

Analysis of the spatial distribution of fish populations with respect to habitat variables for sea scallops (*Placopecten magellanicus*) in the Gulf of Maine

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Abstract

This research focuses on the incorporation of environmental variables into fisheries assessment. Specifically, we are creating a spatial probability distribution map of scallop abundance at different life stages in the Gulf of Maine based on environmental variables. Scallop abundance and life-history processes are known to correlate with environmental variables, though little work has focused on the Gulf of Maine. This method of including environmental variables broadens the scope of traditional abundance estimates by considering not only the species itself but also its habitat preferences. This research will aid in abundance estimates and survey design as well as help multiple stakeholders gain a better understanding of critical scallop habitat.