

Job Spotlight

Georgia Mosquito Control Association 2021 Annual Meeting

Kristin Reichardt

Vector Surveillance Coordinator

Richmond County Mosquito Control



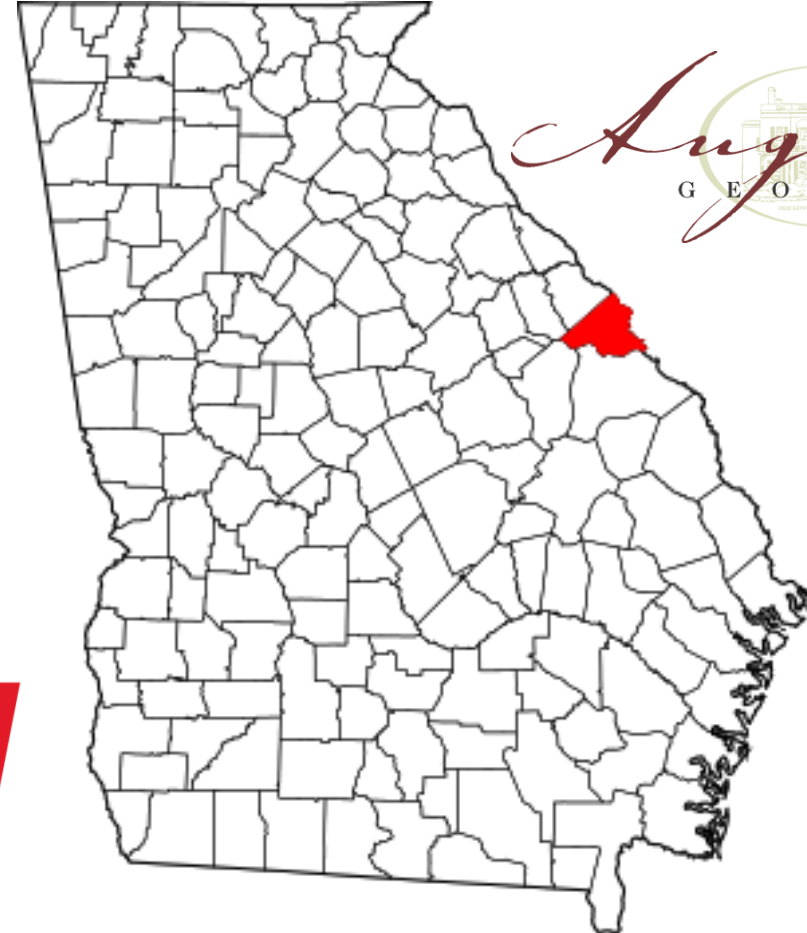
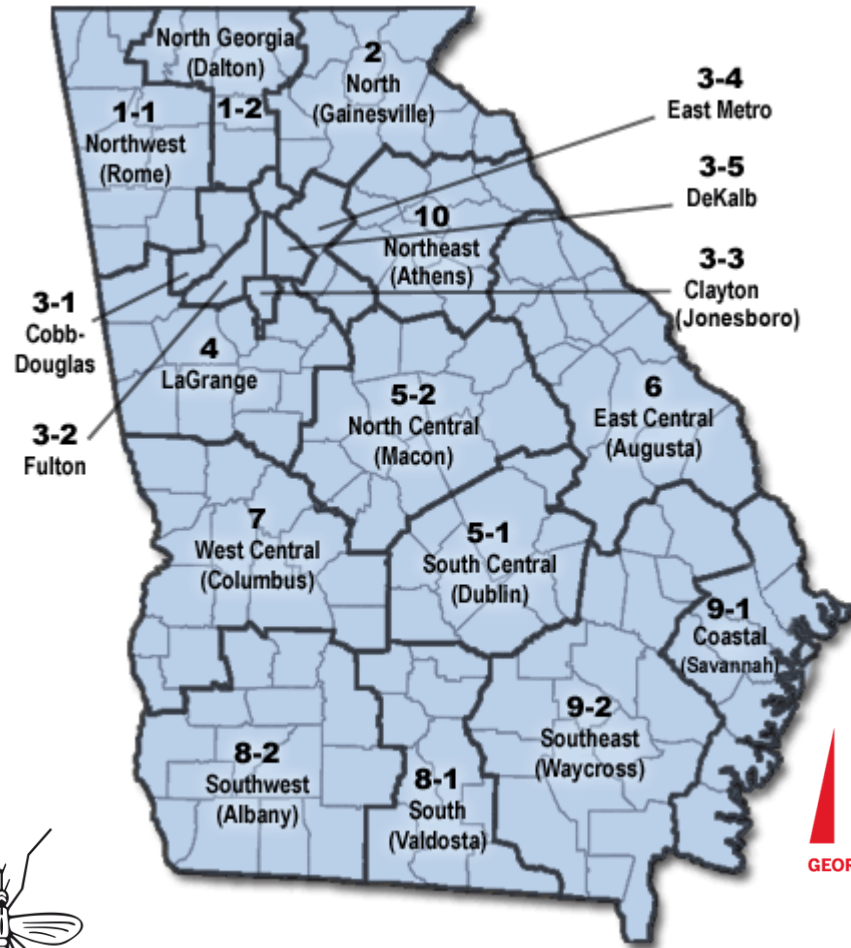
Introduction

About Me

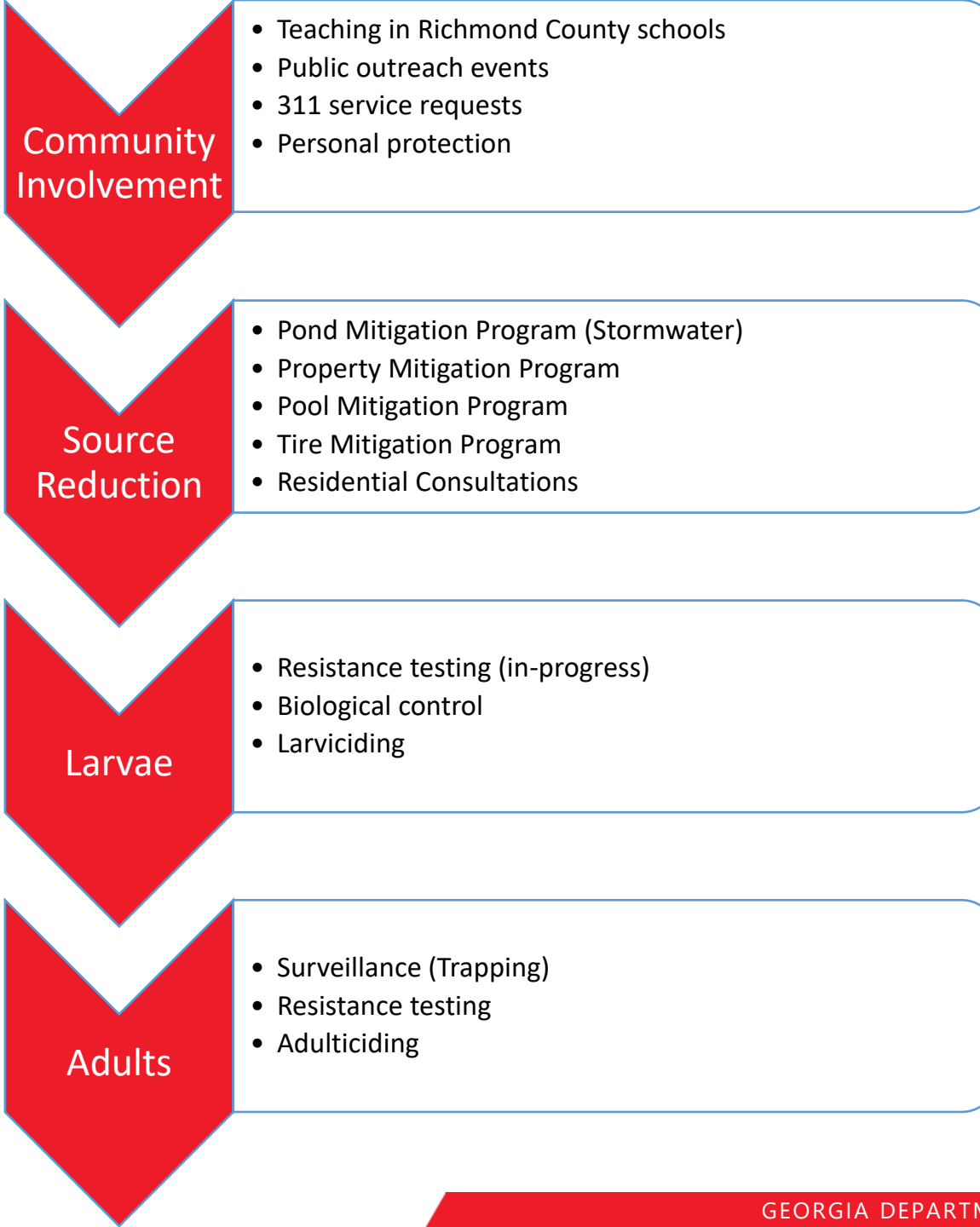


Introduction

About Richmond County Mosquito Control



Integrated Mosquito Management (IMM)

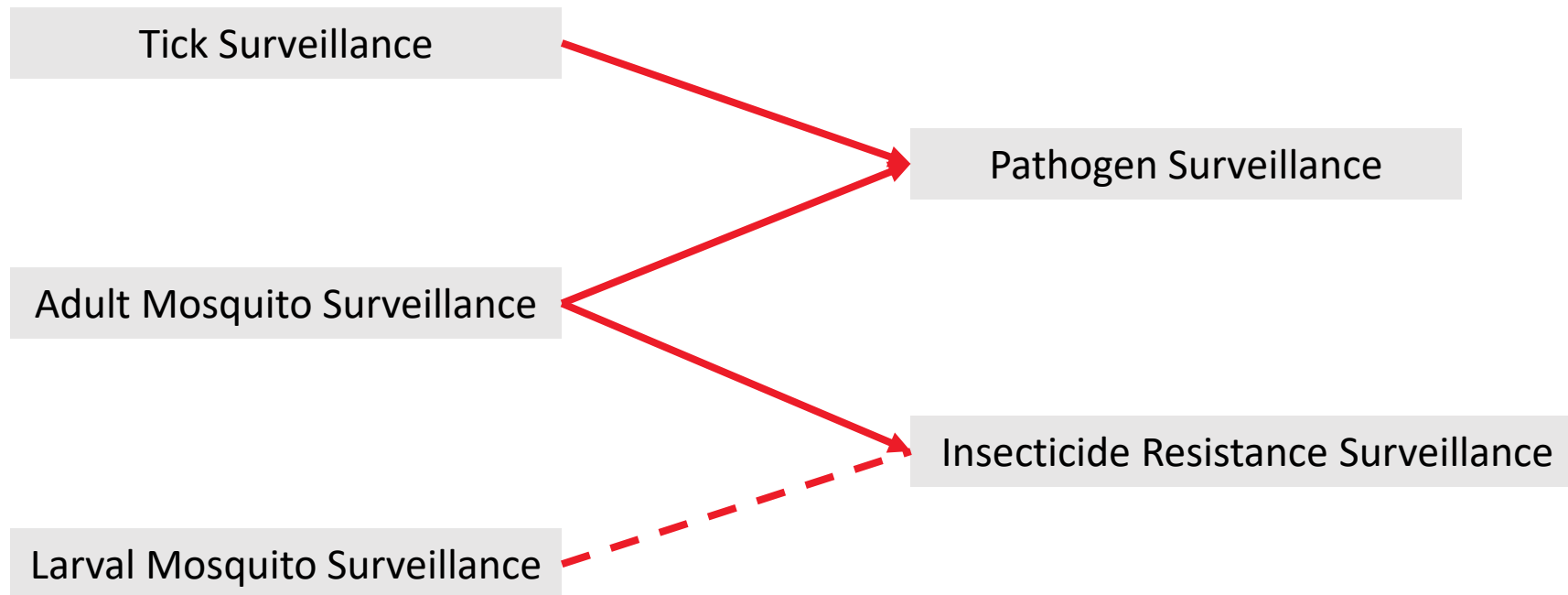


IMM is mosquito management that is

- Knowledge-based
- **Surveillance-driven**
- Resource-limited

Introduction

About the Vector Surveillance Coordinator (VSC) Position



Tick Surveillance

Overview

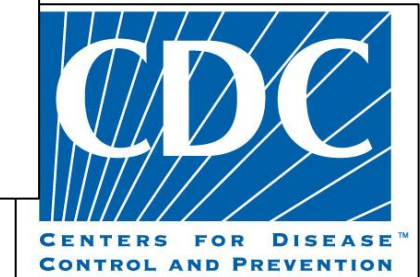
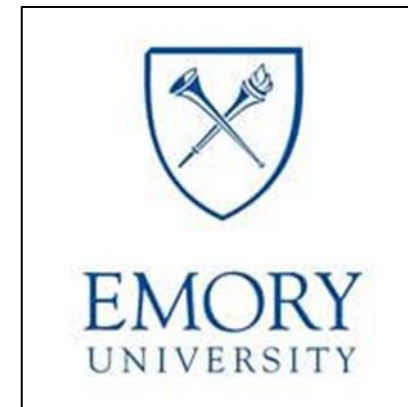
1. Collection Methods

- Dragging
 - Collects host-seeking ticks
- CO2-baited trap
 - Collects (aggressive) host-seeking ticks
- Passive
 - Any ticks not collected via the drag or CO2-baited trap

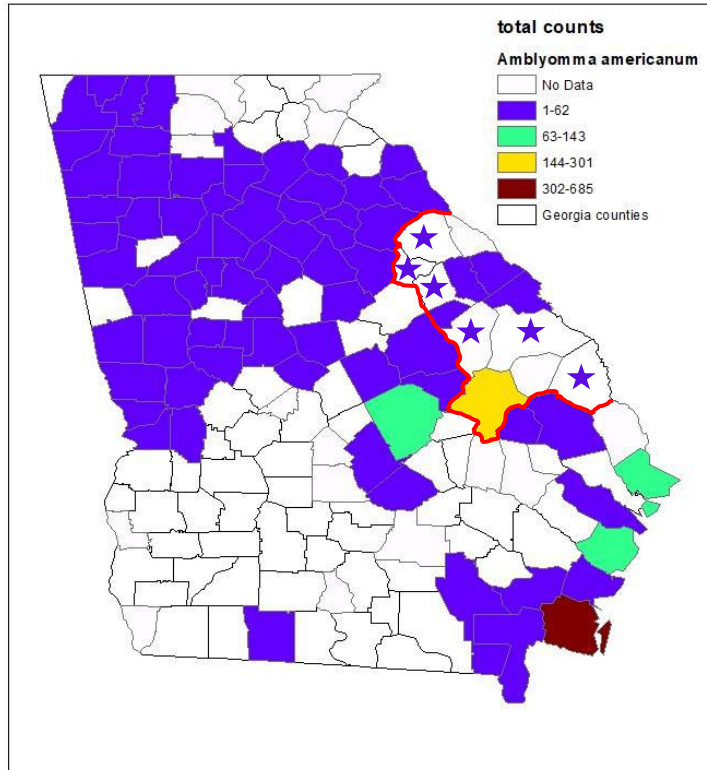


2. Pathogen Testing

- Some ticks sent to new partner lab at Emory University
 - Heartland Virus (*Amblyomma americanum*)
- CDC testing?
 - Lyme Disease (*Ixodes scapularis*)

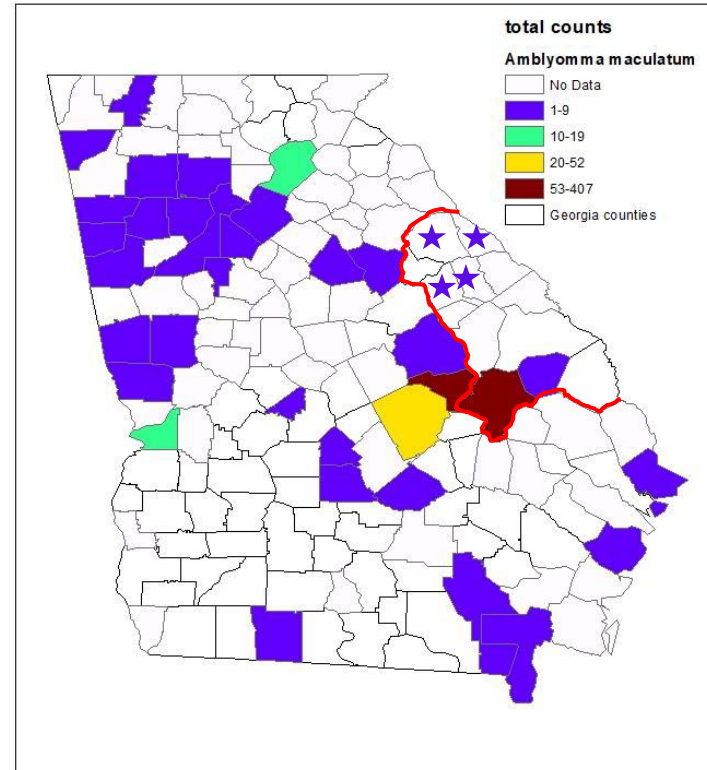


Georgia Tick Species
2005 - 2019



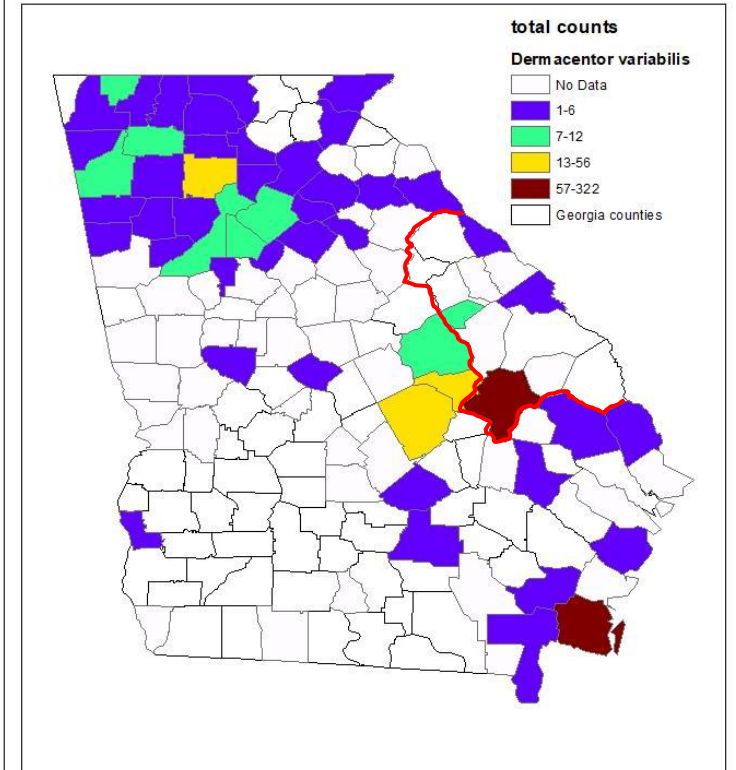
Lone Star Tick
Amblyomma americanum

Georgia Tick Species
2005 - 2019

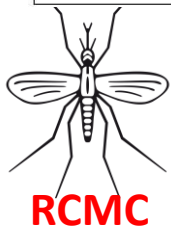


Gulf Coast Tick
Amblyomma maculatum

Georgia Tick Species
2005 - 2019



American Dog Tick
Dermacentor variabilis



Adult Mosquito Surveillance

Overview

1. Collection Methods

- Adult Mosquitoes
 - CDC light traps
 - Attract host-seeking mosquitoes
 - Gravid traps
 - Attract egg-laying mosquitoes
 - BG Sentinel traps
 - Attract human-biting mosquitoes

2. Pathogen Testing

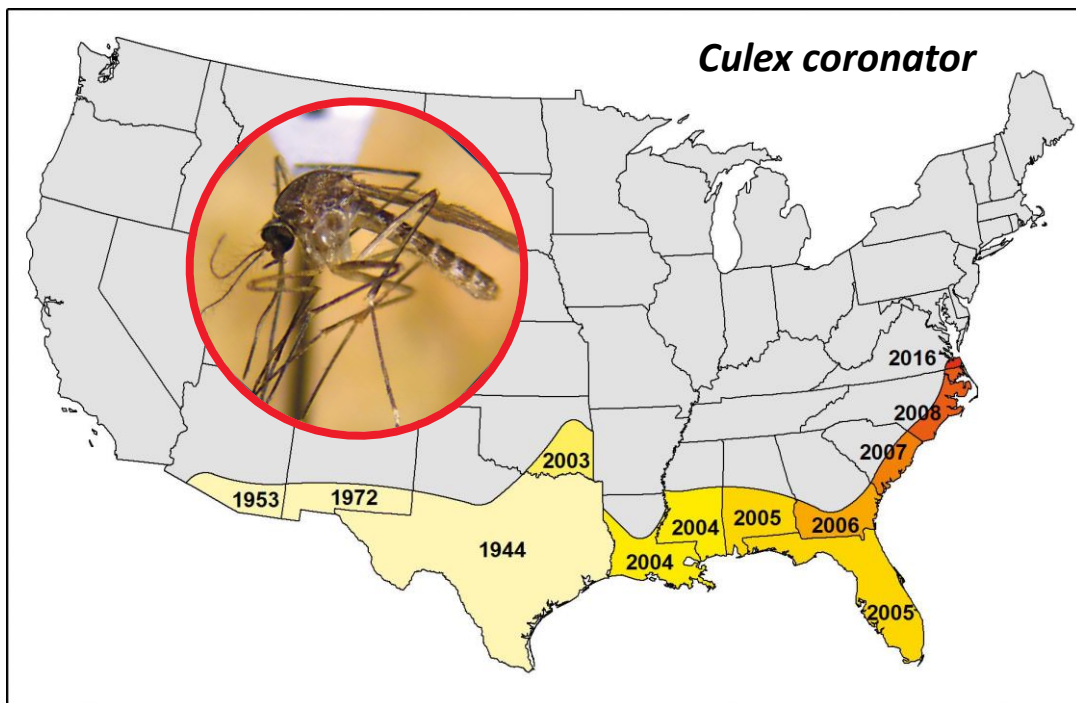
- Gravid, adult mosquitoes of select species sent to partner lab at University of Georgia
 - Vero cell culture testing



GEORGIA

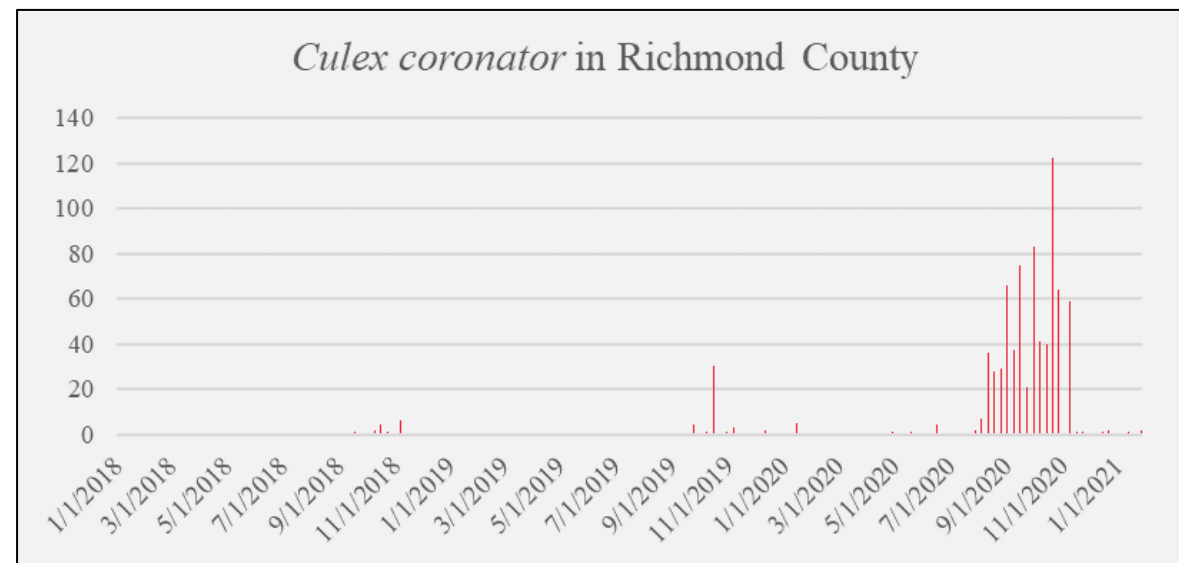


Culex coronator



Akaratovic & Kiser, 2017

Culex coronator in Richmond County



Insecticide Resistance Surveillance

Overview

Step 1: Collect mosquito eggs in the field.

Step 2: Rear field-collected mosquitoes from eggs to adults.

Step 3: CDC Bottle Bioassay



Richmond County Fall 2020

HAROLD

<i>Culex pipiens</i> complex	Permethrin
	Permethrin + PBO
	Malathion

GARRETT

<i>Culex coronator</i>	Permethrin
<i>Culex pipiens</i> complex	Permethrin
<i>Culex restuans</i>	Permethrin
	Permethrin + PBO

% Dead at Diagnostic Time	IR Level
> 97%	susceptible
90-96%	developing resistance
< 90%	resistant

GREENE

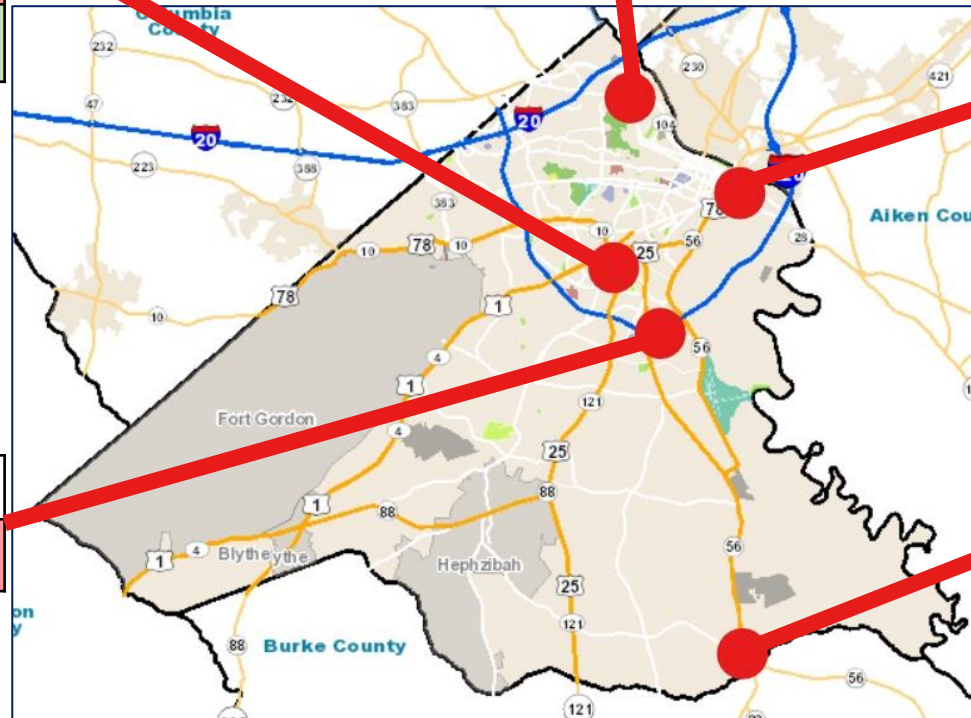
<i>Culex pipiens</i> complex	Permethrin
	Permethrin + PBO

MCBEAN

<i>Culex coronator</i>	Permethrin
<i>Culex pipiens</i> complex	Permethrin

APPLE VALLEY

<i>Culex restuans</i>	Permethrin
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Larval Mosquito Surveillance

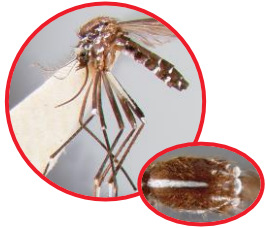
Overview



Larval Mosquito Surveillance

Highlights

1. Invasive and Beneficial Species



Asian Tiger Mosquito
(*Aedes albopictus*)

Culex coronator



Asian Bush Mosquito
(*Ochlerotatus japonicus*)

Cannibal Mosquito
(*Toxorhynchites rutilus*)



2. Habitat Types

Mitigation Programs

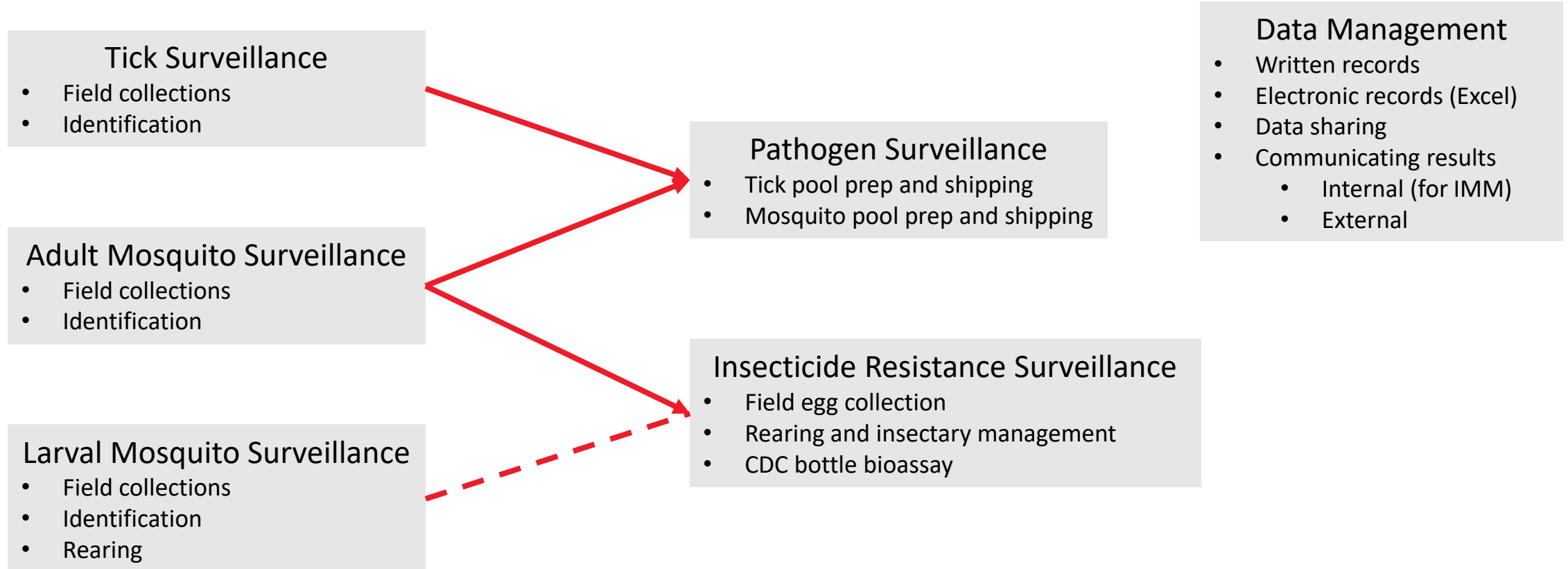
Tire
Pool

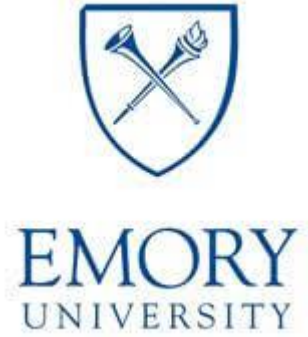
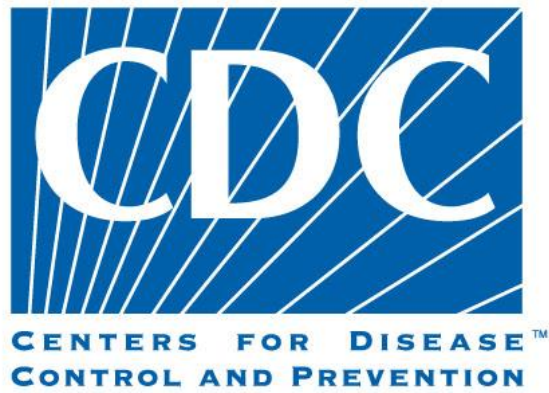
Property
Stormwater



Introduction

About the Vector Surveillance Coordinator (VSC) Position





Richmond County
Mosquito Control



Keep an eye on...

- The GMCA website
gamosquito.org → Job Notices
- The East Central Public Health District website
ecphd.com → Careers → Open Jobs

Contact me at Kristin.Reichardt@dph.ga.gov with questions!

Thank you!

