

## Shore litter as a source of microplastic pollution in bodies of freshwater

Maureen Kennedy<sup>1</sup>, Ashley Velzis<sup>1</sup>, Sarah Davis<sup>1</sup>, Andrew Davies<sup>2</sup>, & Coleen Suckling<sup>1</sup>

<sup>1</sup>Department of Fisheries, Animal, and Veterinary Sciences, University of Rhode Island, Kingston, RI 02881

<sup>2</sup>Department of Biological Sciences, University of Rhode Island, Kingston, RI 02881

Microplastics represent a major threat to marine and aquatic life as well as humans. These plastics can originate from a variety of land sources, including land litter. Land litter surveys were conducted at various freshwater sites throughout Rhode Island where microplastic water testing was also completed. All visible litter was collected and categorized by type of litter, as well as specific plastic type. Plastic was the most abundant litter collected across sites, when compared to metal, glass, cloth, and wax. Cigarette butts and filters were the most common type of litter and plastic bags were the second most abundant. These two types of litter are most commonly made from cellulose acetate and polyethylene, respectively. These are two of the most abundant microplastic types that have been recovered from water in previous studies. It is expected that when the water samples are processed, there will be significant quantities of both cellulose acetate fibers and polyethylene fragments. The data from litter surveys suggest that land litter is a contributor to microplastic pollution in water sources and littering does have a lasting effect.