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Influence of salinity on the functional feeding response of *Rhithropanopeus harrisii* found at Hubbard Creek Lake, TX

# Abstract

Invasive species, such as the Harris mud crab *Rhithropanopeus harrisii,* provide a natural experiment to study rapid adaptations to new environments and conditions and novel interactions with the local flora and fauna. A study examining the functional responses of *R. harrisii* collectedfrom the western Baltic Sea, found that feeding rates were consistently highest at 10 ppt and 7 ppt compared to 4 ppt. These results would indicate reduction of predatory impact by *R. harrisii* at lower salinity levels which would lessen the predatory impact of the species when occupying an environment in which the salinity levels are especially low. However, in recent years, there have been numerous documented populations of *R. harrisii* spreading within United Stated lakes- such as Hubbard Creek Lake, TX, where salinity levels are drastically low. Considering these recent observations, we hypothesize that invasive individuals have developed a tolerance to the lower salinity conditions since their introduction to the area and would thus show no reduction in feeding response to low salinities. I conducted two trials at 2.5 ppt and 5 ppt. My trials consistently showed no difference across the two salinites.