

**MASSACHUSETTS MOSQUITO CONTROL
ANNUAL OPERATIONS REPORT**



2010 Year of Report

Date of Report: 01/25/11

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

Address: 39 Industrial Dr.

City/Town: Hyde Park, MA

Zip: 02136

Phone: 617-361-4954

Fax: same

E-mail: BALSCMCP1974@yahoo.com

Report prepared by: Bruce A. Landers

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

ORGANIZATION SETUP:

Please list your Commissioner's names:

Anna Todesca
Rebecca Robich

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

Please list the Supt./Director's contact phone number: 617-223-1516

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: 4

Other: (please describe)

Please break these down into the following areas:

Administrative staff: 1.5

Field staff: 4.5

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:

2 vehicles

modified wetland equipment (list type)

2 ULV sprayers (list type) Cougar truck mounted; Leco handheld

3 Larval control equipment (list type) Backpack manual sprayers

Other (please be specific): 1 motorized backpack mistblower

Comments: _____

How many cities & towns in your service area? 2

Please list: Boston; 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: _____

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: TeknarHPD# 73049-404; Vectolex WSP# 73049-20; Altosid Pellets WSP#2724-448

Catch basins: Vectolex WSP#73049-20; Altosid PelletsWSP#2724-448; FourStar Briquets#83362-3

Containers: TeknarHPD#73049-404; VectolexWSP#73049-404; Altosid PelletsWSP#2724-448

Other (please list):

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

Wetlands: 1 pint TeknarHPD/2.5gals.water/acre; VectolexWSP/50square feet; Altosid WSP/135square feet

Catch basins: VectolexWSP/basin; Altosid PelletsWSP/basin; FourStarBriquet/basin

Containers: squirt of TeknarHPD/2.5gals.water/container;1 Altosid pelletsWSP or 1 VectolexWSP/container

Other:

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

- Larval dip counts – please list trigger for application: Larval dipping is done before spray treatment and only those areas having significant numbers treated.
- Historical records
- Best professional judgment

Comments: _____

***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 control disease vectors to protect public health.

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). SuspendSC #432-763
- 4).
- 5).
- 6).

Please list your application rates for each product:

- 1). 1 gal. Anvil10+10 plus 2 gals. soybean oil in Cougar ULV sprayer. Setting #1 for 150ft. swath is 0.31 fluid ounces/acre, actual 0.11 fl. oz./acre. Setting #2 for 300ft. swath is 0.62 fluid ounces/acre, actual 0.21 fl. oz./acre

- 2). 1 gal. Anvil 10+10 plus 2gals. soybean oil applied by handheld Leco ULV
- 3). Suspend SC .8 fl. ounces/gal. water applied to foliage with Backpack Solo mistblower
- 4). Flit 10EC 6.5fl.ounces/gal. water applied to foliage by Backpack Solo mistblower.
- 5).
- 6).

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

This season started with heavy spring rains causing flooding. Particularly impacted was the Neponset River which overflowed its banks and covered Fowl Meadow in Hyde Park with 3-4ft. of water. Most of the rest of the season was dry to very dry and adulticiding was minimal. Most areas that in a normal season could receive up to 5 treatments received 0-3 treatments. Those areas that would normally get 1-3 treatments got none. Most of SCMCP's effort was spent in larviciding catchbasins and to a lesser extent larviciding saltmarshes that breed following monthly 11'+ high tides.

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

- Landing rates - please list trigger for application 10 mosquitoes/10min.
- Light trap data - please list trigger for application 100/trap night
- Complaint calls - please list trigger for application There is a followup inspection before treatment unless the cause is known to Project Staff from having visited the site to larvicide, place traps,etc.
- Arbovirus data
- Best professional judgment

Comments: _____

***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: No tires were removed this year, but they were during the three years prior.

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

Comments: _____

DITCH MAINTENANCE

Do you have a ditch maintenance program? Yes

Please check all that apply:

- Inland/freshwater
 Saltmarsh

If yes, please describe:

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 500 ft.
Mechanized cleaning
Other (please list):

Comments: _____

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

Hand cleaning none
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:

Larvicide – catch basins: Use sampling device where we want to use VectolexWSP. Treat when 6/10 basins are positive for larvae. Conducted a 12 week study of basins treated with VectolexWSP and FourStar briquets.

Larvicide-hand/small area Check a lot of our work the next day.

Retreat any larger site with heavy breeding the following day and retreat as needed whenever time permits.

Ground ULV Adulticide: When applied by handheld, mosquitoes are greatly reduced upon completion of spray operation. Adult populations are monitored weekly by CDC light traps and dry ice.

Source Reduction: Check while inspecting for larvae in spring when ditches have a lot of debris from the winter.

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 new employees' work the following day. Have a different employee check another's work. Check the effectiveness of larvicide that comes from a container opened the previous season.**

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: 11-15 gravid sites; 4 CDC light traps plus dry ice

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: The CDC traps are placed near freshwater marshes and are used to determine both the number and species distribution of human nuisance mosquitoes. Gravid traps are to provide the State Dept. of Health with mosquitoes they can test for disease and if positive, notify SCMCP's member cities.

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

If yes, please describe how you chose these long-term sites. The CDC traps are near swamps and river flood plains. The gravid sites run north to south along the Project's boundary with Dedham, Newton and Brookline. This is where historically the first appearance of virus takes place. Other traps are later set along the southern border and up the eastern side of Boston. These have shown virus later in the season.

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

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

Ur. sapphirina

Other (please list):

Do you participate in the MDPH Arboviral Surveillance program? Yes

How many pools do you submit weekly on average? 177 pools were submitted this summer.

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

West Nile Virus

Eastern Equine Encephalitis

Other Please list: EEE was found but was thought to be an aberation.

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

Please explain: Two residents of Boston were hospitalized after contracted WNV this past season.

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

WNV: Moderate

EEE:

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

WNV: High

EEE:

What time frame during the year is this method employed? July-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: Met with Boston Public Health Commission both prior to and a number of times throughout the season, to implement their catchbasin treatment

program. Also in attendance at these meetings were the Boston Housing Authority, Environmental Division, Inspectional Services, etc. The Superintendent also spoke to a Mattapan Neighborhood Group at their request. City Officials were in attendance.

Please check off all that apply:

- School based program
- Website
- PR brochures/handouts
- Community events
- Science fairs
- Meeting presentations
- Other (please describe):

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.? Yes

If yes, please elaborate on your research projects: Twelve week study of Vectolex WSP and FourStar as catchbasin treatments.

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

If yes, please elaborate on your collaborations this past year: This was done in collaboration with SCMC Commissioner Rebecca Robich PhD. The data has not yet been fully tested,

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

Does your staff participate in educational opportunities? Please select

If yes, please list the training and education your staff received this year:

Please list the certifications and degrees held by your staff: Bruce Landers MAg, Secretary has BA, Seasonals: One has Master's in business, one has BA, other two are science majors still in college.

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: Moderate

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.

Revenue: \$ 230,283 Expended: \$224,884

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

Comments: Boston:\$221,566 plus Reclamation Board:\$6,503 Total \$228,069
Chelsea:\$8,717 plus Reclamation Board:\$256 Total:\$8,973

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 HP-D
EPA Reg. #: 73049-404
Application method: Manual backpack
Targeted life stage: Larvae
Total amount of concentrate applied: 15.5gals.
Comments: _____

Product Name: Vectolex WSP
EPA Reg. #: 73049-20
Application method: By hand.
Targeted life stage: Larvae
Total amount of concentrate applied: 4600 pouches
Comments: _____

Product Name: Atosid PelletsWSP
EPA Reg. #: 2724-448
Application method: By hand.
Targeted life stage: Larvae
Total amount of concentrate applied: 9507 pouches
Comments: _____

Product Name: FourStar Briquets
EPA Reg. #: 83362-3
Application method: By hand.
Targeted life stage: Larvae
Total amount of concentrate applied: 1568 briquets

Comments: Sustained release 90 day Microbial Briquets

Product Name: Anvil10+10
EPA Reg. #: 1021-1688-8329
Application method: ULV
Targeted life stage: Adult
Total amount of concentrate applied: 5.9gals.
Comments: _____

Product Name: Flit10EC
EPA Reg. #: 8329-67
Application method: Motorized backpack mistblower
Targeted life stage: Adult
Total amount of concentrate applied: 1.52gals.
Comments: _____

Product Name: Suspend SC
EPA Reg. #: 432-763
Application method: Motorized backpack mistblower
Targeted life stage: Adult
Total amount of concentrate applied: 0.125gals.
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. Both habitats are in State parks. Both sites impact W. Roxbury. One site also impacts Roslindale and Hyde Park as well.

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? No

If yes, please elaborate: Not in the 2010 season.

Have you worked with these departments on long term solutions? No

If yes, please elaborate:

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

If yes, please elaborate: Twelve week study of catchbasins treated with two different products.

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: City of Boston wanted to treat catchbasins at schools but decided would have to wait for next 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: _____