



THE COMMONWEALTH OF MASSACHUSETTS  
THE STATE RECLAMATION & MOSQUITO CONTROL BOARD



# PLYMOUTH COUNTY MOSQUITO CONTROL PROJECT

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## 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 2020.

The Project is a special district created by the State Legislature in 1957, and is 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 2020 efforts were directed at larval mosquitoes starting with the spring brood. The Project ground and aerial larvicided 11,396 acres and this was accomplished using Bti, an environmentally selective bacterial agent. An additional 311 acres were treated as part of a trial studying the effectiveness of methoprene on mosquitos in cedar swamps. Upon emergence of the spring brood of mosquitoes, ultra-low volume adulticiding began on June 1<sup>st</sup>, 2020 and ended on September 25<sup>th</sup>, 2020. The Project responded to 17,923 requests for spraying and larval checks from residents covering all of the towns within the district.

The Department of Public Health (DPH) 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 Virus using several factors including the number of infected mosquitoes. In 2020 there was significant EEEV activity in the district. Based on guidelines defined by the Plan, all towns in Plymouth County Mosquito Project started the season at “Low Level Risk” for Eastern Equine Encephalitis. The following towns remained at low risk: Abington, Brockton, Cohasset, Duxbury, Hanover, Hingham, Hull, Marion Marshfield, Mattapoisett, Norwell, Rockland, Scituate, and Whitman. The towns at moderate risk were: Lakeville, Pembroke, and West Bridgewater. The towns ranked at High risk were: Bridgewater, East Bridgewater, Hanson, Kingston, Plympton, Plymouth, Rochester and Wareham. The towns at critical risk for EEEV human infections were Carver, Halifax, and Middleboro. Two residents of the district contracted EEE and two other infections were associated with the district.

The Commonwealth of Massachusetts responded to the EEEV activity by conducting wide scale aerial adulticiding in early August. The application occurred over much of the district and encompassed 200,000 acres. Applications of this kind are complex and involve a large number of state agencies including DPH, Massachusetts Department of Agriculture (MDAR) and

The State Reclamation and Mosquito Control Board (SRMCB). The Project assisted with the application including supplying equipment and helping to document the efficacy of the application.

West Nile Virus activity occurred predominately in and around Boston. Statewide there were 8 human cases, none of them were in the district. DPH estimated the risk of WNV human infections to be low for all of the district for the entirety of the season. As part of our West Nile Virus control strategy a total of 60,450 catch basins were treated with larvicide in all of our towns to prevent WNV.

The Project participates in DPH's mosquito surveillance program. As part of that program we collected over 70,000 mosquitoes and submitted 23,267 mosquitoes for testing. The mosquitoes were combined into 608 pools. DPH also tested 13,588 mosquitoes from the district. In all there were 61 isolations of EEEV from mosquito samples. They were from the towns of Bridgewater, Carver, Hanson, Kingston, Middleboro, Plympton, and Wareham. There were 7 WNV isolations from Halifax, Hanson, Middleborough, and Plympton.

The health threat of EEE and WNV continues to ensure cooperation between the Plymouth County Mosquito Control Project, local Boards of Health and the Department of Public Health. In an effort to keep the public informed, EEE and WNV activity updates are regularly posted on the Department of Public Health website.

The introduced mosquito *Aedes albopictus* has the potential to become a serious pest and a vector of disease. The mosquito has been present in the Massachusetts since 2009. In conjunction with DPH we have been monitoring *Aedes albopictus* expansion in the state. The larvae live in containers and are closely linked with human activity. They are especially associated with used tires. We conducted surveillance for *Ae. albopictus* at 8 locations. This year we did not detect the mosquito. The Project began a tire recycling program in October 2017. During the 2020 season we recycled 1,960 tires bringing us to a total of 11,524 tires for the program.

The figures specific to the town of Pembroke 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 Pembroke 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. Field Technicians continually gather data on these sites and treat with highly specific larvicides when immature mosquitoes are present. In Pembroke 962 larval sites were checked.

During the summer 2,217 catch basins were treated in Pembroke to prevent the emergence of *Culex pipiens*, a known mosquito vector in West Nile Virus transmission.

Our staff treated 2,544 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 2020 crews removed blockages, brush and other obstructions from 2,830 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 Pembroke the three most common mosquitoes were *Cq. peturbans*, *Cs. melanura* and *Cx. species*.

Education and Outreach: The Project hosted an event with the Governor to raise awareness of EEE in Massachusetts. The event was broadcast live and reached thousands of residents in the Commonwealth. Our phone system has been updated to make it easier for residents to reach us during the peak season and our website is continually updated with information about 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](http://www.plymouthmosquito.org) or call our office for information about mosquitoes, mosquito-borne diseases, control practices, or any other matters of concern.

Sincerely,

Ross Rossetti  
Superintendent

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