

Sean Smith

Department of Environmental Science

Marine Biology

Robert Rattner, Dr. Roman Zajac

Assessing Photographic Techniques for Quantifying Fouling Community Development and Biodiversity

Epifaunal communities (fouling communities) are important components of coastal ecosystems. Photography has been a method used to monitor environmental changes on the coast. Digital technology has expanded its use in field research and the ease of collecting and disseminating images. A consistent and repeatable procedure was created to collect photographs of fouling communities. Two types of photographs were collected using two different cameras, a D800 and a D3200. The two types of photographs were a full tile shot and a 3x4cm shot. The study was conducted over a 6-week period at two locations, Norwalk and Avery Point in Long Island Sound. It was found that the two cameras did not have a difference in capabilities for determining species. The two types of photographs (full tile & 3x4cm) had different levels of clarity, yet the 3x4cm photographs offered little information for species identification that the full tile photographs couldn't provide. A microscope was needed at multiple points to identify species, especially bryozoans. There were distinct differences in the assemblage of communities between the two locations. This study will be considered the baseline for photography of fouling communities and documenting their growth and interactions.