

Off Season *Culex pipiens* Complex Mosquitoes in a Neighboring Stormwater/Sanitary Sewer System – Lane Carr (Henrico County Public Works)

- a) Background
 - i) Density of WNV+ mosquitoes highest along border with Richmond city
 - ii) Richmond City hot spots also along border
- b) Combined sewer system in Richmond city produces lots of *Culex* spp
- c) Challenge – crossing city/county borders
- d) Findings
 - i) Lots of trash in sewers under manholes
 - ii) Lots of larvae
 - iii) Combined sewer system with trap-type catch basins
- e) Monitoring
 - i) Off-season
 - ii) 5 catch basins
 - iii) Twice a week in December
 - iv) 5 dips per catch basin
 - v) Location parameters collected
- f) Results
 - i) Catch basins
 - (1) Copepods
 - (2) Sewer fly larvae
 - (3) Mosquito larvae – up to 7 per dip
 - ii) Highest concentrations found in catch basin with highest wall temp
 - iii) Collected last egg raft Nov 28th
 - iv) Many resting adults found under manhole cover
 - v) Drop in water temp below 50° leads to a decrease in larvae collected
- g) What happens when it rains
 - i) Flushing depends on intensity of rainfall
 - ii) Also depends on whether catch basin receives additional water from an adjacent sub-basin
 - iii) Even in heavy rains there appear to be adequate “hiding places” for larvae
- h) Plan of action
 - i) Form a partnership with the city of Richmond
 - ii) Training employees on all aspects of mosquito control
 - iii) Find GIS/map of catch basins