

PhD Dissertation
Department of Environmental Science and Policy
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Title: The facilitation of the invasive alga *Gracilaria vermiculophylla* by a native decorator worm (*Diopatra cuprea*) in mid-Atlantic estuaries of the United States

Dissertation Director: Dr. Amy Fowler

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ABSTRACT

The establishment of a non-native organism can have dramatic consequences for native biodiversity, though this is not always straightforward. The predatory marine worm *Diopatra cuprea* anchors shells, algae, and plant matter to its tube in Mid-Atlantic salt marshes. This anchoring behavior has assisted the persistence and spread of the red alga *Gracilaria vermiculophylla* in soft-sediment habitats. This dissertation (1) examined decoration preferences of *D. cuprea* for *G. vermiculophylla*, (2) surveyed invertebrate communities which settle on *G. vermiculophylla* in the field and invertebrate settlement preference in the laboratory, and (3) compared *D. cuprea* decoration patterns across states and seasons.