

Changes in survivability, weight, and behavior in the invasive European green crab (*Carcinus maenas*) in response to decreased salinities

The invasive European green crab, *Carcinus maenas*, represents an ecological threat to ecosystems around the world. For example, as habitat and dietary generalists, *C. maenas* competes and preys on native species. *Carcinus maenas* may be limited by a disability to tolerate low salinities. This study tested survivability, weight change, and behavior of *C. maenas* at low salinities (30 psu, 8 psu, 2 psu, 0 psu) over a one week period. Laboratory trials showed a reduction in survivability as salinity was decreased, but survivability leveled off as salinity remained constant. As an osmoregulator, the average percent weight change in *C. maenas* showed a small increase from 8 psu to 2 psu. The behavior in response to stimuli of *C. maenas*, from day 1 to day 7 of the laboratory trials, became less responsive. These results indicate *C. maenas* can acclimate to low salinities, outside the expected range of 4-54 psu, possibly allowing this species the potential to spread further than anticipated.

Advisor: Ann Cleveland