

## Chikungunya, Zika, and How Do You Stop a Flying Tiger? – Jeff Heusel

- a) <http://www.cdc.gov/chikungunya/resources/vector-control.html>
- b) Chatham County Mosquito Control
  - 1) 438 sq mi
  - 2) 1/3 is salt marsh environment
  - 3) Long history with mosquito-borne diseases
    - (i) Yellow fever
    - (ii) Malaria
- c) Map of Zika risk - <https://www2.ucar.edu/atmosnews/news/19850/potential-zika-virus-risk-estimated-50-us-cities>
  - 1) *Aedes aegypti* populations decreased considerably between 2000 and 2001 and disappeared almost entirely at this point
  - 2) Low vector numbers reduce chance of ZIKV getting a foothold in the area
  - 3) CDC map - <http://www.cdc.gov/zika/pdfs/zika-mosquito-maps.pdf>
- d) Options for control
  - 1) 1990 – Toxorhynchitis release
    - (i) Labor intensive
    - (ii) Didn't see much control
  - 2) Community cleanup
    - (i) People may respond initially, or not
    - (ii) Problem quickly returns
  - 3) Liquid Larvicide
    - (i) Aerial application
    - (ii) In response to actual cases
- e) Surveillance
  - 1) BG Sentinel 1.0
  - 2) 92.4% of species caught are *Aedes albopictus*
  - 3) LBJs
    - (i) Used initially to determine where albos were located
    - (ii) Now they are everywhere
  - 4) Backpack aspirator
  - 5) Landing rates
- f) Testing
  - 1) Pool and ship albos
  - 2) In response to a travel-related case
- g) Control
  - 1) 95% adulticiding done by helicopter
  - 2) product - Naled
  - 3) Fly starting an hour before sunset
    - (i) Peak activity for *Culex quinquefasciatus*
    - (ii) Can do lots of acreage in 30 minutes
  - 4) Need to determine best time to spray to control albos
    - (i) Early morning truck spray?
    - (ii) Aerial spray?

- 5) Bottle bioassay
- h) Education
  - 1) Door to door
  - 2) Community events
  - 3) Classroom program
  - 4) Media
  - 5) Community outreach (Terminate the Tiger)