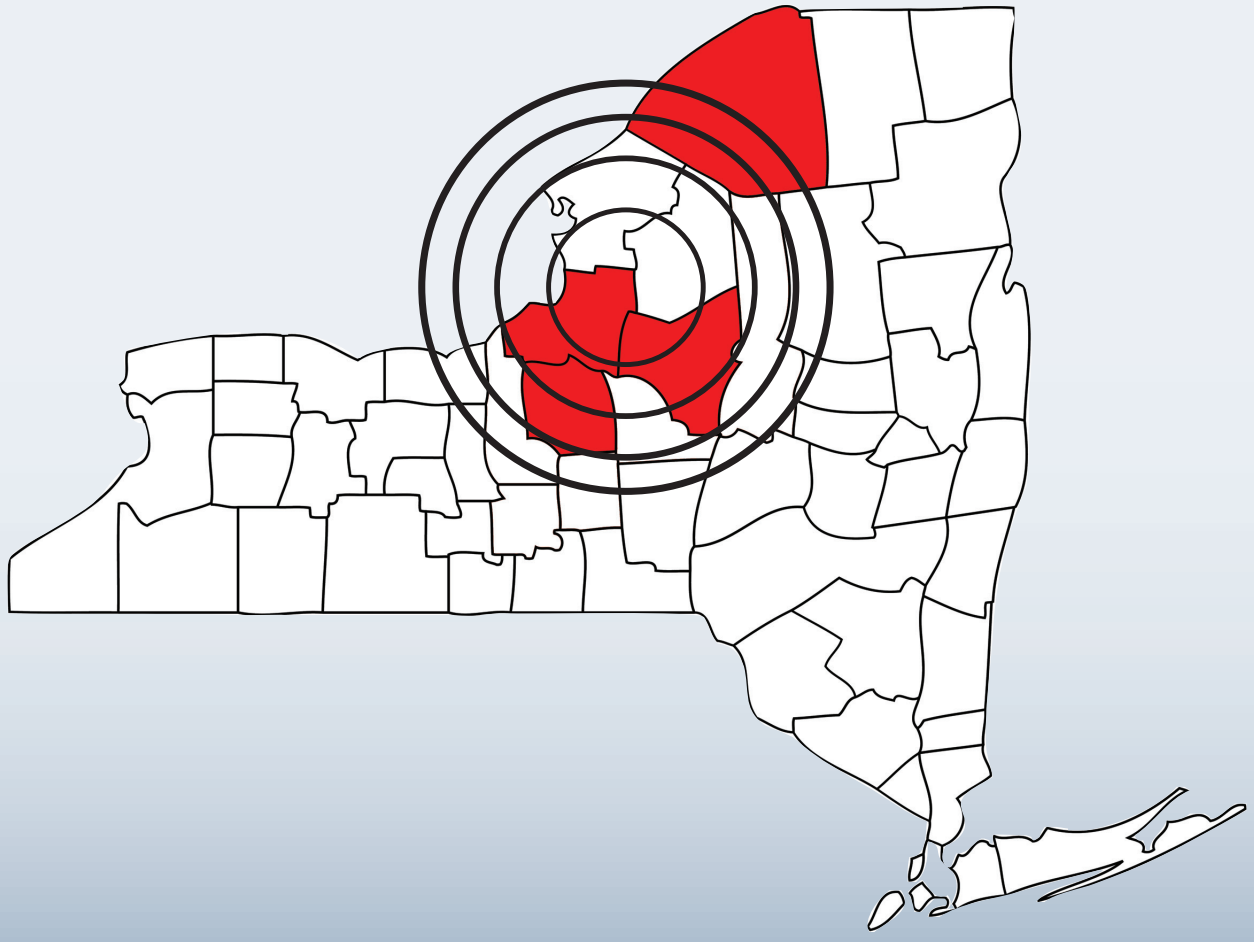
New York State Senate
Report of the Committees on Agriculture and Health

State and Local Response to Eastern Equine Encephalitis

February 2012



Senator Patty Ritchie
Chair, Agriculture Committee

Senator Kemp Hannon
Chair, Health Committee

NEW YORK
STATE
SENATE
ALBANY, NEW YORK 12247

February 2012

Dear Friend:

Last summer, an unspeakable tragedy struck a Central New York family when their four-year-old daughter became suddenly ill and died, a rare victim of a ravaging disease that few had ever even heard of before. The instigator, a tiny insect too populous to count, that thrives in our backyards as well as swamps, and is too easily dismissed as a mere summertime annoyance, but in reality, poses a serious threat to the public's health.

Eastern Equine Encephalitis (EEE), a mosquito-borne virus, generally impacts livestock—and since its emergence in New York in 1952, it has cost farmers hundreds of thousands of dollars in losses. EEE also has claimed five human lives—all in Onondaga and Oswego Counties in Central New York.

In response to the death of four-year-old Maggie Sue Wilcox, of New Haven, Senator Patty Ritchie, chair of the Senate Agriculture Committee, invited Senate Health Committee Chair Kemp Hannon to join her in sponsoring a Roundtable Forum to explore the problem of EEE, the state and local response to the most recent outbreak, and to find ways to bolster the state and local response and prevent future loss of life and property.

The Roundtable included leading experts in insect-borne diseases, public health and prevention. An immediate and welcome result was a commitment from state health and other officials to reexamine their approach to EEE prevention, and implement more effective ways to control the disease and the insects that spread it.

This document will discuss highlights from the Roundtable, and make some recommendations for legislative and other action. The complete video of the event is available at the Senate Agriculture and Health Committee websites, which may be accessed through www.nysenate.gov.

The Chairs wish to thank the participants for their cooperation, and for freely sharing information that can help save lives in the future.

Sincerely,

Senator Patty Ritchie
Chair
Senate Agriculture Committee

Senator Kemp Hannon
Chair
Senate Health Committee

Senate Agriculture Committee
Senator Patty Ritchie, Chair

Legislative Office Building
Room 815
Albany, New York 12247
(518) 455-3438

46 East Bridge St., 1st Floor
Oswego, New York 13126
(315) 342-2057

Senate Health Committee
Senator Kemp Hannon, Chair

The Capitol
Room 420
Albany, New York 12247
(518) 455-2200

595 Stewart St.
Suite 540
Garden City, New York 11530
(516) 739-1700

CONTENTS

NOTICE OF ROUNDTABLE

SENATE STANDING COMMITTEE ON AGRICULTURE
SENATE STANDING COMMITTEE ON HEALTH

SUBJECT: State and Local Response to Eastern Equine Encephalitis (EEE) and its Impact on Public and Animal Health in Central and Northern New York

PURPOSE: To discuss the incidence of EEE, its impact on human and animal health and possible policy changes to minimize infection and spread of the virus in New York State

WHEN: Thursday, October 13th, 2011 at 11:00 am in the Legislature Chambers of the Oswego County Office Building, 46 E. Bridge St., Oswego, NY

Senator Patty Ritchie, Chair of the Standing Committee on Agriculture, and **Senator Kemp Hannon**, Chair of the Standing Committee on Health, will be holding a Roundtable discussion regarding the incidence of human and animal EEE, particularly in Central and Northern New York. Existing policies and regulations will be examined for possible policy changes aimed at controlling the virus and protecting public and animal health. It is anticipated the following questions will be discussed in detail:

- An overview of the history of EEE incidence in New York State and, in particular, Central and Northern New York.
- What are the responsibilities of individual state agencies and local governments with respect to testing, detection and response to an EEE outbreak?
- What is the state's policy with regard to aerial spraying and other means of controlling potentially infected insect populations, including funding protocols?
- What are the state and local responsibilities with regard to mosquito testing and control?
- What steps are currently in place to ensure adequate public notification and education of the dangers of exposure to humans and animals, and how can these be improved to provide timely notification of detection, control and treatment processes?
- What are the alternate insect control procedures that are available to governments, farmers and individuals?
- What assistance does the state and local governments provide to homeowners, farmers and individuals to control insect populations on private property?
- What is the economic impact on farmers in cases of EEE infection?
- Is there sufficient coordination between state agencies and local authorities to effect the maximum effective control of infected insect populations?
- What resources are available to local governments to assist them in helping to monitor and control breeding insect populations?

- What unique geographic features or practices may contribute to the prevalence of the disease in affected communities?
- What legislative or regulatory remedies may be needed to improve the state and local government response, enhance prevention and improve public notification?

Participation is by invitation only. Any prepared statements or materials to be submitted by participants should be sent in advance. Written comments will also be accepted and may be sent to the attention of the Chairs at 815 Legislative Office Building, Albany, NY 12247, or 46 E. Bridge St., Oswego, NY 13126. In order to further publicize these hearings, please inform interested parties and organizations of the committees' interest in hearing testimony from all sources. For further information, please contact Todd Kusnierz, Director of the Senate Agriculture Committee at (518) 455-3438 or email kusnierz@nysenate.gov

In order to meet the needs of those who may have a disability, the Legislature, in accordance with its policy of non-discrimination on the basis of disability, as well as the 1990 Americans with Disabilities Act (ADA), has made its facilities and services available to all individuals with disabilities. For individuals with disabilities, accommodations will be provided, upon reasonable request, to afford such individuals access and admission to legislative facilities and activities.

New York State Senate Standing Committee on Agriculture
Senator Patty Ritchie, Chair
New York State Senate Standing Committee on Health
Senator Kemp Hannon, Chair

Roundtable Participants

Senator Patty Ritchie
Chair, Senate Committee on Agriculture

Senator Kemp Hannon
Chair, Senate Committee on Health

Senator David Valesky
49th Senate District

Dr. Guthrie Birkhead, MD, MPH
Deputy Commissioner for Public Health
NYS Department of Health

Dr. David Smith, DVM
New York State Veterinarian
NYS Department of Agriculture and Markets

Kenneth Lynch
Regional Director
NYS Department of Environmental Conservation

Dr. Belinda Thompson, DVM
Animal Health Diagnostic Center
Cornell College of Veterinary Medicine

Dr. Dennis Norfleet
Oswego County Director of Public Health

Evan Walsh
Associate Public Health Sanitarian
Oswego County Department of Health

Nicole Willis
Associate Director of Public Policy
New York Farm Bureau

Nancy Weber
President, Oswego County Farm Bureau

John DeHollander
District Manager
Oswego County Soil and Water Conservation District

Hon. Barry Leemann
Chair, Oswego County Legislature

Hon. Kevin Gardner
Oswego County Legislator, 13th District

EXECUTIVE SUMMARY

Eastern Equine Encephalitis (EEE) is a mosquito-borne disease typically affecting horses and other livestock, but rarely occurs in humans. Since EEE emerged in the 1950s, there have been five human deaths in New York—all occurred in the Central New York counties of Oswego and Onondaga, three of them in the last three years.

Because it is transmitted to humans and animals by mosquitoes, EEE is likely to be found in areas where certain mosquito populations are found. The four Central New York counties most impacted by the disease—Oswego, Onondaga, Madison and Oneida—are prime breeding grounds for mosquitoes responsible for amplifying the EEE virus in birds, which thereby inadvertently enables the spread of the disease to humans.

In August 2011, four-year-old Maggie Sue Wilcox, of New Haven, Oswego County, contracted the disease and died. Maggie was the third Central New Yorker to die from EEE in three years.

Public and media attention immediately focused on the actions of county and state health officials to control and prevent the disease. The Senate Committees on Agriculture and Health convened a Roundtable forum that brought together experts in public health, agriculture and disease control to discuss the state and county response, identify ways to improve that response, and to help prevent future loss of life.

The Roundtable focused not only on the issues of EEE prevention—such as self-protection and those measures surrounding incidents, including spraying and communication—but also those with longer term impact on the future and quality of life for both Oswego County residents and those throughout the state impacted by the disease.

EEE Represents a 'Continuing Threat to Public Health'

EEE occurred in varying degrees over the years in New York—from a peak in the mid 1970s, to becoming relatively dormant in the 1990s and early 2000s, and reemerging in 2009, 2010 and 2011. Officials and researchers have a number of explanations for these cycles but, in fact, much about the disease remains a mystery.

The Federal Centers for Disease Control says that EEE is "one of the most severe mosquito-transmitted diseases in the United States with approximately 33% mortality and significant brain damage in most survivors."[1]

[1] CTRS FOR DISEASE CONTROL & PREVENTION, *Eastern Equine Encephalitis, available at* http://www.cdc.gov/easternequineencephalitis/ [hereinafter "CDC Definition of EEE"]

There is currently no licensed human vaccine, and no specific treatment once symptoms appear. The disease acts quickly, especially in livestock, and can be fatal. Although EEE impacts Central New York within New York State, there are many areas of the US, East and Gulf Coasts that are more severely impacted.

Not a Single County Problem

Throughout the Senate Roundtable, officials described their efforts to work cooperatively to better understand, detect and respond to EEE outbreaks in Oswego County and Central New York. Still, EEE is more than just a single county problem, and, as one participant said, there is always room for improvement. State Health officials are aiming to address EEE on a regional basis, increasing coordination among all of the historically impacted counties, which are centered around Oneida Lake. Depending on the level of future collaboration, that step alone may prove to be the most significant effort toward preventing future loss of life.

Improve Communication

Local media also play a key role in keeping the public informed about the disease, and treatments such as aerial spraying; Roundtable participants made a point to applaud the media's recent coverage. State officials also routinely notify veterinarians and animal owners about the benefits of a vaccination to prevent EEE, but notices cannot achieve a universal notification since the state does not maintain a complete database of horse owners. This report includes recommendations by the Committee Chairs to improve incident notification to animal owners, as well as the general public.

Issues Affecting Spraying and Prevention

A great deal of the public's attention has been focused on the use of aerial spraying as a way to control populations of mosquitoes that spread the disease. But health disease experts (and the literature) said spraying has a limited effect over the large, swampy areas in Oswego County, where EEE is most pronounced, as well as a limited time benefit, as infected mosquitoes repopulate quickly. Similarly, they expressed doubts that larvicides, which are designed to kill mosquitoes before they reach biting stage, would be effective in most swampy breeding areas, though they could be useful in urban and limited other applications. Health and disease experts continue to stress the need for self-protection measures (e.g., covering exposed skin, staying indoors when mosquitoes are most active, maintaining household screens) as the best defense against EEE.

The Roundtable included discussion on the cost of spraying, the treatment of state-owned lands, and concerns over the limited number of private contractors who can perform this work. The report recommends that the state create a pilot program to assist private landowners in obtaining and applying larvicides on their own property to assist in controlling mosquito populations.

Exploring a Human Vaccine

Currently a vaccine for horses is available at reasonable cost and, not coincidentally, all the horses infected with EEE in 2011 had not been vaccinated. Participants discussed that state agriculture officials should do more to encourage regular vaccinations.

One aspect, unexplored in the medical community, is the lack of a human vaccine, along with a lack of exploration as to the potential requirements of such vaccine and its efficacy. In light of an existing animal vaccine for EEE, examination of the possibility of a human vaccine is necessary. The Wilcox family has made the committee aware of a clinical trial for a human vaccine currently being performed by the US Army, and the Committee Chairs are recommending that state health officials or the committee on inoculation investigate this effort, and report back on ways that New York State can help encourage the development and availability of a life-saving vaccine as quickly as possible.

Agricultural Issues

Thanks to the unique "muck" soils prevalent in Oswego County and other parts of Central New York, Oswego County is the state's number one producer of onions. Onions can only succeed if farmers can control levels of underground water, as excess water risks spoiling the crops. In Oswego County, this is accomplished through a series of drainage ditches, many more than a century old.

Encroaching development increases pressures on farmers to be able to adequately maintain these ditches to prevent standing pools which can become breeding grounds for disease-carrying mosquitoes.

Experiences of Other States

While EEE has largely been centered in and around the counties of Central New York, its impact has been more widely felt in some other states, including a vast swath of the Eastern seaboard of the US. According to the CDC, 20 states have reported cases of EEE since 1964. New York health and agriculture officials can learn from the experiences of these other states and, in fact, relate that they are in regular contact with their counterparts in these states. Still the committees believe that New York should initiate a renewed, comprehensive review of practices by other states. Some states only have state public health initiatives for disease surveillance and mosquito control. Toward that end, the Senate Agriculture Committee staff conducted a brief survey of other states impacted by EEE to better understand their different levels of response, and believe that the responses are instructive.

Preventing Loss of Life

The Chairs are committed to finding solutions to protect human life and property, a goal clearly shared by the local and state officials, and civic leaders who participated in the Roundtable, and are committed to assisting these officials in their efforts, and wish to express our gratitude for their cooperation.

RECOMMENDATIONS

Based on the Roundtable discussion, the Committee Chairs make the following recommendations, to help prevent further loss of human life, as well as losses to agriculture resulting from EEE.

Encourage the Development of a Human Vaccine

State Health officials and the Inoculation Committee should make efforts to encourage the development and availability of a human vaccine to prevent EEE. It is recommended that the state coordinate this effort with health officials in the 19 other states that have been impacted by the disease.

Improve EEE Detection

EEE detection through routine environmental testing or veterinarian reports of livestock outbreaks typically trigger responses from state and local authorities which include public advisories and aerial spraying to control biting mosquito populations. Health officials should take steps to improve their early detection of EEE, including reviewing practices of other states that include the use of "sentinel" flocks and more rigorous testing.

Update DOH 'Action Plans' for Mosquito-Borne Disease

The Department of Health should update its comprehensive 2001 Response Plan for West Nile Virus, and also include EEE and actions related to the recently arrived, invasive, Asian tiger mosquitoes.

Better Coordinate Regional /Local Response

Because EEE and disease-carrying mosquitoes do not respect county boundaries, the state/local response should not be limited by those lines either. State health officials have indicated they will embrace a more regional, multi-county approach to monitoring and responding to EEE. This approach makes sense, and should be strongly encouraged.

Issues Involving Cost of EEE Control

The significant cost for detecting, monitoring and responding to clusters of EEE are currently shared by the state and counties under a formula that is outlined in Public Health Law. Because of the regional nature of EEE, consideration should be given to increasing the state share of these costs, in particular, in conjunction with the more regional approach to EEE control that was outlined by health officials. In any case, the state should assume responsibility for the costs of monitoring and treating state-owned lands that are breeding grounds for mosquitoes that may be infected with EEE.

Improve Communication with the Public

Currently, county, health and agriculture officials take a number of steps to advise and inform the public about EEE cases. Senator Ritchie recommended that agencies incorporate the early warning capabilities of the state's NY-Alert Network, which would allow members of the public to receive text messages, emails and phone calls concerning EEE and other public health emergencies.

With regard to animal health, the Department of Agriculture and Markets should establish a voluntary horse owner registry, and to encourage participation, provide an incentive of reduced-rate vaccines for horse owners who enroll.

Measure Experiences of Other States

Following the Roundtable, the Senate Agriculture Committee conducted a preliminary survey of other states to better understand their response to EEE and find examples of procedures that could be useful in preventing the disease in New York. (Findings of that survey are attached to this report as APPENDIX J.) It is recommended that the Health Department promptly conduct a more comprehensive review of these efforts so that any findings may be put to use in time for the 2012 mosquito season.

Expand Use of Larvicides to Help Control Mosquito Populations

Health and disease experts warned that larvicides have limited effectiveness in controlling the mosquitoes in swamps and other wide breeding areas. However, they are effective in urban and more populated areas containing small ponds and storm basins. Health officials should explore their use as a part of a new, more comprehensive prevention program being developed for 2012.

Create a Pilot Program of Mosquito Control for Private Property Owners

Preventing the spread of EEE is first and foremost a public health prerogative, but private citizens have an interest and a desire to join in these efforts as well. In order to encourage the public to join in eradication efforts, reduce the population of biting mosquitoes and prevent spread of EEE, state and county health officials should create a pilot program in Oswego County to provide no-cost larvicides to private homeowners living in or near areas where incidences of the disease could occur. This program could be modeled on those of other municipalities like the Town of Moreau, in Saratoga County, which provides insecticide BTI Dunks[2] to home and farm owners for use in pools, ponds and other areas of standing water to destroy mosquito larvae before it can mature into biting adults.

[2] "Dunks are a donut shaped tablet of BTI, a bacterial agent that is placed in pooled water. The larvicides are released over a 30-day period or more. The Dunks kill mosquitoes and related species larvae." TOWN OF MOREAU, *Mosquito Dunks Available, available at* http://www.townofmoreau.org/mosquito_dunks.asp.

Ensure Continued Option of Aerial Spraying in the State

Aerial spraying is a component of a comprehensive effort to control biting insect populations and prevent EEE, but panelists were aware of only one private contractor who provides this service in the state. State health and environmental officials should coordinate an effort to identify proposals to prevent the loss of this sole service and, if advisable, ways to encourage the development of other such services in the state.

Explore Other Options to Supplement Aerial Spraying

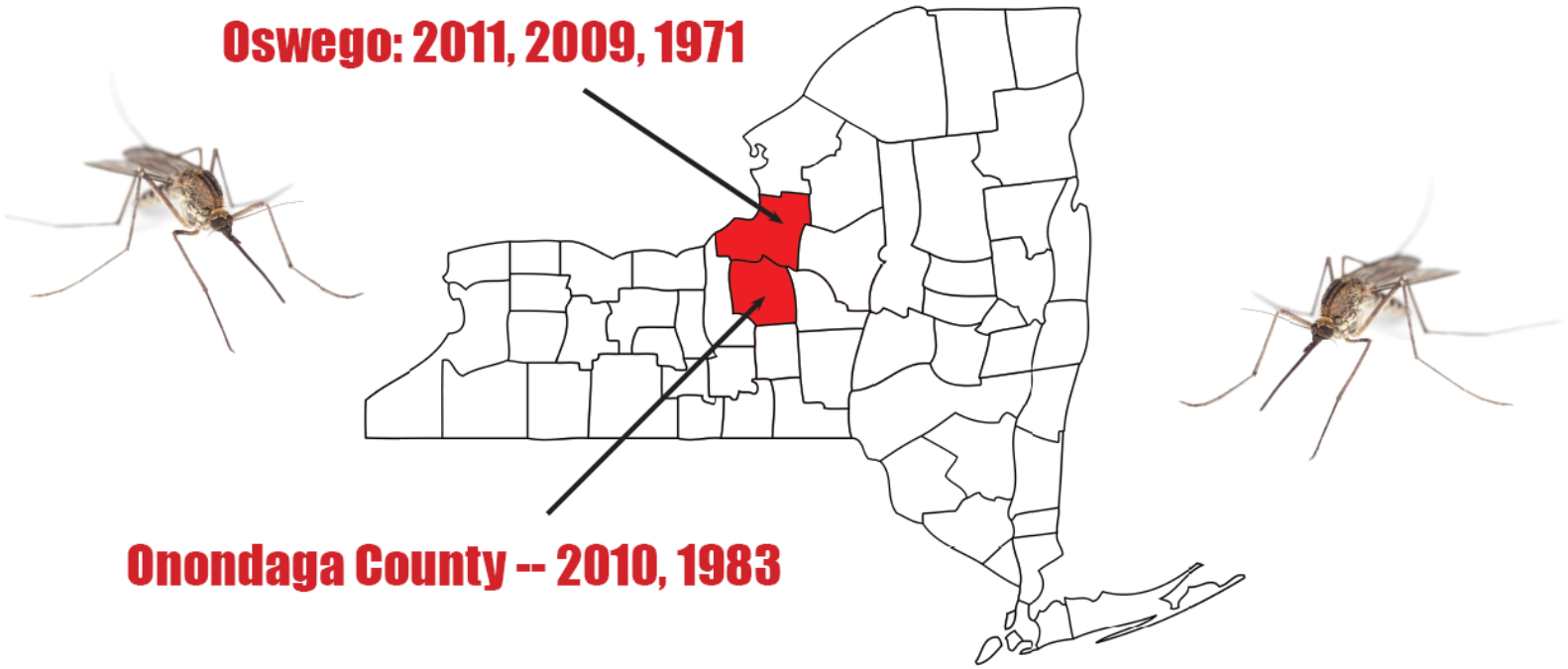
Truck-mounted sprayers are used to control mosquito populations in some parts of the state including, most recently, at the State Fair grounds near Syracuse, but have limited utility in swamp areas. Still, the committees urge local and state officials to explore the use of truck sprayers as a supplement to aerial spraying where denser neighborhoods may make it appropriate.

Address Issue of Agricultural Drainage Ditches

The Department of Environmental Conservation should explore use of the Environmental Protection Fund to create taxable easements that would allow farmers access to drainage ditches located on private lands for the purpose of maintaining the flow of water from crop fields.

A PUBLIC HEALTH EMERGENCY

HUMAN DEATHS FROM EEE



New York State Senate Committees on Agriculture and Health

Senator Patty Ritchie, Chair of Agriculture Committee
Senator Kemp Hannon, Chair of Health Committee

Senate Roundtable on State and Local Response to EEE
October 13, 2011

Oswego, New York

Eastern Equine Encephalitis

Eastern Equine Encephalitis (EEE) is primarily a disease that affects livestock, usually horses, but it's also been found in other mammals including llamas, donkeys and, this year, for the very first time in New York State, in domesticated dogs. But it was the EEE-related death of four-year-old Maggie Wilcox—the third human death in as many years in Central New York—that raised the issue in the public's minds.

According to the USDA[3]:

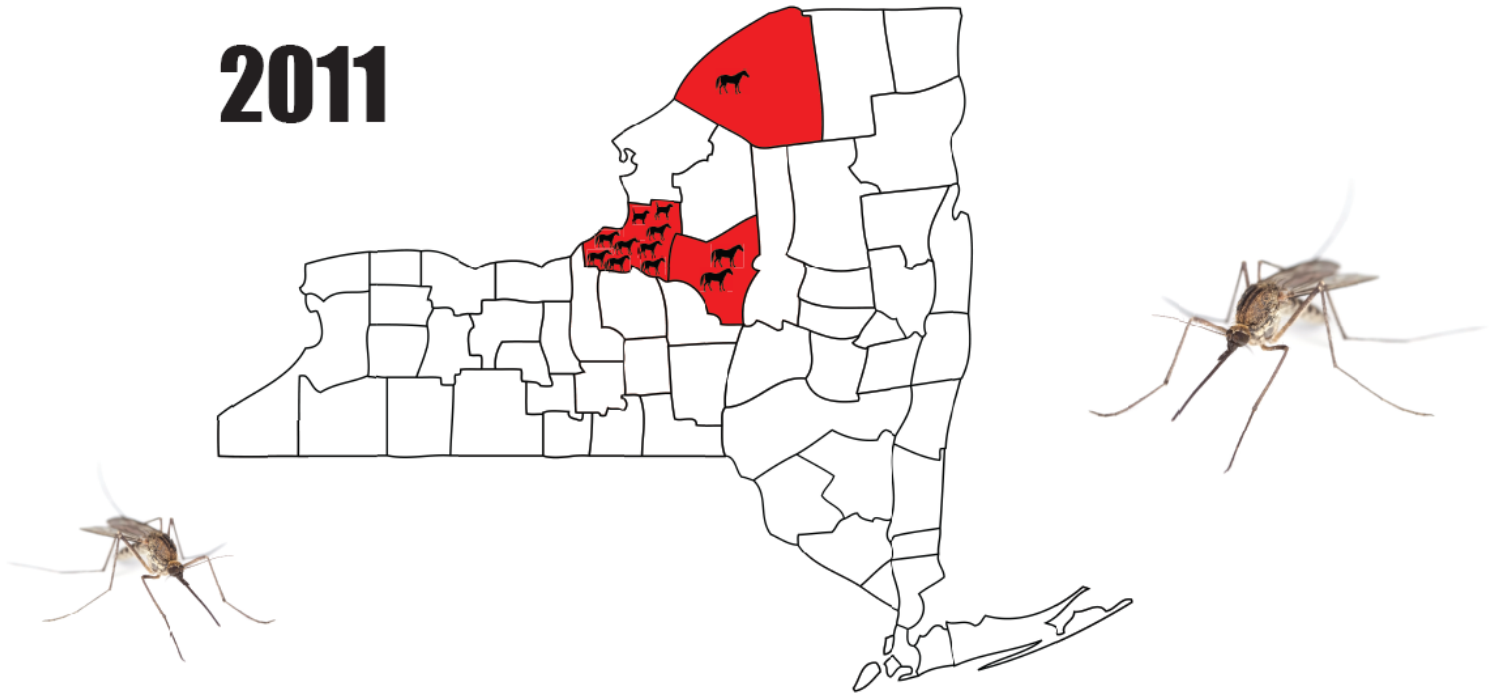
> Eastern equine encephalomyelitis viruses (EEEV) are members of the *Alphavirus* genus, family Togaviridae. EEEV can be transmitted to equines and humans during the bite of an infected mosquito. In addition to horses and humans, EEEV can produce severe disease in common livestock species such as swine and cattle. EEEV, or virus-specific antibodies, have been recovered from birds such as the turkey, pheasant, quail, ostrich, and emu, among others. Other animals in which EEEV have been found are the turtle, snake, hamster, and fish. In addition to the mosquito, EEEV have been isolated from the horse fly, black fly, mite, lice, and *Culicoides spp*. The majority of EEEV isolates have been from only 27 species of mosquito, and a high percentage of the isolates have been from a single species of mosquito, *Culiseta melanura*.
>
> The primary habitats for EEEV are lowlands. Considered to be enzootic EEEV habitats, swamps located in Atlantic coastal states (e.g., Florida, Maryland, New Jersey, New York) and in Michigan are characterized by muck-peat soils that are dominated by hardwood trees. These hardwood trees have a preference for wet, mucky habitats, and they provide a root system that supports oviposition and larval development of *C. melanura*.

According to testimony at the Roundtable, it is difficult to quantify the number of animal cases of EEE in New York, since they may never be reported, or possibly even suspected. Veterinarians are required to report cases that are presented to them, but private citizens, including farmers, are not.

[3] U.S DEP'T OF AGRICULTURE, *Epidemiology and Ecology of Eastern Equine Encephalomyelitis 6 (April 2004),* http://www.aphis.usda.gov/animal_health/emergingissues/downloads/EEE042004.pdf

A PUBLIC HEALTH EMERGENCY

Cases of EEE Animal Deaths in New York



New York State Senate Committees on Agriculture and Health

Senator Patty Ritchie, Chair of Agriculture Committee
Senator Kemp Hannon, Chair of Health Committee

New York State Veterinarian, Dr. David Smith, reported that there were 14 animal cases of EEE in 2011; 10 in 2010, and eight in 2009. Infected animals included 29 horses, two dogs and one wild deer. Except for one horse, in all cases the disease was fatal. (In that lone case, officials now believe it's likely the animal was incorrectly diagnosed.)

EEE is considered rare in humans. The Centers for Disease Control and Prevention classify the virus as "one of the most severe mosquito-transmitted diseases in the United States with approximately 33% mortality and significant brain damage in most survivors."[4]

As shown in the accompanying chart prepared by the federal Centers for Disease Control, between 1964 and 2010, there were 272 cases of human EEE infection reported nationally. (The case of Maggie Sue Wilcox, as well as other cases that occurred in 2011, are not included in the CDC tally.) States that reported cases of infection generally line up along the eastern seaboard, leading researchers to conclude that it is carried north by migrating birds along the Atlantic Flyway, then transmitted by way of biting mosquitoes to other animals.

The states with the highest incidences of EEE include Florida (70 reported cases), Georgia (28), North Carolina and Louisiana (17 each). There may be a temptation to characterize EEE as a largely "southern" problem and, indeed, there are certain to be lessons to be learned from those states' responses to local outbreaks, but Massachusetts has had the second highest number of cases, at 37. Michigan has had 16.

In New York, Central New York is "Ground Zero"

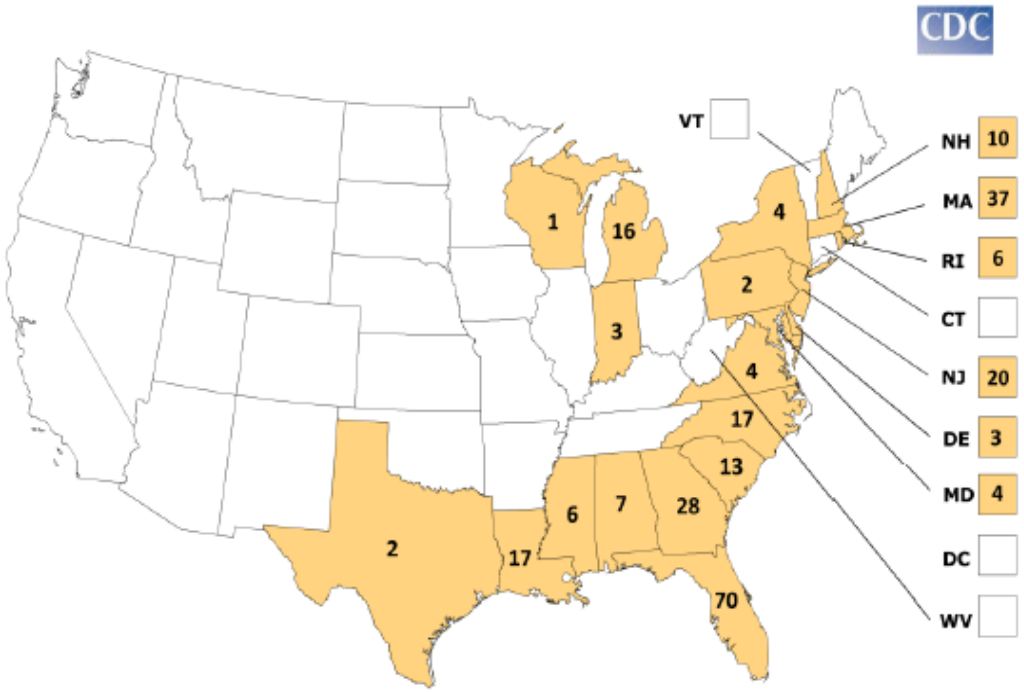
In New York State, the disease is confined largely to four counties surrounding Oneida Lake in Central New York, but 13 other counties—including St. Lawrence County in Northern New York in 2009 and 2011—also have reported cases of the disease in livestock since 2001, according to Dr. Guthrie Birkhead, the state's Deputy Commissioner for Public Health, and the first presenter at the Senate Roundtable.

Panelists said that a combination of factors may contribute to Central New York's exceptionally high incidence of EEE.

Dr. Birkhead described a "unique niche" of mosquito habitat in the swamplands prevalent in Oswego County. The county contains New York's second highest volume of wetlands, according to John DeHollander, of the Oswego County Soil and Water Conservation District. Most of these are so-called Class 1 wetlands, made up of red maple swamps which are especially hospitable to the types of mosquitoes known to transmit EEE to mammals.

[4] CDC Definition of EEE, *supra* note 1

Eastern Equine Encephalitis Virus Neuroinvasive Disease Cases* Reported by State, 1964-2010

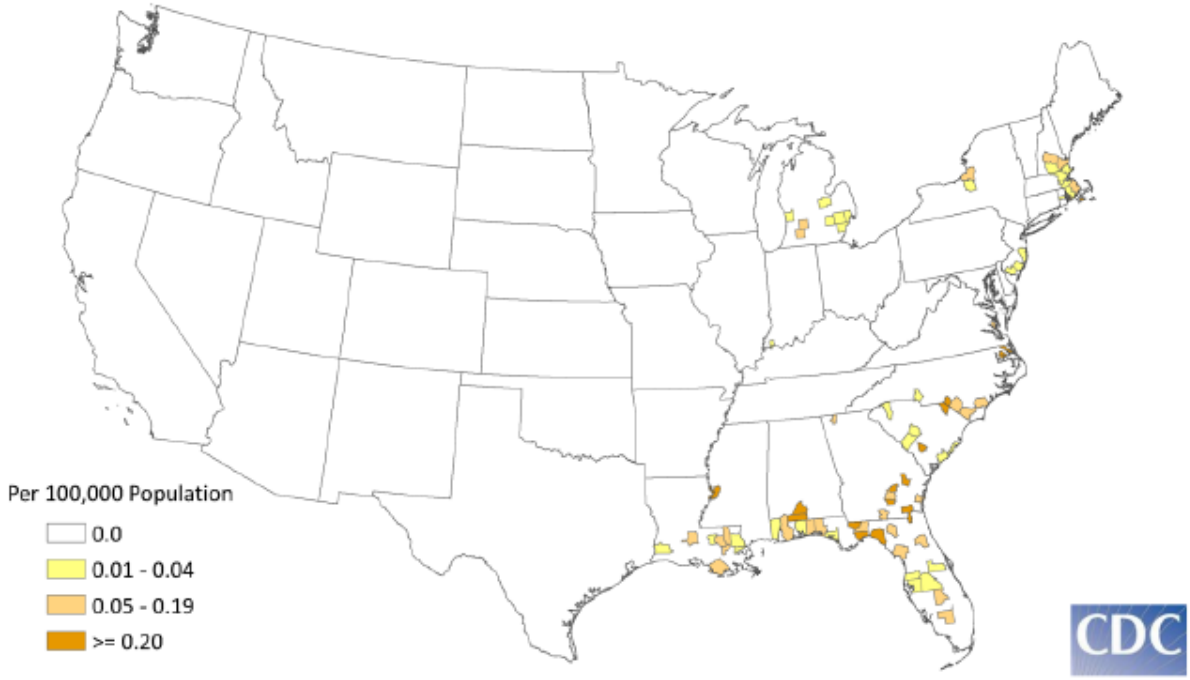


* Neuroinvasive disease includes cases reported as encephalitis, meningoencephalitis, or meningitis. Cases are reported by state of residence.

Data table: From 1964 through 2010, EEEV neuroinvasive disease cases have been reported in Alabama (7), Delaware (3), Florida (70), Georgia (28), Indiana (3), Louisiana (17), Maryland (4), Massachusetts (37), Michigan (16), Mississippi (6), New Hampshire (10), New Jersey (20), New York (4), North Carolina (17), Pennsylvania (2), Rhode Island (6), South Carolina (13), Texas (2), Virginia (4), and Wisconsin (1).

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

Eastern Equine Encephalitis Virus Neuroinvasive Disease*
Average Annual Incidence by County, 1996-2010



* Neuroinvasive disease includes cases reported as encephalitis, meningoencephalitis, or meningitis. Cases are reported by county of residence.

Data Table: This map shows the distribution of Eastern equine encephalitis virus neuroinvasive disease (encephalitis and/or meningitis) average annual incidence from 1996 through 2010. Counties are shaded according to incidences ranging from less than 0.05, 0.05 to 0.19, and greater than 0.2 per 100,000 population. Shaded counties are distributed along the Gulf Coast, Eastern seaboard, and the Great Lakes. Most of the highest incidence counties are in Florida, southeastern Georgia, southern Alabama, and the Carolinas.

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

Mr. DeHollander and other panelists cited three main reasons contributing to high mosquito populations in Central New York. First, the county's high water table, which ironically serves to help create some of the richest farmland in the state. Second, a large number of abandoned farms on land cultivated and drained for 100 years or more. Finally, outdated and poorly maintained farmland drainage systems.

The five human deaths in New York State all occurred in Oswego and Onondaga Counties; Oswego County was the site of the very first human death and the most recent. The cases occurred in 1971, 2009 and 2011 in Oswego County; and in 1983 and 2010 in Onondaga County.

There have been EEE-related human deaths in New York State in each of the last three years. Participants in the Roundtable indicated that this was not the result of increase in the diseases' prevalence, but instead what they characterized as normal "waxing and waning" of EEE in the region's environment.

'2011 was Different'

Participants explained that the number of EEE cases in New York can be expected to vary widely from year to year.

In 1976, the state saw its peak, with 25 infected horses in Oswego County alone. There were no human cases of the disease that year.

Another spike occurred from 1990 to 1991, with seven horses infected in each of the two years.

But 2011 was different from previous years. Participants agreed that the normal patterns of detection and spread of the virus were different, and they committed to studying environmental and other factors that may have contributed to those changes in anticipation of next year's mosquito season.

Dr. Dennis Norfleet, the Oswego County Director of Public Health, and his assistant, Oswego County Assistant Sanitarian Evan Walsh, said that the virus had spread from the swampy areas—where it usually is first detected to other parts of the county, including areas close to human and domestic animal populations—much sooner than they had seen in prior years.

In some cases, Mr. Walsh said, tests had not even confirmed EEE in the swamps before it was turning up in livestock on Oswego county farms.

"It was all over, at once," Dr. Norfleet said.

Several experts worried that they were uncertain if the disease itself has changed, or if the ability to detect it sooner, and in different species of animals, had simply improved.

True Scope of the Disease is Unknown

While officials still try to understand the patterns of infection that evolved this year, they all agreed on one point: the true scope of the disease, including total numbers of infected animals, remains unknown.

EEE progresses quickly in livestock and in humans, and its symptoms can easily mimic a number of other diseases that impact human and animal nervous systems.

For that reason, Dr. Belinda Thompson of the Animal Health Diagnostic Center at Cornell's College of Veterinary Medicine said, it is not uncommon for a farmer to leave a healthy looking horse in the morning, only to return and find it dead the same evening.

In most of these cases, such a farmer or horse owner is unlikely to contact a veterinarian, who might perform the relatively intensive testing required to determine if EEE is the cause of death. Cases such as this have led Dr. Thompson to conclude that the true impact of EEE may be greater than has been acknowledged, and the disease has likely been present in other animals, in addition to horses, including other livestock, domestic pets and even wild animals (though health officials noted that indigenous populations are usually less impacted).

That worried Dr. Smith, who noted that a wider incidence of the disease among farm animals would tax already overburdened veterinarians. However, several participants noted that only 13 of the mosquito species found in New York (of hundreds in the wild) are those traditionally associated with spreading EEE.

Panelists pointed out that it is not possible to transmit the disease by eating the meat of an infected animal; Dr. Birkhead pointed out that proper cooking would render the virus harmless to anyone who consumed meat from an infected animal.

Detection and Prevention

Responsibility for detecting EEE in the environment falls to county health officials, who conduct regular testing in areas that are known to be "hot spots" for infected mosquitoes. In CNY, this effort is supported by state DOH staff based in the Central New York Regional Office.

Testing includes trapping mosquitoes and separating them according to species. They are then sent to the state Health Department lab for testing and virus identification.

Mr. Walsh, of the Oswego County Health Department, said that the state lab has become much more efficient at testing and notifying the county of positive results; a process that, in the past, could take up to a year is now completed in days.

In addition to the county's collection and state DOH testing efforts, veterinarians are required by law to report any cases of EEE that are presented to their practices to the Department of Agriculture and Markets. Similarly, hospitals and medical professionals are required to report suspected and confirmed human cases of the disease to the state Health Department.

Dr. Birkhead said that the state Health Department will work to better coordinate the detection and surveillance efforts of the four, Oneida Lake basin counties most sharply impacted by EEE.

Panelists stated personal protective measures are the most effective for preventing the spread of disease. These all aim at avoiding contact with infected mosquitoes, and include applying insect repellents to exposed skin, wearing long sleeves and pants and staying indoors during hours when mosquitoes are most active, in the early morning and evening.

Officials also recommend common sense steps like repairing screens and doors, and removing pools of standing water, where mosquitoes breed, on private property.

Oswego County regularly issues advisories that contain information about personal protective measures. These recommendations are consistent with those issued by the state Health Department. A copy of those recommendations is attached as APPENDIX G.[5]

Spraying and Other Proactive Measures

Another method of prevention is chemical treatment of the infected areas, and counties have performed aerial spraying to reduce the number of biting insects.

While they have conducted spraying in the past, and Dr. Birkhead said it should continue to be a part of the state and county effort to combat the disease, he cautioned that spraying has uncertain effects.

That is because adult mosquito populations tend to rebound "within a week or so" of aerial spraying. Moreover, aerial spraying is highly dependent on weather conditions. In the weeks following Maggie Sue's death, spraying, which was supposed to take a total of three days, extended into the following week because of widespread rain and wind. According to Dr. Birkhead, temperature is also a factor in spraying in the Fall.

Finding of EEE in a particular pool does not automatically trigger a decision to spray. County and state officials said that before a decision to spray, they will consult on conditions, prevalence of the virus, and risk to human and animal populations.

The decision to spray is ultimately left to local authorities, but Dr. Birkhead said the state Health Department would work closely with a locality, to encourage spraying to take place, if conditions warranted it.

Dr. Norfleet expressed his belief that the cooperation between Oswego County and the state Health Department was at its highest level during this year's mosquito season, "smoother" than in past years.

[5] http://www.co.oswego.ny.us/fight%20the%20bite%20poster.pdf

Mr. Lynch indicated that DEC had pledged to support the local agencies and state DOH by expediting spraying permits. DEC Commissioner Joe Martens made a similar commitment to Senator Ritchie in discussions between the two at about the time of the aerial spraying.

Forum participants expressed the belief that better coordination among all counties in the region could help to lower spraying costs, and also improve the effectiveness of the treatments, and they said they would pursue a plan of better coordination.

Who Bears the Cost?

Article 6 of the New York State Public Health Law provides that counties are reimbursed between 35 percent and 50 percent of this cost. The higher reimbursement is in effect when the state Health Commissioner declares an "imminent threat to public health." This is the same reimbursement rate for other types of public health emergencies.

Senators Ritchie and Hannon suggested the state should assume a larger share of this cost, considering the seriousness of the threat to public health, and the fact that the disease is more of a regional problem, rather than one that is limited to any particular county.

Recognizing the high cost of aerial spraying, several states surveyed by the Senate Agriculture Committee staff favor using truck-mounted spraying equipment. Dr. Birkhead commented that truck spraying is also used in other New York counties. Onondaga County used truck spraying last year around the State Fair grounds. New York City and the Long Island counties do this fairly regularly in suburban areas, but he said it is not feasible to control the swamp habitats which are thought to be the source of EEE virus in Central New York.

EEE's Impact on Oswego County's Economy

There were concerns raised about the potential impact of EEE on the economy and quality of life of Oswego County communities. Four-season outdoor tourism is a major economic engine for the county and its communities. Fishing, hunting and ATV riding just a few of the activities which would place tourists and residents in close proximity to infected areas of the county.

Additionally, Ms. Weber, of the Oswego County Farm Bureau, cited the potential for a decline in housing values and tourism over fears of EEE infection, and there was a general sense among panelists that a robust governmental response to control the issue would allay public health concerns of residents and visitors.

Sole Contractor

Several speakers noted the difficulty in identifying contractors who can provide the aerial spraying service. Currently, Oswego County and state Health officials were aware of only a single company, Duflo Spray Chemical Inc., of New Bremen (Lewis County), that provides this service.[6]

[6] Duflo Spray Chemical Inc. homepage (last visited on Jan. 30, 2011), *available at* http://www.duflospray.com/

The family-run company, which has spraying contracts in several counties, as well as other states, uses twin-engine aircraft and a GPS-driven, patented spray system to apply insecticide over a predetermined area.

Official expressed a high level of satisfaction in the company's services, but worried that the lack of any other known options could jeopardize future insect control programs, should the company cease operations.

There also was discussion of the possibility of using truck-mounted sprayers, a method which is not currently in use. The Senate Agriculture Committee staff survey of other states found that truck-mounted sprayers are preferred by some states because of lower cost than contracted aerial spraying, but due to its limited range of only about 300 feet from the spray source, may have reduced effectiveness, particularly in the swamp habitats surrounding Oneida Lake, which are thought to be the source of EEE virus in Central New York.

Additional Methods of Prevention

There was extended discussion of other forms of prevention, including the use of larvicides and non-chemical products to decrease the mosquito populations.

Senator Ritchie displayed one such product, MOSQUITO DUNKS, manufactured by the Summit Chemical Co., of Baltimore, MD, which uses a natural bacteria, *Bt-israelensis* (Bt-i), to kill mosquito larvae for up to 30 days. Each DUNK can treat up to 100 square feet of standing water.[7]

Dr. Birkhead agreed that a comprehensive program of prevention using larvicides, aerial spraying to control adult mosquito populations and personal preventive measures would constitute the best defense against EEE. However, he said that larviciding would not be effective in addressing the primary problem leading to EEE in Central New York, which is the presence of the swamp habitat where the mosquitoes breed that are responsible for amplifying EEE virus in birds. Both Dr. Birkhead and Mr. Walsh said that it would be impossible to deliver the larvicide to the hummocks and root systems of all the trees in the swamps where these mosquitoes breed.

Dr. Birkhead said that the state Health Department was considering a multi-method approach as it revises its protocols for preventing and responding to the disease, consistent with its program to control West Nile Virus, another mosquito-borne illness.

Mr. Walsh agreed that larvicide treatments would be more useful for private property owners who wish to control insects near their homes and businesses.

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[7] Summit Chemical Co., *Mosquito Dunks* (last visited Nov. 30, 2011), *available at* http://www.summitchemical.com/mosquito/mosquito-dunks/

Dr. Birkhead noted that larvicides were used in other areas to treat storm sewers and similar locations.

"Sentinels"

Dr. Thompson noted that, generally, the presence of EEE in farm animals is not signaled until someone reports that the first horse has contracted the disease. However, ironically, since so many horses are vaccinated against EEE, a lack of illness could create a false sense of security for farmers and health officials.

There was discussion of other types of detection methods, including the use of flocks of so-called "sentinel chickens." Panelists reasoned that since birds are usually among the first victims of an EEE outbreak, detecting the disease in chickens would serve as an early warning for farmers, health, and agricultural officials.

Because mosquitoes are believed to travel 10 to 20 miles in their lifetime, many flocks would be required over that range as well.

Panelists agreed that further study could be warranted if it's determined that other states with higher incidence of the disease were using such a system.

Spraying Over State Land

An issue raised by Mr. Lynch of the DEC is worthy of additional study. He pointed out that large areas that are subject to regular spraying to control adult mosquito populations are actually owned by the State of New York, but the cost of spraying these areas is borne by Oswego County taxpayers. It was not suggested that the state should assume control over spraying these areas, however, to the exclusion of localities, but greater cost-sharing should be explored to the extent EEE is found in these areas.

Farmland Concerns

Oswego County, as well as other counties in Central New York impacted by EEE, is a major agricultural producer, and agriculture is a $31.5 million a year industry responsible for employing hundreds of local workers. One if its major products, onions, benefit from the high water table and historically rich "muckland" soil type that is prevalent in the region. However, muck farming creates special needs and concerns about breeding mosquitoes.

Many onion farms in the region require extensive drainage to keep groundwater at appropriate levels to prevent crops from rotting in overly saturated ground.

To maintain these levels, farmers rely on a system of decades-old drainage ditches that typically stretch along the outer rims of planted areas. With appropriate maintenance of these ditches, water will be channeled out of the planting fields, and directed to nearby waterways.

Two issues raised by panelists point to complications that could inadvertently be contributing to increased mosquito populations. First is the issue of abandoned farms mentioned earlier. The lack of maintenance on these farms' ditches creates a continuing problem for insect control.

Second was an issue identified by Ms. Weber, of the Oswego County Farm Bureau, and Mr. DeHollander, of the Soil and Water Conservation District, concerning active farms. In many cases, encroaching development has made it more difficult for these farmers to adequately maintain their drainage ditches, which has contributed to the creation of pools of standing water.

State law already provides farmers the right to enter private landowners' property for the purposes of maintaining their fields, but this is not an adequate solution, and raises serious issues of landowner and private property rights.

It is in the interest of the region, in terms first of public health, but also for the protection and preservation of farmland and open space that this issue is addressed to the satisfaction of farmers and adjacent landowners.

Another concern raised by Ms. Weber involved the use of chemical pesticides and the impact on a growing number of organic farms, like hers. She asked that consideration be given when making decisions to conduct aerial spraying to avoid harvest times.

Additionally, farm work by its very nature requires long hours outdoors, including work that must be performed during early morning and evening hours when mosquitoes are most active. It is impractical to expect farmers to stay indoors to avoid contact with biting mosquitoes during these hours.

The same could also be said for others whose work requires long hours outdoors, including highway and construction workers. Both the changing demographics and pressure of harvesting at the appropriate time are tasks for the agricultural community to address and offer potential solutions.

Communicating the Threat

A key component of protecting public and animal health is an effective program that communicates the threat, and provides timely and accurate information to the public about the risks, prevention and safeguards.

In the case of animal health, Dr. Smith of the Department of Agriculture and Markets detailed the agency's efforts to inform farmers and veterinarians of the presence of EEE in the natural environment and steps they can take to safeguard their livestock, through postal mail, website alerts and press releases. Each year, the Department of Health initiates a joint letter, cosigned with the Department of Agriculture and Markets, to veterinarians about EEE and WNV.

Dr. Thompson, of Cornell University, said she doubted that many horse owners were receiving such notification. There is no registration requirement for horse owners in New York, and the department does not maintain a comprehensive list of horse owners, making such contact virtually impossible.

In the case of human protection, the state Health Department and the Oswego County Health Department both rely on media notification, as well as website postings to alert the public of an impending threat from EEE.

Similarly, the Oswego County Health Department publishes detailed information about upcoming aerial spraying on its website, and in news releases to local media. The county has also used "Reverse 911," whereby individual homes and businesses in affected areas would receive phone calls with detailed information.

Senator Ritchie suggested that the officials investigate the use of NY-Alert, a state-run, early warning system that utilizes email and text messaging services to individuals who elect to receive them, and panelists, including Drs. Birkhead and Norfleet were enthusiastic about the idea.

Lack of a Human Vaccine

Panelists disclosed that there is currently no licensed human vaccine to prevent EEE, although such a vaccine does exists for horses.

None of the infected horses in 2011 had been vaccinated for EEE, according to Dr. Smith, the state veterinarian, and Ms. Weber encouraged the Senators to find ways to alert farmers and horse owners to the availability of the EEE vaccine.

Vaccinating a horse costs between $6 and $26, an amount Dr. Smith described as "affordable," and vaccines must be renewed each year, according to Dr. Thompson.

Dr. Smith indicated that vaccinations are readily available over the counter, at feed supply stores, and from veterinarians. He stated that the cost of vaccination is likely to be the greatest expense most farmers will experience from EEE.

Dr. Birkhead and Mr. DeHollander, of the Soil and Water District, said that the reasons for the lack of a human vaccine were likely economic. With only 272 human cases of the disease between 1964 and 2010, there was little incentive for pharmaceutical companies to invest the resources needed to create, test and manufacture a human vaccine.

Subsequent to the Roundtable, Senators Ritchie and Hannon received correspondence from the Wilcox family (Maggie Sue's mother and Aunt attended the Roundtable) concerning an ongoing, five-year clinical trial being conducted by the US Army at multiple sites, using an inactive strain of EEE.[8]

Those trials are scheduled to run through 2013. A copy of the Wilcox correspondence is attached to this report as APPENDIX A.

[8] *Safety and Immunogenicity Study of Eastern Equine Encephalitis (EEE) Vaccine* (last updated March 21, 2011), *available at* http://clinicaltrials.gov/ct2/show/NCT00584805

Mosquito Control Commissions

The Senate Agriculture Committee staff survey found that responsibility for mosquito control in many states rests with statutorily created Mosquito Control Commissions, or similar entities. These commissions exist at state and/or county levels, with differing levels of responsibility among individual states.

Title II of New York's Public Health Law, Sections 1520 through 1531, provide for the creation of county Mosquito Control Commissions through a public petition, for the purpose of "us(ing) every means feasible and practicable to suppress mosquitoes, ticks, flies and other hominoxious arthropods of every kind requiring community action for their control, and which may be found within the county for which such commission is appointed."[9]

In a follow-up discussion with Senate staff, Dr. Norfleet confirmed that Oswego County does not have such a commission.

Senate Staff Survey of Other States

Following the Roundtable discussion, Senator Ritchie directed her staff to conduct a preliminary survey of other states to determine their response to EEE, and whether additional research was warranted.

The staff contacted all 19 states (in addition to New York) on the CDC list, and made successful contacts with the officials responsible for EEE and insect control, or gleaned information from public sources, in 16 states. The survey found many similarities with New York, including a reliance on local surveillance and testing in most cases, coordination of responses between state and local governments and funding responsibilities. Key differences include:

- a significant number of states designate a single office or officer with primary responsibility for insect control;
- the use of larvicides is widely practiced by other states to eliminate insects before they reached their biting stage;
- most states favor truck-mounted spraying as a way to reduce costs. Others stressed mosquito control following floods and storms;
- the use of "sentinel" flocks of chickens or other birds as early warning sentries is used in at least three states with higher incidence of EEE than New York;
- Florida maintains a public website where residents can report bird deaths.

[9] N.Y. PUB. HEALTH LAW, §1525.

APPENDIX A

Correspondence from Wilcox Family
Regarding Roundtable and Potential for Human Vaccine

To: hannon@nysenate.gov, ritchie@nysenate.gov, valesky@senate.state.ny.us
From: Donna Wilcox<>
Date: 10/18/2011 06:10PM
Subject: Maggie Sue Glenister Wilcox - Eastern Equine Encephalitis

Dear Senators:

First of all, I would like to express my sincere gratitude and appreciation for the organization and attendance at Senator Ritchie's Roundtable discussion on EEE. I feel as though that meeting was quite eye-opening and beneficial to the cause that my family has taken on since losing our precious Maggie Sue; that of public awareness; pro-active endeavors from local and State officials instead of re-active and far too late responses and the quest for a treatment or vaccine through continued and specific research.

I have compiled, and will continue to compile, all kinds of information relative to this horrible virus, including, but not limited to, information regarding the possibility of a human vaccine being made available. In what I have read to date, the Army factors heavily in this process. Please visit: http://clinicaltrials.gov/ct2/show/NCT00584805 regarding a clinical trial being conducted at Fort Detrick, Maryland. Dr. Ronald Reisler; 301-619-5494; ronald.reisler@amedd.army.mil or Dr. Ellen Boudreau; 301-619-4639; ellen.boudreau@amedd.army.mil. The article that I read is entitled, "Safety and Immunogenicity Study of Eastern Equine Encephalitis (EEE) Vaccine.

In addition, I have found EEE vaccine information at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2094013/. This is quite heavy into the scientific, but could prove beneficial if put into the right hands. I have also obtained other information from http://worldwidescience.org/topicpages/e/equine+encephalitis+vaccine.html.

In my many www surfings, I discovered information regarding the use of a compound called squalamine that is found in sharks and which has been in human clinical trials for the treatment of cancer and several eye disorders. From what I gather, i is now being studied as a broad spectrum anti-viral that, although not specifically mentioned, could be used one day in a treatment for EEE. That information is available at: http://www.swellwatch.com/greenroomStory/30385/Turning+to+Sharks+to+Protect+Humans.

I believe that it was Mr. DeHollander who voiced the question regarding what was being done to check with other areas of the country, specifically our Atlantic sister states, to see what methods were being utilized to battle and control EEE infected mosquitoes. To that end, I have found information from the State Health Departments, other governmental sites and specific State Mosquito Boards for the states of Florida, New Hampshire, New Jersey and Massachusetts. I have not specifically printed information for other states simply because I am running out of room in my binder, as there is such a tremendous wealth of information available.

A friend of the family who works for a pharmaceutical company provided me with the website address for the world's largest company devoted entirely to the production of human vaccines; www.sanofipasteur.us. (Right side of the page for the US Headquarters address and contact telephone and email). I have not yet been in touch with anyone there and have not been able to find information specific to an EEE vaccine, but I will certainly keep trying.

I am sending this information in response to Senator Hannon's request that I provide to him what I have found. Please know that I will continue to do all that I can to alert the public about this virus and welcome any opportunity to attend further meetings and discussions in this regard. I can be reached by cell: <>; work: <> and home: <>. Thank you.

Donna Wilcox

Maggie Sue's Aunt Sissy

APPENDIX B

Correspondence from John DeHollander
Oswego County Soil and Water Conservation District

To: "NY Senator Patricia Ritchie" <ritchie@nysenate.gov>
From: "John DeHollander" <john.dehollander@oswegosoilandwater.com>
Date: 10/13/2011 03:45PM
Subject: thank you

Dear Senator Patty Ritchie,
I want to take this opportunity before time escapes my memory to say 'thank you' for including this agency in the EEE round table discussion. It was informative and interesting to hear the complex issue it is to monitor and forecast what will happen next.
In dealing with chemical companies to come up with an approved label for controlling for an aquatic weed such as water chestnut is costly and difficult; let alone to research and develop a new vaccine for humans. Sad to say, but the chemical industry will look at the demand potential against their cost and their bottom line and knowing that country-wide there is on average only 20 deaths per year - I don't think that it ranks high enough to be placed on any radar screen for future consideration. That's very sad but most likely true.
Good luck with this topic and its related other issues - John.

John DeHollander, District Manager
Oswego County SWCD
3105 State Route 3
Fulton, New York 13069
Telephone 315-592-9663 (T-F only)
Fax 315-592-9595

APPENDIX C

Senator Ritchie's Initial Letter to Commissioners Regarding EEE Response

SENATOR PATTY RITCHIE
48TH DISTRICT
OSWEGO, JEFFERSON, ST. LAWRENCE COUNTIES

THE SENATE
STATE OF NEW YORK

CHAIR
SENATE AGRICULTURE COMMITTEE

COMMITTEES
COMMERCE, ECONOMIC DEVELOPMENT & SMALL BUSINESS
CRIME VICTIMS, CRIME & CORRECTION
CULTURAL AFFAIRS, TOURISM, PARKS & RECREATION
ENERGY & TELECOMMUNICATIONS
HIGHER EDUCATION
HOUSING, CONSTRUCTION & COMMUNITY DEVELOPMENT
LOCAL GOVERNMENT

MEMBER
LEGISLATIVE COMMISSION ON RURAL RESOURCES

August 15, 2011

Hon. Nirav R. Shah, M.D., M.P.H.
Commissioner of Health
NYS Health Department
Corning Tower
Albany, NY 12237

Hon. Darrel J. Aubertine, Commissioner
NYS Department of Agriculture and Markets
10B Airline Drive
Albany, NY 12235

Hon. Joe Martens, Commissioner
NYS Department of Environmental Conservation
625 Broadway
Albany, NY 12207

Dear Commissioners:

The death this weekend of a preschooler who was infected with Eastern Equine Encephalitis marks the third such tragedy involving a resident of Oswego County since the disease appeared in New York State 40 years ago. Indeed, all five EEE-related deaths in the state since 1971 have occurred in Central New York.

Incidence of EEE has increased significantly in recent years, both among humans and livestock, and it appears the majority of these case are occurring in Oswego and surrounding counties. The disease appears most prevalent in August.

Recently, county health officials have identified additional ponds and wetland areas where EEE-infected mosquitoes are present. This finding represents an increased risk to nearby residents and livestock.

REPLY TO: ❑ **ALBANY OFFICE:** ROOM 815 LEGISLATIVE OFFICE BUILDING, ALBANY, NEW YORK 12247 (518) 455-3438
❑ **JEFFERSON COUNTY OFFICE:** 317 WASHINGTON STREET, ROOM 418, WATERTOWN, NEW YORK 13601 (315) 782-3418
❑ **OSWEGO COUNTY OFFICE:** 46 EAST BRIDGE STREET, FIRST FLOOR, OSWEGO, NEW YORK 13126 (315) 342-2057
❑ **ST. LAWRENCE COUNTY OFFICE:** 330 FORD STREET, OGDENSBURG, NEW YORK 13669 (315) 393-3024
E-MAIL: RITCHIE@NYSENATE.GOV
WEBSITE: WWW.RITCHIE.NYSENATE.GOV

In each of 2009 and 2010, local county health departments have conducted aerial spraying to reduce the number of disease-carrying mosquitoes but, reportedly, no spraying has been conducted this year.

While it is critical that individuals take precautions to protect themselves and their families from mosquitoes and insect-borne illness and disease, residents of Oswego County need to know that the state is effectively coordinating its response to this growing problem. I am writing to request a detailed explanation of steps that your agency is taking, or planning to take, to help counter the spread of EEE to animals and humans, particularly in light of the most recent tragedy.

Please include a description of your actions with regard to recommendations that you have made to local and county officials who are dealing directly with this problem, including financial and other assistance the state has provided to Oswego County with specific regard to this issue.

Please also be sure to let me know how I can assist you, either through legislation or other means, to address this urgent public health and agribusiness threat.

I look forward to your response.

Sincerely,

Patty Ritchie
State Senator

cc: Senator Kemp Hannon, Chair, Senate Health Committee
Hon. Phil Church, Oswego County Administrator
Dr. Dennis Norfleet, Oswego County Director of Public Health

APPENDIX D

Response to Senator Ritchie from the State Department of Health

NEW YORK
state department of
HEALTH

Nirav R. Shah, M.D., M.P.H.
Commissioner

Sue Kelly
Executive Deputy Commissioner

SEP 26 2011

September 21, 2011

Hon. Patty Ritchie
Member of the Senate
State of New York
46 East Bridge Street, First Floor
Oswego, New York 13126

Dear Senator Ritchie:

I am writing in response to your August 15 and August 31, 2011, letters to New York State Commissioner of Health, Nirav R. Shah, M.D., M.P.H., regarding Eastern Equine Encephalitis (EEE) virus. Five human cases have been reported in the State: one each in 1971, 1983, 2009, 2010 and 2011. Unfortunately, all were fatal and occurred among individuals from Central New York. In addition to this year's human case, counties from the region have reported the presence of EEE among nine horses (Oswego 6, Oneida 2, St. Lawrence 1), two dogs (Oswego) and 31 mosquito pools (Oswego 23, Onondaga 6, Oneida 2). While the current mosquito season has not yet concluded, in the last several years, seven horses and 41 mosquito pools are reported on average; the finding of EEE in dogs is rare.

The New York State Department of Health (Department) has a multi-faceted program to study, understand and control EEE virus, which I will be pleased to discuss during the upcoming public roundtable that you have convened in Oswego County later next month. These activities are performed in partnership with the local health departments of Onondaga, Oneida, Madison and Oswego counties, which comprise the current geographic center of this disease in New York. These local health departments are eligible to receive between 36%-50% reimbursement of eligible costs under Article 6 of the New York State Public Health Law. The following are summaries of the Department's activities in this area:

- **Mosquito surveillance**: Working with the four county health departments, starting in early summer, the Department coordinates the weekly collection and identification of mosquitoes from 45 traps located in key habitats for EEE in the region.

- **Mosquito testing**: The Department's Wadsworth Laboratory tests these mosquitoes for EEE virus on a weekly basis. The information on EEE infection in the subpopulations of mammal-biting species of mosquitoes is key information in monitoring the EEE virus each season.

- **Equine surveillance**. The Department and the four counties maintain surveillance of veterinarians for encephalitis in horses. Horses are very sensitive to EEE and infection is often fatal. Suspect cases are tested at the Department's Wadsworth Laboratory to confirm the infection.

- **Human surveillance**. Encephalitis is a reportable condition in New York. Each summer, the Department sends alerts to physicians to be aware of the symptoms of EEE, West Nile Virus and other forms of infectious encephalitis. Suspect cases are tested at the Department's Wadsworth Laboratory for a host of potential causes.

- **Public education**: Department staff has developed more than a dozen different educational brochures, available in several languages. The Department issues press releases and health advisories multiple times during the mosquito season. Specific information includes personal protective measures for the public and technical and diagnostic information for providers.

Additionally, the Department provides technical assistance and consultation to local health departments regarding control measures including adulticiding (spraying), which aims to reduce the risk of EEE virus transmission to humans by decreasing mosquito populations through the appropriate use of pesticides. The decision to undertake adult mosquito control measures is ultimately a local decision, which takes into consideration a variety of factors including:

- the most recent human, horse and mosquito surveillance data;
- the numbers and species of positive mosquito populations (some species are more likely to bite humans, others more likely to bite birds);
- the density and proximity of human populations to positive mosquitoes;
- the time of year that positive results are found relative to historical trends;
- forecasted weather conditions and the impact they could have on the mosquito population and the feasibility of spraying;
- the geography of and accessibility to the area where mosquitoes are located;
- whether the current positive results are geographically focal or widespread; and
- the potential harmful impact that adulticides may have on humans, other insect species, and the environment.

Historically, Oswego County has decided to spray at some point in each of the last several seasons. While the Department supported these decisions, it is important to understand that spraying adulticide has uncertain and potentially, very limited benefits for preventing EEE among humans. Spraying is only feasible in relatively limited geographic areas due to cost, the location of mosquitoes, and accessibility for spraying by planes. Spraying also has a time limited benefit because it does not kill all mosquitoes in the area and those that are killed can rapidly be replaced by new mosquitoes. Mosquitoes obtain the EEE virus from infected birds so the virus is ultimately not fully eliminated—these new mosquitoes can possibly become infected.

The Department is not aware of any plans by St. Lawrence County to initiate such measures. Prior to the diagnosis of the horse from St. Lawrence County, the Department redirected existing staff and resources to enhance EEE surveillance in the region.

Given the limitations of spraying, the primary strategy to prevent EEE infection among humans must continue to be the promotion of personal preventive measures. The Department recently updated its educational campaigns and fact sheets regarding mosquito borne diseases and their prevention and control. Additionally, to reach residents in the region, tens of thousands of these materials and 100,000 DEET wipes were distributed at the New York State Fair.

At the end of this year's season, the Department will be updating its mosquito-borne diseases response and control plan for the 2012 season. A special emphasis will be placed on the control and prevention of EEE in the Central New York Region. Goals include developing risk

communication and prevention activities (using both personal protective measures and environmental controls) and to develop an enhanced testing and surveillance program for each county.

Should you have further questions or concerns, please contact Mr. James Clancy, Assistant Commissioner, Office of Governmental and External Affairs, at (518) 473-1124.

Sincerely,

Guthrie S. Birkhead, M.D., M.P.H.
Deputy Commissioner
Office of Public Health

cc: Hon. Aubertine, Commissioner, NYS Department of Agriculture and Markets
Hon. Martens, Commissioner, NYS Department of Environmental Conservation
Senate Health Committee Chair Mr. Hannon
Senate Finance Committee Chair Mr. DeFrancisco
Senate President Pro Temp and Majority Leader Mr. Skelos
Dr. Norfleet, Director, Oswego County Health Department
Mr. Clancy, Assistant Commissioner, Office of Governmental and External Affairs
NYSDOH

APPENDIX E

Response to Senator Ritchie from the Department of Environmental Conservation

ANDREW M. CUOMO
GOVERNOR

JOE MARTENS
COMMISSIONER

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

SEP 2 7 2011

SENATOR
RECEIVED
SEP 2 9 2011
RITCHIE

Honorable Patricia Ritchie
New York State Senate
317 Washington Street
Room 418
Watertown, NY 13601

Dear Senator Ritchie:

Thank you for your letter regarding Eastern Equine Encephalitis (EEE) concerns in Oswego County. Per your request, this letter explains the steps DEC has taken to assist the County in countering the spread of EEE.

For reasons stated in your letter, several local health departments have, in recent years, increased the use of pesticides to control disease-carrying mosquitoes. DEC has worked closely with both state and county health departments to carry out necessary pesticide applications in a manner benefitting human health, livestock, and the environment. To promote compliance with New York State pesticide laws, DEC has provided technical guidance to local health departments, including Oswego and Onondaga, to assist them in meeting legal notification requirements prior to pesticide application. Guidance has also been provided on how best to inform the public about the application location and the type of pesticide being applied, including any applicable product warnings. All involved agencies have worked together for protection of human health and the environment.

DEC also provides staff to inspect the applicator and equipment verifying that the correct pesticide is being applied, equipment is appropriately calibrated and appropriate application rates are being used. In the most recent case in Oswego County during the month of August, the Department responded immediately to the County's requests for coordination of aerial application approvals and activities. DEC staff worked closely with County officials and both the County and State Health Departments to assure a safe and appropriate response to the declared public health threat. The Department promptly provided detailed maps depicting environmentally sensitive wetlands and wildlife management areas and granted authority to the County for appropriate spraying over state lands.

Oswego County completed their planned series of aerial sprayings on August 26, 2011. We are hopeful that this response provided adequate protection against further EEE impacts. Should further action be necessary, the Department will continue to cooperate with and assist the involved agencies in addressing this problem.

Please call me a (518) 402-8540 if you have any questions.

Sincerely,

Joseph J. Martens

APPENDIX F

Response to Senator Ritchie from the Department of Agriculture and Markets

SEP 19 2011

STATE OF NEW YORK
DEPARTMENT OF AGRICULTURE & MARKETS
10B AIRLINE DRIVE
ALBANY, NEW YORK 12235
http://www.agmkt.state.ny.us

Andrew M. Cuomo
Governor

Darrel J. Aubertine
Commissioner

September 13, 2011

The Honorable Patty Ritchie
NYS Senate
Room 815, LOB
Albany, NY 12247

Dear Senator Ritchie:

Thank you for your letter of August 15th and for copying my office on your August 31st letter to Dr. Shah at the NYS Department of Health concerning Eastern Equine Encephalitis (EEE).

The Department of Agriculture and Markets recognizes the seriousness of EEE and for that reason, my Division of Animal Industry and the NYS Veterinary Diagnostic Laboratory work to keep the NYS Dept. of Health informed about potential cases in horses. Our State Veterinarian, Dr. David Smith, provides regular reminders to practicing veterinarians, horse owners, and Cornell Cooperative Extension educators about the threat of EEE and the availability of excellent vaccines to protect horses from the infection.

The loss of horses to EEE is a double tragedy, because owners can take very simple and effective measures to protect their horses. Vaccines to protect horses from EEE are readily available and are very effective. It's worth noting that every known EEE case in horses this year occurred in a horse that was either unvaccinated or was of unknown vaccination status.

In your letter, you ask "to what extent has spraying been undertaken to prevent the spread of mosquitoes in St. Lawrence County?" The spraying for mosquitoes is not under my jurisdiction. This procedure is performed by the local Health Department, in consultation with the NYS Department of Health.

The Department and I will continue to work with the NYS Department of Health, the local health departments, and your office to help address the control of EEE. I am especially grateful for your offer of assistance and I welcome all suggestions you and your staff might have to improve our outreach to our citizens and neighbors on how to guard against EEE.

Sincerely,

Darrel J. Aubertine
Commissioner

APPENDIX G

Prepared Remarks by
Dr. Birkhead

Prepared Remarks by Gus Birkhead, MD, MPH. EEE Roundtable

Thank Senators Ritchie and Hannon for hosting a round table on this important topic today.

I would like to first offer my sincere condolences to the family of Maggie Wilcox. The loss of any life is tragic, but it is especially so for someone so young. As a physician working the field of preventive medicine, I take is as a personal charge to do whatever I can to improve health and prevent illness and death as my primary goal. That's why I chose to work in public health.

Let me provide some background information on Eastern Equine Encephalitis, or triple-E, and other arboviral infections transmitted by mosquitoes like West Nile Virus, describe in general the coordinated state and local health department response, and in particular our plans for Central New York for the 2012 season.

Triple-E virus is not new; it was first identified in New York in 1952… probably here historically for much longer. Birds are the main reservoir and the virus life cycle involves transmission among birds by species of mosquitoes that feed exclusively on birds. Humans and animals like horses, which are particularly susceptible to arboviruses, are not part of the normal life cycle Triple-E and are infected incidentally by other mosquito species that feed on both birds and mammals.

In New York, Triple-E activity has been focused in the 4 counties around Oneida Lake, and less frequently in the North Country, Lower Hudson Valley and Long Island, probably because these locations are on the major migratory bird pathways. It is likely that migratory birds bring Triple-E into New York each year from the Southern US; although we can rule out that some virus may overwinter in mosquito eggs or local birds.

Triple-E is found in essentially all states up and down the Eastern Seaboard, the Gulf Coast and the upper Mississippi valley. In the period of 1964 to 2010, when New York reported a total of 4 human cases, CDC reported the most case in Florida (70), Massachusetts (37), Georgia (28), New Jersey (20), Louisiana (17), Michigan (16) and New Hampshire (10).

The State DOH has had an active program with staff entomologists located in Central New York since the 1970s. They organized a program of active surveillance for Triple-E jointly with the four county health departments bordering Oneida Lake. These staff have been involved in studying Triple-E for many years and have published some of their work in the medical literature. There was quite a bit of Triple-E activity in the 1970s with the first known human case in 1971. The peak year in that decade was 1976 when there were a total of 39 equine cases in the 4 county area, including 25 cases in Oswego County.

Activity was less in the decade of the 80s, although there was a second human case in 1983 in Onondaga County. The peak year in the 1990s were 1990 and 1991 with 7 equine cases each year in Central New York, but Triple-E virus was also found those years in Sullivan County in the Southern

Catskills and Suffolk County on Long Island. From 1998 to 2002 there was no Triple-E detected in New York. Though this is something we and others have tried to study, the reasons for this variable pattern of peaks and valleys in Triple E activity and variable activity geographically around the state are not clear, but may relate to factors such as the weather and to Triple-E activity in the Southern US. Because we don't understand these cycles of Triple-E activity, we also do not have good ways to predict when we will see resurgences of Triple-E.

In 1999, West Nile Virus arrived in the Western Hemisphere in the New York City area, and within a few years had spread not only across New York, but across the country. The introduction of West Nile was a huge ecological event, with a major impact on bird populations, which had never seen this virus before. Humans were also impacted. In 2003 we had 71 human cases and 10 deaths. Like Triple-E, West Nile has waxed and waned, but even last year in 2010, we had 129 cases in New York, including cases in Madison and Onondaga Counties, and 5 deaths.

I mention West Nile along with Triple-E because both diseases are spread from birds via mosquitoes, both cause the same symptoms of encephalitis or brain inflammation, both impact horses significantly, and both are tested for in every mosquito, bird, horse or person that we suspect of having arboviral disease. In addition, as a result of West Nile, New York received federal funding and during the decade of the 2000s, we undertook a more vigorous program of both West Nile and Triple-E surveillance than before.

Possibly as a result of this increased attention and testing, we have seen an increase in Triple-E during the 2000s. There was a peak of equine cases in 2003(6 cases) and 2004 (8 cases), and we detected Triple-E in 17 counties in the state from the Canadian Border to Long Island. Triple-E has remained a constant in the counties surrounding Oneida Lake during this time. Of particular concern has been three fatal human cases, one each in 2009, 2010 and now in 2011. Whether this is a result of a change in the pattern and risk of Triple-E, a result of better testing, or something else, we are not sure, but we are looking very closely to try to understand what is going on.

Let me conclude by briefly mentioning the different components of the Department's activities to track and control Triple-E and other mosquito borne infections:

- **Mosquito surveillance**: Working with the four county health departments, starting in early summer, the Department coordinates the weekly collection and identification of mosquitoes from 45 mosquito traps located in key habitats for EEE in the region.

- **Mosquito testing:** The Department's Wadsworth Laboratory tests these mosquitoes for EEE and West Nile viruses on a weekly basis. The information on EEE infection in the subpopulations of mammal-biting species of mosquitoes is key information in monitoring the EEE virus each season.

- **Equine surveillance**. The Department and the four counties maintain surveillance of veterinarians for encephalitis in horses. Horses are very sensitive to EEE and infection is often fatal. Suspect cases are tested at the Department's Wadsworth Laboratory to confirm the infection.

- **Human surveillance**. Encephalitis is a reportable condition in New York. Each summer, the Department sends alerts to physicians to be aware of the symptoms of EEE, West Nile Virus and other forms of infectious encephalitis. Suspect cases are tested at the Department's Wadsworth Laboratory for a host of potential causes.

- **Public education**: Department staff has developed more than a dozen different educational brochures, available in several languages. The Department issues press releases and health advisories several times during the mosquito season. The press releases contain specific information for the general public including the importance of personal protective measures and steps to remove standing water around homes, as well as technical and diagnostic information for health care providers.

  The preventive messages emphasize avoiding mosquitoes: Doors and windows should be kept closed or screened to prevent mosquitoes from entering homes. When individuals are outdoors, they should use an effective mosquito repellent and wear long pants and long sleeves, especially when outdoors between dusk and dawn when mosquitoes are most active. People are also advised to take specific steps to reduce the number of mosquitoes around their home or property by eliminating standing water where mosquitoes breed, for example in gutters, old tires and the like.

- **Mosquito control measures.** The Department provides technical assistance and consultation to local health departments on control measures including spraying insecticides to kill adult mosquitoes ("adulticiding") to reduce the risk of EEE virus transmission to humans by decreasing mosquito populations. As with other public health decisions related to communicable disease control in New York, The decision to undertake adult mosquito control measures is ultimately a local decision. Approval from the Department is not required.

  It is important to understand that spraying to kill adult mosquitoes has uncertain and potentially, very limited benefits for preventing EEE among humans. In our experience, spraying for mosquitoes knocks down the mosquito population in the sprayed area for about a week. New mosquitoes that hatch or fly into the sprayed area can quickly become infected with EEE by biting infected birds. In 2009, a human case of EEE occurred near an area that had been recently sprayed. It is also difficult to target the spraying because infected birds and mosquitoes may be present over a wide area, and spraying by airplane is limited by the terrain and by the weather.

- Given these limitations, the primary way to prevent EEE infection among humans must continue to be the promotion of personal preventive measures which I mentioned before.

- At the end of this year's mosquito season, the Department will be updating its mosquito control plans for both EEE and West Nile Virus and coordination of resources for next year, with a special emphasis on the Central New York Region. EEE prevention will be a key component, including the use of environmental controls such as the elimination of breeding pools for mosquitoes and the appropriate use and timing of pesticides.

APPENDIX H

Prepared Roundtable Remarks by
Dr. David Smith

STATE OF NEW YORK
DEPARTMENT OF AGRICULTURE AND MARKETS
10B Airline Drive, Albany, New York 12235
Phone 518-457-8876 Fax 518-457-3087
www.agmkt.state.ny.us

Andrew M. Cuomo
Governor

Darrel J. Aubertine
Commissioner

New York State Legislature
Senate Standing Committee on Agriculture
Senate Standing Committee on Health

Roundtable on Eastern Equine Encephalitis (EEE) Testimony
Oswego City School District
120 E. 1st St.
Oswego, NY 13126

October 13, 2011
11:00 AM

Good morning Chairwoman Ritchie and Chairman Hannon. My name is Dr. David Smith, DVM, Director of Animal Industry for the Department of Agriculture and Markets. On behalf of Commissioner Aubertine, I am pleased to provide comments today.

The Department of Agriculture and Markets mission is to foster a competitive food and agriculture industry that benefits producers and consumers alike. In matters of agricultural animal health, the Department's Division of Animal Industry serves the people of New York, other states, and the world by striving to prevent new animal diseases from entering New York and controlling or eradicating those diseases which are already present in New York.

Eastern Equine Encephalitis (EEE) is well established in pockets scattered throughout the eastern United States. The virus reproduces very well in wild birds and is frequently transmitted from birds to mammals and humans by mosquitoes which have previously fed upon infected birds. The mosquito species most likely to transmit EEE from birds to mammals are members of the genera Aedes, Coquilletidia, and Culex. These species thrive best in hardwood swamps which are abundant in the parts of New York State where EEE emerges annually in mammals. All mammalian species are believed to be "dead-end hosts" because the EEE virus seldom, if ever achieves concentrations in mammalian blood that render that blood infective when transferred by mosquito bite. Horses are the most commonly affected mammals.

Since routine vaccinations easily prevent EEE in horses, there is no federal or state program to control EEE in that species. In regard to EEE, the animal health role of the Division of Animal Industry to date has been to remind owners, veterinarians and others of the need to vaccinate against the disease. The Division also cooperates with local and state public health officials by promptly reporting cases of EEE in

animals.

The Department's Division of Animal Industry issues a joint letter and news releases every spring to remind veterinarians, individuals, and horse owners of the presence of EEE. The Division of Animal Industry provides guidance to practicing veterinarians on how to collect and submit samples from potential EEE cases to the State's Public Health and Veterinary Diagnostic Laboratories. The Division of Animal Industry promptly reports possible EEE cases in horses to the NYS Department of Health since these cases serve very well as indicators of EEE's presence and that conditions are right for insect vectors to transmit the virus from birds to mammals.

The Department of Agriculture and Markets offers no programs for mosquito control to farmers in New York, other than the standard advisory to keep mosquito breeding habitat down to a minimum by eliminating standing water. In the affected parts of the state, vast areas of wetlands available for mosquito breeding probably overshadow efforts by individual farms to reduce mosquito habitat.

Recent history of EEE in New York animals:

To date, in 2011, the Department of Agriculture and Markets is aware of 12 cases of EEE in Horses; seven in Oswego County, 4 in Oneida County and 1 in Saint Lawrence County. There has been one very unusual finding this year involving 2 dogs in Oswego County which became ill with EEE and died. All equine cases detected in 2011 were either unvaccinated or of unknown vaccination status. All cases of EEE in equine and canine, except for 1 horse, were fatal. The lone surviving equine case has a questionable vaccination status and was recently purchased. It's unknown if this horse received any veterinary care in its 4 years of life.
In 2010, there were 10 horses affected by EEE; six in Oswego County, three in Onondaga County, and one in Oneida County. All 2010 cases were either unvaccinated and all cases were fatal except one. This lone surviving horse was unvaccinated but survived the infection.

In 2009, there were seven equine cases and one case in a wild deer. Five of the horses were in Oswego County, one in Lewis, and one in Saint Lawrence. The deer was in Oswego County. All cases detected in 2009 were fatal. Of the equine cases, all but one were unvaccinated. The one vaccinated case had only received one EEE vaccination approximately 4 months prior its death.

The Department of Agriculture and Markets is supported by the New York State Veterinary Diagnostic Laboratory in Ithaca, NY. The virologists, veterinary experts, and pathologists at the laboratory play an important role in early detection of many animal diseases that may cross over to infect humans. The finding of EEE in two dogs this year is directly attributable to an alert pathologist at the Veterinary Diagnostic laboratory who recognized microscopic lesions that were consistent with the tissue damage caused by EEE.

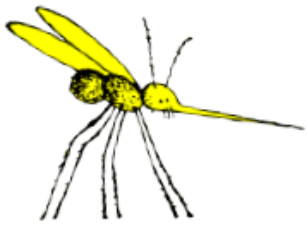
The Department of Agriculture and Markets will continue to work with the New York State Department of Health to reach out to the public and we will continue to promptly provide disease intelligence as we acquire it

APPENDIX I

Oswego County Health Department
Recommendations for Personal Preventive Methods
"Fight the Bite"

Oswego County Health Department

Fight The Bite!



Mosquitoes carrying EEE have been found in Oswego County, follow the tips below to stay safe and not get bit!

Use Insect Repellent

Use insect repellent (bug spray) on exposed skin when you go outdoors. Use an EPA-registered insect repellent with DEET, picaridin or oil of lemon eucalyptus in it. Be sure to use the repellant according to the product directions. Even a short time being outdoors can be long enough to get a mosquito bite.

Clothing Can Help Reduce Mosquito Bites

When weather allows, wear long-sleeves, long pants and socks when outdoors.
Mosquitoes may bite through thin clothing, so spraying clothes with repellent containing permethrin or another EPA-registered repellent will give extra protection. Don't apply repellents containing permethrin directly to skin. Do not spray repellent on the skin under your clothing.
The hours from dusk to dawn are peak biting times for many species of mosquitoes. Take *extra* care to use repellent and protective clothing during evening and early morning -- or consider avoiding outdoor activities during these times.

Drain Standing Water

Mosquitoes lay their eggs in standing water. Limit the number of places around your home for mosquitoes to breed by getting rid of items that hold water.

Install or Repair Screens

Some mosquitoes like to come indoors. Keep them outside by having well-fitting screens on both windows and doors. Offer to help neighbors whose screens might be in bad shape.

Fighting the bite can help prevent diseases like EEE and West Nile Virus

Don't forget your pets! Mosquitoes spread heartworms, which can be deadly to animals. Protect your pets by talking to your vet about preventive medications and flea treatments that also guard against mosquitoes.

Public Health is Community Health...

70 Bunner St.
Oswego, NY 13126
Phone: 315-349-3545
Fax: 315-349-8431

APPENDIX J

Senate Agriculture Committee
Staff Survey of Other States' EEE Response

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/25/2011 STATE: **Alabama**

RESPONSIBLE AGENCY: Public Health Dept., Ag & Markets

CONTACT NAME: NA CONTACT NUMBER: NA

1. Is testing, monitoring and response primarily a responsibility of state or local government? **Local. Information sharing happens but 165 separate city and county health departments run separate programs.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **Ag and Markets passes sentinel information along to Public Health Dept. on the state level but the onus is on the 165 separate city and county health departments**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **Fog trucks roll down streets one or two times a week in peak season in some areas. (the state sees mosquito evolution as a problem as these sprayings have become less effective because newer generations are more resistant)**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **Local decisions. Spraying appears to be commonplace**.

5. Who is responsible for the costs of monitoring and response? **City and county health departments**

6. Any additional information you can make available to me? (brochures, pamphlets) N/A

7. Any additional comments?
-3 horse cases in 2010 spread over 3 counties, no human cases.
-56 different species found in Alabama
-Their biggest PR campaign is to end Malaria
-County Health Depts. pass out larvicide briquettes
-County Health Depts. have a total of 16 sentinel chicken flocks which they test weekly for WNV and EEE

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/25/11 STATE: **Delaware**

RESPONSIBLE AGENCY: Division of Public Health, En Con Dept, and Agricultural Dept. all work together and submit samples to the same public health lab. Usually the agency that submits the positive charge is the one that initiates the press action.

CONTACT NAME: Heidi Truschel-Light CONTACT NUMBER: 302-744-4907

1. Is testing, monitoring and response primarily a responsibility of state or local government? **State**.

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **Division of Public Health, En Con Dept, and Agricultural Dept. all work together and submit samples to the same public health lab. Usually the agency that submits the positive charge is the one that initiates the press action.**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **Mosquito spraying was on the front page last month in the wake of Hurricane Irene. They spray often.**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **Public outreach. Delawareans were described as having a low tolerance for the presence of mosquitoes and Division of Public Health starts hearing from them when levels increase. They use sentinel chickens, human blood tests, dead wild birds, and horses for samples. People usually bring in more dead birds than they need and sometimes they have to ask the public to stop bringing them in. They use their cooperative extensions for drops.**

5. Who is responsible for the costs of monitoring and response? **Division of Public Health, En Con Dept, and Agricultural Dept. all work together and submit samples to the same public health lab. Usually the agency that submits the positive charge is the one that initiates the press action.**

6. Any additional information you can make available to me? (brochures, pamphlets) **Public Awareness: Division of Public Health does press releases like this one: http://dhss.delaware.gov/dhss/pressreleases/2011/protect_yourself_-052311.html sent along by their Health Alert Network. They do an annual release each spring to remind people of prevention measures, symptoms, etc.**

7. Any additional comments? **Certain areas of Sussex Co. DE are classified by the Federal Govt. as "Medically Underserved Areas" by the feds for which they get some additional funding. Pumpkin squash and cucumbers (lots in DE) need bees, so There's pushback from farmers.**

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/19/11 STATE: **Indiana**

RESPONSIBLE AGENCY: Indiana State Health Department, Epidemiology Group

CONTACT NAME: Dr. Jennifer House CONTACT NUMBER: (317)233-7272

1. Is testing, monitoring and response primarily a responsibility of state or local government? **State government through the Epidemiology Group are the primary responsible group to coordinate testing and monitoring**.

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **State University summer interns funded from the Center for Disease Control at the Federal Level**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **Three samples are taken from each county. Five counties with their own resources take samples. Counties have control of spraying. Materials that are distributed are West Nile based and nothing specific to EEE.**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **The decision is made on the county level.**

5. Who is responsible for the costs of monitoring and response? **A majority of the costs come from the state level with some coming from the Center for Disease Control on the Federal level. Counties with their own resources to do so contribute at the local level.**

6. Any additional information you can make available to me? (brochures, pamphlets) **None**

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/25/2011 STATE: **Florida**

RESPONSIBLE AGENCY: Local Districts w/ DOH and Ag. & Markets oversight

CONTACT NAME: Mike Short CONTACT NUMBER: (850)410-0901

1. Is testing, monitoring and response primarily a responsibility of state or local government? **Local Govt. There are 56 local mosquito control districts in Florida and lots of resources spent on them. Surveillance and control of arboviruses including Eastern equine encephalitis virus (EEEV) in Florida is conducted through interagency cooperation at the state and local levels and is described in detail in their state Arbovirus Guide located here: http://myfloridaeh.com/medicine/arboviral/pdfs/2011/MosquitoGuide_2011.pdf.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **Department of Agriculture and Consumer Services as well as the County DOH's reporting to the State DOH.**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **In Florida there isn't a principal means. They deploy every means possible:**
-Some counties own spray trucks which they use in neighborhoods (adulticide) just to manage specific complaints
-Florida deploys both aerial adulticide and aerial larvicide
-On the east coast, rotational impoundment management is used. RIM involves the use of large pumps and culverts with gates to control the water level within an impounded marsh. RIM allows mosquito control to occur while still permitting the marsh to function in a state as close to its natural condition as possible. Water is pumped into the marsh in the late spring and summer to prevent the female mosquito from laying her eggs on the soil. The marsh is allowed to drain in the fall, winter, and early spring. Gates in the culverts are used to permit fish, crustaceans, and other marsh organisms to enter and exit the marsh. RIM allows the mosquito-control goals to be met while at the same time reducing the need for pesticide use within the marsh
-the Florida Keys have their own website showing spraying schedules and other public notices. http://www.keysmosquito.org/ (that's one of their larger districts)

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **On a weekly basis, FDOH summarizes the surveillance data and emails the information to the stakeholders including county health departments and county mosquito control personnel. This information is also posted on the FDOH public web site every Monday and is an important source of information for media partners. When animal arbovirus activity reaches specific levels the county health department will issue a mosquito diseases advisory or alert. Guidelines for response including criteria for issuing advisories or alerts is outlined in Chapter 8 of the state Arbovirus Guide I mentioned above. A state Arbovirus Committee composed of representatives from multiple agencies, organizations, and academic institutions reviews and updates the state Arbovirus Guide annually.**

5. Who is responsible for the costs of monitoring and response? **NA**

6. Any additional information you can make available to me? (brochures, pamphlets) **A link about the control districts http://www.amcdsjc.org/links/florida-mosquito-control-districts.aspx**

7. Any additional comments? **Florida has a long history of trying to control mosquito population. first settlers built bat towers to combat populations.**
4 human deaths by EEE in July of 2010 (no human cases this year)
70 EEE cases reported on average each year in horses but some years that number is higher than 200 cases.
Arbovirus surveillance in Florida is a composite of sentinel animal, veterinary and human arbovirus activity related to EEEV, West Nile virus (WNV), and St. Louis Encephalitis virus (SLEV) as summarized below
On-line dead bird reporting into a state wildlife database by the public, government agencies and others
Testing of samples from live wild birds submitted to our state health lab by arbovirus researchers
Twenty-nine counties of 67 counties in Florida currently participate in sentinel avian surveillance activities
Florida Department of Agriculture and Consumer Services (FDACS) conducts surveillance for equine and other veterinary EEE infections and reports cases to Florida Department of Health (FDOH)
Human illnesses or deaths due to arboviruses are reportable to FDOH through the county health departments
Mosquito pools are also occasionally submitted for arbovirus testing, however our experience is that the number of pools that are positive for arboviruses are small related to the work invested so this is not an important part of FL surveillance

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/25/2011 STATE: **Georgia**

RESPONSIBLE AGENCY: DOH (local DOH's)

CONTACT NAME: NA CONTACT NUMBER: NA

1. Is testing, monitoring and response primarily a responsibility of state or local government? **Local**.

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies)
-DOH was publishing maps (confirmed infections) on the web for WNV but they have fallen out of date

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying)
-Georgia suggests standard methods of prevention and also pushes residential mosquito traps

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **NA**

5. Who is responsible for the costs of monitoring and response? **NA**

6. Any additional information you can make available to me? (brochures, pamphlets)
-They have an "Emergency Mosquito Surveillance Trailer" upon request from agencies or governments. it looks like it's most commonly used for disasters like flooding: http://www.gamosquito.org/resources/GeorgiaEmergencyMosquitoSurveillanceTrailerUseProtocols.pdf
-this link shows all the types of mosquito's in Georgia which is especially helpful for it's identification of which mosquitoes may be able to transmit EEE (bird to mammal) http://www.gamosquito.org/resources/mosspecies.htm

7. Any additional comments?
-20 cases of EEE confirmed in horses this year. They have a vaccination campaign.
-No. 1 mosquito is the Asian tiger mosquito (not known to carry EEE or WNV)
-they do deploy sentinel chickens but it's unclear if that's done on the state or local level.

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/19/11 STATE: **Louisiana**

RESPONSIBLE AGENCY: Department of Human Health, State Epidemiologist

CONTACT NAME: Christine Scott-Waleron, West Nile Coordinator CONTACT: (504)568-8301

1. Is testing, monitoring and response primarily a responsibility of state or local government? **Testing is done through the state laboratory.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **Louisiana partners with several other organizations in the process of monitoring and responding to EEE and West Nile.**

- **Louisiana Mosquito Control Association http://www.lmca.us/**
- **American Mosquito Control Association http://www.mosquito.org/**
- **CDC Main Page for West Nile Virus http://www.cdc.gov/ncidod/dvbid/westnile/index.htm**
- **USGS Arbovirus Disease Maps by State http://westnilemaps.usgs.gov/**
- **LSU Louisiana State Animal Disease Diagnostic Laboratory http://laddl.lsu.edu/**
- **Local Mosquito Control Programs**
- **Louisiana Department of Wildlife and Fisheries http://www.wlf.louisiana.gov/**
- **Tulane University School of Public Health and Tropical Medicine http://www.sph.tulane.edu/**
- **Louisiana Department of Agriculture and Forestry http://www.ldaf.state.la.us/portal/Offices/AnimalHealthandFoodSafety/VeterinaryHealthDivision/ReportableDiseases/tabid/342/Default.aspx**
- **American Academy of Pediatrics http://www.aap.org/family/wnv.htm**
- **Office of Public Health Laboratory**
- **Office of Public Health Sanitarians**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **Louisiana considers West Nile endemic to the area and has several means of education through the state website to local public health and Mosquito Control Associations.**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **The decision to spray is made on the local level.**

5. Who is responsible for the costs of monitoring and response? **Costs are sponsored by the state and federal grants.**

6. Any additional information you can make available to me? (brochures, pamphlets) **Please refer to the State repository of information found: http://www.dhh.louisiana.gov/offices/page.asp?id=249&detail=6565**

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/19/11 STATE: **Maryland**

RESPONSIBLE AGENCY: Emerging Infectious Program, Vector-borne Disease Branch
Department of Mental Health

CONTACT NAME: Carrie-anne M. June, Epidemiologist CONTACT: (410) 767-6236

1. Is testing, monitoring and response primarily a responsibility of state or local government? **The state is the primary source of testing through the Department of Agriculture, but is also supported by the counties and in the case of Montgomery County the Department of Defense.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies)**Associated with monitoring and responding are the Centers for Disease Control and Prevention, Maryland Department of Environment, Maryland Department of Agriculture, Maryland Department of Natural Resources with support of the Environmental Protection Agency's Pesticides and Mosquito Control and USDA Animal and Plant Inspection Service.**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying)**Testing and education through the arboviral surveillance program. Clinicians can also report incidences of spraying exposure. Please see the letter from DHMH to clinicians.**
http://ideha.dhmh.maryland.gov/CZVBD/pdf/Equine_vet_arbo_letter_2011_Final.pdf

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **The decision to spray is made through participating counties through the Mosquito Control Program guidelines.**

5. Who is responsible for the costs of monitoring and response? **The Department of Agriculture. Here is a specific answer from the Department of Agriculture website:**

> **"The Maryland Department of Agriculture (MDA), Mosquito Control Section, is responsible for administering and implementing mosquito control within the State of Maryland. Typical projects undertaken for mosquito control include public health arboviral surveillance and testing, mosquito population surveillance activities, source reduction, biological control initiatives, ground and aerial application of insecticides and public education. The Mosquito Control Program has existed since July, 1956 and currently operates under authority of Sections 5-401 through 5-408, Agriculture Article, Maryland Annotated Code. Participation in the program is voluntary and requires local government and/or community funding. The Department in 2010 entered into cooperative agreements with 20 counties for mosquito control services and conducted activities in more than 2,100 communities**

with a total estimated population of 725,000 residents. The program employs 17 MDA classified positions and 60-70 seasonal technicians. The administrative office, and operation headquarters for Anne Arundel County, is located in Annapolis. Regional offices are located in College Park, Hollywood, and Salisbury.

Mosquito control in Maryland is conducted according to the concept of Integrated Pest Management (IPM). IPM is based on ecological, economic and social criteria and integrates these multidisciplinary methodologies to develop pest management strategies that are practical and effective to protect public health and the environment and improve the quality of life for Maryland residents and visitors. An IPM program consists of surveillance for larvae and adult mosquitoes; establishment of action thresholds; and selection of appropriate control strategies, using the best available technology. A practitioner of IPM must be knowledgeable of the biology and ecology of mosquitoes, monitoring techniques and best management practices."

http://www.mda.state.md.us/plants-pests/mosquito_control/mosquito_control_program_description.php

Additional information on Maryland's education and population control can be found their as it goes into great detail to the multifaceted approach that they take.

Funding is matched with local, county and state resources to participate in the mosquito control program.

6. Any additional information you can make available to me? (brochures, pamphlets) **Please see Maryland's online sources http://ideha.dhmh.maryland.gov/CZVBD/west-nile.aspx**

7. Any additional comments? N/A

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/19/11 STATE: **Massachusetts**

RESPONSIBLE AGENCY: Office of Health and Human Services, State Laboratory/Mosquito Control Board

CONTACT NAME: Matt Osborne CONTACT NUMBER: (617)983-6792
www.mass.gov/dph/epi

1. Is testing, monitoring and response primarily a responsibility of state or local government? **The State funds Mosquito Control Project via the State Laboratory.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **No**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **Department of Health has a central website that promotes information and updates the public while educating them regarding the risks of West Nile and EEE. http://westnile.ashtonweb.com/**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **Decision is made to spray through the local control boards.**

5. Who is responsible for the costs of monitoring and response? **The state pays for the costs of monitoring.**

6. Any additional information you can make available to me? (brochures, pamphlets) **Refer to http://www.mass.gov/?pageID=eohhs2terminal&L=6&L0=Home&L1=Provider&L2=Guidelines+and+Resources&L3=Guidelines+for+Clinical+Treatment&L4=Diseases+%26+Conditions&L5=Communicable+Diseases&sid=Eeohhs2&b=terminalcontent&f=dph_cdc_p_arbovirus&csid=Eeohhs2#a**

A state repository of information about West Nile and EEE.

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: October 20, 2011 STATE: **Michigan**

RESPONSIBLE AGENCY: Combination of State and Local government agencies.

CONTACT NAME: Dr. Kim Signs, Bureau of Epidemiology CONTACT: 517-373-3740

1. Is testing, monitoring and response primarily a responsibility of state or local government? **Testing, surveillance, monitoring and response is a combination of state and local governments.**

Mosquito, animal, and human testing for arboviruses is available for Michigan Local Health Departments, Mosquito Control Districts, and human and animal health care providers. Mosquito testing is performed at Michigan State University's Diagnostic Center for Population and Animal Health. Human testing is performed by the Michigan Department of Community Health.

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **There is no ongoing mosquito surveillance in EEE endemic counties; therefore, identification of a EEE-infected horse or person is usually the first indication that EEE is present in a location. EEE is a reportable condition and when either the Michigan Department of Agriculture or the Department of Community Health are notified of a case of EEE, the information is shared with the public via a press release and posted on the State's Emerging Diseases website.**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **The Michigan Department of Community Health issues a press release for the first arbovirus human case, animal case, and the first positive bird or mosquito pool in the state. They encourage the local health departments to make local media and residents aware of their risk from arboviral diseases in their community and provide specific actions individuals and communities can take to reduce their risk.**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **Local governments monitor the information from the State Health Department and make the decision whether or not to spray. They are responsible for their costs.**

5. Who is responsible for the costs of monitoring and response? **Monitoring is a combination of state and local governments.**

6. Any additional information you can make available to me? (brochures, pamphlets) **www.michigan.gov/emergingdiseases**

7. Any additional comments? **Michigan's Department of Community Health updates their website on emerging diseases (www.michigan.gov/emergingdiseases) weekly during mosquito season. This website has information on the EEE virus, as well as other Zoonotic diseases. It is the primary resource for obtaining up-to-date surveillance data for all arboviruses throughout the transmission season.**

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: October 20, 2011 STATE: New Hampshire

RESPONSIBLE AGENCY: Combination of State and Local government agencies.

CONTACT NAME: Chris Adamski, Bureau Chief, Infectious Disease Control, NH Division of Public Health Services
CONTACT NUMBER: 603-271-4586

1. Is testing, monitoring and response primarily a responsibility of state or local government? **Testing, surveillance, monitoring and response is a combination of state and local governments.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **By statute, the State established an arboviral illness taskforce (advisory board) to assist local governments by reviewing current knowledge and addressing future needs of arboviral ecology, disease, prevention, and control so that accurate and timely information can be used to guide personal, local, and state responses to these diseases. They serve without compensation. The members of the task force are as follows:**

- **the state epidemiologist or designee, the state veterinarian, or designee**
- **the state entomologist, or designee**
- **the director of public health laboratories, or designee**
- **the director of the NH veterinary diagnostic laboratory at the University of New Hampshire, or designee**
- **an entomologist from the University of New Hampshire designated by the commission of health and human services**
- **a representative of the department of education designated by the commissioner of education**
- **a representative of the department of resources and economic development designated by the commissioner of resources and economic development**
- **a representative of the fish and game department designated by the executive director of the fish and game department**
- **a representative of the department of environmental services**
- **designated by the commissioner of environmental services**
- **two local public health officers or regional public health network coordinators designated by the commissioner of health and human services**
- **the state public health veterinarian or designee.**

The State also has a State Committee on Mosquito Control that governs over the six regions of the state and their respective mosquito control districts. The members serve without a salary but may be reimbursed for expenses incurred while doing the work of the committee. The committee provides oversight and coordination of interagency efforts with regard to mosquito prevention and control, and in particular provides recommendations to the commissioner of the department of health and human services regarding, but not limited to, public health threat determinations. The committee is composed of:

- **the state entomologist**
- **the executive director of the fish and game department**
- **the director of the division of forests and lands**
- **the director of the division of parks and recreation**

- **the commissioner of the department of environmental services**
- **the commissioner of the department of health and human services**
- **a representative of the pesticide control board**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **The State provides public education – website, YouTube videos, etc. They manage surveillance and testing (contract with mosquito control companies to trap the mosquitoes), post maps, provide data, and declare public health threats when necessary to heighten public awareness.**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **Local governments decide whether or not to spray, based on information they gather.**

5. Who is responsible for the costs of monitoring and response? **State and local governments are responsible for the costs of monitoring and response. City, town, or mosquito control districts are eligible for funding for mosquito control and abatement activities based on a determination of a public health threat.**

6. Any additional information you can make available to me? (brochures, pamphlets) **The Department of Health and Human Services has a website with information on arboviral illness prevention and control, http://www.dhhs.nh.gov/dphs/cdcs/arboviral/index.htm**

7. Any additional comments? **The State funds their programs from grant money from the CDC for arboviral diseases.**

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: October 20, 2011 STATE: **New Jersey**

RESPONSIBLE AGENCY: Combination of State and Local government agencies.

CONTACT NAME: Dr. Sorhage, Public Health Veterinarian CONTACT: 609-826-4872

1. Is testing, monitoring and response primarily a responsibility of state or local government? **Testing, surveillance, monitoring and response is a combination of state and local governments.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **See #3 below.**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **By legislative mandate, the State has a Mosquito Control Commission, which is given funding each year. The Commission is a mix of representatives from the state health department, county government, agriculture, communicable disease experts, and environmental protection. The Office of Mosquito Control Coordination is its administrative arm. They coordinate and monitor county mosquito control agencies. They also administer state air spray, equipment use, biological control and research programs, and other activities in support of county efforts. Because of the structure they have in place, they have the ability to disseminate information to the public should any new vector borne diseases populate their state.**

The State takes a preventative approach – how can we control the breeding locations. They also do a lot of mosquito testing and educating the public. State lab does specimen testing.

The Department of Environmental Protection provides education material for mosquito control.

The State has mandated that every county must have a Mosquito Control Agency. These agencies conduct surveillance and control of larval and adult mosquitoes. They also educate the public and media regarding mosquito biology and control.

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **Local governments decide whether or not to spray.**

5. Who is responsible for the costs of monitoring and response? **State and local governments are responsible for the costs of monitoring and response.**

6. Any additional information you can make available to me? (brochures, pamphlets) **The State Health Department has a website with information on Vector Borne Illnesses, www.state.nj.us/health/cd/izdp/vbi.shtml**

7. Any additional comments? **The State takes mosquito control very seriously, as they have had mosquito activity in 20 of their 21 counties. There were no cases of EEE reported this year and four cases of West Nile reported this year. The State has supplies/resources that they can lend to the counties, such as an airplane. Every town in NJ has a health officer.**

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/20/2011 STATE: **Rhode Island**

RESPONSIBLE AGENCY: Rhode Island Department of Health and Environmental Control

CONTACT NAME: Emmanda Bandyopadhadya, PhD MS, Entomologist
CONTACT NUMBER: (W) 401.222.2577 or 401.222.5960

1. Is testing, monitoring and response primarily a responsibility of state or local government? **State Government. Rhode Island does not have county health departments.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **Environmental agency does the testing. They work hand in hand with the University of Rhode Island.**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **Depends on the season and year. Does both prevention and protection.**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **University of Rhode Island recommends when the State should spray.**

5. Who is responsible for the costs of monitoring and response? **State pays for the cost.**

6. Any additional information you can make available to me? (Brochures, pamphlets) **See www.health.RI.gov for reports**

7. Any additional comments?

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/20/2011 STATE: **South Carolina**

RESPONSIBLE AGENCY: South Carolina Department of Health and Environmental Control
Bureau of Laboratories | Medical Entomology, 8231 Parklane Rd | Columbia SC 29223

CONTACT NAME: Chris Evans, PhD MS, Entomologist
CONTACT NUMBER: (W) 803.896.3802 | (C) 803.767.8105 | (F) 803.896.0657

1. Is testing, monitoring and response primarily a responsibility of state or local government? **State Government but most the funds come from federal money called an ELC Grant.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **They work with local agencies but state does all the testing. They work hand in hand with the State Vet. Lab at Clemons University.**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **They go door to door if they are having an outbreak. They also give our brochures.**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **State makes the call when to spray. They spray mostly with air drops due to swamp areas are hard to get into.**

5. Who is responsible for the costs of monitoring and response? **State pays for the cost with mostly federal funds.**

6. Any additional information you can make available to me? (Brochures, pamphlets)
See www.scgec.gov/health/envhlth/pests/mosquitoes-eee.htme

7. Any additional comments?

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/20/11 STATE: **Texas**

RESPONSIBLE AGENCY: Department of State Health Services

CONTACT NAME: Thomas Sidwa CONTACT NUMBER: 512 776 6628

1. Is testing, monitoring and response primarily a responsibility of state or local government? **Primarily local control.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **Companies that are licensed for pesticide application must be licensed by the Department of Agriculture**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **Public Awareness. Land based spraying. However the state of Texas has developed an emergency management contract for spraying, which includes aerial. However, aerial spraying is seldom used due to cost**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **Local monitoring. The potential for EEE is extremely rare in Texas. However, when the disease is transmitted it usually occurs in late summer early fall unlike most Southern states**

5. Who is responsible for the costs of monitoring and response? **Locals handle expense, absent FEMA intervention post hurricane, etc**

6. Any additional information you can make available to me? (brochures, pamphlets) **Brochures will be emailed to the office**

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10/20/11 STATE: **Virginia**

RESPONSIBLE AGENCY: Virginia Department of Health (Office of Epidemology)

CONTACT NAME: David Gaines CONTACT NUMBER: 804-864 8112

1. Is testing, monitoring and response primarily a responsibility of state or local government? **Monitoring and response is control of either the city of the county**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **Handled by local health Departments**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **Virginia does extensive monitoring thru trapping etc. In VA they used combine approach: 1) the use of BTI Briquettes in swamps and areas of standing water and also "foggers". Foggers are machines loaded in the back of truck that provide a fan of pesticides in neighborhoods. That Fogging is done exclusively at night because thermal ray during the day would evaporate the pesticide, also for health concerns. In addition, there is a need for an appropriate crosswind. The maximum distance a fogger can impact is approximately 300 ft.**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **In VA they are very familiar with breeding patterns and it is up the local controlling municipality to determine when is best. Largely contingent on Tides especially in the Chesapeake Bay Region**

5. Who is responsible for the costs of monitoring and response? **Local County or City. The cost of prevention and control is built into the local property tax. For example, the City of Chesapeake (750,000) property owners pay 2 cents for mosquito prevention and control**

6. Any additional information you can make available to me? (brochures, pamphlets) **I would encourage you to visit: www. Mosquito-va.org**

7. Any additional comments? D**r. Gaines said that in VA the three most effective mosquito preventions and control programs are located in 1)Chesapeake 2) the City of Suffolk 3) and Virginia Beach. Also mosquito control is obviously a major issue post hurricane/flooding, etc.**

SENATE AGRICULTURE COMMITTEE
EEE STAFF SURVEY RESPONSE

DATE: 10-24-11 STATE: **Wisconsin**

RESPONSIBLE AGENCY: Department of Agriculture, Trade and Consumer Protection

CONTACT NAME: Donna J. Gilson, Communications Specialist/Animal Health, Food Safety
CONTACT NUMBER: 608.224.5130

1. Is testing, monitoring and response primarily a responsibility of state or local government? **The State does not routinely monitor for EEE in animals. DATCP does not mount a formal disease response.**

2. Are any other government agencies responsible for detecting, monitoring or responding to EEE? (e.g., agricultural, environmental agencies) **No response from the Dept. of Health Services**

3. What is the principal means of prevention and protection of public health? (e.g., public awareness/personal protection, spraying) **No response from the Dept. of Health Services**

4. If you engage in spraying for insect control, how is the decision made to begin spraying? **NA**

5. Who is responsible for the costs of monitoring and response? **The State DACP sends out one or more press releases to alert horse owners that EEE has been identified and cautions owners to vaccinate/booster and suggests ways to reduce exposure. The agency sends a press release in the spring to remind horse owners to vaccinate for EEE, West Nile Virus and rabies.**

6. Any additional information you can make available to me? (brochures, pamphlets) **They do not have any printed material available.**

7. Any additional comments? **25 cases of EEE have been confirmed in Wisconsin since mid-August, mostly in north central Wisconsin, according to State veterinarian Robert Ehlenfeldt.**

- **EEE has been detected in Price, Lincoln, Taylor, Clark, Marathon and Dunn Counties.**
- **Some preliminary results are still awaiting confirmation at the National Veterinary Services Laboratories.**
- **Wisconsin last experienced a large-scale outbreak of EEE in 2001, when 69 cases were confirmed. Since then, cases have occurred sporadically.**