

# 2016 Pennsylvania State Report



PA Department of Environmental Protection  
Information Provided by:  
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Presented by: Tom Smith  
Pennsylvania State Representative

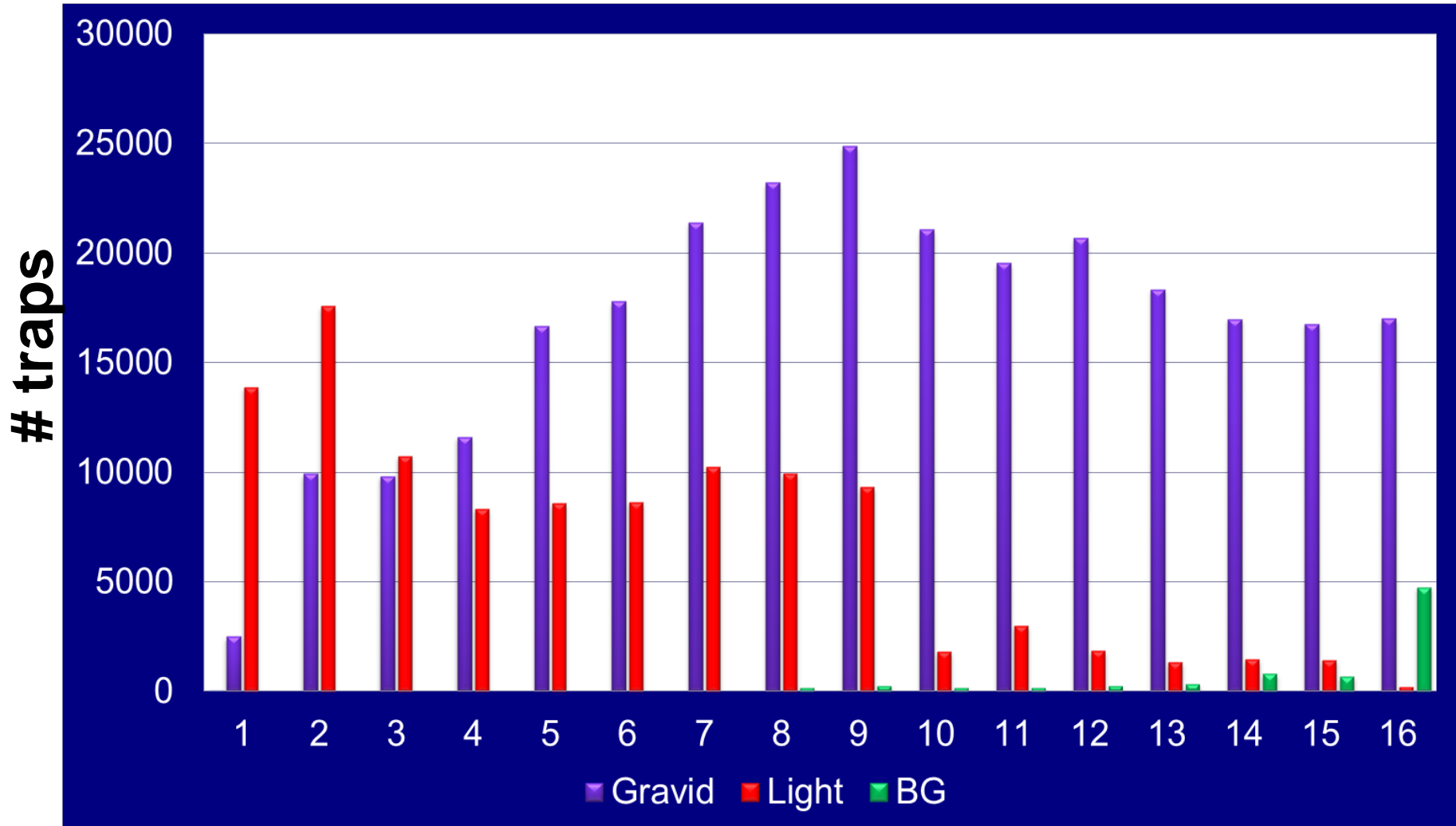
MAMCA Annual Meeting  
Marriot at Center City  
Newport News, Virginia  
February 2, 2017

# Mosquito Species Collected

- Identified 1.09 million adults specimens and 67K larvae
- 38 species identified

| <b>Species</b>                          | <b>Adults collected</b> |
|---|-------------------------|
| <b><i>Culex restuans</i></b>            | <b>428,816</b>          |
| <b><i>Culex pipiens</i></b>             | <b>398,624</b>          |
| <b><i>Aedes albopictus</i></b>          | <b>100,553</b>          |
| <b><i>Aedes japonicus</i></b>           | <b>29,626</b>           |
| <b><i>Culex pipiens-restuans</i></b>    | <b>28,848</b>           |
| <b><i>Aedes vexans</i></b>              | <b>14,572</b>           |
| <b><i>Aedes triseriatus</i></b>         | <b>11,013</b>           |
| <b><i>Culex salinarius</i></b>          | <b>9,670</b>            |
| <b><i>Coquillettidia perturbans</i></b> | <b>7,194</b>            |
| <b><i>Aedes trivittatus</i></b>         | <b>5,926</b>            |

# Trap type usage 2001-2016



Year

# West Nile Virus Mosquito Testing

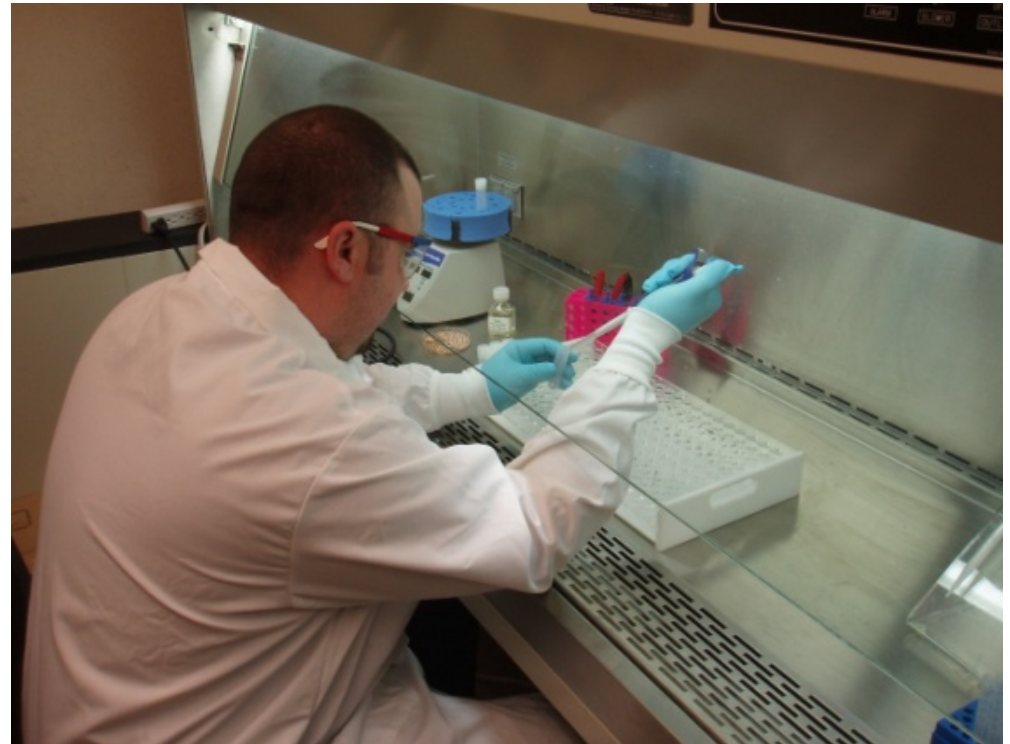
- Tested 828,028 specimens in 16,935 pools
- *Culex spp.* represented 90% of specimens collected (Emphasis on gravid traps)



| Species                       | # tested | # positive | MIR  |
|-------------------------------|----------|------------|------|
| <i>Culex pipiens</i>          | 356,699  | 1,151      | 3.23 |
| <i>Culex restuans</i>         | 356,497  | 241        | 0.68 |
| <i>Aedes albopictus</i>       | 74,484   | 11         | 0.15 |
| <i>Culex pipiens-restuans</i> | 24,921   | 46         | 1.85 |
| <i>Culex salinarius</i>       | 5,321    | 4          | 0.75 |
| <i>Culex erraticus</i>        | 3,606    | 3          | 0.83 |
| <i>Aedes japonicus</i>        | 3,255    | 1          | 0.31 |
| <i>Other species</i>          | 3,245    | 0          | 0    |

# WNV Non-mosquito Testing Results

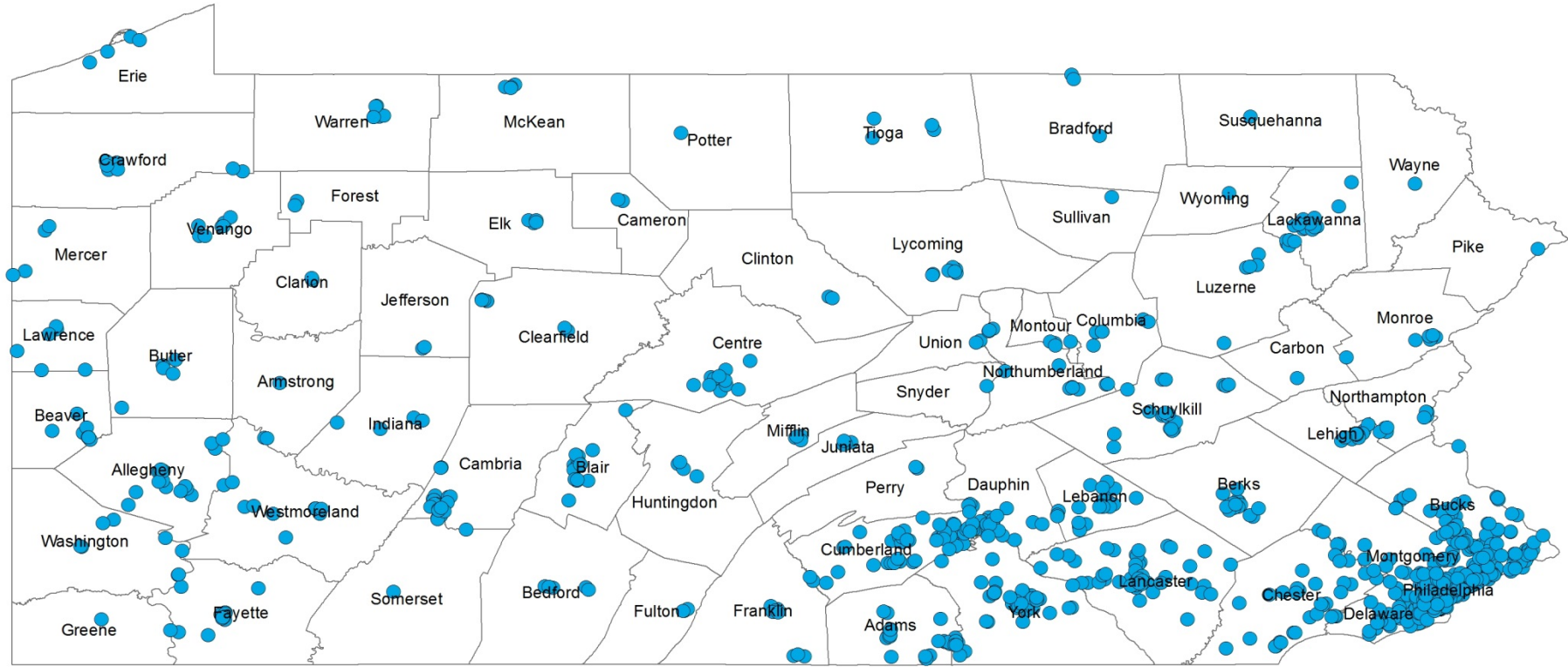
- **15 positive dead birds/60 tested**
- **6 positive horses**
- **16 human cases**



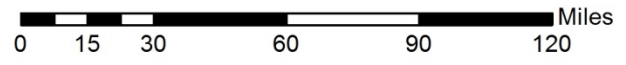
# Other Arbovirus Testing Results

- La Crosse
  - -tested ~2,500 specimens of *Ae. japonicus* and ~2,200 *Ae. triseriatus* – all negative
- Zika
  - -tested ~65,000 specimens of *Ae. albopictus*
    - all negative

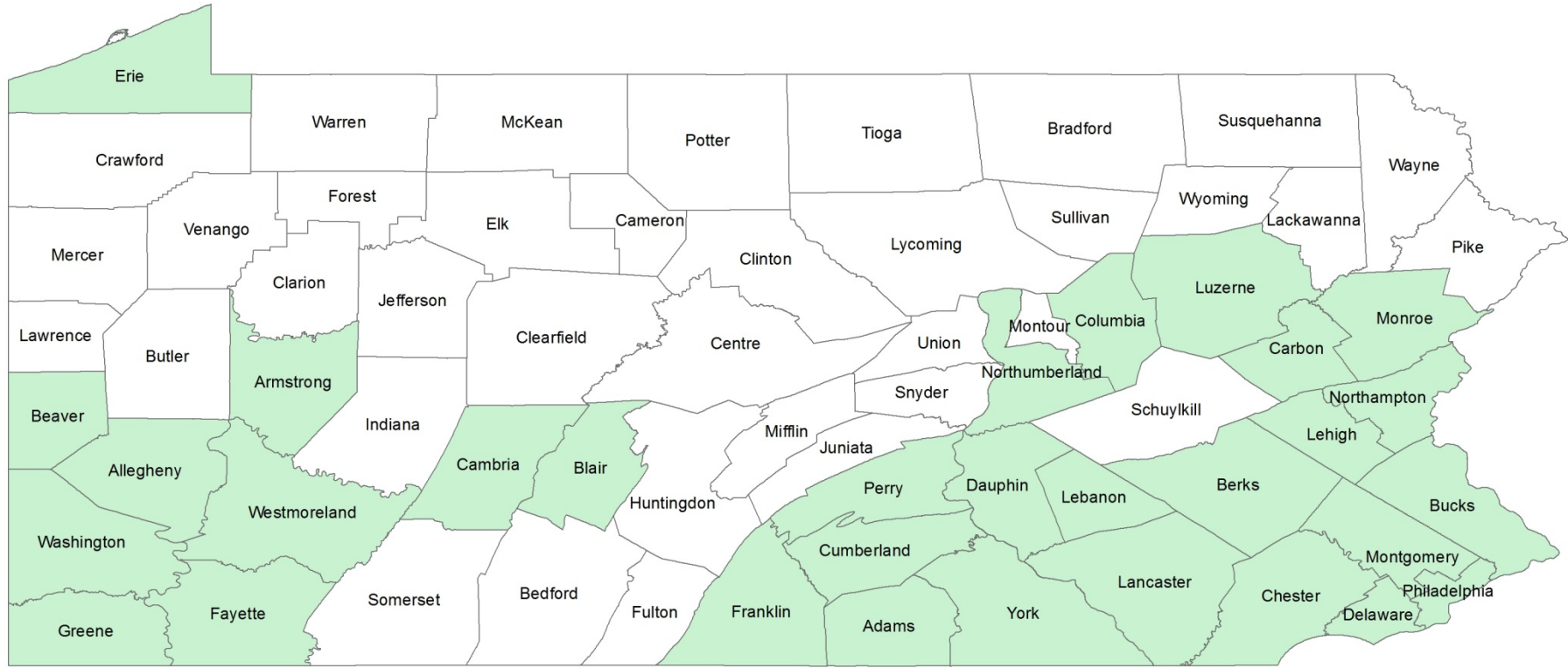
## Pennsylvania West Nile Virus Control Program BG Sentinel Sites in 2016



**Legend**  
● BG Sentinel Collection

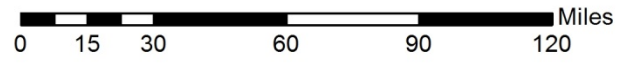


## Pennsylvania West Nile Virus Control Program Counties with *Aedes albopictus* collections in 2016



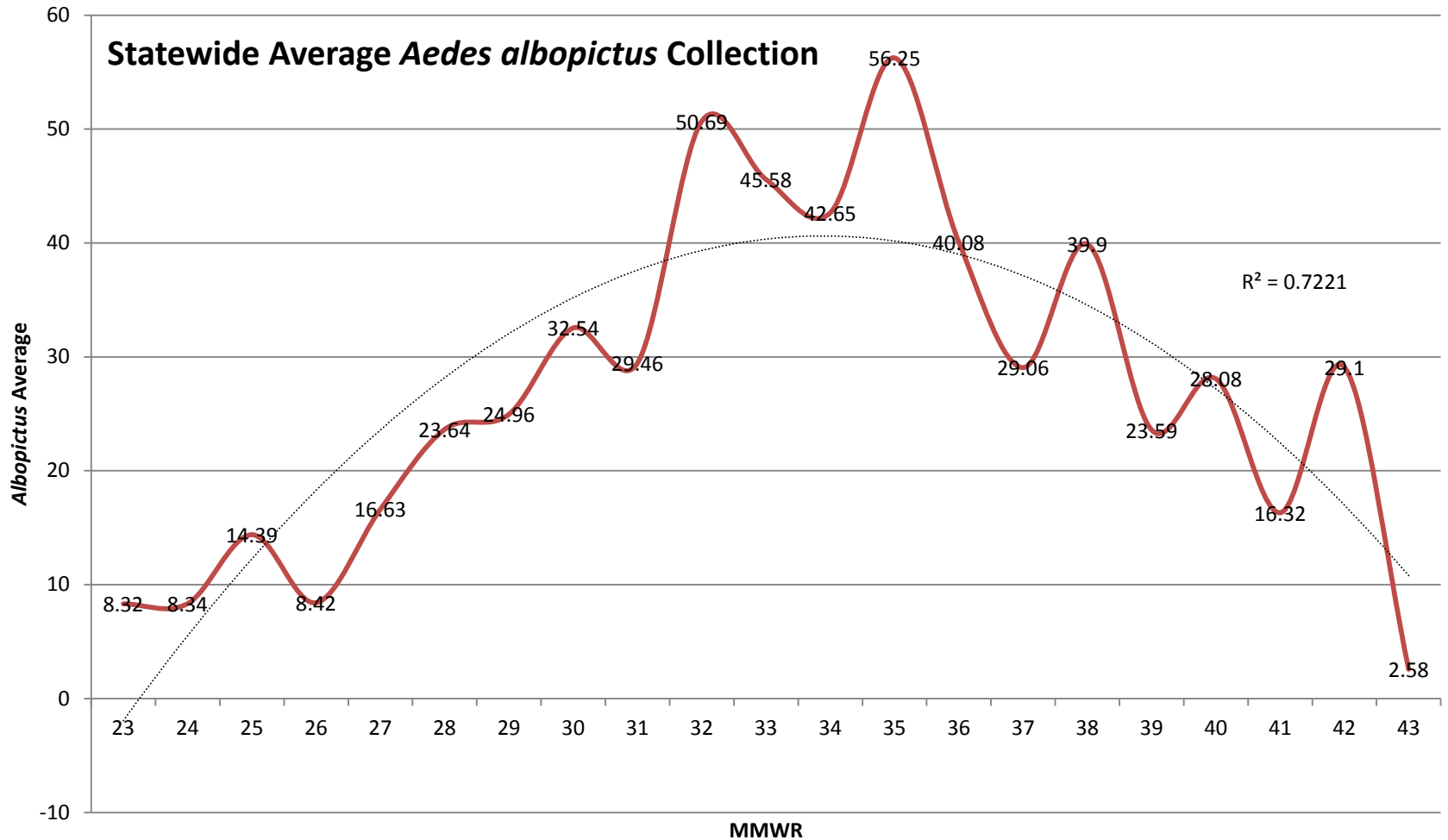
**Legend**

 County with *Albopictus* collection in 2016





# *Aedes albopictus*



# Zika Cluster Response

- Zika Clusters – 13 Reported – 10 responses
- Cluster is:
  - 2 or more viremic individuals
  - 1 radius
  - 2 weeks
- Vector Response included:
  - Habitat reduction
  - Larval and adult control
  - Public education

# Black Fly Suppression Program

## Program Goal

***“To reduce adult black fly populations below pest level, using environmentally compatible methods, during the spring through fall recreational season in participating counties across the Commonwealth of Pennsylvania.”***

>3,000,000 citizens benefit from program each year

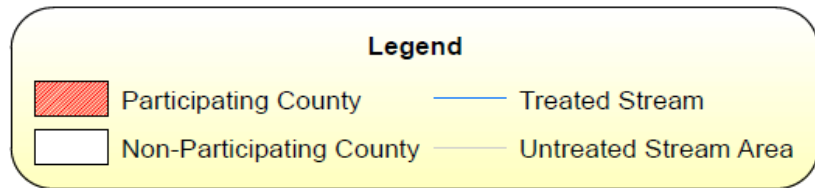
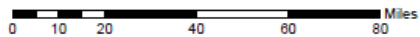
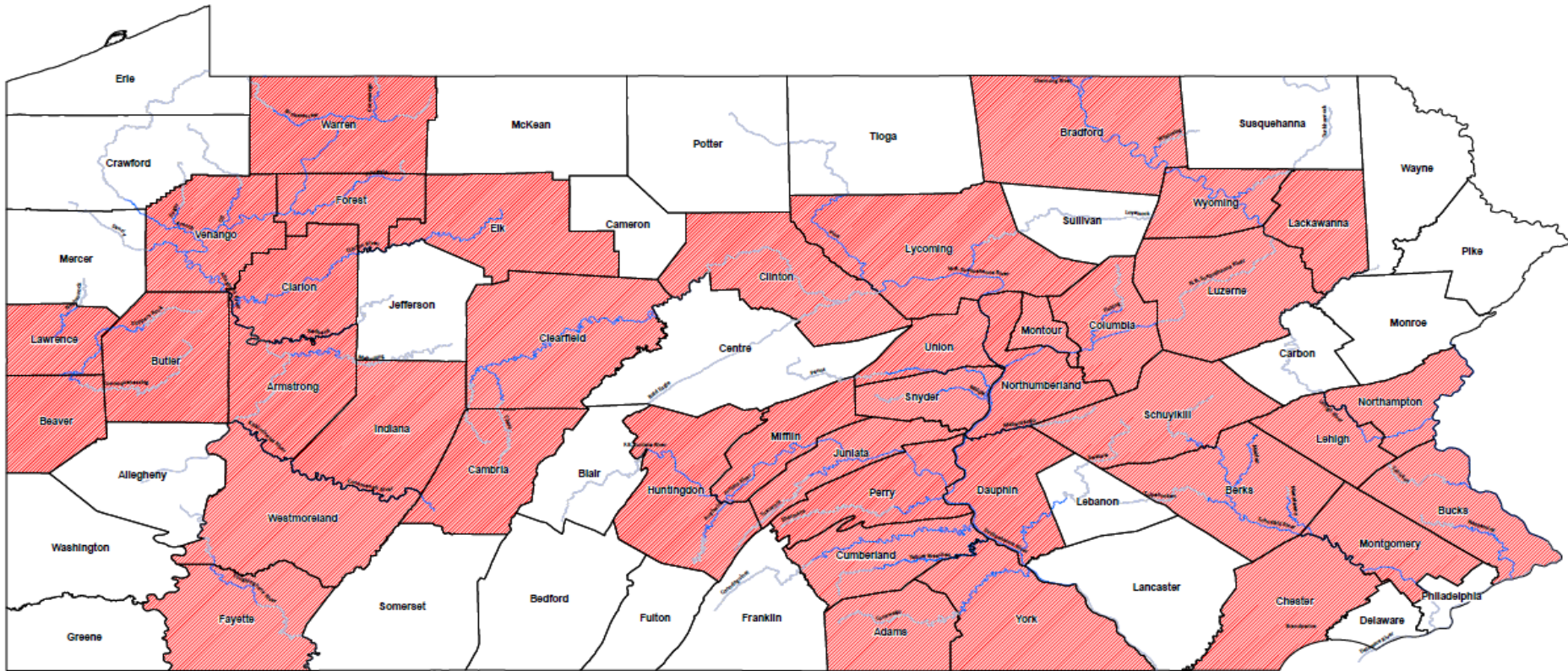
# Target Black Fly Species

(Only 4 of 53 PA species)

- *Simulium jenningsi*  
Malloch
- *Simulium luggeri*  
Nicholson & Mickel
- *Simulium fibrinflatum*  
Twinn
- *Simulium anchistinum*  
Moulton & Adler



# 2016 Black Fly Suppression Program Participating Counties and Treated Streams



# 2016 Black Fly Control Effort

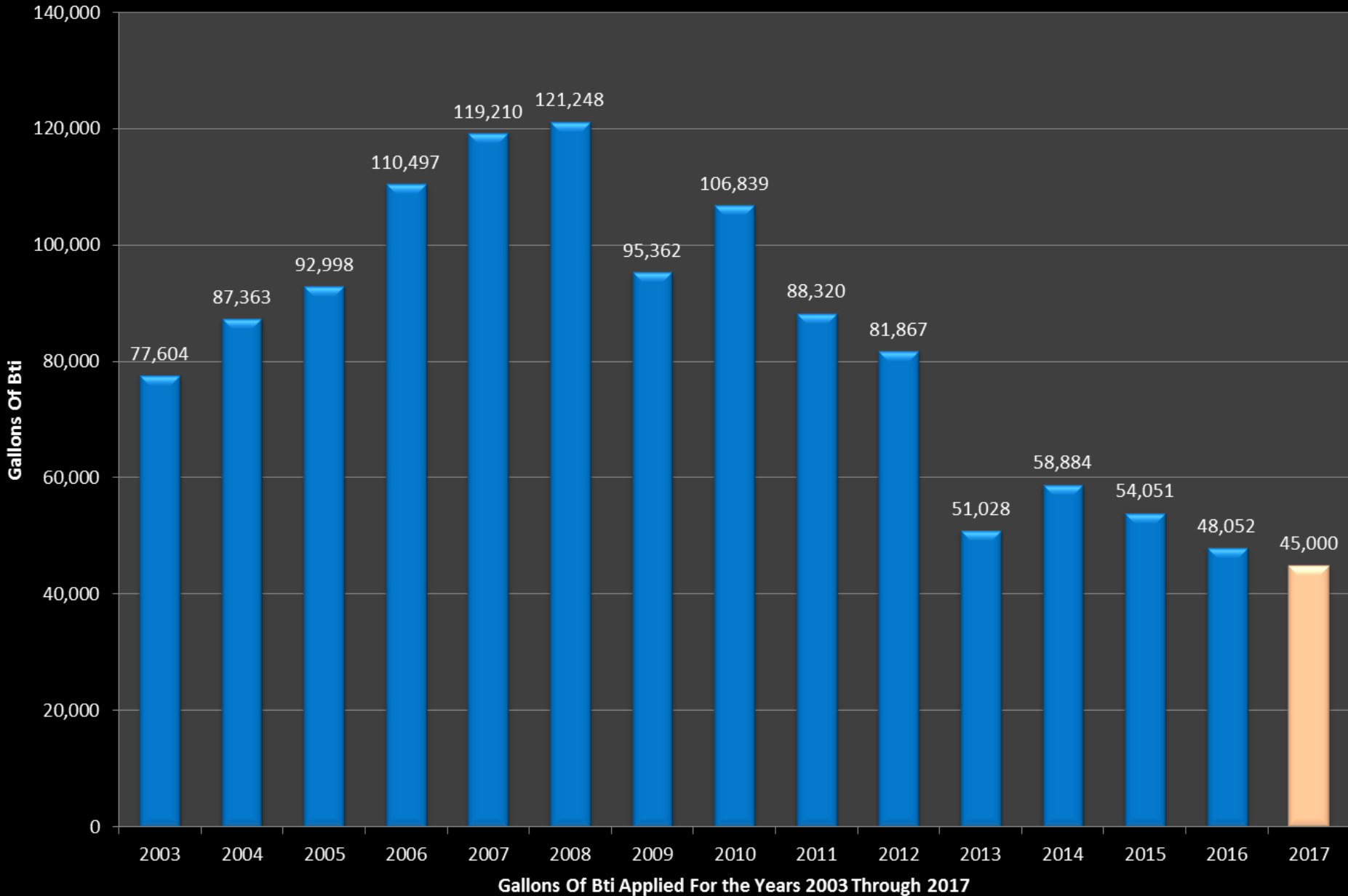
- 40 Participating counties
  - 36 in 2015
  - 34 in 2014
- 48 Waterways included in contracts
- Aerial control operations started April 11, ceased operations from early June to July 1 (\$2.2 million vs. \$1.6 available in Sp.2017)
- Resumed control operations July 1 through August 2
- 48,052 gallons of Bti used Statewide

# 2016 Black Fly Control Effort

- Larval/Pupal samples = 2,185
- Adult samples = 3898, avg. of 10.16 adults/sample

# Black Fly Suppression Program

## Gallons Of Bti Applied





# Contract Costs PER GALLON OF APPLIED BTI 2014 to 2017

## 2012 - 2014

- SUSQUEHANNA BASIN = \$56.91
- DELAWARE BASIN = \$67.40
- OHIO BASIN = \$69.32

## 2015

- SUSQUEHANNA BASIN = \$67.99 ( 20%) ↑
- DELAWARE BASIN = \$86.85 ( 29% ) ↑
- OHIO BASIN = \$98.90 (43%) ↑

## 2016

- *SUSQUEHANNA BASIN=\$69.55 ( 2.3% ↑)*
- *DELAWARE BASIN = \$88.41 ( 1.8% ↑)*
- *OHIO BASIN = \$116.70 (18% ↑)*

## 2017

- *SUSQUEHANNA BASIN=\$74.55 ( 7.2% ↑)*
- *DELAWARE BASIN = \$92.41 ( 4.5% ↑ )*
- *OHIO BASIN = \$118.75 (1.8% ↑)*



**2019 MAMCA Meeting  
Hilton Harrisburg, Pennsylvania  
March 26-28, 2019**

Questions/Comments