

Successional Patterns of Mosquito Abundance in Richmond County, Georgia

Kelsey A. Laymon

Affiliation: Research Scientist, Phinizy Center for Water Science, Augusta GA 30906

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Abstract. The dynamics, diversity and environmental driving forces influencing mosquito communities have been described by many researchers throughout the world. This study seeks to understand how extrinsic driving forces affect the urban mosquito communities in Richmond County, GA. Mosquitos were collected at fifteen sites biweekly by deploying light and gravid traps from January–December 2014. Cyclical successional trends were observed at several sites with possible exogenous and endogenous driving factors. To determine the factors behind the observed changes in abundances, we collaborated with the Richmond County Mosquito Control Program, using their data to determine the effects of mosquito control operations as well as, temperature and precipitation data from the Bush Field airport in Augusta, GA. We found that total abundance peaked at 6/22/14 at Site 1, and 5/12/14 at Site 2 with various highs and lows throughout the rest of the year, this trend generally coincided with higher and lower temperatures, respectively. Abundances of particular species correlated with rain events but correlations to mosquito control operations were confounded by non-synchronous sampling and control efforts, which can be improved in the future.