

# **West Nile Virus, etc. 2012**



**Joseph M Conlon  
Technical Advisor  
American Mosquito Control Association**

# West Nile Virus



❧ Since 1999

❧ Cases – 35,448

❧ North: July – mid-November

❧ South: April – mid-December

❧ Fever – 19,533

❧ Neuroinvasive – 15,172

❧ Fatalities – 1,470

# Persistence Mechanisms



✧ Introduction by migrant birds

✧ Chronic infection in birds (?)

✧ Vertical transmission (?)

✧ Overwintering in reptiles (?)

✧ Why this year?

# WNV – Hosts/Vectors



- ❧ 326 bird species – mostly corvids

- ❧ Robin - north

- ❧ Bluejays - south

- ❧ ~65 mosquito species

- ❧ Primary Vectors

- ❧ *Culex pipiens/quinqüefasciatus*

- ❧ *Culex tarsalis*

- ❧ Secondary Vectors

- ❧ *Culex restuans*

- ❧ *Culex salinarius*

- ❧ *Aedes vexans*

- ❧ *Ochlerotatus sollicitans*

- ❧ *Ochlerotatus taeniorhynchus*



# Vector Competence Studies



## Efficient

*Ae. albopictus*

*Ae. japonicus*

*Cx. salinarius*

## Moderate Efficiency

*Ae. aegypti*

*Ae. vexans*

*Cx. tarsalis*

*Cx. pipiens*

*Cx. quinquefasciatus*

*Cx. restuans*

*Oc. triseriatus*

## Inefficient

*Ps. ferox*

*Cq. perturbans*

*Cx. nigripalpus*

*Oc. canadensis*

*Oc. cantator*

*Oc. sollicitans*

*Oc. taeniorhynchus*

# Peak Activity



- 
- *Ochlerotatus sp.* 5:00 – 8:00 PM
  - *Ae. vexans* 9:00 PM  
3:00 AM
  - *Anopheles sp.* 10:00 – Midnight
  - *Cx. pipiens* 11:00 - Midnight

# Flight Ranges



< 1 mile

*Aedes albopictus*

1 mile

*Cx. pipiens*

2-5 miles

*Aedes vexans*

2-10 miles

*Cx. tarsalis*

5-20 miles

*Oc. sollicitans*

40-70 miles

*Oc. taeniorhynchus*

# WNV – 2012



	<u>Neuro</u>	<u>Fatal</u>
National (4531)	2293	183
✧ Texas (1580)	725	55
✧ California (285)	163	11
✧ Louisiana (239)	118	11
✧ Mississippi (229)	95	5
✧ Illinois (200)	139	7



# WNV Activity, 2012



# Public Relations Television



❧ CBS This Morning

❧ NBC Nightly News

❧ NBC Today Weekend

❧ Weather Channel

❧ WTLV – Jacksonville NBC affiliate

❧ WJXX – Jacksonville ABC affiliate

# Public Relations





# Public Relations



PLAY CBS NEWS VIDEO

CBS  
THIS  
MORNING  
SATURDAY

**WEST NILE HEALTH EMERGENCY**  
IS THE SPRAYING HELPING AFFECTED AREAS?





# Public Relations



# Message Points



❧ West Nile is here to stay

❧ West Nile is serious!

❧ West Nile is preventable

❧ Personal protective measures – the 3 “Ds”

❧ West Nile control poses no undue risk

❧ West Nile control is effective

# Mosquito Control Efficacy



## ❧ Dallas – 1966 SLE

- ❧ Virus infection pre-spray 1/167
- ❧ Virus infection post-spray 1/28,639

## ❧ Michigan – 2002 WNV

- ❧ Residents outside MAD 10.53x increased risk
- ❧ Infection rate of Culex 8x lower within MAD

# Mosquito Control Efficacy



## ❧ Ft. Collins, CO 2003

### ❧ *C. pipiens/tarsalis*

- ❧ Treated            up to 89% decrease
- ❧ Untreated        up to 50% increase

## ❧ California, 2005

### ❧ Statistically significant reductions after treatment compared with untreated communities

- ❧ Numbers of mosquitoes
- ❧ % infected mosquitoes
- ❧ New cases of West Nile



# Pesticide Effects 1999-2002



- œ Exposed population – 118 million

- œ 2 definitive

- œ 26 probable - 106 possible

- œ 96 public exposures

- œ 1 severe – asthma + COPD

- œ 4300 WNV cases

- œ 3000 neuroinvasive

- œ 300 fatalities

# Public Relations Radio



❧ **Randy Lemmon Show – Houston**

❧ **KRLD, Dallas**

❧ **Texas State Radio Network**

❧ **CBS Radio Dallas**

❧ **Huffington Post Podcast**

# Public Relations

## Print Media



- ❧ Dallas Globe, Dallas News, Dallas Morning News
- ❧ Dallas Observer, Dallas Sun
- ❧ The Star-Ledger
- ❧ Bloomberg News
- ❧ Pest Control Technology Magazine
- ❧ USA Today
- ❧ Washington Post

# The AMCA - 2012





# What Is The AMCA?



- **Non-profit professional association founded in NJ in 1935. Originally called the Eastern Association of Mosquito Control Workers.**
- **1600+ members**
- **Made up of: students, scientists, regulators, industry, mosquito control employees, trustees, commissioners, and many others**
- **Members in 52 countries**

# 2011-2012 Officers



**Tom Wilmot**  
**President**



**Roxanne Connelly**  
**President-Elect**



**Steve Mulligan**  
**Vice President**



**Gary Hatch**  
**Treasurer**



**Bill Meredith**  
**Past President**

# Regional Directors



**Larry Smith**  
**Industry**



**Paul Capotosto**  
**North Atlantic**



**Joe Simmons**  
**Mid-Atlantic**



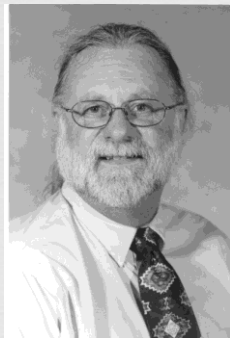
**Henry Lewandowski**  
**South Atlantic**



**Jim Stark**  
**North Central**



**Zane McCallister**  
**West Central**



**Rick Duhrkopf**  
**South Central**



**James Lunders**  
**North Pacific**



**Becky Cline**  
**South Pacific**



**Ildefonso  
Fernandez-  
Salas**  
**Latin America**

# Benefits of Membership



- **Support legislative and regulatory advocacy**
- **Participation in organization governance**
- **“Members Only” access on AMCA website**
- **Discounted fees on webinars**
- **Receive publications:**
  - Quarterly: JAMCA, Newsletter, WingBeats**
  - Monthly: e-Newsletter**
- **Lower registration fee at AMCA Meetings**



# AMCA Website

“Members Only” Area *www.mosquito.org*



- ***Search:***
  - Back issues of *JAMCA*, *Mosquito News*, *Mosquito Systematics*
  - For an AMCA member's contact info
  - Past issues of the Newsletter/WingBeats
- ***Download AMCA Resources:***
  - Contains news release examples
  - Comprehensive communications plans
  - Examples of letters and correspondence

# Upcoming AMCA Meetings



❧ **2013: 79th Annual Meeting**

February 24-28

Trump Taj Mahal

Atlantic City, NJ

❧ **2014: 80th Annual Meeting**

February 2-6

Sheraton Seattle and Washington State Convention & Trade Center  
Seattle, WA

❧ **2015: 81st Annual Meeting**

March 29-April 2

Hilton Riverside

New Orleans, LA

# USA Science and Engineering Festival



❧ **27-29 April, 2012 – DC Convention Center**

❧ **200,000 attendees, Sneak Peek - 28,000**

❧ **Festival attendees included:**

- ❧ Valerie Jarrett, Senior Advisor and Assistant to the President
- ❧ Secretary of Education Arne Duncan
- ❧ Chief Science Advisor John Holdren
- ❧ CIA Director for Science & Technology Glenn Gaffney
- ❧ Head of R&D for the National Park Service Gary Machlis
- ❧ Head of R&D for EPA Paul Anastas
- ❧ NIH Director Francis Collins
- ❧ HRH Prince Mohammed Bin Abdullah Al Saud

❧ **Media Coverage:** The Today Show, WUSA and NPR



# USA Science and Engineering Festival





# USA Science and Engineering Festival



# USA Science and Engineering Festival





# USA Science and Engineering Festival



# NPDES Impacts



❧ **National Pollutant Discharge Elimination System (NPDES) compliance costs are forcing programs to redirect control resources to comply with the regulatory requirements.**

❧ *Every dollar or man-hour needed to meet CWA requirements is a dollar not being put toward protecting the citizen's health.*

❧ **In some states, preventive mosquito control strategies such as comprehensive larviciding are being curtailed in order to redirect resources toward increased administrative and water monitoring costs.**

❧ *This effectively pushes districts toward more extensive use of adulticides to provide the same measure of control.*



# NPDES Impacts



- ❧ **Commercial applicators historically serving rural communities and small municipalities are increasingly opting to cancel their programs out of fear of increased liability under the CWA.**
  - ❧ *This represents a profound social injustice to those rural poor most in need of these services.*
- ❧ **Liability fears from adulticide applications are effectively pushing these control strategies farther down the control algorithm or eliminating them entirely.**
  - ❧ *Liability fears are fueling pressures to forego consideration of preventive adulticiding until human cases are identified, allowing for transmission to take place while diseases are incubating in the human population. This is unethical and effectively makes humans disease sentinels.*

# NPDES Impacts



- ❧ **Water monitoring costs now being levied on California mosquito control districts, if applicable nationwide, would close many districts in other states.**
  - ❧ *In the absence of a non-emergency public health exception to NPDES, there will eventually be increased pressure for other states to adopt California's monitoring policies.*
- ❧ **Federal and State agencies are expending vital funds to initiate and maintain NPDES programs governing mosquito control applications.**
  - ❧ *There is no longer slack in government budgets at any level to absorb NPDES program maintenance costs.*