# MASSACHUSETTS MOSQUITO CONTROL

## *ANNUAL OPERATIONS REPORT*

Year Report Covers: 2021 Date of Report: 1/31/2022

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

Address: 11 Sun St.

City/Town: Waltham Zip: 02453

Phone: 781-899-5730 Fax:

E-mail: emmcp.ma@verizon.net

**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; Heidi Porter, Bedford; Wesley Chin, Belmont; Christine Mathis, Burlington; Swannie Jett, Brookline.
Other Commissioners or town representatives include the following: Natasha Waden, Arlington; Wendy Robinson, Cambridge; Anthony Kiszewski, PhD, Concord; Sabrina Firicano, Everett; Sam Wong, Framingham; Health Department Representative, Lexington; Health Department Representative, Lincoln; Chris Webb, Malden; Kelly Pawluczonek, Maynard; MaryAnn O'Connor, Medford; Ruth Clay, Melrose and Wakefield; Kyle Simpson, Newton; Bob Bracey, North Reading; Laura Vlasuk/Peter Mirandi, Reading; William Murphy, Sudbury; Tom Creonte, Waltham; Larry Ramdin, Watertown; Julia Junghanns, Wayland; Rich Sullivan, Weston and Jennifer Murphy, Winchester.

**Superintendent/Director name:** Brian Farless
**Superintendent/Director contact phone number:** 781-899-5730
**Asst. Superintendent/Director name:** Chris Gagnon

**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:
Seasonal: 5
Other: in addition to above, two full time and one part-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, Katherine Swan, Dave Henley
☐ Biologist
☐ Educator
☒ Entomologist Doug Bidlack, Ph.D.
☒ Facilities Chris Gagnon, Brian Farless, Cam Kelley, Peter Mirata
☐ Information technology
☒ Laboratory Doug Bidlack, Ph.D.
☒ Operations Brian Farless, Chris Gagnon, Doug Bidlack, Cam Kelley, Peter Mirata, Konrad Musialowski, Allison Rittweger, Sal Restuccia, Daniel Serafini, Nick Serafini
☒ Public relations Brian Farless, Katherine Swan, Doug Bidlack, Chris Gagnon
☐ 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
3 Larval control equipment (list type) Backpack pump sprayers
2 ULV sprayers (list type) Clarke Cougar Smartflow with radar
8 Vehicles
Other (please be specific): Stihl backpack mistblower

**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 floodwater species, summer floodwater species and artificial container 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 frequently involved in outdoor activities. The mosquito species, Culiseta melanura, amplifies EEE within the bird population. Culiseta melanura mosquito populations are reduced as a result of the spring larvicide application. Summer floodwater species are controlled because they are aggressive mammal biting species, some of which are vectors of EEE. Culex pipiens/restuans species are controlled because they are the primary vectors for West Nile virus in Massachusetts. They are found in catch basins and other artificial water holding containers, as well as in freshwater wetland habitat.

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 May through September.

Describe the types of areas where you use this program: Intermittently flooded wetlands, stormwater detention basins, catch basins, 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** |
|---|---|---|---|---|---|---|
| VectoBac 12AS | 73049-38 | 8 ounces per acre | back pack pump sprayer | Larvae | ☐ Catch basins<br>☐ Containers<br>☒ Wetland<br>☐ Other (please list): | 2.21 gallons |
| Vectolex WSP | 73049-20 | 1 pouch (10 gram) per catch basin or similar water holding container | hand applied | Larvae | ☒ Catch basins<br>☒ Containers<br>☐ Wetland<br>☐ Other (please list): | 954.12 pounds |
| Altosid Pellets WSP | 2724-448 | 1 pouch (7 gram) per catch basin or similar water holding container | hand applied | Larvae | ☒ Catch basins<br>☒ Containers<br>☐ Wetland<br>☐ Other (please list): | 342.83 pounds |
| Altosid P35 | 89459-95 | 9 grams per catch basin or similar water holding container | hand applied | Larvae | ☒ Catch basins<br>☒ Containers<br>☐ Wetland<br>☐ Other (please list): | 269.73 pounds |
| VectoBac GS | 73049-10 | 5 pounds per acre | backpack blower/hand applied | Larvae | ☐ Catch basins<br>☐ Containers<br>☒ Wetland<br>☐ Other (please list): | 259.5 pounds |
| Vectobac WDG | 73049-56 | 2 ounces per gallon/per acre | hand applied | Larvae | ☐ Catch basins<br>☐ Containers<br>☒ Wetland<br>☐ Other (please list): | 18.01 pounds |
| Altosid XR Briquets, Ingot | 2724-421 | 1 briquet per catch basin | hand applied | Larvae | ☒ Catch basins<br>☐ Containers<br>☐ Wetland | 329.86 pounds |

| | | | | | | |
|---|---|---|---|---|---|---|
| design | | | | | ☐ 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** |
|---|---|---|---|---|---|---|
| Fourstar Briquet, 90 day | 83362-3 | 1 briquet per catch basin | hand applied | Larvae | ☒ Catch basins<br>☐ Containers<br>☐ Wetland<br>☐ Other (please list): | 18.4 pounds |
| Vectolex FG | 73049-20 | 15 pounds per acre | backpack | Larvae | ☐ Catch basins<br>☐ Containers<br>☒ Wetland<br>☐ Other (please list): | 360 pounds |
| | | | | Choose one | ☐ Catch basins<br>☐ Containers<br>☐ Wetland<br>☐ Other (please list): | |
| | | | | Choose one | ☐ Catch basins<br>☐ Containers<br>☐ Wetland<br>☐ Other (please list): | |
| | | | | Choose one | ☐ Catch basins<br>☐ Containers<br>☐ Wetland<br>☐ Other (please list): | |
| | | | | Choose one | ☐ Catch basins<br>☐ Containers<br>☐ Wetland<br>☐ Other (please list): | |
| | | | | Choose one | ☐ Catch basins<br>☐ Containers<br>☐ Wetland<br>☐ 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: _____**

**Please attach a map of your service area (or a website link to that map).**
**sudbury.ma.us/emmcp/**

## 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 and EEE/WNV vector species.

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

Describe the types of areas where you use this program: Truck mounted ULV sprayers are used in suburban residential neighborhoods with a relatively dense configuration of streets. A backpack mistblower is used in areas with high mosquito populations and/or in areas with an elevated disease risk.

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** |
|---|---|---|---|---|
| Zenivex E4 | 2724-807 | 1 ounce per acre | ULV truck | 140.6 gallons |
| Suspend Polyzone | 432-1514 | 0.25-1.5 ounce per 1,000 square feet | backpack mistblower | 44.4 ounces |
| | | | | |
| | | | | |
| | | | | |

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

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 at least 200 mosquitoes found in a trap from one night)
**Comments:** _____

**Please attach a map of your service area (or a website link to that map).**
**sudbury.ma.us/emmcp/**

## 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:

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 | 22,256 |
| ☒ Mechanized cleaning | 1,572 |
| ☐ Stream flow improvement | |
| ☐ Other (please list): | |

**Comments:** _____

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? Ditch maintenance can be done year round, but 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). sudbury.ma.us/emmcp/**

## 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 and post-application larval surveys are conducted. Helicopters apply larvicide to wetlands containing mosquito larvae. 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 and post-application larval dip counts are undertaken with a minimum of 30 dips per site. In addition, the applicator is supplied with ArcView GIS maps of targeted wetlands that are used in the applicator's AgNav systems. The AgNav maps recorded during the application are reviewed following the application to evaluate the coverage of treated areas. Catch basin water is sampled during early summer to determine when the presence of Culex larvae becomes common. Two water samples using a Landers Ladle are taken at each sampled catch basin. Catch basin larvicide applicators are required to mark each catch basin with water soluble marking paint when larvicide is applied. Monitoring of paint marks left on catch basin grates is conducted to evaluate coverage. Random post application sampling is conducted to determine the efficacy of Bacillus sphaericus applications. For small area wetland larval control, applicators are required to find 3 larvae per 10 dips before a larvicide can be applied. Post-application surveys are carried out at random. Before adult mosquito control is scheduled in any area, CO2 baited CDC light traps are used to monitor mosquito populations in that area. A minimum of 200 mammal biting mosquitoes must be collected at a trap site before spraying will be scheduled.**

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 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) |
|---|---|---|
| ☐ ABC light trap | ☐ | |
| ☐ ABC light trap w/$CO_2$ | ☐ | |
| ☐ CDC light trap | ☐ | |
| ☒ CDC light trap w/$CO_2$ | ☐ | 149 |
| ☒ Gravid trap | | 102 |
| ☐ Landing rate test | | |
| ☐ NJ light trap | ☐ | |
| ☐ NJ light trap w/$CO_2$ | ☐ | |
| ☒ Ovitrap | | 10 |
| ☐ Resting box | | |
| ☐ Other (please describe): | | |
| ☐ Other (please describe): | | |
| ☐ Other (please describe): | | |

Do you maintain long-term trap sites in any of your areas? Yes
If yes, how many:
There are 3 to 5 trap sites in most municipalities. In municipalities with significant wetland acreage, light trap sites are located in locations that are in close proximity to major mosquito habitats for spring and summer floodwater mosquitoes. In densely populated areas, gravid traps are placed in locations with the goal of providing geographic spacing within the community.

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*
☒ *Oc. abserratus*
☒ *Oc. canadensis*
☒ *Oc. cantator*
☒ *Oc. j. japonicus*
☒ *Oc. sollicitans*
☒ *Oc. taeniorhynchus*
☒ *Oc. triseriatus*
☒ *Oc. trivittatus*
☒ *Ps. ferox*

☐ *Ur. sapphirina*
☐ Others (please list):

Number of adult mosquitoes collected this season (whether submitted to DPH or not): 110,087
Number of adult mosquito pools collected this season (submitted and unsubmitted):
Number of ovitrap collections this season, if any: 10
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: 190
How many pools do you submit weekly on average? 13.57

Number of traps in your service area **placed by MDPH**: 8
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) | | | |
| ☒ West Nile Virus (WNV) | 29 | 0 | 7 |
| ☐ Other (please list): | | | |

**Comments:** one alpaca death from WNV

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 | moderate | moderate |
| WNV | low | low, 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): )
☒ 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): Information is provided to health departments and they provide education materials to their residents

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. Daily phone calls from residents.
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 The Project shared administration with the Suffolk County Mosquito Control Project.
☒ Another state agency (DCR, DPH, etc.) The Project collaborated with DPH to monitor for Aedes albopictus by submitting mosquito eggs collected from ovitraps.
☐ Environmental groups
☐ Industry

List any training/education your staff received this year: Doug Bidlack, Brian Farless, Chris Gagnon, Cam Kelley, Peter Mirata and Sean Wilson attended the 2020 Annual NMCA Conference in January/February 2021. Doug Bidlack, Brian Farless, Chris Gagnon, Cam Kelley, Peter Mirata and Sean Wilson attended the 2021 Annual NMCA Conference in December 2021. Doug Bidlack, Brian Farless, Chris Gagnon, Dave Henley, Cam Kelley, Peter Mirata, Katherine Swan and Sean Wilson attended the Cyber Security Awareness Training. Brian Farless attended the Western US Floodwater Summit. Chris Gagnon and Brian Farless attended the Eastern US Floodwater Summit.

Please list the certifications and degrees held by your staff: Chris Gagnon is a Certified Pesticide Applicator. Brian Farless, Cameron Kelley, Peter Mirata, Konrad Musialowski and Salvatore

Restuccia are Licensed Pesticide Applicators. Allison Rittweger, Daniel Serafini and Nicholas Serafini 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. 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. Allison Rittweger has a B.A. in Italian/Spanish World Languages and Cultures.

**Comments:** _____

## INFORMATION TECHNOLOGY (IT)

Does your program use (check all that apply):

☒ Aerial Photography
☒ Databases
☒ Dataloggers (monitoring for temperature, etc.)
☒ GIS mapping (Describe: 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 | 2021 | 821,476.07 | |
| Current | 2022 | 833,587.94 | |
| 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 approved appropriations for FY2022 from the cities and towns of the East Middlesex Mosquito Control District: Arlington - $35,400, Bedford - 42,042, Belmont - 20,010, Brookline - 14,367, Burlington - 44,846, Cambridge - 54,055, Concord - 21,000, Everett - 20,000, Framingham - 60,526, Lexington - 30,469, Lincoln - 10,777, Malden - 21,603, Maynard - 13,706, Medford - 24,848, Melrose - 18,791, Newton - 51,529, North Reading - 50,513, Reading - 44,050, Sudbury - 55,620, Wakefield - 29,445, Waltham - 37,668, Watertown - 19,715, Wayland - 27,233.96, Wellesley - 21,864.98, Weston - 45,918, Winchester - 17,591

**Comments: _____**

## SERVICE REQUESTS

How many service requests did you receive this season? 192
How many were for larviciding? 46
How many were for adulticiding? 146

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.**

## EXCLUSIONS

How many exclusion requests did you receive this season? 256

Was this an increase or decrease over last season? Increase

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:

- ☒ 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 catch basin 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? No

If yes, please list any corrective actions here: _____

## GENERAL COMMENTS

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