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Estuarine, Coastal and Shelf Science

Volume 64, Issue 1, July 2005, Pages 5-17

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https://doi.org/10.1016/j.ecss.2005.02.002

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Abstract

Our understanding of the recruitment of estuarine fishes has been strongly influenced by two views: first, that estuaries are important nurseries and second, that many species are estuarine dependent. Based on an attempt to review the world-wide literature on these topics, it appears that both of these views have merit but could benefit from additional attention and clarification. The term estuarine dependency is used in a variety of ways depending on the author and context and even how one defines estuary. Further, and perhaps most importantly, we often lack the comparative data on habitat use by fishes in the ocean vs. the estuary to make judgments about dependency. To that end we have analyzed the distribution patterns of fish species along the estuarine-coastal ocean ecotone in southern New Jersey, U.S. to evaluate the fish response. As a result, it appears the degree of estuarine use is quite variable among species, as well as
at geographic, annual and cohort-specific scales. Thus, further synthesis is necessary and it might focus on: first, more information on fish use in different types of estuaries across a broad geographical range; second, a better understanding of the functional significance of habitats across the habitat landscapes of the estuary-ocean ecotone; third, any further synthesis needs to incorporate of the role of biotic variables (e.g. predation, competition) in order to enhance our understanding of the degree of estuarine dependency; fourth, we need to determine how freshwater flow into estuaries might influence habitat use especially with regard to the potential role of the offshore estuary.

Keywords

estuarine dependency; fish; connectivity; habitat; nurseries

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