# Environmental Considerations at Chatham County Mosquito Control

Georgia Mosquito Control Association October 17-19, 2012 Henry Lewandowski

## Introduction

- Master Naturalist Program
- Examples of how we address environmental concerns



## Examples of how we address environmental concerns

-Highly Trained Staff (23/30)

Employees must understand mosquito biology and available control options to use IPM strategies

#### All control is based on current surveillance results and is NOT pre-scheduled.



**Checking site for larvae** 





**Light Trap** 



**Landing Rates** 



**Gravid Trap** 



**Sentinel Chickens** 





Test Mosquito Samples

Culex quinquefasciatus - WNV

Culiseta melanura - EEE

### IPM allows various control methods...





















#### Adult Mosquito Surveillance

## Chatham County has 40 species Only 11 are important nuisance/vector species

Aedes albopictus Aedes vexans

Ochlerotatus sollicitans Ochlerotatus taeniorhynchus

Psorophora ferox
Psorophora columbiae

Culiseta melanura

Coquillettidia perturbans

Culex quinquefasciatus
Culex salinarius
Culex restuans

#### ...uses thresholds.

- a. ≥ 300 *Culex* prior to detection of WNV.
- b. ≥ 200 *Culex* after detection of WNV.
- c. ≥ 100 Culex from any trap site where WNV has been detected.
- d. ≥ 15 *Culiseta* collected from a light trap.

### **Annual Equipment Calibration**

Granular





Liquid

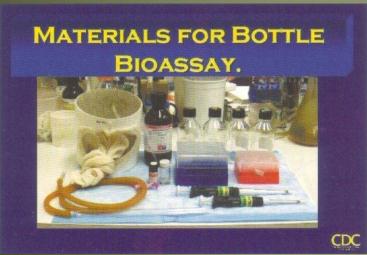




## **Efficacy Testing**







## Spray nozzle technology











#### Bees









## Mosquito fish











### Ditching operations along the river







#### Biorational Larvicide selection

Bti
Bacillus sphaericus
Methoprene

We do not use Dimilin
We do not use Temephos

#### Larviciding after major rain events









### Surgical adulticing / amount



#### Adulticide selection

- 8 labeled products
- Prefer aerial operations

- Naled is our primary
  - -24 hr half life
  - -No water offset
  - -Hydrolyzes quickly

## Disposal and Hazardous Waste





#### A Human-Health Risk Assessment for West Nile Virus and Insecticides Used

Robert K.D. Peterson, Paula A. Macedo, and Ryan S. Davis



#### Human Exposure to Mosquito-Control Pesticides — Mississippi, North Carolina, and Virginia, 2002 and 2003

Public health officials weigh the risk for mosquito-borne diseases against the risk for human exposure to pesticides spayed to control mosquitoes (I). Response to outbreaks of mosquito-borne diseases has focused on vector control through recognite bour distance has focus and vever control though bollions reduction and application of proteintd an till mos-quites here. However, in certain situations, public health folial control ideal recognite particular by spring chris-cognite-control (MC) proteints, who a noded premotion, and epithe-control (MC) proteints and a noded premotion, and application. The CUV applications general arounds of fine duplicar of proteints that are defined as MR integrations will be a superior of proteints of the superior assemble of fine duplicar of proteints that are defined as MR integrations delifies, and the environment CD. This proteins assemble the results of studies in Ministerphy, North Carollos, and Virginia that assemble announce questers. It Virginia that assemble announce questers It Virginia that assemble announce of the proteins and the studies of the control of the proteins and the studies of the proteins and the control of the proteins and the control of the control of the control of the proteins and the control of the control of the proteins and the control of the control of the control of the control of the proteins and the control of th

The 2002 West Nile virus (WNV) epidemic in Mississipp rompted an increase in MC activities, including application prompted an increase in SAL, accretion, including application of ULV permethics by rund-monatoric feggers (Figure). Because of concerns about postnital health effects from periodic, the Mississippi Department of Health and CDC, assessed whether MC, activities increased individual usine periodic metallosis concentrations. Database Sprember 8–19, 2002, inventiganous selected a geospathically-student sample of ULY persons by using maps of one oregions where public health officials applied MC perticides and GT persons from



DEPARTMENT OF HEALTH AND HUMAN SERVICES

#### Pesticide risk vs. **West Nile virus** risk

#### **Publications**

Overview of Mosauito Control Programs in Chatham County, Georgia

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#### ADAPTATIONS FOR WNV SURVEILLANCE AND CONTROL IN CHATHAM COUNTY

HENRY B. LEWANDOWSKI, JR. AND ROBERT A. MOULIS

Chatham County Mosquito Control, 65 Billy B. Hair Drive, Savannah, GA 31408

#### LINTRODUCTION

Work like vrus acrenty was first detected on of satisfied with the Work like vrus cornel. Calculant Court in 2011; however, results. A competentive review of the Wost results with the developing disease threat begain in 1909. A sifermation about with the developing disease threat which was registermology was acquired, surveillance and cornel methods were adapted with the control of the control so that the following programs were in place at the start of the 2003 mosquito season. at the start of the 2008 mooquato season.

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LINTRODUCTION

Chalban County is the most northern

Control of the party mid-county of the county of

Every aspect of our West Nile virus sur-

## Community



**Students and Interns** 



Schools



**Youth Programs** 









Fire Suppression, Police Support, Search and Rescue

## Questions?

Thank you!

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