

Annual Operations Report

Year Report Covers: 2025 Date of Report: 1/30/2026

Project/District Name: Bristol County Mosquito Control Project

Count of Cities and Towns in Service Area: 20

Alphabetical List of Cities/Towns:

Acushnet
Attleboro
Berkley
Dartmouth
Dighton
Easton
Fall River
Fairhaven
Freetown
Mansfield
New Bedford
North Attleborough
Norton
Raynham
Rehoboth
Seekonk
Somerset
Swansea
Taunton
Westport

Were there any changes to your service area this year? No

Municipality added:

Municipality removed:

HQ Address: 38R Forest St. Attleboro, MA 02703

Phone: 508-823-5253

Email: Priscilla.Matton@mass.gov

Report Prepared By: Priscilla Matton

Mission Statement, if available: Bristol County Mosquito Control Project's Mission Statement

In conjunction with the belief that mosquito control is an important public health issue, the Bristol County Mosquito Control Project, under the guidance of the State Reclamation and Mosquito Control Board, strives to serve their membership communities by suppressing both nuisance and disease carrying mosquito populations.

Our goal is to bring mosquito populations to tolerable levels using a variety of scientifically effective methodologies consistent with applicable laws. Surveillance, water management, biological and chemical controls are performed in an environmentally sensitive manner to minimize potential effects on people, wildlife and the environment.

It is acknowledged that Commissioners live or work in the county and that all decisions be made in a fiscally responsible manner. The Project advocates public outreach and education through cooperative efforts with local officials, school departments and the news media.

ORGANIZATION SETUP

Commissioner Names:

Christine Fagan Gregory Dorrance
Dr. Henry Vaillancourt Joseph Carvalho

Superintendent/Director Name: Priscilla Matton

Asst. Superintendent/Director Name:

District/Project Website: www.mass.gov/eea/bristolcountymosquitocontrol

Please list below any additional social media accounts:

@BCMCPMosq

Staffing levels for the year of this report:

Full time: 10 Part time: Seasonal: 1 Other: (please describe) Full time
Administrative Assistant in Summer, part time in winter

Of the above, how many are:

(Please check off all that apply, and list how many are Full Time, Part Time, Or Seasonal)

☒ Administrative Full time	☒ Facilities Full Time	☒ Public relations
summer/ part time winter	☒ Information technology Full	☒ Wetland scientist Full Time
☐ Biologist	Time	☒ Other (please describe) Full
☒ Educator	☒ Laboratory Full Time	time- Seasonal Mosquito
☒ Entomologist Full Time	☒ Operations Full Time	Surveillance Technician

Comments: Public relations and educator responsibilities are shared across multiple employees and are on an as needed basis.

During the season, the following were maintained:

Count	Equipment Type	Type(s)
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3	Modified wetland equipment	Low- ground pressure excavators
2	Larval control equipment	Backpack Sprayers
8	ULV sprayers	3 Cougars (GPS), 3 London Fog (GPS), 2 Guardian (GPS)
1	Electric Vehicles	Ford Lightning
8	Gas Powered Vehicles	Ford and Chevrolets
	Other: 1 Dump Truck & Flatbed Trailer, 1 Utility Truck, 2 Mower Attachments for Excavators	

Comments:

INTEGRATED PEST MANAGEMENT (IPM):

Check off all services that your district/project currently provides to member municipalities as part of an IPM program (details will be provided in the sections below):

- | | |
|--|--|
| ☒ Adult mosquito control | ☒ Larval mosquito surveillance |
| ☒ Adult mosquito surveillance | ☐ Open Marsh Water Management |
| ☒ Ditch maintenance | ☐ Research |
| ☒ Education, Outreach & Public education | ☒ Source reduction |
| ☒ Larval mosquito control | ☐ Other (Please List:) |

Comments:

LARVAL MOSQUITO SURVEILLANCE

If you have a larval mosquito surveillance program, please fill out the section below, otherwise skip ahead to the next section.

Describe the purpose of this program: Surveillance is a component of an integrated pest management program. Regular monitoring and surveillance of larval habitats can determine if the environmental conditions favor mosquito development and species composition. After the larval survey dipping takes place, the technician must determine the proper larval control measures that should be taken if appropriate.

What months is this program active? Year round depending on species

Describe the process of monitoring / sampling: BCMCP conducts dipping at numerous locations throughout the larval habitat using a standard 350ml dipper. Mosquito larvae are collected for identification. White-cedar habitats are sampled for *Cs. melanura* using hand dipping or bilge pump methods, these numbers are not generally recorded due to patchy distribution and wide abundance changes from year to year. Cattail habitats are sampled using a screen for *Cq. perturbans*.

Describe the habitat that is being sampled: Freshwater wetlands, saltmarshes, white cedar and red maple swamps, catch basins, other permanent and temporary water bodies and artificial containers that hold water for extended periods of time.

What environmental conditions (vegetation, water quality, predators) are observed? Water quality, depth and clarity, presence/absence of algae, presence/absence of aquatic insects and crustaceans (copepods, ostracods, etc.) and/or tadpoles.

How frequently are sites monitored? As needed

Comments:

ADULT MOSQUITO SURVEILLANCE

If you have an adult mosquito surveillance program, please fill out the section below, otherwise skip ahead to the next section.

Describe the purpose of this program: Surveillance is the cornerstone of IPM and an important part of the services we offer to member municipalities. The purpose of surveillance is to monitor for human health threats from mosquito-borne arboviruses, as well as to determine mosquito populations and diversity for appropriate control methods.

What months is this program active? May to October

Check off all trap types used this past season by your program:

Trap Type	Canopy? (check box for yes)	Number of traps (leave blank if zero)
ABC light trap	☐	
ABC light trap w/CO ₂	☐	
CDC light trap	☐	
CDC light trap w/CO ₂	☐	12
Gravid trap	☐	48
Landing rate test	☐	as needed
NJ light trap	☐	
NJ light trap w/CO ₂	☐	
Ovitrap	☐	12
Resting box	☐	30
Other (please describe): BG Sentinel Traps		5 to 7
Other (please describe):		
Other (please describe):		

Do you maintain long-term trap sites in any of your areas? Yes or No: Yes

If yes, how many: 40

Please check off the species of **concern** in your service area:

☒ <i>Ae. albopictus</i>	☒ <i>Cx. salinarius</i>	☐ <i>Oc. sollicitans</i>
☐ <i>Ae. cinereus</i>	☒ <i>Cs. melanura</i>	☐ <i>Oc. taeniorhynchus</i>
☒ <i>Ae. vexans</i>	☐ <i>Cs. morsitans</i>	☐ <i>Oc. triseriatus</i>
☐ <i>An. punctipennis</i>	☒ <i>Cx. restuans</i>	☐ <i>Oc. trivittatus</i>
☐ <i>An. quadrimaculatus</i>	☐ <i>Oc. abserratus</i>	☐ <i>Ps. ferox</i>
☒ <i>Cq. perturbans</i>	☒ <i>Oc. canadensis</i>	☐ <i>Ur. sapphirina</i>
☒ <i>Cx. pipiens</i>	☐ <i>Oc. cantator</i>	☐ <i>Others:</i>
☒ <i>Cx. restuans</i>	☐ <i>Oc. j. japonicus</i>	

Do you participate in the **MDPH Arboviral Surveillance program**? (yes/no): Yes

How many pools did you submit weekly on average? 33

Total number of adult mosquito pools submitted to DPH this past season: 500

Number of adult mosquito pools collected but not submitted to DPH ("Unsubmitted"): 1749

Total number of adult mosquitoes submitted to DPH this past season: 16,703

ADULT MOSQUITO SURVEILLANCE

Number of adult mosquitoes collected this season but not submitted to DPH: 31,324

Number of Ovitraps collections this season, if any: 125

Any other trap collections of note (please describe):

Number of traps in your service area placed by **MDPH**: 5

Were these long-term trap sites or supplemental trapping sites? Yes or No: Yes

Which arboviruses were found in your area during this past mosquito season?

Enter the number of positive pools and/or cases below:

Comments:

Arbovirus	+ Mosquito Pools	Equine Cases	Human Cases
☒ Eastern Equine Encephalitis (EEE)	11	0	0
☒ West Nile Virus (WNV)	37	0	0
☐ Other (please list):			

For each arbovirus listed below, please list number of municipalities at each risk level in your project area at both the start and peak of the season (say "all" if all municipalities are at same risk level):

Arbovirus	Start of Season	Peak of Season
EEE	All Low	5 Moderate
WNV	All Low	All Moderate

Comments: End of the season report is attached.

LARVAL MOSQUITO CONTROL:

If you have a larval mosquito control program, please fill out the section below, otherwise skip ahead to the next section.

Describe the purpose of this program: The larval suppression program is one of our most effective methods to reduce the number of biting mosquitoes by preventing mosquitoes from maturing into adults. We employ larviciding techniques to current and historical mosquito breeding sites to protect human health and improve the quality of life of our residents.

What months is the program active? April- September

Describe the types of areas where you use this program: BCMCP targets the following areas: freshwater wetlands, saltmarshes, cedar and red maple swamps, catch basins, other permanent and temporary water bodies, and artificial containers that hold water for extended periods of time.

Do you use:

- ☒ Aerial applications. Describe operations: BCMCP hires a state vendor helicopter company, North Fork, to make an application in the spring. BCMCP coordinates with Plymouth County Mosquito Control Project for applications to the Hockomock swamp complex that covers both counties. Liquid bacterial larvicide is applied at appropriate label rates.
- ☐ Portable applications. Describe operations:
- ☒ Other (please list): Hand

LARVAL MOSQUITO CONTROL

What is your trigger for larviciding operations? (check all that apply)

- ☒ Best professional judgment. Describe: Applicators look at habitat type, likely duration of standing water, arbovirus data, species likelihood and legal requirement for pesticide applications.
- ☒ Historical records
- ☒ Larval dip counts – Describe trigger for application: 1+ per 5 dips
- ☐ Other (please describe):

Comments: An aerial larvicide application was conducted over the Hockomock and Bolton Swamps in mid-April 2025. Approximately 2,616 acres were treated to control a variety of spring species and *Cs. melanura*, an important EEE vector. An application was made to *Cq. perturbans* specific habitat in mid-April covering 27 acres. These maps are included in the end of the season report referenced in the adult mosquito surveillance section.

List all products that you use for larval mosquito control in the table below (leave blank if not applicable):

Product Name	EPA #	Application Rate(s)	Application Method	Target Life Stage	Habitat Type	Total Product Applied
FourStar CRG	85685-2	7.5- 20lbs per acre	Hand	Larvae	☐ Catch basins ☐ Containers ☒ Wetland ☐ Other (please list):	4700.5 lbs
FourStar BTI CRG	85685-4	10lbs/acre	Hand	Larvae	☐ Catch basins ☐ Containers ☐ Wetland ☒ Other (please list): Tires	20 lbs
Altosid XR	2727-421	1 per 50 sq. ft.	Hand	Larvae/pupae	☐ Catch basins ☐ Containers ☒ Wetland ☐ Other (please list):	13.80 lbs
VectoLex WSP	73049-20	1 per 50 sq. ft.	Hand	Larvae	☒ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	421.52 lbs
VectoLex FG	73049-20	14.8lbs/acre	Aerial	Larvae	☐ Catch basins ☐ Containers ☒ Wetland ☐ Other (please list):	400 lbs
VectoBac 12AS	73049-38	1 pint per acre	Aerial	Larvae	☐ Catch basins ☐ Containers ☒ Wetland ☐ Other (please list):	267 gallons
					☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
					☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
					☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
					☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	

ADULT MOSQUITO CONTROL:

If you have an adult mosquito control program, please fill out the section below, otherwise skip ahead to the next section.

Describe the purpose of this program: When larviciding is not a viable option, targeted adulticiding applications are used. BCMCP's program is designed to decrease the number of vector and nuisance mosquitoes. There has been consistent detection of West Nile virus and/or Eastern Equine Encephalitis in our county.

What is the time frame for this program? June thru mid-September

Describe the types of areas where you use this program: BCMCP accepts requests for adult mosquito control applications from residents, businesses, town officials and other organizations within our 20 towns. ULV applications normally take place in residential, recreational areas and in response to increased populations, WNV or EEE detections from mosquitoes or positive animal/human cases.

Do you use:

- ☐ Aerial applications. Describe operations:
- ☐ Portable applications. Describe operations:
- ☒ Truck applications. Describe operation: ULV truck based applications are made from the road at label directions based on trapping data and residential request.
- ☐ Other (please list):

For each product used, please list the name, EPA #, and application rate(s):

Product Name	EPA #	Application Rate(s)	Application Method	Total product applied
DUET	1021-1795-8329	0.62 oz/acre	Truck mounted ULV	481.32 gallons

Please describe the maximum amounts or frequency used in a particular time frame such as season and areas: Frequency of applications are dependent upon vector control activities, physical characteristics of the area and/or environmental issues. Applications are made in accordance with label directions.

What is your trigger for adulticiding operations? (check all that apply)

- ☒ Arbovirus data
- ☒ Best professional judgment
- ☒ Complaint calls. Describe trigger for application: Upon resident and town/city request and trap data
- ☒ Landing rates. Describe trigger for application: Ae. albopictus- 2 adults within 5 minutes
- ☒ Light trap data. Describe trigger for application: See EIR

Comments:

Please attach maps of your service areas (or a website link to that map): Figure 1

SOURCE REDUCTION

If you practice source reduction methods, such as tire removal, please fill out the sections below, otherwise skip ahead to the next section.

Tire Removal

Please describe your program: This program addresses source reduction via removal and disposal as BCMCP work crews find tires, containers and other articles that would serve as larval habitat. This tire program is limited to tires that BCMCP crews find in the course of their water management work and is not open to the public. We often inspect properties and offer advice to landowners and businesses on how to reduce and remove standing water or any other materials that would be conducive to mosquito habitat.

What time frame during the year is this method employed? Year round

Comments: No tires were removed by BCMCP staff in 2025

Water Management/ Ditch Maintenance

If you have a water management or ditch maintenance program, please fill out the section below, otherwise skip ahead to the next section.

Please check all that apply:

- ☒ Inland/freshwater
- ☒ Saltmarsh

Please describe your program: Our goal is to remove debris, sediment and vegetation from drainage ditches throughout our service area to improve water flow, thus eliminating standing water conducive to larval development. We also maintain previously excavated ditches. This includes both hand and mechanized work. We use erosion control materials and re-seed to stabilize soils disturbed by our operations. This is an important part of our IPM strategy and data and records are collected in accordance with the BMP.

For inland/freshwater water management, check off all that apply:

Maintenance Type	Estimate of cumulative length of culverts, ditches, swales, etc. maintained (ft)
☒ Culvert cleaning	

☒ Hand cleaning	90,585 ft
☒ Mechanized cleaning	2,365 ft
☒ Stream flow improvement	
☒ Other (Please List:)Reclaim	92,950 ft

Comments: Culvert cleaning and stream flow improvement cumulative length are included in mechanized and hand cleaning. Cumulative mechanized brush mowing 23.80 acres (26,100 linear feet).

Water Management/ Ditch Maintenance

For saltwater ditch maintenance, check off all that apply:

Maintenance Type	Estimate of cumulative length of ditches maintained (ft)
☒ Hand cleaning	7,945 ft
☒ Mechanized cleaning	1,080 ft
☒ Other (Please List:)Reclaim	9,025 ft

Comments: Completed 16 mechanized water management projects.

What time frame during the year is this method employed? Year round

Please attach a map of ditch maintenance areas (or a website link to that map). Ditch maintenance occurred throughout our County in all 20 towns/cities. Individual maps of specific areas are available upon request but are too large to attach.

Open Marsh Water Management

If you have an Open Marsh Water Management program, please fill out the section below, otherwise skip ahead to the next section.

Describe the purpose of this program:

What months is this program active?

Please give an estimate of total square feet or acreage:

Please attach a map of OMWM areas (or a website link to that map).

MEASURES OF EFFACACY

Describe monitoring efficacy efforts for each of the following:

Aerial Larvicide – wetlands: Standard protocol is to take pre- and post- dip larval counts from

predetermined locations within the treatment wetlands. Non-treated locations would be used to correct for normal variation in populations.

Ground ULV Adulticide: To monitor efficacy, species targeted mosquito traps are placed in a location where ground ULV applications will take place. Pre- and post- trapping is necessary as is comparing to a non-treatment site to determine normal fluctuations due to other factors such as temperature and wind speed.

Larvicide – catch basins: Random samples of water are taken from catch basins in each town to assess larval populations.

Larvicide-hand/small area BCMCP conducts pre- and post- application dipping at numerous locations throughout the treatment site using a standard 350ml dipper.

Open Marsh Water Management:

Source Reduction: We return to mechanized water management sites regularly to check for blockages or debris that may obstruct the flow of water and to meet any additional recommendations in the BMP. In areas where containers or tires were removed, some sites are re-checked during the season.

Other (please list): Pesticide efficacy testing was completed for common species using CDC bottle bioassay protocols in August 2025 by CDC's Center for Training and Evaluation. Due to the presence of the invasive mosquito *Ae. albopictus* in our county, an aggressive adult monitoring effort using multiple trap types has been implemented in the affected area. *Ae. albopictus* samples were sent to CDC's Center for Training and Evaluation for testing of resistance enzymes.

Provide or list standard steps, criterion, or protocols regarding the documentation of efficacy (pre and post data), and resistance testing (if any): Pre and post collection of data is analyzed for all types of applications. More information is available in the EIR. Efficacy testing for ULV pesticides is performed using CDC Bottle Bioassay methods and results are reported internally and to CDC.

Research Project	Details
Bottle assays	
Efficacy testing	
Other:	
Other:	

EDUCATION, OUTREACH & PUBLIC RELATIONS

If you have an education/outreach program, please fill out the section below, otherwise skip ahead to the next section.

Describe the purpose of this program: Education is an important component of the Project's objectives to reduce arbovirus risk in the County. Speaking with the public allows us the opportunity to address any questions and misunderstandings about the program and the pesticides we use. We educate our residents on ways they can protect themselves from mosquito bites and reduce their risk of illness. We also educate our residents on simple mosquito source reduction techniques for their own properties.

What time frame during the year is this method employed? Year round

Check off all education/outreach methods that were performed by your program this year:

☒ Development/distribution of brochures, handouts, etc.

☒ Door-to-door canvassing (door hangers, speaking to property owners, etc.)

☒ Facebook page, Twitter, or other social media

☐ Mailings (Describe target audience(s):)

☒ Media outreach (interviews for print or online media sources, press releases, etc.)

- ☒ Presentations at meetings
- ☒ School-based programs, science fairs, etc.
- ☒ Tabling at events (local events, annual meetings, etc.)

- ☒ Website
- ☐ Other (please describe): Met with new Board of Health agents in our County at our Project to explain our services.

Estimate the audience reached this year using the education/outreach methods above: 400+ in person, television audience unknown

List your program's top 3 education/outreach activities for this past year:

1. 4 Radio and TV interviews
2. Buttonwood Zoo Party for the Planet
3. Bristol County Agricultural Job Fair

Were you involved in any collaborations with the following partners this year? Provide details below, including a list of technical reports, white/grey papers, journal publications, trade magazine articles, etc.:

- ☐ Academia
- ☒ Another mosquito control district/project
- ☒ Another state agency (DCR, DPH, etc.)
- ☒ Environmental groups
- ☐ Industry

Please list any certifications and degrees held by your staff:

Priscilla Matton: B.S. Zoology, M.S. Entomology, MA Pesticide Applicator Certification (47)
 Drew Bushee: MA Pesticide Certification (47), CDL license, Hoisting license
 John Moniz: Licensed MA Pesticide Applicator, CDL license, Hoisting license
 Todd Duval: B.A. Aquatic Biology, M.A. Biology, MA Pesticide Applicator Certification (47), OSHA 10 hour certification, CDC/AMCA Certified Trainer for Integrated Mosquito Management
 Joshua Nickerson: Licensed MA Pesticide Applicator, CDL license, Hoisting license
 Matthew Gavaza: Licensed MA Pesticide Certification (47)
 Anthony Souza: Licensed MA Pesticide Certification (47)
 Larry Goss: Licensed MA Pesticide Certification (47)
 John Pereira: Licensed MA Pesticide Applicator
 Aaron Toth: Licensed MA Pesticide Certification (41)

List any training/education your staff received this year: "Right to Know" and tick education was provided. Multiple state required training through MyPath/Mass Achieves and HR. Pesticide certification credits through the Northeastern Mosquito Control Association's annual scientific conference and Field Day. MDAR "Spotted Lantern Fly Training". Frontier Precision training for FieldSeeker larviciding and adulticiding modules. Clarke training on general mosquito biology and pesticide applications.

INFORMATION TECHNOLOGY (IT)

Does your program use (check all that apply):

- ☒ Aerial Photography
- ☒ Databases
- ☐ Dataloggers (monitoring for temperature, etc.)
- ☒ GIS mapping (Describe:) BCMCP maps water management projects, trap locations, larval and adulticide locations. ArcMap, ArcGIS Online, and QGIS have all been used for map creation and data sharing.
- ☒ GPS equipment
- ☐ Smartphones
- ☒ Tablets/Toughbook
- ☒ Other (please describe): Web-based service request system and automatic service request closing application from truck's GPS data provided by Frontier Precision.

Describe any changes/enhancements in IT from the previous year: New Mesa 3's larger tablets were purchased for larviciding and adulticiding pesticide mapping and data recording.

REVENUES & EXPENDITURES

Please enter your approved budgets for the previous, current, and future fiscal years.

	Date of Fiscal Year	Approved Budget
Previous	FY24	\$1,722,955.00
Current	FY25	\$1,766,030.00
Future	FY26	\$1,810,180.00

List each member municipality, along with the corresponding (cherry sheet) funding assessment dollar amount, for the current fiscal year (or provide a web link to this information): Please see attached FY 26 Cherry Sheet Assessment

Comments:

SERVICE REQUESTS

How many service requests did you receive this season? 6,636

How many were for larviciding? 147

How many were for adulticiding? 6489

Was this an increase or decrease over last season? Decrease

Comments:

EXCLUSIONS

How many exclusion requests did you receive this season? 115

Was this an increase or decrease over last season? Yes or No: Decrease

Do you have large areas of pesticide exclusion, including priority habitat? No

Comments:

SPECIAL PROJECTS

Did your program perform any of the following special projects?

Project	Description
☒ Inspectional services (inspections at sewage treatment facilities, review of subdivision plans, etc.)	BCMCP continued inspections and work on a source reduction plan with 2 separate tire facilities and an abandoned lot located in New Bedford where the invasive Ae. albopictus has been collected. Worked with Taunton on new apartment complex and possible storm water areas that could be larval habitat. As a member of the BBC Restoration Advisory Committee, Joshua provided review and comment on various proposed restoration projects.
☒ Work with DPW departments or other local or state officials to address stormwater systems, clogged culverts, or other areas identified as man-made mosquito problem areas.	Routinely work with and respond to requests from member Cities, Towns, and local government agencies such as; local DPWs, Health Boards, and Conservation Commissions. At the State level we have worked with and responded to requests from Mass DOT, DCR, and DER. Coordinate with these agencies to provide dump trucks to remove spoil and debris from work sites and clear culverts using specialized equipment. Some provide material in areas we are working in. Coordinated with the New Bedford and Mansfield Airport on water management projects.
☒ Work with groups as described above on long-term solutions.	Working with local airports on long term ditch maintenance and vegetation plans. Work with the City and the Fall River Industrial Park to address their extensive drainage ditch system. Work with partners and landowners (DNRT, FALPT, BBC, Save the Bay, Mass Audubon, etc.) to evaluate long-term solutions to salt marsh ditch maintenance in a rapidly changing ecosystem. Worked with Algonquin Gas company on invasive vegetation management.
☒ Conduct or participate in any cooperative research or restoration projects?	Worked with partners (DNRT, FALPT, BBC, Save the Bay, Mass Audubon, and others) to plan and/or execute salt marsh restoration/ditch maintenance projects and phragmites remediation. Worked with Long Pond Association in Freetown on invasive vegetation management.
☒ Participate in any state/regional/national workgroups or panels, or attend any meeting pertaining to the above?	AMCA and NMCA annual meeting meetings. Participate in a specialty applicators call with RISE.
☐ Work on any biological control projects, such as enhancement of habitat for native predators, release of predatory fish or invertebrates, etc.?	

☐ Other	

GENERAL COMMENTS

Please add any comments here for topics not covered elsewhere in this report:



THE COMMONWEALTH OF MASSACHUSETTS STATE
RECLAMATION AND MOSQUITO CONTROL BOARD



BRISTOL COUNTY MOSQUITO CONTROL PROJECT

38R FOREST STREET, ATTLEBORO, MA 02703 TEL: (508)823-5253 FAX: (508)828-1868

COMMISSIONERS

CHRISTINE A. FAGAN, Chairman

GREGORY D. DORRANCE

HENRY R. VAILLANCOURT, MD MPH, FAAFP

JOSEPH CARVALHO

SUPERINTENDENT

PRISCILLA MATTON, MS

Entomologist

Todd B Duval, MA

Tuesday, January 06, 2026

Bristol County Mosquito Control Project (BCMCP)

2025 Entomology Season Report

Season Summary

The winter of 2024-2025 had some periods of polar vortex associated freezing weather, but still below average precipitation. We never really approached normal precipitation for the year, although the drought was not as deep as 2024. Spring larval populations were lower than previous years. Fixed wing larvicide applications occurred in April in the Hockomock and Bolton Swamps and our fifth year of spring helicopter treatments in Easton went on as scheduled. Reductions in larval populations were recorded. The season started with below average mosquito activity and low populations of *Coquilleltidia perturbans* and *Culiseta melanura* were observed. June saw above average mosquito populations, unusually these were all *Culex pipiens/restuans*, our main West Nile virus (WNV) vector. Although our *Cs. melanura* and *Cq. perturbans* were very low compared to previous years, we still had quite a bit of Eastern equine encephalitis (EEEV) activity which drove our testing counts a little higher than previous years. There were 37 WNV and 11 EEEV detections. No human or animal WNV or EEEV illnesses were reported. First frost was roughly two weeks earlier than usual; surveillance ended on October 15th. Winter 2025-2026 has started cold and dry. This

report is based on data collected from CO₂-baited CDC traps, resting boxes, gravid traps, ovitraps and BG Sentinel™ Traps. Weather data from NOAA.

Table 1. Summary of mosquito sampling, collections and positive arbovirus samples for 2025 compared to 5-year average.

		2020	2021	2022	2023	2024	2025	5-year average	5-year change	5-year trend
Samples Tested	Bristol MCP	461	499	337	497	447	500	448	12%	
	MA DPH	188	270	115	410	338	255	264	-3%	
	Total	649	769	452	907	785	755	712	6%	
Mosquitoes tested	Bristol MCP	13,884	15,865	8,560	14,763	12,216	16,703	13,058	28%	
	MA DPH	6,297	9,474	3,636	16,401	12,030	7,256	9,568	-24%	
	Total	20,181	25,339	12,196	31,164	24,246	23,959	22,625	6%	
Mosquitoes not tested	Bristol MCP	20,992	58,056	12,498	37,390	40,143	31,324	33,816	-7%	
	MA DPH	11,205	23,640	6,335	14,477	11,319	10,167	13,395	-24%	
	Total	32,197	81,696	18,833	51,867	51,462	41,491	47,211	-12%	
Total population	Bristol MCP	34,876	73,921	21,058	52,153	52,359	48,140	46,873	3%	
	MA DPH	17,502	33,114	9,971	30,878	23,349	17,423	22,963	-24%	
	Total	52,378	107,035	31,029	83,031	75,708	65,563	69,836	-6%	
Positive samples	West Nile Virus	12	16	6	22	32	37	18	110%	
	Eastern Equine	0	0	0	6	6	11	2	358%	
Trap events	Bristol MCP	597	615	651	666	645	661	639	3%	
Service requests		12,857	8,416	7,334	5,841	8,027	6,489	8,495	-24%	

Mosquito activity/trends for the 2025 Season

The widespread drought in 2024 really shaped this year's mosquito season. The season started with relatively low counts of mosquito larvae, and the Atlantic white-cedar swamps were virtually absent of *Cs. melanura* larvae. Mosquito populations remained low until well into June, when we had a few weeks of above normal activity. This pattern switched back to lower than normal for the remainder of the year.

Our primary WNV vector *Cx. pipiens/restuans* were the highest I have ever seen, and about 2x higher than our 5-year average. I am struggling to find a reason for this, but this pattern was also reported by our neighboring districts. Large mid-season hatches of *Cx. salinarius* were absent in 2025, possibly due to the lack of hurricane remnants in the area this season.

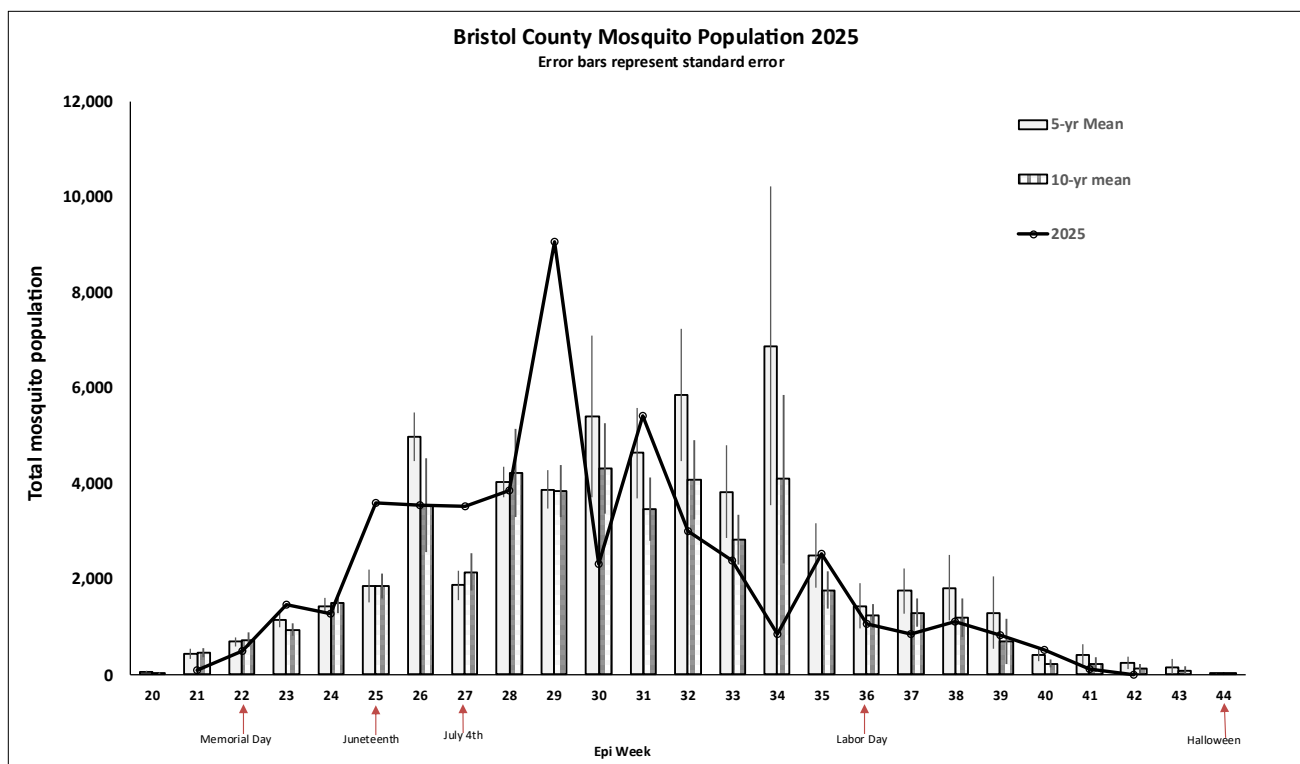


Figure 1. 2025 population totals by epi week compared to 5- and 10-year average.

The cattail mosquito *Cq. perturbans* stayed below recent averages, but they followed their typical pattern by appearing in large numbers around July 4th and dwindling for the rest of the year. As expected from the 2024 drought, *Cs. melanura* were down about 71%, although they seemed to recover in late summer.

Aedes species remained low at -46% for the season. Good news for us, *Ae. albopictus* have been decreasing since 2021, although they continue to be detected in new towns across our western border with Rhode Island (see **Asian tiger mosquito (ATM) surveillance and treatment** section).

Table 2. Total number of important vector mosquitoes captured by BCMCP in Bristol County, MA 2015 to 2025.

Species	2025	Percent of total	Change from previous year	Change from 5 year average	Change from 10yr average
Total - all species	47937	~	⇒ -9%	⇒ -16%	⇒ 7%
<i>Coquillettidia perturbans</i>	11347	23.67%	↓ -78%	⇒ -19%	⇒ 2%
<i>Culiseta melanura</i>	2919	6.09%	↓ -94%	↓ -71%	↓ -55%
<i>Culex salinarius</i>	11431	23.85%	↓ -78%	⇒ -14%	⇒ 36%
<i>Culex pipiens/restuans</i>	14229	29.68%	↓ -73%	↑ 117%	↑ 66%
<i>Aedes spp. (ex. albopictus)</i>	5271	11.00%	↓ -90%	↓ -46%	↓ -33%
All others	2468	5.15%	↓ -95%	↑ 72%	↑ 136%
<i>Aedes albopictus</i>	56	0.12%	↓ -100%	↓ -92%	↓ -90%

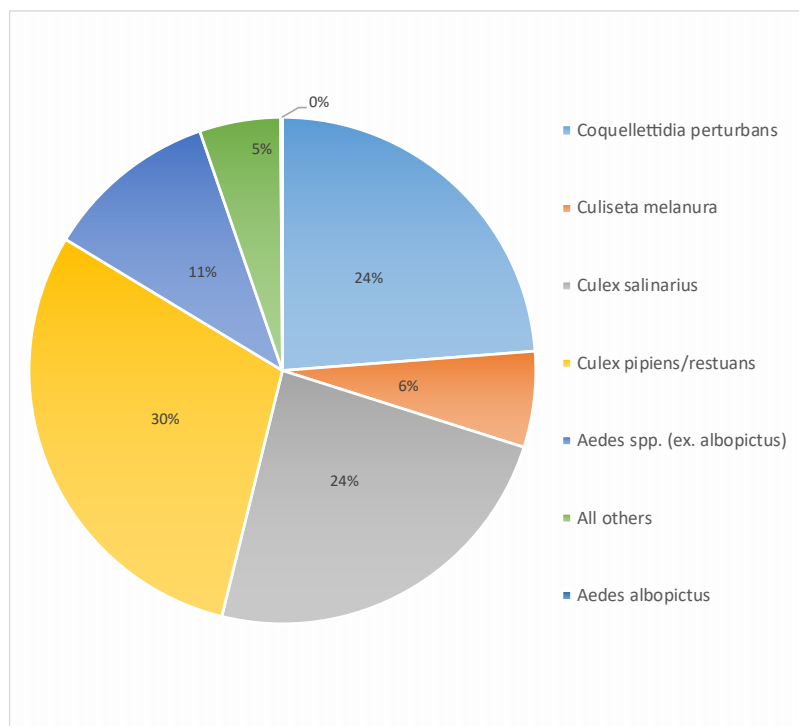


Figure 2. Vector species composition in Bristol County, 2025

Annual weather

Bristol County finished the year with an average of 44 inches of precipitation, ~4 inches below the 10-year average (Table 3). Figure 3 shows the typical precipitation pattern for the county this year. Precipitation remained below normal throughout the year. Some weather data was not

available at year end, probably due to the federal government shutdown. The data in Table 3 is as complete as possible as of this writing.

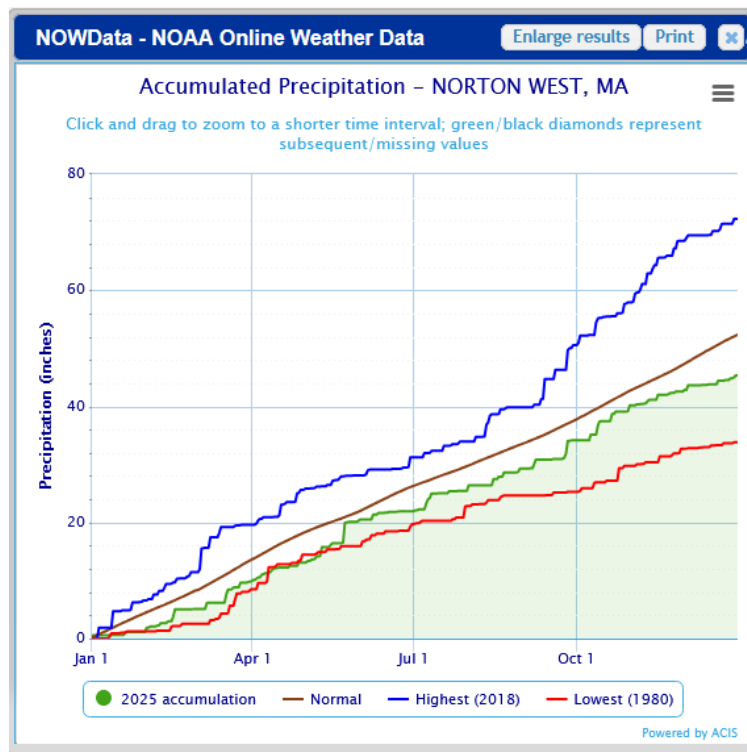


Figure 3. NOAA Annual Precipitation graph for Norton ASOS. Retrieved 1/5/26.

Table 3. Bristol County area average temperature, precipitation totals in inches and deviation from normal as of 1/5/2026 (NOAA 2026). From the NOAA website: *M - Means that the data is missing. This can happen for a variety of reasons including the data did not make a quality check, there was an equipment outage, or even the observer was not available at a manual station.*

	<i>New Bedford</i>	<i>Providence</i>	<i>Taunton</i>	<i>Area average</i>
<i>Precipitation total (in)</i>	M	44.71	M	44.71
<i>Deviation from normal</i>	M	-9.30%	M	-9.30%
<i>Change in inches</i>	M	-4.60	M	-4.6
<i>Change from previous year</i>	M	-28.20%	M	-28.20%
<i>Temperature average (°F)</i>	49.9	51.9	48.6	50.13
<i>Deviation from normal</i>	-2.20%	-1.0%	-2.80%	-2.00%
<i>Change from previous year (°F)</i>	-1.1	-2.3	-2.6	-2

Our average temperature was 2°F lower than the 10 -year norm, most of the low temperatures observed in the winter. First frost came again a few weeks earlier and the surveillance season wrapped up by the third week of October

Arbovirus activity, summer 2025

Based on low mosquito populations, virus presence and precipitation patterns in 2024, we were not expecting high virus activity in 2025. Our 11 positive detections for EEEv were mostly unexpected and all came from deep in the Hockomock swamp complex. No human or animal cases were reported. At the end of the season, 5 cities or towns in Bristol County were reported by MA DPH to be at Moderate risk for EEEv (Figure 4).

Overall, the WNV detected in Bristol County was about 2x higher than the 5-year average (Table 1), with no human cases reported in the county. WNV activity occurred throughout Bristol County (Table 3). All WNV infected mosquitoes were *Cx. pipiens/restuans*, *Cq. perturbans* or *Cs. melanura*. At the end of the 2025 surveillance season, the entire county was at Moderate risk (Figure 5).

Table 4. Towns and number of West Nile virus (WNV) and Eastern equine encephalitis (EEE) positive samples in 2025.

<i>Town</i>	<i>WNV positives</i>	<i>EEE positives</i>
Attleboro	4	
Dartmouth	2	
Easton		8
Fairhaven	2	
New Bedford	11	
North Attleborough	3	
Norton	5	
Raynham		2
Swansea	4	
Taunton	4	1
<i>Total</i>	<i>37</i>	<i>11</i>

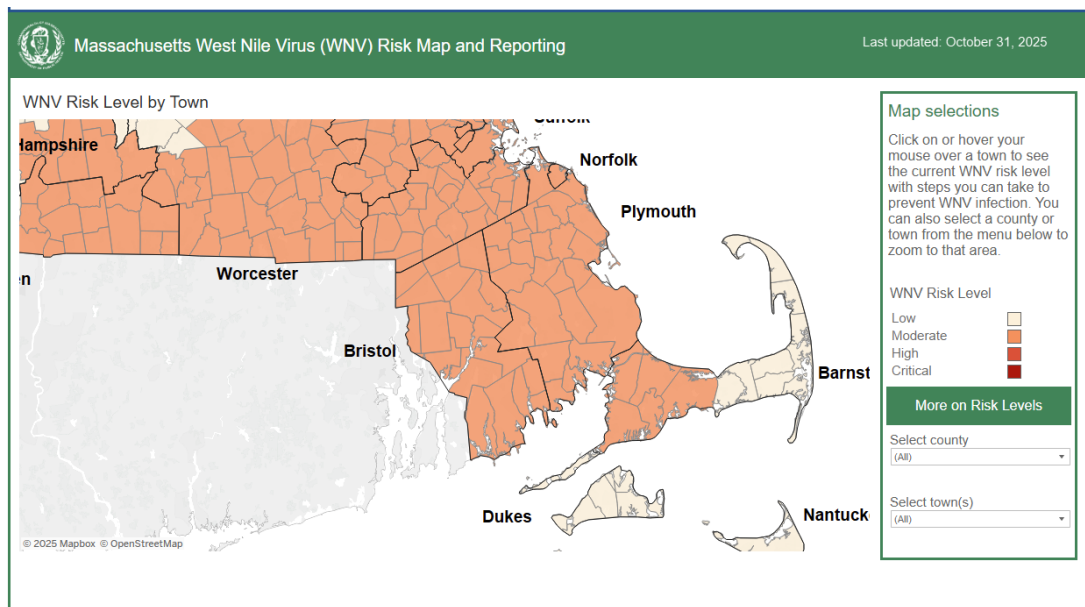


Figure 4. Massachusetts Dept. of Public Health Eastern Equine Encephalitis virus risk map for the end of the 2025 season. <https://www.mass.gov/info-details/massachusetts-arbovirus-update>. Retrieved 12/29/2025.

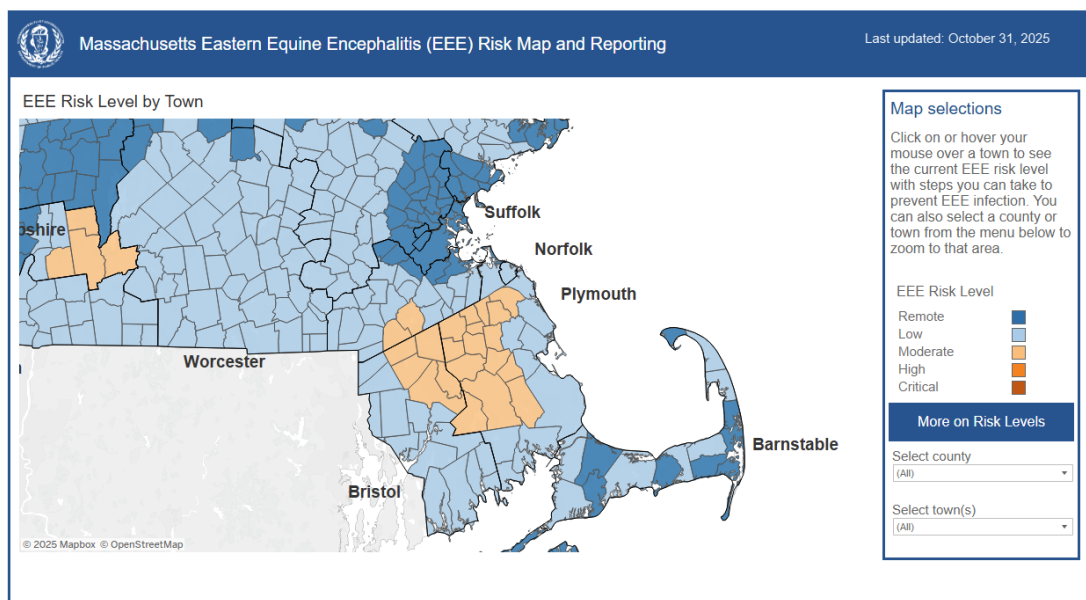


Figure 5. Massachusetts Dept. of Public Health West Nile virus risk map for the end of the 2025 season. <https://www.mass.gov/info-details/massachusetts-arbovirus-update>. Retrieved 12/29/2025.

Aerial larvicides, spring 2025

Similar to previous years, we conducted three aerial larvicide events in spring 2025. The first two were liquid Bti applications over large areas of mixed coniferous and hardwood swamps, the third was a small-scale pelletized *Bacillus sphaericus* (Bs) application over a small cattail swamp to control *Coquillettidia perturbans*, an important vector in Eastern Equine Encephalitis virus (EEEV) outbreaks.

The 2025 aerial Bti larvicide event in the Hockomock area (Figure 7) was completed on 4/23/25. Plymouth County MCP aircraft deposited 228.25 gallons of VectoBac 12AS liquid larvicide, applied at a rate of 1.00 pint per acre over 2306 acres. In the Bolton Swamp (Figure 9), the larvicide took place on 4/25/25, covered 309.88 acres at 1.00 pint per acre using 38.75 gallons of VectoBac 12AS. Total amount of VectoBac 12AS deposited in Bristol was 267.5 gallons over 2616 acres.

Table 5- Results of aerial larvicide at three areas in Bristol, April 2025.

Swamp complex	Season	Location	Abbot's	Henderson-Tilton	t-Test (P<0.10)
Hockomock	Spring	Dead West 1- Control	-1.72	-393.6	0.14
		Dead West 2- Control			0.03*
		Hockomock 1			0.41
		Hockomock 2			0.20
		Hockomock 3			0.03
		Hockomock 4			0.00
Bolton	Spring	Control- Bolton 1	-54.17	-58.38	0.21
		Control- Bolton 2			0.26
		Bolton 3			0.07
		Bolton 4			0.07
		Bolton 5			0.27
		Bolton 6			0.28
Foundry Street/Hockomock	Spring	Maple- Control	-100.00	-100.00	0.36
		Foundry- Treatment			0.50
		Foundry- Treatment			0.20
		Foundry- Treatment			0.20

*note: statistical difference in control site due to sample site completely drying down during sampling period

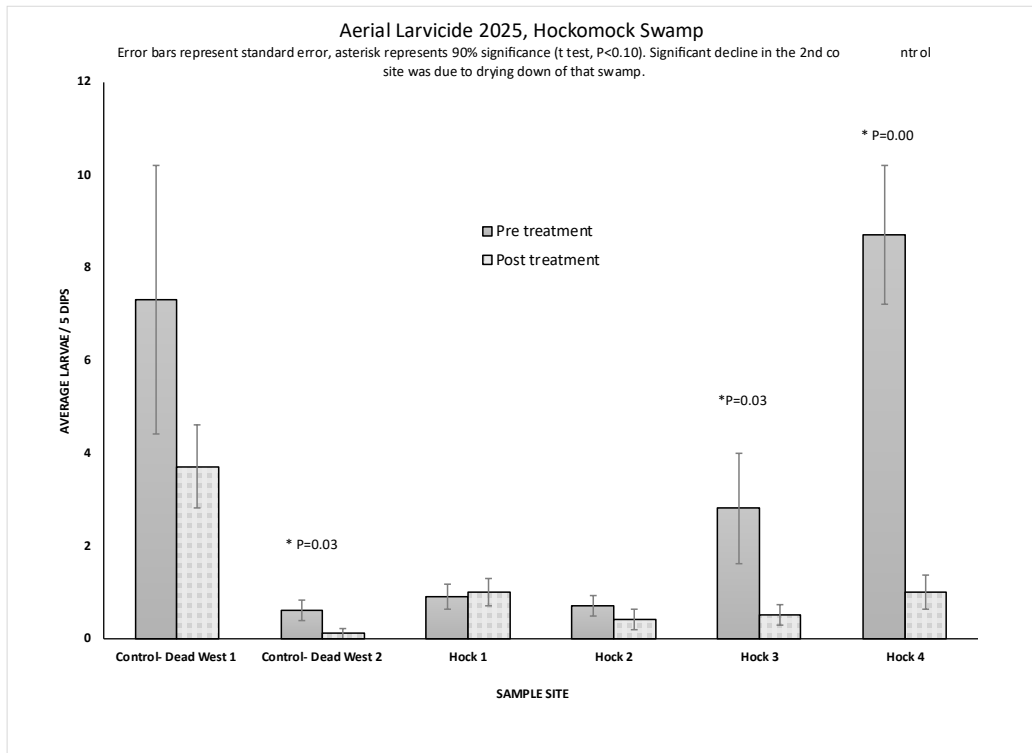


Figure 6. Pre- and post-treatment larval populations in the Hockomock and Dead Swamps April 2025.

Error bars represent standard error.

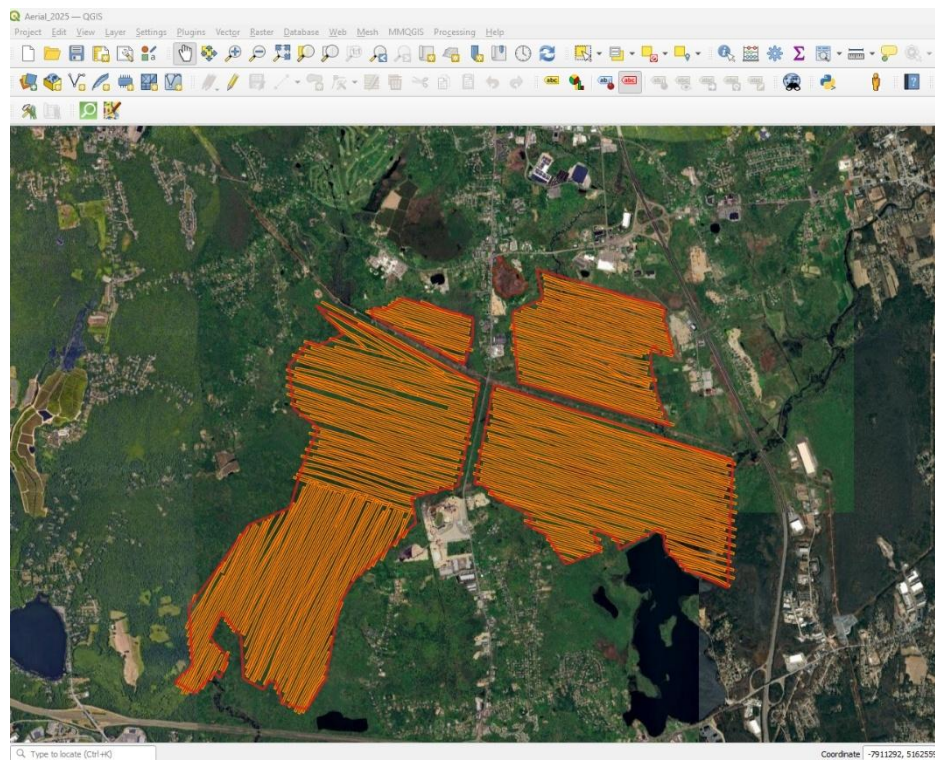


Figure 7. ArcGIS map of aerial Bti treated areas in Hockomock Swamp, April 2025.

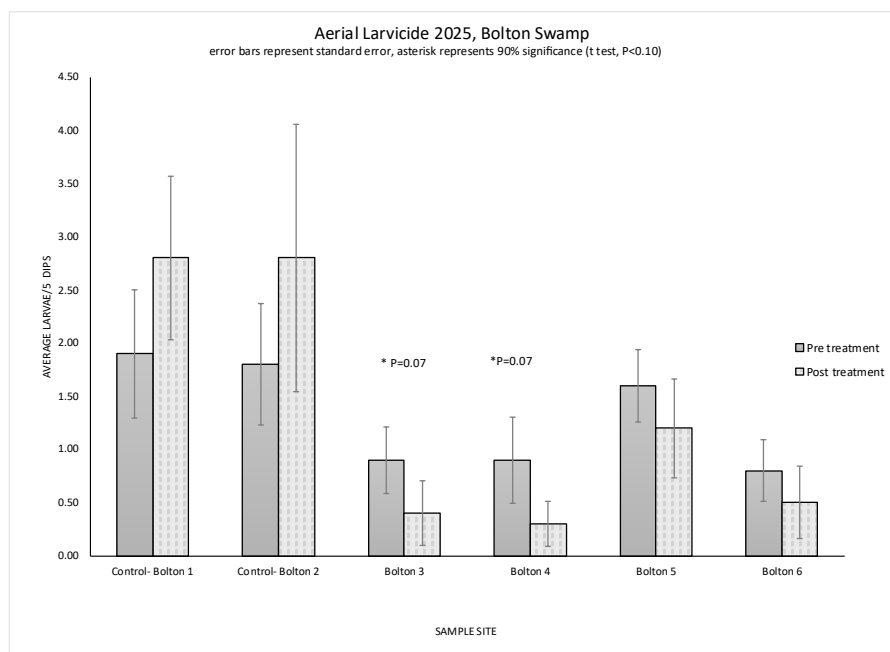


Figure 8. Pre- and post-treatment larval populations in the Bolton Swamp, April 2025. Error bars represent standard error, asterisks denote statistical significance (t-test, $P < 0.05$).

Coquilleltidia perturbans are commonly found to be a bridge vector of EEEv in Southeastern MA and are a source of concern for public health. Typically, *Cq. perturbans* emerge in large numbers around the first of July, a perfect time to contribute to the spread of EEEv. Because *Cq. perturbans* has a larval stage that attach to the roots of emergent aquatic vegetation such as cattails, they are difficult to control with larvicide. Additionally, the dependence on emergent vegetation limits the habitat of larval *Cq. perturbans* to known areas with an abundance of the right habitat. Roughly 48% of all *Cq. perturbans* caught in Bristol County each year come from a single cattail marsh of about 29.5 acres.



Figure 9. ArcGIS map of aerial Bti treated areas in Bolton Swamp, April 2025.

Past work in Minnesota and Norfolk County, MA suggests that an application of a larvicide with a biorational *Bacillus sphaericus* (Bs) active ingredient is capable of penetrating wetland soil and controlling *Cq. perturbans* larvae. These studies led us to use a granular formulation of Bs (VectoLex FG) to our problem cattail marsh in Easton since 2021. The resulting decrease in *Cq. perturbans* population we have seen in subsequent seasons has led us to duplicate this effort in 2024. BCMCP

hired North Fork Aviation's helicopter to deposit VectoLex FG over 27 acres at a rate of 15 lbs. per acre on 4/23/25 (Figure 10).

Pre- and post-treatment sampling of each area showed decreases in larval abundance at most sites according to Abbott's and Henderson-Tilton tests. Statistically significant ($P < 0.10$) population reduction was found in most treatment areas. Data from all pre- and post-larval dipping can be found in Table 5 and Figures 6, 8, 11 and 12.



Figure 10. ArcGIS map of aerial *Bacillus sphaericus* (BS) treated areas in Foundry Street Swamp, April 2025.

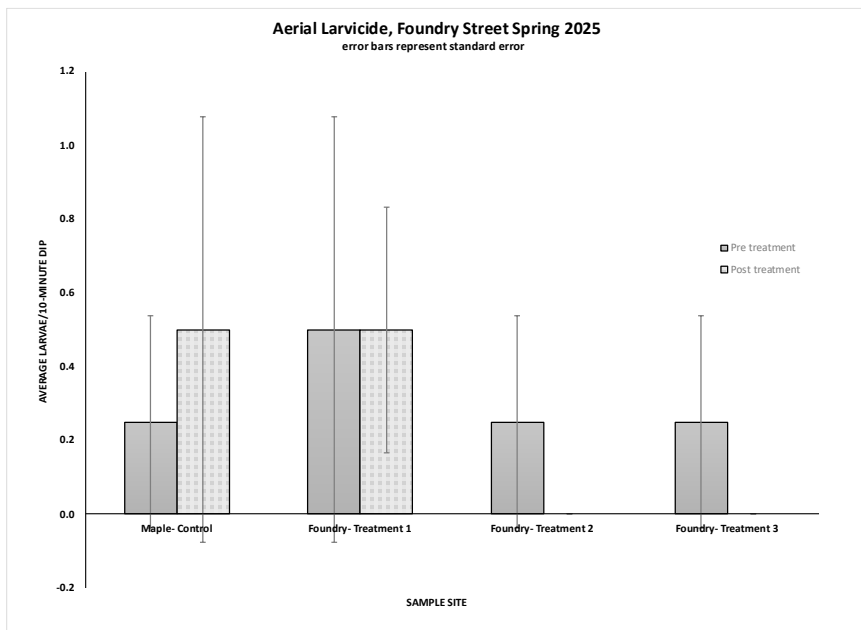


Figure 11. Pre- and post-treatment larval populations in the Foundry Street Swamp, April 2025. Error bars represent standard error.

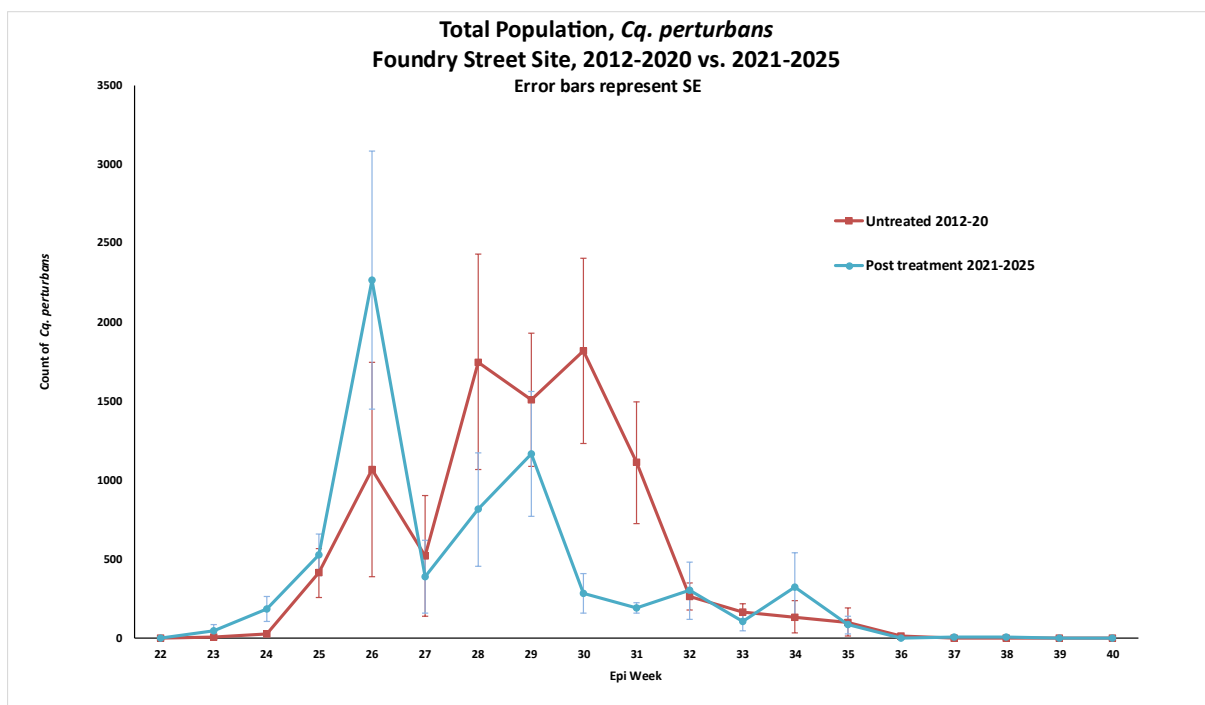


Figure 12. Difference in adult *Cq. perturbans* population at Foundry St., Easton. Historical data vs. post treatment data.

Asian tiger mosquito (ATM) surveillance and treatment

Bristol County MCP continued monitoring the most southern and western towns in our region for the invasive Asian tiger mosquito, *Ae. albopictus*. This effort was expanded in 2016 through a combined effort between BCMCP and the MA Department of Public Health. The surveillance plan contained three parts: ovitrap cups placed throughout the region to determine presence/absence, BG Sentinel™ traps used as a follow-up where presence of eggs were detected, and routine monitoring of areas with historical population data. Larvicide treatments were conducted on a 3-week schedule at the two major infestations, the tire facilities along the waterfront as well as larvicidal treatments in other areas as detections warranted.

This year marks the fourth consecutive year of declines, most of which can be accounted for by a major clean-up by the owner of a business in New Bedford.

BCMCP set 125 ovitraps over the 20-week season across the South Coast in potential *Ae. albopictus* habitat. 25 ovitrap papers from BCMCP were collected and sent to MA DPH's Hinton State Lab and 35 kept in house for raising under temperature-controlled conditions. Ovitrap papers are attractive egg deposition sites not only for *Ae. albopictus*, but *Ae. japonicus* and *Ae. triseriatus* as well.

Of 125 papers found with presence of mosquito eggs, either sent to DPH or hatched in-house, only 5 had viable *Ae. albopictus* eggs. These traps included repeat detections in Attleboro and Fall River. In most cases, detections of viable eggs from ovitraps are followed up with BG Sentinel™ trap efforts, but this year's low population led to extremely low detections. We will continue to monitor all of these sites in 2026.

Routine BG trap surveillance in New Bedford continues to point to an established population along the waterfront area and around Acushnet Avenue as well as low-level occurrences in nearby areas. The data shown in Figure 13 has been averaged by trap-night to correct for the increased trapping effort that BCMCP has undertaken.

In 2023, the USDA determined that most of Bristol County has moved up one zone on their Plant Hardiness scale (Figure 14). This is the result of continued climate change and reflects the length of the growing season. This map shows the degree to which the range of *Ae. albopictus* overlaps with the change from Zone 6B to Zone 7A in southern and western Bristol.

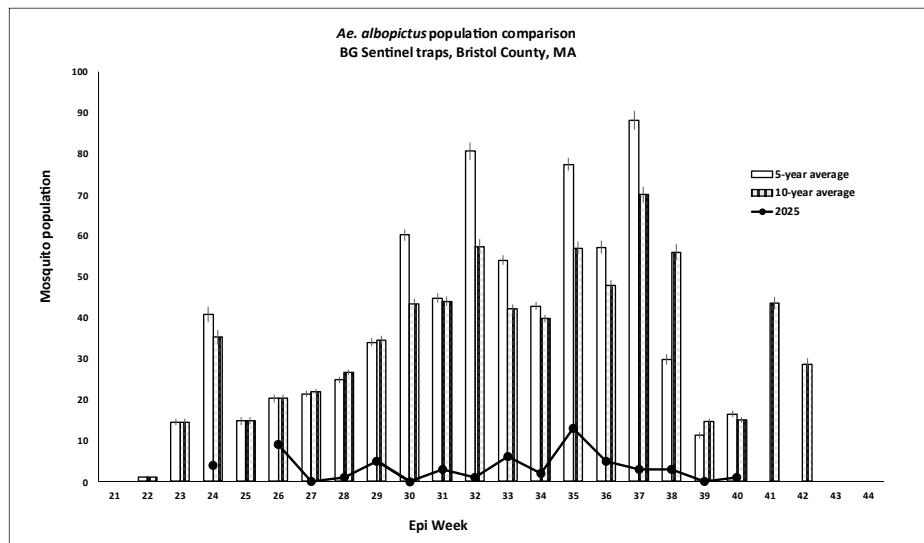


Figure 13. Historical population for Asian tiger mosquitoes in BG Sentinel traps in Bristol County, 2010-2025.

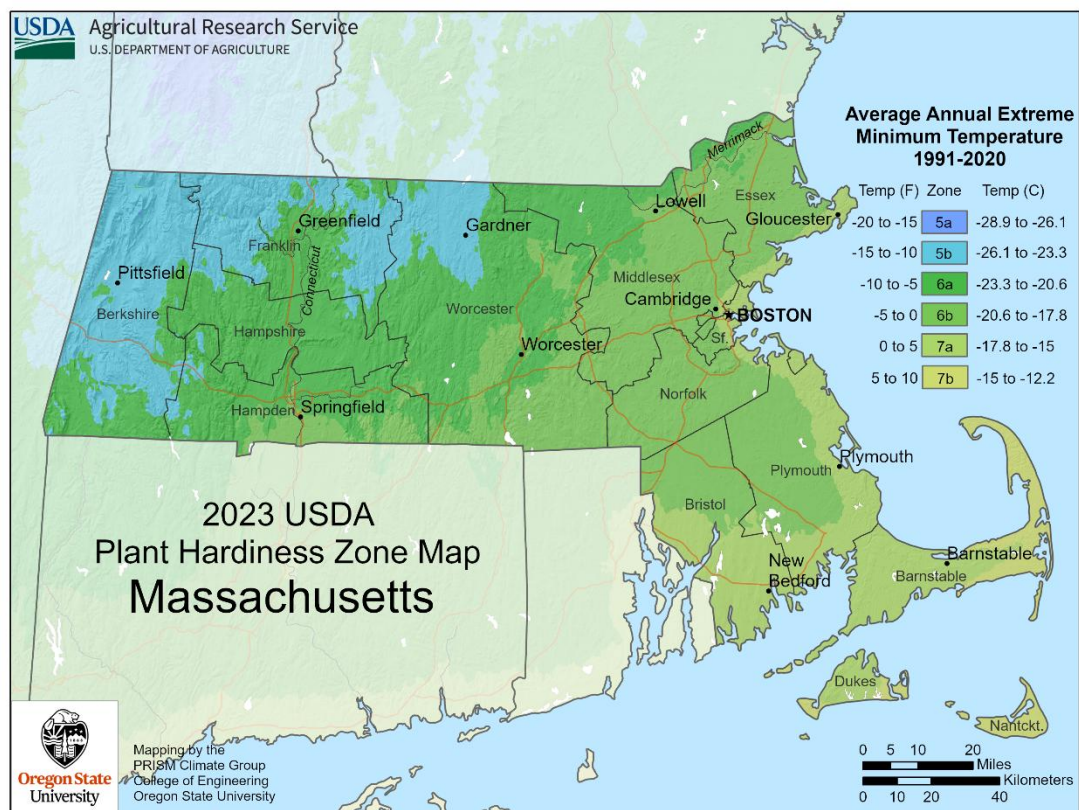


Figure 14. 2023 update to the USDA Plant Hardiness zone map (<https://prism.oregonstate.edu/> accessed 11/16/23).

Tire Removal Program

No tires were removed in Bristol for 2025.

Requests for service

Bristol County MCP received 6489 calls for service in 2025. Call numbers were 24% lower than the previous year and also 24% lower than the 5-year average (Table 1). 98.24% of all requests were completed, the uncompleted requests were either too close to pesticide exclusion areas or halted due to low overnight temperatures. BCMCP stopped taking residential requests as of 9/5/25, ULV spray and catch basin activities ended as of 9/12/25, larviciding of *Ae. albopictus* hot spots ended 9/12/25.

Bristol County Mosquito Control Project's Outreach Program

Date	Town	Activity	Staff	Affiliates	Number of attendees
6/2/2025	Taunton	Radio	Priscilla	Taunton Radio	unknown
7/9/2025	New Bedford	TV	Priscilla	Jim Marshall Show	unknown
8/13/2025	Attleboro	TV	Priscilla	Attleboro Public Access	unknown
8/14/2025		TV	Priscilla	Channel 10 Providence	unknown
4/27/2025	New Bedford	Table	Todd	Buttonwood Zoo	200+
2/27/2025	dighton	Table	John M/Josh Nickerson	Bristol Aggie	100
8/25/2025	Norton	Table	Priscilla	Attleboro/Norton YMCA	100
6/24/2025	New Bedford	Presentation	Priscilla	NB Health Department	25
5/20/2025	Taunton	Presentation	Priscilla	Taunton BOH	10
7/23/2025	Attleboro	Presentation	Priscilla	Bristol/Norfolk Medical Reserve	2

Table 6. Outreach events in Bristol County, 2025

Public outreach is an important part of our program. Educating people on how they can protect themselves and reduce mosquito breeding on their property is an effective step to combat virus transmission.

We were able to do six in-person presentations and information tables, with an estimated reach of over 700 people (Table 6). Priscilla was again interviewed for television and radio; we do not know the exact number of viewers.

Coordination between BCMCP and the local Boards of Health was ongoing relative to control/surveillance options in the vicinity of arbovirus positive mosquito samples and high

mosquito collections. Even though Labor Day is the unofficial end of summer, BCMCP continued to alert the public that the seasonality of mosquito borne disease continues until the first frost in fall. Educational materials have been provided to public and private entities as well as local Boards of Health. X (formerly Twitter) was used extensively to make the public aware of upcoming activities, mosquito news and public health notices, you can find us @BCMCPMOSQ.

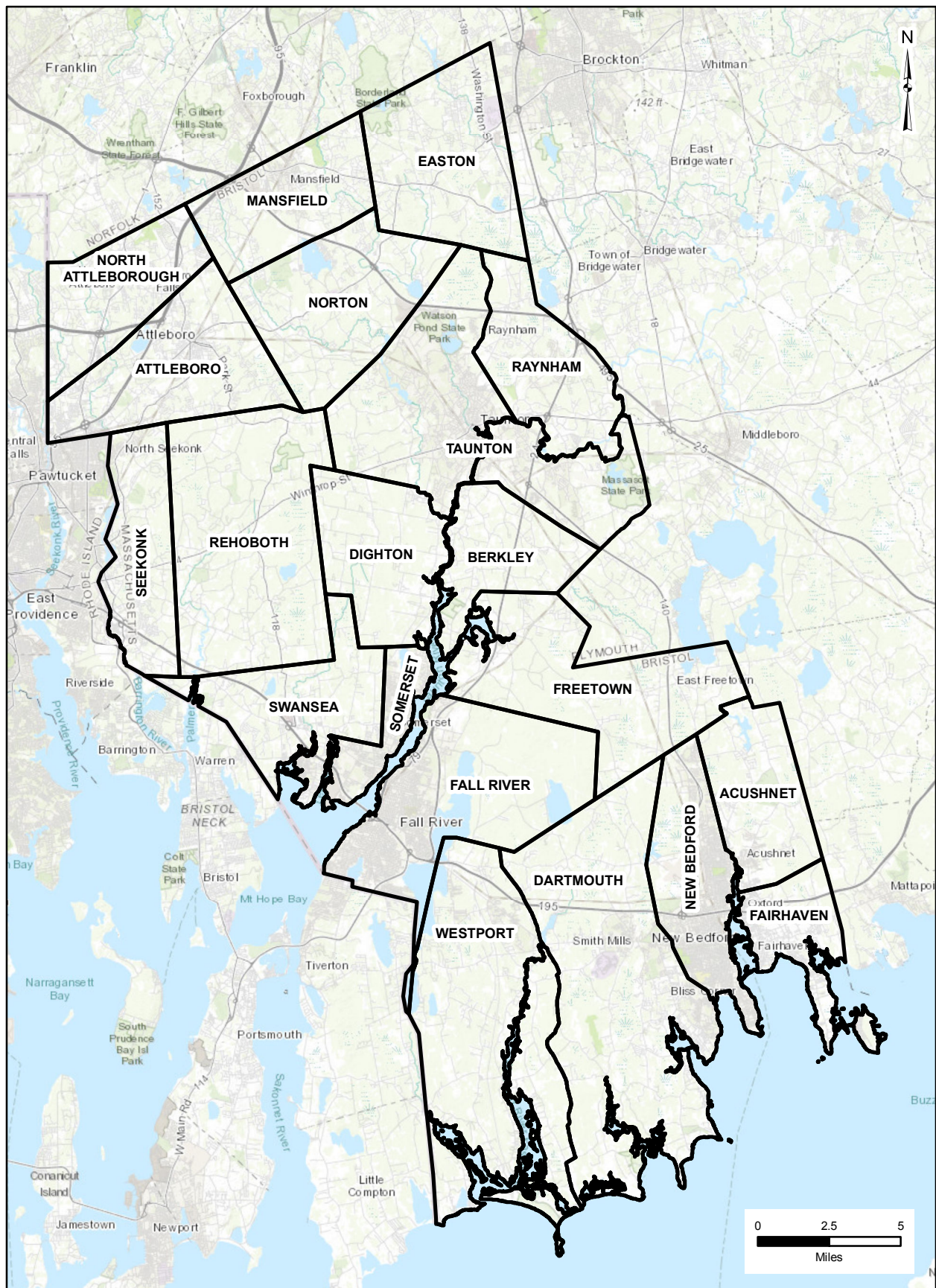


Figure 1. Bristol County

Sample Form SRB-1

**Project Name: Bristol County Mosquito Control Project
FY2026 Proposed Cherry Sheet Assessments Estimates
Based on the preliminary proposed Project budget
(2025 Equalized Valuations)**

Name of Municipality	% of Total Budget	Project Share Amount*	State Reclamation Mosquito Control Board Share Amount*	Total Assessment Estimate*
ACUSHNET	2.68%	\$47,732	\$1,851	\$49,583.00
ATTLEBORO	6.19%	\$112,313	\$4,356	\$116,669.00
BERKLEY	2.17%	\$38,932	\$1,510	\$40,442.00
DARTMOUTH	9.79%	\$176,416	\$6,843	\$183,259.00
DIGHTON	2.83%	\$50,345	\$1,953	\$52,298.00
EASTON	5.32%	\$94,959	\$3,683	\$98,642.00
FAIRHAVEN	2.92%	\$51,494	\$1,997	\$53,491.00
FALL RIVER	7.69%	\$141,794	\$5,500	\$147,294.00
FREETOWN	4.43%	\$80,252	\$3,113	\$83,365.00
MANSFIELD	4.83%	\$85,173	\$3,304	\$88,477.00
NEW BEDFORD	6.86%	\$132,327	\$5,132	\$137,459.00
NORTH ATTLEBORO	4.67%	\$84,785	\$3,288	\$88,073.00
NORTON	4.56%	\$81,837	\$3,174	\$85,011.00
RAYNHAM	3.55%	\$63,609	\$2,467	\$66,076.00
REHOBOTH	5.68%	\$102,051	\$3,958	\$106,009.00
SEEKONK	3.50%	\$61,484	\$2,385	\$63,869.00
SOMERSET	2.51%	\$44,803	\$1,738	\$46,541.00
SWANSEA	3.79%	\$69,770	\$2,706	\$72,476.00
TAUNTON	8.83%	\$161,985	\$6,283	\$168,268.00
WESTPORT	7.21%	\$128,121	\$4,969	\$133,090.00
		\$1,810,182	\$70,210	\$1,880,392.00

*Assessment estimates are preliminary and will only be finalized after the State Reclamation & Mosquito Control Board budget certification meeting held annually in May/June.

(2025 Equalized Valuations)

(Updated: 3/10/22)