

ABSTRACTS

Environmental correlates of Blanchard's cricket frog (*Acris blanchardi*) abundance and activity for cattle tanks at Timberlake Biological Field Station

Sean Alexander^{a,b} and Jesse Meik^b

^a Department of Biology, Rutgers University – Camden, Camden, NJ 08102

^b Department of Biological Sciences, Tarleton State University, Stephenville, TX 76402

Amphibians are sensitive to environmental perturbations, and as such are important indicators of environmental health. Blanchard's Cricket Frogs (*Acris Blanchardi*) are locally abundant in the Midwestern United States, but their numbers have been declining for unknown reasons, particularly along the northern and western boundaries of their distribution. Some factors that potentially affect *A. blanchardi*'s population declines include habitat degradation, climate change, and poor water quality; however, the ecology of this species is poorly understood. To better understand *A. blanchardi*'s ecology and to inform future conservation efforts, we studied the environmental correlates of cricket frog activity and relative abundance at cattle tanks at Timberlake Biological Field Station in the southern Cross Timbers region of central Texas. We conducted observational studies at six different cattle tanks to determine the relationship between frog density (frogs observed per meter) and several environmental factors such as temperature, water quality, and pond size. Of the variables evaluated, only pond perimeter and total dissolved solids (TDS) showed significant inverse correlation to frog density. The various temperature variables and remaining water quality variables showed no significant correlation to frog density. Our results suggest that small, ephemeral ponds, including cattle tanks, are important aspects of *A. blanchardi* habitat requirements, perhaps more so than overall water quality.