

Linking the Relationship Between Adult and Larval Mosquito Abundances in Baltimore, MD - Danielle Bodner

- A. Factors influencing mosquito infestations
 - 1. Larval development
 - a) Availability of aquatic habitat
 - b) Quality of aquatic habitat
 - 2. Tied into an educational intervention study to reduce mosquito abundance
- B. The study
 - 1. Feedback loop
 - a) Urban decay produces more mosquitoes
 - b) People go inside and no longer care for external environment
 - 2. Study questions
 - a) Is there variation between neighborhoods
 - b) Are adult Abundances related to larval Abundances
 - 3. Study area in west Baltimore
 - 4. Design
 - a) BG sentinel traps
 - (1) May through Oct
 - (2) Every three weeks
 - b) Larval sampling
 - (1) Late June
 - (2) July/August
 - (3) September
 - c) Neighborhoods ranged from high through middle to low economic status
 - 5. Mosquito species
 - a) Primarily *Ae albopictus*
 - b) *Cx pipiens/restuans*
- C. Results
 - 1. Adults
 - a) High SES neighborhood had the lowest numbers of adults
 - b) Most adults caught mid-season
 - 2. Larvae
 - a) Container type
 - (1) Functional
 - (2) Structural
 - (3) Disused
 - b) Estimated density
 - c) Container index - percent larval positive containers
 - d) House index - percent larval positive parcels
 - e) Bottom line
 - (1) More containers in low income neighborhoods
 - (2) Most larvae found mid-season
- D. Conclusions
 - 1. More *Culex* spp found in low income neighborhoods
 - 2. *Ae albopictus* greatest density was mid-season
 - a) Increased with increasing numbers of disused containers
 - b) Dominant adult species predicted by container index, except in the high income neighborhood
 - c) Encouraging waste removal in lower income neighborhoods can have positive results
 - 3. The relationship between larval and adult abundance varied

E. Take home message - Tailor your message