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To What Extent Does the Proximity of Industrial Sites Impact the Concentration of Micro Plastics in the Water on the St Austell Bay Coastline and Is the Aquatic Environment in Danger?

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Plastic debris can come in many shapes and sizes, but those that are less than five millimeters in length are called "microplastics." As this is a new field of study, not a lot is known about microplastics and their impacts on the environment yet. Research by Plastics Europe shows that there has been a constant rise in microplastic production throughout the past decade. Furthermore, in 2021, Kyushu University revealed that there is an estimated 24.4 trillion particles of plastic in the world's upper ocean. This volume of microplastics can be catastrophic to our environment, as the microplastics can severely affect the health of aquatic organisms. Whilst there are many causes of plastic in waterways, the marine industry contributes around 20-30% of the pollution. We wanted to research how the marine industry, based on the St Austell coastline, has impacted the surrounding area. We collected sea water from four different locations along the bay, filtering the microplastics to allow us to count them and calculate the concentration. Our research was focused towards microplastics within the range of 0.5-10 µm. Ultimately, we can see evidence that the beaches closer to the industrial sites have higher volumes of microplastics. However, due to the scale of our project, no definitive answer can be made.

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