

MASSACHUSETTS MOSQUITO CONTROL ANNUAL OPERATIONS REPORT



2012 Year of Report

Date of Report: 1/22/2013

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

Address: 11 Sun St.

City/Town: Waltham

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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 the 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.

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:

Please list your Commissioner's names:

Executive Committee: Leonard Izzo, Chair, Wellesley; Gerard Cody, Lexington; Ruth Clay, Melrose, Reading and Wakefield; John McNally, Newton and Martin Fair, North Reading. Other members: Christine Connolly, Arlington; John Zupkus, Bedford; Stefan Russakow, Belmont; Patrick Maloney, Brookline; Susan Lumenello, Burlington; Wendy Robinson, Cambridge; Anthony Kiszewski, PhD., Concord; Roberto Santamaria, Everett; Ethan Mascoop, Framingham; Arnold Weinberg, MD, Lincoln; Chris Webb,

Malden; Kevin Sweet, Maynard; Robert Leupold, Sudbury; Thomas Creonte, Waltham; Steven Ward, Watertown; Julia Junghanns, Wayland; Rich Sullivan, Weston and Jennifer Murphy, Winchester.

Please list the Supt./Director's name: David Henley

Please list the Supt./Director's contact phone number: 781-899-5730

Please list your Asst. Supt./Asst. Director's name: Michael Bryant

Do you have a website? Yes If yes, please list the web address here:
<http://sudbury.ma.us/services/health/emmcp/>

Please list your staffing levels for the year of this report:

Full time: 5

Part time: 1

Seasonal: 5 full-time

Other: (please describe)

Please break these down into the following areas:

Administrative staff: Superintendent and part-time Administrative Assistant

Field staff: Assistant Superintendent, Entomologist, Skilled Equipment Operator, Grade 1, Skilled Equipment Operator, Grade 2 and five full-time seasonal catchbasin applicators.

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

Public relations David Henley

Information technology

Entomologist Douglas Bidlack, PhD.

Wetland Scientist

Biologist

Education

Laboratory

Operations - Full time: Michael Bryant, Christopher Gagnon and Michael Sweder.

Seasonal: Lothian Buss, Stephen Feeney, Thomas Foti, Cameron Kelley and Scott VanderMollen.

Facilities - David Henley and Michael Bryant

Other (please list)

For the year of this report, we maintained:

7 vehicles

1 modified wetland equipment (list type) LinkBelt 75 Spin Ace track mounted excavator

4 ULV sprayers (list type) 1 Clarke Cougar Smartflow with radar and Datamaster, 1

Clarke Grizzly Smartflow with radar and 2 Leco ULV sprayers with CV units.

Larval control equipment (list type)

Other (please be specific):

Comments: _____

How many cities & towns in your service area? 26

Please 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.

***Please attach a link to a map of your service area if possible.**

INTEGRATED PEST MANAGEMENT (IPM):

DEFINITION: a comprehensive strategy of pest control whose major objective is to achieve desired levels of pest control in an environmentally responsible manner by combining multiple pest control measures to reduce the need for reliance on chemical pesticides; more specifically, a combination of pest controls which addresses conditions that support pests and may include, but is not limited to, the use of monitoring techniques to determine immediate and ongoing need for pest control, increased sanitation, physical barrier methods, the use of natural pest enemies and a judicious use of lowest risk pesticides when necessary.

Please check off all of the services that you currently provide to your member cities and towns as part of your IPM program; details of these services are in the next sections.

- Larval mosquito control
- Adult mosquito control
- Source reduction
- Ditch maintenance
- Open Marsh Water Management
- Adult mosquito surveillance
- Education, Outreach & Public education
- Research
- Other (please list): On occasion the Project receives requests to review plans for stormwater runoff at developments planned adjacent to wetlands or for underground stormwater treatment devices.

Comments: _____

LARVAL MOSQUITO CONTROL:

Do you have a larval mosquito suppression program? Yes

If yes, please 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 people are active doing outdoor maintenance activities and recreation. It is also a peak period for youth sports. Summer floodwater species are controlled because they are aggressive mammal biting species and possible human vectors of EEE. Culex mosquitoes are controlled because they are possible vectors for West Nile virus.

Please give the time frame for this program: Spring floodwater mosquito larvae are controlled from late March through May. Summer floodwater mosquito larvae are controlled from late May through early October. Culex mosquito larvae are controlled from late May through September.

Describe the areas that this program is used: Intermittently flooded wetlands, catchbasins, neglected swimming pools and other water holding containers.

Do you use:

Ground applied (includes hand, portable and/or backpack)

Helicopter applications

Other (please list):

Comments: _____

What products do you use in – (please use product name and EPA#)

Wetlands: VectoBac 12AS - EPA #275-102, Altosid Pellets - EPA #2724-448.

Catch basins: Vectolex WSP - EPA #73049-20, Spheratax SPH WSP, EPA #84268-2, FourStar Sustained Release 45-day Microbial Briquets, EPA #83362-3, Altosid Pellets - EPA #2724-448, Altosid Pellets WSP - EPA #2724-448, Altosid XR Ingot Briquets - EPA #2724-421

Containers: Vectolex WSP - EPA #73049-20, Altosid Pellets - EPA #2724-448

Other (please list):

Please list the rates of application for the areas listed above:

Wetlands: VectoBac 12AS was applied by portable sprayers at rates of 8 oz. of Bti per acre and 12 oz. of Bti per acre. Altosid Pellets were applied at rates of 2.5 lbs. to 5 lbs. per acre.

Catch basins: Vectolex WSP, Spheratax SPH WSP and Altosid Pellets WSP were applied at a rate of 1 pouch per catchbasin. Altosid XR Ingot Briquets and FourStar Sustained Release 45-day Microbial Briquets were applied at a rate of 1 briquet per catchbasin. Altosid Pellets were applied at a rate of 8 grams per catchbasin.

Containers: Vectolex WSP was applied to neglected swimming pools at the rate of 1 pouch per 50 square feet. Altosid Pellets were applied to neglected swimming pools,

and rimless tires and other water holding containers at the rate of 2.5 lbs. to 5 lbs. per acre.

Other:

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

- Larval dip counts – please list trigger for application: 3 larvae per 10 samples
- Historical records
- Best professional judgment

Comments: Larval control in wetlands is funded by 25 communities. Catchbasin larval control is funded by 22 communities. Larval control in neglected swimming pools is done in cooperation with municipal health departments. Altosid Pellets, Altosid Pellets WSP and Altosid XR Ingot Briquets are applied to catchbasins during the month of June as a pre-emergence treatment. Altosid Pellets, Altosid Pellets WSP Altosid XR Ingot Briquets, Spheratax SPH WSP and Vectolex WSP were used to control Culex larvae in catchbasins during July, August and September. Efficacy studies were conducted using Speratax SPH WSP that were applied by an employee of the Brookline Health Dept. and FourStar Sustained Release 45-day Microbial Briquets, which were applied by employees from the East Middlesex MCP.

***Please attach a link to maps of treatment areas if possible.**

ADULT MOSQUITO CONTROL:

Do you have an adult mosquito suppression program? Yes

If yes, please 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 species.

Please give the time frame for this program: June through September

Describe the areas that this program is used: Suburban residential neighborhoods with a relatively dense configuration of streets.

Do you use:

- Truck applications**
- Portable applications**
- Aerial applications**
- Other (please list):**

Comments: _____

Please list the names of the products used with EPA #:

- 1). Anvil 10 + 10, EPA #1021-1688-8329
- 2).
- 3).
- 4).
- 5).
- 6).

Please list your application rates for each product:

- 1). Anvil 10 + 10 ULV at .0024 lbs. per acre.
- 2).
- 3).
- 4).
- 5).
- 6).

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

In 2012, the maximum number of times that wide area adult mosquito control occurred in any neighborhood was 4 times. The maximum frequency was 12 days between sprays.

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

- Landing rates - please list trigger for application
- Light trap data - please list trigger for application
- Complaint calls - please list trigger for application
- Arbovirus data
- Best professional judgment

Comments: Scheduling adult mosquito control applications is based on mosquito population data. Spraying in the vicinity of an EEE or West Nile Virus isolation or case may be done if the community where the isolation occurs supports the application. Citizen complaints are regarded as supplemental data that may influence the shape of the area, where control is scheduled.

***Please attach a link to maps of treatment areas if possible.**

SOURCE REDUCTION

Do you perform source reduction methods such as tire/container removal? Yes

If yes, please describe your program: During ditch maintenance activities, tires may be removed from work areas, if the municipality where the work is being done is willing to accept the tires and fund their disposal.

What time frame during the year is this method employed? October through March.

Comments: _____

DITCH MAINTENANCE

Do you have a ditch maintenance program? Yes

Please check all that apply:

- Inland/freshwater
- Saltmarsh

If yes, please describe: Ditch maintenance is done using either a LinkBelt 75 track mounted excavator or with hand tools. When planning ditch maintenance activities, the protocols contained in the Massachusetts Best Management Practice and Guidance for Freshwater Mosquito Control are followed.

Please check off all that apply INLAND DITCH MAINTENANCE:

- Hand tools**
- Mechanized equipment**
- Other (please list):**

Comments: _____

Please check off all that apply SALTMARSH DITCH MAINTENANCE:

- Hand cleaning**
- Mechanized cleaning**
- Other (please list):**

Comments: _____

Please give an estimate of cumulative length of ditches maintained from the list above
INLAND:

Hand cleaning 8,623 linear feet

Mechanized cleaning 1,573 linear feet

Other (please list):

Comments: _____

Please give an estimate of cumulative length of ditches maintained from the list above
SALTMARSH:

Hand cleaning

Mechanized cleaning

Other (please list):

What time frame during the year is this method employed? Most inland ditch maintenance work is done from October through March.

Comments: _____

***Please attach a link to maps of ditch maintenance areas if possible.**

MONITORING (Measures of Efficacy)

Please describe monitoring efforts for each of the following:

Aerial Larvicide – wetlands: The EMMCP conducted pre-application surveys at 72 sites before deciding to cancel the 2012 application because of dry conditions. surveys

Larvicide – catch basins: Pre application larval surveys are done in June to determine the appropriate time to begin using *Bacillus sphaericus* products. Random pre-application and post-application larval surveys are conducted during July, August and September. Random monitoring of paint marks left by applicators is conducted to evaluate coverage of treated areas. In 2012 an efficacy study was conducted on two new products, Spheratax SPH WSP and FourStar Sustained Release 45-day Microbial Briquets.

Larvicide-hand/small area Pre application larval surveys and random post application surveys were conducted.

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

Source Reduction:

Open Marsh Water Management:

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 with a minimum of 30 dips per site and random post application dip counts with a minimum of 30 dips at sites where monitoring occurs. In addition Ag Nav GIS maps provided by the applicator are reviewed to evaluate coverage of the treated areas.**

At catchbasins, sampling using a Landers Ladle is conducted during the early summer to determine when the presence of larvae in catchbasins becomes common. Two samples using the Landers Ladle are taken at each sampled catchbasin. Applicators are required to mark each catchbasin, where they apply a larvicide. Monitoring of paint marks left on catchbasin grates by applicators is conducted to evaluate coverage. Random post application sampling is conducted to determine efficacy of products containing *Bacillus sphaericus*.

For small area wetland larval control, applicators are required to do a minimum of 10 dips and find a minimum of 3 larvae before Bti can be applied. Random post application surveys 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 site. Trap collections below the minimum number result in a determination that spraying does not need to be scheduled in that neighborhood or re-scheduled if the neighborhood has recently been sprayed.

OPEN MARSH WATER MANAGEMENT

Do you have an OMWM program? Choose one

If yes, please describe:

Please give an estimate of total square feet or acreage:

What time frame during the year is this method employed?

Comments: _____

***Please attach a link to maps of OMWM areas if possible.**

ADULT MOSQUITO SURVEILLANCE

Do you have an adult mosquito surveillance program? Yes

Please list the number (not location) of MDPH traps in your service area: MDPH monitors mosquitoes at 3 sites within our district.

Please check off all the types of surveillance that apply to your program:

- Gravid traps
- Resting boxes
- CDC light traps
- Canopy

- CDC light traps w/CO₂
- ABC light traps
- ABC light traps w/CO₂
- NJ light traps
- NJ light traps w/CO₂

- Canopy
- Canopy
- Canopy
- Canopy
- Canopy

Other (please describe):

Please describe the purpose of this program: The primary purpose is to measure populations of mammal biting mosquito species and populations of species considered enzootic or bridge vector species for West Nile Virus and EEE. The data is used to evaluate the need for control. As funding is available, collections of Culex species, Cs. melanura and potential human EEE bridge vector species are submitted to DPH once the risk periods for those diseases has been established.

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 - 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.

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

- | | |
|--|---|
| <input type="checkbox"/> <i>Ae. albopictus</i> | <input checked="" type="checkbox"/> <i>Oc. cantator</i> |
| <input checked="" type="checkbox"/> <i>Ae. cinereus</i> | <input checked="" type="checkbox"/> <i>Oc. excrucians</i> |
| <input checked="" type="checkbox"/> <i>Ae. vexans</i> | <input checked="" type="checkbox"/> <i>Oc. fitchii</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. punctor</i> |
| <input checked="" type="checkbox"/> <i>Cq. perturbans</i> | <input type="checkbox"/> <i>Oc. sollicitans</i> |
| <input checked="" type="checkbox"/> <i>Cx. pipiens</i> | <input type="checkbox"/> <i>Oc. stimulans</i> |
| <input checked="" type="checkbox"/> <i>Cx. restuans</i> | <input type="checkbox"/> <i>Oc. taeniorhynchus</i> |
| <input checked="" type="checkbox"/> <i>Cx. salinarius</i> | <input checked="" type="checkbox"/> <i>Oc. triseriatus</i> |
| <input checked="" type="checkbox"/> <i>Cs. melanura</i> | <input checked="" type="checkbox"/> <i>Oc. trivittatus</i> |
| <input checked="" type="checkbox"/> <i>Cs. morsitans</i> | <input checked="" type="checkbox"/> <i>Ps. ferox</i> |
| <input checked="" type="checkbox"/> <i>Oc. abserratus</i> | <input type="checkbox"/> <i>Ur. sapphirina</i> |
| <input checked="" type="checkbox"/> <i>Oc. canadensis</i> | |

Other (please list):

Do you participate in the MDPH Arboviral Surveillance program? Yes

How many pools do you submit weekly on average? The EMMCP submitted 293 mosquito pools to MDPH to be tested for EEE or West Nile Virus between 6/12/12 and 9/12/12 for an average of 22.5 pools per week.

Please check off the arboviruses found in your area in the past 5 years:

- West Nile Virus
- Eastern Equine Encephalitis
- Other Please list:

Did the above listed diseases cause human or horse illnesses? Yes

Please explain: In the past 5 years there have been 15 human West Nile Virus cases and 1 human EEE case. The following provides the breakdown of cases by year and by community:

2012 - 10 WNV cases from Arlington (1), Brookline (1), Cambridge (4), Medford (2) and Newton (2). There was also 1 EEE case that has been identified as being from the MetroWest area.

2011 - 3 WNV cases from Brookline, Melrose and Newton.

2010 - 1 WNV case from Lexington.

2009 - No human or horse WNV or EEE cases.

2008 - 1 WNV case from Cambridge.

At what arbovirus risk level did the year begin in your area? (If more than one please list)

WNV: Brookline, Malden and Newton started the year at moderate risk. The remainder of the district began the year at low risk.

EEE: Sudbury started the year at low risk. The remainder of the district began the year at remote risk.

At what arbovirus risk level did the year end in your area? (If more than one please list)

WNV: Cambridge ended the year at critical risk. Arlington, Belmont, Brookline, Everett, Lexington, Malden, Medford, Melrose, Newton, Watertown and Winchester ended the year at high risk. The remainder of the district ended the year at moderate risk.

EEE: The entire district ended the year at moderate risk.

What time frame during the year is this method employed? Adult mosquito surveillance is conducted from late May through late September.

Comments: _____

***Please attach a link to maps of surveillance areas if possible.**

EDUCATION, OUTREACH & PUBLIC RELATIONS

Do you have an education/public outreach program program? Yes

If yes, please describe: 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.

Please check off all that apply:

- School based program
- Website
- PR brochures/handouts
- Community events
- Science fairs
- Meeting presentations
- Other (please describe): The Project sends out press releases to community and regional newspapers related to aerial Bti applications, ground based adult mosquito control applications, personal protection from mosquitoes and preventative actions that homeowners can take to reduce mosquito development on their property. Notices on the pesticide exclusion process and notices on ground based adult mosquito control are regularly posted on municipal websites. Memos and reports on mosquito control activities, local disease risk and other items of interest are sent to municipal officials of each participating community. Annual reports and appropriation requests that include schedules and costs of mosquito control services are sent to participating communities. The Superintendent upon request attends Board of Health and Conservation Commission meetings. Project representatives are periodically interviewed by newspaper, radio, television and local access cable reporters. A previously recorded episode of the PBS program, Curious George, that includes Project representatives describing mosquito biology to Newton elementary school students is periodically aired.

Please give an estimate of attendance/participants in this program:

Please list some events you participated in for the year of this report: The Entomologist and the Superintendent gave presentations at a Workshop on Arboviruses sponsored by the Massachusetts Environmental Health Association. The Superintendent gave a

presentation on the 2012 risk of EEE and West Nile Virus to the Region 4B Emergency Preparedness Group. The Entomologist gave a presentation to a group of Lesley University students who were doing a study on urban birds and West Nile Virus. The Entomologist gave a presentation at the Northeastern Mosquito Control Association on the Efficacy of Spheratax SPH WSP and FourStar 45-day Briquets against Culex larvae in catchbasins. The Superintendent appeared with the Everett Health Director on an Everett Local Access Cable program. The Superintendent attended two Wayland Board of Health meetings, one Concord Board of Health meeting and one Watertown Board of Health meeting. The Superintendent appeared in studio at NECN for a morning News program.

What time frame during the year is this method employed? Throughout the entire year.

Have you performed any research projects, efficacy, bottle assays, etc.? Yes

If yes, please elaborate on your research projects: The Entomologist and two seasonal workers conducted an efficacy study on FourStar Sustained Release 45-day Microbial Briquets against Culex larvae in catchbasins. The Superintendent assisted an intern with the Brookline Health Dept. conduct an efficacy study on Spheratax SPH WSP against Culex mosquitoes in catchbasins.

Are you involved in any collaboration with academia, industry, environmental groups, etc.? Yes

If yes, please elaborate on your collaborations this past year: The Project assisted on papers/ student research being done on subjects including West Nile Virus and pesticide use by students from Emmanuel College, Lesley University, University of Massachusetts at Amherst and Worcester Polytechnical Institute. The collaborations included a class presentation, a student group visit to the Project, email requests for information and providing reference material. The Project provided periodic updates on local mosquito populations and local mosquito borne risks to Hanscom AFB.

Please provide a list of technical reports, white/grey papers, publication in journal or trade magazines, etc.

Does your staff participate in educational opportunities? Yes

If yes, please list the training and education your staff received this year: Three employees attended the annual meeting of the Northeastern Mosquito Control Association, Four employees attended the NMCA workshop for Field Workers, which covered Safe Pesticide Handling and Spill Response. The Assistant Superintendent attended a Dig Safe workshop.

Please list the certifications and degrees held by your staff: Mike Bryant, Chris Gagnon, David Henley and Mike Sweder are Certified Pesticide Applicators. Lothian Buss, Stephen Feeney, Thomas Foti, Cameron Kelley and Scott VanderMolen are Licensed

Pesticide Applicators. Mike Sweder has a Hoist Operator 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 an M.S in Environmental Health and Safety and a B.S. in Entomology.

Comments: _____

BIOLOGICAL CONTROL EFFORTS

Do you have a biological control program? Yes

If yes, please describe: Bacillus sphaericus used to control Culex mosquitoes in catchbasins and neglected swimming pools is a live bacteria that recycles in water that supports Culex larvae.

Is this program the introduction of mosquito predators or the enhancement of habitat for native predators? no

Please check off all that apply:

- Predatory fish
- Predatory invertebrates
- Other (please describe): Bacillus sphaericus

What time frame during the year is this method employed? July, August and September.

Comments: _____

INFORMATION TECHNOLOGY

Does your program use (check all that applies):

- Computers
- GIS mapping
- GPS equipment
- Computer databases
- Aerial Photography
- Other (please describe):

Please describe your capabilities in these areas: Databases are maintained on adult mosquito populations, mosquito habitats, larval mosquito surveys, pesticide usage and ditch maintenance. GPS equipment is used on one of the aerosol sprayers to record time, location and rate of spraying. The Project is equipped with 2 desktop and 1 laptop computers. The Project uses aerial photography of the district with delineated wetlands as a layer in our ArcView software. GIS aerial photos are used to identify property owners when planning ditch maintenance activities and to confirm the location of pesticide exclusions. Our helicopter contractor, JBI Helicopters uses Ag-Nav swath guidance equipment to identify wetland areas to be treated and record swath data during larviciding applications

Please describe your current GIS abilities: Intermediate

Give details if possible on your GIS abilities: ArcView is used in our wetland database, helicopter larval control program and our wetlands management program. Data Master is used in our adult mosquito control program.

Please describe any changes/enhancements in this area from the previous year:

Comments: _____

REVENUES & EXPENDITURES

Please give a concise statement of revenues & expenditures for the prior fiscal year ending June 30.

FY 2012 regular and supplemental appropriations received: \$641,987.93

FY 2012 expenditures: \$640,234.90

List each **member municipality along with the corresponding (cherry sheet) funding assessment** dollar amount for the prior fiscal year.

Comments: The following are the regular appropriations from the communities participating in the East Middlesex MCP: Arlington - \$5,800, Bedford - \$33,489, Belmont - \$15,612, Brookline - \$14,547, Burlington - \$39,639, Cambridge - \$16,587, Concord - \$18,500, Everett - \$11,000, Framingham - \$49,020, Lexington - \$23,690, Lincoln - \$10,300, Malden - \$18,807, Maynard - \$12,800, Medford - \$21,790, Melrose - \$11,542, Newton - \$16,231, North Reading - \$44,795, Reading - \$26,000, Sudbury - \$45,415, Wakefield - \$17,420, Waltham - \$30,625, Watertown - \$13,086, Wayland - \$21,420, Wellesley - \$18,663, Weston - \$36,214 and Winchester - \$14,845.

PESTICIDE USAGE

Please total your pesticide usage with information from your Mass. Pesticide Use Report, WNV Larvicide Use records and contracted pesticide applications. Applications methods include; hand/backpack, aerial, ULV, mistblower, other (please explain)

Product Name: Altosid Pellets
EPA Reg. #: 2724-448
Application method: hand applied
Targeted life stage: Larvae
Total amount of concentrate applied: 625 lbs.
Comments: _____

Product Name: Altosid Pellets WSP
EPA Reg. #: 2724-448
Application method: hand applied
Targeted life stage: Larvae
Total amount of concentrate applied: 129 lbs.
Comments: _____

Product Name: Altosid Ingot XR Briquets
EPA Reg. #: 2724-421
Application method: hand applied
Targeted life stage: Larvae
Total amount of concentrate applied: 448 lbs.
Comments: _____

Product Name: FourStar Sustained Release 45-day Microbial Briquets
EPA Reg. #: 83362-3
Application method: hand applied
Targeted life stage: Larvae
Total amount of concentrate applied: 1 lb.
Comments: _____

Product Name: Spheratax SPH WSP
EPA Reg. #: 84268-2
Application method: hand applied
Targeted life stage: Larvae
Total amount of concentrate applied: 40 lbs.
Comments: _____

Product Name: VectoBac 12AS
EPA Reg. #: 275-102
Application method: portable sprayer

Targeted life stage: Larvae
Total amount of concentrate applied: 22 gals.
Comments: _____

Product Name: VectoLex WSP
EPA Reg. #: 73049-2
Application method: hand applied
Targeted life stage: Larvae
Total amount of concentrate applied: 241 lbs.
Comments: _____

Product Name: Anvil 10 + 10
EPA Reg. #: 1021-1688-8329
Application method: Truck mounted aerosol sprayer
Targeted life stage: Adult
Total amount of concentrate applied: 121 gals.
Comments: _____

Product Name:
EPA Reg. #:
Application method:
Targeted life stage: Choose one
Total amount of concentrate applied:
Comments: _____

LARGE AREA EXCLUSIONS

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 is excluded from larval and adult mosquito control pesticide applications. The only exception occurs when the Refuge Manager determines that there is an imminent risk from mosquito borne disease and issues a permit. The Sudbury Valley Trustees, a private land trust that owns wetlands in Concord, Framingham, Sudbury and Wayland has excluded their property from pesticide exclusions.

Assabet River National Wildlife Refuge, topo map:
www.farnwr.org/maps1.html
Great Meadows National Wildlife Refuge map:
www.fws.gov/northeast/greatmeadows/pdf/brochure.pdf
Sudbury Valley Trustees trail maps:
<http://www.sudburyvalleytrustees.org/maps>

SPECIAL PROJECTS

Do you perform any inspectional services such as inspections at sewage treatment facilities or review sub division plans? Yes

If yes, please elaborate: The Brookline Health Dept. requested that we review the stormwater runoff plans for a 271 unit condominium development that is proposed on property adjacent to a large wetland and determine impacts on local mosquito populations and the local risk of mosquito borne disease.

Do you work with DPW departments or other local or state officials to address stormwater systems, clogged culverts or other areas that you have identified as man-made mosquito problem areas? Yes

If yes, please elaborate: Municipal officials have requested that we identify and remove excess sedimentation and debris that is obstructing ditches and culverts.

Have you worked with these departments on long term solutions? Yes

If yes, please elaborate: Reviewing site plans for subdivisions and developments have provided long term solutions.

Did you conduct or participate in any cooperative research or restoration projects?

If yes, please elaborate:

Did you or participate on any **State/Regional/National workgroups or panels or attend any meeting pertaining to the above?**

If yes, please elaborate: The Superintendent is a member of the program committee of the Northeastern Mosquito Control Association and annually participates in finding speakers to present information at the annual conference.

CHILDREN AND FAMILIES PROTECTION ACT

Is your program impacted by the Children and Families Protection Act? Yes

If yes, please explain: Per the provisions of the Act, the Project excludes schools, 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 with this Act and your program, please list here:

If you had difficulties with implementation of your program due to this law, please elaborate here:

Comments:

NPDES SECTION

Did your program note any adverse incidents during this reporting period? No

If yes please list any corrective actions here: _____

GENERAL COMMENTS

Please list any comments not covered in this report: _____