

Mosquito Abatement in Louisiana Post Katrina / Rita

Satellite Conference and Live Webcast
Thursday October 11, 2007
12:00 - 1:30 p.m. (Central Time)

Produced by the Alabama Department of Public Health
Video Communication Division and Distance Learning Division

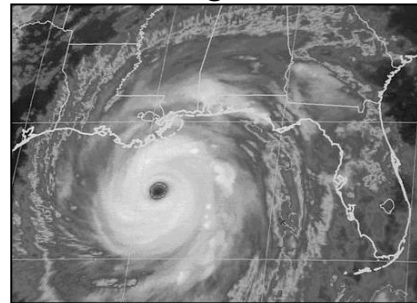
Faculty

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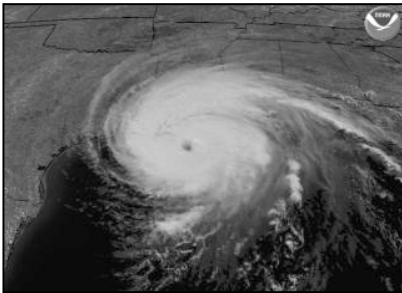


When you are in deep trouble, look
straight ahead, keep your mouth
shut, and say nothing !

Hurricane Katrina Landfall August 29, 2005



Hurricane Rita September 23, 2005



Vector Related Public Health Concerns

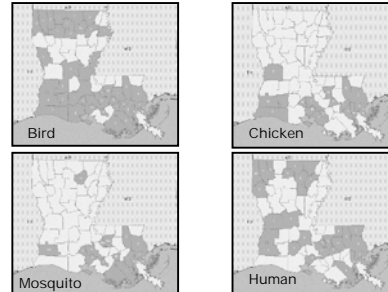
- West Nile Virus

West Nile Virus in US – Top 5 States in 2005

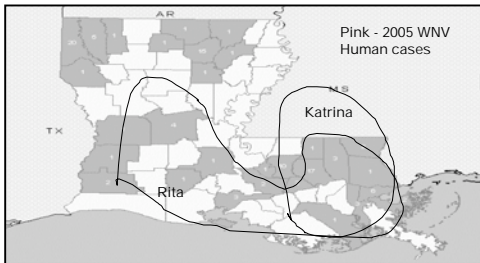
Neuroinvasive Disease Cases

State	WNV cases
California	771
Illinois	233
South Dakota	230
Texas	128*
Louisiana	111*
Total for US	2,446

Surveillance for WNV in Louisiana Thru Oct. 25, 2005



Areas Most Impacted by Storms in 2005 With 2005 WNV Human Cases



Mosquitoes of Interest

- Primary Vectors of West Nile Virus
- Urban (Container Breeders)
- Woodland
- Flood Water

Southern House Mosquito *Culex quinquefasciatus*



Asian Tiger Mosquito *Aedes albopictus*



White Footed Mosquito
Psorophora ferox



Dark Ricefield Mosquito
Psorophora columbiae



Other Vectors of Concern to
Public Health

Filth Flies



Bottle and Blow Flies



Blue Bottle Fly
Calliphora vomitoria



Green Bottle Fly
Phaenicia species

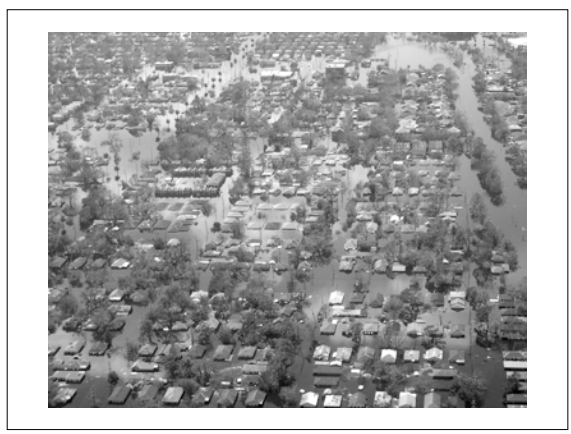
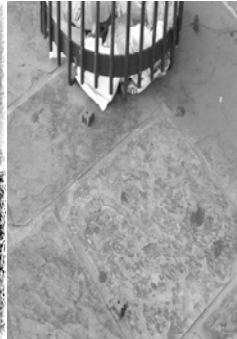


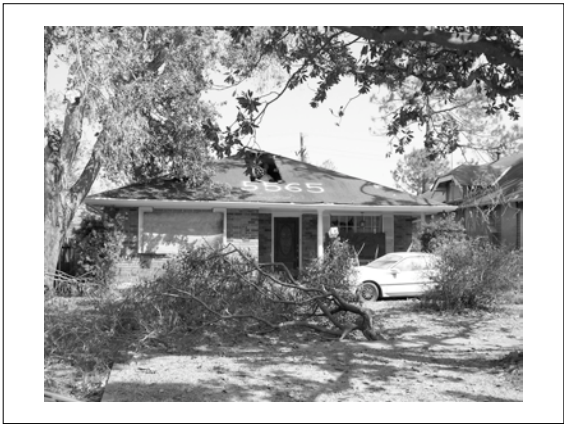
Rats

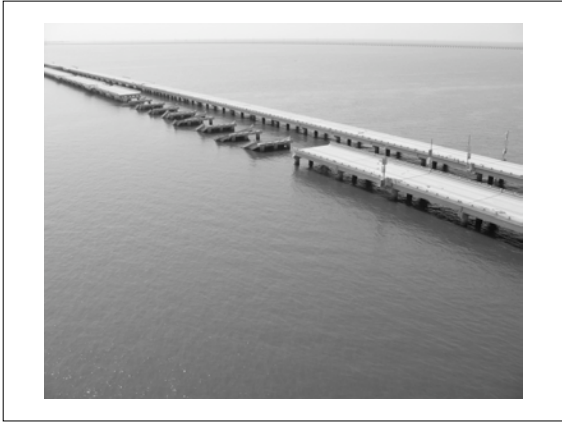
Norway Rat



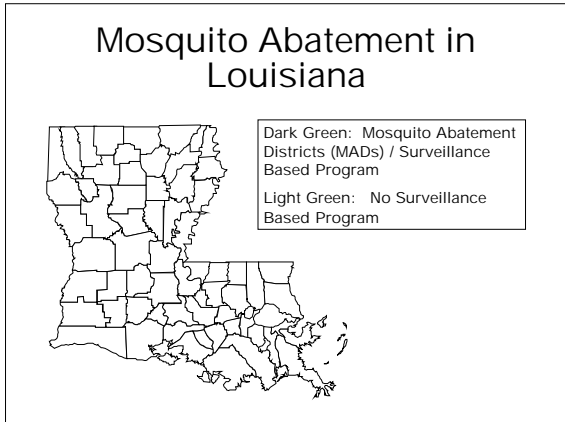
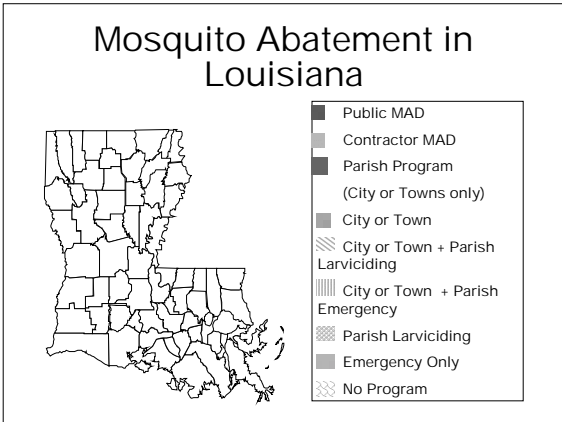
Black Rat







Pre-Hurricane Louisiana
Mosquito/Vector Control
Response Capacity



Post-Hurricane Louisiana Mosquito/Vector Control Response Capacity.

Evaluate MADs



Evaluate Parishes with Limited or No Mosquito Control



ESF 8 / CDC

- Request the United States Air Force to bring the 757th Airlift Squadron of the 910th Airlift Wing from Youngstown Air Reserve Station, Ohio to Duke Field, Florida.
- The 757th responded with three C-130 aircraft and 53 people.

Form a Medical Entomology Strike Team



- Janet McAllister, PhD - CDC / OPH
- Maj. Mark Breidenbaugh, USAF - 910AW (Katrina)

Form a Medical Entomology Strike Team



- Col. Brian Spears, USAF - 910AW (Rita)
- Kyle Moppert, LDHH-OPH

Adulticide

- Select Adulticide - Naled (Dibrom®)
- Work with Louisiana Department of Agriculture and Forestry, EPA, and Manufacturer to obtain an Emergency Label for Naled
- Order Adulticide

Set Criteria for USAF Aerial Applications

- Mosquito Abatement Districts That Were Heavily Damaged by Storms
 - Stop gap spraying until supplemental contracts with private sector could be put in place

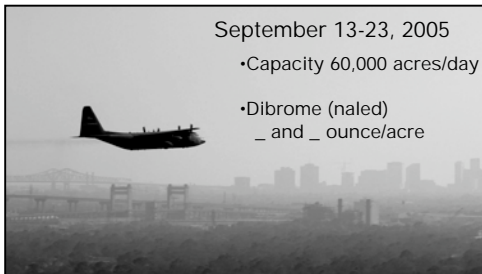
Set Criteria for USAF Aerial Applications

- Parishes With No Mosquito Control and Prolonged Power Outages Resulting in the Population “Living” Outdoors
- Parishes With Some Mosquito Control but Housing Evacuees and Responders in Camps

Work with 757th to make Emergency Aerial Applications



C130 Hercules – US Air Force Reserve 910th Airlift Wing at Youngstown Air Reserve Station, Ohio



Staff Sgt. Jacob N. Bailey

Work with Parishes with Emergency Needs to Put Contracts in Place with Private Sector

- Parishes With Mosquito Abatement Districts - Mosquito Abatement District responsible for contract oversight

Work with Parishes with Emergency Needs to Put Contracts in Place with Private Sector

- Parishes Without Mosquito Abatement Districts - Parish Police Jury responsible for oversight, but OPH approved counts and helped coordinate spray blocks



Medical Entomology Strike Team

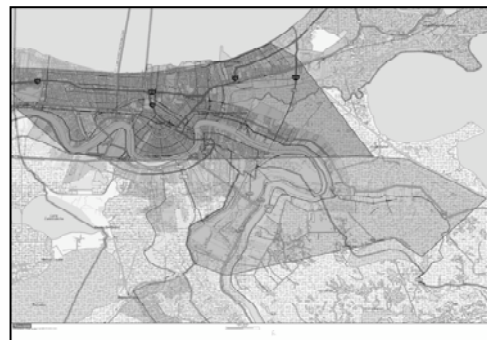
- Assess vector populations (Pre- and Post Spray Counts)
- Coordinate with military units and ESF 8
- Construct and submit spray maps
- Request and approve spray maps for contracted areas

Medical Entomology Strike Team

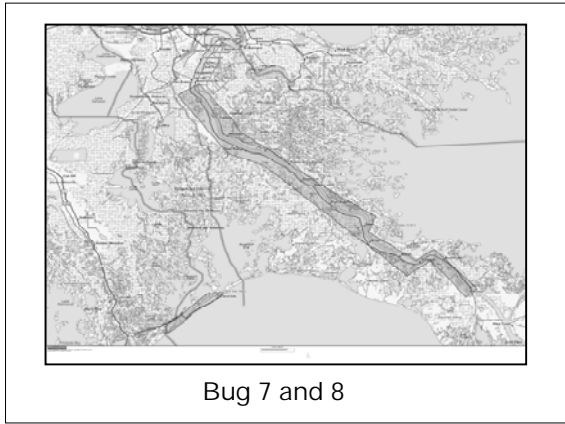
- Observe flights
- Work with federal, state and local governments
- Public Notices (with OPH – Environmental Epidemiology and Toxicology)

Medical Entomology Strike Team

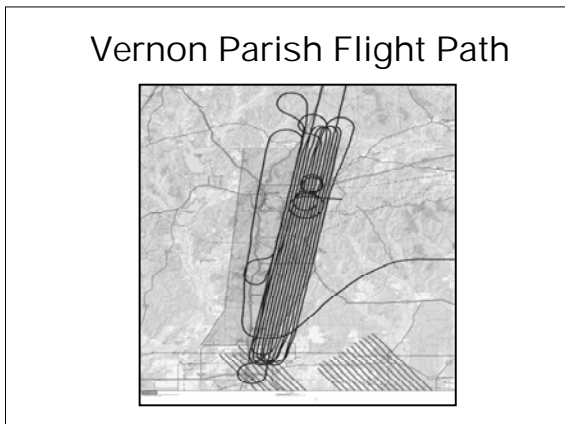
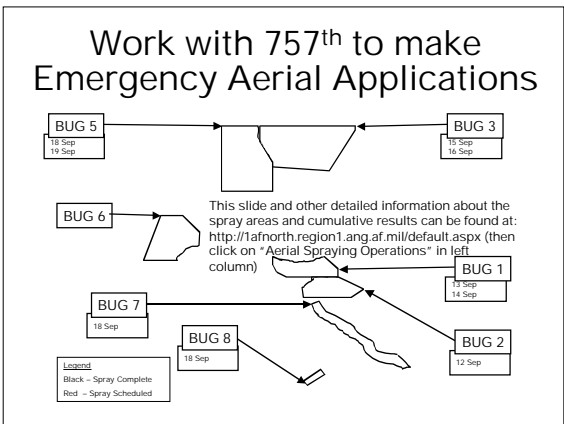
- News Media / News Conferences – Local, Regional & National
- Bee Keepers
- Respond to inquiries from the public officials and the public

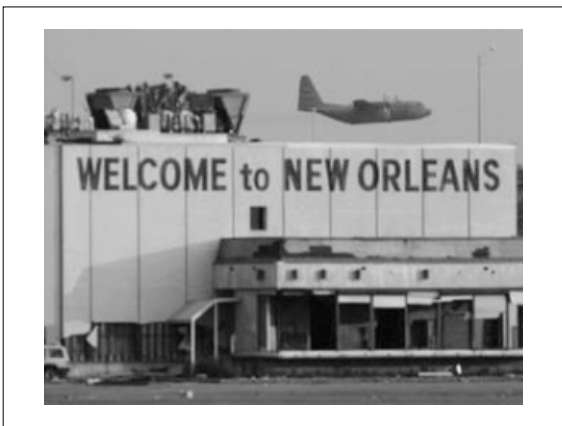


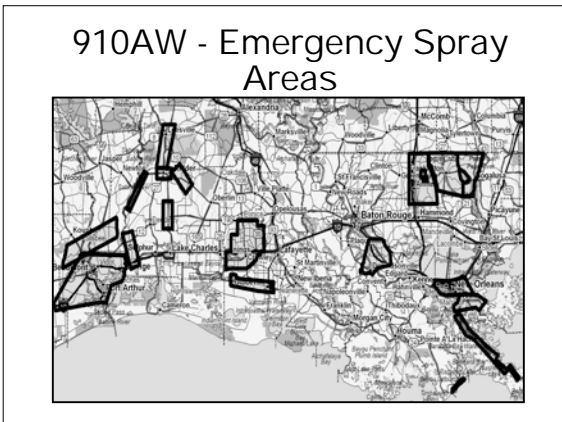
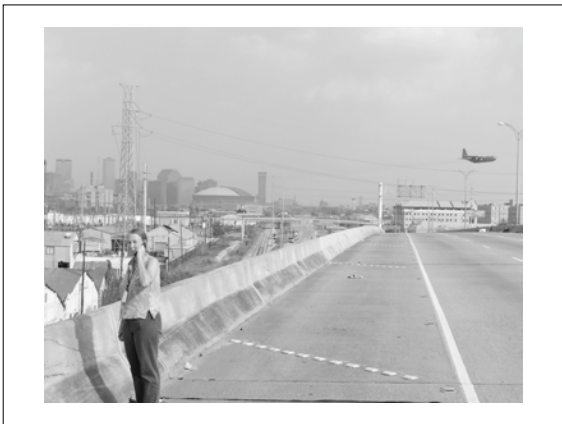
Bug 1 and Bug 2



Bug 7 and 8







- Over Louisiana and Texas, the 757th aircrews sprayed 2,880,662 acres, or 4,501 square miles—an area equivalent in size to the state of Connecticut. Almost 2 million of those acres were applied in Louisiana
- Fourteen thousand gallons of the pesticide Dibrom® were used, costing FEMA \$1.6 million

- The missions comprised 191.4 hours of total flying time with 46.5 hours of actual "Spray-On" time flying at 150 feet above ground level
- This was the largest aerial spray mission ever conducted by the United States Air Force

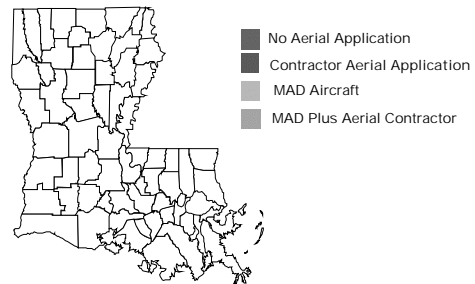
In Addition to the AF Missions, Private Contractors Sprayed Almost 3.5 Million Acres in the Following Parishes:

- Acadia
- Allen
- Avoyelles
- Calcasieu
- Cameron
- Evangeline
- Iberia
- Iberville
- Lafourche

In addition to the AF missions, Private Contractors Sprayed almost 3.5 Million acres in the Following Parishes:

- Livingston
- Jefferson
- Lafayette
- St. Charles
- St. John
- St. Martin
- St. Tammany
- Tangipahoa
- Terrebonne
- Vermillion

Post Katrina Aerial Applications

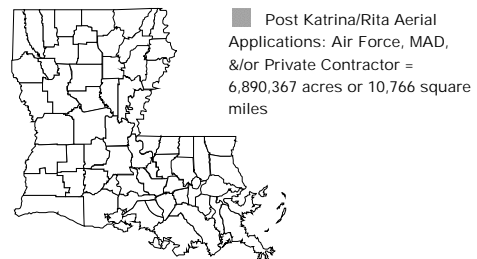


Total Post Katrina/Rita Aerial Applications in Louisiana

6,890,367 acres =
10,766 square miles
or

An area larger in size than the States of New Jersey and Delaware

Post Katrina Aerial Applications



Total Post Katrina/Rita Aerial Applications in Louisiana and Texas

- 12,222 square miles which is equivalent to the State of Maryland

Katrina / Rita's Vector Related Ecological Legacy

Ecological Changes

- Wrack – storm driven marsh grass , mud and debris
- Drain Paths - Permanently blocked and altered
- Salt Laden Mud Intrusion

Ecological Changes

- Over 50 % of the mature trees in St. Tammany and Calcasieu Parishes were uprooted or otherwise destroyed.
- Root Ball Voids
- Conversion of Marsh to Open Water / Mud Flats

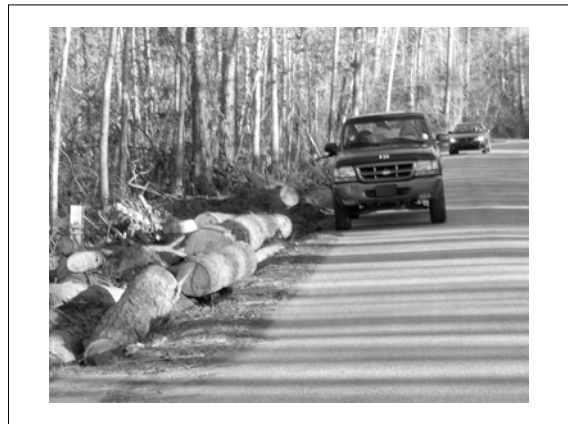
Wrack – Storm Driven Debris

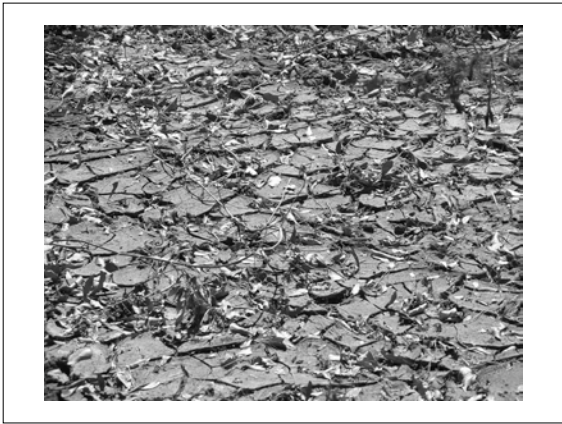




Root Ball Voids

- 8 Percent of St. Tammany Parish now consist of Root Ball Voids
 - These holes provide breeding habitat for a variety of species of mosquitoes, a number of which are capable of vectoring West Nile and other Arboviruses





Swimming Pools

- Over 5,000 pools in New Orleans

Ecological Changes

Brown Widow Spider
Latrodectus geometricus

Thank You

I would like to thank the United States Air Force 757th Airlift Squadron of the 910th Airlift Wing and the Centers for Disease Control for their assistance throughout this period, as well as for many of the photos and information contained in this presentation



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Upcoming Programs

Collaboration: The Key to Public Health System Improvement
Wednesday, October 24, 2007
12:00-1:30 p.m. (Central Time)

Patients Rights and Responsibilities
Wednesday, November 14, 2007
2:00-4:00 p.m. (Central Time)

Upcoming Programs

Environmental Strike Teams
Thursday, November 15, 2007
12:00-1:30 p.m. (Central Time)

Cultural Competencies in Public Health
Wednesday, November 28, 2007
12:00-1:30 p.m. (Central Time)

Upcoming Programs

Emergency Management Assistance Compacts
Wednesday, December 5, 2007
12:00-1:30 p.m. (Central Time)