Pioneer Valley MCD Weekly Report

EPI Week 34 **Week Ending: August 24, 2024**

Surveillance Summary

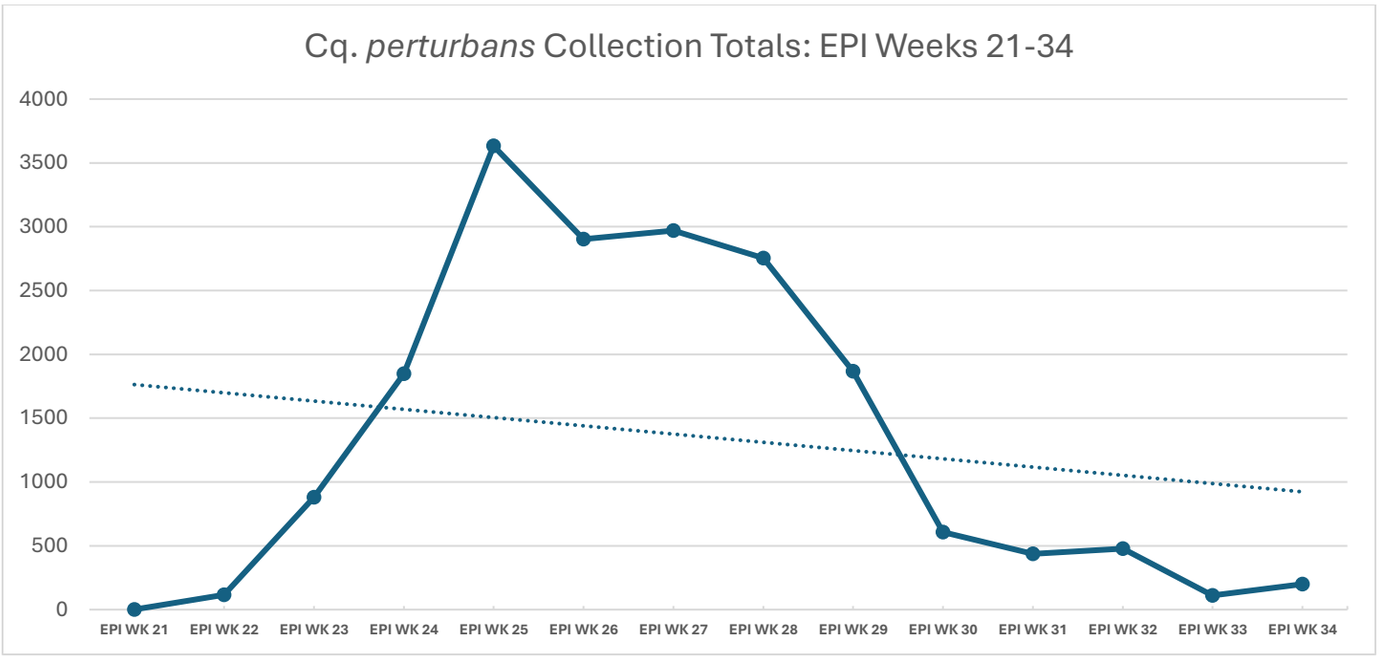
EPI Week 34 Target Species Surveillance Summary					Cumulative Totals: EPI Weeks 24-34			
Species	# Collected	Pools	WNV+	EEEV+	Cumulative Specimens	Cumulative Pools	Cumulative WNV+	Cumulative EEEV+
Cx. *pipiens/restuans*	25	3	0	0	1271	53	1	0
Cs. *melanura*	8	5	0	0	143	21	0	0
Cq. *perturbans*	200	8	0	0	16208	181	1	0
Oc. *canadensis*	2	0	0	0	574	20	0	0
Oc. *japonicus*	29	1	0	0	604	31	0	0
Cx. *salinarius*	103	7	2	0	1024	38	2	0
Ae. *albopictus*	37	2	0	0	105	7	0	0
Ps. *ferox*	11	1	0	0	362	11	0	0
An. *quadrimaculatus*	76	2	0	0	657	5	0	0
Ae. *vexans*	31	2	0	0	318	11	0	0
Cx. *erraticus*	48	2	0	0	427	7	0	0
An. *punctipennis*	64	2	0	0	1052	36	0	0
Oc. *trivittatus*	44	0	0	0	655	3	0	0
Totals	678	35	0	0	23400	429	4	0

Positive Mosquito Samples in the Pioneer Valley Region

- There were no virus isolations confirmed during EPI week 34. Note: There were two West Nile virus isolations confirmed on 8/30: Greenfield (Cx. *salinarius*), and Wales (Cx. *salinarius*).

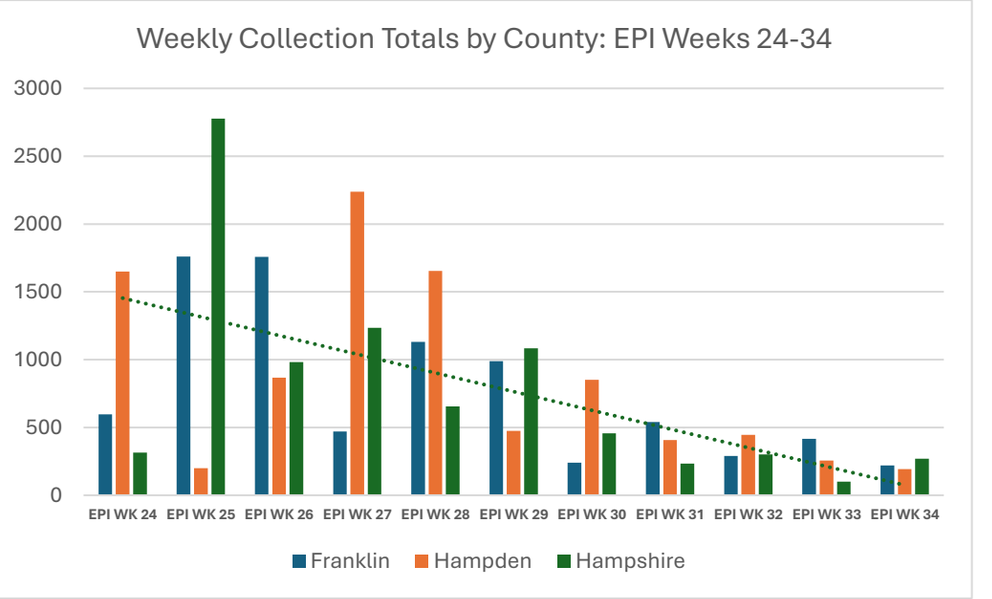
Most Abundant Species in Pioneer Valley

- Among the three vector species of most concern (Cx. pipiens, Cs. *melanura*, and Cq. *perturbans*), Cq. *perturbans* was the most prevalent during EPI week 34, with a total of 200 specimens collected. Cq. *perturbans* collections are up by 78% from the previous week and are expected to continue to decrease or remain relatively stable during the coming weeks. Cq. *perturbans* are a bridge vector for EEE and WNV and can be found in permanent swamps with emergent vegetation (e.g. cattails and hummocks/tussocks). Cq. *perturbans* are aggressive human biters that can fly up to 5 miles for a blood meal and are active during the night.



EPI WK 34 Summary by County

- **Franklin County**
  - EPI WK 34 Pools Tested: 13
  - Positive Samples: 1
  - Most Abundant Species: Cq. *perturbans* (78)
  - Total Mosquitoes Collected: 219
- **Hampden County**
  - EPI WK 34 Pools Tested: 13
  - Positive Samples: 1
  - Most Abundant Species: Cx. *salinarius* (44)
  - Total Mosquitoes Collected: 193
- **Hampshire County**
  - EPI WK 34 Pools Tested: 15
  - Positive Samples: 0
  - Most Abundant Species: Cq. *perturbans* (32)
  - Total Mosquitoes Collected: 270



- Total Mosquitoes Collected (All Counties): **682**
- Total Pools Submitted for Testing (All Counties): **35**

Weather Summary

- While precipitation totals were higher, nighttime temperatures dropped to an average of 55 °F during EPI week 34, resulting in a total of 682 mosquitoes collected, which is a 11% decrease from the previous week. Due to the phenology (seasonal abundance) of specific species, and colder nighttime temperatures, it is expected that mosquito collection totals will continue to decrease or remain relatively stable in the coming weeks.

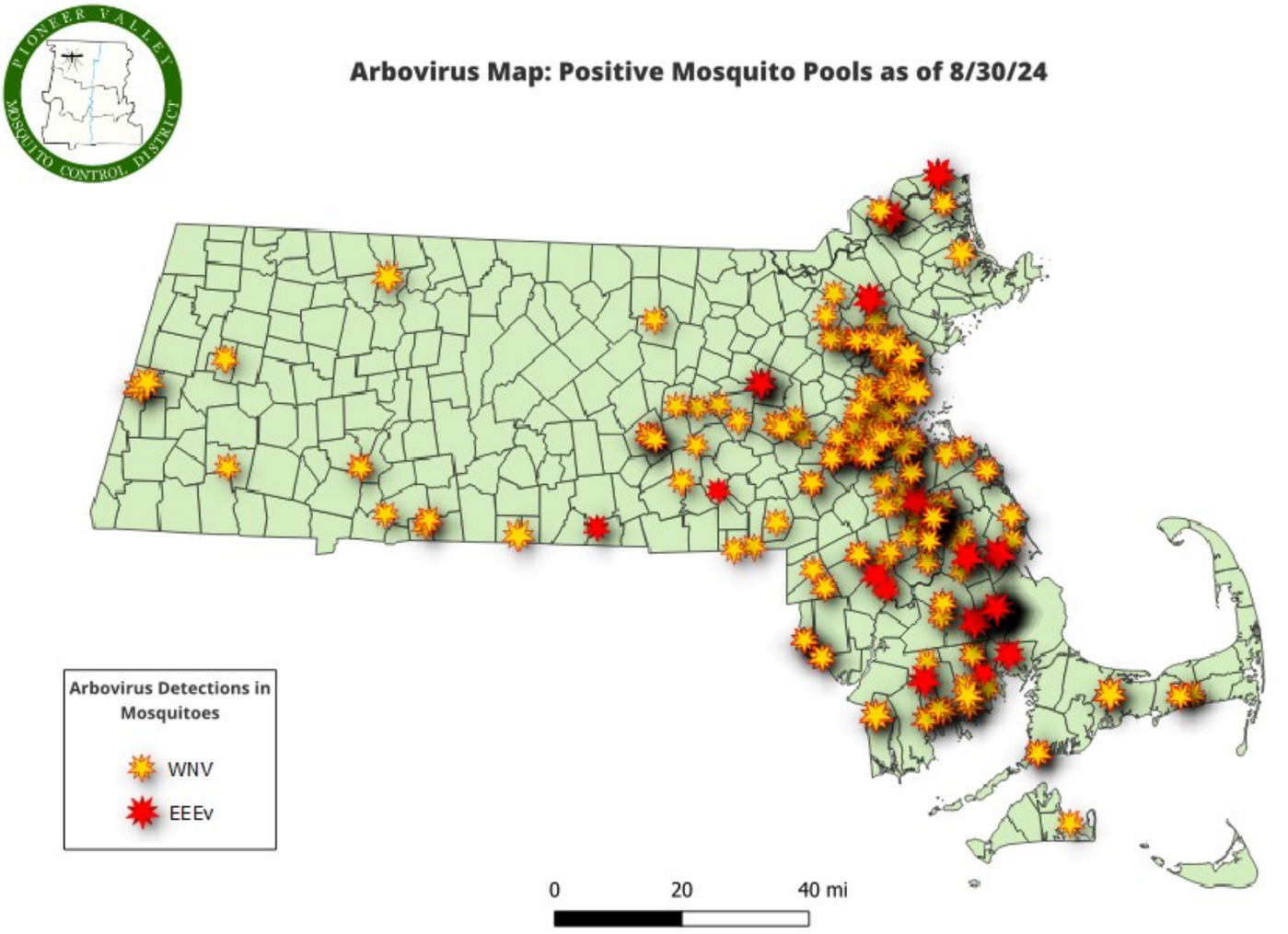
Weekly Changes in Weather

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%)**

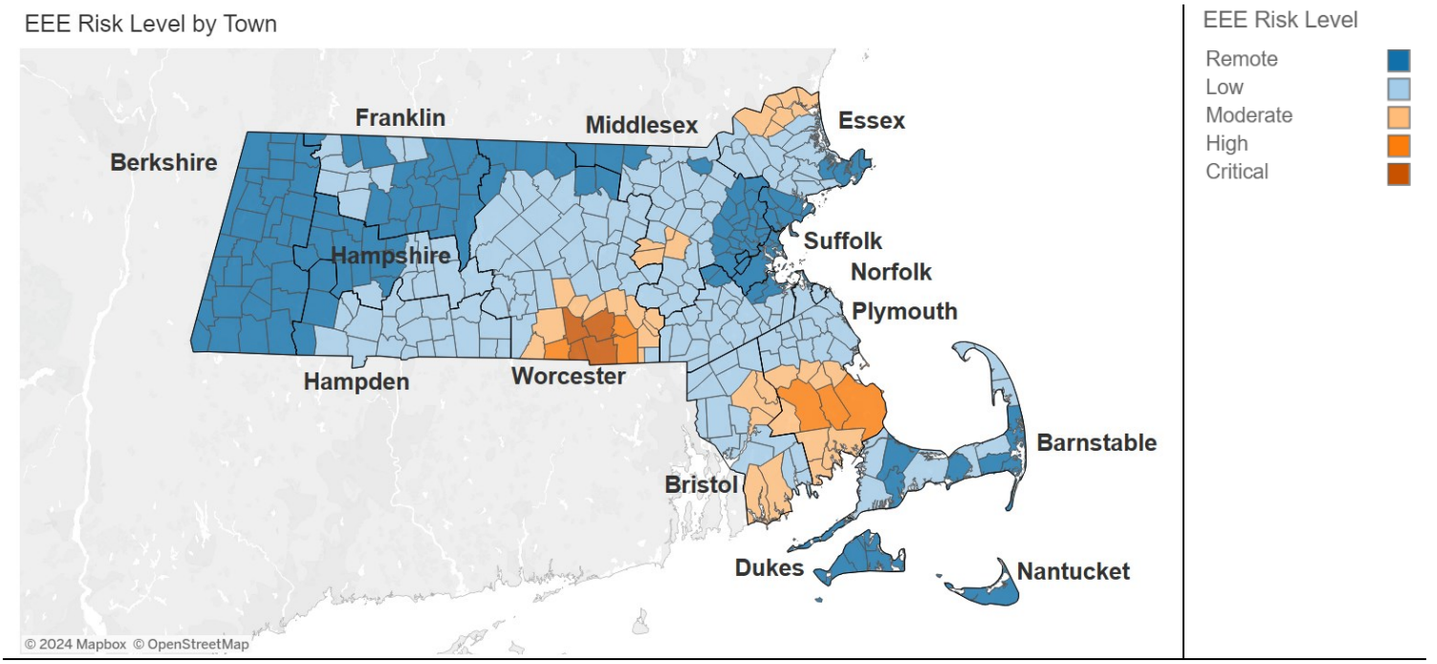
Statewide Cumulative Arbovirus Positives as of 8/30/24

Virus	Positive Mosquito Samples	Animal Cases	Human Cases
EEEv	**79**	**2**	**2**
WNV	**285**	**0**	**4**

Note: A human case of EEE (encephalitis) in a person aged 30-39 in Plymouth County was confirmed on 8/29 by the DPH. A second EEE case in a horse was also confirmed on 8/29 in Middleborough. Since both areas are already at a "Critical" risk level, no changes have been made to the arbovirus risk map. Two additional cases of WNV were reported on 8/27, one in Suffolk County and the other in Norfolk County. Both individuals were aged 60-69.



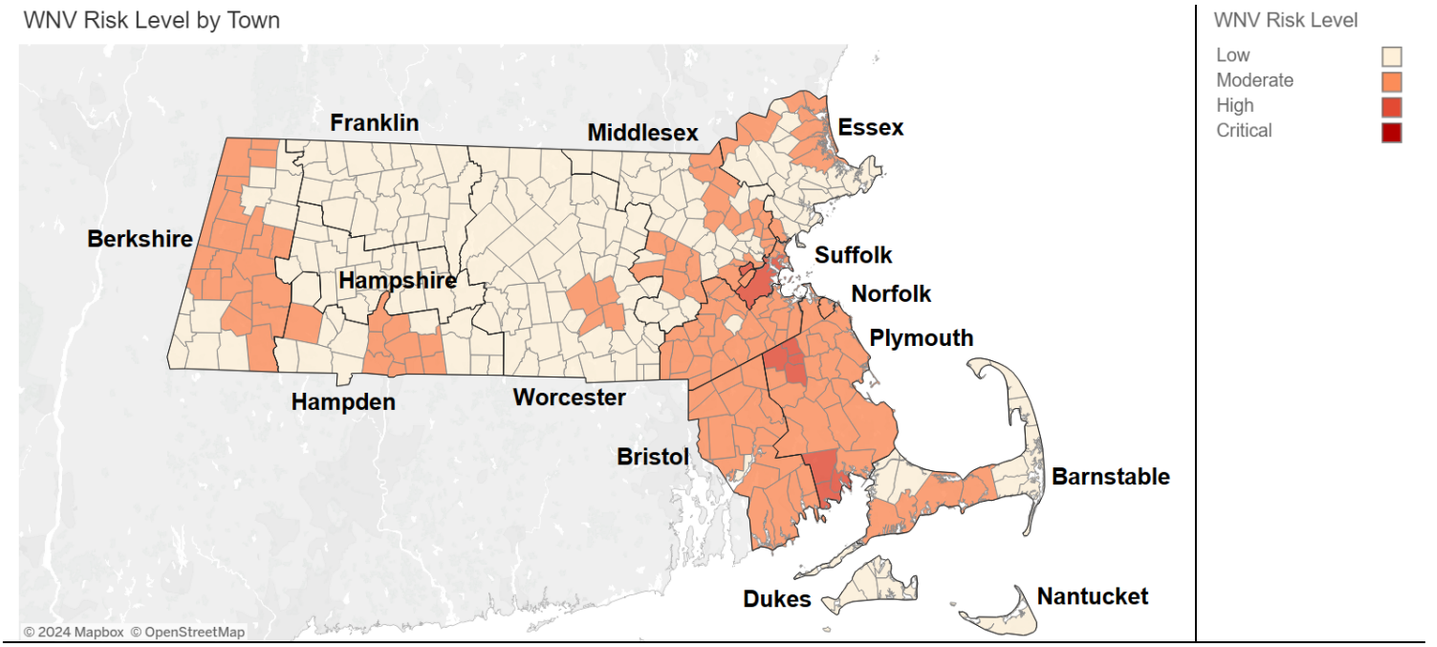
EEE Impacted Areas



Recent Changes to the EEE Risk Map: Acushnet (moderate), Dartmouth (moderate), Fairhaven (moderate), Freetown (moderate), New Bedford (moderate), and North Reading (moderate.

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

WNV Impacted Areas

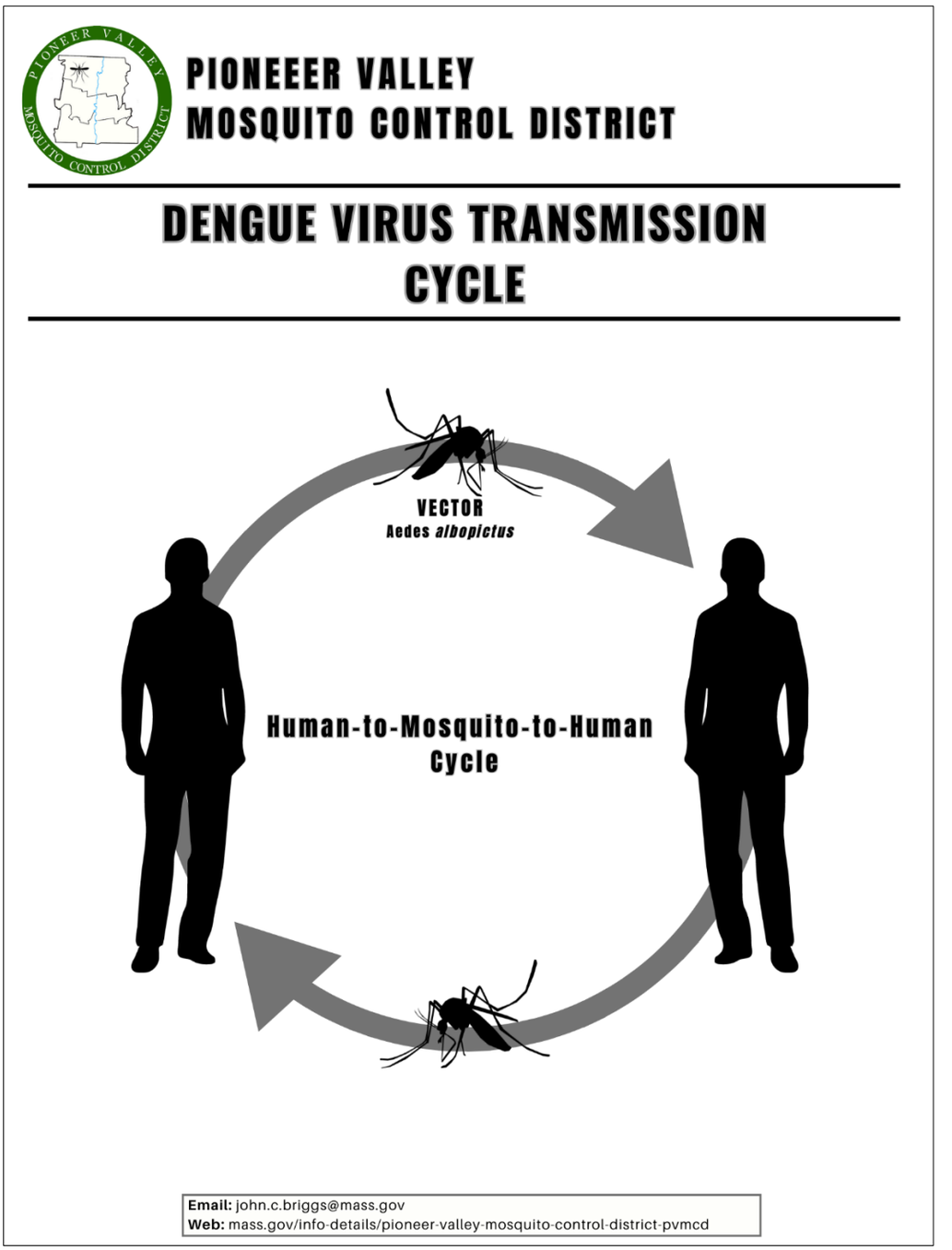


Recent WNV risk level changes to "high": Brookline, Cambridge, Everett, Milton, Newton, Quincy, Sommerville, and Watertown.

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

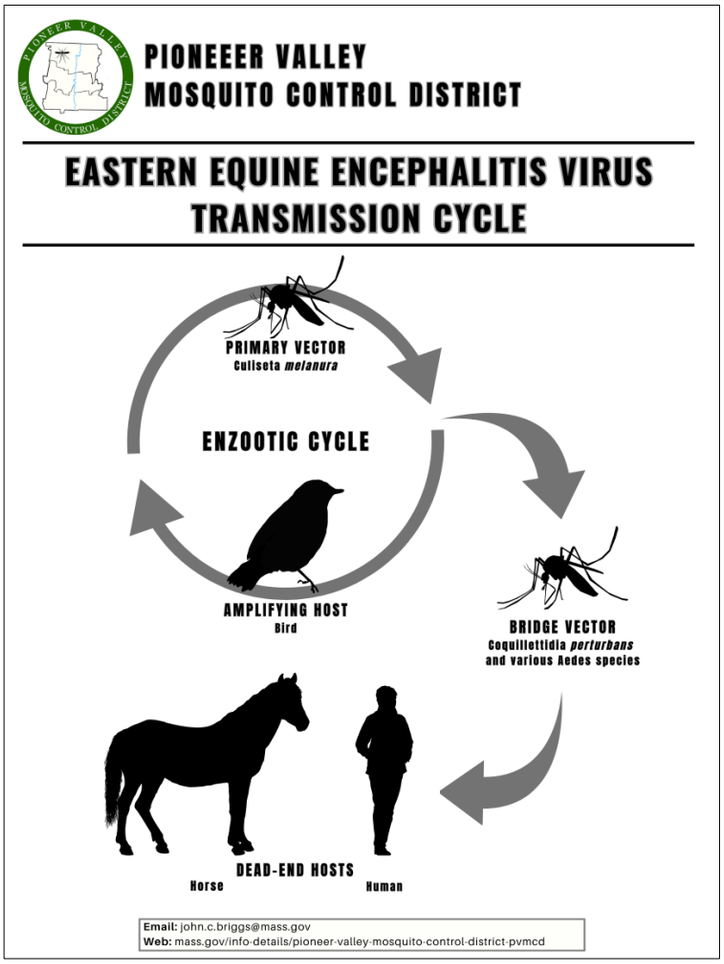
Dengue Fever in Massachusetts (acquired through travel)

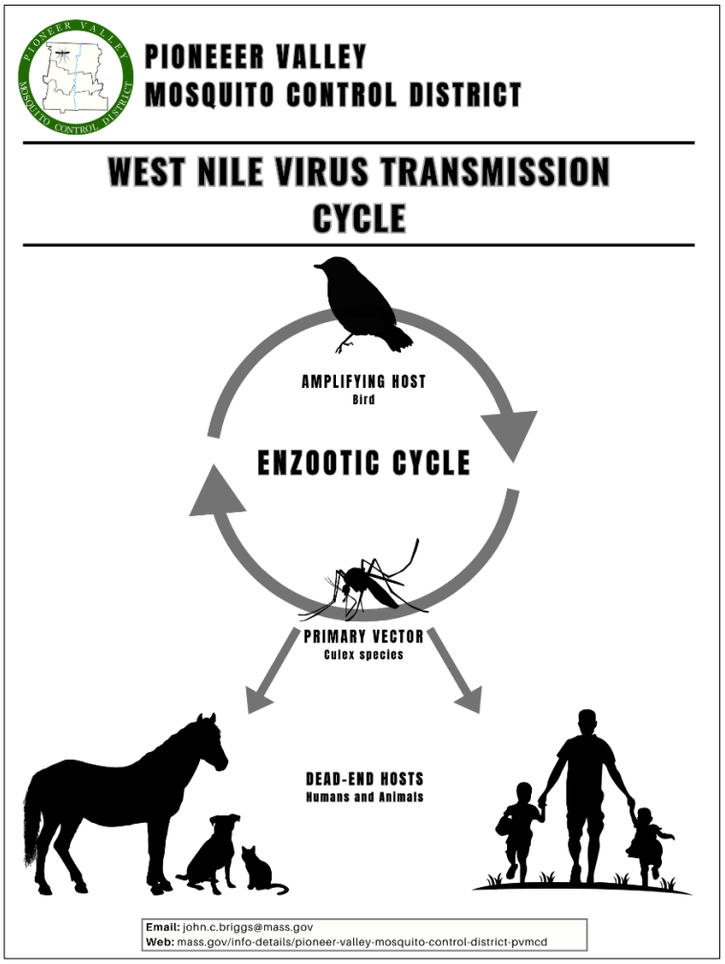
- According to the CDC, there have been a total of 83 human cases of dengue in Massachusetts, as of 8/30/24. There have been no local transmissions of dengue in Massachusetts.
- Dengue transmission typically occurs in the following regions: the Caribbean, Central America, South America, Southeast Asia, 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



WNV and EEE Symptoms Chart

Disease	Onset	Symptoms	
WNV	**2 to 14 Days**	**Febrile Illness** • Fever • Muscle aches • Joint Pain • Fatigue • Rash	**Neuroinvasive Disease** • Stiff neck • Muscle Tremors • Seizures • Changes in vision • Weakness or paralysis
EEE	**4 to 10 Days**	**Febrile Illness** • Fever • Muscle aches • Joint pain • Chills	**Neuroinvasive Disease** • Fever • Headache • Seizures • Behavioral changes • Vomiting • Diarrhea • Coma





PE Poster Printouts and Helpful Links

- 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.

PIONEEER 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.

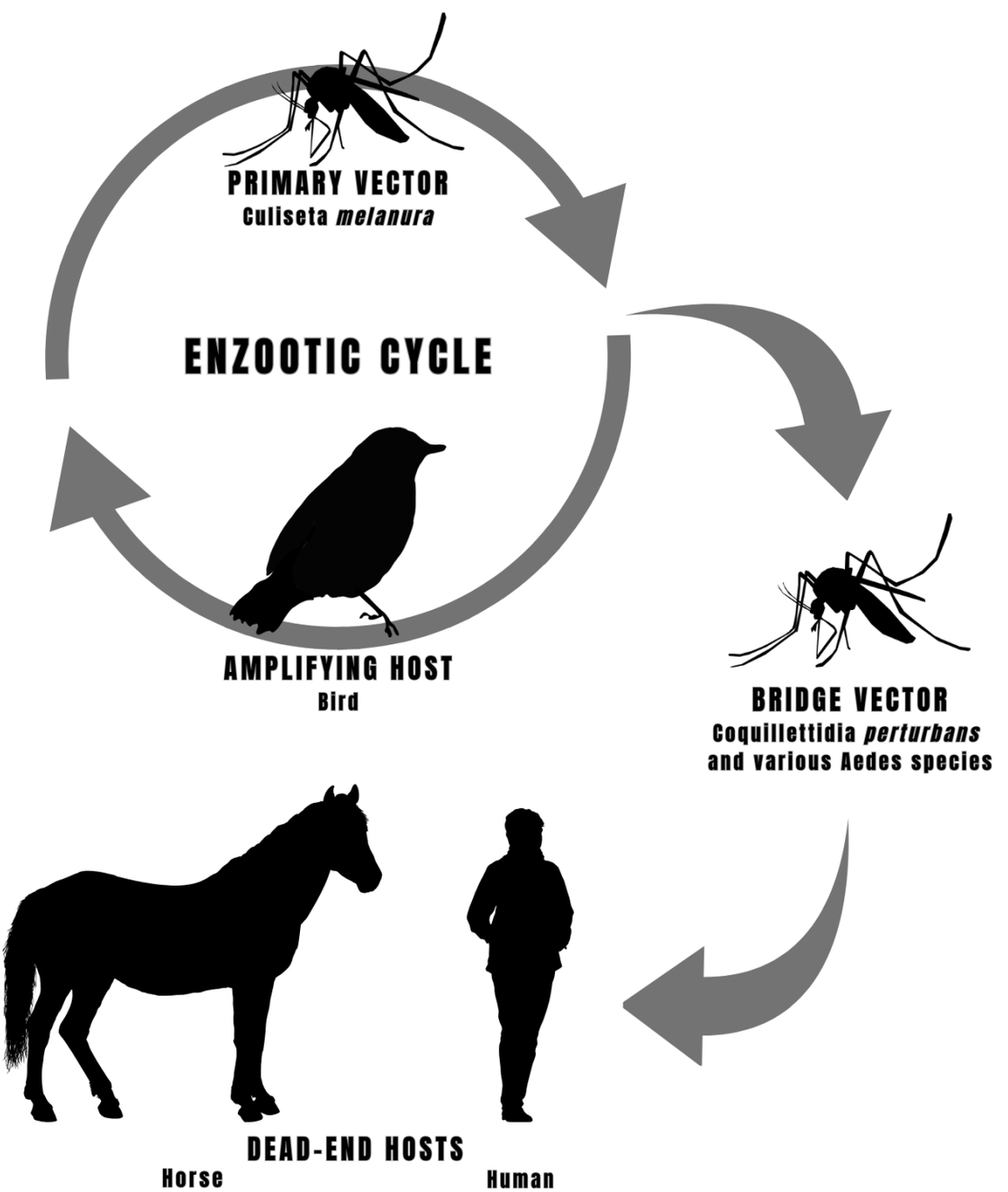
FIRST AID FOR BITES

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

Email: john.c.briggs@mass.gov
Web: mass.gov/info-details/pioneer-valley-mosquito-control-district-pvmcd

PIONEEER VALLEY MOSQUITO CONTROL DISTRICT

EASTERN EQUINE ENCEPHALITIS VIRUS TRANSMISSION CYCLE



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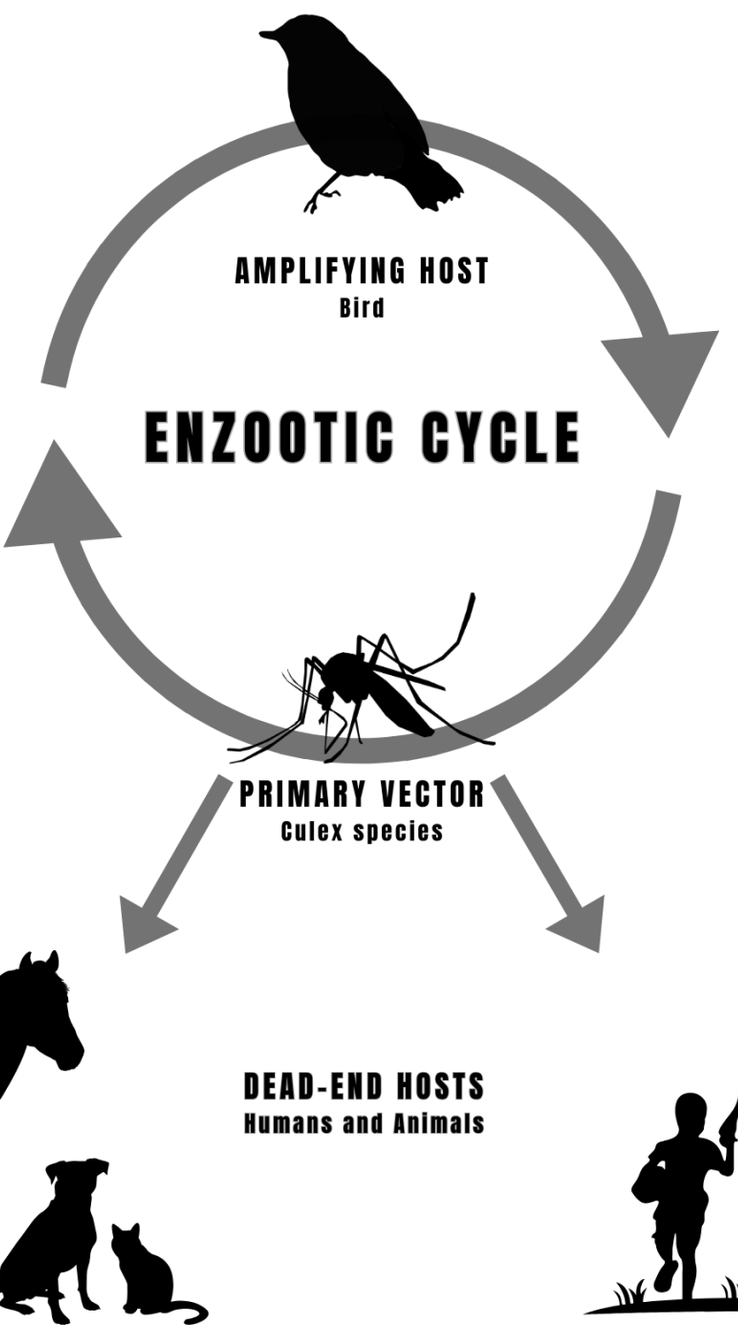
PIONEEER VALLEY MOSQUITO CONTROL DISTRICT

WEST NILE VIRUS TRANSMISSION CYCLE



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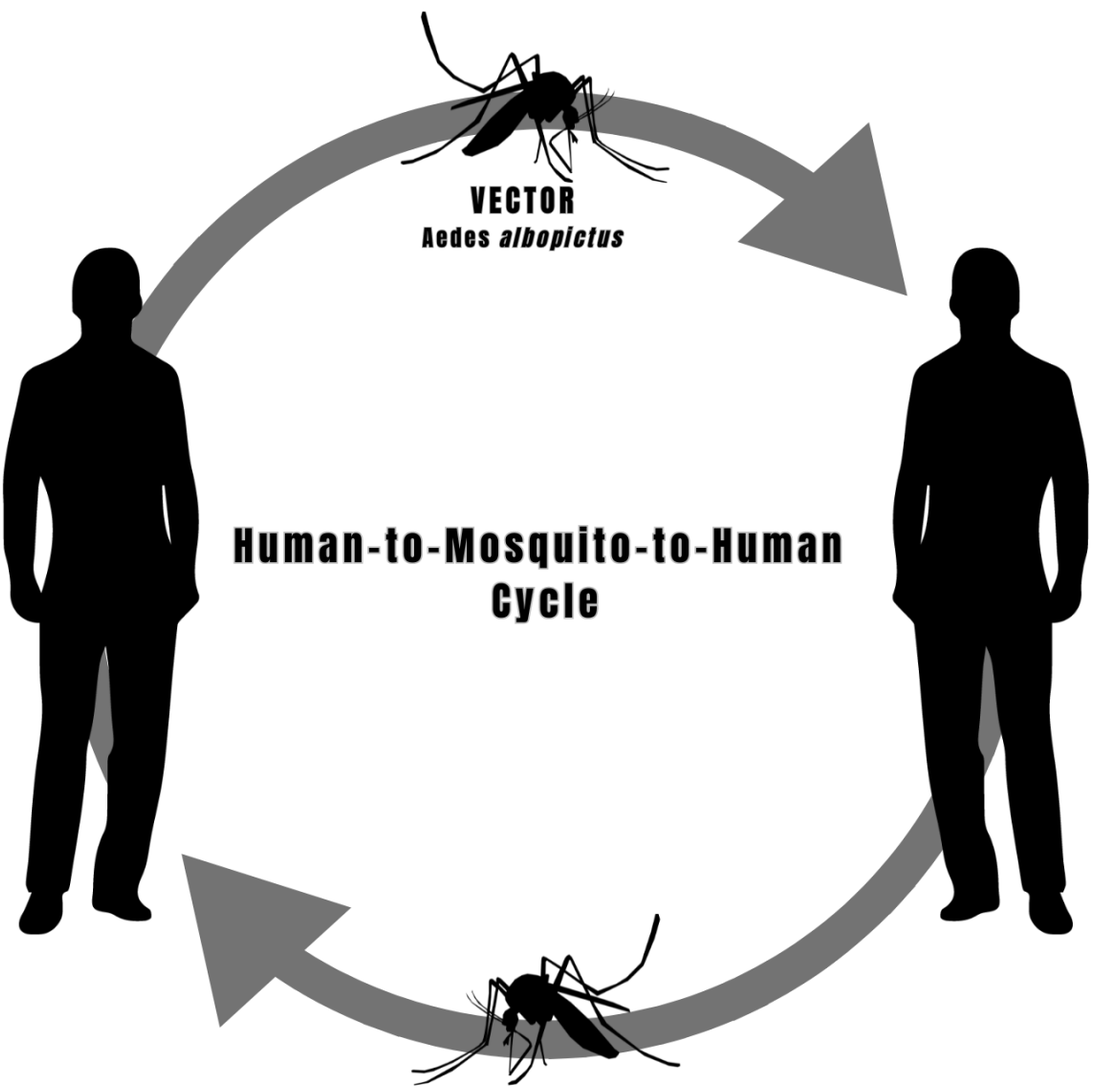
PIONEEER VALLEY MOSQUITO CONTROL DISTRICT

DENGUE VIRUS TRANSMISSION CYCLE



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