

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 2018.

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. 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 2018 efforts were directed at larval mosquitoes starting with the spring brood. The Project ground and aerial larvicided 15,600 acres and this was accomplished using B.t.i., an environmentally selective bacterial agent. Upon emergence of the spring brood of mosquitoes, ultra-low volume adulticiding began on June 4th, 2018 and ended on September 7th, 2018. The Project responded to 16,758 requests for spraying and larval checks from residents covering all of the towns within the district.

Massachusetts Department of Public Health has developed an “Arbovirus Surveillance and Response Plan” for the state. The Plan creates a system which estimates the human risk for contracting Eastern Equine Encephalitis and West Nile using several factors including the number of infected mosquitoes. Based on guidelines defined by the Plan, all towns in Plymouth County Mosquito Project were at the “Low Level Risk” for Eastern Equine Encephalitis. We are pleased to report that in 2018 there were no human, or horse EEE cases in the district. There was one detection of EEEV in the mosquito population.

West Nile Virus activity was widespread throughout the state and the district. In 2018, Massachusetts saw record number human cases for the disease. Statewide there were 44 human cases, and 2 cases were in the district. Virus was found in mosquitoes 33 times in the district from the following towns: Abington, Bridgewater, Brockton, Carver, Cohasset, Halifax, Kingston, Lakeville, Middleborough, Rockland, West Bridgewater, and Whitman. On August 21st 2018, Massachusetts DPH took the unusual step of raising the risk level for the whole state to moderate risk. The Project responded to the increased risk by conducting additional adulticiding in areas we identified as being at higher risk for human infections. As part of our West Nile Virus control strategy a total of 51,959 catch basins were treated with larvicide in all of our towns to prevent WNV.

The Health threat 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.

In conjunction with the MDPH we have been monitoring *Aedes albopictus* expansion in the state. *Ae. albopictus* is an introduced mosquito that has the potential to become a serious pest and a vector of disease. The mosquito has been present in the Massachusetts since 2009. The larvae live in containers and are closely linked with human activity. They are especially associated with used tires. We expanded our surveillance for *Ae. albopictus* to 13 sites. This year we did not detect the mosquito. The Project began a tire recycling program in October 2017. During the 2018 season we recycled 3,320 tires bringing us to a total of 6,690 tires for the program.

The figures specific to the town of Duxbury 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 Duxbury residents.

Insecticide Applications: 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. In Duxbury 626 larval sites were checked.

During the summer 936 catch basins were treated in Duxbury to prevent the emergence of *Culex pipiens*, a known mosquito vector in West Nile Virus transmission.

Our staff treated 1474 acres 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.

Water Management: During 2018 crews removed blockages, brush and other obstructions from 1513 linear feet of ditches and streams to prevent overflows or stagnation that can result in mosquito production. This work, together with machine reclamation, is most often carried out in the fall and winter.

Mosquito Survey: Our surveillance showed that the dominant mosquitoes throughout the district were generally *Coquillettidia peturbans* and *Oc. canadensis*. In the Town of Duxbury the three most common mosquitoes were *Cq. peturbans*, *Ae. Vexans* and *An. quadrimaculatus*

Education and Outreach: We continue to reach out to residents in a variety of ways. This year we updated our web site. The website includes web pages for meetings and the annual budget. It also includes educational handouts to provide more information and better describe all the Project's services.

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

Stephen Gillett
Superintendent

Commissioners:
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