

# STATE OF CONNECTICUT

## Zika Virus Surveillance and Response Plan, 2016

*Revised 08/19/2016*

### Introduction

The Zika Virus Surveillance and Response Plan is based on the West Nile Virus Surveillance and Response Plan updated in 2012 by the Mosquito Management Program (MMP), an interagency state working group led by the Department of Energy and Environmental Protection (DEEP). The purpose of this Plan is to provide a guide for the state's Zika virus prevention activities. The Plan will be modified and updated as additional information and federal guidance regarding this newly emerging threat becomes available. Some provisions of the Plan depend on availability of additional state or federal funds.

Zika virus, first discovered in Uganda in 1947, was limited to Africa and Asia infrequently causing human illnesses. In May 2015, the World Health Organization reported the first local transmission of Zika virus in the Western Hemisphere. As of April 8, 2016, local transmission has been identified in at least 34 countries or territories in the Americas, including Puerto Rico, with further spread to other countries in the region likely but precisely to what extent is currently not known.

In the Western Hemisphere Zika virus is transmitted primarily by *Aedes aegypti*, the mosquito that also spreads yellow fever, dengue and chikungunya viruses. *Aedes aegypti* are aggressive daytime biters, can also bite at night and can be found in buildings. They become infected with Zika virus when they bite a person already infected with the virus and can then transmit the virus when they bite another person. While *Ae. aegypti* is not present in Connecticut, a related species, *Aedes albopictus*, has been identified in the southwestern area of the state and it is also considered capable of transmission of the virus. The degree to which it will contribute to transmission in Connecticut is not known. Of recent concern is also the possibility of spread from a woman to her baby during pregnancy and between sexual partners.

Historically and in the majority of recent case-patients, Zika virus causes asymptomatic infections or relatively mild illnesses that are rarely fatal. However, an association with Guillain-Barre syndrome has been suggested and, during the current outbreak, an increase in birth defects among infants born to women infected during pregnancy is associated with the virus. The full spectrum of clinical manifestations is not known.

### Mosquito Management Program

In 1997, Public Act 97-289, "An Act Concerning Mosquito Control and Aerial Application of Pesticides," (CGS Sec 22a-45b) created the MMP to monitor mosquito breeding populations for the prevalence of infectious agents that can cause disease in humans and to determine when measures to abate a threat are necessary. The original focus of the program was to monitor the threat of Eastern equine encephalitis (EEE) virus. The Act authorizes the necessary measures to abate any pest-borne threat, including prevention and remedial measures, and allows for the application of broad spectrum chemical pesticides to address an imminent peril to the public health, safety, or welfare posed by pests. The Mosquito Management Program is based on an integrated pest management (IPM) approach, which includes a combination of surveillance, education, source reduction, larval and adult mosquito control, and personal protection measures.

Based on the multiple modes of potential transmission, severe health consequences to neonates, the role of laboratory testing for diagnosis and medical management, and heightened public concern, Governor Dannel P. Malloy designated the Department of Public Health (DPH) as the lead agency for the State's response to Zika virus. The DPH will also be responsible for conducting surveillance for human cases of Zika virus associated illnesses and coordinating dissemination of information. The Department of Energy and Environmental Protection (DEEP) will provide technical advice regarding mosquito control to municipalities and The Connecticut Agricultural Experiment Station will conduct mosquito surveillance and provide entomological expertise.

## Communications

As the designated lead agency for Connecticut's response to Zika virus, the DPH will coordinate communications. This will include disseminating information on: 1) the risk of acquiring infection in Connecticut during the mosquito season, 2) results of human and mosquito surveillance, 2) precautions that women and men should take to avoid mosquito bites when travelling to an affected area, 3) national guidelines for prevention of fetal infections, 4) availability of laboratory testing, and 4) mosquito control activities for control of *Ae. albopictus*.

Principal methods to inform the public and health care providers will include:

- DPH Zika virus web page including links to the Mosquito Management Program web site and to other state and national resources
- Press releases and, potentially, press conferences for important announcements
- Radio public service announcements in English, Spanish and Portuguese
- The DPH Health Alert Network (HAN) which provides electronic real-time communications to health care providers, local health departments, first responders and others
- The *Connecticut Epidemiologist* newsletter
- Existing DPH Programs such as WIC, Healthy Start, Immunization Action Coordinators
- Advisories at Bradley International Airport for travelers to and from affected areas

## Surveillance Activities

Public health surveillance is the ongoing and systematic collection, analysis, and interpretation of health data in the process of describing and monitoring a health event. This information is used for planning, implementing, and evaluating public health interventions and programs. Surveillance activities are at the core of the Plan and currently include surveillance for Zika virus in humans and mosquitoes.

### **Human Surveillance**

The surveillance for disease in humans caused by Zika virus is coordinated by the DPH. Zika virus was recently declared a nationally notifiable disease. Zika virus disease was added to lists of Reportable Diseases, Emergency Illnesses and Health Conditions and Reportable Laboratory Findings in Connecticut effective Monday, February 15, 2016. As of 4/8/2016, there are no commercially available diagnostic tests; testing for Connecticut residents is conducted by the DPH Public Health Laboratory (PHL) or at the Centers for Disease Control and Prevention (CDC). Specimens are submitted to the DPH PHL for testing or shipment to the CDC. Required patient demographic, clinical and travel history is collected by the DPH Epidemiology and Emerging Infections Program (EEIP) using a standardized questionnaire. Staff of the EEIP is available 24/7/365 to answer questions and facilitate testing of appropriate specimens. The DPH Laboratory reports test results directly to the requesting health care provider.

During the first two weeks after onset of symptoms, Zika virus disease can often be diagnosed by performing reverse transcriptase-polymerase chain reaction (RT-PCR) on serum or urine. Virus-specific IgM and neutralizing antibodies typically develop toward the end of the first week of illness; cross-reaction with related flaviviruses (e.g., dengue and yellow fever viruses) is common and may be difficult to discern. Plaque-reduction neutralization testing can be performed to measure virus-specific neutralizing antibodies and often discriminate between cross-reacting antibodies in primary flavivirus infections.

Beginning March 1, 2016, the DPH PHL was able to begin offering RT-PCR testing for Zika virus genetic material. On April 11, 2016 identification of IgM antibodies was added to the list of tests available. These two types of tests account for most of the testing that is needed. Some specimens will continue to be sent to CDC for testing when additional test methodologies (e.g. PRNT) are needed for confirmation of results or testing of tissue specimens (e.g. immunohistochemistry).

Recommendations for testing are evolving. The current emphasis is on testing of specimens from pregnant women with a history of travel to areas where Zika virus is circulating. Serum and urine specimens collected during the first two weeks after exposure are tested by RT-PCR or the presence of IgM antibodies in serum if the specimen is collected 2-12 weeks after exposure. Testing of serum and urine specimens by RT-PCR is available regardless of pregnancy status for symptomatic patients if collected during the first two weeks of illness. As more is learned about transmission and the spectrum of illnesses caused by Zika viruses, testing protocols will be modified.

A Zika virus module was developed in the Connecticut Electronic Disease Surveillance System (CT EDSS) database to monitor provider reports of Zika virus associated illness, travel exposures of pregnant women and laboratory test results. DPH Laboratory test results are imported electronically from the DPH Laboratory information management system into CT EDSS. Local health directors have web based access to jurisdiction-specific information based on the patient's official town of residence.

To identify children with potential Zika virus associated birth defects, laboratory and provider reporting will be supplemented by regular review of the Connecticut Birth Defects Registry. The registry collects information on birth defects through various sources of data, including reporting from birth hospitals across the state, vital records, and hospital discharge data. Testing will be encouraged for children born with microcephaly, poorly developed brain structures or ocular defects not attributed to other causes, and their mothers.

The DPH has also established a sentinel surveillance system to identify locally transmitted Zika virus infections. Out-patients clinics have been identified in towns with increased risk of local transmission by mosquitoes. Towns were selected based on identification of *Aedes albopictus* mosquitoes in prior years and the proportion of Hispanic residents. Currently, the towns include Bridgeport, Stamford and Stratford. Clinics will submit clinical specimens from patients who present with 3 of the primary symptoms of Zika virus associated illness and have no history of travel to affected areas outside of the continental United States. This supplements mosquito trapping and testing.

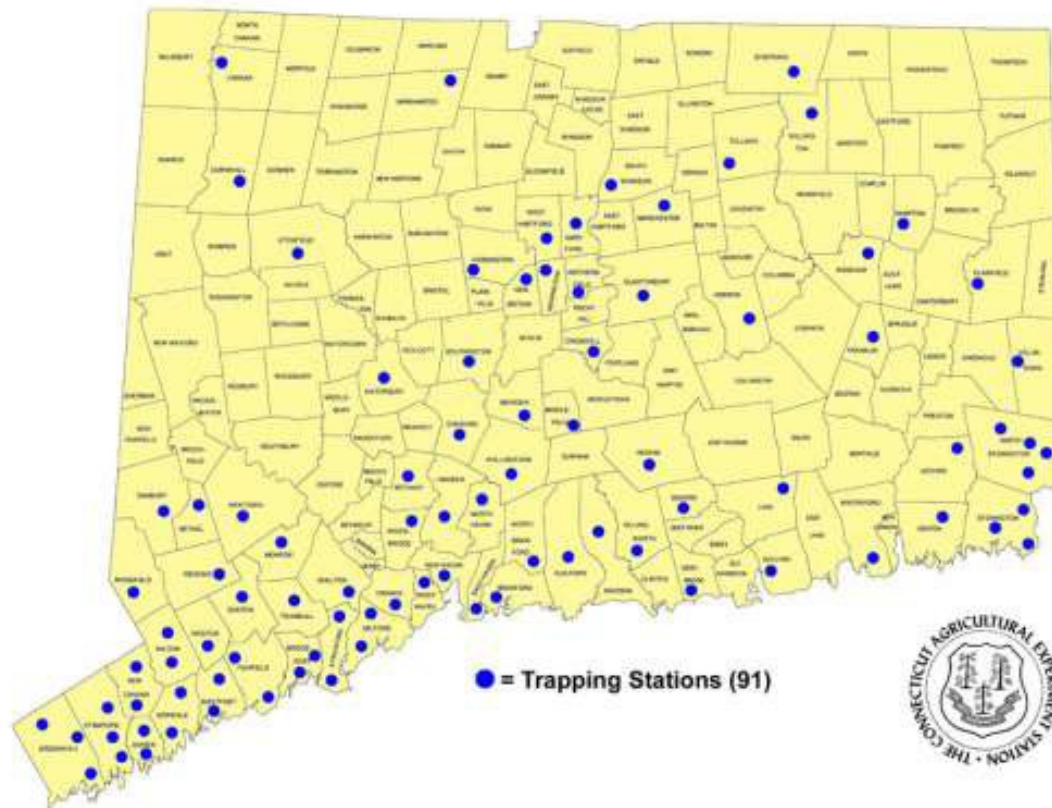
Should spraying of pesticides be conducted to reduce adult mosquito populations in response to Zika, WN or EEE viruses, the DPH also conducts surveillance for possible health effects of pesticide exposure. Physicians are encouraged to report to the DPH Environmental and Occupational Health Assessment Program possible pesticide-related health effects. The DPH compiles and summarizes this information and reports significant findings to the local health departments and other agencies as appropriate. This system is based on National Institute for Occupational Safety and Health classification of acute pesticide-related illness. The DPH assists local health departments monitor calls from the general public regarding health complaints and reports unusual clustering of complaints in terms of location or time to the DEEP Division of Pesticides for investigation of possible misapplication of pesticide.

### **Mosquito and Virus Surveillance**

Surveillance for Zika virus in mosquitoes is integral to the public health response in Connecticut by identifying the areas where local transmission, though unlikely, may potentially take place. The Connecticut Agricultural Experiment Station (CAES) maintains a network of 91 fixed mosquito-trapping stations located in 72 municipalities throughout the state providing information that includes mosquito species composition and abundance in the community, seasonal and spatial distribution of mosquito vectors, and prevalence of virus infected mosquitoes. One-third of the sites are located in southern Fairfield and New Haven counties where the highest levels of West Nile virus (WNV) activity in mosquitoes and humans have been detected in previous years. Transmission of WNV is primarily by *Culex pipiens* mosquitoes which, like *Ae. albopictus*, lays its eggs in small containers of water often found near homes.

Traps are set and attended by CAES staff every 10 days at each site on a regular rotation from June through October. At least two trap types are used at the trapping sites designed to collect host-seeking adult female mosquitoes (all species) and previously blood-fed adult female mosquitoes (principally *Culex* and container-breeding *Aedes* species). Mosquitoes are transported alive to the laboratory each morning where they are identified to species. Mosquitoes are grouped (pooled) according to species, collecting site, and date and then frozen. Aliquots of each mosquito pool are inoculated into Vero cell cultures for detection of mosquito-borne arboviruses of public health importance. Isolated viruses are identified by Real Time (TaqMan) PCR or standard RT-PCR using virus-specific primers. All of the virus isolation work is conducted in a certified Bio-Safety Level 3 laboratory at the CAES. Weekly test results are reported to the CDC electronically via ArboNet and to the DPH for dissemination to other state agencies, local health departments, the media, and neighboring states.

## Mosquito Trapping Stations



Based on trapping during 2006-2015, distribution of *Ae. albopictus* is confined to the southwestern portion of Connecticut but it has been expanding up the coast and increasing in abundance. Currently areas of potential concern are south of I-95 in the 10 coastal towns from Greenwich to West Haven. Collection numbers are low compared to other species, but may be due to under sampling because the current traps are not efficient for luring and trapping *Ae. albopictus*. Expansion of the trapping program to specifically target *Ae. albopictus* would include addition of BG-Sentinel traps baited with human scent lure and placed in locations in Connecticut where *Ae. albopictus* has been collected in previous years or in peripheral sites with the appropriate habitat for this species. For the 2016 season, BG-Sentinel traps will be deployed once *Ae. albopictus* is identified at existing trap sites.

The CAES has expanded diagnostic testing capabilities to include detection of Zika virus in field-collected mosquitoes. The cell culture assay currently used is ideal for screening for a diversity of arboviruses and was found to be very sensitive for Zika virus. An RT-PCR assay was recently optimized to test for Zika virus at CAES laboratories. The need and feasibility of molecular diagnostic tools to improve sensitivity and timeliness for detection of Zika virus directly from mosquito pools will be explored in subsequent seasons.

### Distribution of the Asian Tiger Mosquito *Aedes albopictus* in Connecticut



CAES, 2016

## Prevention Activities

### Environmental Control

The primary mode of transmission is by mosquito bites. Therefore, pre-emptive mosquito control is the most effective way to prevent transmission of Zika virus and other mosquito-borne viruses. The most effective and economical way to control mosquitoes is by larval source reduction through local abatement programs that monitor mosquito populations and initiate control before disease transmission occurs. With similar preferences for breeding habitat, efforts to reduce *Cx. pipiens* populations for control of WNV will also reduce populations of *Ae. albopictus*. In Connecticut, municipalities are responsible for coordination of mosquito control activities on municipal and private lands in their jurisdictions, working with state agencies on behalf of residents, and enforcement of abatement requirements of mosquito breeding areas if necessary. Technical advice regarding source

reduction is available for municipalities from the DEEP Wetlands Habitat and Mosquito Management Program. Assistance from the DEEP is focused on training municipal personnel to conduct mosquito control activities in their jurisdictions. Direct participation from the DEEP is limited and depends on allocation of state funds for field staff.

Larvicides can be used to control mosquitoes in the aquatic stage before they become biting adults. This type of control using insecticides generally is the most effective at controlling mosquitoes and has the least effect on non-target species and the environment. Ideally, use of larvicides is started early in the mosquito season and repeated as necessary. The use of larvicides may require a permit from the DEEP, and the product must be registered for use in Connecticut. Depending upon the type of product used, or for commercial applications, the applicator must be licensed by the DEEP Pesticide Division to apply mosquito pesticides. Recommended larvicide use is as per Strategies for the Application of Larvicides to Control Mosquitoes in Response to West Nile Virus in Connecticut (updated and approved by DEEP, DPH, CAES, DoAG in January, 2014). The following options are available.

- Products containing the biological agents *Bacillus sphaericus* (Bs) or *Bacillus thuringiensis* var. *israelensis* (Bti). Both agents come in a granular, wettable powder, slow release briquette or water-soluble packet formulations. Also available are dual-action formulations of Bs and Bti. The bacterial strains in Bs are more specific to *Culex* larvae than Bti. Bs and Bti are bacterial agents and must be ingested by the filter-feeding mosquito larvae and as such, these products will not affect the non-filter feeding mosquito pupae or adults. The use of Bti or Bs on municipal or individual homeowner property does not require any special licensing by the CT DEEP.
- S-methoprene (trade name Altosid®). Methoprene is an insect growth regulator and comes in a variety of liquid, granular, pellet and briquette formulations. If using Altosid for catch basins a pellet, 30-day or 150-day briquette formulation is recommended. Methoprene will not affect pupae or adults. Connecticut regulations specify that the use of methoprene requires that the applicator be licensed and a permit be obtained from the DEEP prior to application. Also, PA 13-197 prohibits certain uses of methoprene in the coastal zone (<http://www.cga.ct.gov/2013/ACT/PA/2013PA-00197-R00HB-06441-PA.htm>).
- The biological agent *Saccharopolyspora spinosa* or Spinosad (trade name Natular®). Spinosad comes in a variety of formulations and works on all mosquito species. Natular will not affect mosquito pupae or adults. Although it is a bacterial agent, because of its mode of action, Connecticut regulations specify that the use of spinosad requires that the applicator be licensed and a permit be obtained from the DEEP prior to application.
- The Larvasonic® Acoustic Larvicide Device emits sound waves to kill mosquito larvae ([www.newmountain.com](http://www.newmountain.com)). The Larvasonic works on all species of mosquitoes. Mosquito larvae must be present for the Larvasonic to be effective and as such, requires more intensive larval surveillance. Since this device works by emitting sound waves, it is not considered a pesticide and therefore is exempt from pesticide regulations.

Adulticides can be used to kill adult mosquitoes when a quick reduction of mosquitoes is needed. Currently available adulticides may be applied by hand-held, backpack or truck-mounted Ultra Low Volume (ULV) foggers, or by fixed-wing or rotary aircraft. These materials have advantages and disadvantages that will influence which material is most appropriate for a given situation, and all must be applied according to regulations and label directions. Weather and logistical conditions are important factors influencing the ability to effectively control adult mosquito as well as the preferred habitat and feeding habits of the target mosquito species.

### **Preventing Mosquito Bites**

There is no available vaccine to prevent Zika virus infection and no specific treatment for Zika virus related illnesses. Prevention depends on avoiding mosquito bites. When travel cannot be avoided to countries where Zika virus or other viruses spread by mosquitoes are found people should take the following steps:

- Weather permitting wear long-sleeved shirts and long pants; loose fitting light colors work best
- Stay in places with air conditioning or that use window and door screens to keep mosquitoes outside
- Sleep under a mosquito bed net if you are overseas or outside and are not able to protect yourself from mosquito bites
- Use Environmental Protection Agency (EPA)-registered insect repellents. When used as directed, EPA-registered insect repellents are proven safe and effective, even for pregnant and breast-feeding women.
  - DEET
  - Picaridin (also known as KBR 3023)
  - Oil of lemon eucalyptus (OLE) or PMD (Products containing OLE include Repel and Off! Botanicals)
  - IR3535
  - Always follow the product label instructions
  - Reapply insect repellent as directed
  - Do not spray repellent on the skin under clothing
  - If you are also using sunscreen, apply sunscreen before applying insect repellent
- If you have a baby or child:
  - Do not use insect repellent on babies younger than 2 months of age
  - Dress your child in clothing that covers arms and legs, or
  - Cover crib, stroller, and baby carrier with mosquito netting
  - Do not apply insect repellent onto a child's hands, eyes, mouth, and cut or irritated skin
  - Adults: Spray insect repellent onto your hands and then apply to a child's face.
- Treat clothing and gear with permethrin or purchase permethrin-treated items
  - Treated clothing remains protective after multiple washings - see product information to learn how long the protection will last
  - If treating items yourself, follow the product instructions carefully
  - Do not use permethrin products directly on skin
- If you have Zika, protect others from getting sick, avoid mosquito bites during the first week of illness

### **Prevention of Transmission of Zika Virus in Women of Reproductive Age**

(National recommendations as of 4/11/2016)

Pregnant women should avoid travel to areas where Zika virus is circulating locally among mosquitoes for the duration of the pregnancy whenever possible. When travel cannot be avoided women should:

- Practice prevention measures for preventing mosquito bites
- Be tested for the presence of virus by RT-PCR during the first 7 days - if she develops illness
- Be tested for the presence of IgM antibodies 2-12 weeks after the last potential exposure to help guide prenatal care – if she does not develop illness



#### Recommendations for men and their pregnant partners

In addition to bites of infected mosquitoes, sexual transmission from men to sexual partners is also possible and is of particular concern for women who are pregnant or intend to become pregnant. At this time, tests of serum or semen of men for the purpose of assessing risk for sexual transmission is not recommended due to lack of understanding of what such test results mean. As more is learned about the incidence and duration of seminal shedding from infected men recommendations will be updated. Based on what is currently known about transmission men who travel to an area of active Zika virus transmission should:

- Abstain from sex (i.e., vaginal intercourse, anal intercourse, or fellatio) for the duration of the pregnancy or
- Consistently and correctly use condoms
- Have pregnant partner tested if either partner develops symptoms

#### Recommendations for men and their non-pregnant sex partners

Since most infections are asymptomatic or cause mild illness among adults, mosquito-borne Zika virus infections may go unrecognized. For persons who travel to a Zika affected area and want to attempt conception:

- Women who become ill should wait at least 8 weeks after symptom onset
- Women who do not become ill should wait at least 8 weeks from last date of exposure
- Men who are diagnosed with Zika virus disease should wait at least 6 months
- Men who do not become ill should wait at least 8 weeks from last date of exposure

## **Phased Risk-Based Response**

Prevention activities in Connecticut adapted from CDC national recommendations are appropriate to the potential levels of risk for transmission of Zika virus in Connecticut or for travelers to Zika virus affected areas. They are based on human and environmental surveillance systems and include:

#### ***Before mosquito season***

##### Response Actions

- Designation of DPH as lead agency to coordinate the State's response
- Identification of agency response personnel at DPH, DEEP and CAES
- Develop a state response plan specific for Zika virus based on West Nile and Eastern equine encephalitis plans and national recommendations
- DPH Commissioner is briefed weekly on planning progress

##### Communication

- Include DPH updates for local health departments on the regularly scheduled monthly statewide conference calls – on 2/18/2016 the entire hour long call was devoted to Zika with participation of the DEEP and CAES
- On 5/20/2016 the CAES will host a half-day symposium on vector-borne infectious diseases for local health directors and selected staff
- Conduct public mosquito education campaigns focusing on reducing or eliminating larval habitats for other mammal-biting container breeding mosquitoes including *Ae. albopictus* (DEEP, DPH, municipalities)
- DEEP Mosquito Management Program will update and maintain the state's web site: [www.ct.gov/mosquito](http://www.ct.gov/mosquito) with information on mosquito-borne illness in humans, mosquito surveillance and control options, and the Zika virus Response Plan.
- The DPH will maintain a Zika virus page on its web site
- The DPH will develop public service announcements for radio on mosquito source

reduction, prevention of fetal infections, prevention of sexual and mosquito transmission to pregnant women or women who plan to conceive

- Train DPH Epidemiology and Emerging Infections Program staff to respond to telephone inquiries from the public and health care providers, and collect information on Zika virus associated illnesses including fetal infections

#### Surveillance

- Zika virus added to the lists of reportable diseases and laboratory findings on 2/15/2016
- Develop surveillance system for human cases including a standardized questionnaire module in CT EDSS
- Implement electronic reporting of Zika virus test results from DPH Laboratory to the EEIP
- Use the Newborn Screening and Birth Defects Registry systems to identify newborns with potential Zika virus associated birth defects born to pregnant women who were not previously tested
- Designate DPH contacts for the US Pregnancy Registry

#### Laboratory

- Develop capacity to conduct testing of human specimens for Zika virus
- DPH Laboratory offers RT-PCR testing starting 3/1/2016
- DPH Laboratory offers IgM ELISA testing starting 4/11/2016

#### Vector Control

- Recommend surveys to determine abundance, distribution, and type of containers that may serve as mosquito breeding sites, especially in towns where *Ae. albopictus* has been previously identified (municipalities with technical advice/training provided by DEEP)
- Cover, dump, modify or treat large water-holding containers with long-lasting larvicides (municipalities, property owners)
- DEEP Pesticide Management Program will prioritize registration of products and the issuance of permits needed for the commercial application of pesticides and insecticides.
- DEEP Solid Waste Program will assist with outreach and education efforts and will prioritize coordination with local officials to address blight and illegal disposal of materials such as tires. Will pursue enforcement actions involving large-scale tire disposal areas.

#### Pregnant women outreach

- Distribute guidance for testing potentially exposed pregnant women, prevention of mosquito and sexual transmission and monitoring of developing fetuses
- Develop radio PSA
- Use the HAN to communicate directly with obstetricians/gynecologists and other licensed health care providers
- “Piggy-back” on existing DPH Programs that distribute information to pregnant women and their health care providers such as WIC, Healthy Start, Immunization Action Coordinators

#### ***Beginning of mosquito season***

Activities conducted before mosquito season are continued and, in addition, the following are added if not already in place.

#### Response Actions

- As for WN and EEE viruses regular telephone and email communications are conducted between designated staff of the DPH, DEEP and CAES

#### Communication

- Continue public education campaigns focusing on reducing or eliminating larval habitats for *Ae. albopictus* (DPH, DEEP)
- Notify the local director of health of human cases or infected mosquitoes in the health department's jurisdiction (DPH)
- Announce identification of imported cases (DPH)
- Distribute information about *Ae. albopictus* and personal protection measures (DPH, LHDs) to avoid mosquito bites among travelers returning from Zika affected areas, including posters at Bradley International Airport, urging:
  - Insect repellents
  - Window and door screens to prevent mosquitoes from entering the house
  - Air conditioning
- Results of mosquito trapping and testing are posted on the CAES web site with links from the MMP, DPH and DoAg – these include weekly results at each trap site and maps with positive findings

#### Surveillance

- Mosquito trapping is conducted June through October (CAES) to:
  - estimate abundance of mosquito species
  - determine distribution
  - develop detailed vector distribution maps
  - evaluate the efficacy of source reduction and larvicide treatment
- If *Ae. albopictus* is identified at established trapping sites, BG-Sentinel traps will be used to further monitor populations

#### Vector Control

- Based on integrated pest management
- Continued emphasis on larval source reduction and use of larvicides in large containers that cannot be emptied (municipalities)

#### ***Single or several local mosquito-acquired cases***

Activities conducted with the start of mosquito season are continued and, in addition, the following are added if not already in place

#### Response Actions

- Determine the need for assistance from a CDC field team to provide technical, communication, vector control, or logistical support

#### Communication

- Notify Red Cross
- Distribute updates utilizing multiple methods including press releases and the DPH HAN

#### Vector Control

- Consideration will be given to adult mosquito control in consultation with Director of Health and Chief Elected Official in affected town
  - Treat the outdoors within 100–200 yards/meters around a case's home
  - Initiate/maintain adult sampling to estimate adult mosquito abundance and evaluate effectiveness of insecticide treatments
  - Use of adulticides will consider the following factors:
- Considerations for use of adulticides
  - Abundance of *Ae. albopictus*
  - Number of infected pools
  - Local surveillance data in previous season
  - Time of the season

- Weather conditions
- Geographic extent
- Proximity and nature of human residential areas
- Number and residence of human patients with Zika virus related illness
- Community concern and acceptance of mosquito control activities
- Extent of previous larval mosquito control activities
- Likely effectiveness of local application of insecticides

Pregnant women outreach

- Enhanced targeted warnings to pregnant women regarding prevention of mosquito bites

**Outbreak - clusters cases**

This is considered very unlikely during the 2016 season in Connecticut.

CDC recommendations include:

- Divide the outbreak area into operational management areas where control measures can be effectively applied to all buildings and public areas within a few days; repeat as needed to reduce mosquito density
- Conduct door-to-door inspections and mosquito control in an area-wide fashion
- Identify and treat, modify, or remove mosquito-producing containers
- Organize area/community clean-up campaigns targeting disposable containers (source reduction), including large junk objects that accumulate water (broken washing machines, refrigerators, toilets) in buildings, public areas, etc.
- Combine outdoor spatial or residual spraying with source reduction and larviciding (including residual spraying of container surfaces and adjacent mosquito resting areas). Don't forget to treat storm drains, roof gutters and other often overlooked cryptic water sources

## **Important State Phone Numbers and Websites**

<u>State Mosquito Management Program Website</u>	<a href="http://www.ct.gov/mosquito">http://www.ct.gov/mosquito</a>
<u>Department of Public Health</u>	<a href="http://www.ct.gov/dph">http://www.ct.gov/dph</a>
Office of Communications <i>-Media inquiries</i>	(860) 509-7270
Epidemiology and Emerging Infections Program <i>- Zika virus infections in people, laboratory testing of human specimens</i>	(860) 509-7994
Environmental and Occupational Assessment Program <i>- Effects of pesticides on people</i>	(860) 509-7740
Public Health Laboratory <i>- Technical questions regarding testing and shipping of human specimens from physicians, hospitals, laboratories</i>	(860) 920-6500
<u>Department of Energy and Environmental Protection</u>	<a href="http://www.ct.gov/deep">http://www.ct.gov/deep</a>
Communications Division <i>- State mosquito control policy and programs</i>	(860) 424-4100

Wetlands Habitat and Mosquito Management Program (860) 642-7630  
- *Technical questions regarding mosquitoes, mosquito control measures*

Pesticide Management Program (860) 424-3369  
- *Technical questions regarding safe pesticide use and chemical make-up. Also, persons who wish to be specifically notified prior to a pesticide application or those who are chemically sensitive to pesticides should contact the Pesticide Pre-Notification Registry at this number*

Connecticut Agricultural Experiment Station <http://www.ct.gov/caes>

Center for Vector Biology & Zoonotic Diseases (203) 974-8510  
- *Technical questions regarding mosquito trapping and testing*