

REPORT OF PLYMOUTH COUNTY MOSQUITO CONTROL PROJECT

The Commissioners of the Plymouth County Mosquito Control Project are pleased to submit the following report of our activities during 2011.

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.

As a result of a mild winter with abundant snow cover, the 2011 season began with a high water table and above average number of spring mosquitoes. As we expected the initial requests for spraying were numerous following the worst Eastern Equine Encephalitis (EEE) threat in 100 years in 2010. Efforts were directed at larval mosquitoes starting with the spring brood. Ground and aerial larviciding was accomplished using B.t.i., an environmentally selective bacterial agent. Over 11,000 acres were aerial larvicided using the Project plane. Upon emergence of the spring brood of mosquitoes, ultra-low volume adulticiding began on June 1, 2011 and ended on September 16, 2011. The Project responded to 16,306 spray requests for service from residents. As part of our West Nile Virus control strategy a total of 58,701 catch basins were treated with larvicide in all of our towns to prevent West Nile Virus (WNV).

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.

The first virus isolations were identified on July 19, 2011 by the Massachusetts Department of Public Health, a (WNV) West Nile Virus from a *Culex pipiens/restuans*, a bird biting species, in Cohasset and on the same day a *Culiseta melanura*, a bird biting species, was found to have (EEE) Eastern Equine Encephalitis virus in the town of Bridgewater.

The 2011 season had a total of 34 EEE isolates, and 11 WNV trapped in Plymouth County as follows:

Species	Collection Date	Town	County	Agent
<i>Culex pipiens/restuans</i> complex	7/19/2011	Cohasset	Plymouth	WNV
<i>Culiseta melanura</i>	7/19/2011	Bridgewater	Plymouth	EEE
<i>Culex pipiens/restuans</i> complex	8/02/2011	Whitman	Plymouth	WNV
<i>Culex pipiens/restuans</i> complex	8/02/2011	Brockton	Plymouth	WNV
<i>Culex pipiens/restuans</i> complex	8/02/2011	Brockton	Plymouth	WNV
<i>Culex pipiens/restuans</i> complex	8/09/2011	Abington	Plymouth	WNV
<i>Culex pipiens/restuans</i> complex	8/09/2011	Middleboro	Plymouth	WNV
<i>Culex pipiens/restuans</i> complex	8/23/2011	Mattapoisett	Plymouth	WNV
<i>Culex pipiens/restuans</i> complex	8/30/2011	W.Bridgewater	Plymouth	WNV
<i>Culex pipiens/restuans</i> complex	8/02/2011	Brockton	Plymouth	EEE
<i>Culex Salinarius</i>	8/02/2011	W Bridgewater	Plymouth	EEE
<i>Culiseta melanura</i>	8/09/2011	Middleboro	Plymouth	EEE
<i>Coquillettidia perturbans</i>	8/09/2011	Bridgewater	Plymouth	EEE
<i>Ochlerotatus canadensis</i>	8/09/2011	Bridgewater	Plymouth	EEE
<i>Culiseta melanura</i>	8/09/2011	W Bridgewater	Plymouth	EEE
<i>Culiseta melanura</i>	8/09/2011	W Bridgewater	Plymouth	EEE
<i>Culiseta melanura</i>	8/09/2011	Bridgewater	Plymouth	EEE
<i>Culiseta melanura</i>	8/09/2011	Bridgewater	Plymouth	EEE
<i>Coquillettidia perturbans</i>	8/09/2011	W Bridgewater	Plymouth	EEE
<i>Coquillettidia perturbans</i>	8/17/2011	Bridgewater	Plymouth	EEE
<i>Coquillettidia perturbans</i>	8/18/2011	Carver	Plymouth	EEE
<i>Culiseta melanura</i>	8/18/2011	Carver	Plymouth	EEE

<i>Culiseta melanura</i>	8/17/2011	Middleborough	Plymouth	EEE
<i>Culiseta melanura</i>	8/17/2011	Middleborough	Plymouth	EEE
<i>Culiseta melanura</i>	8/17/2011	Middleborough	Plymouth	EEE
<i>Culiseta melanura</i>	8/19/2011	Rockland	Plymouth	EEE
<i>Culex pipiens/restuans</i> complex	8/17/2011	W. Bridgewater	Plymouth	EEE
<i>Culiseta melanura</i>	8/17/2011	W. Bridgewater	Plymouth	EEE
<i>Culiseta melanura</i>	8/23/2011	Middleborough	Plymouth	EEE
<i>Culiseta melanura</i>	8/23/2011	Middleborough	Plymouth	EEE
<i>Culex species</i>	8/23/2011	Middleborough	Plymouth	EEE
<i>Culex species</i>	8/23/2011	Middleborough	Plymouth	EEE
<i>Coquillettidia perturbans</i>	8/23/2011	Middleborough	Plymouth	EEE
<i>Coquillettidia perturbans</i>	8/23/2011	Middleborough	Plymouth	EEE
<i>Culiseta melanura</i>	8/24/2011	Plympton	Plymouth	EEE
<i>Culiseta melanura</i>	9/06/2011	Lakeville	Plymouth	EEE
<i>Culiseta melanura</i>	9/07/2011	Mattapoisett	Plymouth	EEE
<i>Ochlerotatus canadensis</i>	9/07/2011	Hanson	Plymouth	EEE
<i>Culiseta melanura</i>	9/08/2011	Halifax	Plymouth	EEE
<i>Culiseta melanura</i>	9/08/2011	Halifax	Plymouth	WNV
<i>Culiseta melanura</i>	9/13/2011	Bridgewater	Plymouth	WNV
<i>Culiseta melanura</i>	9/14/2011	Kingston	Plymouth	EEE
<i>Culex pipiens/restuans</i> complex	9/09/2011	Abington	Plymouth	WNV
<i>Culiseta melanura</i>	9/26/2011	Lakeville	Plymouth	EEE
<i>Culiseta melanura</i>	10/20/2011	Hanover	Plymouth	EEE

Based on guidelines defined by the Massachusetts Department of Public Health's "Vector Control Plan to Prevent EEE" in Massachusetts, the season began with 23 Plymouth County towns at "Low Level" and 4 towns at the "Moderate Level" for EEE risk category. The season ended with 19 Plymouth County towns at "Low Level" and 5 towns at the "Moderate Level" for EEE Risk and 4 towns at "high level" EEE risk category. In 2011 there were no human or horse cases as a result of contracting EEEV or WNV in Plymouth County.

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 The Plymouth County Mosquito Control Project website www.plymouthmosquito.org and the 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. 1,279 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 380 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 92 inspections were made to catalogued breeding sites.

Water Management. During 2011 crews removed blockages, brush and other obstructions from 720 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. 720 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 625 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 301 complaints answered.

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

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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