than the “normal” levels of unpolluted water, confirming the idea that the Bronx River is moderately polluted.

The Conductivity of a healthy or unpolluted freshwater river should be between 50 and 500 $\mu\text{hos/cm}$. If it is below or above the “normal” range, that could show that the water is polluted, and not suitable for certain species of fish or macroinvertebrates, especially Pollution-Sensitive Organisms. In the data collected, the conductivity was well above the “normal” range, with numbers past 1200 $\mu\text{hos/cm}$. This shows that the water in the Bronx River is polluted, not heavily but enough that certain organisms most likely cannot survive in these conditions.

In water, the higher the number of dissolved oxygen indicates the healthier the water is. 5-6 ppm is needed for fish and organisms to survive and higher than that is ideal. In the Bronx River, the dissolved oxygen is around 5-6 ppm, with some samples being lower. The Bronx River can sustain certain organisms however it is not an ideal situation. The ppm is a little low, meaning the water in the river is slightly polluted.

Overall, when observing the Macroinvertebrate data, I was able to group most organisms as being moderately tolerant to pollution. Through observing the Ph levels and conductivity of the water, and dissolved oxygen levels, I was able to confirm that the Bronx River watershed is slightly polluted.

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