MASSACHUSETTS MOSQUITO CONTROL

ANNUAL OPERATIONS REPORT

Year Report Covers: 2016 Date of Report: 00/30/2016

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: David.Henley@state.ma.us

Report prepared by: ***David Henley***

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 Massachusettes, the Massachusetts Arbovirus Surveillance and Response Plan and the policies of the State Reclamation and Mosquito Control Board.

The Project's integrated mosquito management plan will consist of mosquito surveillance, larval mosquito control of wetlands and catchbasins, adult mosquito control, wetlands management/ ditch maintenance and public education.

ORGANIZATION SETUP:

Commissioner names:

Executive Committee: Lenny Izzo, Chair, representing Wellesley; Gerard Cody, Lexington; Tom Creonte, Waltham; Julia Junghanns, Wayland and Deborah Rosati, Watertown.
Other Commissioners: Christine Bongiorno, Arlington; Heidi Porter, Bedford; Angela Braun, Belmont; Patrick Maloney, Brookline; Christine Mathis, Burlington; Wendy Robinson, Cambridge; Anthony Kiszewski, Ph.D, Concord; Chris Webb, Malden; Kelly Pawluczonek, Maynard; Ruth Clay, Melrose and Wakefield; John McNally, Newton; Bob Bracey, North Reading; William Murphy, Sudbury; Richard Sullivan, Weston and Jennifer Murphy, Winchester.

Superintendent/Director name: David Henley
Superintendent/Director contact phone number: 781-899-5730
Asst. Superintendent/Director name: Michael Bryant

District/Project website: http:// https://sudbury.ma.us/emmcp/
Twitter handle: @
Facebook page: http://www.facebook.com/

Staffing levels for the year of this report:
Full time: 6
Part time:
Seasonal: 5
Other: (please describe)

Of the above, how many are:
(Please check off all that apply, and list employee name(s) next to each category)

☒ Administrative David Henley, Lorna Rabbitt (retired) and Katherine Swan
☐ Biologist
☐ Educator
☒ Entomologist Douglas Bidlack, Ph.D.
☒ Facilities David Henley and Michael Bryant
☐ Information technology
☐ Laboratory
☒ Operations Full time: Michael Bryant, Christopher Gagnon and Michael Sweder. Seasonal: Kaelon Allen, Matthew Cody, Cameron Kelley, Salvatore Restuccia and Joseph Sandore.
☐ 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):

1 Modified wetland equipment (list type) Linkbelt 75 Spin Ace track mounted excavator
8 Larval control equipment (list type) 3 Solo backpack pump sprayers and 5 B&G pump sprayers.
2 ULV sprayers (list type) Clarke Cougar Smartflow with radar.
7 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 and Winchester. The East Middlesex Mosquito Control Commission and the Suffolk County Mosquito Control Commission agreed to extend a Memorandum of Agreement to share administrative services.

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): The Project receives requests to review plans for stormwater runoff at developments planned adjacent to wetlands or for underground stormwater treatement devices.**

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 catchbasin	hand applied	Larvae	☒ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	206.6 lbs.
Altosid Pellets WSP	2724-448	1 packet per catchbasin	hand applied	Larvae	☒ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	59.9 lbs.
Altosid XR Briquets, Ingot design	2724-421	1 briquet per catchbasin	hand applied	Larvae	☒ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	394.4 lbs.
Vectobac 12 AS	275-102	8 oz. per acre 12 oz. per acre	portable sprayer	Larvae	☐ Catch basins ☐ Containers ☒ Wetland ☐ Other (please list):	13.5 gals.
Vectobac G	73049-10	5 lbs. per acre	aerially applied	Larvae	☐ Catch basins ☐ Containers ☒ Wetland ☐ Other (please list):	9,995 lbs.
Vectolex WSP	73049-20	1 packet per catchbasin, 1 packet per 50 sq. ft.	hand applied	Larvae	☒ Catch basins ☒ Containers ☐ Wetland ☐ Other (please list):	1,180.3 lbs.
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ 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	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ Other (please list):	
				Choose one	☐ Catch basins ☐ Containers ☐ Wetland ☐ 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. Catchbasin larval control is funded by 22 communities. An additional 2 communities do their own 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 catchbasins 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 catchbasins in July , Augus and September.

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

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	.0024 lbs. per acre	truck mounted aerosol sprayer	29.8 gals.

Please describe the maximum amounts or frequency used in a particular time frame such as season and areas
In 2016 the maximum number of times that wide area adult mosquito control occurred in any neighborhood was three times. The shortest interval between wide area spray applications in any neighborhood was 14 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 the norm 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 commmunities 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).

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: During ditch maintenance activities, discarded tires are picked up and recycled.

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

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)
☒ Culvert cleaning	
☒ Hand cleaning	3,847'
☒ Mechanized cleaning	1,118'
☐ Stream flow improvement	
☐ Other (please list):	

Comments: Separate lengths of maintenance when cleaning culverts are not recorded during hand cleaning and mechanized cleaning.

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

Maintenance Type	Estimate of cumulative length of ditches maintained (ft)
☐ Hand cleaning	
☐ Mechanized cleaning	
☐ Other (please list):	

Comments: _____

What time frame during the year is this method employed? Most inland ditch maintenance is done from September through 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 76 sites. Post-application surveys were conducted at 23 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 catchbasins left by catchbasin 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 catchbasins, sampling using a Landers Ladle is conducted during the early summer to determine when the presence of Culex larvae in untreated catchbasins becomes common. Two collections using a Landers ladle are taken at each sampled catchbasin. Applicators are required to mark each catchbasin grate with a spot of water soluble marking paint, when they apply a larvicide to the catchbasin. Monitoring of paint marks left on catchbasin 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 by the Operations Manager.

Before adult mosquito control is scheduled, three to five co2-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	Bacillus sphaericus efficacy in catchbasins
Other: resistance testing	Culex spp. resistance to Bacillus sphaericus tested
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. In 2016 the Project started using 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 currently in use by your program:

- ☐ ABC light traps
- ☐ ABC light traps w/CO_2
- ☐ CDC light traps
- ☒ CDC light traps w/CO_2
- ☒ Gravid traps
- ☐ Landing rate tests
- ☐ NJ light traps
- ☐ NJ light traps w/CO_2
- ☒ Ovitraps
- ☐ Resting boxes
- ☐ Other (please describe):

- ☐ Canopy
- ☐ Canopy
- ☐ Canopy
- ☐ Canopy

- ☐ Canopy
- ☐ Canopy

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

If yes, please describe how you chose these long-term sites:

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:

- ☒ *Ae. albopictus*
- ☒ *Ae. cinereus*
- ☒ *Ae. vexans*
- ☒ *An. punctipennis*
- ☒ *An. quadrimaculatus*
- ☒ *Cq. perturbans*
- ☒ *Cx. pipiens*
- ☒ *Cx. restuans*
- ☒ *Cx. salinarius*
- ☒ *Cs. melanura*
- ☒ *Cs. morsitans*
- ☐ Other (please list):
- ☒ *Oc. abserratus*
- ☒ *Oc. canadensis*
- ☒ *Oc. cantator*
- ☒ *Oc. j. japonicus*
- ☐ *Oc. sollicitans*
- ☐ *Oc. taeniorhynchus*
- ☒ *Oc. triseriatus*
- ☒ *Oc. trivittatus*
- ☒ *Ps. ferox*
- ☐ *Ur. sapphirina*

Do you participate in the MDPH Arboviral Surveillance program? Yes
How many pools do you submit weekly on average? 18

Number of traps in your service area **placed by MDPH**: 17
Were these long-term trap sites or supplemental trapping sites? long-term

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**
☐ Eastern Equine Encephalitis (EEE)	0	0	0
☒ West Nile Virus (WNV)	46	0	10
☐ 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 and Low	Remote and Low
WNV	Low	Low, Moderate and High

Comments: For EEE, the following communities started and finished the year as declared low EEE risk: Concord, Framingham, North Reading, Reading and Sudbury. The following communities started and finished the year as declared remote EEE risk: Arlington, Bedford, Belmont, Brookline, Burlington, Cambridge, Everett, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Newton, Wakefield, Waltham, Watertown,Wayland, Wellesley, Weston and Winchester.
For WNV, all communities started the year at low WNV risk. At the end of the season, the following communities were declared at a high risk of WNV: Arlington, Belmont, Brookline, Cambridge, Everett, Medford, Newton and Watertown. The following communities were declared at moderate risk of WNV: Burlington, Lexington, Malden, Melrose, North Reading, Reading, Wakefield, Waltham, Wellesley, Weston and Winchester. The following communites were declared at low WNV risk: Bedford, Concord, Framingham, Lincoln, Maynard, Sudbury and Wayland.

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 excluded their property from pesticide applications in 2015, received a letter and exclusion form in February 2016. Each person who allowed the Project to put a survey trap on their property in 2015 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 2016.)
☒ 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:
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. Presentation by Douglas Bidlack on Mosquitoes and Ticks in North Reading at an outreach event planned by the North Reading Health Department
3. David Henley appeared on a Burlington Medical Reserve Corps local access TV program entitled "Be Prepared" and presented information about mosquitoes, ticks and the diseases that they carry.

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 A paper appeared in the journal, Apidologie, entitled "A Scientific Note on rare parasitism of the bumble bee pollinator, Bombus impatiens by a mermithid nematode, Pheromermis sp. (Nematoda mermithidae)" by Sujaya Rao, George Poinar and David Henley.
☒ Another mosquito control district/project The East Middlesex Project worked cooperatively with the Suffolk County Mosquito Control Project. The cooperation included shared administration, training on adult mosquito surveillance, mechanical repair of sprayers, helicopter larval control and outreach efforts. The two Projects collaborated on a paper on catchbasin larval surveillance and control that was presented at the annual meeting of the Northeastern Mosquito Control Association and will be presented at the 2017 annual meeting of the American Mosquito Control Association.
☒ Another state agency (DCR, DPH, etc.) The Project collaborated with DPH to monitor for Aedes albopictus by submitting mosquito eggs collected in ovitraps.
☒ Environmental groupsNotices about planned wide area adult mosquito spraying were sent to the Middlesex County Beekeepers Association
☐ Industry

List any training/education your staff received this year: Douglas Bidlack and David Henley attended a 3-day Zika Virus conference that was hosted by the University of Massachusetts in Boston. Doug Bidlack attended the annual meeting of the American Mosquito Control Association. Five employees attended the annual Northeastern Mosquito Control Association (NMCA) meeting. Four employees attended the annual NMCA Field Day. David Henley attended talks by Catherine Brown and Larry Dapsis on mosquitoes and ticks sponsored by the Middlesex Tick Task Force. Mike Bryant, Chris Gagnon and Mike Sweder attended an Underground Safety Seminar. Four employees attended a Diversity Training session sponsored through the PACE program. Five employees completed PACE training on Preventing Workplace Violence, Preventing Sexual Harassment in the Workplace, training on Domestic Violence, Sexual Assault and Stalking Awareness, and a training on Conflict of Interest. Three staff members received training from Eric Olson, PhD of Brandeis University on the protocol to measure deer tick populations.

Please list the certifications and degrees held by your staff: Mike Bryant, Chris Gagnon, David Henley and Mike Sweder are Certified Pesticide Applicators. Cameron Kelley and Joseph

Sandore are Licensed Pesticide Applicators. Kaelon Allen, Matthew Cody and Salvatore Restuccia are Permitted Catchbasin Applicators. Chris Gagnon has 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. Mike Sweder has a M.S. in Environmental Health and a B.S. in Entomology.

Comments: _____

INFORMATION TECHNOLOGY (IT)

Does your program use (check all that apply):

☒ Aerial Photography
☒ Databases
☐ Dataloggers (monitoring for temperature, etc.)
☒ GIS mapping (Describe:)
☒ 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 provide the amounts for your approved budgets for the current, previous, and future fiscal years. Please note if the budget for the next fiscal year is an estimate, or put "n/a" if it is not yet available.

Fiscal Year	Approved Budget
-2017	$733,281
2016	$719,226

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 2017 from the cities and towns of the East Middlesex MCP: Arlington - $20,000, Bedford - $38,889, Belmont - $17,700, Brookline - $13,013, Burlington - $42,061, Cambridge - $28,704, Concord - $20,000, Everett - $14,000, Framingham - $51,503, Lexington - $26,538.16, Lincoln - $10,300, Malden - $20,550, Maynard - $13,050, Medford - $23,584, Melrose - $11, 771, Newton - $43,003, North Reading - $48,462, Reading - $40,000, Sudbury - $48,145, Wakefield - $18,858, Waltham - $34,706, Watertown -

$16,205, Wayland - $24,190, Wellesley - $19,611.07, Weston - $41,718 and Winchester - $16,116.

Comments: <u>The East Middlesex MCP also receives supplemental appropriations for excavator work or for the purchase of catchbasin larvicides, if funding for those services or purchases is not included within the regular appropriation.</u>

SERVICE REQUESTS

How many service requests did you receive this season? 212
How many were for larviciding? 78
How many were for adulticiding? 36

Was this an increase or decrease over last season? Decrease

Comments: The extreme drought conditions produced lower than normal mosquito populations, which resulted in fewer requests to control adult mosquitoes and fewer requests to check wetlands for mosquito larvae. The East Middlesex MCP 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? 89

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
Great Meadows National Wildlife Refuge, map:
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: At the request of local health officers, plans for subdivisions were reviewed in Arlington and Lexington to determine whether the proposed stormwater runoff structures would impact local mosquito populations.

- ☒ 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 catchbasin 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? No

If yes, please list any corrective actions here: _____

GENERAL COMMENTS

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