REPORT OF PLYMOUTH COUNTY MOSQUITO CONTROL PROJECT
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The Commissioners of the Plymouth County Mosquito Control Project are pleased to submit the following report of our activities during 2010.

The Project is a special district created by the State Legislature in 1957, and is now composed of all Plymouth County towns, the City of Brockton, and the Town of Cohasset in Norfolk County. The Project is a regional response to a regional problem, and provides a way of organizing specialized equipment, specially trained employees, and mosquito control professionals into a single agency with a broad geographical area of responsibility.

The 2010 season began with a high water table and above average spring rain fall. Plymouth County was declared a federal disaster area because of the spring flooding in March and April. As we expected the initial requests for spraying were numerous but we were prepared for a busy season, not knowing it was going to be the worst Eastern Equine Encephalitis (EEE) threat in 100 years. Efforts were directed at larval mosquitoes starting with the spring brood. Ground and aerial larviciding were accomplished using B.t.i., an environmentally selective bacterial agent. Over 11,000 acres were aerial lavicided using the Project plane. Upon emergence of the spring brood of mosquitoes, ultra-low volume adulticiding began on June 3, 2010 and ended on September 18, 2010. The Project responded to 16,641 spray requests for service from residents.

In response to the continued threat of mosquito borne diseases in the district, we increased our surveillance trapping, aerial and ground larviciding, and adult spray in areas of concern to protect public health.

Eastern Equine Encephalitis (EEE) was first isolated from *Culiseta melanura*, a bird biting species, by the Massachusetts Department of Public Health in Lakeville on July 12, 2010. Of the season's total of 54 EEE isolates, were trapped in Plymouth County as follows:

Species	Collection Date	Town	County	Agent
Culiseta melanura (2)	7/12/2010	Lakeville	Plymouth	EEE
Culiseta melanura	7/14/2010	Halifax	Plymouth	EEE
Culiseta melanura	7/20/2010	Mattapoisett	Plymouth	EEE
Culiseta melaanua	7/20/2010	Middleboro	Plymouth	EEE
Culiseta melanura	7/20/2010	Rochester	Plymouth	EEE
Ochlerotatus canadensis	7/25/2010	Plympton	Plymouth	EEE
Coquillettidia perturbans	7/25/2010	Plympton	Plymouth	EEE
Culiseta melanura	7/25/2010	Plympton	Plymouth	EEE
Culiseta melanura	7/25/2010	Duxbury	Plymouth	EEE
Coquillettidia perturbans	7/25/210	Duxbury	Plymouth	EEE
Culiseta melanura	7/25/2010	Duxbury	Plymouth	EEE
Culiseta melanura	7/27/2010	Middleboro	Plymouth	EEE
Coquillettidia perturbans	7/27/2010	Middleboro	Plymouth	EEE
Culiseta melanura	7/28/2010	Hanson	Plymouth	EEE
Coquillettidia perturbans	7/28/2010	Hanson	Plymouth	EEE
Coquillettidia perturbans(3)	7/28/2010	Middleboro	Plymouth	EEE
Culiseta melanura	7/28/2010	Middleboro	Plymouth	EEE
Coquillettidia perturbans(2)	7/29/2010	Plympton	Plymouth	EEE
Culiseta melanura	7/29/2010	Plympton	Plymouth	EEE
Coquillettidia perturbans	7/29/2010	Plympton	Plymouth	EEE
Culiseta melanura	7/29/2010	Carver	Plymouth	EEE

Coquillettidia perturbans	7/29/2010	Carver	Plymouth	EEE
Coquillettidia perturbans	7/30/2010	Middleboro	Plymouth	EEE
Culiseta melanura	7/30/2010	Middleboro	Plymouth	EEE
Culiseta melanura	8/04/2010	Kingston	Plymouth	EEE
Culiseta melanura	8/04/2010	Plympton	Plymouth	EEE
Coquillettidia perturbans	8/05/2010	Carver	Plymouth	EEE
Coquillettidia perturbans	8/04/2010	Hanson	Plymouth	EEE
Culiseta melanura	8/03/2010	Middleboro	Plymouth	EEE
Coquillettidia perturbans	8/06/2010	Plympton	Plymouth	EEE
Culiseta melanura	8/06/2010	Carver	Plymouth	EEE
Culiseta melanura	8/06/2010	Halifax	Plymouth	EEE
Culiseta melanura	8/06/2010	Kingston	Plymouth	EEE
Coquillettidia perturbans	8/09/2010	Plympton	Plymouth	EEE
Culiseta melanura	8/09/2010	Pympton	Plymouth	EEE
Culiseta melanura	8/09/2010	Halifax	Plymouth	EEE
Culiseta melanura	8/18/2010	Carver	Plymouth	EEE
Culiseta melanura	8/18/2010	Middleboro	Plymouth	EEE
Culiseta melanura	8/25/2010	Plympton	Plymouth	EEE
Culiseta melanura	8/31/2010	Middleboro	Plymouth	EEE
Coquillettidia perturbans	9/01/2010	Plympton	Plymouth	EEE
Culiseta melanura	9/01/2010	Plympton	Plymouth	EEE
Culiseta melanura	9/01/2010	Halifax	Plymouth	EEE
Culiseta melanura(2)	9/01/2010	Carver	Plymouth	EEE
Coquillettida perturbans	9/01/2010	Carver	Plymouth	EEE
Culiseta melanura	9/08/2010	Halifax	Plymouth	EEE
Culiseta melanura	9/08/210	Bridgewater	Plymouth	EEE
Culiseta melanura	9/08/2010	W.Bridgewater	Plymouth	EEE

Based on guidelines defined by the Massachusetts Department of Public Health "Vector Control Plan to Prevent EEE" in Massachusetts, ten Plymouth County towns were elevated from "Low Level " or "Moderate Level' for EEE Risk" category to "High Level" EEE risk category. All other towns in Plymouth County Mosquito Project remained in the "Low Level Risk" category. An aerial intervention was needed to effectively reduce human biting bridge vector mosquitoes as well as enzootic transmission of EEE. Governor Patrick, announced aerial spraying would take place on August 4, 5, & 6, 2010 in southeastern Ma. Communities sprayed within the district included Lakeville, Bridgewater, Carver, East Bridgewater, Halifax, Hanson, Pembroke, Duxbury, Kingston, Plympton, Middleboro, Rochester and Mattapoisett to help prevent further spread of EEE infected mosquitoes. In 2010 there were two human cases, one lived within the county the other traveled within the county. Two horses died as a result of contracting EEEV in Plymouth County.

West Nile Virus was also found within the district. A total of four isolations of WNV mosquitoes were found. *Culex pipiens* bird biters were trapped in Halifax on 6/30, and Brockton on 8/11 and *Culiseta melanura* in Plympton on 9/1 and Lakeville on 9/20 . We are also pleased to report that in 2010 that there were no human or horse West Nile Virus cases in Plymouth County. As part of our West Nile Virus control strategy a total of 59,251 catch basins were treated with larvicide in all of our towns to prevent West Nile Virus (WNV).

The public health problem of EEE and WNV continues to ensure cooperation between the Plymouth County Mosquito Control Project, local Boards of Health and the Massachusetts Department of Public Health. In an effort to keep the public informed, EEE and WNV activity updates are regularly posted on Massachusetts Department of Public Health website at www.state.ma.us/dph/wnv/wnv1.htm.

The figures specific to the Town of Mattapoisett are given below. While mosquitoes do not respect town lines the information given below does provide a tally of the activities which have had the greatest impact on the health and comfort of Mattapoisett residents.

Insecticide Application. 3,713 acres were treated using truck mounted sprayers for control of adult mosquitoes. More than one application was made to the same site if mosquitoes reinvaded the area. The first treatments were made in June and the last in September.

During the summer 1,053 catch basins were treated to prevent the emergence of *Culex pipiens,* a known mosquito vector in West Nile Virus transmission.

Our greatest effort has been targeted at mosquitoes in the larval stage, which can be found in woodland pools, swamps, marshes and other standing water areas. Inspectors continually gather data on these sites and treat with highly specific larvicides when immature mosquitoes are present. Last year a total of 63 inspections were made to catalogued breeding sites.

Water Management. During 2010 crews removed blockages, brush and other obstructions from 100 linear feet of ditches and streams to prevent overflows or stagnation that can result in mosquito breeding. This work, together with machine reclamation, is most often carried out in the fall and winter.

Machine Reclamation. 70 linear feet of saltmarsh ditch was reconstructed in Mattapoisett using the Project's track driven excavator.

Aerial Application. Larviciding woodland swamps by airplane before the leaves come out on the trees continues to be very effective. In Mattapoisett this year we aerially larvicided 834 acres.

Finally, we have been tracking response time, which is the time between notice of a mosquito problem and response by one of our inspectors. The complaint response time in the Town of Mattapoisett was less than three days with more than 377 complaints answered.

Mosquito Survey. Our surveillance showed that the dominant mosquitoes throughout the district was generally *Culiseta melanura* and *Coquillettidia perturbans*. In the Town of Mattapoisett the three most common mosquitoes were *Cs. melanura*, *Oc. canadensis* and *Cx. species.*

We encourage citizens or municipal officials to visit our website at www.plymouthmosquito.com or call our office for information about mosquitoes, mosquito-borne diseases, control practices, or any other matters of concern.

Anthony Texeira
Superintendent

Commissioners:
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