



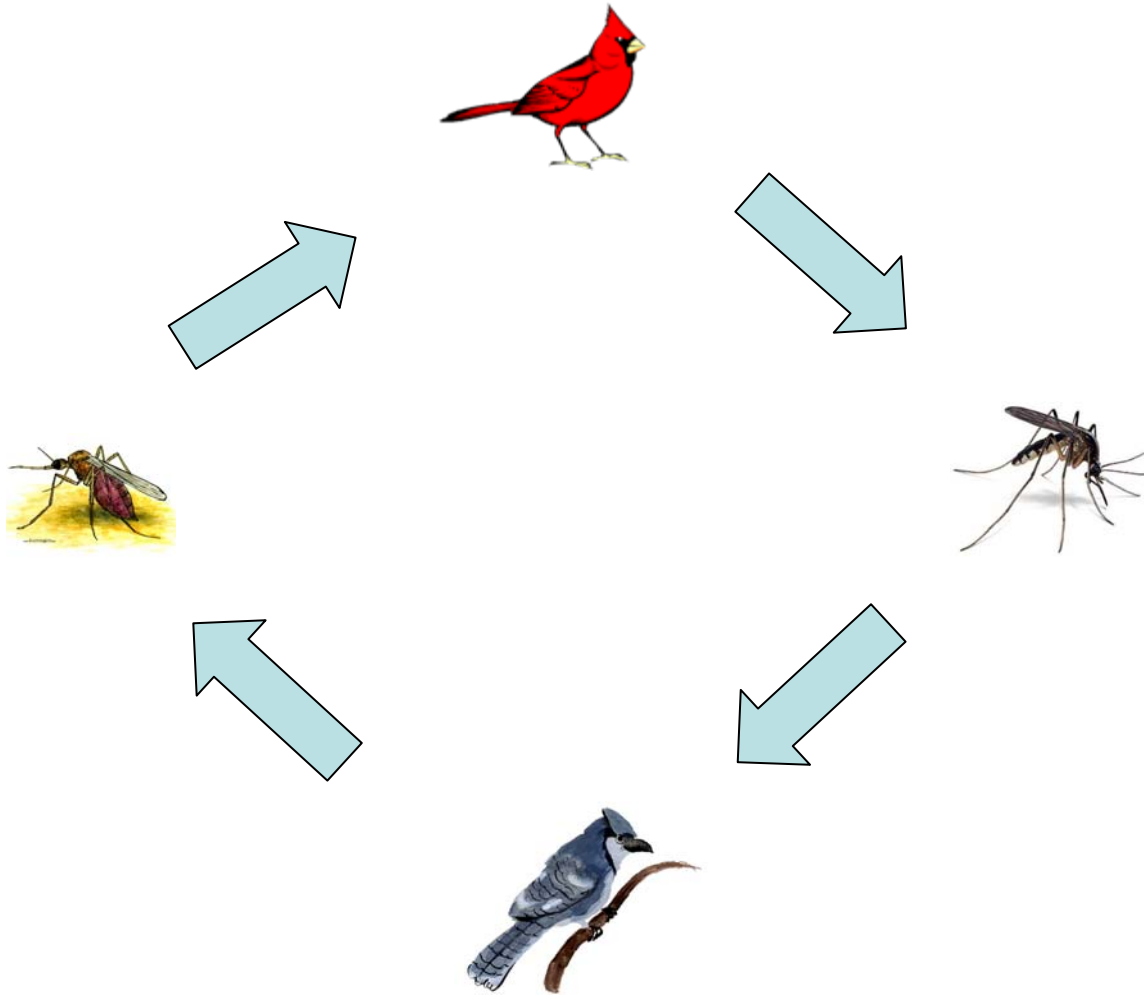
**WEST NILE
ACTIVITY**

**PREVENTION & CONTROL
EAST BATON ROUGE PARISH, LA**

**GUY FAGAN, JIMMY BROWN, DAN GARRETT,
HERFF JONES, RANDY VAETH, ROD WELLS, & MATTHEW YATES
EAST BATON ROUGE MOSQUITO ABATEMENT & RODENT CONTROL**



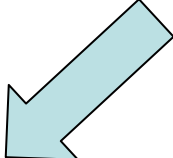
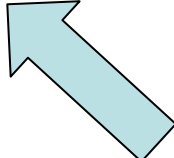
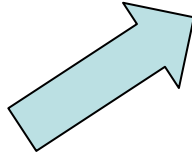
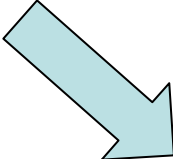
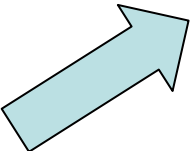
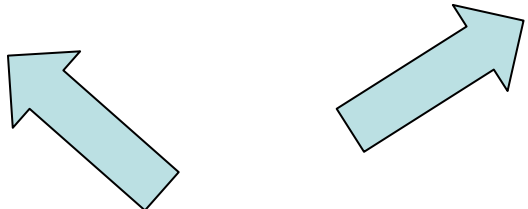
Typical Arbovirus Transmission Cycle



Dead-end Host



Dead-end Host



Phases of Arboviral Transmission

Jan-Mar	Maintenance Phase
Apr-June	Amplification Phase
July-Aug	Early Transmission
Oct-Dec	Late Transmission

SURVEILLANCE



Birds

WNV Bionomics-East Baton Rouge Parish Birds of Interest

Northern Cardinal



Blue Jay



House Sparrow



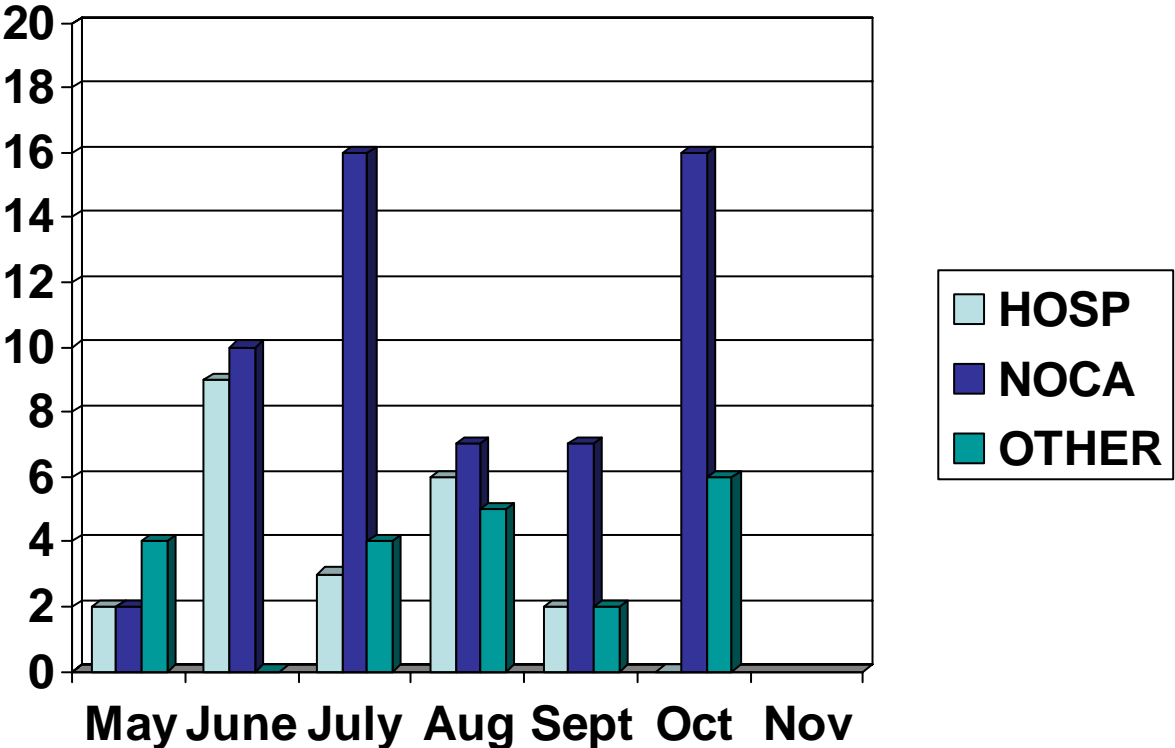
Wild Bird Blood Samples



Sentinel Chickens

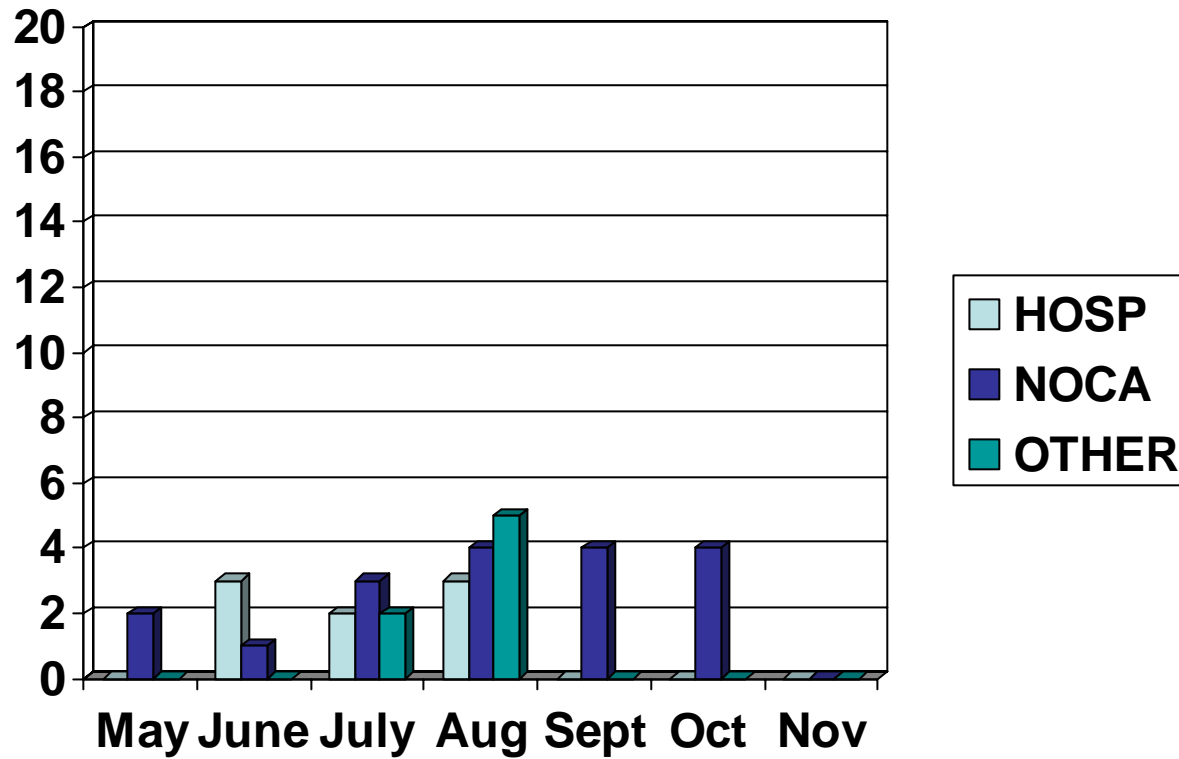
Notable Bird Species + for WNV 2004

TOTAL = 101

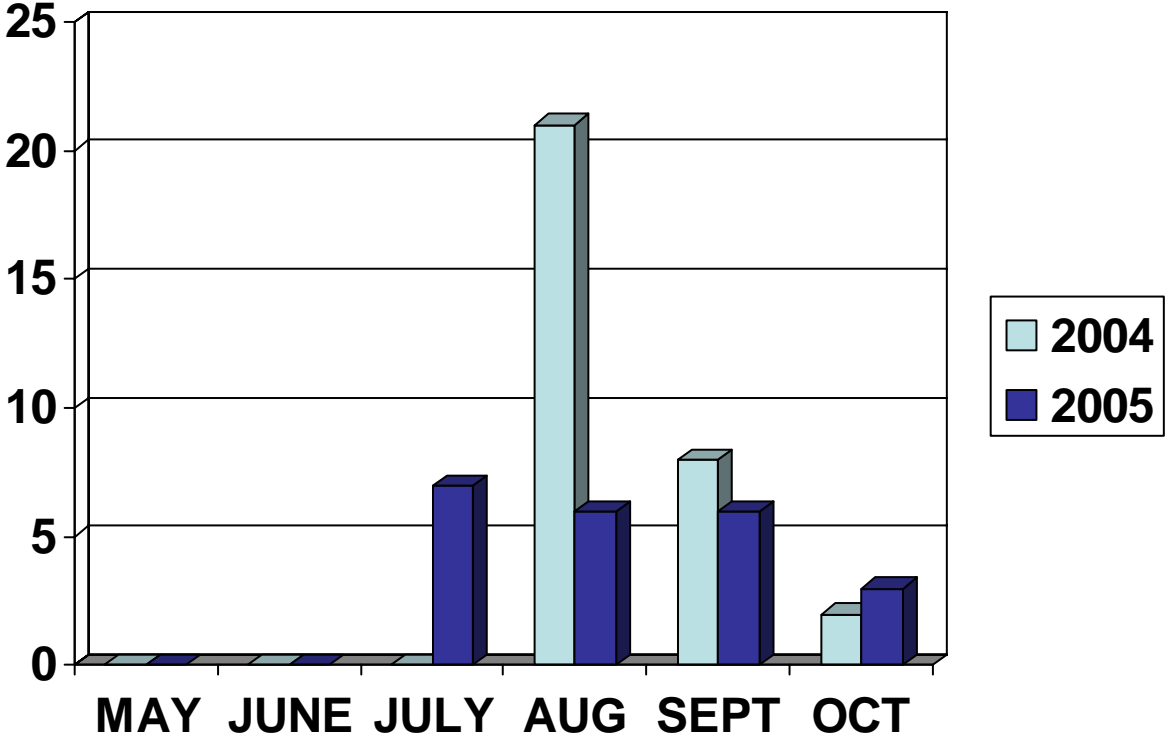


Notable Bird Species RT-PCR+ for WNV 2005

TOTAL = 34



WNV+ SENTINELS 2004, 2005



**% OF ALL WNV+ BIRDS
MAY-NOV 2004, 2005**

N. CARDINALS = 57%

HOUSE SPARROWS = 21%

OTHER WNV+ BIRDS = 22%

(MAY-NOV 2004, 2005)

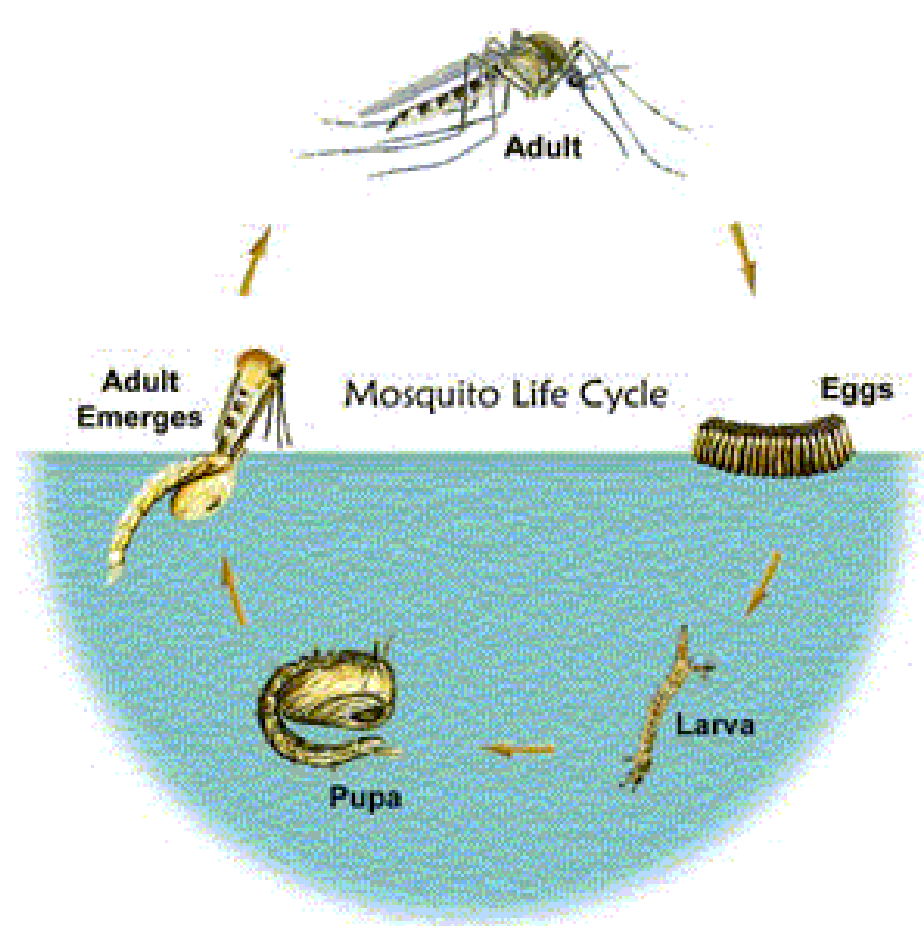
BLUE JAY

N. MOCKINGBIRD

BROWN THRASHER

COMMON GRACKLE

MOURNING DOVE



Mosquito Surveillance

Quink breeding in proximity
to houses





Tire pile in proximity to houses

High density Quink breeding





Modular Wastewater Treatment Plants

Breeding & Resting Sites





Storm Drain Surveillance

Adult Mosquito Trapping Techniques



Modified Gravid Trap



New Jersey Trap



Rotator Trap

Southern House Mosquito
(up to 70% positive in July, August)

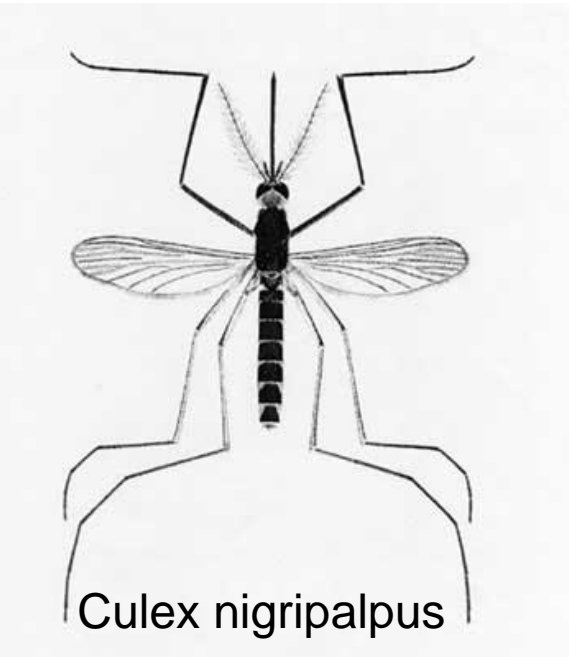




Asian Tiger Mosquito



Aedes vexans



Culex nigripalpus



Culex restuans

**Other potential
vectors**

Cx. salinarius

Cx. erraticus

Cx. coronator

An. crucians

An. quadrimaculatus

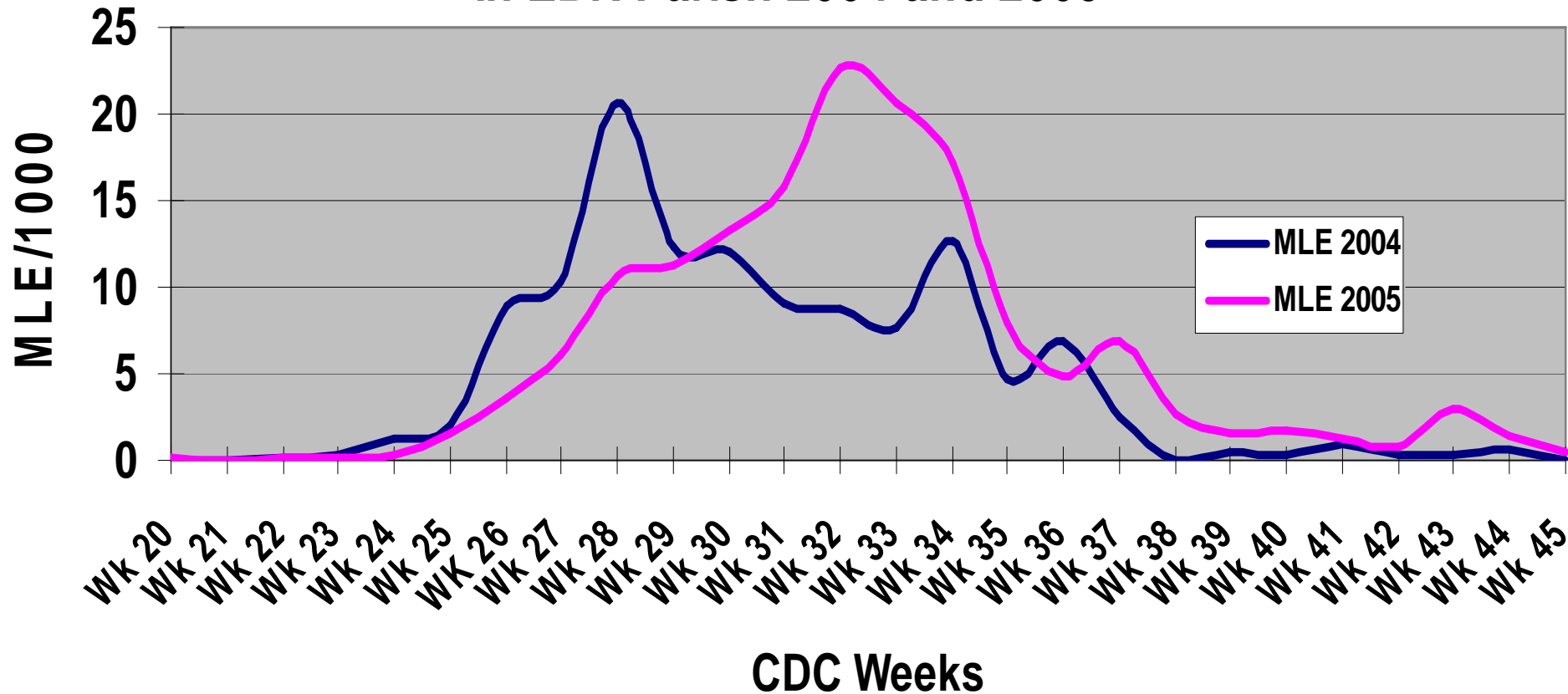
Ps. ferox

Ps. howardii

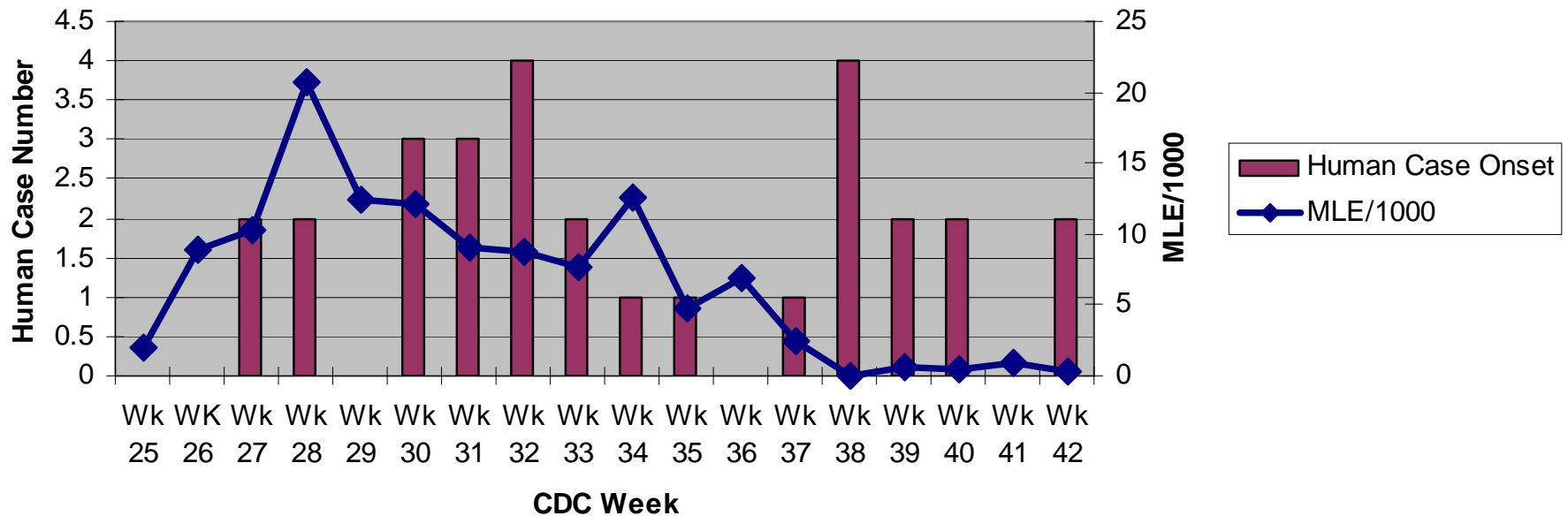
Ae. canadensis

Ae. fulvus pallens

Comparison of WNV Infection Rates in *Culex quinquefasciatus* in EBR Parish 2004 and 2005



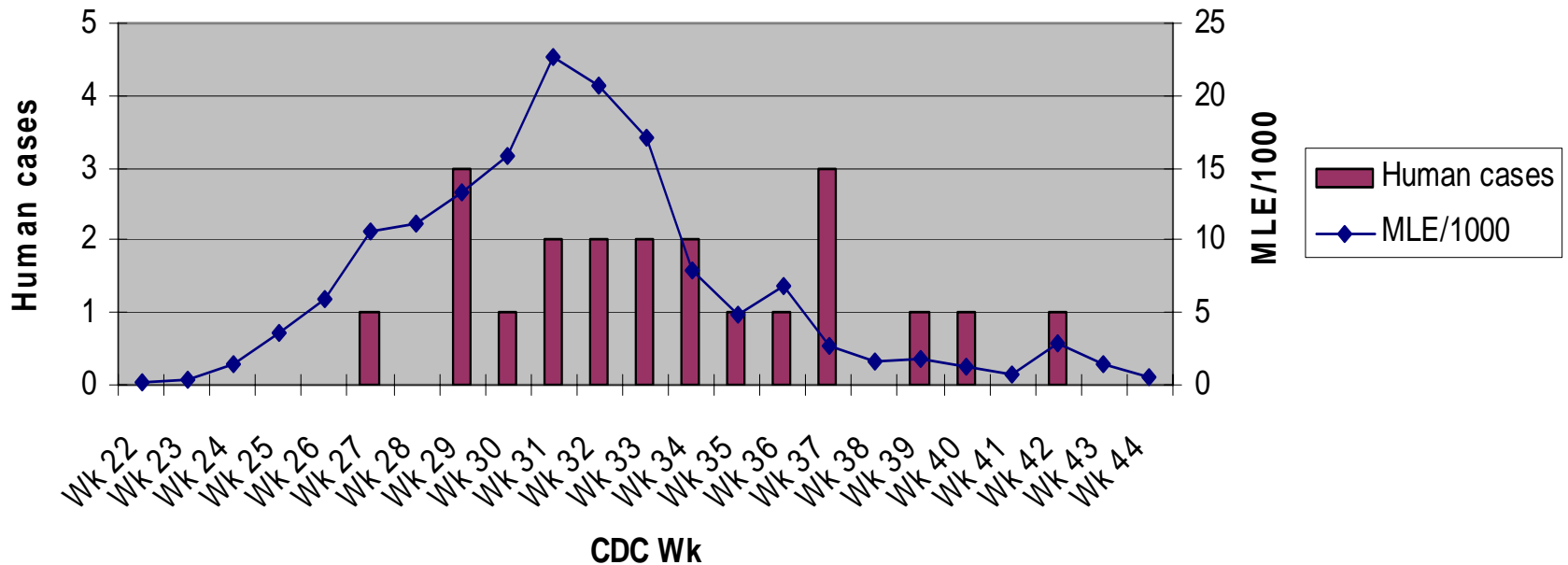
Comparison of WNV Infection Rates in *Culex quinquefasciatus* and Human Cases in EBR Parish 2004



1st human cases = MLE ~6-8/1000

Late season cases possibly from hunting activity

Human cases vs Infection Rates in Quinks by CDC Wk 2005



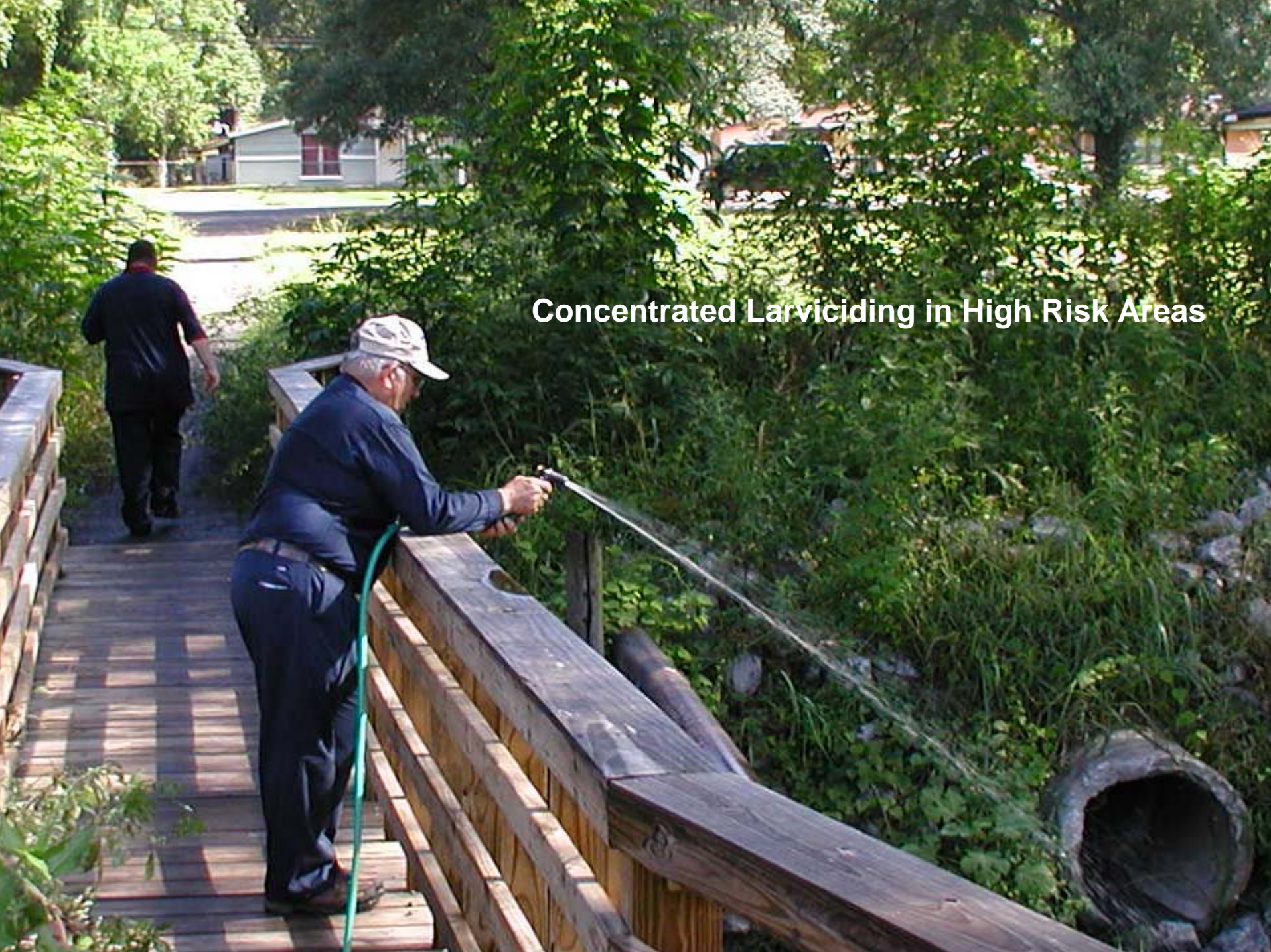
1ST human case = MLE of 6/1000

Late season cases possibly from hunting activity

CONTROL STRATEGY

INTEGRATED MOSQUITO MANAGEMENT

Concentrated Larviciding in High Risk Areas



LARVAL CONTROL

**Ditches: Vectolex WDG
95% control 7-10 days**



**Floodwater swales-Golden Bear Oil
95-100% control**



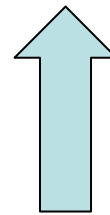
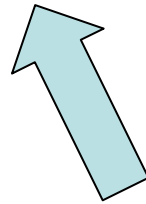
**Modular Wastewater Treatment Facilities:
Altosid Pellets, Vectolex WDG, Arosurf
90-100% control up to 14 days**





Tirepiles: Vectobac G
100% control, early instar larvae

8. 15. 2001



Mosquito minnows

Public Education



Aerial and ground adulticiding initiated during April & May, continuing through September, especially in high risk areas

Ground ULV with pyrethroids



Aerial application with naled



Southern House Mosquito

A Hard Target



1. Asynchronous life cycle
2. Cryptic habitats, both resting and breeding
3. Active ALL night long
4. Ability to become tolerant to insecticides

Date 4-27-04

Insecticide: Scourge 1:10

App Rate: 0.0013 lb/ac AI

Species: Cpq

Equipment: Leco

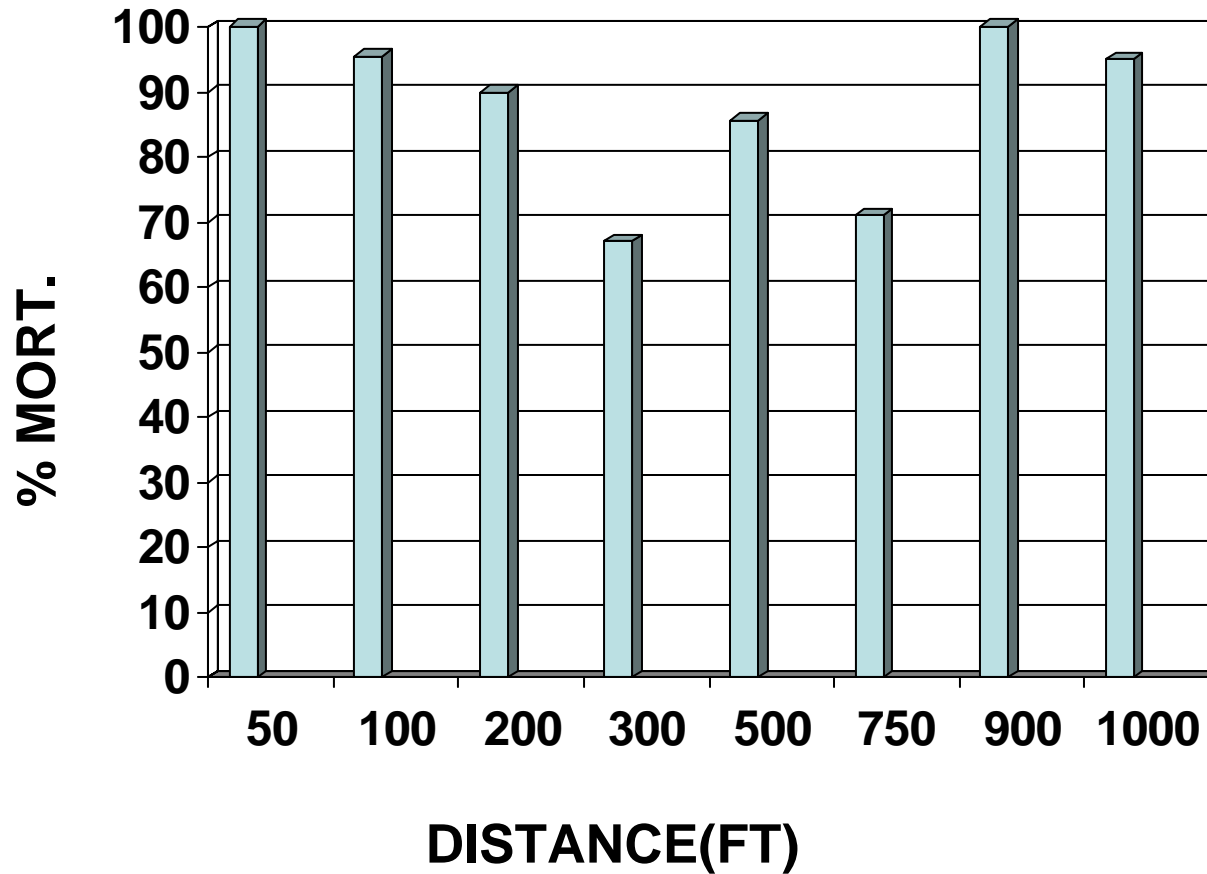
Distance (ft)

1 hr % Mortality

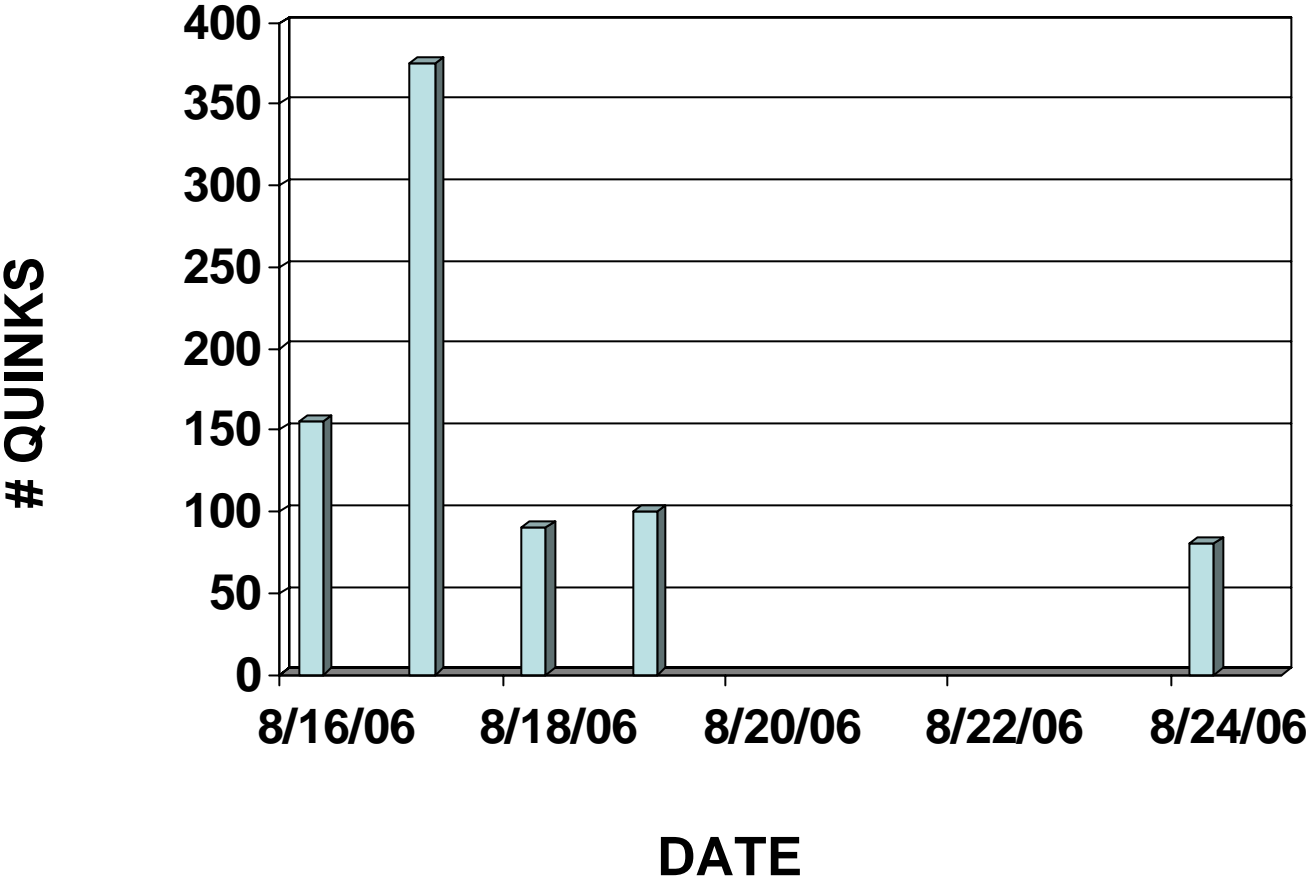
12 hr % Mortality

100	98.7	100
200	98.4	98.4
300	97.1	94.1
400	98.1	90.7
500	66.7	64.1
UNTREATED	0.0	0.0

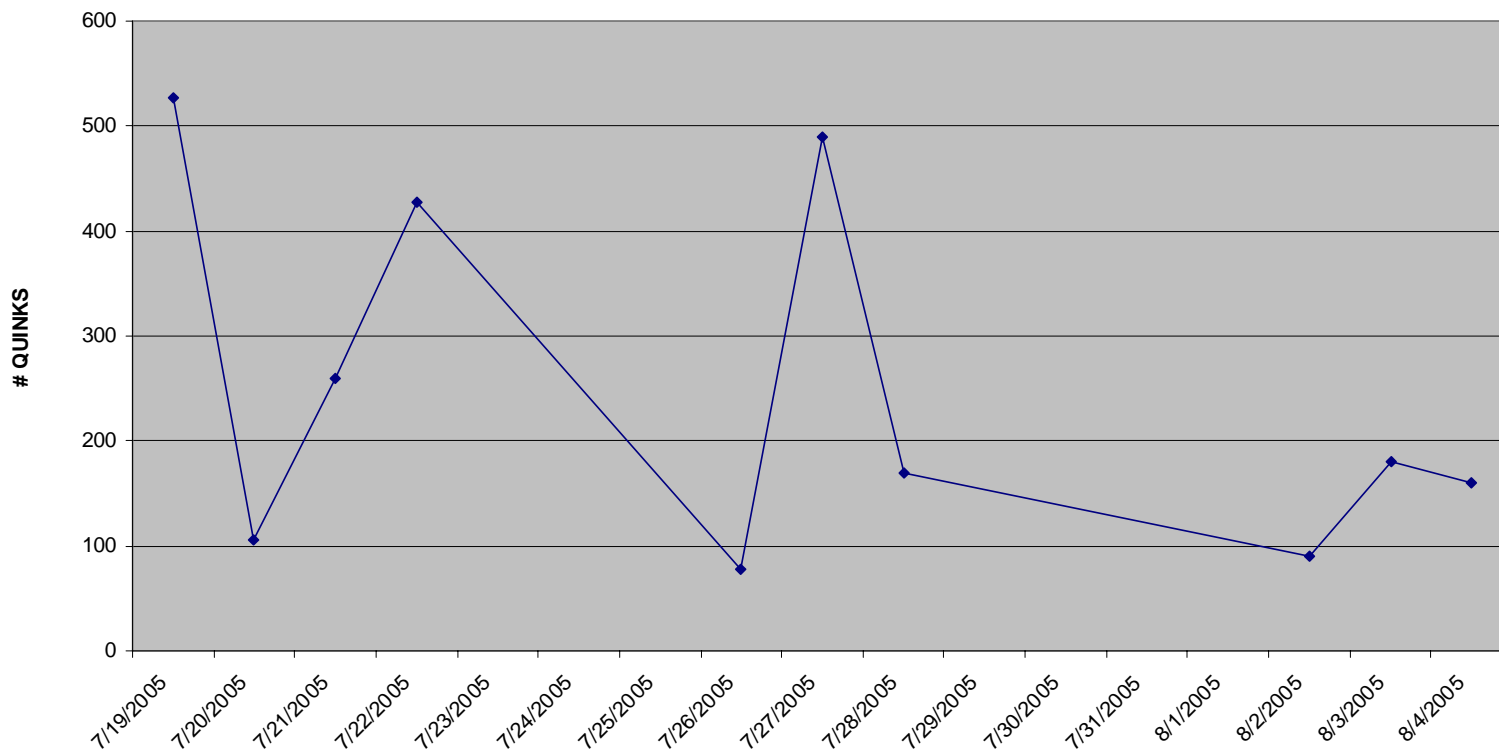
AERIALLY APPLIED DIBROM VS QUINKS



GRAVID TRAP #'s FOLLOWING AERIAL APPLICATION 8/16/05

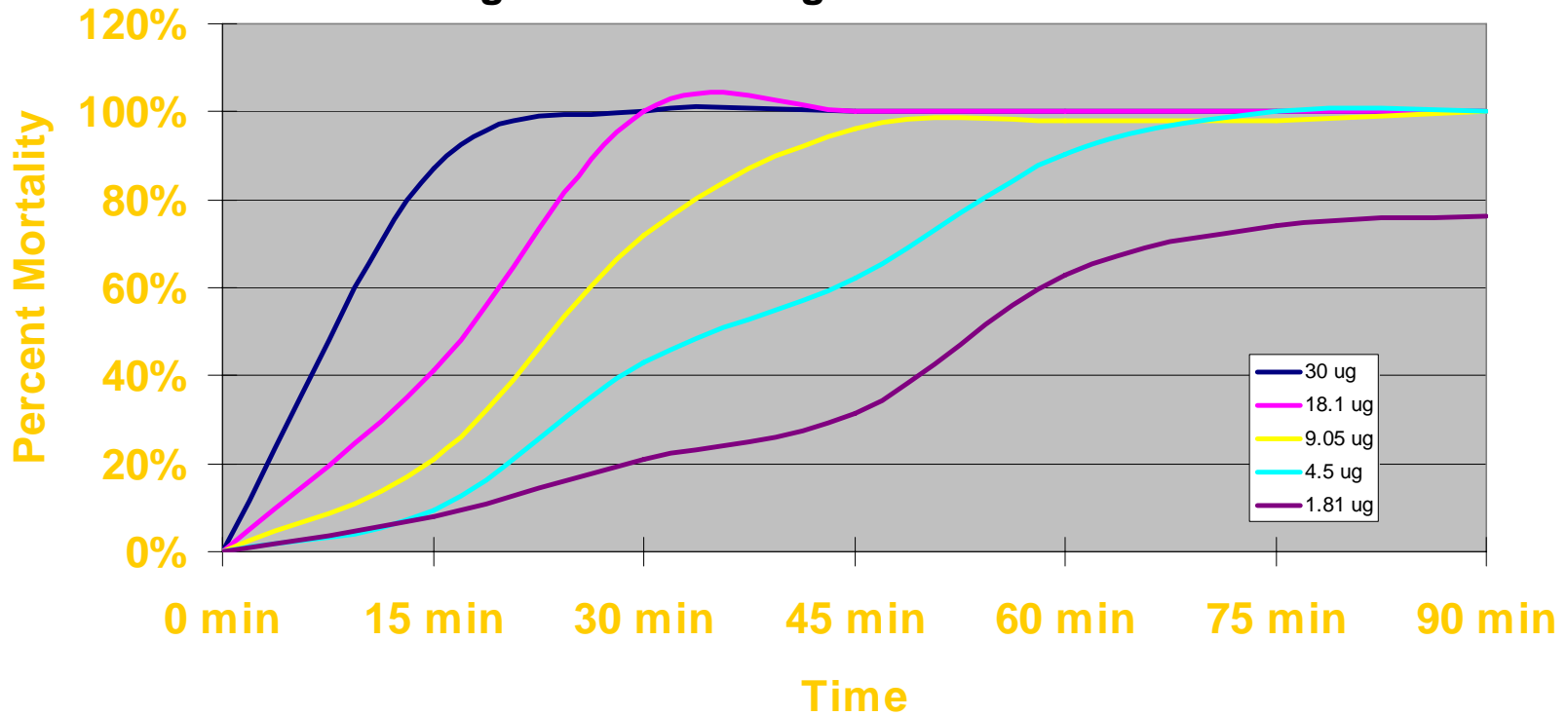


GRAVID TRAP COLLECTIONS FOLLOWING AERIAL SPRAYING JULY 18 & JULY 25 2005



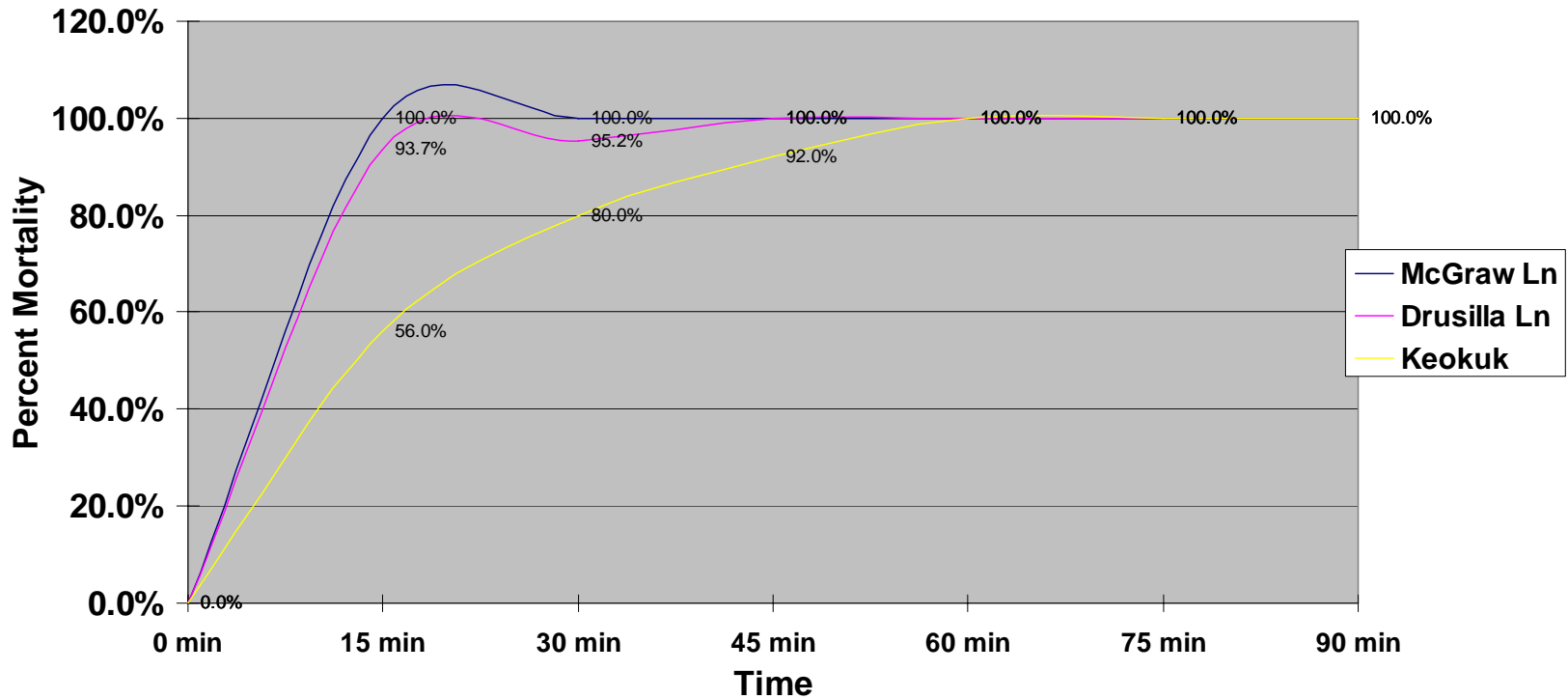
**Zone 49
(16 applications)**

August 2005 Scourge vs Quinks @ Keokuk



Bottle Bioassay Results

Percent Mortality Curve comparison with 25 ug naled on Cx. quinquefasciatus Aug 2004



CONCLUSIONS

- Human case onsets seem to begin when MLE's reach ~6-8 +quinks/1000.
- Northern Cardinals (and to a smaller degree, House Sparrows) seem to play an important role.
- Integrated Mosquito Mgt techniques can reduce human/WNV interactions.

East Baton Rouge Parish Surveillance Questions

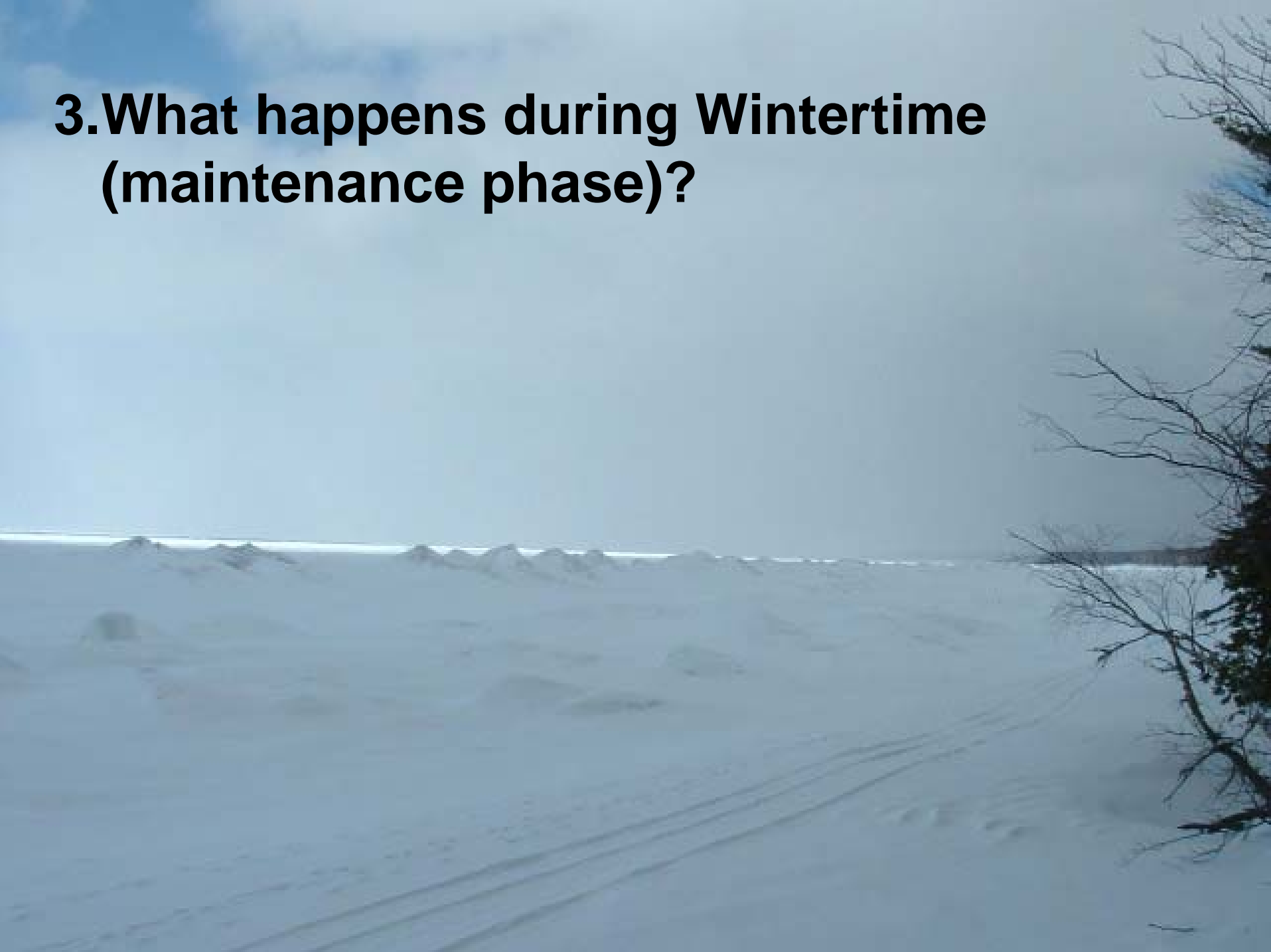
1. What happens during weeks ~26 – 34 when mosquito sample + percentages reach a maximum?

2. How important are other vectors such as *Ae. albopictus*?



222 pools submitted, 9 positive(4.05%)

3. What happens during Wintertime (maintenance phase)?





PONDERING THE REALLY TOUGH DILEMMAS (LOUISIANA STYLE)

