

FIELD ASSESSMENT OF BLUE CRAB RESTOCKING IN UPPER CHESAPEAKE BAY. Eric Johnson¹, Anson Hines¹, Margaret Kramer¹, Michael Goodison¹, Robert Aguilar¹, Heather Soulen¹, Paige Roberts¹, Yonathan Zohar², and Oded Zmora². ¹Smithsonian Environmental Research Center, P.O. Box 28, 647 Contees Wharf Road, Edgewater, MD, 21037, USA; ²Center of Marine Biotechnology, University of Maryland Biotechnology Institute, 701 E. Pratt Street, Baltimore, MD, 21202, USA.

The blue crab population and spawning stock in Chesapeake Bay have declined precipitously with strong evidence that the population is currently recruitment limited. Restocking has been proposed as one potential tool, in concert with protected areas, habitat restoration and traditional fishery management to achieve stock recovery. We summarize the results of a multi-year study designed to assess the potential of enhancing local populations of blue crabs with hatchery-reared juveniles and to identify key factors that maximize survival of hatchery-reared juveniles following release. During 2002–2008, we released 53 cohorts of 1,000–25,000 hatchery-reared juveniles into nursery habitats of the upper Chesapeake Bay. Survival of released crabs varied among release sites, seasons, years and stocking densities. Overall survival was high (15%), but was highest in early spring and late fall releases when predation was lowest. Cohorts released in spring grew to maturity within the season of release; whereas cohorts released in summer and fall over-wintered and matured in their second year. Key next steps in our ongoing assessment are to assess fishery impacts on restocking success and to evaluate the cost-effectiveness of restocking relative to alternative strategies. Overall, our results continue to indicate that the potential for restocking with this species is encouraging.