

## **Green crab (*Carcinus maenas*) population size and movement in a Gulf of Maine microestuary**

Invasive green crabs (*Carcinus maenas*) cause economic and ecological damage to the marine ecosystems that they invade. Obtaining a better understanding of green crab size and movement is necessary to develop better mitigation strategies to prevent future spread of this species into non-native regions. Using a mark-recapture method, population size and movement of green crabs was assessed in Mill Pond, a microestuary off of Penobscot Bay in the Gulf of Maine. Across four sampling periods, lobster traps were deployed at four locations within and one location outside of Mill Pond; approximately 48 hours later, green crabs from the traps were marked according to date captured and which trap they were caught in, then released in the same area where they were collected. Because no recaptures occurred over the course of the study, the actual capture numbers obtained from Deployment/Retrievals 1-4, plus a theoretical recaptured crab, were used to calculate a minimum population size estimate. Additionally, the capture data from each trap from the four retrieval dates of this study were averaged and compared statistically. There was an increase in the mean number of captured crabs from the trap furthest inside Mill Pond to the outermost trap, but this trend was not statistically significant. Increased sample size for this study could have led to a statistically significant trend in mean capture numbers, and could also have provided more time to attempt to recapture crabs, leading to a strengthened study and a better understanding of the size and movement of the Mill Pond green crab population.

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