

ABSTRACT

THE INFLUENCE OF ENVIRONMENTAL PARAMETERS ON ZOEAE RECRUITMENT DYNAMICS OF THE CHINESE MITTEN CRAB, *ERIOCHEIR SINENSIS*, IN SAN FRANCISCO BAY, CALIFORNIA

The Chinese mitten crab, *Eriocheir sinensis*, is an invasive nuisance species that has become established in estuaries around the world. The adult population of mitten crabs oscillates dramatically and population explosions have caused dramatic ecological impacts. Exploring the links between environmental parameters and cohort success is crucial in understanding what drives the dynamics of the North San Francisco Bay population. Temperature and salinity thresholds have been shown to exist at the beginning of the zoeae recruitment period in San Francisco Bay. A model was employed to predict the presence of *E. sinensis* zoeae stages II-V in the field; this model combined long-term mean temperatures from San Pablo Bay with larval development expressed by a temperature and salinity-dependent linear regression function. The analyses suggest that temperature, salinity, and planktivore abundance are three variables that play important roles in driving the recruitment dynamics of *E. sinensis* zoeae.

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