

Contingency Plan for Eastern Equine Encephalitis (EEE)

State of Connecticut Department of Environmental Protection Connecticut Agricultural Experiment Station Department of Public Health

Routine statewide surveillance of mosquito populations for Eastern Equine Encephalitis virus activity, in conjunction with a contingency plan to control mosquito populations when necessary, will enable the state to address potential health risks in areas of concern. Consistent routine testing over a period of years will provide data upon which to revise and refine the state's mosquito management efforts.

The state's mosquito monitoring and management effort is a collaboration involving the Department of Environmental Protection (DEP), the Department of Public Health (DPH), and The Connecticut Agricultural Experiment Station (CAES). The program will be coordinated by the Department of Environmental Protection. DEP is responsible for the systematic identification and monitoring of mosquito breeding sites, the provision of technical assistance to municipalities and private property owners regarding mosquito control, and the collection and communication of information and data. Long term mosquito breeding site management will continue through DEP's wetland restoration program.

The Connecticut Agricultural Experiment Station will trap, identify and submit mosquitoes for the EEE virus testing. Trapping will be conducted in areas known or suspected to support mosquito populations, which have historically tested positive for EEE, are capable of supporting such populations, or are proximate to locations where EEE-related horse deaths have occurred.

The Department of Public Health will review all mosquito test data and consult with the DEP and CAES regarding the epidemiological significance of such results. Based upon its evaluation of the potential human health risks, and in accordance with this contingency plan, DPH will advise as to appropriate personal, municipal, and state actions to reduce such risks.

Staff of DEP, DPH and CAES will form an Eastern Equine Encephalitis (EEE) Working Group to evaluate the state's management program and protocols. This group will report to and advise the Commissioner of DEP regarding implementation of the contingency plan.

The contingency plan identifies a progression of state responses based upon Connecticut mosquito testing results, test results reported from neighboring states and reports of disease in animals in Connecticut and neighboring states. Recommended actions are limited to those that are warranted by the specific source and the extent of the potential threat to human health.

Background

Eastern Equine Encephalitis (EEE) is a rare but serious disease caused by a virus that is spread by certain kinds of mosquitoes. In Connecticut, outbreaks of EEE have occurred sporadically among horses and domestic pheasants since 1938, but no human cases have ever been confirmed. The lack of verified human cases of EEE in Connecticut is not entirely understood, since human cases have repeatedly been documented in neighboring Massachusetts and Rhode Island.

EEE is spread by mosquitoes; the transfer of the virus to a mammal can only be effected by a 'cross bite' scenario. That is, the mosquito must first bite a bird carrier and then a mammal. Most sites where EEE has been identified have been in or near fresh-water swamps or swamp-forest border locations that support a wide variety of wild bird life and numerous woodland mosquito species. Salt marsh mosquitoes, while they breed in huge numbers, are not generally found near the forested swamp environments where bird reservoirs of EEE are concentrated. Therefore, while the numbers of salt marsh mosquitoes and their nuisance effect is large, the risk of EEE transmission to humans is low.

At present, EEE does not appear to be a major health risk to the general public of Connecticut. An increased risk of transmission of EEE to people depends on multiple factors: introduction of EEE into swamps where there are large numbers of bird feeding mosquitoes, build up of large numbers of infected birds, isolation of EEE from multiple species of mosquitoes, isolations during the early part of the season (mid-summer) and proximity of infected mosquitoes to residential areas.

Monitoring and Public Information Program

Findings:

Basic program with no virus isolations from mosquitoes and no human, horse or commercial exotic bird deaths reported.

Actions:

- Trapping at 37* locations throughout the state will be conducted from June through October by **CAES**; weekly results will be reported to the media and made available to the public through an information telephone line established by the **DEP**.
- Information regarding mosquito surveillance and control will be provided to municipal officials and local health departments by **DEP**.
- The **EEE Working Group** will establish communication with Massachusetts and Rhode Island regarding their EEE monitoring programs and obtain updated information on confirmed EEE cases and public health advisories issued in those areas.
- The **DEP** will conduct mosquito larval surveillance around the trap sites to determine the mosquito bridge vectors' habitat areas.

** An additional 36 traps were added to test for West Nile virus and EEE in the year 2000, bringing the total of traps to 73 statewide.*

Phase I: Public Health Notification

Findings:

EEE virus isolations from *Culiseta melanura* or other bird feeding mosquitoes (*Culiseta morsitans* and *Culex* and *Culex* spp.) and with human biting mosquitoes present; and/or

Confirmation of EEE virus in mosquitoes in areas of Massachusetts or Rhode Island near Connecticut borders.

Actions:

The **DEP will issue a precautionary warning** to appropriate local officials and health agencies, the Department of Agriculture, veterinarians (through the Connecticut Veterinary Medicine Association (CVMA), and the media for people in affected regions to avoid mosquito bites because of the potential

for increased EEE activity in Connecticut. The mosquito testing Information Line will be updated to include recommended personal protective measures.

Recommended **personal protective measures** to reduce mosquito bites include the following:

- **Minimize** outdoor activities at dawn and dusk. If you must be outdoors wear long-sleeved shirts and long pants. Use mosquito repellent that contains DEET* and follow the directions on the label.
- Cover up the arms and legs of children playing outdoors near swampy areas. When outdoors, cover babies' playpens or carriages with mosquito netting.
- Fix any holes in screens and make sure they are tightly attached to all doors and windows.
- Don't let stagnant water collect around your home, for example, in ditches, clogged gutters, old tires, wheelbarrows and wading pools.
- Don't camp overnight near freshwater swamps. When camping outdoors in tents in other areas, make sure that your tent is equipped with mosquito netting.

CAES will intensify trapping and testing in the region of occurrence. and testing in the region of occurrence.

* *See Fact Sheet on DEET.*

Phase II: Public Health Alert

Findings:

EEE virus isolations from human biting mosquitoes, and/or

Confirmed case of EEE involving a human, horse or commercial exotic bird.

Actions:

In addition to Phase I actions, the DEP will issue a **heightened public health warning** to local officials, health agencies and residents advising personal precautions in the region(s) of concern. **DEP** will prepare and distribute signs for posting in public places containing recommended personal precautions. In addition to the precautions recommended in Phase I, the public will be advised:

- to **avoid** outdoor activities from one hour before to one hour after dawn and dusk, and
- not to camp out.

The Information Line will be updated to include additional measures and as necessary will include recommendations regarding the cancellation of regional outdoor activities.

The **DPH will notify acute care hospitals.**

The **DEP will notify the Department of Agriculture and state veterinarians** through the CVMA.

The **EEE Working Group** will evaluate the possible use of Ultra Low Volume (ULV) fogging application to knock down mosquito vectors within the region of the trap site and/or the application of larvicide to known mosquito bridge vectors larval breeding areas. **The isolation of the virus from bird feeding mosquitoes alone does not pose a significant health threat to the public that would warrant pesticide spraying.** Any recommendation to use pesticide will be determined by consideration of the

weather conditions, the number of virus isolations, mosquito species with EEE virus, mosquito population estimates, and breeding cycles.

- Pesticide applications to be made by State of Connecticut staff and/or by certified commercial pest control operators.
- Affected communities, including municipal officials and the general public, shall be notified in advance of any pesticide application.

The **EEE Working Group**, if necessary, will determine the most appropriate method of adulticide application: aircraft or truck mounted adulticiding. Truck mounted application is limited by access to the intended area while aerial application can affect large areas and numbers of adult mosquitoes but is less discriminating, exposes more people and wildlife, and is more expensive and less easily repeated. **Any decision to apply pesticides from trucks or the air would be made only after evaluation of the multiple factors which contribute to risk of transmission of EEE to people and after discussion with officials from the potentially affected community.**