**Assessing available habitat for black sea bass (*Centropristis striata*) in the Chesapeake Bay through a Habitat Suitability Model**

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Estuarine habitats, such as the Chesapeake Bay, serve as an important nursery ground for many economicallyimportant fish, including black sea bass (*Centropristis striata)*. Available habitats vary every year and are influenced by factors such as rainfall and estuarine mixing. We developed a Habitat Suitability Model (HSM) in order to examine how available habitat for black sea bass fluctuates during the years. This model was written in R by applying a growth rate potential model linked to the interpolated temperature and salinity data from the Chesapeake Regional Ocean Modeling System. Since *C. striata* prefer bottom structures, benthic habitat data was overlaid with the model output to evaluate the best sites. Reefs around Tangier Sound and Pocomoke Sound showed suitable habitat throughout the years. Suitable habitat increased from May to October, with July and August having the most variability. An abundance survey conducted in Tangier Sound showed presence of black sea bass from August to November, with the highest abundance found in late September and in areas with oyster reefs. Understanding the factors that influence available estuarine habitat for juvenile *C. striata* will provide us with vital information that can be used to help maintain a sustainable commercial and recreational fishery.