

# Annual Arboviral Illness Meeting

January 22, 2014

Bureau of Infectious Disease Control  
Division of Public Health Services

New Hampshire Department of Health and Human Services

# Agenda

- Annual Meeting 1:00 – 2:30pm
  - Introductions
  - State Update
  - Contractor Reports
  - Local Reports
  - Laboratory Reports
  - Open Discussion
- Aerial Spray Plan Meeting 2:30-3:30pm

# Arboviral Surveillance — New Hampshire, 2013

Whitney Howe, MSPH

New Hampshire Department of Health and Human Services

# NH Arbovirus Surveillance Program

- Surveillance and control
  - Mosquito
    - Town-based decisions and financing
    - Variable local interest
    - State – no trapping and no partial reimbursement for control this year due to limited funds
  - Human and veterinary
    - Outreach and coordination with healthcare providers
- NH Public Health Laboratories testing
  - Mosquito, human, veterinary for EEEv and WNV

# 2013 Pre-Season Conditions

- Continued to maintain Arboviral Program
  - Mosquito testing season July 1st through September 30<sup>th</sup>
    - Testing extended into October
    - Number of species accepted maintained
      - Increased in 2012
      - Minimum batch size maintained
- Public Health Threat declaration was not in effect for 2013

# 2013 Pre-Season Preparation

- NH Arboviral Illness Surveillance, Prevention, and Response Plan development and maintenance
  - Continued testing of species added in 2012
- Community Education
  - Health Officers
  - Medical providers and Veterinarians
- Strong local interest and support
  - Many towns in high-risk region financed surveillance and/or control efforts



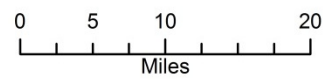
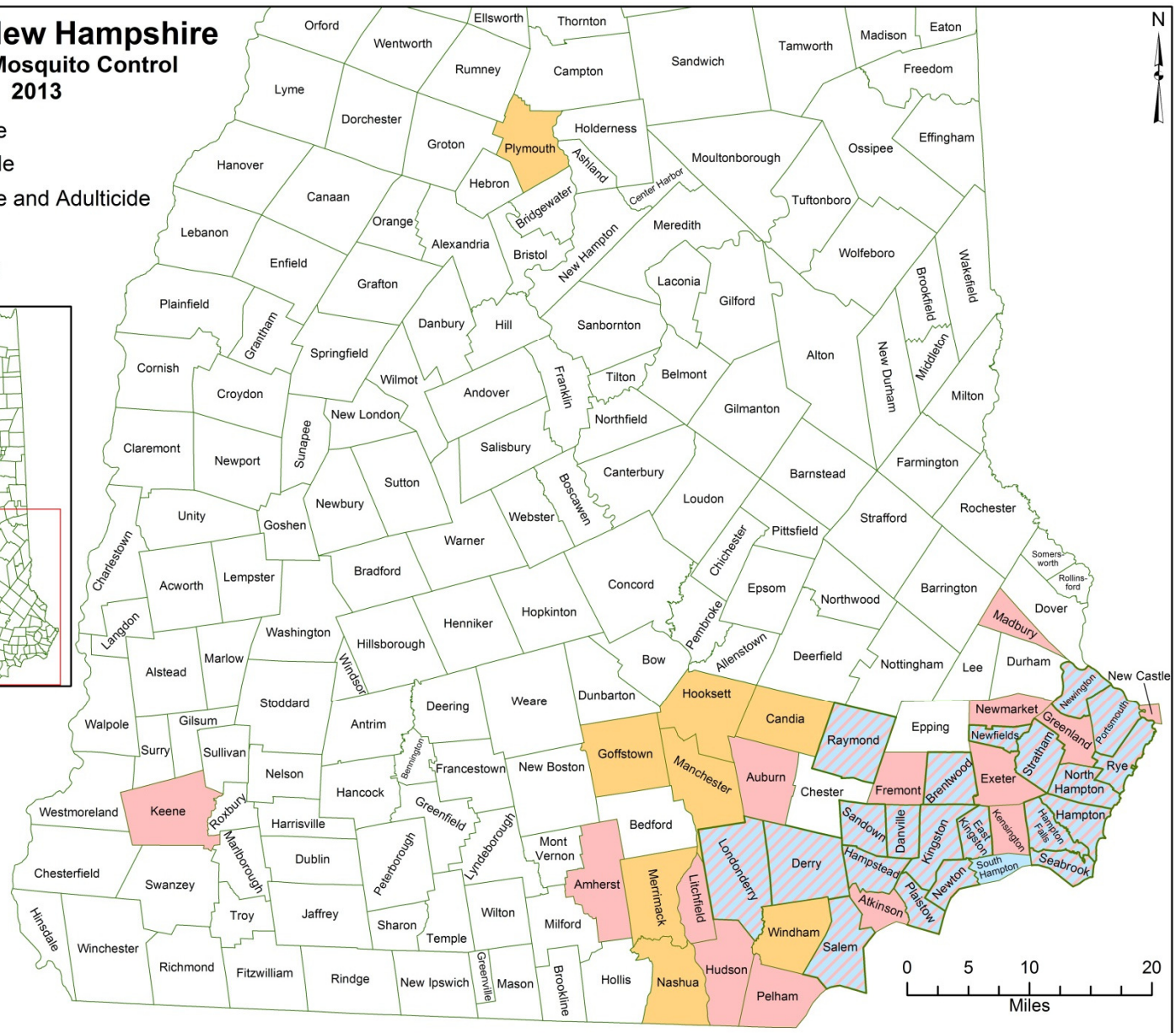
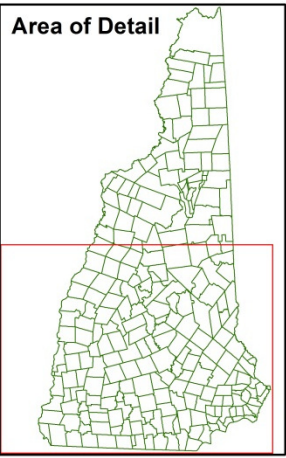


# State of New Hampshire

## Level of Mosquito Control

### 2013

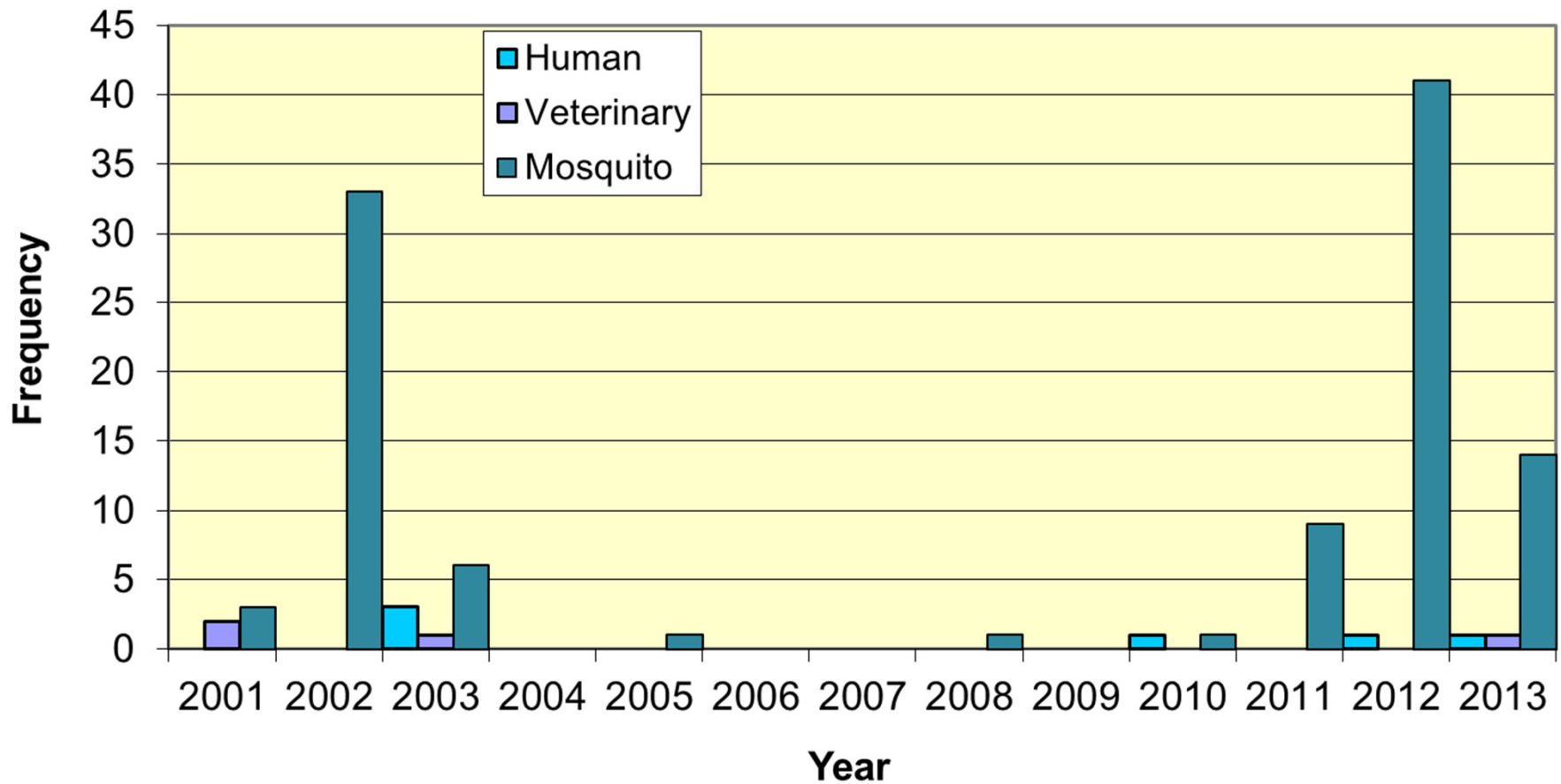
- Larvicide
- Adulticide
- Larvicide and Adulticide
- None
- No Data





# West Nile Virus New Hampshire

# NH WNV Activity: 2001-2013



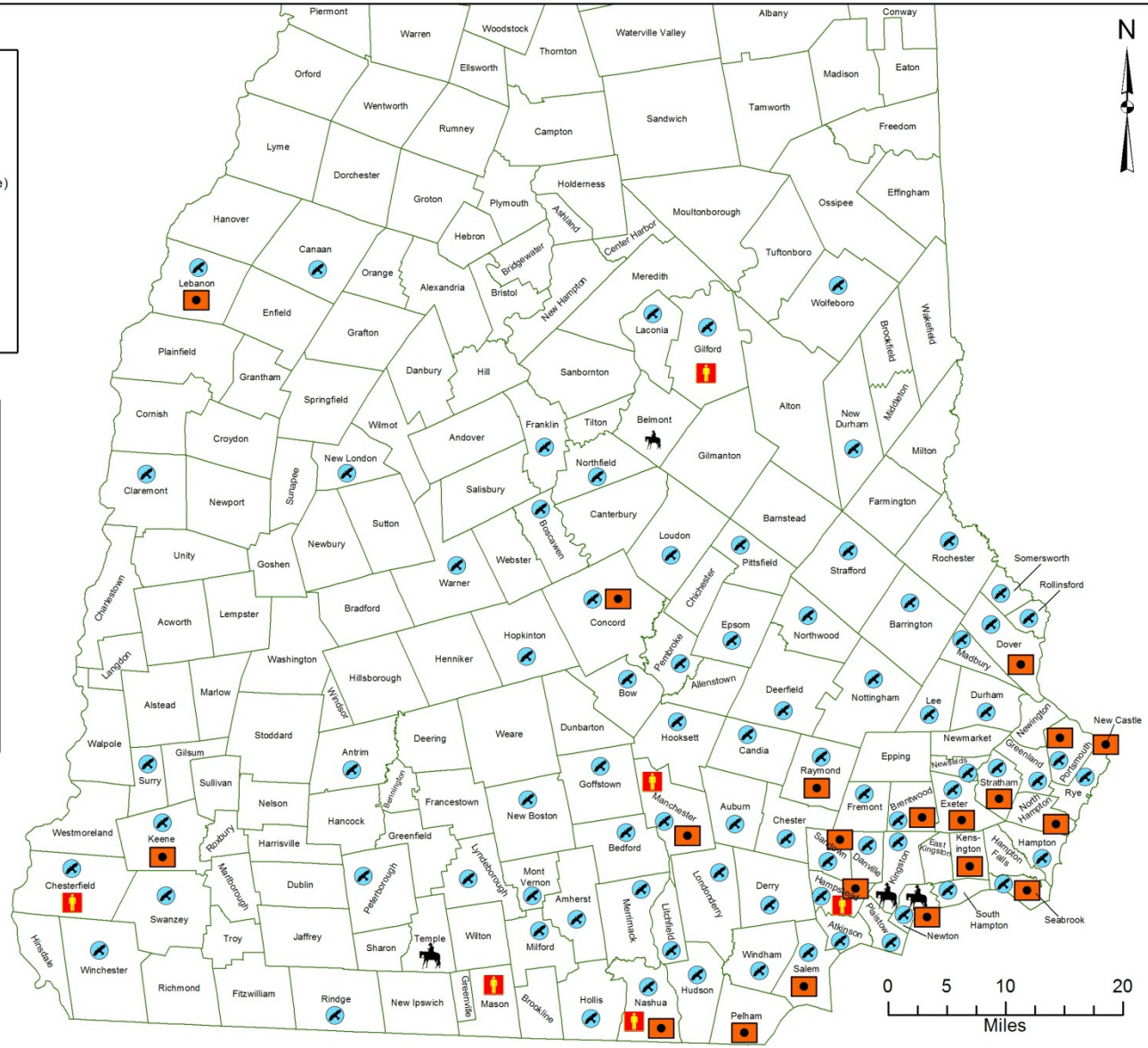
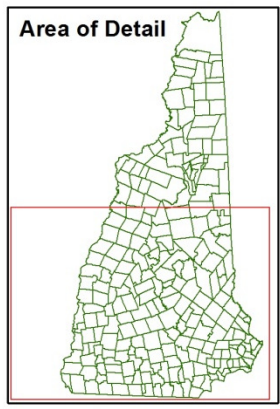
# NH West Nile Virus Activity

- 2000 – 2010: 4 humans, 45 mosquito batches, 3 horses and 506 birds
- 2011: 9 mosquito batches
- 2012: 1 human case, 41 mosquito batches
- 2013: 1 human case, 1 horse, 14 mosquito batches

# West Nile Virus - Positive Test Results, 2001 - 2013

**Positive Results -**

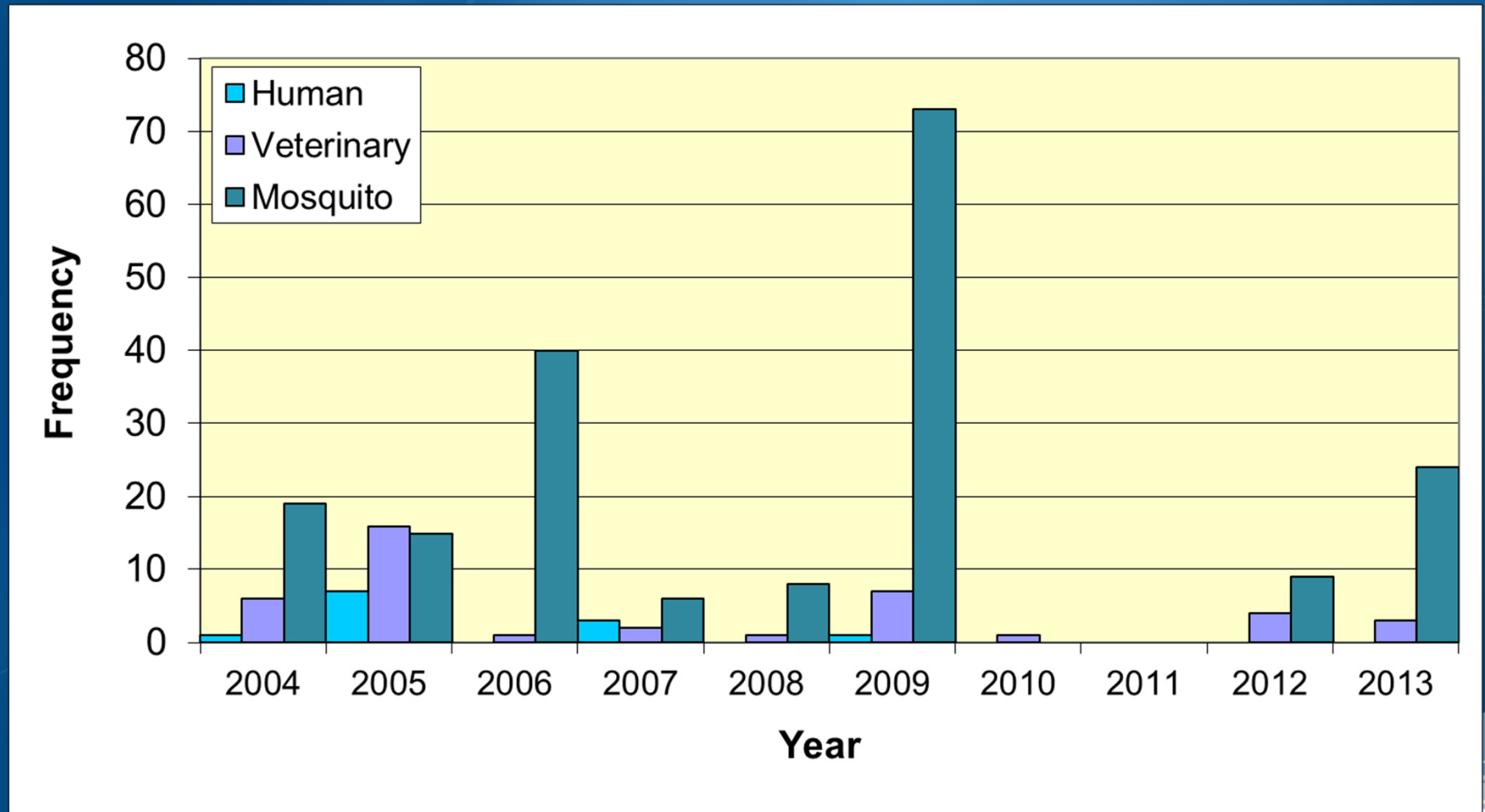
-  - Human (One or More)
-  - Wild Bird (One or More)
-  - Mosquito Pool (One or More)
-  - Horse (One or More)





# Eastern Equine Encephalitis Virus New Hampshire

# NH EEE Activity 2004 - 2013



Mosquito Testing initiated in 2004

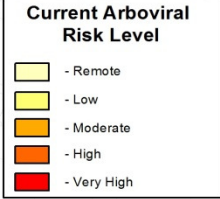
# NH EEEv Activity 2004-2013

- 2004-2010: 12 human cases, 34 veterinary cases, 161 mosquito batches
- 2011: No EEE activity
- 2012:
  - 4 veterinary cases (Horses, emus)
  - 9 mosquito batches
- 2013:
  - 3 veterinary cases (Horses)
  - 24 mosquito batches





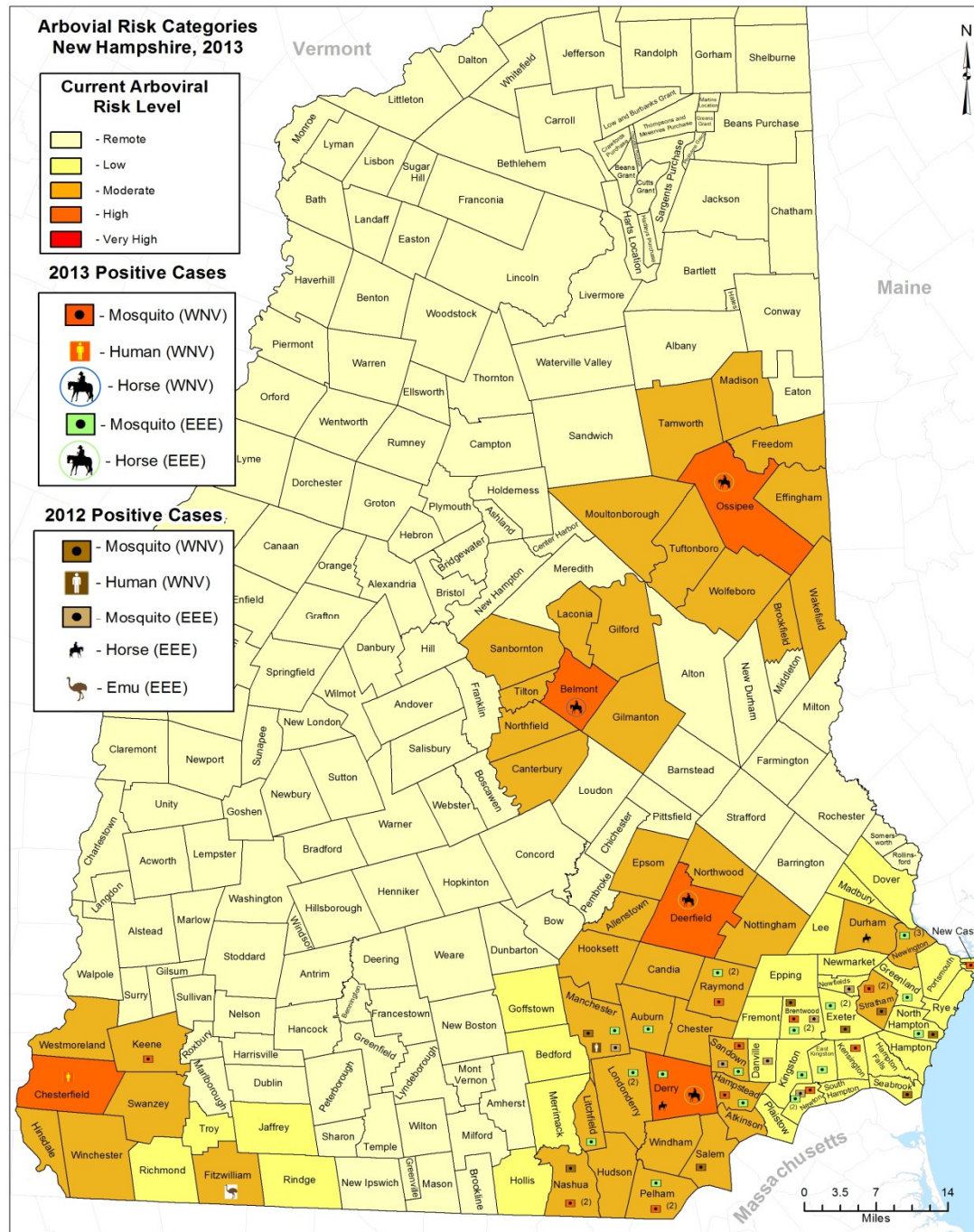
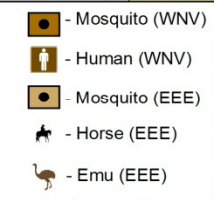
**Arboviral Risk Categories  
New Hampshire, 2013**



**2013 Positive Cases**



**2012 Positive Cases**



# 2013 Arboviral Activity

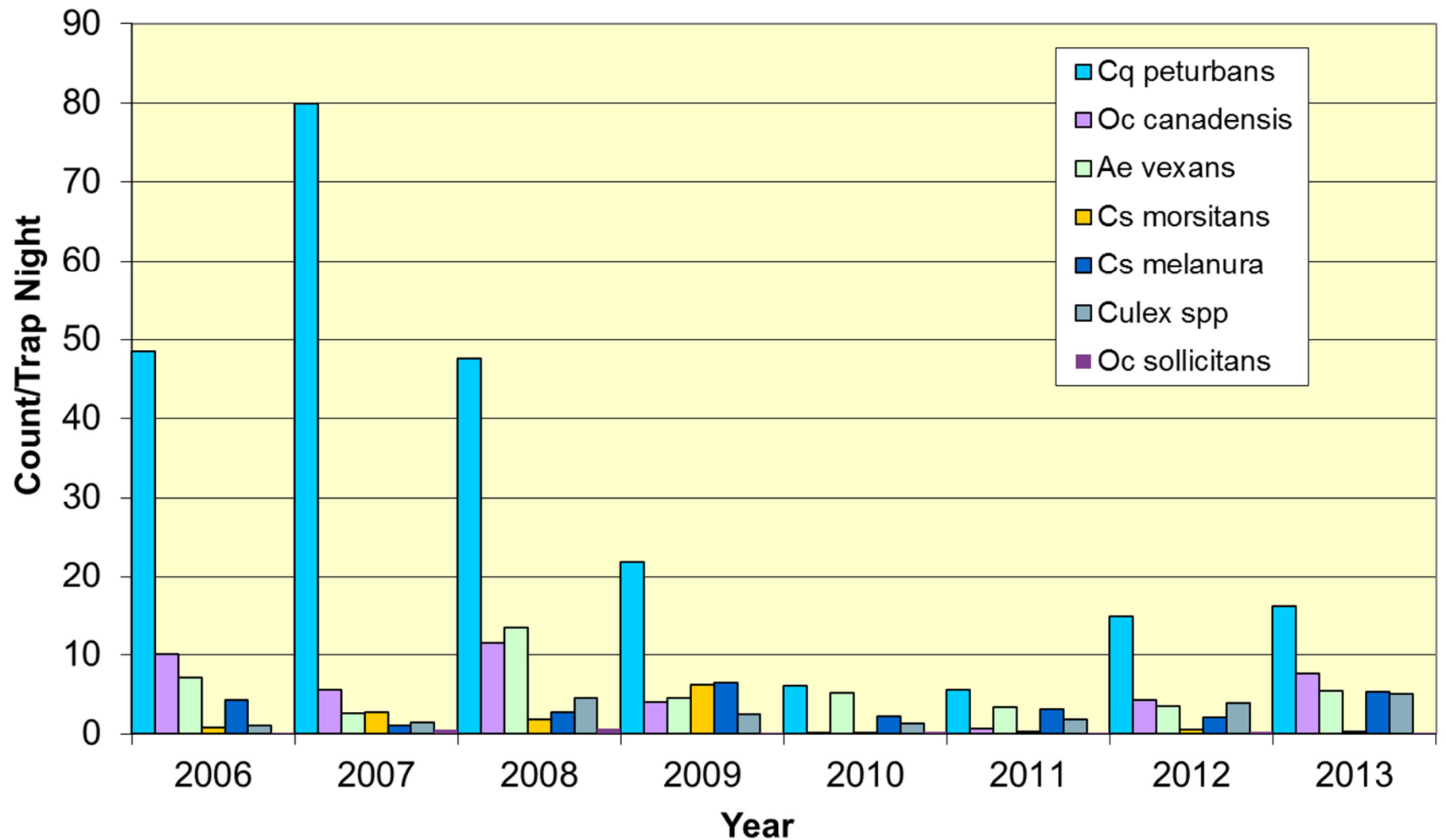
# 2013 Mosquito Trap Collections

Species	Frequency	Percentage
<i>Cq. peturbans</i>	26026	37.27
<i>Oc. canadensis</i>	12273	17.58
<i>Ae. vexans</i>	8848	12.67
<i>Cs. melanura</i>	8512	12.19
<i>Cx. pipiens</i>	3298	4.72
<i>Cx. salinarius</i>	3003	4.30
<i>P. ferox</i>	1590	2.28
<i>Ae. cinereus</i>	1208	1.73
<i>Cx. restuans</i>	976	1.40
<i>Cx. pipiens/restuans</i>	935	1.34
<i>Oc. triseriatus</i>	574	0.82
<i>An. punctipennis</i>	569	0.81
<i>Oc. trivittatus</i> <sup>^</sup>	446	0.64
<i>Cs. morsitans</i>	396	0.57
<i>Oc. japonicus</i>	396	0.57
<i>An. walkeri</i>	333	0.48
<i>Oc. taeniorhynchus</i> <sup>^</sup>	156	0.22
<i>U. sapphirina</i> <sup>^</sup>	97	0.14
<i>An. earlei</i> <sup>^</sup>	71	0.10
<i>Oc. sollicitans</i>	36	0.05
<i>Cs. minnesota</i> <sup>^</sup>	32	0.05
<i>P. ciliata</i> <sup>^</sup>	16	0.02
<i>Cs. inornata</i> <sup>^</sup>	11	0.02
<i>Cx. territans</i> <sup>^</sup>	11	0.02
<i>Oc. cantator</i> <sup>^</sup>	6	0.01
<i>An. quadrimaculatus</i> <sup>^</sup>	5	0.01

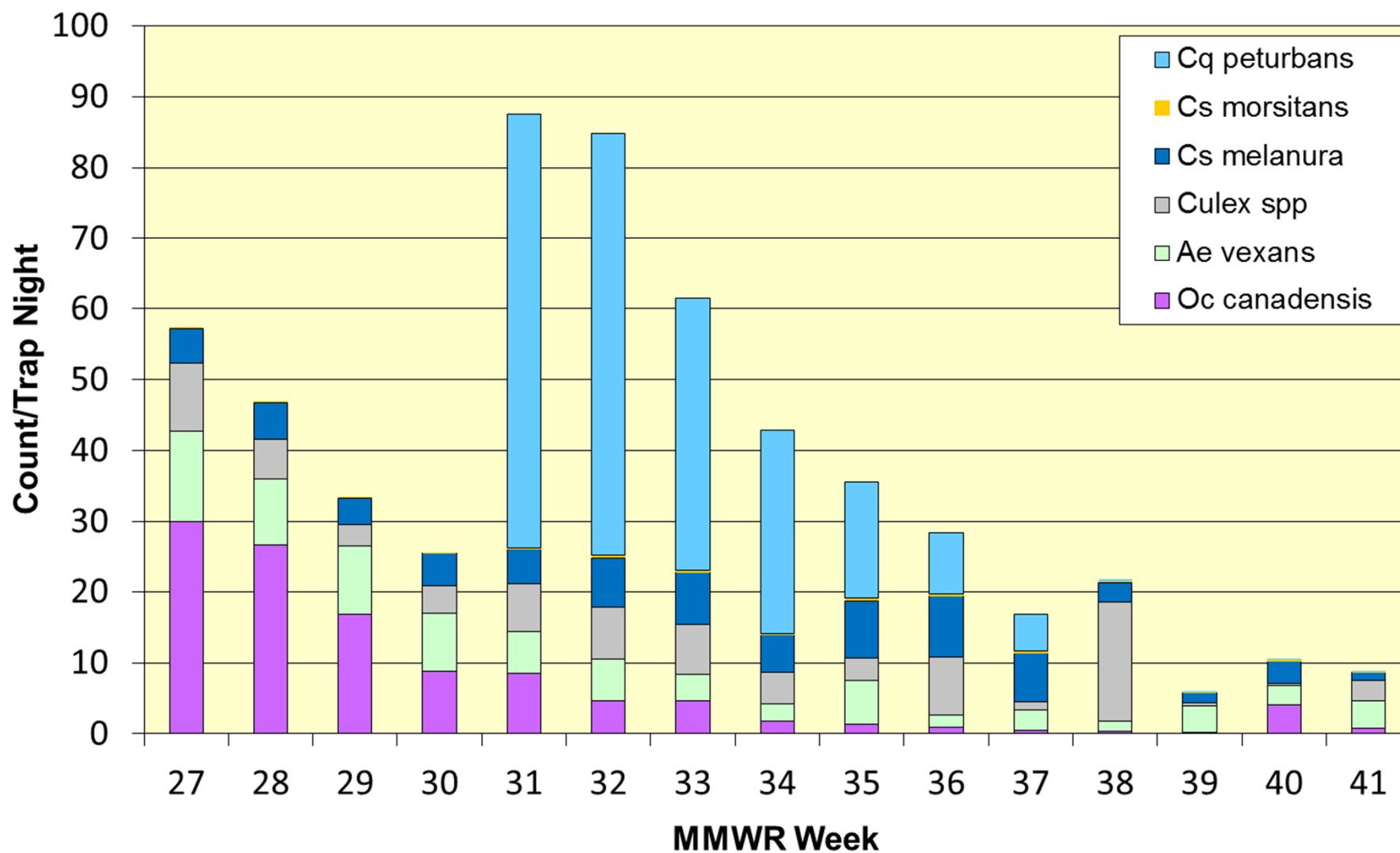
<sup>^</sup> not on testing list

- Total specimens tested 2013: 69,824 mosquitoes (5,349 batches)
- Total specimens tested 2012: 54,082 mosquitoes (4,639 batches)
- Number of mosquitoes tested increased by 22.5%

# Annual Collection of Mosquito Species

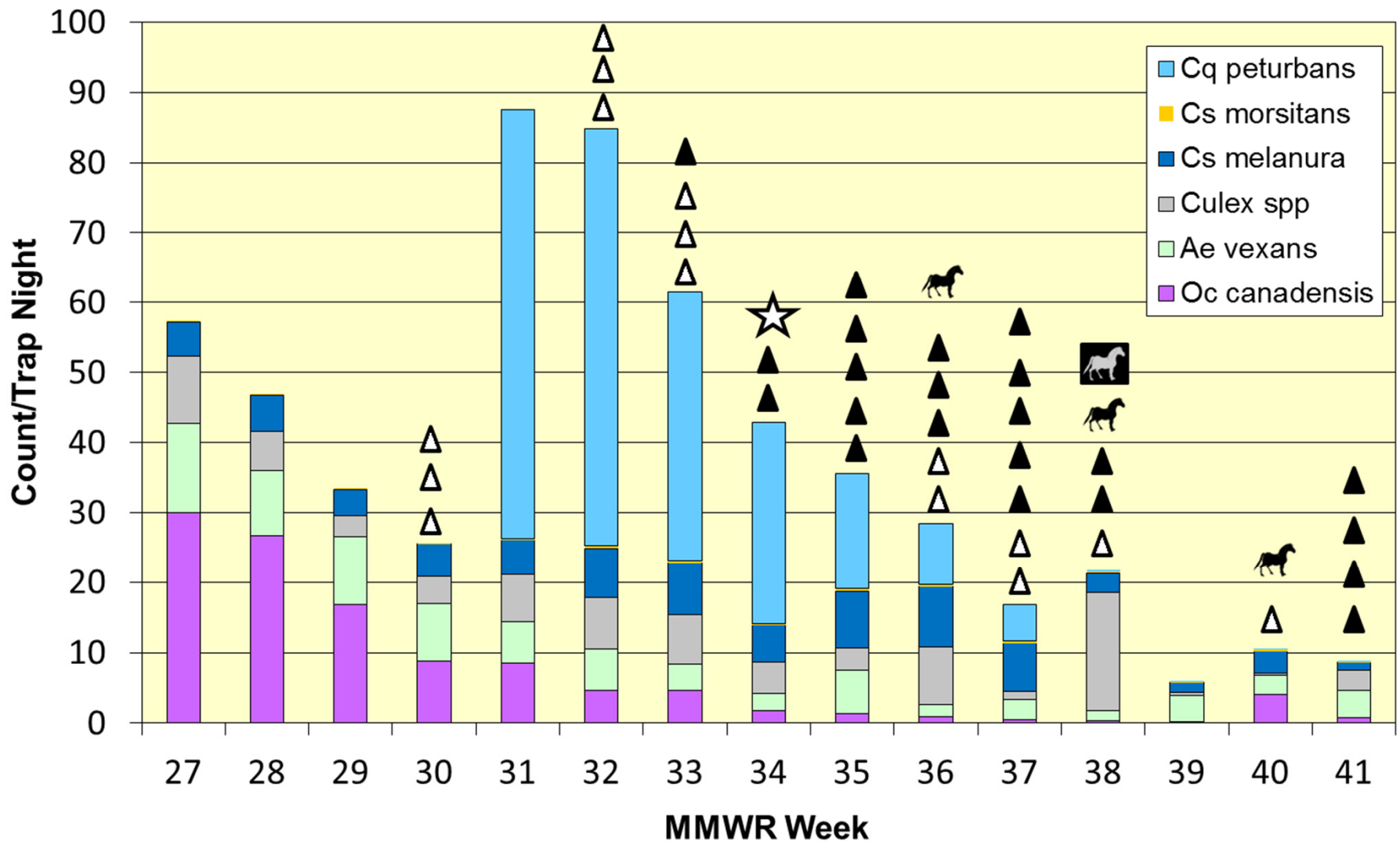


# 2013 Collection of Mosquito Species





# 2013 Collection of Mosquito Species



△ WNV Mosquito Batch



WNV Horse



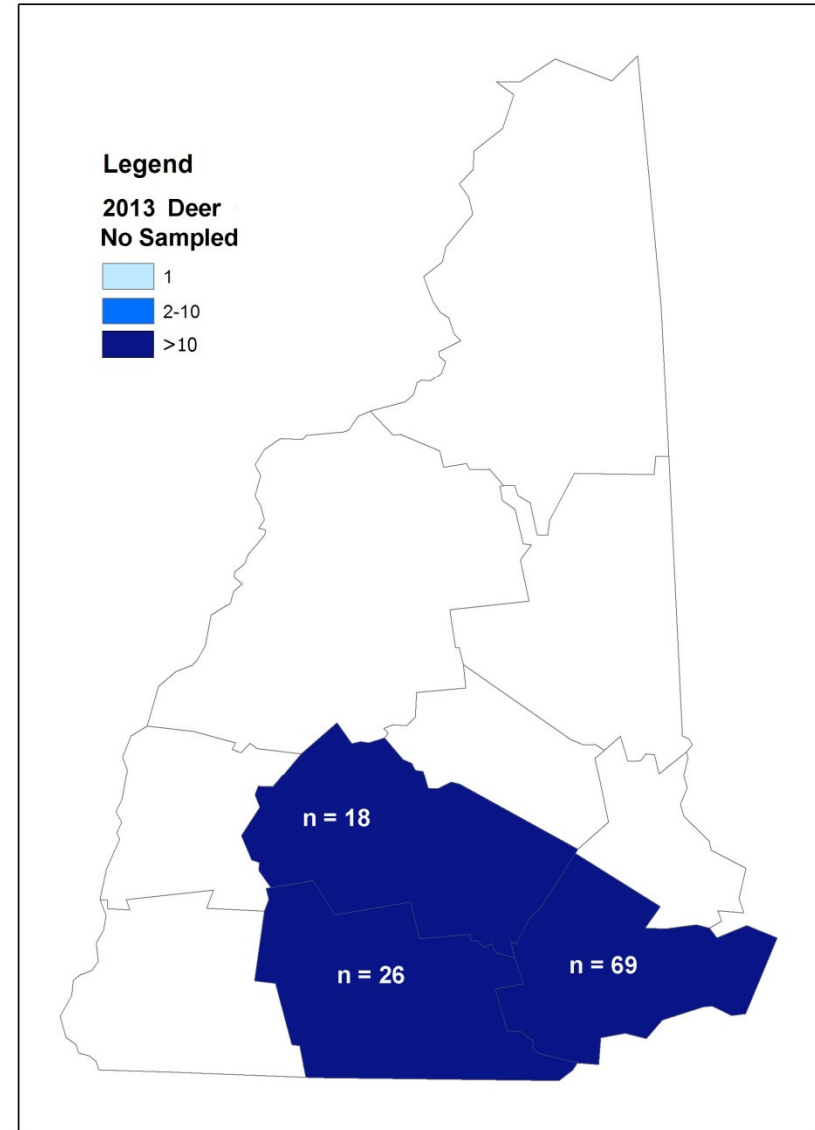
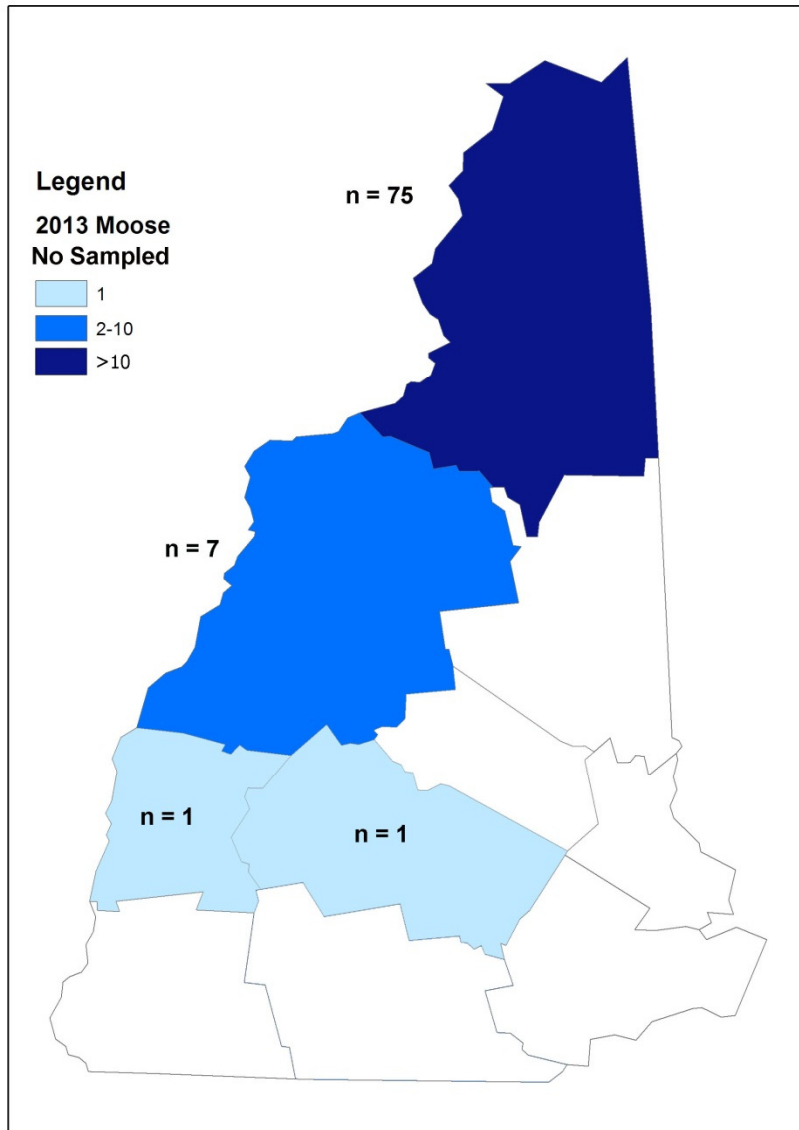
WNV Human

▲ EEE Mosquito Batch



EEE Horse

# NH EEE Serosurvey Distribution 2013



# Arbovirus Surveillance Program Goals for 2014

- Maintain current program utilizing limited funds available
- Reach out to communities not previously designated as “high-risk”
- Continue to communicate risk based on regions, not specific towns
- Finalize development of aerial spray plan

# Acknowledgments

- NH DHHS Department of Public Health Services
  - Jose Montero, Sharon Alroy-Preis, Jodie Dionne-Odom, Elizabeth Daly, Tylor Young, Dianne Donovan, Abigail Mathewson
- NH Public Health Laboratories
  - Christine Bean, Fengxiang Gao, Denise Bolton, Carol Loring, Amanda Archambault, Trevor Lester
- Dragon Mosquito Control
- Municipal Pest Management
- Atlantic Pest Solutions
- NH Towns and Cities



# Open Discussion

- 2013 Arboviral Prevention and Response Plan
  - Feedback on testing approach
  - Any changes required for 2014
- Reworking of the risk map
  - May modify the risk levels and how the data are presented
- General comments about the season