

Appendix A. Screen shot of flyer designed to raise awareness about microplastics pollution and a new invention measuring microplastics, distributed at Comic-Con International 2015 by authors S. Patterson (Amphitrite) and M. Patterson (Coral Man) to attendees in the Exhibit Hall, San Diego Convention Center. (Older contact details for author Edson redacted.)



Northeastern University

What
's the

Problem?

Microplastics, defined as particles of plastic less than 5 mm in size, are becoming pervasive in the world oceans due to pollution. The size of microplastics is of great concern because it results in physiological problems in a variety of marine organisms. Plastic pieces cause ingestion problems in many marine organisms, and transport harmful pollutant chemicals and bacteria around the world.

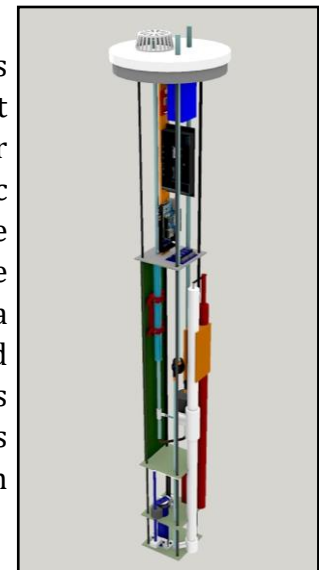


How Do We Track and Monitor Microplastics?

Microplastics concentrations are determined by dragging a small net behind a research vessel and counting up the number of particles that are present in a given volume of water. This research process is both expensive with modern research vessels and also dangerous without adequately sized vessels traveling out to the middle of the ocean. There is a growing need for a cheap and reliable autonomous sensor that could perform this same task and help collect data on plastic dispersion.

How Can We Use Technology to Monitor Microplastics?

Ethan Edson, a researcher at Northeastern University, has developed a low-cost autonomous robot (the MantaRay), that measures microplastics concentrations in bodies of water all over the world. This sensor will help us to create a map of anthropogenic plastic pollution and determine how marine microplastics are dispersing in the ocean and how they are affecting different marine ecosystems, including the deep sea. With further development, a fleet of these sensors could drift around autonomously in the World Ocean, collecting crucial real-time data that will help policy makers to address the growing problem of ocean plastics. The MantaRay is US Patent Pending and is available for licensing from Northeastern University.



For further information, contact Ethan Edson, [older email was here]