Algaenius

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The purpose of this experiment was to determine if by increasing the mass of algal species in different containers filled with contaminated water, there would be a significant decrease concentration in parts per million within the container. The procedures were as follows: Set up an aquarium with 7 gallons of distilled water 3 ½ cups of instant ocean sea salt and allow mixing for 48 hours. Go to South Padre Island to test the salinity levels in the water as well as collect local species of macro alga. Set the salinity levels in the tanks and place the alga. Contaminate distilled water with sodium nitrate, cupric nitrate, and calcium nitrate. Measure the concentration of contaminants in the water before the experiment using a spectrophotometer and set up the experimental groups. Measure the concentration after the experiment. The results of the experiment were that Sargassum vulgare absorbed a higher concentration than the two other algae species (Ulva lactuca and Digenea simplex). The alga was exposed to 3 different contaminants with varying amounts and by 2 different exposures. The greatest concentration decrease achieved by S. vulgare was one of 53.63% as compared to the 42.27% of U. lactuca and 27.95% of D. simplex. By increasing the mass present in the vials as well as manipulating the alga, there was a greatly significant decrease in the concentration of contaminants present in the water. Based on these results, the student researcher’s hypothesis was supported.

Awards Won: