

Summary of Arboviral Activity in VA – David Gaines

- a) Background
 - i) 30+ years of data (1975-2006)
 - ii) Diseases reported
 - (1) EEE – 5 cases
 - (2) LAC – 27 cases
 - (3) SLE – 8 cases
 - (4) WNV – 66 cases (2000–2006)
 - iii) Locations
 - (1) WNV – primarily urban
 - (2) SLE – primarily urban
 - (3) LAC – originally mountain areas but spreading
 - (4) EEE – around Great Dismal Swamp
- b) WNV
 - i) 66 clinical cases
 - ii) 7 blood donors
 - iii) 4 fatalities
 - iv) Many indicators
 - (1) Wild birds
 - (2) Sentinel chickens
 - (3) Equine
 - (4) Mosquito pools
 - v) Bird data much less useful since 2003
 - vi) Equine data has also dropped off
 - vii) Sentinel chickens more useful for EEE
 - viii) Mosquito surveillance best indicator
 - (1) Positives are not the best indicator
 - (2) Populations more indicative of a problem
 - (3) *Culex pipiens + restuans*
 - (a) account for the majority of positive pools
 - (b) MIR 2.65
 - (c) MIR in human case areas 3.61
 - ix) Using MIRs
 - (1) Look at the first positives
 - (a) Early peaks – earlier the peak the higher the risk
 - (b) Height of early peak
 - (2) MIR for season
 - x) Bridge vectors
 - (1) Indicates a lot of transmission is occurring
 - (2) Indicative of high human risk
- c) EEE
 - i) Equine cases are a good indicator of a high risk year
 - ii) May not be predictive of human cases locally
 - iii) Sentinel chickens useful for EEE surveillance
 - iv) Mosquito pools
 - (1) Important to monitor *Cs melanura* populations

- (2) Seasonality is important
- (3) High MIRs may not be predictive
- d) Mosquito surveillance is vital to protecting public health!