

# MASSACHUSETTS MOSQUITO CONTROL

## ANNUAL OPERATIONS REPORT



Year Report Covers: 2018      Date of Report: 1/24/2019

Project/District Name: **East Middlesex Mosquito Control Project**

Address:            11 Sun St

City/Town:        Waltham

Zip: 02453

Phone:            781-899-5730

Fax: 781-647-4988

E-mail: [brian.farless@mass.gov](mailto:brian.farless@mass.gov)

**Report prepared by: *Brian Farless***

NPDES permit no. **MAG87A020**

If you have a mission statement, please include it here: The East Middlesex Mosquito Control Commission (the Commission) represents the interests of the participating communities and their residents in providing guidance and oversight to the East Middlesex Mosquito Control Project (the Project). The Commission strives to ensure that member communities receive services that are consistent with applicable laws and justified by the tenets of public health, vector control, environmental safety and fiscal responsibility. Integrated mosquito management services provided by the Project and approved by the Commission will be based on the State's Generic Environmental Impact Report on Mosquito Control in Massachusetts, the Massachusetts Arbovirus Surveillance and Response Plan and the policies of the State Reclamation and Mosquito Control Board.

### ORGANIZATION SETUP:

#### Commissioner names:

Executive Committee: Lenny Izzo, Chair, representing Wellesley; Christine Bongiorno, Arlington; Gerard Cody, Lexington; Rich Sullivan, Weston and Jennifer Murphy, Winchester.  
Other Commissioners or town representative include the following: Heidi Porter, Bedford; Wesley Chin, Belmont; Patrick Maloney, Brookline; Christine Mathis, Burlington; Wendy Robinson, Cambridge; Anthony Kiszewski, PhD, Concord; Elaine Silva, Everett; Sam Wong, Framingham; Elaine Carroll, Lincoln; Chris Webb, Malden; Kelly Pawluczzonek, Maynard; MaryAnn O'Connor, Medford; Ruth Clay, Melrose and Wakefield; Robin Williams, Newton; Bob Bracey, North Reading; Laura Vlasuk, Reading; William Murphy, Sudbury; Tom Creonte, Waltham; Deb Rosati, Watertown and Julia Junghanns, Wayland.

\_\_\_\_\_  
\_\_\_\_\_  
**Superintendent/Director name: Brian Farless**

**Superintendent/Director contact phone number:** Brian Farless

**Asst. Superintendent/Director name:** Michael Bryant

**District/Project website:** <http://sudbury.ma.us/emmcp/>

**Twitter handle:** @

**Facebook page:** <http://www.facebook.com/>

**Staffing levels for the year of this report:**

Full time: 4

Part time: 1

Seasonal: 6

Other: in addition to above, 2 full time administrative workers share their time between Suffolk County Mosquito Control and East Middlesex Mosquito Control (please describe)

**Of the above, how many are:**

(Please check off all that apply, and list employee name(s) next to each category)

- ☒ Administrative Brian Farless, David Henley, Katherine Swan
- ☐ Biologist
- ☐ Educator
- ☒ Entomologist Douglas Bidlack, Ph.D.
- ☒ Facilities Brian Farless, Michael Bryant
- ☐ Information technology
- ☒ Laboratory Douglas Bidlack, Ph.D.
- ☒ Operations Full time: Michael Bryant, Christopher Gagnon, Cam Kelley. Seasonal: Peter Mirata, Konrad Musialowski, Matt Restuccia, Salvatore Restuccia, Allison Rittweger, Alexandra Souza
- ☐ Public relations
- ☐ Wetland scientist
- ☐ Other (please describe)

For the year of this report, the following were maintained (enter number in the column to the left):

- Modified wetland equipment (list type) Linkbelt 75 Spin Ace track mounted excavator
- Larval control equipment (list type) 3 Solo backpack pump sprayers and 5 B&G pump sprayers.
- ULV sprayers (list type) Clarke Cougar Smartflow with radar
- Vehicles

Other (please be specific):

**Comments:** \_\_\_\_\_

How many cities and towns are in your service area?\* 26

Alphabetical list: Arlington, Bedford, Belmont, Brookline, Burlington, Cambridge, Concord, Everett, Framingham, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Newton, North Reading, Reading, Sudbury, Wakefield, Waltham, Watertown, Wayland, Wellesley, Weston, Winchester

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

Cities/towns added:

Cities/towns removed:

**\*Please attach a map of your service area (or a website link to that map).**

**INTEGRATED PEST MANAGEMENT (IPM):**

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

- ☒ **Adult mosquito control**
- ☒ **Adult mosquito surveillance**

- ☒ Ditch maintenance
- ☒ Education, Outreach & Public education
- ☒ Larval mosquito control
- ☒ Larval mosquito surveillance
- ☐ Open Marsh Water Management
- ☒ Research
- ☒ Source reduction (tire removals)
- ☐ Other (please list):

Comments: \_\_\_\_\_

### **LARVAL MOSQUITO CONTROL:**

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

Describe the purpose of this program: This program is focused on controlling larvae of spring and summer floodwater species and Culex species. Spring floodwater species are controlled because they are aggressive mammal biting species that are active during the late spring and early summer when residents are commonly involved in youth sports, recreational activities and outdoor maintenance and gardening projects. Summer floodwater species are controlled because they are aggressive mammal biting species and possible EEE human vectors. Culex species are controlled because they are considered enzootic and human vectors for West Nile virus.

What months is this program active? Spring floodwater mosquito larvae are controlled from late March through May. Summer floodwater mosquito larvae are controlled from late May through September. Culex mosquito larvae are controlled from June through mid-September.

Describe the types of areas where you use this program: Intermittently flooded wetlands, stormwater detention basins, catchbasins, neglected swimming pools and other water holding containers.

Do you use:

- ☒ Ground application (hand, portable and/or backpack, etc.)
- ☒ Aerial applications
- ☐ Other (please list):

Comments: \_\_\_\_\_

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	Targeted life stage	Habitat Type	Total finished product applied
Altosid Pellets	2724-448	8 grams per catch basin	hand applied	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	455.8812 pounds
Altosid Pellets WSP	2724-448	1 packet per catch basin	hand applied	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	140.3266 pounds
Altosid XR Briquets, Ingot design	2724-421	1 briquet per basin	hand applied	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	20.5625 pounds
Vectobac 12 AS	73049-38	8 oz. per acre 12 oz. per acre	backpack pump sprayer	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	21.085 gallons
Vectobac G	73049-10	5 lbs. per acre	aerially applied	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	9,532.5 pounds
Vectolex WSP	73049-20	1 packet per catch basin (10 grams per basin)	hand applied	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	959.0780 pounds
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	

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	Targeted life stage	Habitat Type	Total finished product applied
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	

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

- ☐ Best professional judgment  
☒ Historical records  
☒ Larval dip counts – please list trigger for application: 3 larvae per 10 samples  
☐ Other (please describe):

**Comments:** Larval control in wetlands is funded by 24 communities. Helicopter larval control applications are funded by 18 communities. Catch basin larval control is funded by 22 communities. An additional 2 communities do their own catch basin larval control through their public works departments. Larval control at neglected swimming pools is done in cooperation with municipal health departments. Altosid Pellets, Altosid Pellets WSP and Altosid XR Briquets are applied to catch basins during the month of June as a pre-emergence treatment to control Culex larvae. Altosid Pellets, Altosid Pellets WSP, Altosid XR Briquets, and Vectolex WSP were used to control Culex larvae in catch basins in July, August and September.

Please attach a map of your service area (or a website link to that map).

<https://sudbury.ma.us/emmcpl/>

#### ADULT MOSQUITO CONTROL:

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

Describe the purpose of this program: To reduce the number of mammal biting mosquitoes, EEE human bridge vector mosquitoes and secondary WNV human bridge vector mosquitoes.

What is the time frame for this program? June through September

Describe the types of areas where you use this program: Suburban residential neighborhoods with a relatively dense configuration of streets that are situated near wetlands that serve as mosquito habitats.

Do you use:

- ☐ Aerial applications  
☒ Portable applications  
☒ Truck applications  
☐ Other (please list):

Comments: \_\_\_\_\_

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

Product Name	EPA #	Application Rate(s)	Application Method	Total finished product applied
Anvil 10 + 10	1021-1688-8329	0.0024 lbs. per acre	truck mounted aerosol sprayer	66.8745 gallons
Mavrik Perimeter	2724-478	0.3 fl. oz./5 gals. water per 1000 sq. ft.	Backpack mistblower	1 ounce


Please describe the maximum amounts or frequency used in a particular time frame such as season and areas

In 2018, the maximum number of times that wide area adult mosquito control occurred in any neighborhood was five times. The shortest interval between wide area spray applications in any neighborhood was eleven days.

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

- ☒ Arbovirus data
- ☐ Best professional judgment
- ☐ Complaint calls (Describe trigger for application:           )
- ☐ Landing rates (Describe trigger for application           )
- ☒ Light trap data (Describe trigger for application 100-200 mammal biting mosquitoes depending on historical data for that area)

**Comments:** Scheduling adult mosquito control applications is based on mosquito population data and whether the community funds adult mosquito control. There are 9 communities that fund adult mosquito control. Spraying in the vicinity of an EEE or West Nile virus isolation or human case may be done if the community where the isolation or human case supports the application. Citizen requests for control are regarded as supplemental data that may influence the shape of the area where control is scheduled.

**Please attach a map of your service area (or a website link to that map).**

[\*\*https://sudbury.ma.us/emmc/\*\*](https://sudbury.ma.us/emmc/)

## **SOURCE REDUCTION (Tire Removals)**

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

Please describe your program:

What time frame during the year is this method employed?

**Comments:** \_\_\_\_\_

## **WATER MANAGEMENT/DITCH MAINTENANCE**

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

Please check all that apply:

- ☒ Inland/freshwater
- ☐ Saltmarsh

Please describe your program: Ditch maintenance is done using either a LinkBelt 75 Spin Ace track mounted excavator or hand tools. When planning ditch maintenance activities, protocols are followed that are contained in the Massachusetts Best Management Practices and Guidance for Freshwater Mosquito Control.

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

Maintenance Type	Estimate of cumulative length of culverts, ditches, swales, etc. maintained (ft)
<input type="checkbox"/> Culvert cleaning	
<input checked="" type="checkbox"/> Hand cleaning	2,856 feet
<input checked="" type="checkbox"/> Mechanized cleaning	2,380 feet
<input type="checkbox"/> Stream flow improvement	
<input type="checkbox"/> Other (please list):	

**Comments:** \_\_\_\_\_

For **saltmarsh ditch maintenance**, check off all that apply:

Maintenance Type	Estimate of cumulative length of ditches maintained (ft)
<input type="checkbox"/> Hand cleaning	
<input type="checkbox"/> Mechanized cleaning	
<input type="checkbox"/> Other (please list):	

**Comments:** \_\_\_\_\_

What time frame during the year is this method employed? Most ditch maintenance activities are done between September and the end of March.

**Comments:** \_\_\_\_\_

**Please attach a map of ditch maintenance areas (or a website link to that map).**

## OPEN MARSH WATER MANAGEMENT

*If you have an Open Marsh Water Management program, please fill out the section below, else 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:

**Comments:** \_\_\_\_\_

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

## MONITORING (Measures of Efficacy)

### Describe monitoring efforts for each of the following:

Aerial Larvicide – wetlands: Pre-application larval surveys were conducted at 100 sites. Post-application surveys were conducted at 18 sites. ArcView GIS maps of targeted wetlands are prepared prior to the application and then converted for use for the helicopter's Ag-Nav system.

Ground ULV Adulticide: Pre-application adult mosquito surveys using CDC light traps are done to determine whether control is needed. Post-application surveys using CDC light traps are conducted to determine if additional ground ULV adulticiding is needed.

Larvicide – catch basins: Pre-application larval surveys using a Landers Ladle are done in June to determine the appropriate time to begin using *Bacillus sphaericus*. Random pre-application and post-application surveys using a Landers Ladle are undertaken during July, August and September to monitor *Culex* larval populations and determine the efficacy of *Bacillus sphaericus* applications. Random monitoring of paint marks on catch basins left by catch basin applicators is conducted to evaluate the coverage in neighborhoods where larvicide applications have been completed.

Larvicide-hand/small area Pre-application larval surveys are conducted prior to each application. Random post-application surveys are conducted to monitor efficacy.

Open Marsh Water Management:

Source Reduction:

Other (please list):

Provide or list standard steps, criterion, or protocols regarding the documentation of efficacy (pre and post data), and resistance testing (if any):

**For aerial larval control, pre-application larval dip counts are undertaken with a minimum of 30 dips per site. Random post-application dip counts are done with a minimum of 30 dips at a site. The helicopter is supplied with shape files of wetlands to be larvicided. The shape files are prepared using ArcView GIS maps of targeted wetlands, which are then converted to shape files that will work in the helicopter's AgNav system. The completed AgNav maps recorded during the application are reviewed following the application to evaluate the coverage of treated wetlands.**

**At catch basins, sampling using a Landers Ladle is conducted during the early summer to determine when the presence of *Culex* larvae in untreated catch basins becomes common. Two collections using a Landers Ladle are taken at each sampled catch basin. Applicators are required to mark each catch basin grate with a spot of water soluble marking paint when they apply a larvicide to the catch basin. Monitoring of paint marks left on catch basin grates by applicators is conducted to evaluate coverage. The efficacy of *Bacillus sphaericus* applications is monitored by random sampling using a Landers Ladle.**

**For small area wetland larval control, applicators are required to sample for larvae by taking 10 dips at each wetland. Applications of Bti are only done if the applicator finds at least 3**

larvae per 10 dips. Random post-application surveys of wetlands are conducted. Before adult mosquito control is scheduled, three to five CO<sub>2</sub>-baited light traps are used to monitor mosquito populations in a community. A minimum of 100 to 200 mammal biting mosquitoes must be collected at a trap site before spraying will be scheduled in neighborhoods near a trap site. The variation in the minimum trap collection size to justify spraying is related to the normal mosquito collections found at a trap site. Trap collections below the minimum number result in a determination that spraying does not need to be scheduled in nearby neighborhoods or re-scheduled if the neighborhood has been recently sprayed.

Check the boxes below, indicating if your program has performed any of the following:

Research Project	Details
Bottle assays	
Efficacy testing	
Other:	
Other:	

### ADULT MOSQUITO SURVEILLANCE

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

Describe the purpose of this program: The primary purposes are to measure populations of mammal biting species and populations of species considered enzootic or bridge vectors for West Nile virus and EEE. The data is used to evaluate the need for control. As funding is available, Culex species, Cs. melanura and other potential human bridge vector species are submitted to DPH for virus testing. The Project also used ovitraps near facilities engaged in interstate commerce to monitor for the presence of Aedes albopictus.

What months is this program active? May through 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)
<input type="checkbox"/> ABC light trap	<input type="checkbox"/>	
<input type="checkbox"/> ABC light trap w/CO <sub>2</sub>	<input type="checkbox"/>	
<input type="checkbox"/> CDC light trap	<input type="checkbox"/>	
<input checked="" type="checkbox"/> CDC light trap w/CO <sub>2</sub>	<input type="checkbox"/>	196
<input checked="" type="checkbox"/> Gravid trap		119
<input type="checkbox"/> Landing rate test		
<input type="checkbox"/> NJ light trap	<input type="checkbox"/>	
<input type="checkbox"/> NJ light trap w/CO <sub>2</sub>	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Ovitrap		5 trap sites, 2 traps per site/per week, 10 weeks
<input type="checkbox"/> Resting box		
<input type="checkbox"/> Other (please describe):		
<input type="checkbox"/> Other (please describe):		

<input type="checkbox"/> Other (please describe):		
---	--	--

Do you maintain long-term trap sites in any of your areas? Yes

If yes, how many:

In most municipalities there are 3 to 5 trap sites. In municipalities with significant wetland acreage, light trap sites are located in yards that are in close proximity to major mosquito habitats for spring and summer floodwater mosquitoes, *Cq. perturbans* and *Cs. melanura*. In densely populated areas without significant wetland acreage, gravid trap sites are placed in yards or municipal properties with the goal of providing geographic spacing within the community. Light traps and gravid traps are also located near properties where people or horses are believed to have contracted EEE or West Nile virus in the past.

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

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> <i>Ae. albopictus</i>      | <input checked="" type="checkbox"/> <i>Oc. aberratus</i>      |
| <input checked="" type="checkbox"/> <i>Ae. cinereus</i>        | <input checked="" type="checkbox"/> <i>Oc. canadensis</i>     |
| <input checked="" type="checkbox"/> <i>Ae. vexans</i>          | <input checked="" type="checkbox"/> <i>Oc. cantator</i>       |
| <input checked="" type="checkbox"/> <i>An. punctipennis</i>    | <input checked="" type="checkbox"/> <i>Oc. j. japonicus</i>   |
| <input checked="" type="checkbox"/> <i>An. quadrimaculatus</i> | <input checked="" type="checkbox"/> <i>Oc. sollicitans</i>    |
| <input checked="" type="checkbox"/> <i>Cq. perturbans</i>      | <input checked="" type="checkbox"/> <i>Oc. taeniorhynchus</i> |
| <input checked="" type="checkbox"/> <i>Cx. pipiens</i>         | <input checked="" type="checkbox"/> <i>Oc. triseriatus</i>    |
| <input checked="" type="checkbox"/> <i>Cx. restuans</i>        | <input checked="" type="checkbox"/> <i>Oc. trivittatus</i>    |
| <input checked="" type="checkbox"/> <i>Cx. salinarius</i>      | <input checked="" type="checkbox"/> <i>Ps. ferox</i>          |
| <input checked="" type="checkbox"/> <i>Cs. melanura</i>        | <input type="checkbox"/> <i>Ur. sapphirina</i>                |
| <input checked="" type="checkbox"/> <i>Cs. morsitans</i>       |   |
| <input type="checkbox"/> Others (please list):                 |   |

Number of adult mosquitoes collected this season (whether submitted to DPH or not): 107,349

Number of adult mosquito pools collected this season (submitted and unsubmitted): 2,359

Number of ovitrap collections this season, if any: 100

Any other trap collections of note (please describe):

Do you participate in the MDPH Arboviral Surveillance program? Yes

Total number of adult mosquito pools submitted to DPH this past season: 171

How many pools do you submit weekly on average? 13.15

Number of traps in your service area **placed by MDPH**: 123 gravid traps, 48 ovitraps

Were these long-term trap sites or supplemental trapping sites? both

Which arboviruses were found in your area during the previous mosquito season? Enter the number of pools/cases below:

Arbovirus	Positive Mosquito Pools	Equine Cases	Human Cases
<input type="checkbox"/> Eastern Equine Encephalitis (EEE)			
<input checked="" type="checkbox"/> West Nile Virus (WNV)	62		11
<input type="checkbox"/> Other (please list):			

Comments: \_\_\_\_\_

For each arbovirus listed below, please list the risk levels in your project area at both the start and end of the season (if more than one, please list all):

Arbovirus	Start of Season	End of Season
EEE	remote, low	remote, low
WNV	low, moderate	moderate, high

Comments: \_\_\_\_\_

## EDUCATION, OUTREACH & PUBLIC RELATIONS

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

Describe the purpose of this program: The Project's public education program is designed to develop awareness within the public and private sectors as to their roles in mosquito control. The Project serves as a resource to residents, municipal officials and the local media on controlling mosquitoes, larval mosquito habitats and mosquito borne diseases.

What time frame during the year is this method employed? It is an ongoing program that is active throughout the year.

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): Each person who allowed the Project to put a survey trap on their property in 2017 received a letter informing them of the results on their property and requesting that the Project be allowed to use their property for surveillance in 2018.)
- ☒ 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):

Estimate the audience reached this year using the education/outreach methods above: Hard to estimate due to much of the outreach material being online and on television.

Comments:

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

1. Coordinate with municipal officials to post notices on City/ Town List Servers and City/Town websites to notify residents, municipal departments and local media of planned helicopter Bti larval control applications, the pesticide exclusion process and planned neighborhood truck mounted adult mosquito control activities

2. Presentations by Douglas Bidlack on Mosquitoes and Ticks in North Reading and Wellesley, which were organized by their Health Departments.
3. Interviews with local media.

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.) The Project collaborated with DPH to monitor for *Aedes albopictus* by submitting mosquito eggs collected in ovitraps.
- ☐ Environmental groups
- ☐ Industry

List any training/education your staff received this year: Five employees attended the annual Northeastern Mosquito Control Association (NMCA) meeting. Four employees attended the annual NMCA Field Day. Six employees took the following classes: Orientation Program 2018; Sexual Harassment Policy 2018; Diversity Part II Disability Awareness; Conflict of Interest Law 2017; Conflict of Interest Law Summary 2018; and Cyber Security Awareness.

Please list the certifications and degrees held by your staff: Mike Bryant and Chris Gagnon are Certified Pesticide Applicators. Brian Farless, Cameron Kelley, Konrad Musialowski, Salvatore Restuccia, Peter Mirata and Alexandra Souza are Licensed Pesticide Applicators. Matt Restuccia and Allison Rittweger are Permitted Catch Basin Applicators. Chris Gagnon and Cameron Kelley have a 2A/1C Hoist Operator's License. David Henley has a B.B.A. in Management, Mike Bryant has an A.B. in Turf Management. Doug Bidlack has a Ph.D. in Entomology, an M.S. in Entomology and Plant Pathology and a B.S. in Biological Sciences. Chris Gagnon has a B.S. in Wildlife Biology. Brian Farless has a B.S. in Communications. Cam Kelley has a B.S. in Criminal Justice. Konrad Musialowski has a B.S. in Community Health.

**Comments:** \_\_\_\_\_

### INFORMATION TECHNOLOGY (IT)

Does your program use (check all that apply):

- ☒ Aerial Photography
- ☒ Databases
- ☒ Dataloggers (monitoring for temperature, etc.)
- ☒ GIS mapping (Describe: Create maps using ESRI ArcGIS)
- ☒ GPS equipment
- ☒ Smartphones
- ☐ Tablets/Toughbooks
- ☐ Other (please describe):

Describe any changes/enhancements in IT from the previous year:

Describe any difficulties your program had with IT software/equipment this year:

Comments: \_\_\_\_\_

## REVENUES & EXPENDITURES

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

	Date of Fiscal Year	Approved Budget	Notes
Previous	2018	722,795.30	
Current	2019	755,120.39	town appropriations changed after SRB approval in May; total town appropriation of 760,720.81 is listed below
Future			

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):

The following are the regular appropriations for FY 2019 from the cities and towns of the East Middlesex MCP: Arlington - \$20,400, Bedford - \$40,817, Belmont - \$18,560, Brookline - \$13,538.46, Burlington - \$43,037, Cambridge - \$50,135, Concord - \$20,000, Everett - \$18,000, Framingham - \$55,000, Lexington - \$27,816, Lincoln - \$10,300, Malden - \$21,063, Maynard - \$13,000, Medford - \$23,584, Melrose - \$12,129, Newton - \$44,472, North Reading - \$48,462, Reading - \$41,000, Sudbury - \$50,722, Wakefield - \$26,796, Waltham - \$37,215, Watertown - \$18,083, Wayland - \$25,414.01, Wellesley - \$20,503.34, Weston - \$43,693 and Winchester - \$16,981.

**Comments: The East Middlesex MCP also receives supplemental appropriations for excavator work and for the purchase of catch basin larvicides, if funding for those services or purchases is not included within the regular appropriation.**

## SERVICE REQUESTS

How many service requests did you receive this season? 200

How many were for larviciding? 32

How many were for adulticiding? 84

Was this an increase or decrease over last season? Increase

**Comments: The East Middlesex Mosquito Control Project will respond to residents who request that an adjacent or nearby wetland be checked for mosquito larvae or to investigate obstructions in waterways. Decisions on adult mosquito spraying are based on mosquito and arbovirus surveillance data. A citizen request for adult mosquito spraying is considered supplemental information, which may influence the shape of the area where wide area spraying has been planned based on mosquito and arbovirus surveillance.**

## EXCLUSIONS

How many exclusion requests did you receive this season? 38

Was this an increase or decrease over last season? Decrease

Do you have large areas of pesticide exclusion, such as estimated or priority habitats? Yes

If yes, please explain, and attach maps or a web link if possible. Great Meadows National Wildlife Refuge and the Assabet River National Wildlife Refuge manage large tracts of wetland acreage in Bedford, Concord, Lincoln, Maynard, Sudbury and Wayland that they exclude from larval and adult mosquito control pesticide applications. They will only permit control, when the Refuge Manager determines that there is an imminent local risk from mosquito borne disease. The Sudbury Valley Trustees, a private land trust, that owns wetlands in Concord, Framingham, Sudbury and Wayland has excluded their property from larval and adult mosquito control pesticide applications.

Assabet River National Wildlife Refuge, topo map: [www.farnwr.org/maps1.html](http://www.farnwr.org/maps1.html)

Great Meadows National Wildlife Refuge, map:  
[www.fws.gov/refuge/great\\_meadows/map.html](http://www.fws.gov/refuge/great_meadows/map.html)

Sudbury Valley Trustees, trail maps: <http://www.sudburyvalleytrustees.org/maps>

## SPECIAL PROJECTS

Did your program perform any of the following special projects? Check all that apply.

- ☐ Inspectional services (inspections at sewage treatment facilities, review of subdivision plans, etc.)

Describe:

- ☒ 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

Describe: The Project works with local DPW officials and Conservation Administrators to identify excess sedimentation and or debris that is obstructing waterways and culverts and to maintain those waterways and culverts. The Project coordinated catchbasin larvicide applications with local public works departments so as not to conflict with catch basin cleaning.

- ☐ Work with groups as described above on long term solutions?

Describe:

- ☐ Conduct or participate in any cooperative research or restoration projects?

Describe:

- ☐ Participate in any state/regional/national workgroups or panels, or attend any meeting pertaining to the above?

Describe:

- ☐ Work on any biological control projects, such as enhancement of habitat for native predators, release of predatory fish or invertebrates, etc.?

Describe:

### **CHILDREN AND FAMILIES PROTECTION ACT (CFPA)**

Is your program impacted by the CFPA? Yes

If yes, please explain: Per the provisions of the Act, the Project excludes schools, group day care centers and school age child care programs from adult mosquito control pesticide applications unless the pre-requisites for spraying are fulfilled.

If you have data on compliance rates with the CFPA within your program area, please list here:

Describe any difficulties you have had with the implementation of your program due to the CFPA, please elaborate here:

Comments:

### **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM**

Did your program report any adverse incidents during this reporting period? Choose one

If yes, please list any corrective actions here: \_\_\_\_\_

### **GENERAL COMMENTS**

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