

## Analyzing Environmental Samples with Microplastics under a Stereo Microscope

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The growing of the consumer culture has contributed to the massive rising of microplastic in environmental samples. Several studies have shown that the rise in microfibers and microplastics has to do with common household items such as facewash, toothpaste, clothing, and cleaning supplies. In this research, we began by collecting samples from a North Georgia drinking water plant. Fluorescent orange polyethylene microspheres, 600-710-micron, were added to assess the extraction methodology. These microspheres were extracted using the National Oceanic and Atmospheric Administration (NOAA) procedure. Filtered samples were analyze on filter paper underneath a 3.5X-180X Zoom Stereo Microscope. The filter paper was labeled by quadrants to be able to analyze the samples easier and more efficiently. Then, natural organics were differentiated from the added polyethylene microspheres and the existing microplastics from the sample. We have found a large number of microplastics/microfibers from the environmental sludge samples that were collected. Additionally, not all the microspheres that we embedded in the samples were accounted for, indicating that the extraction procedure damages the microplastics within the sample. From this we will further assess more samples with microplastics in order to further our research, as well as compare various extraction methods.