A watershed is an area, or ridge of land that separates waters flowing to different rivers, basins, or seas. These water bodies supply our drinking water, water for agriculture and manufacturing and offer opportunities for recreation.They also provide habitat to numerous plants and animals. Unfortunately, various forms of pollution, including runoff and erosion, that can interfere with the health of the watershed. Therefore, it is important to protect the quality of our watershed. Although the Bronx River watershed is still quite unhealthy, it is progressing to becoming a more healthy body of water. One reason is because animals are becoming more present in the water. Scuds are the most popular macro-invertebrate that ranges from 40 to 130. There are also a number of caddisflies, finger clams, and bloodworms now frequently present in the river. However, scuds are typically highly resistant to pollution, which means that they would not be as affected by the conditions. Another indicator that the Bronx River watershed is becoming more healthy is that the enterococcus levels, or bacteria found in high levels of human feces, has decreased dramatically from 2015 to 2016. In September of last year, the enterococcus level was at 22,500. However, by April of 2016, the level of enterococcus that could be present in the watershed was almost at zero. The increase in oxygen levels of the watershed has also given us proof that the animals are able to maintain a stable environment. This happens when the oxygen from the atmosphere dissolves and mixes into the waters surface. The amount of oxygen an animal needs depends on how large the animal and the complex is and where it lives. For example, clams and worms mostly only need at least 1 mg/L of oxygen to survive, whereas larger animals usually need at least 3 mg/L to survive. The dissolved oxygen in the Bronx River was at its highest during the mid summer, where over 7 mg/L was dissolved. In addition, the pH of water and conductivity of the Bronx River watershed has increased over the year, which also shows the progress the river has made. A pH measures the hydrogen ion concentration of a solution, which controls whether a solution is acidic or alkaline. The pH of stream water is influenced by many sources. For instance, natural rainwater has a pH of approximately 5.6, attributable to mixing with carbon dioxide in the atmosphere to form carbonic acid. Nitrous oxides, or sulfur oxides from fossil fuel consumption also can mix with water in the atmosphere to form acid rain, which can substantially lower the pH of streams. The pH of water occurring in this watershed reached a high of 7.2, around the same pH of pure water. Conductivity, or specific conductance, measures the ability of water to conduct an electrical current. A stream’s conductivity is directly proportional to the concentrations and types of positively and negatively charged ions present. The Bronx River’s conductivity is on average 800 and is slowly increasing. The biodiversity index is 6/170 for the total macroinvertebrate in the summer of 2016.

Citations:

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