



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 2021.

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 2021 efforts were directed at larval mosquitoes starting with the spring brood. The Project ground and aerial larvicided 11,045 acres and this was accomplished using Bti, an environmentally selective bacterial agent. An additional 600 acres were treated as part of a trial studying the effectiveness of *Bacillus sphaericus* on mosquitoes in cattail swamps. Upon emergence of the spring brood of mosquitoes, ultra-low volume adulticiding began on June 1st, 2021 and ended on September 24th, 2021. The Project responded to 16,852 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. Based on guidelines defined by the Plan, all towns in Plymouth County Mosquito Control Project started the season at “Low Level Risk” for Eastern Equine Encephalitis and remained at low risk for the entire summer. There was no Eastern Equine Encephalitis Virus detected in Massachusetts this year.

West Nile Virus activity occurred predominately in Middlesex and Suffolk counties. Statewide there were 9 human cases, none of them were in the district. The risk level for Bridgewater, Halifax, Hanson, East Bridgewater and Plympton was raised to moderate. For the rest of the district the risk level was low for the entire season. As part of our West Nile Virus control strategy a total of 53,924 catch basins were treated with larvicide in member towns to prevent WNV.

The Project participates in DPH's mosquito surveillance program. As part of that program we collected over 109,929 mosquitoes and submitted 19,322 mosquitoes for testing. The mosquitoes were combined into 503 groups. DPH also tested 13,439 mosquitoes from the district. In all there were 0 isolations of EEEV from mosquito samples. There was a total of 6 WNV isolations from Halifax, Hanson, East Bridgewater, Kingston and Marion.

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 Massachusetts since 2009. In conjunction with DPH we have been monitoring *Aedes albopictus* expansion in the state. We conducted surveillance for *Ae. albopictus* at 7 locations. The larvae live in containers and are closely linked with human activity. They are especially associated with used tires. This year we did not detect the mosquito. The Project began a tire recycling program in October 2017. During the 2021 season we recycled 562 tires bringing us to a total of 12,082 tires for the program.

The figures specific to the town of Marshfield 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 Marshfield 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 Marshfield 281 larval sites were checked.

During the summer 1,775 catch basins were treated in Marshfield to prevent the emergence of *Culex pipiens*, a known mosquito vector in West Nile Virus transmission.

Our staff treated 9,602 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 2021 crews removed blockages, brush and other obstructions from 4,050 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 *Ae. vexans* and *Cx. salinarius*. In the Town of Marshfield the three most common mosquitoes were *Oc. cantator*, *Ae. vexans* and *Oc. canadensis*.

Education and Outreach: Through the Projects Community Liaison, many educational presentations took place throughout the year at summer camps, schools, fairs, libraries, and

councils on aging. All of the schools in the county were contacted to insure compliance with the Children and Families Protection Act. The Projects website is continually updated with information about meetings, the annual budget, educational information, and Project services.

We encourage residents 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.

Sincerely,

Ross Rossetti
Superintendent

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