

# Pioneer Valley MCD Weekly Report

EPI Week 39

Week Ending: September 28, 2024

## Surveillance Summary

EPI Week 39 Target Species Surveillance Summary					Cumulative Totals: EPI Weeks 24-39			
Species	# Collected	Pools	WNV+	EEEV+	Cumulative Specimens	Cumulative Pools	Cumulative WNV+	Cumulative EEEV+
<i>Cx. pipiens/restuans</i>	22	2	0	0	1367	75	1	0
<i>Cs. melanura</i>	5	5	0	0	164	44	0	0
<i>Cq. perturbans</i>	2	0	0	0	16322	228	1	0
<i>Oc. canadensis</i>	0	0	0	0	577	23	0	0
<i>Oc. japonicus</i>	21	4	0	0	931	70	0	0
<i>Cx. salinarius</i>	4	1	0	0	1077	55	4	0
<i>Ae. albopictus</i>	0	0	0	0	116	9	0	0
<i>Ps. ferox</i>	10	0	0	0	401	15	0	0
<i>An. quadrimaculatus</i>	2	0	0	0	688	11	0	0
<i>Ae. vexans</i>	8	1	0	0	427	32	0	0
<i>Cx. erraticus</i>	0	0	0	0	456	9	0	0
<i>An. punctipennis</i>	2	0	0	0	1132	12	0	0
<i>Ae. cinereus</i>	0	0	0	0	104	3	0	0
<i>Oc. triseriatus</i>	10	0	0	0	326	1	0	0
<i>Oc. trivittatus</i>	12	0	0	0	889	14	0	0
<b>Totals</b>	<b>51</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>24977</b>	<b>601</b>	<b>6</b>	<b>0</b>

### Positive Mosquito Samples in the Pioneer Valley Region

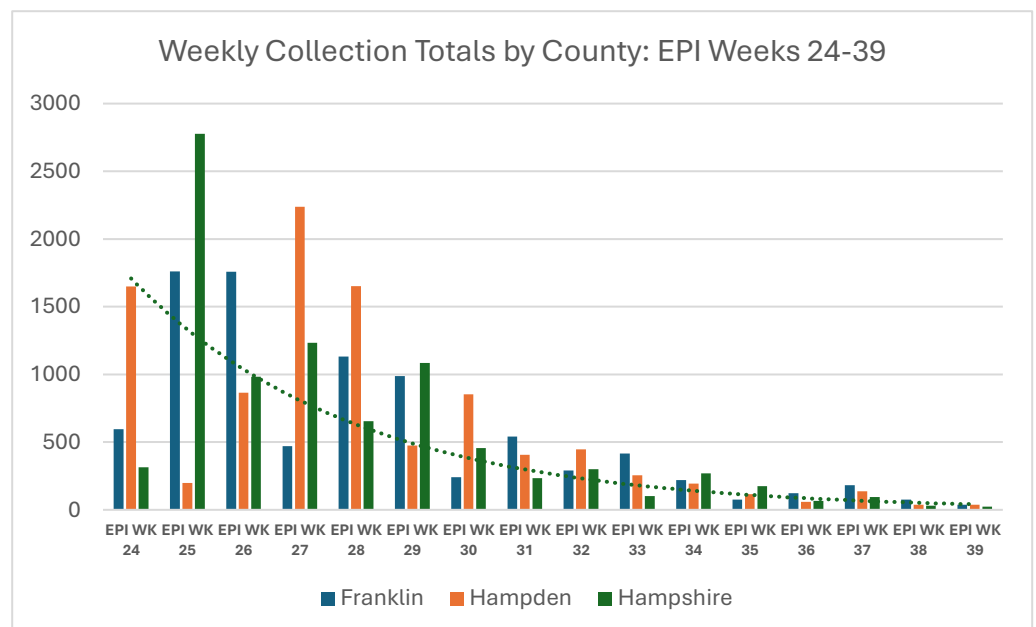
- There were no additional arbovirus detections during EPI week 39.

### Most Abundant Species in Pioneer Valley

- The most abundant species collected during EPI week 39 were *Cx. pipiens/restuans*, with a total of 22 specimens. *Cx. pipiens/restuans*, play a major role in the WNV transmission cycle and are considered primary vectors. *Cx. pipiens/restuans* are also competent vectors for EEE.

### EPI WK 39 Summary by County

- Franklin County**
  - EPI WK 39 Pools Tested: 4
  - Positive Samples: 0
  - Most Abundant Species: *Oc. japonicus* (14)
  - Total Mosquitoes Collected: 37
- Hampden County**
  - EPI WK 39 Pools Tested: 6
  - Positive Samples: 0
  - Most Abundant Species: *Cx. pipiens/restuans* (16)
  - Total Mosquitoes Collected: 38
- Hampshire County**
  - EPI WK 39 Pools Tested: 3
  - Positive Samples: 0
  - Most Abundant Species: *Oc. japonicus* (8)
  - Total Mosquitoes Collected: 24



- Total Mosquitoes Collected (All Counties): 99
- Total Pools Submitted for Testing (All Counties): 13

## Weather Summary

- The weather conditions and time of year continue to impact mosquito collection numbers, which were down 31% from the previous week, totaling 99.
- Due to the phenology (seasonal abundance) of specific species, and colder nighttime temperatures, it is expected that mosquito collection totals will remain low. Mosquito activity will continue until the first hard frost (28°F for at least 2 hours).

## Weekly Changes in Weather

Station	Name	EPI Week	PRCP Total (in.)	TMAX AVG (°F)	TMIN AVG (°F)
USC00190120	AMHERST, MA US	24	0.57	75.43	54.14
USC00190120	AMHERST, MA US	25	1.79 (+214%)	84.71 (+12%)	61.14 (+13%)
USC00190120	AMHERST, MA US	26	1.64 (-8%)	81.86 (-3%)	59.14 (-3%)
USC00190120	AMHERST, MA US	27	2.08 (+28%)	81.71 (no change)	58.29 (+1%)
USC00190120	AMHERST, MA US	28	1.5 (-28%)	89 (+9%)	69.9 (+20%)
USC00190120	AMHERST, MA US	29	1.89 (+26%)	87.14 (-2%)	64.43 (-8%)
USC00190120	AMHERST, MA US	30	0.64 (-66%)	81.71 (-6%)	62 (-4%)
USC00190120	AMHERST, MA US	31	1.22 (+91%)	84.43 (+3%)	64.57 (+4%)
USC00190120	AMHERST, MA US	32	2.8 (+130%)	80.57(-5%)	64.71 (0%)
USC00190120	AMHERST, MA US	33	0.15 (-95%)	80.86 (no change%)	57 (-25%)
USC00190120	AMHERST, MA US	34	1.46 (+873)	74.28 (-8%)	55.28 (-3%)
USC00190120	AMHERST, MA US	35	0.12 (-92%)	80.86 (+9%)	57 (+3%)
USC00190120	AMHERST, MA US	36	0.00	77.43 (-4%)	52.14 (-9%)
USC00190120	AMHERST, MA US	37	0.35	75 (-3%)	46.29 (-11%)
Amherst College	AMHERST, MA US	38	0.01 (-97%)	82 (+9%)	58 (+25%)
USC00190120	AMHERST, MA US	39	No Data	No Data	No Data

## Statewide Cumulative Arbovirus Positives as of 10/7/24

Virus	Positive Mosquito Samples	Animal Cases	Human Cases
EEE	96	3	4
WNV	333	0	15

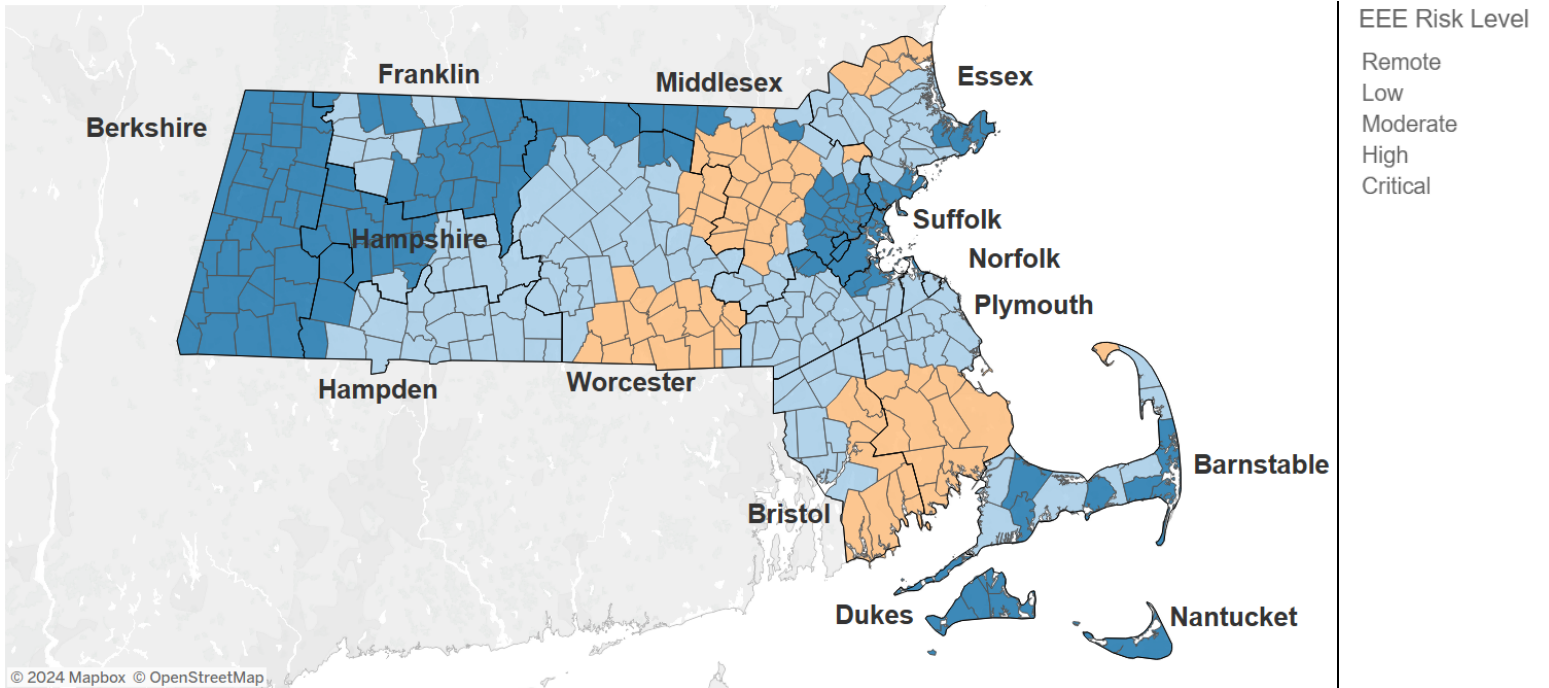
## EEE Human Cases

Onset of Symptoms	County	Age Range	Gender	Clinical Presentation
August 6, 2024	Worcester	80-89	Male	Encephalitis
August 12, 2024	Middlesex	50-59	Female	Meningoencephalitis
August 17, 2024	Plymouth	30-39	Female	Meningoencephalitis
August 22, 2024	Middlesex	70-79	Male	Meningoencephalitis

## WNV Human Cases

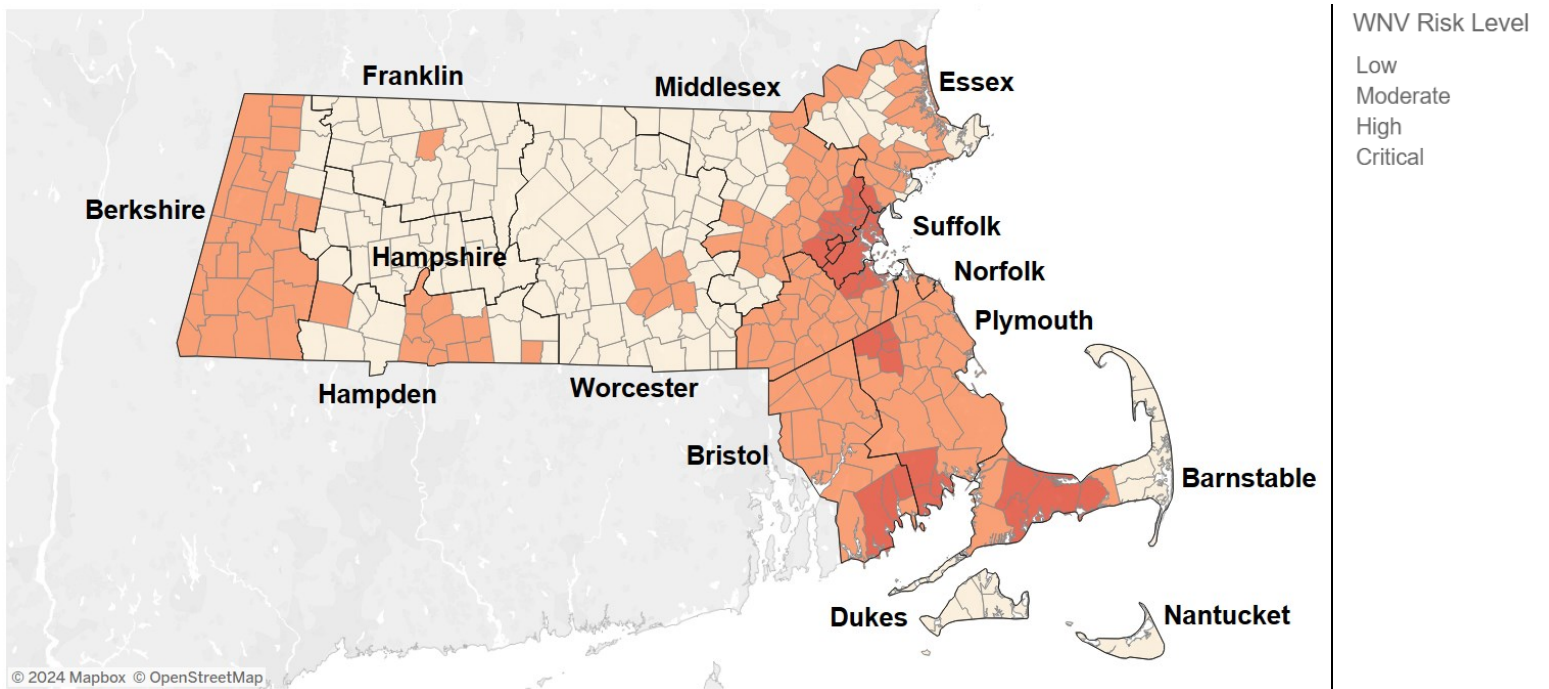
Onset of Symptoms	County	Age Range	Gender	Clinical Presentation
July 22, 2024	Hampden	40-49	Male	Meningitis
July 26, 2024	Middlesex	70-79	Male	Encephalitis
August 7, 2024	Bristol	60-69	Female	Fever
August 13, 2024	Suffolk	60-69	Male	Meningitis
August 16, 2024	Middlesex	70-79	Male	Encephalitis
August 16, 2024	Suffolk	50-59	Male	Meningoencephalitis
August 17, 2024	Norfolk	60-69	Male	Meningitis
August 17, 2024	Suffolk	60-69	Male	Encephalitis
August 18, 2024	Essex	50-59	Male	Neuroinvasive
August 22, 2024	Middlesex	80-89	Male	Meningoencephalitis
August 24, 2024	Barnstable	60-69	Male	Encephalitis
August 26, 2024	Middlesex	60-69	Male	Encephalitis
August 28, 2024	Middlesex	60-69	Female	Fever
September 2, 2024	Essex	40-49	Male	Meningitis
September 13, 2024	Barnstable	70-79	Female	Meningoencephalitis

### EEE Impacted Areas as of 10/7/24



Current EEE Risk Map from: <https://www.mass.gov/info-details/massachusetts-arbovirus-update>

### WNV Impacted Areas as of 10/7/24



Current WNV Risk Map From: <https://www.mass.gov/info-details/massachusetts-arbovirus-update>

## Dengue Fever in Massachusetts (acquired through travel)

- According to the CDC, there have been a total of 112 human cases of dengue in Massachusetts, as of 10/7/24. There have been no local transmissions of dengue in Massachusetts.
- Dengue transmission typically occurs in the following regions: the Caribbean, Central America, South America, Southeast Asia, and the Pacific Islands.
- Dengue is spread through a human-to-mosquito-to-human cycle.
- Onset is up to two weeks with illness lasting 2-7 days. Transmission to mosquitoes is possible for up to 12 days.
- Symptoms include:
  - Fever
  - Nausea and vomiting
  - Rash
  - Aches and pains
  - Joint and muscle pain
  - Pressure and pain around the eye sockets
  - Headache

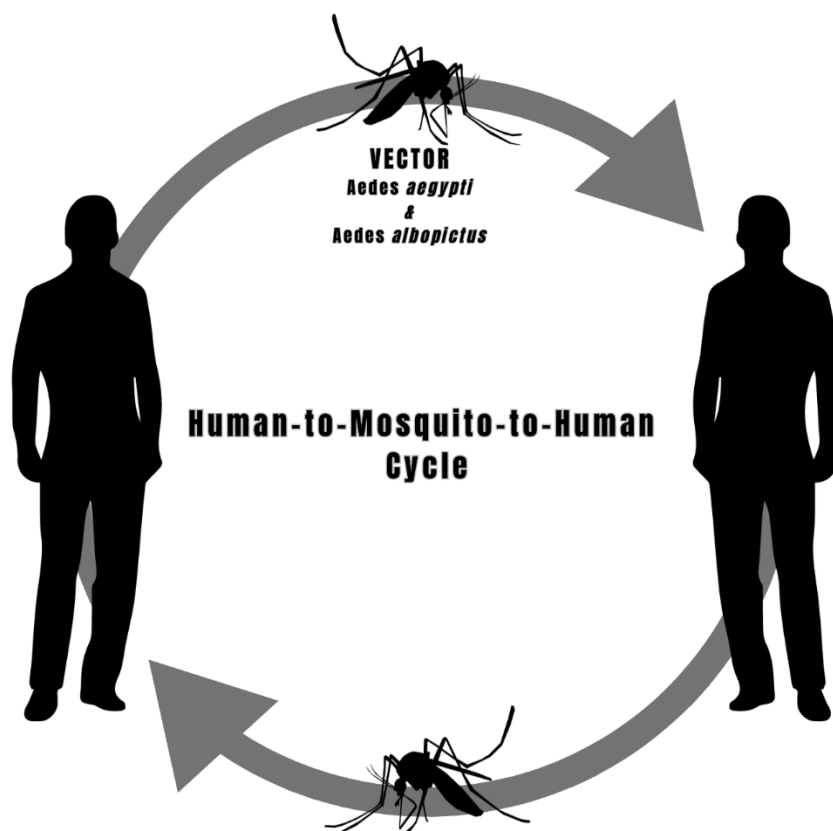


## PIONEER VALLEY MOSQUITO CONTROL DISTRICT

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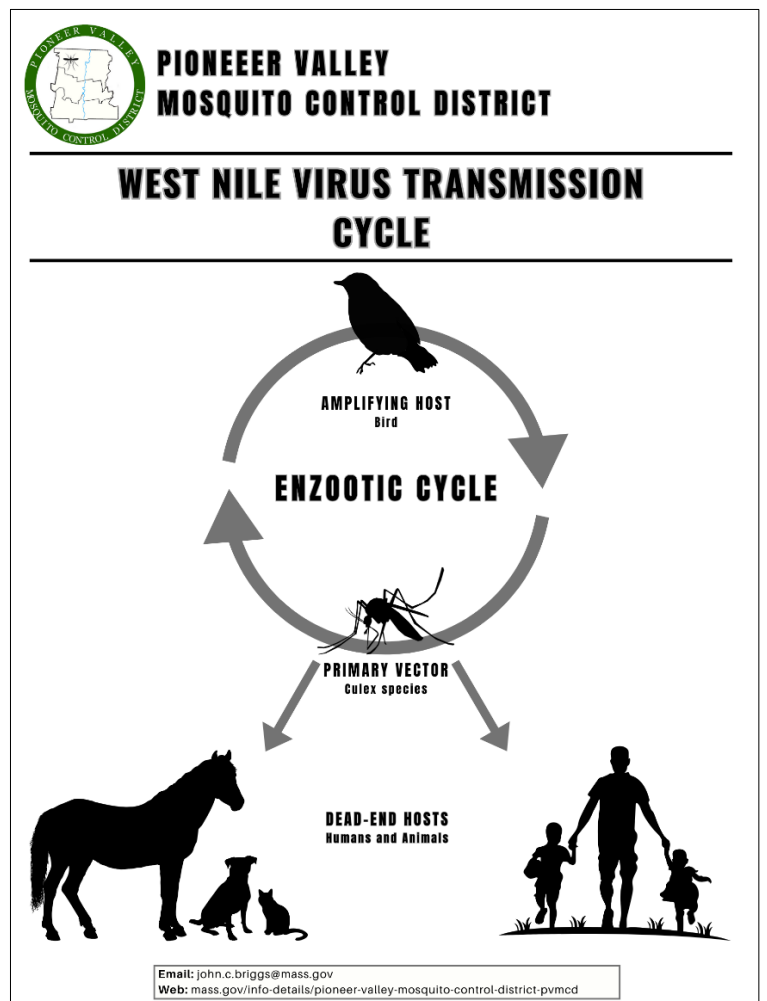
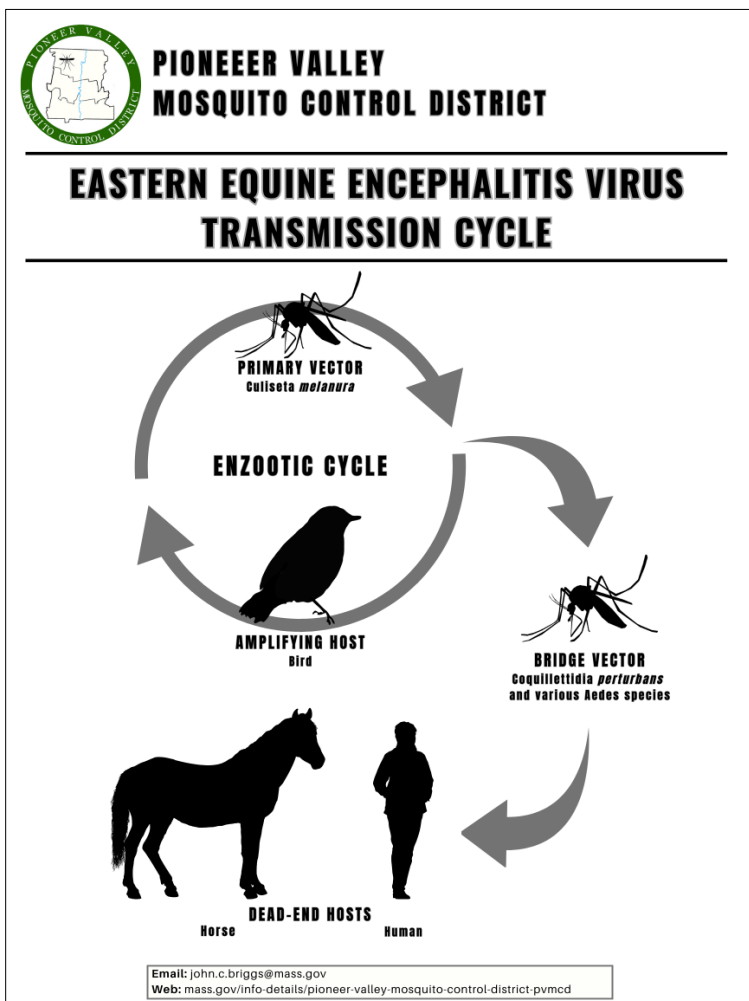
# DENGUE VIRUS TRANSMISSION CYCLE

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Email: [john.c.briggs@mass.gov](mailto:john.c.briggs@mass.gov)  
Web: [mass.gov/info-details/pioneer-valley-mosquito-control-district-pvmcd](http://mass.gov/info-details/pioneer-valley-mosquito-control-district-pvmcd)

Disease	Onset	Symptoms	
WNV	2 to 14 Days	<b>Febrile Illness</b>	<b>Neuroinvasive Disease</b>
		<ul style="list-style-type: none"> <li>• Fever</li> <li>• Muscle aches</li> <li>• Joint Pain</li> <li>• Fatigue</li> <li>• Rash</li> </ul>	<ul style="list-style-type: none"> <li>• Stiff neck</li> <li>• Muscle Tremors</li> <li>• Seizures</li> <li>• Changes in vision</li> <li>• Weakness or paralysis</li> </ul>
EEE	4 to 10 Days	<b>Febrile Illness</b>	<b>Neuroinvasive Disease</b>
		<ul style="list-style-type: none"> <li>• Fever</li> <li>• Muscle aches</li> <li>• Joint pain</li> <li>• Chills</li> </ul>	<ul style="list-style-type: none"> <li>• Fever</li> <li>• Headache</li> <li>• Seizures</li> <li>• Behavioral changes</li> <li>• Vomiting</li> <li>• Diarrhea</li> <li>• Coma</li> </ul>



- [Mosquito Bite Prevention Poster](#)
- [EEE Transmission Cycle Poster](#)
- [WNV Transmission Cycle Poster](#)
- [Dengue Virus Transmission Cycle Poster](#)
- [CDC Dengue Fever Information](#)
- DPH Mosquito PE Materials: <https://www.mass.gov/lists/mosquito-borne-disease-educational-materials>
- CDC Press Kit: <https://www.cdc.gov/mosquitoes/communication-resources/press-kit-mosquitoes.html>
- DPH Tick PE Materials: <https://www.mass.gov/info-details/tick-borne-educational-materials>

### **Recommended Public Messaging**

- Use EPA approved bug-repellent
- Cover skin/wear long sleeves and pants
- Avoid outdoor activities during peak mosquito times (between dusk and dawn)
- Repair window screens
- Containers in yards with standing water should be emptied to reduce mosquito breeding

**DPH Arbovirus Toolkit:** <https://www.mass.gov/lists/arbovirus-information-for-local-boards-of-health#toolkit->

**DPH Arbovirus Phased Response Plan:** <https://www.mass.gov/doc/2024-arbovirus-surveillance-and-response-plan/download>

Questions/Comments: Please email John Briggs, the District Director, at [john.c.briggs@mass.gov](mailto:john.c.briggs@mass.gov).

**For questions about the most recent spraying events in response to EEE:**

Massachusetts Department of Public Health: [Mosquito Control and Spraying: Frequently Asked Questions About Spraying for EEE](#)

[2024 Mosquito Spray Map](#)

For questions about aerial spraying, contact MDAR Crop and Pest Services at [mosquitoprogram@mass.gov](mailto:mosquitoprogram@mass.gov).



# PIONEER VALLEY MOSQUITO CONTROL DISTRICT

## FIGHT THE BITE

AND HELP PREVENT THE SPREAD OF MOSQUITO BORNE DISEASES



### USE REPELLENT

Be sure to apply EPA approved insect repellents containing plant based eucalyptus or DEET when outdoors.



### AVOID DUSK AND DAWN

Most mosquito species are very active at dusk and dawn. Avoid engaging in outdoor activities during these times whenever possible.



### WEAR PROPER CLOTHING

Wearing long-sleeves and pants will significantly help reduce mosquito bites.



### PREVENT ARTIFICIAL HABITAT

Buckets, plant pots, kiddie pools, tire swings, and anything that holds water should be emptied to prevent mosquito habitat.



### FIX DOORS AND WINDOWS

Screens with holes should be repaired and be sure that all doors and windows are working properly to keep the mosquitoes out.



### FIRST AID FOR BITES

Wash bite with soap and water and apply anti-itch cream. If necessary, apply a cold cloth to reduce swelling.

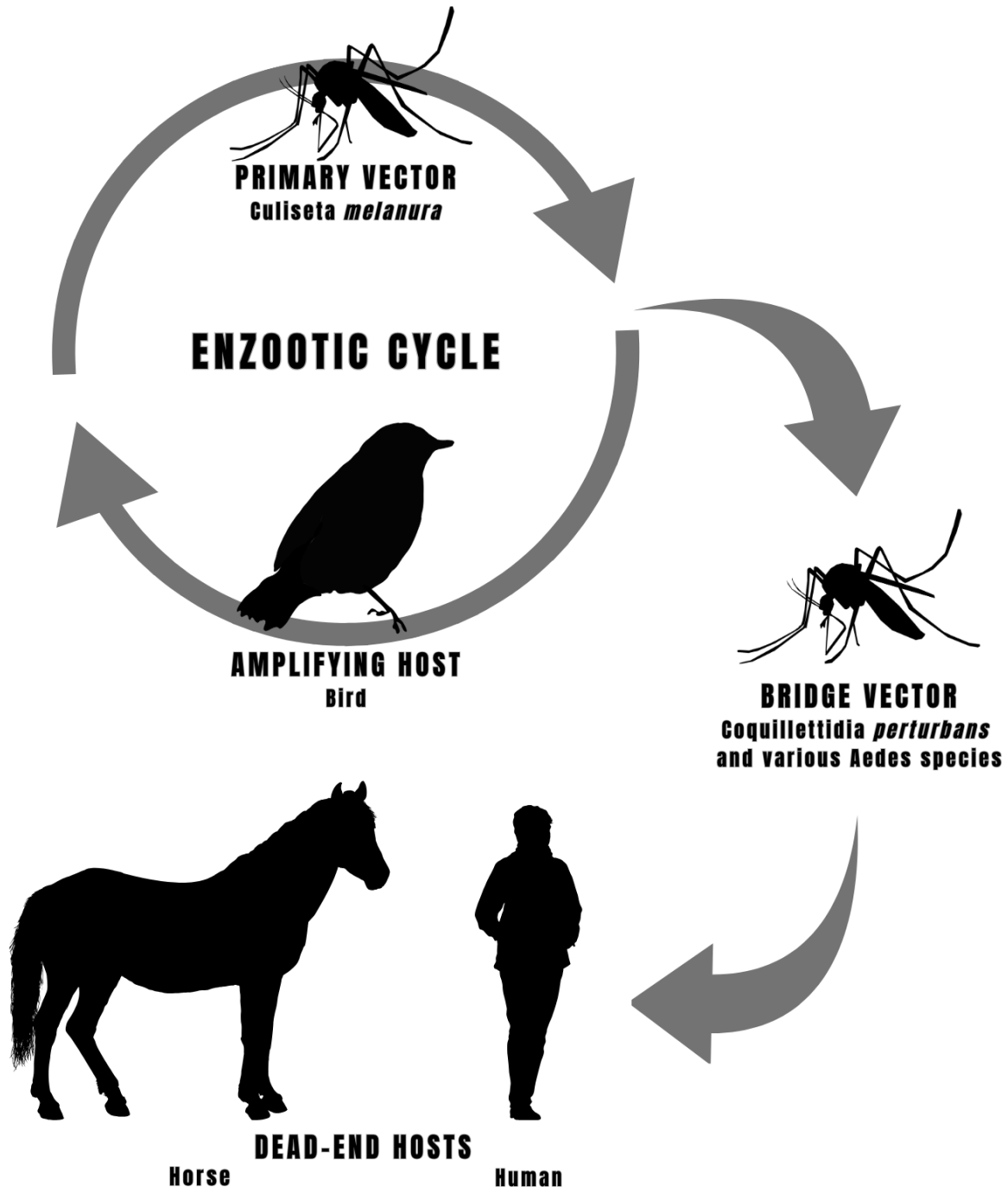
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# PIONEER VALLEY MOSQUITO CONTROL DISTRICT

## EASTERN EQUINE ENCEPHALITIS VIRUS TRANSMISSION CYCLE



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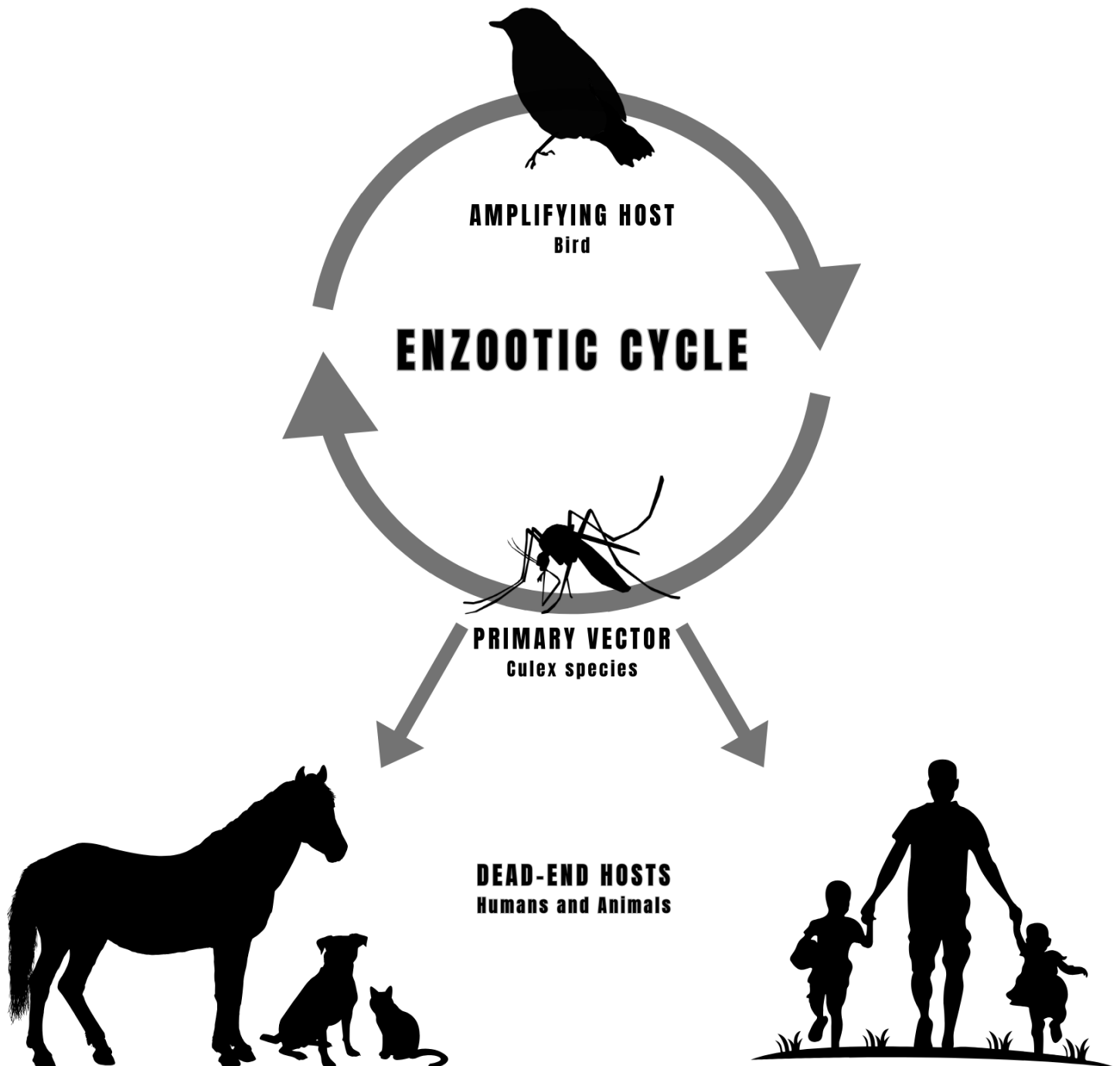
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# PIONEER VALLEY MOSQUITO CONTROL DISTRICT

## WEST NILE VIRUS TRANSMISSION CYCLE



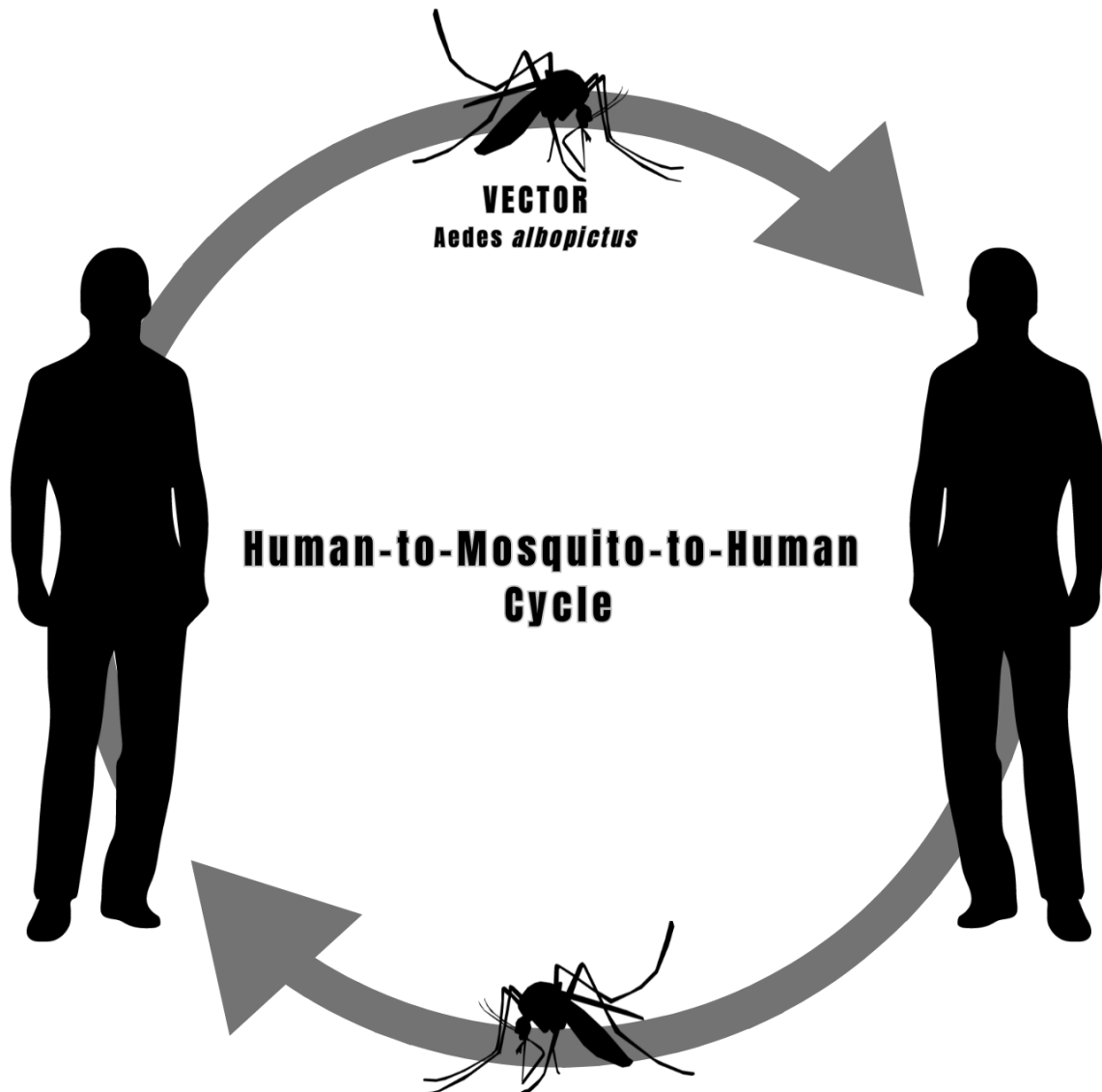
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# PIONEER VALLEY MOSQUITO CONTROL DISTRICT

## DENGUE VIRUS TRANSMISSION CYCLE



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