



TO: Louis D. Pasquale, City Manager
FROM: Claude-Alix Jacob, Chief Public Health Officer
DATE: June 23, 2021
SUBJECT: Response to Policy Order #4, adopted 6/7/2021

Excerpt of order: That the City Manager be and is hereby requested to consult with the Department of Public Health on this issue and work with relevant City departments to determine what the safest and most effective mosquito management program for Cambridge is; and be it further that the City Manager be and is hereby requested to report back to the Council as soon as possible with the current policy and if any changes to the mosquito management program will be made.

Full text: https://cambridgema.igm2.com/Citizens/Detail_LegiFile.aspx?ID=14209

Mosquito Control in Cambridge

The City of Cambridge participates in the East Middlesex Mosquito Control Project (EMMCP), but has not requested adult mosquito control (i.e., truck spray) since the first arrival of West Nile virus in August and September of 2000. The City's Department of Public Works and the Cambridge Public Health Department serve as coordinating agencies on behalf of the City in its annual agreement with EMMCP to provide preventive larvicide treatment to all public storm drains (approximately 6,000), hand-held larvicide spray applications (i.e., back-pack device) in a few isolated parkland areas (Danehy Park swale, Alewife Brook Reservation, Fresh Pond Reservation). These applications are not adulticides, are highly targeted, and use bacteriological agents (BTI - *Bacillus thuringiensis israelensis* and BS - *Bacillus sphaericus*) to limit mosquito development in the larval stage.

A summary of the scope of services from the East Middlesex Mosquito Control Project (EMMCP) website:

East Middlesex Mosquito Control Project (EMMCP) has an Integrated Pest Management plan that includes mosquito and wetland surveillance, larval and adult mosquito control, ditch maintenance, and public education. Each municipality, through its funding, determines the type and level of services to be offered in their community.

During risk periods of West Nile virus and Eastern Equine Encephalitis, EMMCP may provide surveillance and mosquito control services under the direction of state and local health authorities, as specified by the Massachusetts Surveillance and Response Plan for Mosquito-Borne Disease.

Public Education

Public education is ongoing throughout the year. Project personnel serve as a resource to residents, schools, municipal officials and the local media.



Surveillance

The objectives of the survey program are to identify and describe mosquito habitats, to quantify changes in the larval and adult mosquito populations caused by weather, and to provide documentation to support control programs.

EMMCP monitors the adult mosquito population through the use survey traps, and submits vector species to the Department of Public Health to be tested for Eastern Equine Encephalitis and West Nile virus.

The current Cambridge policy regarding truck-based spraying is addressed in the West Nile Response Plan developed in 2001 by the West Nile virus Advisory Committee and presented to City Council. In this policy, truck-based applications are not entirely ruled out in the event of a major public health concern, but would only be selected as a last resort. Since September 2000, the City has not used truck-based ultrafine spray and has relied on preventive measures such as larviciding, surveillance for species type and abundance, and identification of standing water sources to treat or eliminate.

The City also confers with MIT and Harvard staff to establish that larviciding has been completed on those campuses. State law does allow individuals to request to be exempted from truck-based spraying, but only if the spraying is not deemed to be part of a critical public health response. Many suburban communities use these mosquito adulticides/insecticides for nuisance control, but Cambridge does not, so this state exemption is generally not applicable to our community.

ANVIL and PFAS

EMMCP staff responded to questions about the use of ANVIL 10+10 in areas that could impact the Cambridge drinking water reservoir system. These include property in Lincoln, Waltham or Lexington that comprise parts of the watershed impacting the reservoir and connected waterways. They reported that no aerial applications (plane) were carried out in these areas in 2019 or 2020 and that there was minimal truck-based spraying in those areas. When East Middlesex has used ANVIL 10+10 in the past for adult mosquito control, less than one tablespoon was applied per acre. EMMCP staff also reported that in prior investigations PFAS was found in Anvil 10+10 in “a couple of hundred parts per trillion.”

EPA has determined that PFAS was used in the lining material in the containers themselves, not in the ANVIL product itself. Since the contamination from the containers was identified, ANVIL is no longer packaged using this type of container. EMMCP staff report that both the ANVIL and Zenivex have been subsequently tested for PFAS with none detected.

PFAS is used in a very large array of manufacturing processes and consumer products, such as food packaging and furniture treatment products, at very high concentrations. Some studies have revealed PFAS compounds in water-resistant, to-go food containers and salad bowls at 200-1100 parts per million, or three orders of magnitude higher than the amounts found in ANVIL.

The 2015 EPA ban on PFOA and PFOS has led to the use of novel substitutes such as GenX, F-53B and OBS. Many researches continue to have concerns about the long-term safety of these substitute compounds and the lingering presence of PFAS resulting from prior use. In 2019, the EPA published a *PFAS Action Plan* that laid forth a series of steps and studies to be undertaken. In

January 2021 EPA provided a public update on their *PFAS Action Plan* in which they indicated progress on a number of fronts, including development of a national drinking water standards under the Safety Drinking Water Act and more thorough research and regulatory action to address historic releases and possible future inclusion of PFAS compounds in the Toxic Release Inventory (TRI). For a summary of the most recent EPA update on their PFAS plan see:

<https://www.epa.gov/newsreleases/epa-delivers-results-pfas-action-plan>

In conclusion, we do not recommend any changes in policy related to mosquito control services or contracts. We continue to retain the option to request truck-based spraying if a significant public health threat emerges and if the MA Department of Public Health indicates that this is an appropriate mitigation measure.