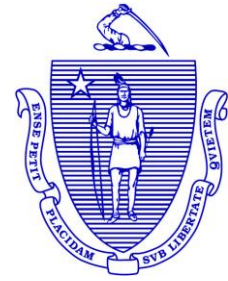


MASSACHUSETTS MOSQUITO CONTROL

ANNUAL OPERATIONS REPORT



Year Report Covers: 2017 Date of Report: 01/17/2018

Project/District Name: **Central Mass. Mosquito Control Project**

Address: 111 Otis St.

City/Town: Northborough, MA

Zip: 01532

Phone: (508) 393-3055

Fax: (508) 393-8492

E-mail: deschamps@cmmcp.org

Report prepared by: *Tim Deschamps*

NPDES permit no. **MAG87A023**

If you have a mission statement, please include it here: the objective of the Project is to attain an efficient, economic mosquito control operation which will provide the best results possible and be consistent with all ecological aspects and the best interests of the member towns.

Our goal is to reduce mosquito exposure to the public, and the potential for disease transmission by mosquitoes, by utilizing proven, sound mosquito control techniques. CMMCP believes the best way to accomplish this task is by practicing an Integrated Pest Management (IPM) approach as it relates to mosquito control in Massachusetts. IPM utilizes a variety of control techniques and evaluation procedures. Control efforts are undertaken only after surveillance data has been collected and analyzed. Training, experience and common sense dictate our response in any given situation.

It is our desire and responsibility for this Project to have the best mosquito control for the communities that we serve.

ORGANIZATION SETUP:

Commissioner names:

Richard Day

Dean Mazzarella

Paul Mazzuchelli

Pablo Noguera

Sam Telford

Superintendent/Director name: Timothy Deschamps

Superintendent/Director contact phone number: (508) 393-3055

Asst. Superintendent/Director name: Tim McGlinchy

District/Project website: <http://www.cmmcp.org>

Twitter handle: @CMassMosquito

Facebook page: <http://www.facebook.com/Central.Mass.Mosquito>

Staffing levels for the year of this report:

Full time: 20

Part time:

Seasonal: 4

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 Tim Deschamps, Tim McGlinchy, Ellen Holmes
- Biologist Frank Cornine III & Dave Mullins
- Educator Tim Deschamps, Curtis Best & Frank Cornine III
- Entomologist Curtis Best, Frank Cornine III, Dave Mullins & Marco Notarangelo
- Facilities Tim Welch
- Information technology Tim Deschamps
- Laboratory Curtis Best
- Operations Tim McGlinchy
- Public relations Tim Deschamps
- Wetland scientist Katrina Proctor
- Other (please describe)

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

- 2 Modified wetland equipment (list type) Link Belt 1600, John Deere 350
- 4 Larval control equipment (list type) Muryama backpack sprayers
- 16 ULV sprayers (list type) ProMist HD
- 28 Vehicles

Other (please be specific):

Comments: _____

How many cities and towns are in your service area?* 41

Alphabetical list: Acton; Ashland; Auburn; Ayer; Berlin; Billerica; Blackstone; Boxborough; Boylston, Chelmsford; Clinton; Dracut; Devens; Fitchburg; Gardner; Holliston; Hopedale; Hopkinton; Hudson; Lancaster; Leominster; Littleton; Lowell; Lunenburg; Marlborough; Milford; Millbury; Millville; Natick; Northborough; Northbridge; Sherborn; Shrewsbury; Southborough; Stow; Sturbridge; Tewksbury; Uxbridge (service ended June 30); Webster; Westborough; Westford; Wilmington

Were there any changes to your service area this year? Choose one

Cities/towns added: 0

Cities/towns removed: 0

***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: To control mosquitoes in the larval stage to reduce mosquito emergence and reduce adulticide use

What months is this program active? March - October

Describe the types of areas where you use this program: Wetlands, catch basins, stormwater structures, containers (i.e. tires, etc.)

Do you use:

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

Comments: Aerial applications of Bti in large wetlands in Billerica, Boxborough and Chelmsford under supplemental funding.

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 G | 73049-10 | 5-10 lbs./acre | hand/backpack | Larvae | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | 3,116 lbs. |
| VectoBac G | 73049-10 | 5 lbs./acre | helicopter | Larvae | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | 9,800 lbs. |
| FourStar microbial briquets 45 day | 83362-3 | one briquet per basin | hand | Larvae | <input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | 2,380 briquets |
| FourStar microbial briquets 180 day | 83362-3 | obe briquet per 100 sq. ft. | hand | Choose one | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): swimming pools | 46 briquets |
| Altosid WSP | 2724-448 | one pouch per basin | hand | Larvae | <input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | 473,172 grams |
| VectoLex WSP | 73049-20 | one pouch per 50 sq. ft. | hand | Larvae | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input checked="" type="checkbox"/> Other (please list): swimming pools | 250 grams |
| BVA2 mosquito oil | 70589-1 | 1 gal./acre | pump can | Larvae/pupae | <input type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | 21.84 gal. |

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 |
|--------------|---------|---------------------|--------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Natular G | 8329-80 | 9 lbs./acre | hand | Larvae | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | 117.75 lbs. |
| Natular G30 | 8329-83 | 10 lbs./acre | hand | Larvae | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | 10.5 lbs. |
| | | | | Choose one | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | |
| | | | | Choose one | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | |
| | | | | Choose one | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | |
| | | | | Choose one | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | |
| | | | | Choose one | <input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list): | |

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

- Best professional judgment
- Historical records
- Larval dip counts – please list trigger for application: .1 larvae per 5 dips avg.
- Other (please describe):

Comments: _____

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 suppress populations of adult mosquitoes and reduce risk from mosquitoes and mosquito-borne diseases

What is the time frame for this program? May through October as weather conditions allow

Describe the types of areas where you use this program: streets, yards, recreational areas, schools (per the Children's Protection Act regulations)

Do you use:

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

Comments: _____

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

| Product Name | EPA # | Application Rate(s) | Application Method | Total finished product applied |
|--------------|----------------|-----------------------|--------------------|--------------------------------|
| Anvil 10+10 | 1021-1688-8329 | 0.0012 lbs a.i./acre | truck mounted ULV | 90.03 gal. |
| Zenivex E20 | 2724-791 | 0.00175 lbs a.i./acre | truck mounted ULV | 246.95 gal. |
| | | | | |
| | | | | |
| | | | | |

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

Less than one application at highest label rate in 24 hours

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

- Arbovirus data
- Best professional judgment

- Complaint calls (Describe trigger for application: >2 per square mile*)
- Landing rates (Describe trigger for application >1 per minute*)
- Light trap data (Describe trigger for application >5 human-biting per night*)

Comments: * recommendations from the mosquito control GEIR

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: The program consists of four components:

1. Clean-up of large waste tire dumping sites that we have databased and that require repeated larval control measures;
2. Residential waste tire removal (curb-side); and
3. Removal of waste tires discarded on the side of the road.
4. Coordination with community events

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

Comments: 3,488 tires (34.88 tons) recycled in 32 member communities in 2017. Total to date, 25,500. Receipt of a "Regional Achievement Certificate" from EPA's WasteWise Program in 2017

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: Maintenance of existing ditch systems by removal of accumulated organic debris and other obstructions.

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

| Maintenance Type | Estimate of cumulative length of culverts, ditches, swales, etc. maintained (ft) |
|---------------------------------------------------------|----------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Culvert cleaning | 3,547 |
| <input checked="" type="checkbox"/> Hand cleaning | 224,357 ft. |
| <input checked="" type="checkbox"/> Mechanized cleaning | 2,091 ft. |
| <input type="checkbox"/> Stream flow improvement | |
| <input type="checkbox"/> Other (please list): | |

Comments: _____

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

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

Comments: _____

What time frame during the year is this method employed? year round as weather permits

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: one dip station per 250 acres with pre and post collections

Ground ULV Adulticide: light traps deployed pre and post application when possible

Larvicide – catch basins:

Larvicide-hand/small area recheck after applications when possible

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):

please see www.cmmcp.org/research.htm

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

| Research Project | Details |
|--------------------------------|----------------------------------------------------------------|
| Bottle assays | X |
| Efficacy testing | X |
| Other: field trials | Natular G & Natular G30 |
| Other: Ovitrap egg collections | Monitor for Ae. albopictus (species detected in Ayer & Lowell) |

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: Monitor for species density, population trends and virus isolations

What months is this program active? May through October

Check off all trap types currently in use by your program:

- | | |
|-----------------------------------------------------------------------|---------------------------------|
| <input type="checkbox"/> ABC light traps | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> ABC light traps w/CO ₂ | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> CDC light traps | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> CDC light traps w/CO ₂ | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> Gravid traps | |
| <input checked="" type="checkbox"/> Landing rate tests | |
| <input type="checkbox"/> NJ light traps | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> NJ light traps w/CO ₂ | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> Ovitrap | |
| <input checked="" type="checkbox"/> Resting boxes | |
| <input type="checkbox"/> Other (please describe): | |

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

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

Prior virus isolations, geography and collection data

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

- | | |
|-----------------------------------------------------------|----------------------------------------------------------------|
| <input checked="" type="checkbox"/> <i>Ae. albopictus</i> | <input checked="" type="checkbox"/> <i>An. punctipennis</i> |
| <input checked="" type="checkbox"/> <i>Ae. cinereus</i> | <input checked="" type="checkbox"/> <i>An. quadrimaculatus</i> |
| <input checked="" type="checkbox"/> <i>Ae. vexans</i> | <input checked="" type="checkbox"/> <i>Cq. perturbans</i> |

- Cx. pipiens*
- Cx. restuans*
- Cx. salinarius*
- Cs. melanura*
- Cs. morsitans*
- Oc. abserratus*
- Oc. canadensis*
- Oc. cantator*
- Other (please list):

- 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? 100

Number of traps in your service area **placed by MDPH**: 0-5 depending on season & budget/personnel restrictions

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

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

| Arbovirus | Positive Mosquito Pools | Equine Cases | Human Cases |
|------------------------------------------------------------|-------------------------|--------------|-------------|
| <input type="checkbox"/> Eastern Equine Encephalitis (EEE) | | | |
| <input checked="" type="checkbox"/> West Nile Virus (WNV) | 20 | 0 | 0 |
| <input type="checkbox"/> Other (please list): | | | |

Comments: all vector control spraying coordinated with local Board of Health

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

| Arbovirus | Start of Season | End of Season |
|-----------|-----------------|---------------|
| EEE | remote/low | remote/low |
| WNV | remote/low | remote/low |

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: Educating the public about mosquitoes and their biology is an important aspect of the Project's program. We offer a comprehensive program geared towards school-aged children from Kindergarten to High School in member communities. This program is tailored to meet the needs of intended audience. The Project produces public relations handouts, and all member Town Halls are stocked with information on CMMCP, our programs, and how the homeowner can reduce mosquito populations in their own area.

Project staff is available to meet with civic organizations, town/city boards, and to participate in Health Fairs.

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

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

- Development/distribution of brochures, handouts, etc.
- Door-to-door canvassing (door hangers, speaking to property owners, etc.)
- Facebook page, Twitter, or other social media
- Mailings (Describe target audience(s): _____)
- Media outreach (interviews for print or online media sources, press releases, etc.)
- Presentations at meetings
- School-based programs, science fairs, etc.
- Tabling at events (local events, annual meetings, etc.)
- Website
- Other (please describe): program aimed at senior citizens

Estimate the audience reached this year using the education/outreach methods above: 3,500
Comments:

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

1. _____
2. _____
3. _____

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

- Academia
- Another mosquito control district/project
- Another state agency (DCR, DPH, etc.) MDPH - monitoring for Aedes albopictus
- Environmental groups
- Industry

List any training/education your staff received this year: Clarke Mosquito seminar, NJMCA annual meeting, NMCA annual meeting, UMASS pesticide education, hoist license continuing education

Please list the certifications and degrees held by your staff: urtis Best, B.A. in Entomology; Frank Cornine, B.A. in Biology & Masters in Public Health; David Mullins, B.A. in Biology; Tim McGlinchy, MS non-profit mgmt. Katrina Proctor certifications in wetland science; Tim Deschamps, numerous licenses and certifications

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 |
|-------------|-----------------|
| FY/18 | \$2,266,843 |
| FY/17 | \$2,171,306 |

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):

<http://www.mass.gov/dor/local-officials/municipal-databank-and-local-aid-unit/cherry-sheets/2017-cherry-shets/>

Comments: _____

SERVICE REQUESTS

How many service requests did you receive this season? 16,767

How many were for larviciding? 317

How many were for adulticiding? 16,450

Was this an increase or decrease over last season? Increase

Comments:

EXCLUSIONS

How many exclusion requests did you receive this season? 427

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. SVT, Audubon areas

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:
- 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: Incomplete compliance by schools regarding our products, including larval control products

If you have data on compliance rates with the CFPA within your program area, please list here:
approx. 85-90% compliance

Describe any difficulties you have had with the implementation of your program due to the CFPA, please elaborate here: We have sent letters and hand delivered information packets to the School Superintendents' offices for 9+ years now, compliance is slowly rising.

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: _____