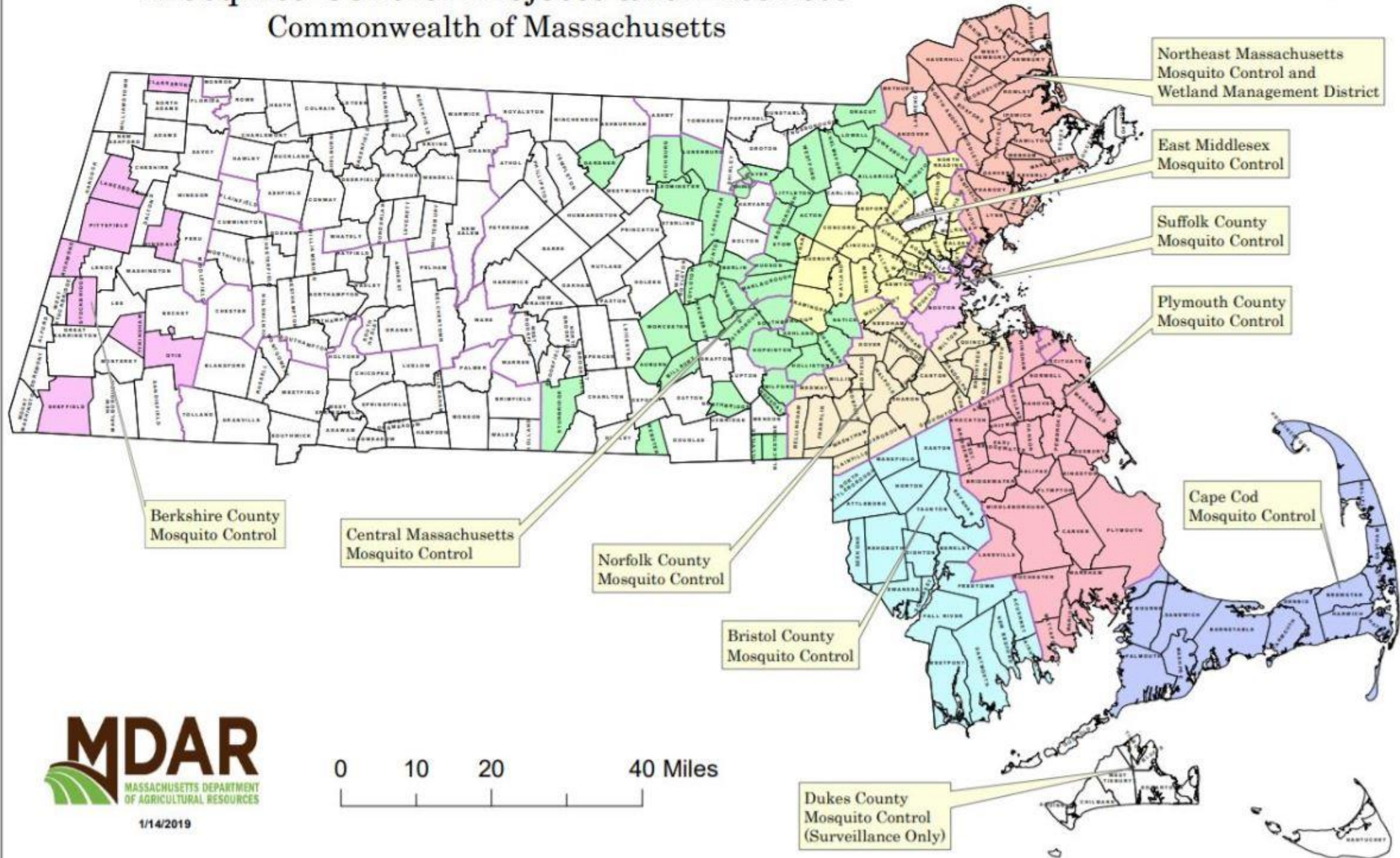


# Pioneer Valley Mosquito Control District



# Mosquito Control Projects and Districts

## Commonwealth of Massachusetts



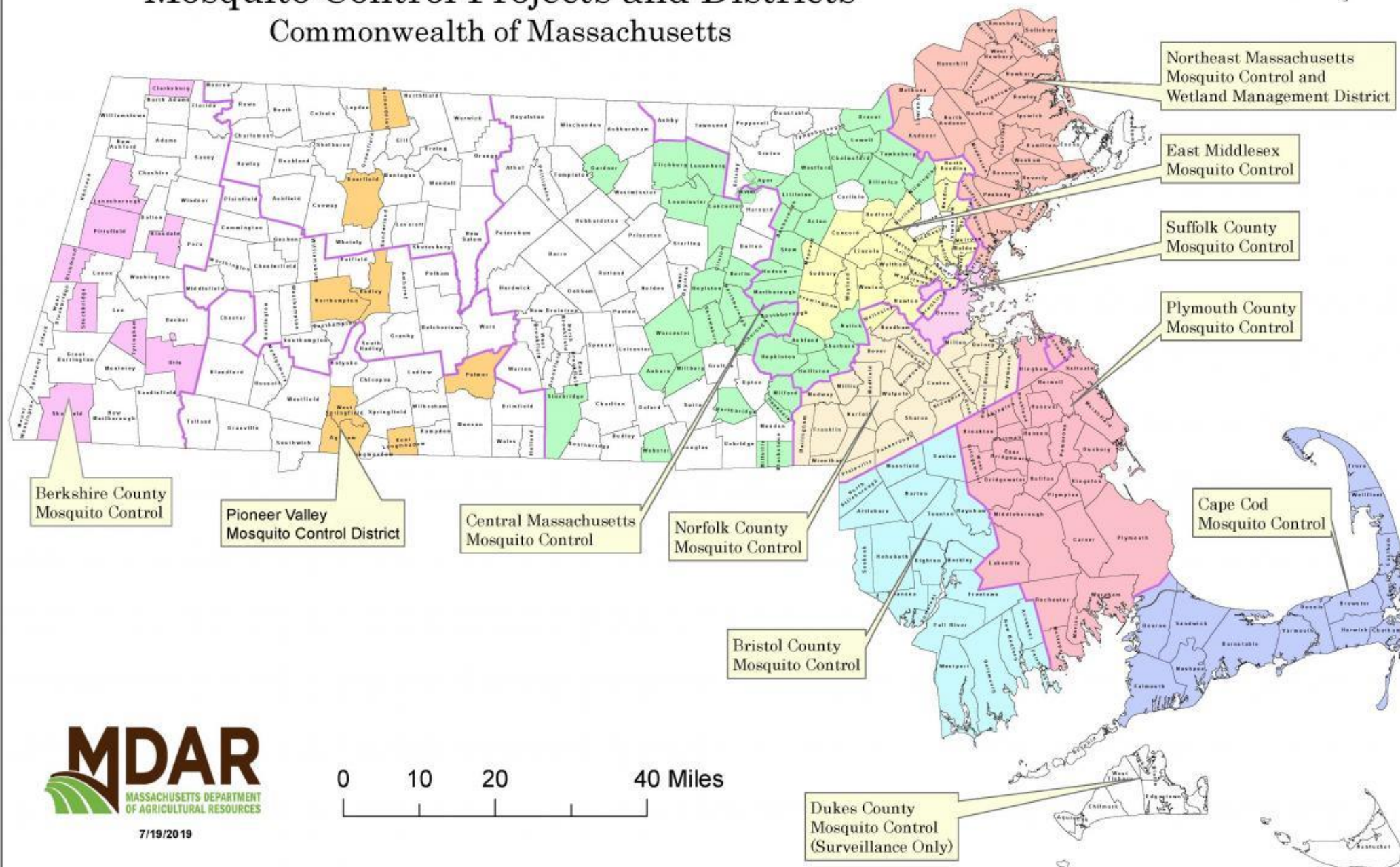
# About the PVMCD

- ▶ Established by the State Reclamation and Mosquito Control Board (SRB) on October 18, 2017, in accordance with M.G.L. c. 252, the PVMCD provides mosquito control services to municipalities in Franklin, Hampshire, and Hampden counties.
- ▶ The PVMCD falls under the oversight of the State Reclamation Board, which sits within the Massachusetts Department of Agricultural Resources, and a five-member board of Commissioners, appointed by the SRB.
- ▶ Our Commissioners:
  - ▶ Jeanne Galloway – Chair
  - ▶ Gregory Lewis
  - ▶ Merridith O’Leary
  - ▶ Carolyn Ness
  - ▶ Aimee Petrosky



# Mosquito Control Projects and Districts

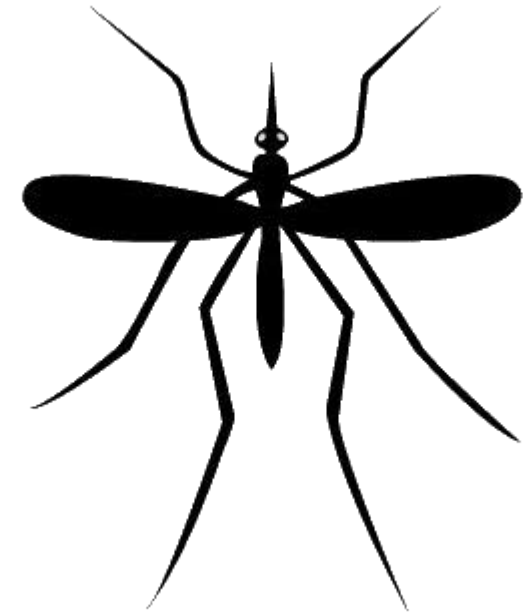
## Commonwealth of Massachusetts



# Mosquitoes at a Glance

- ▶ Mosquitoes are a common nuisance in our region, but they can pose a threat more significant than their bothersome nature. Mosquitoes are a public health threat due to their ability to infect humans with serious diseases.
- ▶ Diseases of Focus
  - ▶ **Eastern Equine Encephalitis**
    - ▶ EEEv is a rare but serious mosquito-borne disease that outbreaks in cycles in Massachusetts. The disease has a high mortality rate (40%) and often leaves victims of the disease with permanent neurological damage.
  - ▶ **West Nile Virus**
    - ▶ WNV is an increasingly common disease carried by mosquitoes in Massachusetts that can infect humans with severe flu like symptoms. Rarely, it can turn fatal, especially if the infection has become encephalitic.

# EEE in the Pioneer Valley

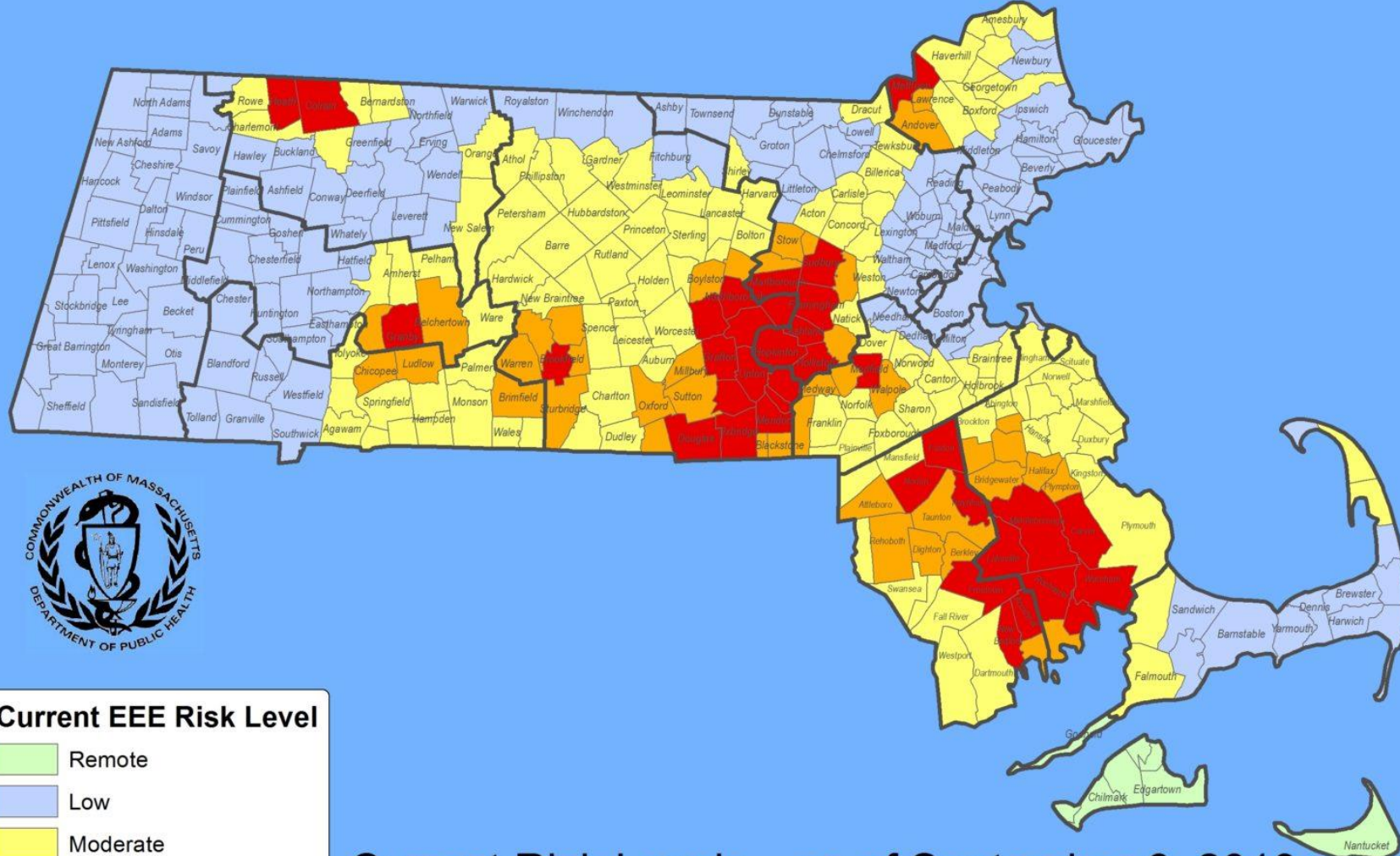


# 2019 EEE Outbreak

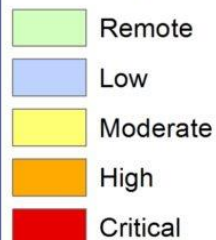
- ▶ **Massachusetts was affected by a record-breaking EEE outbreak throughout the state.**
  - ▶ 12 Human Cases
    - ▶ **2 in the Pioneer Valley**
  - ▶ 9 Livestock Cases
    - ▶ **2 in Western Worcester County**
  - ▶ 6 Aerial Sprays
    - ▶ **1 Spray event occurred in Hampden and Hampshire counties**
  - ▶ Many community event cancellations
    - ▶ **Large economic and social impact**



# Massachusetts EEE Risk Categories



## Current EEE Risk Level

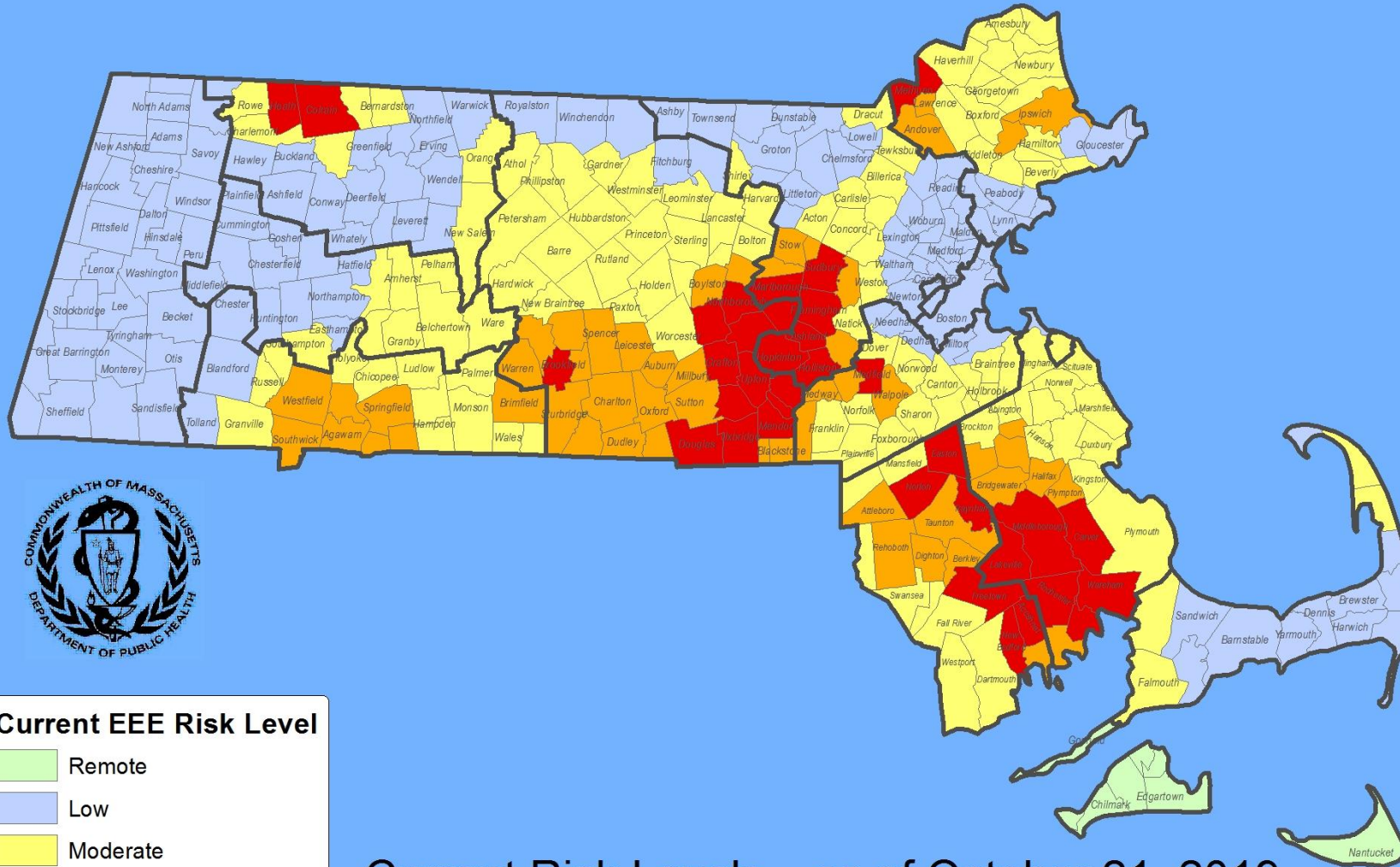


Current Risk Levels – as of September 6, 2019

Massachusetts State Public Health Laboratory  
Arbovirus Surveillance Program



# Massachusetts EEE Risk Categories



Current EEE Risk Level	
<span style="display:inline-block; width:15px; height:15px; background-color:lightgreen; border:1px solid black;"></span>	Remote
<span style="display:inline-block; width:15px; height:15px; background-color:lightblue; border:1px solid black;"></span>	Low
<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span>	Moderate
<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span>	High
<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span>	Critical

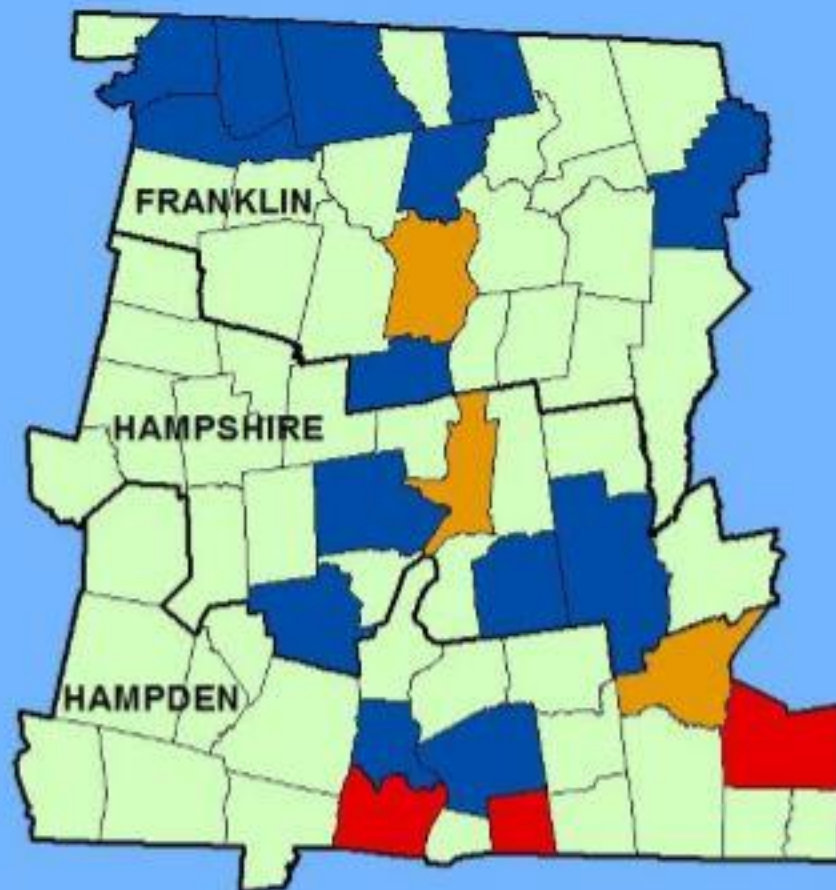
Current Risk Levels – as of October 21, 2019

## 2019 Pioneer Valley Arbovirus Surveillance



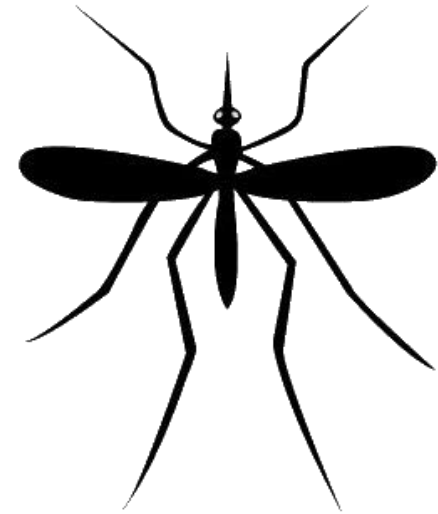
### Arbovirus Surveillance

- EEE Detection
- WNV Detection
- Surveillance



Massachusetts State Public Health Laboratory  
Arbovirus Surveillance Program

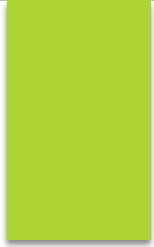
# West Nile Virus in the Pioneer Valley





# 2018 WNV Outbreak

- ▶ In 2018, Massachusetts had 49 confirmed human cases of West Nile Virus.
  - ▶ 1 in Franklin county, 2 in Hampshire county
- ▶ Additionally, there was a horse case in Bernardston and Granby.
- ▶ Of 5,921 mosquito samples collected in Massachusetts in 2018, 579 were positive for WNV, approximately 10% of all collected samples.
- ▶ Record breaking year for WNV in MA.



# Current PVMCD Services (2020 Season)

# Surveillance

- ▶ The PVMCD is happy to offer mosquito surveillance in our region as the first line of defense in protecting the public from mosquito-borne diseases.
  - ▶ Surveillance consists of a geographic rotation of mosquito traps in your community on a weekly basis. Mosquito collections are delivered to Dept. of Public Health to test samples for diseases.
- ▶ Surveillance is critical for early detection of EEE and West Nile Virus, which allows for community notification and mosquito control measures in the affected area



# Surveillance

- ▶ Your Board of Health will be immediately notified by DPH if disease is detected in your community.
- ▶ Additionally, your community will be provided with weekly and end-of-season reports regarding our findings in your town. We will be able to determine the number and species of mosquitoes in your area as well as potential risks for disease in your town.
  - ▶ Allows us to keep a data archive of our findings to create better understanding of the mosquito population in your community.



CDC Light Trap



Gravid Trap

# Future PVMCD Services (2021- 2022)



# Larvaciding

- ▶ Larvaciding involves monitoring suspected mosquito breeding sites for mosquito larvae and using control techniques in these sites to prevent mosquito emergence.
  - ▶ If larvae numbers are high, we can treat the wetlands with Bti, an effective larvacide with a benign effect on the environment. By controlling in the larval stage, we reduce the need for adult spraying.
- ▶ Catch Basin Larvaciding involves the treatment of catch basins to prevent the emergence of mosquitoes that breed in more urban environments. Effective at preventing the spread of WNV.



# Adulticiding

- ▶ Adulticiding involves the application of pesticide from truck-mounted sprayers to reduce adult mosquito populations when their numbers are extremely high and/or the risk of mosquito borne disease is high.
  - ▶ **We plan on using an integrated pest management approach to reduce the need to adulticide as much as possible.**
  - ▶ **PVMCD plans to be extremely conservative with adulticiding and only conduct sprays based upon public health risk.**



# Water Management

- ▶ An effective method of reducing mosquito populations is to remediate sites where mosquitoes breed to create condition unfavorable for egg laying mosquitoes.
  - ▶ Our district will be able to preform maintenance of ditches, culverts, man-made ponds, etc to prevent stagnant water conditions.
  - ▶ Ditch maintenance often increases aesthetics in stagnant water areas as well!





# Efficacy Research and Public Outreach

- ▶ While conducting adultciding and larvaciding, it is important for us to run experiments to determine the effectiveness of the products and methods we use by conducting larvae and adult counts before and after our treatments.
  - ▶ This research helps us to improve our operations to better serve your community.
- ▶ Our district can send representatives to local health fairs and schools in your communities to communicate the best ways to prevent mosquito borne disease and discuss the field of mosquito control.



JOIN THE PATROL!

# PVMCD Funding

# PVMCD Funding Model

- ▶ The Pioneer Valley Mosquito Control District is funded through the voluntary contribution model, meaning communities pay for the services that fit the needs of their community.
- ▶ Member communities pay in an “a la carte” fashion, so communities only have to pay for the services that they request. No community will be expected to pay for undesired services. Your community is welcome to subscribe to all services, a couple services, or just one.

# Membership Fees

- ▶ **The Membership Fee for the 2020 season with the PVMCD is \$5,000.**

With this fee, your community will be provided with surveillance to monitor for mosquito borne diseases as well as your community being provided with weekly and end-of-season reports regarding mosquito activity in your community.

- ▶ In 2021 and 2022, the fees will be determined based on the services requested and the scale of the jobs. We are currently working on projections for what our rates for each service will be as the new services become available.



# Questions?



## Contact Information

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[Christopher.Craig@mass.gov](mailto:Christopher.Craig@mass.gov)

