

POPULATION AND FISHERY DYNAMICS OF BLUE CRABS *CALLINECTES SAPIDUS* IN A SUBESTUARY OF CHESAPEAKE BAY. Robert Aguilar, Eric G. Johnson, Anson H. Hines, Paige M. Roberts, Michael R. Goodison, and Margaret A. Kramer. Smithsonian Environmental Research Center, Box 28, Edgewater, MD, 21037, USA.

In recent years, overexploitation and habitat degradation have contributed to precipitous declines in the spawning stock and juvenile recruitment of Chesapeake Bay (CB) blue crabs. Based on fishery-independent surveys and catch reports, fishery managers have a good understanding of population size and exploitation for CB as a whole. However, little is known about population and fishery dynamics at smaller scales, such as the tributary. To this aim, a mark-recapture experiment was conducted in the Rhode River, a small mesohaline subestuary of upper CB, during 2005–2008 to estimate: 1) population size; 2) exploitation rate; 3) tagreporting rate; 4) fishery composition. To date, over 40% of tags have been reported. Exploitation rates were high throughout most of the study period, but comparable with Baywide estimates. Tagreporting rates were also high for all fishery sectors, indicating a high level of cooperation with most fishers. The recreational catch was a considerable component of overall harvest (~20–35% per year), much larger than previous Baywide estimates. Population size estimates were generally consistent among years and increased in precision over the study period. These data provide an important understanding of the complex nature of the blue crab fishery.