

MASSACHUSETTS MOSQUITO CONTROL
ANNUAL OPERATIONS REPORT



2009 Year of Report

Date of Report: 01/27/10

Project/District Name: **Suffolk County Mosquito Control Project**

Address: 39 Industrial Dr.

City/Town: Hyde Park, MA

Zip: 02136

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Report prepared by: Bruce A. Landers

If you have a mission statement, please include it here: Provide a science based, cost effective program to control mosquitoes and the diseases they transmit.

ORGANIZATION SETUP:

Please list your Commissioner's names:

Francis W. Gens(resigned 01/2010)

Anna Todesca

Kimberly Martin

Shan Shan Cai

Robecca Robich

Please list the Supt./Director's name: Bruce A. Landers

Please list the Supt./Director's contact phone number: 617-361-4954

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

Do you have a website? No

If yes, please list the web address here: http://

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

Full time: 2

Part time:

Seasonal: 2

Other: (please describe)

Please break these down into the following areas:

Administrative staff: 1.5

Field staff: 2.5

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

- Public relations
- Information technology
- Entomologist
- Wetland Scientist
- Biologist
- Education
- Laboratory
- Operations
- Facilities
- Other (please list)

For the year of this report, we maintained:

3 vehicles

modified wetland equipment (list type)

2 ULV sprayers (list type) Cougar, Leco

2 Larval control equipment (list type) Solo non-motorized

Other (please be specific): Solo 423 motorized backpack sprayer

Comments: _____

How many cities & towns in your service area? 2

Please list: Boston and Chelsea

***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):

Comments: ditch maintenance with hand tools only

LARVAL MOSQUITO CONTROL:

Do you have a larval mosquito suppression program? Yes

If yes, please describe the purpose of this program: To keep the mosquito population as low as possible. The lower the population the less adulticiding is needed.

Please give the time frame for this program: April- October

Describe the areas that this program is used: Freshwater wetlands, saltmarshes, and various manmade structures

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: Teknar HPD #70051-51and Altosid XR Briquet #2724-421

Catch basins: Vectolex WSP #73049-20 and Altosid Pellets WSP #2724-448

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

Other (please list): Vectolex WSP, Altosid Pellets WSP, and Teknar HPD

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

Wetlands: 1 pint Teknar HPD in 2.5 gals. water/acre
1Altosid XR Briquet/200 sq.ft.

Catch basins: 1 WSP packet/basin

Containers: 1 WSP or squirt of Teknar HPD mix (1pt./2.5 gals. water)

Other:

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

Larval dip counts – please list trigger for application: Dips are taken and then a determination is made whether the numbers justify the time needed to treat. Highest priority is given to saltmarsh hatches and second to freshwater marshes with the highest amount of breeding.

Historical records

Best professional judgment

Comments: Rainfall and monthly high tides on saltmarshes are checked in daily newspaper and breeding areas that are effected are subsequently sampled. Altosid XR Briquets are applied to two wetlands that dry out most seasons and therefore have no fish. This season one of these wet areas never did entirely dry out.

***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 control mosquitoes at a level where residents can utilize their outdoor environment and to act to control disease vectors to protect public health should that become necessary

Please give the time frame for this program: May-September

Describe the areas that this program is used: Parks,cemeteries,and residential areas

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 #1021-1688-8329

2). Flit-10EC #8329-67

3).

- 4).
- 5).
- 6).

Please list your application rates for each product:

- 1). 2 gals. Anvil 10+10 and 3.5 gals. soybean oil @ 1.5 or 3oz. /min.
- 2). Flit-10EC is a contact barrier spray containing 6.5 oz./gal water
- 3).
- 4).
- 5).
- 6).

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

Most areas get no adulticiding, some would get 2-4 treatments, a few would get more if needed. The level of mosquitoes in an area is both the result of the weather and tide levels that take place that season and how close you live to the various breeding areas in our Project.

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

- Landing rates - please list trigger for application Depends on time of day, etc.
- Light trap data - please list trigger for application >100/trap. A lot of the time the trap has more than 500.
- Complaint calls - please list trigger for application Need collaboration through trap data. historical data, or inspection results
- Arbovirus data
- Best professional judgment

Comments: The more rain, particularly the number of larger storms and also the height of saltmarsh tides that occur that season are the most important factors in creating a need for adulticiding.

***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: Abandoned tires and other containers are treated with larvicides. Tires were removed from Long Is. in 2009.

What time frame during the year is this method employed? May- October.

Comments: _____

DITCH MAINTENANCE

Do you have a ditch maintenance program? Yes

Please check all that apply:

- Inland/freshwater
- Saltmarsh

If yes, please describe: Blockages removed from ditches. Mainly undertaken in springtime to remove fallen branches ,etc. that takes place over the winter.

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 300ft.
Mechanized cleaning
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?

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: No aerial larviciding done at SCMCP
Larvicide – catch basins:
Larvicide-hand/small area follow-up inspections and additional treatment is made in certain cases particularly when heavy breeding is encountered
Ground ULV Adulticide: effectiveness checked through hand applications and in the case of truck ULV getting out of truck before and after treatment.
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): **Check following applications of materials, i.e. catchbasin treatments with product that exceeds its freshness dates and when product is first taken from larvicide containers opened the previous season. Recheck and follow-up treatments where ever heavy breeding occurs and time is available**

OPEN MARSH WATER MANAGEMENT

Do you have an OMWM program? No

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: 12

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

- | | |
|---|---------------------------------|
| <input checked="" type="checkbox"/> Gravid traps | |
| <input type="checkbox"/> Resting boxes | |
| <input type="checkbox"/> CDC light traps | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> CDC light traps w/CO ₂ | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> ABC light traps | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> ABC light traps w/CO ₂ | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> NJ light traps | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> NJ light traps w/CO ₂ | <input type="checkbox"/> Canopy |

Other (please describe):

Please describe the purpose of this program: 4 CDC traps w/CO₂ determine where and when to adulticide. The gravid traps are for WNV surveillance.

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

If yes, please describe how you chose these long-term sites. traps are right on the edge of freshwater breeding areas and capture evening and nighttime biters. Saltmarsh adults are daytime biters can be monitored just by walking on marsh during the day.

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 type="checkbox"/> <i>Ae. cinereus</i> | <input checked="" type="checkbox"/> <i>Oc. excrucians</i> |
| <input checked="" type="checkbox"/> <i>Ae. vexans</i> | <input type="checkbox"/> <i>Oc. fitchii</i> |
| <input type="checkbox"/> <i>An. punctipennis</i> | <input checked="" type="checkbox"/> <i>Oc. j. japonicus</i> |
| <input type="checkbox"/> <i>An. quadrimaculatus</i> | <input type="checkbox"/> <i>Oc. punctor</i> |
| <input checked="" type="checkbox"/> <i>Cq. perturbans</i> | <input checked="" type="checkbox"/> <i>Oc. sollicitans</i> |
| <input checked="" type="checkbox"/> <i>Cx. pipiens</i> | <input type="checkbox"/> <i>Oc. stimulans</i> |
| <input type="checkbox"/> <i>Cx. restuans</i> | <input type="checkbox"/> <i>Oc. taeniorhynchus</i> |
| <input type="checkbox"/> <i>Cx. salinarius</i> | <input type="checkbox"/> <i>Oc. triseriatus</i> |
| <input type="checkbox"/> <i>Cs. melanura</i> | <input type="checkbox"/> <i>Oc. trivittatus</i> |
| <input type="checkbox"/> <i>Cs. morsitans</i> | <input 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? 12 in 2009

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? No

Please explain:

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

WNV: moderate
EEE: low

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

WNV: low
EEE: low

What time frame during the year is this method employed?

Comments: WNV wasn't a big problem in 2009 most likely because WNV is a problem in dry years and last year it was to rainy.

***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:

Please check off all that apply:

- School based program
- Website
- PR brochures/handouts
- Community events
- Science fairs
- Meeting presentations
- Other (please describe): Provide science and support to City Health Departments.

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

Please list some events you participated in for the year of this report:

What time frame during the year is this method employed?

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

If yes, please elaborate on your research projects:

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

If yes, please elaborate on your collaborations this past year:

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: NMCA Meeting License Credits

Please list the certifications and degrees held by your staff: Supt. M.Ag. Entomology Secretary and one of seasonals have BA degrees

Comments: _____

BIOLOGICAL CONTROL EFFORTS

Do you have a biological control program? No

If yes, please describe:

Is this program the introduction of mosquito predators or the enhancement of habitat for native predators?

Please check off all that apply:

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

What time frame during the year is this method employed?

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: GPS mapping of adulticide spray routes

Please describe your current GIS abilities: Beginner

Give details if possible on your GIS abilities:

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.

Revenues: \$238,222 Expenditures:\$196,941.20

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

Comments: **Boston:\$228,752 Chelsea:\$9,470**

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: Teknar HPD
EPA Reg. #: 70051-51
Application method: non-motorized backpack

Targeted life stage: Larvae
Total amount of concentrate applied: 9.83gals.
Comments: _____

Product Name: Vectolex WSP
EPA Reg. #: 73049-20
Application method: Hand
Targeted life stage: Larvae
Total amount of concentrate applied: 84 WSP
Comments: _____

Product Name: Altosid Pellets WSP
EPA Reg. #: 2724-448
Application method: Hand
Targeted life stage: Larvae
Total amount of concentrate applied: 1862 WSP
Comments: _____

Product Name: Altosid XR Briquet
EPA Reg. #: 2724-421
Application method: hand
Targeted life stage: Larvae
Total amount of concentrate applied: 84 Briquets
Comments: _____

Product Name: Anvil 10+10 ULV
EPA Reg. #: 1021-1688-8329
Application method: Cougar ULV by truck
Targeted life stage: Adult
Total amount of concentrate applied: 8.57gals.
Comments: _____

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

Product Name:

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

Product Name:
EPA Reg. #:
Application method:
Targeted life stage: Choose one
Total amount of concentrate applied:
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. These areas only receive bacterial insecticides such as Teknar HPD

SPECIAL PROJECTS

Do you perform any inspectional services such as inspections at sewage treatment facilities or review sub division plans? No

If yes, please elaborate

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: But not in the 2009 season

Have you worked with these departments on long term solutions? Please choose one

If yes, please elaborate:

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:

CHILDREN AND FAMILIES PROTECTION ACT

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

If yes, please explain: Avoid schools during school year.

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:

GENERAL COMMENTS

Please list any comments not covered in this report: _____