Town of Candia, New Hampshire

Arboviral Illness

Surveillance, Prevention and Response Plan

2010 Season

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INTRODUCTION

The Arboviral Illness Surveillance, Prevention and Response Plan provides surveillance and phased response guidance for both West Nile Virus (WNV) and Eastern Equine Encephalitis (EEE) virus. The purpose of this plan is to provide guidance on operational aspects of surveillance, prevention and response for the control of mosquito-borne disease and encourage proactive preparations for the upcoming year.

This document is open to continual review and evaluation with changes made when there is opportunity for improvement.

PROGRAM GOALS

Timely and accurate information may offer an early warning of increased risk of WNV and EEE virus infection of humans and non-human mammals. Based on surveillance information, plans and actions to reduce risk can be developed and implemented when needed.

Specific Program Priorities

1. Provide expertise in proactively minimizing the risk to Candia residents and visitors of being exposed to and infected with mosquito-borne diseases.
2. Providing assistance to contracted mosquito control company in identifying potential breeding sites for mosquitoes.
3. Document calls from the public regarding dead birds.
4. Submit birds and mosquitoes for testing as necessary to identify EEE and WNV.
5. Recommending measures to reduce disease transmission.
6. Provide information to the public on mosquito-borne diseases and disease risk, and how to take precautions to reduce the risk of infection.

PREVENTION AND CONTROL

Ultimately, the key to reducing or eliminating the incidence of Arboviral Disease is education and outreach to the public regarding the need for prevention and explaining how they can protect themselves from diseases such as EEE and WNV. Like much of the work in public health, it is difficult to quantify exactly how effective these prevention efforts are or will be. For example, with a rare and cyclical disease such as EEE, it would be impossible to identify the number of cases that were avoided in the previous season as a result of an aggressive and sustained public education campaign by the New Hampshire Department of Health and Human Services, its local and community partners.

The emergent public health threat posed by arbovirus illness requires a vigilant outreach effort. As the local public health entity, the Candia Public Health Officer will continue to take a lead role in providing public education efforts to promote prevention, working with our partners to maximize the opportunity to make our residents aware of the dangers posed by mosquito-borne illness. This will include working with the media, businesses

and special populations such as schools, hunters, fishers and others who spend considerable amounts of time outside.

A. Prevention through Knowledge

The goal of mosquito-borne virus public education activities is to provide helpful, accurate and specific advice and information to the residents of Candia so they can approach this problem with the appropriate level of caution. Information on the following topics has been distributed in print, through various websites and through local media and town activities:

- Preventing mosquito breeding opportunities around the home and businesses.
- Proper handling of dead birds.
- Personal protective measures.
- Health risks to humans and domestic animals from Arboviral illnesses.
- Special information for schools, camps and daycare facilities.
- Outdoor activities during mosquito season.
- Testing results from the State of New Hampshire.
- Public Health Advisories.

Printed Material: Fact sheets and information on the above topics are available at the Public Health Officer's office in the Town Office Building and on the Town's webpage http://www.candianh.org

WNV & EEE Website: The Town's webpage http://www.candianh.org has a link to connect you to the New Hampshire Department of Health and Human Services website where fact sheets, current information and other health news is available. A direct link to the DHHS is http://www.dhhs.state.nh.us

Community Outreach: Prior to and throughout the surveillance season, the Public Health Officer will distribute educational material throughout the community. This includes the following:

- Fact Sheets and Prevention Guidelines provided to local schools and daycare centers for distribution to all students.
- Posting of Fact Sheets and Prevention Guidelines at the Town Office bulletin board, public library, Town Park athletic fields, post office and various stores and other businesses.
- Posting Fact Sheets and Prevention Guidelines on the Town website (http://www.candianh.org) and the Moore School website (http://cms.k12.nh.us)
- Courtesy notices sent to local businesses reminding them that due to the nature of their business, there is the potential for increased areas of standing water that could be breeding grounds for mosquitoes. They will be notified that they need to adequately maintain their premises free of standing water and that some of their properties may be larval survey sites. Fact sheets for WNV and EEE will be included with the notices.

B. Prevention Action Steps

Preventing Mosquito Breeding Opportunities: By reducing their exposure to mosquitoes around their homes and by eliminating mosquito breeding grounds, residents of Candia can greatly reduce their risk of mosquito-borne virus exposure. Many species of mosquitoes lay their eggs in standing water. Weeds, tall grass and bushed provide an outdoor home for the common house mosquitoes that are most often associated with WNV. Fresh water swamps and coastal areas provide breeding habitat for the mosquito species commonly associated with EEE.

The Candia Public Health Officer and the New Hampshire Department of Health & Human Services recommends citizens take the following steps to reduce opportunities for mosquito breeding:

- Eliminate standing water around residential and commercial areas and other mosquito breeding locations.
- Do not attempt to drain or alter natural water bodies for mosquito control, since the management of ponds, marshlands and wetlands is regulated under existing law and administrative rule. Alteration may require the approval of state and possibly federal agencies. Contact the NH Department of Environmental Services and Fish and Game for further information. Additionally, the UNH Cooperative Extension Service, the Natural Resources Conservation Service and the Conservation Districts are available to assist communities in evaluating potential standing water hazards.
- Remove all discarded tires from your property. The used tire is the most common site for mosquito breeding in the United States.
- Dispose of or drill holes in the bottom of containers left outdoors. These include tin cans, ceramic pots or similar water holding containers. Drainage holes in the sides of containers will still allow enough water for mosquitoes to breed. Do not overlook containers that have become overgrown by aquatic vegetation.
- Mow grass and weeds as short as possible and thin shrubs to allow air circulation through plants.
- Make sure that roof gutters drain properly. Clean clogged gutters in the spring and fall and as often as necessary to eliminate standing water.
- Tightly screen “rain barrels” to ensure mosquitoes can’t deposit eggs in or on water.
- Clean and chlorinate swimming pools, outdoor saunas and hot tubs. If not in use, keep them empty and covered. Do not allow these covers to collect standing water.
- Aerate ornamental pools or stock them with fish. Water gardens become major mosquito producers if they are left to stagnate.
- Turn over wheel barrows and plastic wading pools when not in use. Both provide breeding sites for domestic mosquitoes.
- Change the water in bird bathes at least twice weekly.
- Remind or help neighbors to eliminate mosquito breeding sites on their property.

Personal Protective Measures: Residents can take simple steps to protect themselves from mosquito bites. Such steps are critical in reducing the risk of WNV and EEE infections. The Candia Public Health Officer and the New Hampshire Department of Health & Human Services recommends that residents take the following steps to protect themselves, particularly from June to October, when mosquitoes are most active:

- If outside during evening, nighttime and dawn hours or at any time when mosquitoes are actively biting, children and adults should wear protective clothing such as long pants, long-sleeved shirts and socks.
- If outside during evening, nighttime and dawn hours or at any time when mosquitoes are actively biting, consider the use of an effective insect repellent.
- Repellants containing DEET (N, N-diethyl-methyl-meta-toluamide) have been proven effective. No more than 30% DEET should be used on adults or children.
    - The American Academy of Pediatrics (AAP) Committee on Environmental Health has updated their recommendation for the use of DEET products on children, citing: "Insect repellents containing DEET with a concentration of 10% appear to be as safe as products with a concentration of 30% when used according to the directions on the product label".
    - AAP recommends that repellents with DEET should not be used on infants less than 2 months old.
- Repellents containing Picaridin (KBR3023), oil of lemon eucalyptus (a plant based repellent) or IR3535 provide protection similar to repellents with low concentrations of DEET. Oil of lemon eucalyptus should not be used on children under the age of three years.
- Always use repellents according to manufacturer's directions.
- Do not allow young children to apply repellents to themselves.
- Do not apply repellents directly to children. Apply to your own hands and then put it on the child's skin.
- Infants and children should be protected by placing mosquito nets over strollers in the evening, nighttime and dawn hours or at any time mosquitoes are actively biting.
- The length of time that a repellent is effective varies with ingredient and concentration. Avoid prolonged or excessive use of repellents. Use sparingly to cover exposed skin and clothing.
- Wash all treated skin and clothing after returning indoors.
- Store repellents out of reach of children. Make sure that doors and windows have tight fitting screens. Repair or replace all screens in your home that have tears or holes.
- Vitamin B, ultrasonic devices and bug zappers have not been shown to be effective in preventing mosquito bites.

Mosquito Control Activities: The object of public health mosquito control is to prevent transmission of mosquito borne disease to humans. Although reduction of nuisance mosquito species may be an added benefit, reduction of nuisance mosquitoes is not a goal of the public health based mosquito program. Local communities make the final decision regarding mosquito control activities in New Hampshire. Communities are responsible for developing, maintaining and financing (partial funding may be available). State legislation has been passed to allow a community to apply for financial assistance in mitigation of public health threats of mosquito-borne diseases (WNV and EEE) provided that a community has already developed a detailed prevention strategy.

All discussion regarding pesticide applications made under this plan will be in accordance with the principles of Integrated Pest Management (IPM). IPM is a sustainable approach to managing mosquitoes by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health and environmental risks. IPM includes preventative control and suppressive control, including:

- Source reduction (remove, cover, drain, fill) of larval habitats that are not environmentally sensitive or protected.
- Biological control (the use of natural enemies such as mosquito fish, etc.).
- Mechanical control (the use of barriers such as screens to prevent the movement of mosquitoes).
- Chemical control (the use of manufactured chemical products [pesticides] that act against mosquitoes).

Chemical control can be further broken down into the application of products aimed at mosquito larvae (larvicide) and those aimed at adult mosquitoes (adulticide). Larvicide involves the application of chemicals or natural bacteria to surface waters (such as ponds or storm drains) to kill mosquito larvae. Larviciding is a proactive measure that can be useful in reducing the risk of mosquito-borne disease throughout the season. The intent of the larvicide program is to control generations of targeted mosquito species before they reach the adult stage, when they are able to transmit diseases such as WNV and EEE. In New Hampshire, larvicide programs typically begin in early spring and continue throughout the season. Adulticide involves the application of fine “mists” of pesticide over a relatively broad area to bring about the rapid knockdown of adult mosquitoes. Adulticiding occurs in response to current surveillance activity. Adulticiding can quickly reduce existing, biting adult mosquitoes throughout a spray area, but its effects are relatively short lived, raising the possibility of repeat applications. In addition, adulticide spray sites are most likely to be areas of high human population density. In New Hampshire, adulticiding occurs in late summer and early fall when infected adult mosquitoes are detected. Comprehensive mosquito control programs may utilize both control methods, larvaciding and adulticiding, if indicated by surveillance.

Pesticides may pose their own risk to the health of humans, animals, plants and the environment. Thus pesticides are only one component of a coordinated effort to control mosquitoes. Pesticide treatments and other IPM strategies may be appropriate in certain situations, while each strategy alone may not be adequate.

Integrated Pest Management dictates that control efforts should be tied to thresholds. This means simply that a certain defined risk needs to exist before particular control methods are recommended. Different responses may be made as different levels of risk are identified. These levels of risk are discussed under the Phased Response section of this plan. In an ideal IPM program, non-chemical methods should be employed to keep pest levels below the risk level that might trigger a pesticide response, meaning that pesticides are a last, rather than a first response to a WNV or EEE problem.

SURVEILLANCE

A. Mosquito Surveillance for West Nile Virus and Eastern Equine Encephalitis

Mosquitoes are the best indicator of human risk for arboviral disease. The objective of a mosquito surveillance program is to determine the presence of arboviruses, including WNV and EEE, in mosquito species common to our area and to measure the relative abundance of critical mosquito species. Monitoring mosquito abundance is accomplished through various surveillance methods including, but not limited to larval dip counts and the use of light/CO2 baited traps and gravid traps. Mosquito larvae and adult abundance, arboviral testing results, and coverage of mosquito efforts play a critical decision-making role in overall need, scope and method of control. Surveillance activities in Candia begin in April and end in late September or October. Trapping adult mosquitoes begins in June. Activities for surveillance for the 2010 season will consist of routine and rapid response surveillance.

1. **Routine Mosquito Surveillance:** The Mosquito Control Company contracted by the Town of Candia and the NH DHHS are the lead agencies responsible for mosquito surveillance activities. Activities include:

    - Coordinating efforts for appropriate placement of traps, collection, packaging and transport of mosquito specimens. (Mosquito Control Company).
    - Providing laboratory services for testing mosquitoes specimens that are submitted and inform municipality of results of those tests. (NH DHHS)
    - Notify municipal and other agency representatives within 24 hours of receiving results of positive virus isolation or a confirmed case of mosquito borne diseases. (NH DHHS)

    Mosquitoes must be collected, sorted, packed in dry ice and sent to the NH DHHS Public Health Laboratories on a routine, consistent and timely basis. Mosquito collection, processing and transportation must be performed in a manner to

preserve the cold-chain and prolong the virus viability. Mosquitoes must be grouped by species, gender (only females should be submitted for testing), site and date of collection into a "pool" of 1 – 50 individual mosquitoes of the same species. These activities are conducted by the Mosquito Control Company contracted by the Town of Candia. In order to ensure testing results are accurate, only mosquitoes trapped in a method approved by NH DHHS will be tested (e.g. light/CO2, gravid traps, resting boxes). Mosquitoes trapped using other methods such as Mosquito Magnets are not acceptable for testing.

Routine, fixed long-term trap sites provide the best baseline information for detecting trends in mosquito abundance, virus prevalence and estimating the risk of human infection from WNV and EEE. Communities with prior year virus activity should consider implementing a routine mosquito surveillance program.

2. **Rapid Response Mosquito Surveillance:** In the case of an arboviral positive test in humans, other mammals, domesticated birds (e.g., emus), mosquitoes or if clustering of dead birds warrant, state sponsored activities may include:

   - Placing mosquito traps within a two-mile area surrounding the positive identification point. Criteria for selection of trap locations will include areas such as mosquito breeding locations, standing water, swamps and sewage plants.
   - Reviewing and determining the need for expanding trapping for new areas. Evaluating current trap locations based on criteria including habitats conducive to mosquito breeding and bridge vector collection and level of human use (e.g., schools, parks, athletic fields, etc.).
   - Notifying Town municipal officials within 24 hours of receiving results of positive virus isolation or a confirmed case of mosquito-borne disease.

B. Avian Surveillance for West Nile Virus and Eastern Equine Encephalitis

1. **Dead Bird Reports:** Wild birds, primarily crows and blue jays (corvids), may die following infection with WNV. Corvids, as well as passerines (i.e., perching birds, or "songbirds"), are also susceptible to infection with EEE. Following changes in bird mortality may help to identify areas of increased viral activity.

   The Town of Candia plan calls for timely reporting of all dead birds. The objective is to enhance surveillance for animal arboviral infection and disease. Bird surveillance activities occur from June 1 until October 31 (ending date to be determined based on ongoing epidemiological findings). In order to assure that local officials are aware of current situations and assist in appropriate reporting and disease testing, the public is being advised to report dead birds to their local animal control officer or public health officer. You will be instructed on the proper disposal of the dead bird's carcass. Any bird, domestic or wild, that has died of unknown causes should be carefully handled to prevent the spread of disease.

2. **Laboratory Testing of Dead Wild Bird for WNV and EEE:** Recent national and local analysis suggests WNV dead bird testing is becoming less useful for early detection and evaluation of WNV risk. Most birds infected with EEE do not succumb to severe disease and no longer provides useful data for disease surveillance and response in New Hampshire. For these reasons, wild bird testing will not occur on a regular basis.

   In some circumstances, dead birds may be tested for WNV and/or EEE if the situation warrants (e.g., unusual large die-offs without a known cause). At the time of report, the caller will be informed if the reported bird is to be tested, how to safely handle the dead bird to minimize contact and how to arrange for delivery. Otherwise the caller will be informed of proper disposal procedures for the dead bird.

   Birds must be approved for testing prior to delivery by calling the WNV & EEE information hotline. If testing is approved, it is the responsibility of the local community to arrange for the transportation of dead birds to the Public Health Laboratory, such as through the local animal control officer.

3. **Laboratory Testing of Domestic Birds for WNV & EEE:** Testing and surveillance of domestic birds (e.g., Emus) will follow the procedures listed below for veterinary surveillance.

C. Veterinary Surveillance for West Nile Virus and Eastern Equine Encephalitis

Under the auspices of the State Veterinarian, NH Department of Agriculture, Markets & Food, the NH Public Health Laboratory or the NH Veterinary Diagnostic Laboratory may conduct testing of horses and other domestic animals (e.g., llamas, alpacas) that have severe neurological disease suspected of being caused by EEE or WNV infection. On an annual basis, a letter from the State Veterinarian, co-signed by State Public Health Veterinarian (NH DHHS), describing the case definition, clinical signs of the disease and reporting process will be sent to all licensed veterinarians in the state of New Hampshire. This will serve as a reminder to investigate and report neurological illnesses in non-human mammals. Parameters for the evaluation and testing of ill mammals will include the following:

- Owned animals with neurological signs will initially be referred to private veterinarians for evaluation.
- Veterinarians wishing clinical consultation or information on encephalitic disease testing procedures should contact the State Veterinarian at the NH Department of Agriculture, Markets and Foods (271-2404), NH Diagnostic Laboratory (862-2726) or the State Health Veterinarian (271-4496).
- Necropsy specimens, such as animal heads, must be sent to the NH Veterinary Diagnostic Laboratory for processing. The NH Veterinary

Diagnostic Laboratory will then send tissue samples to the Public Health Laboratory for further testing.

- The State Veterinarian and NH Veterinary Diagnostic Laboratory will assure appropriate collection of specimens for diagnostic testing.
- Appropriate submission forms must accompany specimens.

Mammals submitted for rabies testing: Unlike an arbovirus, rabies can be transmitted to humans through the bite of an infected animal. It is important that all mammals with neurological symptoms that have had contact with humans, pets or other domestic animals and that meet guidelines for rabies testing be submitted for testing in accordance with NH Public Health Laboratory guidelines. Animals testing positive for rabies will not be tested for WNV and EEE virus.

D. Human Surveillance

The NH DHHS is the lead agency for the conduct of human case surveillance for arboviral encephalitis, meningitis and meningoencephalitis. From June 1 until October 31 (and all other times of the year depending on patient travel history), health care providers, emergency rooms and hospitals must report cases of encephalitis or aseptic meningitis.

Note: Severe neurological disease due to arboviral infection has occurred in patients of all ages. Year-round transmission is possible in some areas of the country, therefore arboviral disease should be considered in persons with unexplained encephalitis and meningitis with consistent travel history.

If surveillance data indicates a risk of human disease, active surveillance or enhanced surveillance may be instituted in high risk areas. This consists of contacting health care providers and facilities surveying for potential cases. Additionally, death records and other available surveillance systems will be utilized to screen for possible human cases of arboviral encephalitis, meningitis or meningoencephalitis.

E. Communication and Surveillance Information

1. **Routine Information:**
   Arboviral laboratory test results are compiled on a daily basis and information summarized in tabular and map formats to identify areas of virus activity. Results of birds submitted for testing are posted as they become available on the NH DHHS website accessible to the public and the media. Testing time varies with the test method, specimen and concentration of virus present; therefore, test results may not be available every day.

2. **Positive EEE Virus & WNV Findings:** The NH DHHS ensures the rapid and accurate dissemination of positive test results. Following an EEE or WNV

positive mosquito test pool, veterinary case or human case, all pertinent parties, both internal and external to DHHS are concurrently notified.

Local notification will occur individually for the town affected or as a region depending on the significance of the test results. The NH DHHS Community Public Health Development Section (e.g., Health Officer Liaison) will assist in local notification (phone and/or email) if Disease Control staff is unable to make contact with the Public Health Officer. It is the duty of the local Public Health Officer to notify all pertinent local officials, including high-level elected officials (selectmen), and appointed officials (animal control officer) and, as warranted, the Emergency Management Director. Unless NH DHHS is notified otherwise, if the Public Health Officer is unable to be contacted, notification will be made to the Selectmen.

The public will be informed, but only after the Public Health Officer and external parties listed above are notified. In addition to press releases, the media and public will be informed of positive results through the NH DHHS website. NH DHHS will determine the human risk level for the region and disseminate the information through the measures discussed. The CDC receives weekly summaries of all samples tested and timely reports of significant positive results.

3. **Media Advisories:** The NH DHHS issues media advisories when surveillance information indicates risk of human disease. Media advisories include information on personal protection measures, identify areas of virus activity and explain activities of the surveillance program.

4. **DHHS Website:** The NH DHHS and the Town of Candia informs the media and the public of positive test results and other important up-to-date information through their websites (http://www.dhhs.nh.gov and http://candianh.org). Information regarding personal protection measures, general background information and regular updates on surveillance and laboratory analysis is available at these sites. Surveillance information is updated as it becomes available. Maps presenting the geographical distribution of EEE virus and WNV activity and regional risk are available at the NH DHHS website and are updated weekly as new activity occurs. Links to other mosquito-borne virus informational websites, including community health departments and state and federal sites are included.

5. **Informational Phone Line:** Between June and October, a toll free NH DHHS WNV & EEE informational phone line (1-866-273-NILE[6453]), provides information to callers on a variety of WNV and EEE topics including general background information and personal protection measures. A staff member is dedicated to this line and is available to assist callers during normal business hours. Messages may be left after hours and are returned the next business day.

6. **Public Health Alerts:** The NH DHHS issues media advisories to alert the public of conditions that may warrant additional precautions to reduce the risk of disease. These alerts are drafted in consultation with the local Public Health Officer to coordinate local prevention activities.

RECOMMENDATIONS FOR A PHASED RESPONSE TO EEE VIRUS AND WNV SURVEILLANCE DATA

The recommendations provided here are based on current knowledge of risk and appropriateness of available interventions to reduce the risk for human disease. Multiple factors contribute to the risk of mosquito transmitted human disease. Decisions on risk reduction measures should be made after consideration of all surveillance information for that area at that time.

Public awareness of what can be done to reduce the risk of infection is of utmost importance. The level of EEE virus and WNV activity may occasionally present a potential for increased virus transmission to humans. Typically, risk is expected to be relatively low and the routine precautions taken by individuals may be sufficient to avoid infection. These guidelines take into consideration the complexity of reducing risk of human disease from EEE virus and WNV infection and form a framework for decision making. They are not a set of specific prescriptions.

Phased Response: General guidelines are provided for an array of situations that are noted in the Surveillance and Response Plan Tables that follow. Specific situations must be evaluated and options discussed before final decisions on specific actions are made. The assessment of risk for mosquito-borne disease is complex and many factors modify specific risk factors. The Town of Candia works with the NH DHHS, community, school administrators and mosquito control contractor to develop the most appropriate prevention activities to reduce the risk of human disease. There is no single indicator that can provide a precise measure of risk and no single action that can be taken to assure prevention of infection. Historical local surveillance data is critical in making informed decisions regarding risk and appropriate actions.

Table 1. Guidelines for Phased Response to WNV Surveillance Data

Risk Category	Probability of Human Outbreak	Definition	Recommended Response
1	Remote	All of the following conditions must be met: No prior year virus activity detected in Candia or adjacent community and No current surveillance findings indicating WNV activity	1. Educational efforts directed to the general public on personal protection such as use of repellants and source reduction. 2. Routine human & veterinary surveillance, dead bird reporting and recording via DHHS WNV info-line 3. Consider larval and adult mosquito monitoring with routine collection & testing of mosquitoes. 4. Assess local conditions for mosquito species of public health significance.
2	Low	Prior year virus activity detected in mosquitoes in Candia or adjacent community or Current year surveillance of mosquitoes collected at a single mosquito trap location testing positive and No human or veterinary cases	Incorporates previous category response, plus: 1. Expand community outreach and public education programs focused on risk potential and personal protection, emphasizing source reduction. 2. Assess mosquito populations, monitor larval and adult mosquito abundance, and submit samples to Public Health Lab for testing. 3. Use larvicides at specific sources identified by entomologic survey and targeted at vector species. If appropriate, consider source reduction techniques. In making a decision to use larvicide consider the prevalence of *Culex* larvae, intensity of prior virus activity and weather. 4. Enhance human and veterinary surveillance.
3	Moderate	Prior year confirmation of human and/or veterinary cases in Candia or adjacent community or Sustained WNV activity in mosquitoes or Current year surveillance of positive mosquitoes collected at more than one trap location and No human or veterinary cases	Incorporates previous category response, plus: 1. Increase larval control, source reduction and public education emphasizing personal protection measures. 2. Actions to prevent disease may include targeted larvaciding at likely vectors and if current year activity, possibly ground adulticiding targeted at likely bridge vector species. 3. Enhance human surveillance and activities to further quantify epizootic activity.
4	High	Current year surveillance of sustained or increasing WNV activity in mosquitoes Or A single confirmed veterinary or human case	Incorporates previous category response, plus: 1. Intensify public education on personal protection measures: a. Utilize multimedia messages including press releases, local newspaper articles, TV interviews, etc. b. Actively seek out high risk populations (nursing homes, schools, etc.). c. Issue advisory information on adulticide spraying. 2. Consider intensifying larvaciding and/or adulticiding control measures as indicated by surveillance. 3. After consultation with DHHS to determine if the risk of disease transmission threatens to cause multiple human cases and if surveillance indicates a continuing risk of human disease and potential for outbreak, intensified ground-based adult mosquito control may be recommended.

5	Critical	Current year confirmation of more than one (1) human case of WNV in Candia or adjacent community or Multiple confirmed WNV veterinary cases.	Incorporates previous category response, plus: 1. Continued highly intensified public outreach messages through community leaders and the media emphasizing the urgency of personal protection. 2. If the risk of outbreak is widespread and covers multiple jurisdictions, DHHS will confer with local officials to discuss the use of intensive mosquito control methods. 3. Consider broader geographic adult mosquito reduction activities, possibly across town lines, including ground-based pesticide application.

Table 2. Guidelines for Phased Response to EEE Virus Surveillance Data

Risk Category	Probability of Human Outbreak	Definition	Recommended Response
1	Remote	All of the following conditions must be met: No prior year virus activity detected in Candia or adjacent community. and No current surveillance findings indicating EEE activity.	1. Educational efforts directed to the general public on personal protection such as use of repellants and source reduction. 2. Routine human & veterinary surveillance. 3. Consider larval and adult mosquito monitoring with routine collection & testing of mosquitoes. 4. Assess local conditions for mosquito species of public health significance.
2	Low	Prior two (2) years EEE virus activity detected in mosquitoes in Candia or adjacent community; no human or veterinary cases. or Current year EEE virus mosquito isolate identified in enzootic mosquito species (e.g., Culiseta melanura); no human or veterinary cases.	Incorporates previous category response, plus: 1. Expand community outreach and public education programs focused on risk potential and personal protection, emphasizing source reduction. 2. Assess mosquito populations, monitor larval and adult mosquito abundance, and submit samples to Public Health Lab for testing. 3. Use larvicides at specific sources identified by entomologic survey and targeted at vector species. If appropriate, consider source reduction techniques. If current year activity includes EEE virus isolates in mosquitoes, may consider adulticiding based on current regional epidemiology and surveillance efforts. 4. Enhance human and veterinary surveillance.
3	Moderate	Prior year confirmation of a human EEE case; one (1) or more veterinary cases in Candia or adjacent community or Current year surveillance of multiple EEE virus mosquito isolates; or EEE virus isolates in bridge vectors; no human or veterinary cases	Incorporates previous category response, plus: 1. Increase larval control, source reduction and public education emphasizing personal protection measures. 2. Actions to prevent disease may include targeted larvaciding at likely vectors and if current year activity, possibly ground adulticiding targeted at likely bridge vector species. 3. Enhance human surveillance and activities to further quantify epizootic activity.

4	High	Current year confirmation of an EEE virus human case Or Confirmation of an EEE veterinary case Or EEE virus mosquito isolation rates in an enzootic mosquito species (i.e., Culista melanura) are rising and the area of EEE virus activity is spreading.	Incorporates previous category response, plus: 1. Intensify public education on personal protection measures: a. Utilize multimedia messages including press releases, local newspaper articles, TV interviews, etc. b. Actively seek out high risk populations (nursing homes, schools, etc.). c. Issue advisory information on adulticide spraying. 2. Consider intensifying larvaciding and/or adulticiding control measures as indicated by surveillance. 3. After consultation with DHHS to determine if the risk of disease transmission threatens to cause multiple human cases and if surveillance indicates a continuing risk of human disease and potential for outbreak, intensified ground-based adult mosquito control may be recommended.
5	Critical	Current year confirmation of more than one (1) human case of EEE in Candia or adjacent community. or Multiple confirmed EEE veterinary cases. Or Multiple measures indicating critical risk of human infection (e.g., multiple isolations of EEE virus bridge vectors associated in time and space and veterinary case).	Incorporates previous category response, plus: 1. Continued highly intensified public outreach messages through community leaders and the media emphasizing the urgency of personal protection. 2. If the risk of outbreak is widespread and covers multiple jurisdictions, DHHS will confer with local officials to discuss the use of intensive mosquito control methods. 3. Consider broader geographic adult mosquito reduction activities, possibly across town lines, including ground-based pesticide application.