

Mosquito Control in Bristol County

Information and Education

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Bristol County Mosquito Control Project

38R Forest Street
Attleboro, MA 02703

BCMCP Activities

- **Mosquito Viral Surveillance**: Cooperative program with the MA Department of Public Health to monitor for Eastern Equine Encephalitis and West Nile Virus in the adult mosquito populations. We use a variety of trap types depending on the environment and the species of mosquitoes wanted.
- **Spring and Summer Larviciding**: To reduce the emergence of adult mosquitoes in areas where mosquito larvae are present.
- **Catch Basin Treatment**: To stop mosquito emergence from water-filled catch basins and storm drains especially for WNV vectors.

BCMCP Activities cont.

- **Ground-Based Adulticiding**: Truck based ultra-low volume (ULV) adulticiding to control both nuisance and vector mosquitoes.
- **Water Management**: A year-round endeavor to clean and maintain mosquito drainage ditches in areas to reduce standing water conducive to mosquito larvae.
- **Public Outreach**: Providing important information to the residents of the county with respect to personal protection against mosquito bites, mosquito breeding prevention on one's property and mosquito data.



Why Mosquitoes?

Involved with spreading a variety of disease:

- West Nile Virus
- Eastern Equine Encephalitis
- Dog Heartworm
- Zika
- Dengue
- Chikungunya



Massachusetts Mosquitoes

- There are 53 species in the state
- Only the females bite, and not all our species bite people
- The overwintering stage is species specific; eggs, larvae, or adult females may overwinter



Aedes albopictus- Asian Tiger Mosquito



- Invasive - tree hole mosquito
- Prefers small – medium containers
- ATM eggs are desiccation-resistant
- ATM is an aggressive daytime feeder of mammals
- Bridge vector potential
 - EEE, WNV, Dengue, Zika & Chikungunya
- **Localized population on the South Coast and along RI border**

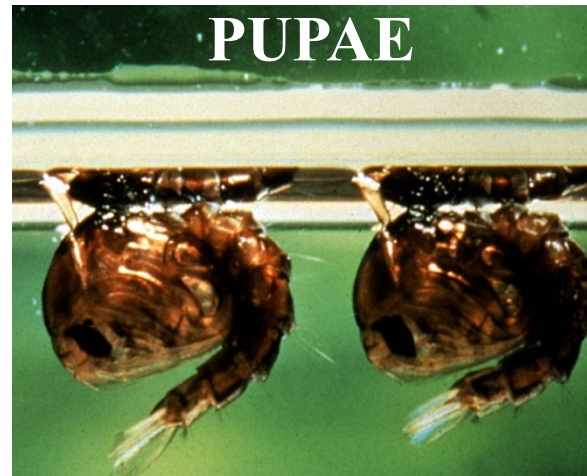


EGGS

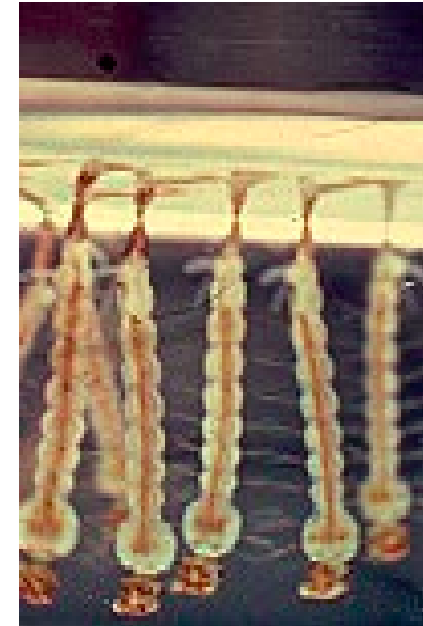


ADULT

Life Cycle of a Mosquito



PUPAE



LARVAE



Spring woodland pool



Summer floodwater in ditch



Cattail marsh



Cedar Swamp Crypts



Extensively flooded freshwater marsh extending into swamp

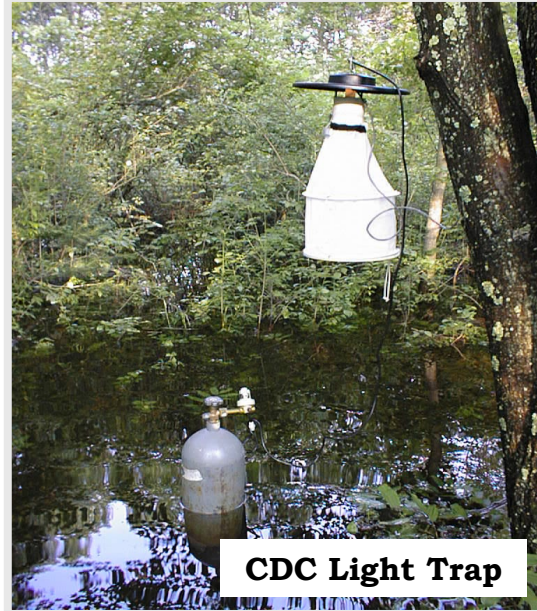




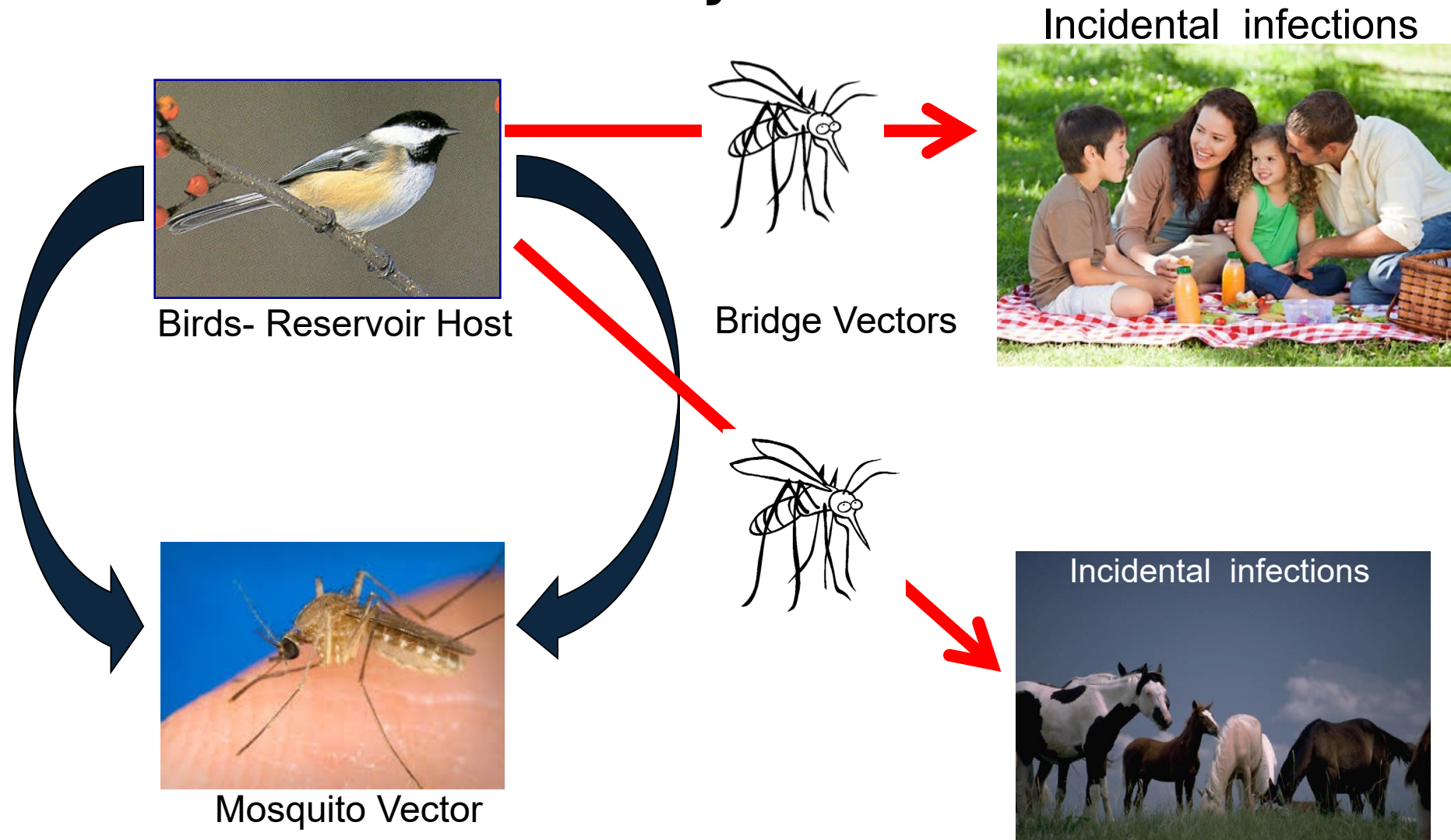
Backyard Breeding Sites:
Clogged Gutters, Trash Barrels, Empty Flower Pots,
Buckets, Wheelbarrows, Animal Water Troughs, Tires and
anything that can hold water

Surveillance

The Cornerstone to Integrated Mosquito Management



WNV & EEE Virus Cycle



Not spread person-to-person, not spread from horses to people

West Nile Virus (WNV)

- Discovered in Africa 1947;
introduced to USA 1999
- Disease cycle:
Birds ↔ Mosquitoes → Humans
- Symptoms
 - Most people- asymptomatic
 - Neuroinvasive cases, risk increases with age
 - Headache, fever, joint and muscle pain, weakness
- Primary driver:
 - *Culex spp.*
- Primary habitat:
 - Permanent water
 - Floodplains
 - Storm water basins
 - Anywhere

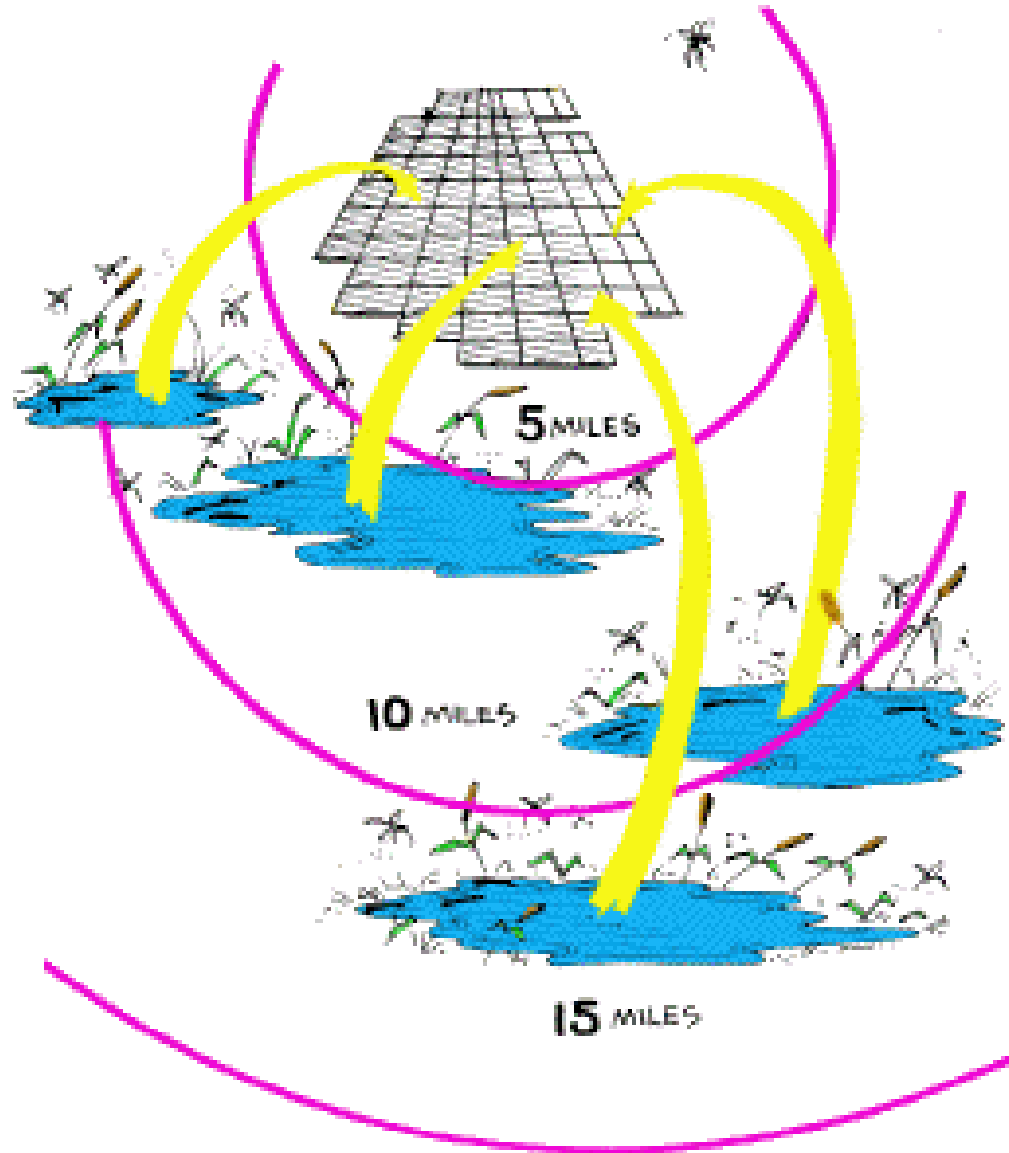


Eastern Equine Encephalitis (EEE)

- Present since at least 19th C.
- Disease cycle:
Birds ↔ Mosquitoes → Humans
- Symptoms
 - Fever
 - Severe joint and muscle pain
 - Chills, vomiting
 - Seizures
 - Coma
- Primary driver: *Culiseta melanura*
- Primary habitat:
 - Eastern white cedar swamps
 - Floodplains



How far does a mosquito fly?



Water management

Our goal is to remove debris, silt and vegetation from drainage ditches throughout our service area to improve water flow, thus eliminating standing water conducive to larval development.

- Performed by hand or mechanized (with excavator)
- We use erosion control materials and re-seed to stabilized soils
- Cleaning out or rebuilding culverts
- Marsh restoration



Larvicide

- **How**: Fixed-wing airplane, helicopter or hand
- **Where**: Wetlands, standing water & catch basins
- **When**: Larvae are present & water will remain for complete lifecycle
- **Who**: BCMCP
- **Products**: *B.t.i* & *B. sphaericus* products- VectoBac 12AS, VectoLex FG, VectoLex WSP, & FourStar CRG
- **Opt-out**: 333 CMR 13.03- online form (BCMCP or SRMCB website)
Marking the boundaries or areas to be excluded at least every 50 feet using marking methods approved by the Dept which clearly defines the area of exclusion.



Requests for exclusion shall not be honored if: (a) The request is not made in accordance with 333 CMR 13.03; (b) The Commissioner of Public Health has certified that the application is to be made to protect the Public Health; etc.

Truck-based ULV Adulticide

- **How**: Pick-up truck

Guidelines:

- Small droplet size
- Low application rate ~0.64 oz/acre
- Truck speed: 5-15 mph
- Not less than 50-55°F
- Winds $\leq$ 10 mph
- Made between Dusk & Dawn

- **Where**: All 20 towns

- **When**: Surveillance says:

- Adults are present/Residential Request
- EEE or WNV detections
- Abundance of disease vector species
- Time of year

Who: BCMCP

Products: Duet Dual Action ULV-Pyrethroid

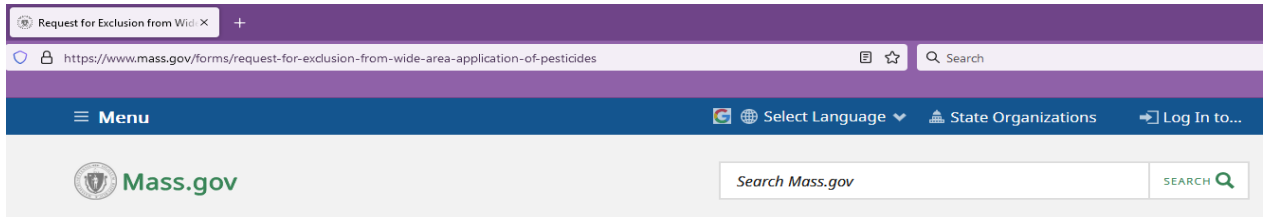
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Pesticide Exclusions

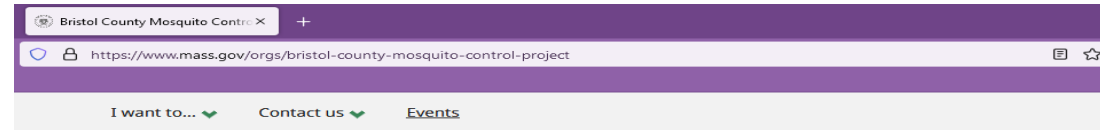


Request for Exclusion from Wide Area Application of Pesticides

Including applications performed by the Mosquito Control Projects/Districts

Pursuant to 333 CMR 13.03, any private property owner or individual in lawful control of a property may request exclusion from wide area applications of pesticides. This includes applications performed by the Mosquito Control Project/District that may provide services in your city/town or any area in the Commonwealth. Requests must be made to the Department of Agricultural Resources in accordance with 333 CMR13.03 and will go into effect fourteen (14) days from the date the request is made. All exclusion requests expire on December 31st of the calendar year in which it was made.

Pursuant to M.G.L. c. 252, Section 2A, any property owner may opt out of aerial spraying or other wide area emergency operations performed by the State Reclamation and Mosquito Control Board in any area in the Commonwealth in the same manner as set forth in 333 CMR 13.03. Requests may be only be made by the property owner and must be made to the Department of Agricultural Resources in accordance with 333 CMR13.03 will go into effect fourteen (14) days from the date the request is made. All requests to opt out expire on December 31st of the calendar year in which it was made.



- [BCMCP FY24 Budget Request](#)

Exclusion Request

Under [333 CMR 13.03](#), (Please use the attached) an exclusion request may be made to opt out of pesticide applications performed by a Project, or any other individual making a wide-area application as defined in 333 CMR 13.01. Requests must be submitted to MDAR either via first class mail or through an online form <https://www.mass.gov/forms/request-for-exclusion-from-wide-area-application-of-pesticides>. Exclusion requests may be submitted at any time during the year, and will go into effect 14 days from the date the request is made. All requests will expire December 31st in the calendar year in which they are received.

Once a request is received by MDAR, it will then be transferred to the Project that covers the region in which the property is located, if applicable. Properties to be exempted will be entered into a database designed to track excluded properties, which will be used by BCMCP during wide-area applications. A list of exclusion requests may also be made available to city and town clerks upon request.

Approved marking method for exclusions:

White plastic or pie plates, a minimum of 9 inches in diameter, with the words "No Spray" clearly written in permanent marker. Plates must be placed on trees, stakes, or poles easily visible from the street, at least every 50 feet along the property boundary adjacent to the road and no more than 5 feet from the road.

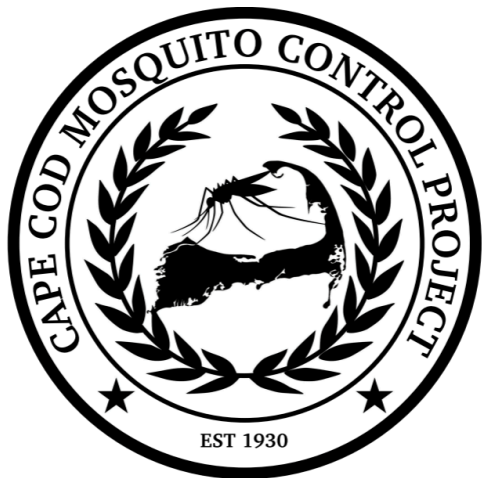
- [2022 Bristol Annual Report](#)

How to make a spray request

- call (508) 823-5253 (8am- 2pm)
- fax (508) 828-1868
- e-mail a spray request to: **RequestBristolMCP@mass.gov**

Please include last name and full address including zip code

Please note that a request is for one application and not for the whole season



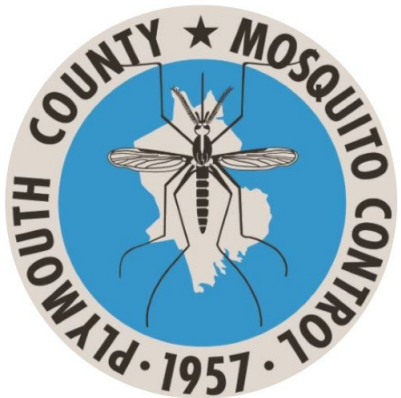
How to make a service request*

- Call (508) 775-1510
- website www.ccmcp.net

Questions? Email: gabrielle.sakolsky-hoopes@mass.gov

Please include last name and full address including zip code.

*A crew will be sent to the location of the service request within a week to determine where the mosquitoes are developing. If appropriate source will be drained, if not larvicide will be applied.



Plymouth County Mosquito Control

How to make a service request

- call 781-585-5450 (7am- 2:30pm)
- fax 781-582-1276
- Website: www.plymouthmosquito.org for residential request
www.plymouthmosquito.org/schools.html for school requests
- Email: PCMCP@mass.gov for town spray requests or questions

*Spray operations are conducted Mon-Fri from 2am-sunrise.

*We will begin taking spray requests on **May 26th** and spraying will start on **June 1st**.



How to make a spray request

Norfolk County Mosquito Control District

- Online requests can be made at www.Norfolkcountymosquito.org/ServiceRequest
- Call (781) 762-3681 (7am- 3:30pm)
- Applications are conducted sunset through midnight, M-R.
- Contact: David Lawson
- 144 Production Road, Suite C, Walpole, MA 02081
- david.a.lawson@mass.gov

State sponsored Aerial ULV Adulticide

- **How**: Fixed-wing airplane contractor
- **Where**: Surveillance dictates
- **When**: Surveillance dictates
- **Who**: SRMCB/MA DPH
- **Products**: MDAR w/ consultation from DPH, DEP, DFG & MAG
 - Anvil 10 + 10 ULV
- **Opt-out**: Acts 2000- Chapter 120 Sec 2- Amendment to Ch 252

Municipalities to opt out of spraying conducted by SRMCB

(a); Alternative mosquito management plan approved by the executive office

(b); Public Selectman/Council meeting with public comment



Ticks vs. Mosquito Vectors

- Mosquitoes fly to their host
- Not restricted to certain areas, habitat is quite varied (urban, rural)
- Host feeding preferences
- Flight ranges
- Number of different species in an area (MA-53, CT-54, NY-63, NJ-63)
- Disease risk which includes seasonal/temporal and spatial overlap

Beware of Ticks!

- Active year-round
- Won't jump or drop from trees or brush
- Will wait for you to come into contact
- Stay on the trails, do not walk into the brush
- Separate yard from woods with a clear line
- Perform tick checks



Larvae as small as a poppyseed



1 inch

2

Blacklegged Tick (*Ixodes scapularis*)



adult female

adult male

nymph

larva

Lone Star Tick (*Amblyomma americanum*)



Dog Tick (*Dermacentor variabilis*)



10 Known diseases in Massachusetts

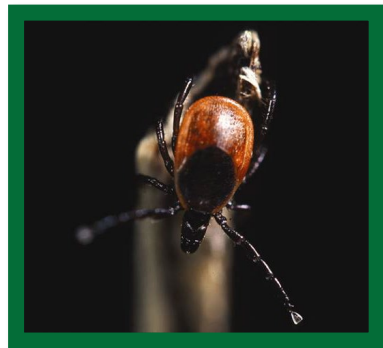
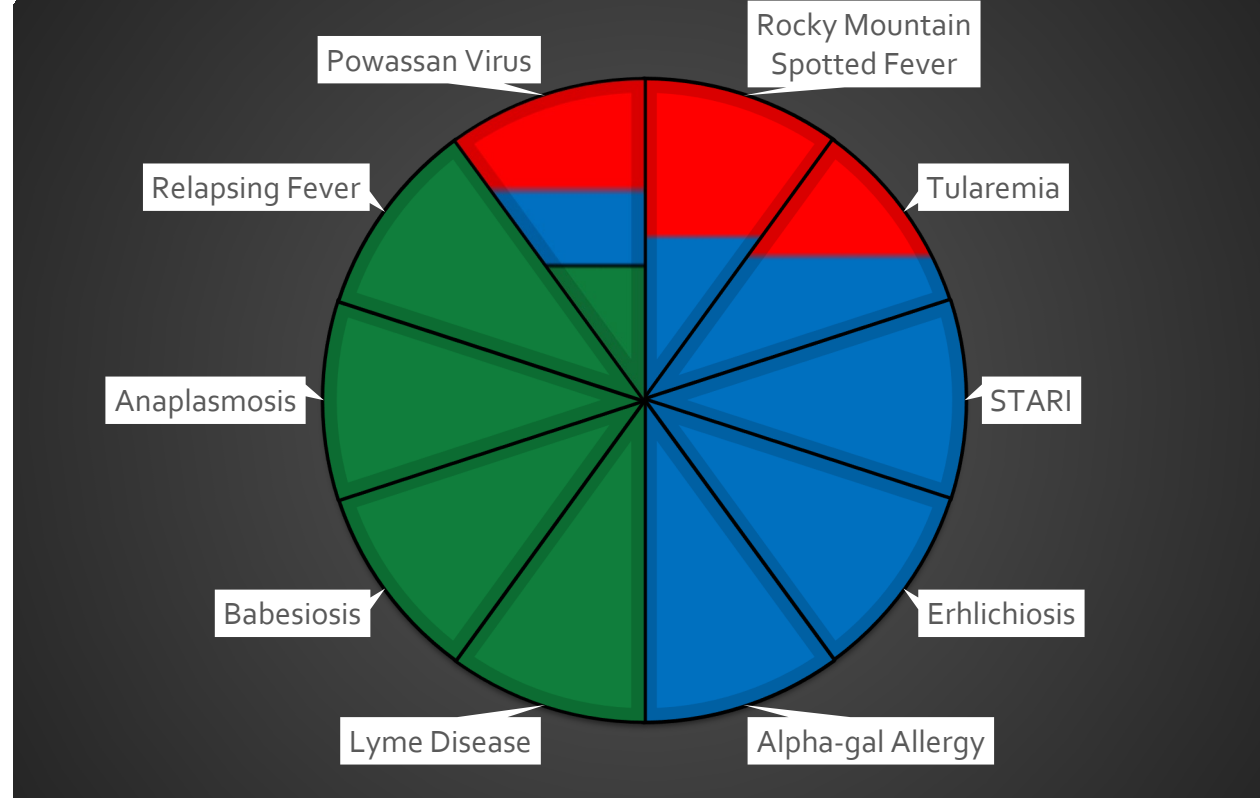


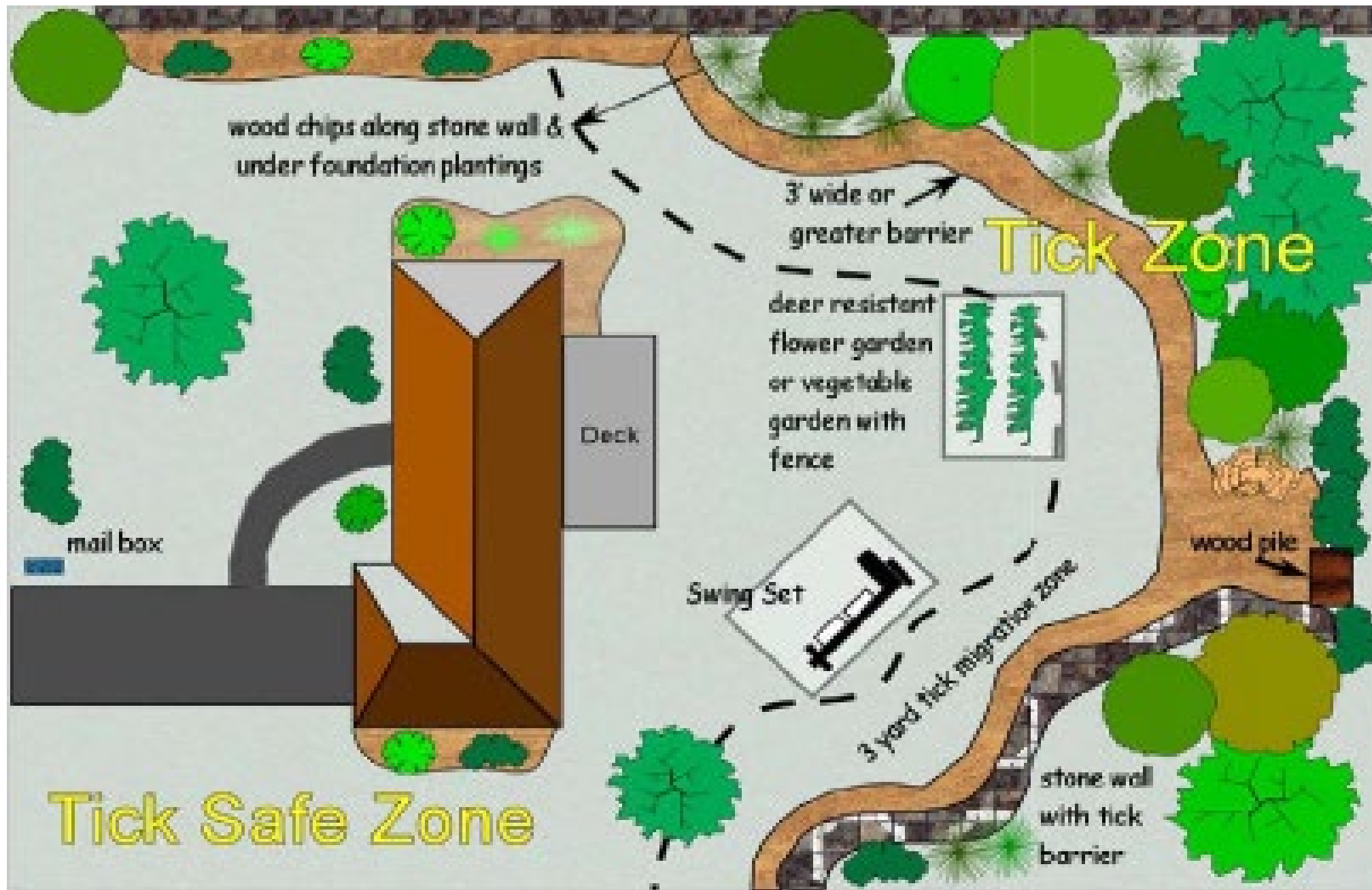
photo credit: Michael Patnuade, Ph. D.



photo credit: Roy Cohutta



photo credit: Lynette Elliott



**82% are
~10 ft
from
treeline**

How to avoid mosquito and tick bites!

5 D's of Protection

- **D**usk
- **D**awn
- **D**ress
- **D**EET
- **D**rain

Protecting Yourself



- Avoid outdoor activities at **D**usk and **D**awn
- **D**ress
 - Wear long sleeves and pants when outdoors

Protecting Yourself

Use repellents and follow the label

- **DEET**
- Picaridin
- Oil of Lemon Eucalyptus
- Permethrin (Great for Ticks too)



What Residents Can Do To Reduce Mosquito Populations

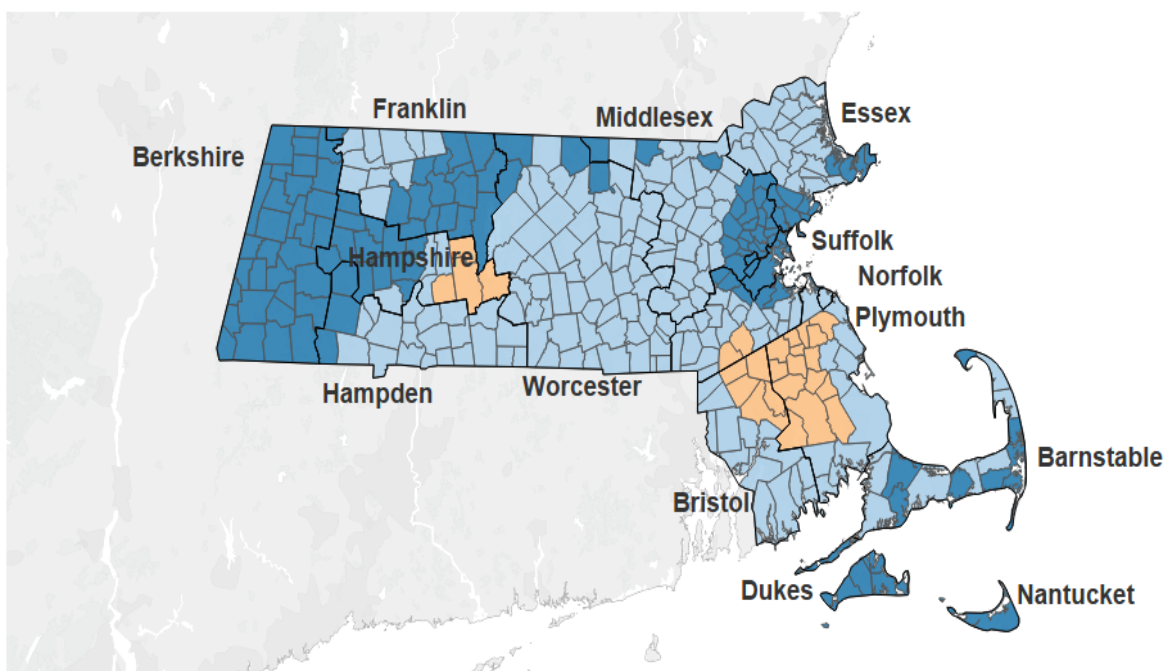


DRAIN

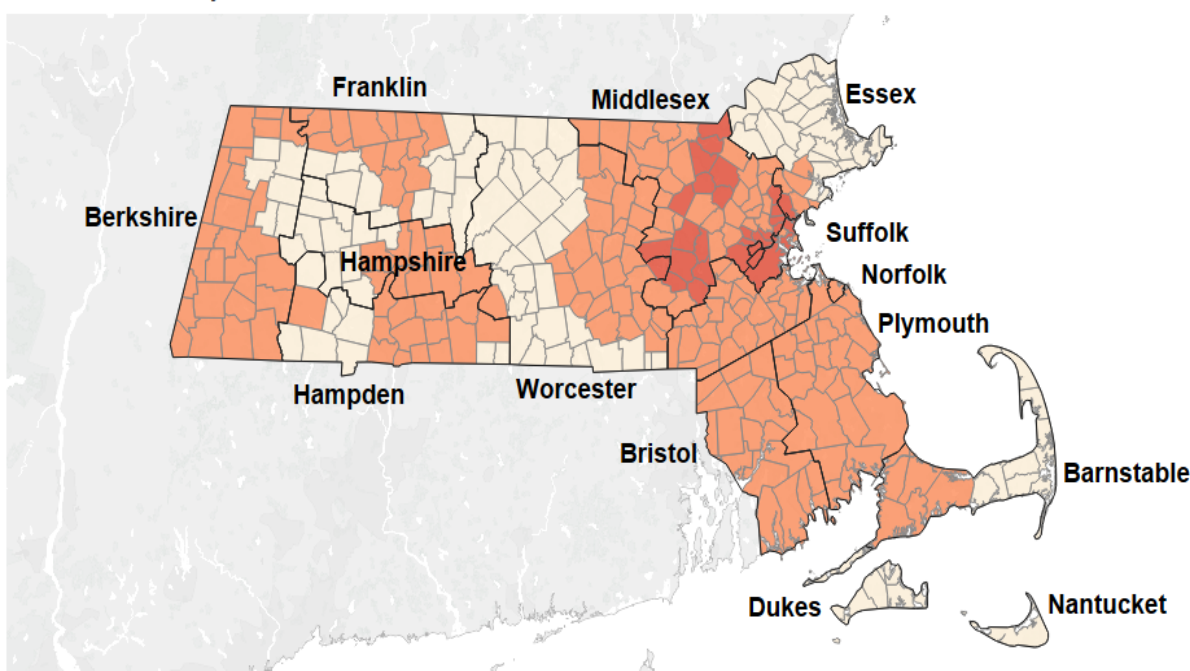
**Chuck it or
check it**

Common Mosquito Breeding Sites:
Clogged Gutters, Tires, Wheel Barrels, Empty Flower
pots, Birdbaths, Animal Water
Troughs and anything that can hold water

EEE Risk Level by Town



WNV Risk Level by Town



Map selections

Click on or hover your mouse over a town to see the current EEE risk level with steps you can take to prevent EEE infection. You can also select a county or town from the menu below to zoom to that area.

EEE Risk Level

- Remote
- Low
- Moderate
- High
- Critical

How 2025 ended

Arbovirus Summary Results Table

	Animal cases	Human cases	Mosquito positive samples
EEE	0	0	23
WNV	1	9	451

with steps you can take to prevent WNV infection. You can also select a county or town from the menu below to zoom to that area.

WNV Risk Level

- Low
- Moderate
- High
- Critical

More on Risk Levels

Select county
(All)

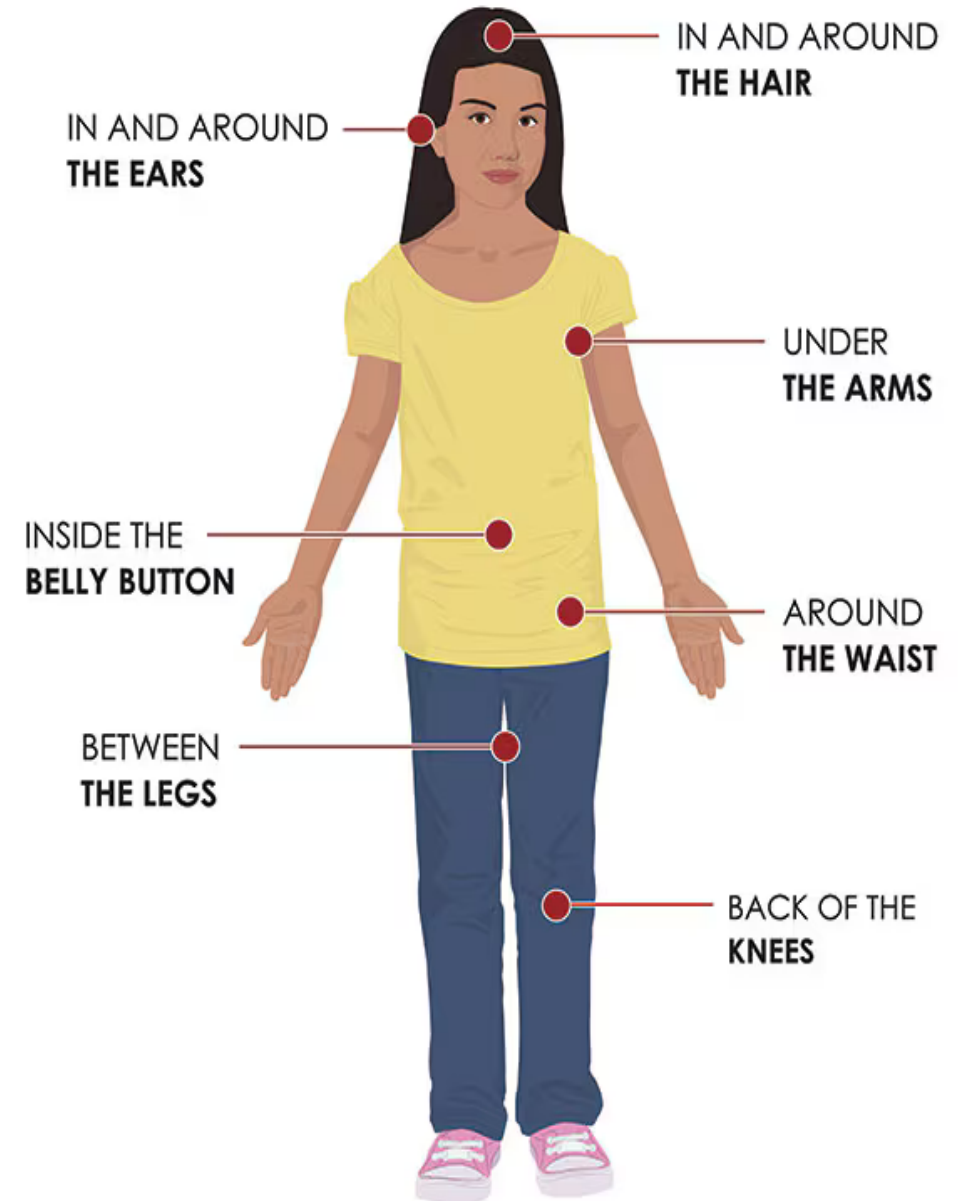
Select town(s)
(All)

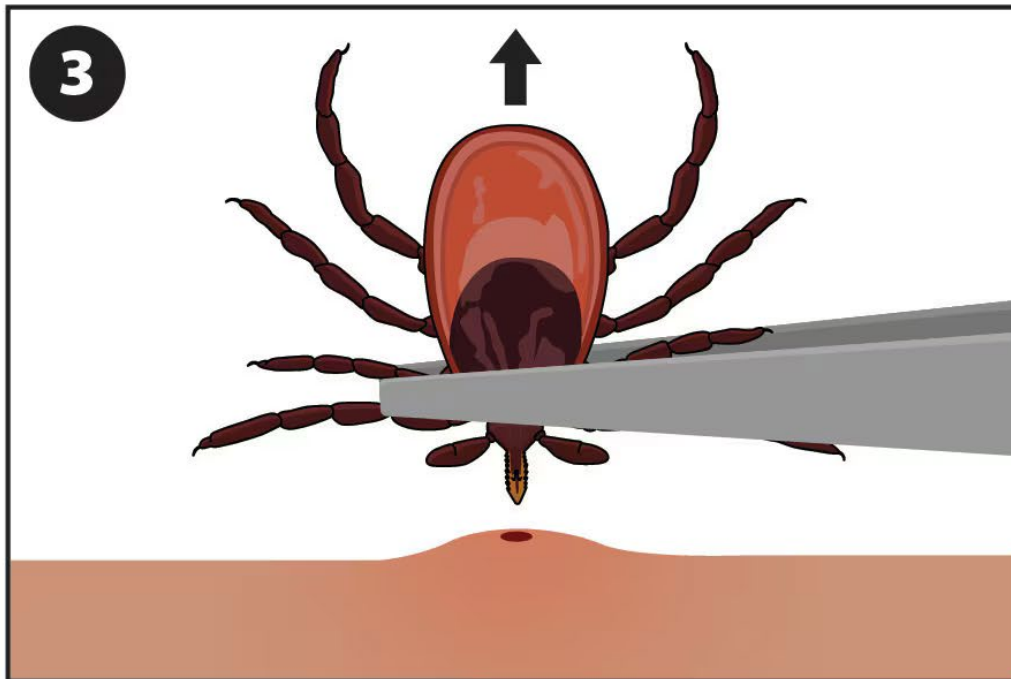
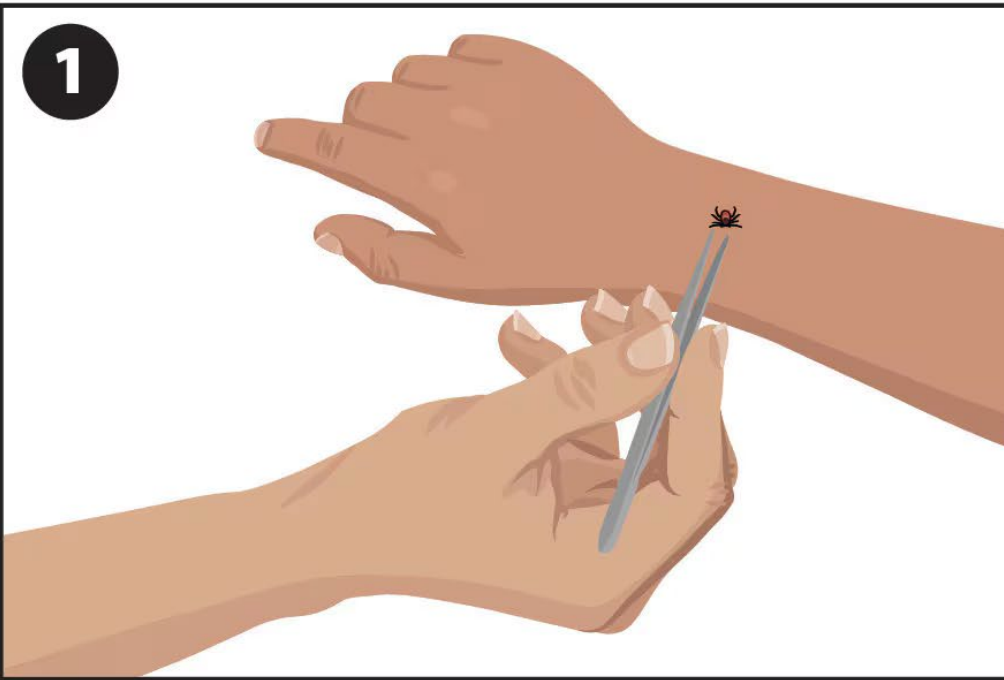
<https://www.mass.gov/info-details/massachusetts-arbovirus-update>

After You Come Indoors

- **Check your clothing for ticks.** Ticks may be carried into the house on clothing. Tumble dry clothes in a dryer on high heat for 10 minutes to kill ticks on dry clothing after you come indoors. If the clothes are damp, additional time may be needed. If the clothes require washing first, hot water is recommended.
- **Examine gear and pets.** Ticks can ride into the home on clothing and pets, then attach to a person later, so carefully examine pets, coats, & daypacks.
- **Shower soon after being outdoors.** Showering within two hours of coming indoors has been shown to reduce your risk of getting Lyme disease and may be effective in reducing the risk of other tickborne diseases. Showering may help wash off unattached ticks.

Check your body for ticks after being outdoors





Contact Information

Address: Bristol County Mosquito Control Project

38R Forest Street

Attleboro, MA 02703

508-823-5253

Email: **Priscilla Matton-** Priscilla.Matton@mass.gov

Todd Duval- Todd.Duval@mass.gov

www.mass.gov\eea\bristolcountymosquitocontrol

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